AI-81-9

BOLT ACTION CARBINE

JWBrooks
DEBullis

#2

REMINGTON ARMS COMPANY, INC.
Firearms Research Division

May 15, 1981

TO: C. B. WORKMAN

FROM: J. W. BROOKS

SUBJECT: BOLT ACTION CARBINE

This report covers work done on this project from August 1977 to May 1981.

JWB:T
Attach.

AI-81-9

B O L T A C T I O N C A R B I N E

August 1977 to May 1981

Project No. C 1850

Data in Report:

1. Pictures and information on 1977 models for Marketing
2. Pictures and information on 1978 models for Focus Panel
3. Focus Panel Report 1979
4. Pictures and information on 1980 models for Marketing
5. Field test reports of 1980 models
6. Picture of redefined model 1981

No previous reports have been written on this project.

This report prepared by:

John W. Brooks and Douglas E. Bullis
Firearms Research Division
May 1981

Distribution List:

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* G.E. Fletcher
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*Abridged copy

C O N T E N T S

*Omitted in abridged version.

I N T R O D U C T I O N

The goal of the Bolt Action Carbine project is to improve Remington's marketing position and increase sales by restyling the Mohawk 600 Rifle. This rifle has not had a change in the styling of the stock since it was originally introduced as the Model 600 in 1964. The barreled action had minor changes in 1968. The rifle is well liked as a brush gun because of its handling ability, short overall length, accuracy, and selection of calibers. It will be introduced to compete against carbine length rifles presently in the field.

O B J E C T I V E

The work to be accomplished consists of redesigning the stock and barreled action for improved function, aesthetics, and weight reduction.

The work has covered three phases to date, and is presently in the fourth phase.

- Models for Marketing evaluation completed in 1978.
- Models for evaluation by a Marketing panel completed in 1979.
- Models for field testing completed in 1980.
- Redesigned models for field testing to be completed in 1981.

The first phase consisted of building models with all the features suggested by Marketing, the field force, and Research. These models were shown to Marketing to evaluate and decide what features should be included in the group of rifles to be shown to a Marketing Focus Panel.

The second phase consisted of building rifles with the features requested by Marketing for the Focus Panel exposure. Panels were held and results were tabulated and evaluated.

The third phase consisted of building models to test in-house and in the field. These models had the features requested by Marketing after their evaluation of the Focus Panel report.

The fourth phase consists of building models to test in-house and in the field. These models will have the added features that were requested after evaluation of the first field test. With satisfactory completion of this phase the model will be presented to the Operations Committee for addition to the Remington Centerfire Bolt Action line.

S U M M A R Y A N D C O N C L U S I O N S

The project has been completed thru the third phase, which included field testing of the Bolt Action Carbine. The reports were enthusiastic and complimentary. However, a large percentage of the reports indicated the rifle was too heavy.

In the fourth phase requirements were redefined which resulted in a smaller stock and smaller diameter barrel, reducing the overall weight by approximately one pound. Barreled actions with the smaller diameter barrel and the largest caliber to be introduced have been satisfactorily tested for strength. The rifles must still be tested for accuracy and the stock must be tested for strength.

P A T E N T S I T U A T I O N

The Patent Division has not discovered any unexpired competitively-owned patents that are relevant to the design being considered in this project. Initial investigation of a preliminary design of a new floor plate latching system suggests that patent protection may be obtainable for this design.

FUTURE PROGRAM

Completion of the Fourth Phase

Barreled actions of the latest design have been built in five of the proposed calibers. Five stocks of the latest design are being built and will be ready by the end of May. Accuracy and function testing of the rifles will be completed in 1981. Pending satisfactory completion of these tests, the Bolt Action Carbine is scheduled to be presented to the Operations Committee in June for approval to add this model to the Remington Centerfire Rifle line.

Twenty barreled actions of 7mm-08 Rem. caliber are being assembled for a new field test. They will be completed in May. Stocks have been ordered and will be completed in July. Rifles will be assembled and ready for a Marketing field test by September, 1981.

ACKNOWLEDGEMENTS

John Linde	Design
Leon Johnson (Retired)	Stock models
Kurt Blumer (Resigned)	Stock models and floor plate design and models
Fred Martin	Design
Douglas Bullis	Design
Adam Hugick	Measurements & Test
James Hennings	Measurements & Test
Richard Nightingale	Measurements & Test
Christopher Miller	Measurements & Test

EXPERIMENTAL HISTORY

Phase I In 1977 Marketing and Research agreed on a plan to restyle the Mohawk 600 rifle (Exhibits 1,2 & 3). Research began by building several models with various shaped stock stylings and barreled actions, with various additions and deletions, retaining the basic Mohawk 600 receiver and barrel. These models are shown in Exhibits 4 thru 8, with a list of changes that are different from the basic Mohawk 600 model. A meeting was held with Marketing and the above exhibit models were discussed to decide what features were to be shown to a focus panel. (Exhibit 9)

Phase II Six rifles were made up with the features discussed. (Exhibits 10 thru 15). These rifles were delivered to Marketing for use in the Focus Panel held January 1979. The group sessions were set up in three different marketing areas (Exhibit 16). A discussion guide and questionnaire (Exhibits 17 - 18) were used to obtain answers to the probability of acceptance of this Bolt Action Carbine concept. A final report (Exhibit 19) was written evaluating the concept. It stated that it is a "distinctive and promising new product prospect".

Phase III A subsequent meeting was held with Marketing to discuss the report. A decision was made on the design requirements of a final model using the panel report recommendations. (Exhibit 20)

Research proceeded to make final models for approval by Marketing. In order to add a hinged floor plate assembly the receiver had to be made a half inch longer and the rear receiver mounting hole moved back. The longer receiver can be made using existing Mohawk 600 tools and fixtures.

Two sample rifles were made using birch and walnut wood. (Exhibits 21 - 22). Marketing accepted the samples.

A meeting was then held with Process Engineering so they could discuss the new features of this model and changes could be made if possible to simplify processing and manufacture. (Exhibit 23). At the same time models were started for accuracy, function, and field testing. Five hand made stocks were to be used for in-plant testing. The stocks were proofed four times each with each succeeding caliber. The stocks stood up well. The accuracy from the bench was well within the present plant specifications for these calibers in this and other centerfire rifles. (Exhibit 24)

Twenty stocks were ordered from Fajan from our handmade pattern, to be used for field testing. They were finished and fitted to actions by Remington personnel. The field test actions were all made up in 7mm-08. They were ready for field test in June 1980, and were sent to people designated by Marketing. (Exhibits 25 - 26)

Costs were requested from Industrial Engineering. Several updates were completed to cover possible changes in stock wood and finish and checkering. (Exhibits 27 thru 30) A separate cost was also requested for a proposed bolt lock mechanism. This mechanism has now been dropped from the latest model. (Exhibit 31)

A letter was received from the Patent Department (Exhibit 32) covering work to date on the new stamped floor plate design.

The field test models were returned to Ilion starting the first week of July. Marketing field test reports (Exhibit 33) indicated the rifle was too heavy and the stock was too fat. They requested that Research look at ways to reduce the overall weight by at least 3/4 of a pound. Research responded with several suggestions to meet this new criteria. (Exhibits 34 - 35) Subsequent testing indicated the required weight could be obtained by reducing the barrel diameter (Exhibit 36) and using walnut for the stock.

Phase IV New barreled actions were made with the smaller diameter barrels. A thinner stock was made up and a model was shown to Marketing. (Exhibit 37) They approved of the barreled action but requested further work be done on the stock. (Exhibits 38 - 39)

A sample was made with the grip and fore end slimmed down as requested by Marketing. Samples with a Schnabel fore end were also made to show them. (Exhibits 40, 41, 42)

The sample with the Schnabel fore end was accepted by Marketing. (Exhibit 40)

Five hand made samples are being built for accuracy and function testing of the 308, 7mm-08, 6mm, 243 and 222 calibers, and twenty stocks are being made by Fajan from a handmade pattern for field testing.

The test schedule becomes extremely important at this point because of the lighter barrel and stock. The first concern is what effect the heaviest caliber will have on the strength of the lighter stock. The second concern is what effect the smaller diameter barrel will have on accuracy and overall rifle function. These questions will be answered in June 1981.

APPENDIX

EXHIBIT NO. 1

MOHAWK 600 Production Model

Serial No. A6390910

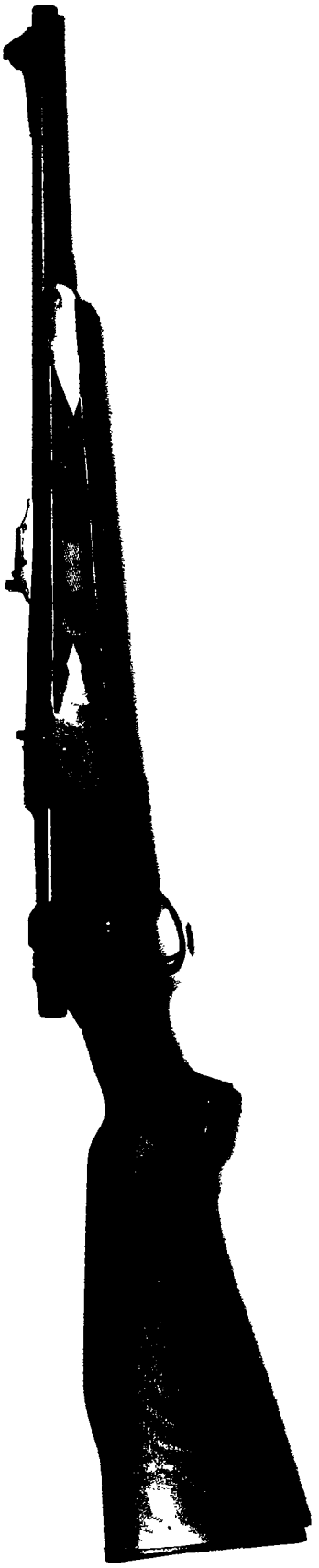

EXHIBIT 2

MODEL 600 CARBINE

Aug. 29, 1977

All models will have:

Barrel Length 16½ or 18"
Metal trigger guard
M700 barrel bracket
Standard short action cartridges
All have sling studs
Small sights
New tang design
Satin finish
Least expensive

1. Birch stock
Black butt plate
No checkering
Straight pull stock
Plastic trigger guard

2. Birch stock
Black butt plate
No checkering
Straight pull stock
Metal trigger guard

3. Birch stock
Pistol grip - no cap
Black butt plate
No checkering

4. Birch stock
Pistol grip
Recoil pad - 700 Classic
No checkering

5. Same as above with
870 1" pad

6. Walnut stock with pistol grip
Cut checkered
700 Classic recoil pad
Sling, swivels and stud
New bolt handle design

Typed 5-26-81 T

EXHIBIT 3

Xc: C. B. Workman

RD-49-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
September 12, 1977

To: W. J. Weeks - Bridgeport
J. H. Chambers - "
H. D. Albaugh - "

From: J. P. Linde

Subject: Research Inputs for the Model 600 Carbine Focus Panels

The consumer reactions to the following rifle characteristics would aid us in developing the M/600 Carbine. If you could combine these items into the upcoming focus panels, it would be appreciated.

1. Stock Styling - General Type of Carbine Stock desired:

   A. Straight pull Stock vs pistol grip Stock
   B. Mannlicher Carbine Stock vs Classic Stock
   C. Pistol grip thickness, grip shape, grip cap or no grip cap preference
   D. Length of trigger pull
   E. Preference of Stock fore-end shape
   F. Preference of various styles of Recoil Pads and/or Butt Plates
   G. Stock color - light vs dark
   H. Stock finish - satin vs high gloss
   I. Type of Wood vs sales price
      Walnut vs stained Birch
   J. Cut Checkered - more expensive rifle vs no checkering at less cost

2. Some idea of price versus anticipated product value of bolt action rifles compared to lever action rifles.

3. Would the customer plan on mounting a scope on the proposed carbine?

4. Iron Sight preference:

   A. Buck Horn, such as lever action models
   B. M/700 current sight, front and rear
   C. Shortened M/700 sight and front sight ramp
   D. Short fold-down sight such as Lyman blade sight
   E. Receiver Sight

5. Barrel length preference - 16, 18 or 20 inches.

6. Importance of modern cartridge selection - bolt action vs lever action cartridges.
   308 Win., 6mm Rem. vs 30-30 Win. & 35 Rem.

7. Preferred Carbine Rifle weight - comparison of selected models.

8. Preferred rifle length - comparison of selected models.

9. Trigger Guard styling

10. Bolt Handle styling - comparison of selected models.

11. Bolt Release with two position Safety - general reaction to new design concept.

12. Would the customer like the sling included with the rifle?

13. Would the customer like the swivel studs installed on the rifle at the factory?
    Would the customer find a swivel mounted on the barrel objectionable?

14. Type of Magazine Follower preferred - cast, formed, machined.

15. Importance of metal finish and type preferred - bright high luster vs dull satin finish.

J. P. Linde, Manager
Manual Firearms Design
Ilion Research Division

JPL/nl

EXHIBIT NO. 4

GUN SERIAL NUMBER A6550076

STOCK

WALNUT WOOD
VINYL FINISH
MODEL 700 CLASSIC RECOIL PAD
CLASSIC STYLING
INLET FOR TRIGGER GUARD
FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

18½ INCH BARREL LENGTH
MODEL 700 ADL SHORT BARRELED ACTION
MODEL 700 TRIGGER HOUSING ASSEMBLY
MODEL 700 BDL FRONT SIGHT HOOD
MODEL 700 BDL FLOOR PLATE ASSEMBLY

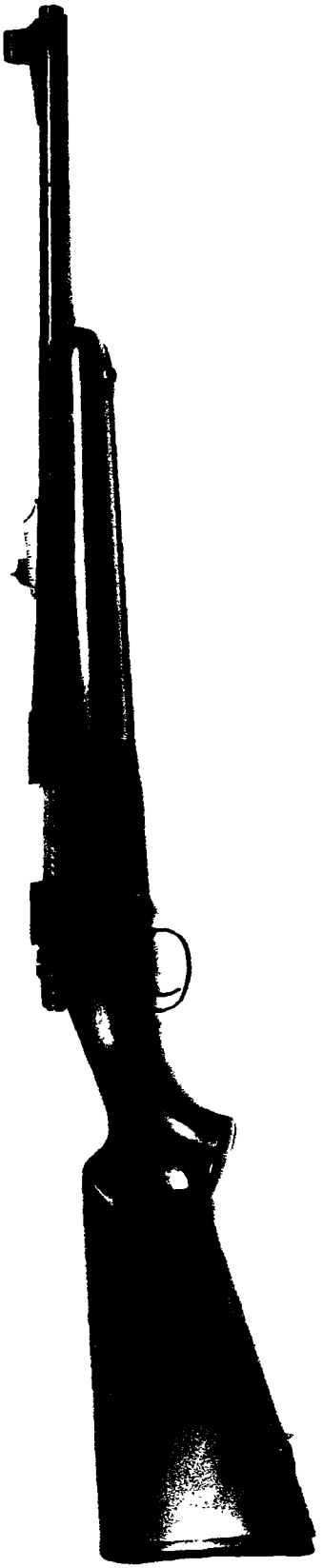

EXHIBIT NO. 5

GUN SERIAL NUMBER A6786854

STOCK

- BIRCH AND MAPLE LAMINATED WOOD
- GLOSS FINISH - RKW
- CUT CHECKERING
- CARBINE TYPE STRAIGHT GRIP
- MODEL 870 RECOIL PAD
- INLET FOR TRIGGER GUARD
- REAR SWIVEL STUD

BARRELED ACTION

- 16½ INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- NEW FRONT SIGHT BASE
- FRONT SIGHT BY MARBLE
- REAR SIGHT BY WILLIAMS
- UNCLE MIKE'S FRONT SWIVEL RING
- GOLD PLATED TRIGGER

EXHIBIT NO. 6

GUN SERIAL NUMBER 6841170

STOCK

- BIRCH WOOD
- GLOSS FINISH - RKW
- CHEEKPIECE
- CUT CHECKERING
- CARBINE STYLE STRAIGHT GRIP
- MODEL 700 BUTT PLATE
- INLET FOR TRIGGER GUARD
- FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

- 18 INCH BARREL LENGTH
- MODEL 700 ADL SHORT BARRELED ACTION
- MODEL 700 TRIGGER HOUSING ASSEMBLY
- MODEL 700 FLOOR PLATE ASSEMBLY
- NEW FRONT SIGHT BASE
- NEW FRONT SIGHT WITH WHITE PLASTIC BEAD
- REAR SIGHT BY WILLIAMS

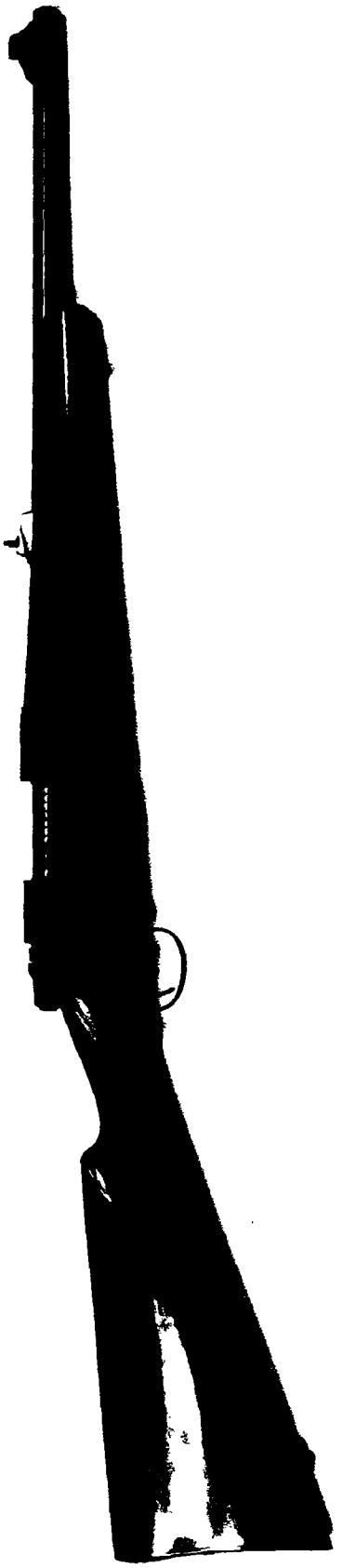

EXHIBIT NO. 7

GUN SERIAL NUMBER 6787144

STOCK

- BIRCH WOOD
- VINYL FINISH
- CARBINE STYLE STRAIGHT GRIP
- INLET FOR TRIGGER GUARD

BARRELED ACTION

- 16½ INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- REAR SIGHT BY WILLIAMS
- GOLD PLATED TRIGGER

EXHIBIT NO. 8

GUN SERIAL NUMBER 6787241

STOCK

- BIRCH WOOD
- VINYL FINISH
- CUT CHECKERING
- MODEL 700 CLASSIC BUTT PAD
- SCHNABEL DESIGN FORE END
- INLET FOR TRIGGER GUARD
- REAR SWIVEL STUD

BARRELED ACTION

- 16½ INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- REAR SIGHT ASSEMBLY BY WILLIAMS
- GOLD PLATED TRIGGER

8

RO-69 REV. 1-58

EXHIBIT 9

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

cc: J. E. Preiser
C. B. Workman
W. J. Weeks
W. H. Forson, Jr.
J. H. Chambers

August 31, 1978

TO: J. W. BROOKS

FROM: H. D. ALBAUGH

BOLT ACTION CARBINE RIFLE

This is to confirm our meeting last week at which we reviewed various characteristics of the above gun. Each was placed into one of three categories as follows:

- We decided at meeting
- We will decide later
- Will submit to consumer panel

We Decided

- Pistol grip stock
- Open sights on barrel - not "clean"
- Hooded front sight
- Aluminum trigger guard and floorplate
- Exterior bolt release
- Conventional rather than laminated

We Will Decide Later

- Butt plate or pad
- Grip contour
- Type of rear sight (ramp, folding leaf)
- Size of safety lever
- Type of action - Model 600 or Model 700
- Barrel bracket contour
- Type of receiver tang - Model 600 or Model 700
- Magazine style - fixed or hinged floor plate

Submit to Panel

- Sling strap and swivels (barrel band or fore-end fit)
- Grip; plain or with cap
- Fore-end contour; regular or schnabel

Submit to Panel (cont.)

- Checkering - what is it worth?
- Spacers - with or without
- Wood color and/or gloss level
- Type of wood - perceived value of walnut versus other species
- Color preference of front bead
- Safety
  a) Importance of locking bolt handle when on safe
  b) If locked handle is selected, which type of safety is preferred
     - Current
     - Three position safety; release at rear position
     - Release on bolt shroud
  c) Location
- Caliber preference - which are favorites, desired, etc.
- Bolt handle contour and styling
- Bolt body - jewelled, polished, or blued
- Trigger bow styling
- Barrel length

By copy of this letter, I am also advising Bud Weeks and Jim Chambers of our meeting and ask them to begin planning consumer tests.

HDA/ap

EXHIBIT NO. 13

GUN SERIAL NUMBER A6495821

STOCK

- BIRCH WOOD
- VINYL FINISH
- MODEL 870 RECOIL PAD
- CLASSIC STYLING
- INLET FOR TRIGGER GUARD
- FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

- 18 INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- FORWARD SWEPT BOLT HANDLE WITH .625 BALL
- MODEL 700 TYPE BOLT RELEASE
- NEW BOLT LOCK DESIGN ON BOLT PLUG
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- NEW TWO PIECE REAR SIGHT

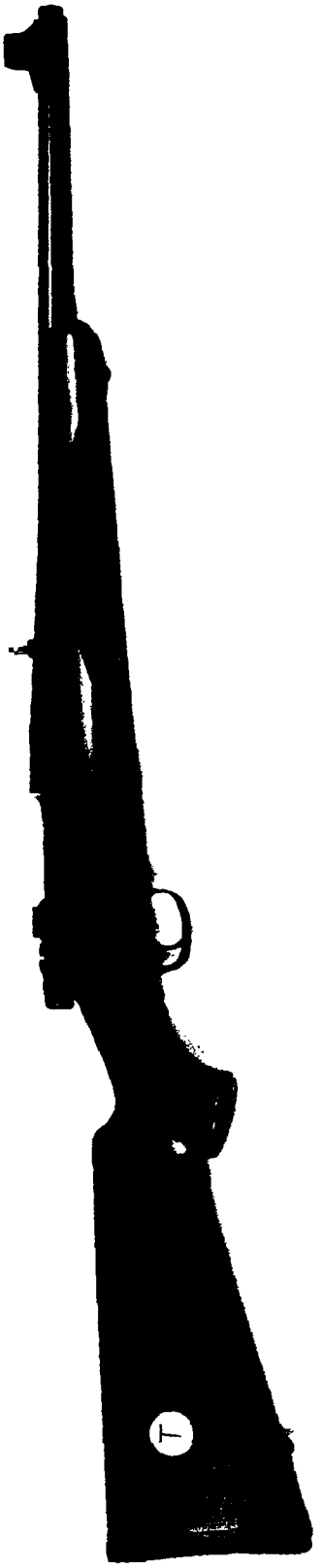

EXHIBIT NO. 12

GUN SERIAL NUMBER A6495819

STOCK

- BIRCH WOOD
- VINYL FINISH
- MODEL 700 CLASSIC BUTT PAD
- INLET FOR TRIGGER GUARD
- CUT CHECKERING
- CLASSIC STYLING
- FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

- 18 INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- FLAT SPOON HANDLE TYPE BOLT HANDLE
- MODEL 700 TYPE BOLT RELEASE
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- REAR FOLD DOWN SIGHT BY MARBLE

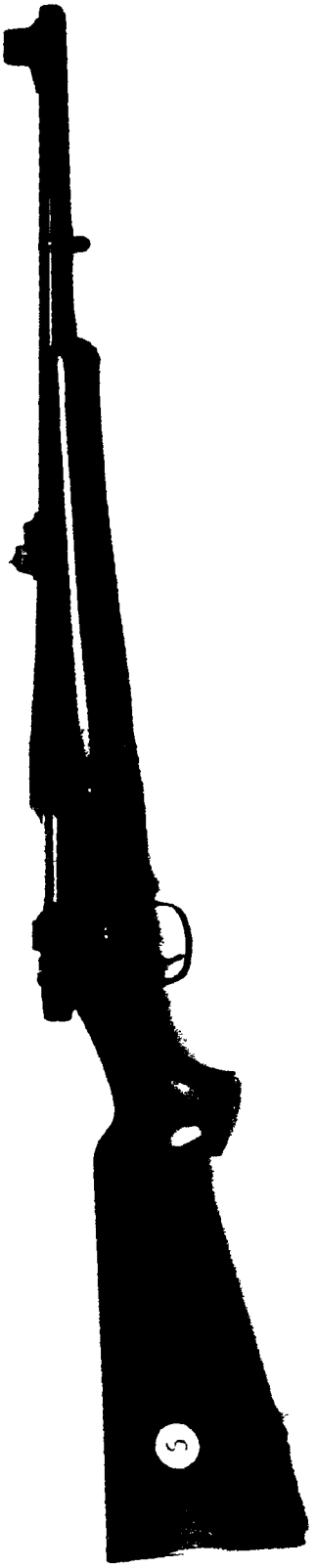
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EXHIBIT NO. 11

GUN SERIAL NUMBER A6495820

STOCK

- BIRCH WOOD
- VINYL FINISH
- SCHNABEL DESIGN FORE END
- INLET FOR TRIGGER GUARD
- REAR SWIVEL STUD

BARRELED ACTION

- 18 INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- FORWARD SWEPT BOLT HANDLE WITH .795 BALL
- MODEL 700 TYPE SAFETY BUTTON
- NEW BOLT UNLOCK BUTTON NEXT TO SAFETY
- MODEL 700 TYPE BOLT RELEASE
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- UNCLE MIKE'S FRONT SWIVEL STUD CLAMP
- NEW REAR ADJUSTABLE SIGHT

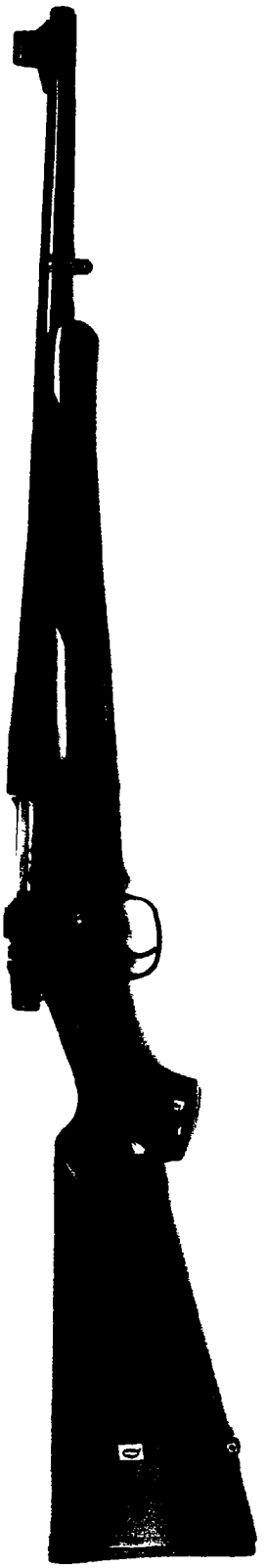


EXHIBIT NO. 10

GUN SERIAL NUMBER A6495823

STOCK

- BIRCH WOOD
- VINYL FINISH
- CUT CHECKERING
- MODEL 700 CLASSIC BUTT PAD
- SCHNABEL DESIGN FOR FORE END
- INLET FOR TRIGGER GUARD
- REAR SWIVEL STUD

BARRELED ACTION

- 18 INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- FORWARD SWEPT BOLT HANDLE WITH .725 BALL
- MODEL 700 TYPE SAFETY BUTTON
- MODEL 700 TYPE BOLT RELEASE
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- UNCLE MIKE'S FRONT SWIVEL STUD CLAMP
- BARREL MACHINED FOR REAR DOVETAIL SIGHT

EXHIBIT NO. 14

GUN SERIAL NUMBER A6273737

STOCK

- WALNUT WOOD
- VINYL FINISH
- MODEL 700 CLASSIC BUTT PAD
- CLASSIC STYLING
- INLET FOR TRIGGER GUARD

BARRELED ACTION

- 18½ INCH BARREL LENGTH
- MODEL 700 BOLT HANDLE
- MODEL 700 COMPLETE TRIGGER HOUSING ASSEMBLY
- NEW ALUMINUM TRIGGER GUARD
- NEW FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- MODEL 600 REAR SIGHT BASE (STEEL)
- OLD MODEL 600 BOLT PLUG

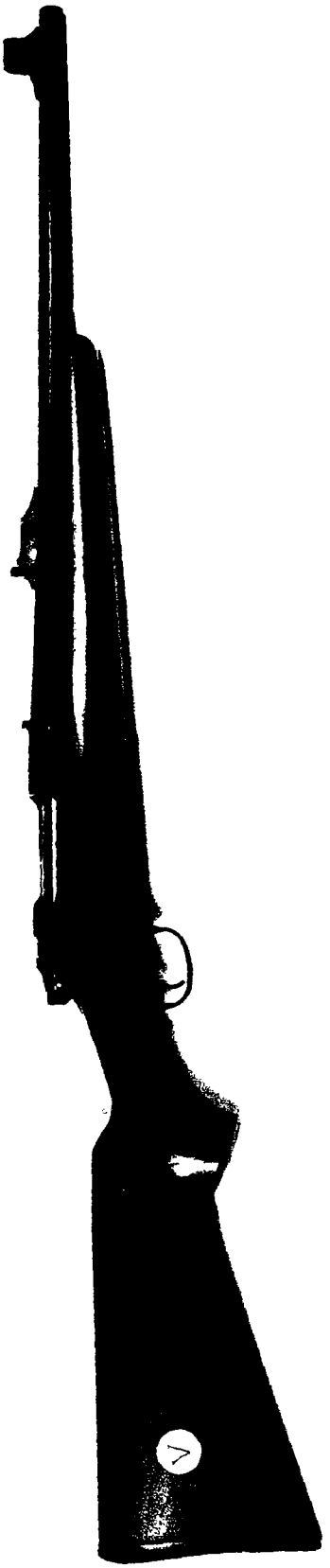


EXHIBIT NO. 15

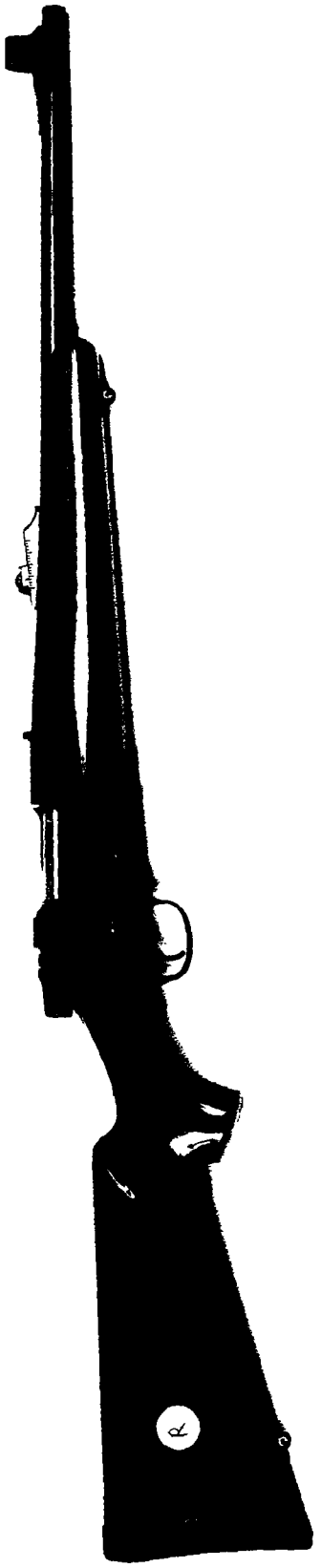
GUN SERIAL NUMBER A6273739

STOCK

- BIRCH WOOD
- GLOSS FINISH - RKW
- MODEL 700 MAGNUM RECOIL PAD
- CLASSIC STYLING
- INLET FOR TRIGGER GUARD
- FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

- 18½ INCH BARREL LENGTH
- MODEL 700 SAFETY BUTTON
- ALUMINUM TRIGGER GUARD - INVESTMENT CAST
- MODEL 700 FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- MODEL 700 REAR SIGHT ASSEMBLY



John Brooks

EXHIBIT 16

74 Sixth Street
Stamford, Connecticut 06903
203-348-0304

New Combine Style Rifle Research

Schedule of Group Sessions

Tuesday - January 30 - 6:00 P.M. and 8:30 P.M. (lever action users)
Bolt and lever action users

Quality Controlled Services
7007 Gulf Freeway, Suite 212
Houston, Texas 77087

(Mr. Adelaide Ferguson 713-641-3321)

Bolt only
Wednesday - January 31 - 8:00 P.M. (lever action users)

Marketing Information Service
9 Corporate Square
Atlanta, GA 30329

(Bill Williams 404-325-3211)

Thursday - February 1 - 6:00 P.M. and 8:00 P.M. (lever action users)
Bolt and lever action users

Detroit Marketing Services
27963 Southfield Rd.
Southfield, Michigan 48075

(Mr. Phyllis Mels 313-557-0340)

EXHIBIT 17

NEW BOLT ACTION CARBINE STYLE CENTER FIRE RIFLE RESEARCH

Group Discussion Guide

Section I - General Positioning of Carbines

What we are going to be talking about today is center fire rifles; and we will be focusing most of the discussion on the lever action and bolt action types....

1. First of all, let me ask each of you what kind of center fire gun do you mainly use and why? (WARM-UP)

2. What types do you use for different types of game?

3. How do the different type of actions (lever vs. bolt) affect your hunting attitudes and practices -- for example, in terms of type of game, range, accuracy, other considerations?

4. How do the different sizes and weights of a gun affect your hunting habits in terms of type of game, range, accuracy, other considerations?

5. Any relationship between type of action and size/weight of gun? Implications of this in terms of type of game, range, accuracy, other considerations? Ammunition?

(IF, AND ONLY IF, "CARBINE" IS MENTIONED) 6. What is a carbine? What makes a carbine rifle a carbine?

- How does a carbine compare to a regular rifle in terms of:

  ...range
  ...accuracy
  ...ammunition
  ...comfort
  ...convenience
  ...durability
  ...overall

- Who are the main users of carbine style rifles?

- What types situations are they for?

- What advantages are there to using a carbine style rifle?

- What disadvantages are there to using one?

- What differences do you find as a result of the shorter barrel length? (PROBE FOR COMPARISONS BETWEEN A "CHOPPED OFF" BARREL AS OPPOSED TO ONE THAT IS PROPORTIONED OR SCALED DOWN TO SIZE.)

Section 2 - Concept Reactions

(PASS OUT CONCEPT STATEMENT AND READ IT ALOUD WHILE RESPONDENTS FOLLOW ALONG. GIVE THEM AS MUCH TIME AS THEY NEED TO "ABSORB" THE IDEA, AND LET THEM KEEP THE SHEETS TO REFER TO DURING THE FOLLOWING DISCUSSION.)

1. Well, what are your first thoughts about the information on this sheet? (SPONTANEOUS AT FIRST; THEN PROBE) What else? Tell me more. Anything else?

2. How well does what is on the sheet fit in with your own attitudes and thoughts about guns? With your hunting habits?

3. What do you especially like about what's said...or find of special interest? Explain.

4. What do you dislike or doubt about what's said? Or disagree with? Explain.

5. For what situations and purposes would a product like this be used? What makes you say that?

6. a. Who do you think would be most likely to use such a product? What type of hunters?

   b. Does this describe you?

7. What would you expect a gun like the one described on the sheet to cost? How did you arrive at that price?

   - Would you be interested in buying it at that price?

(PASS OUT QUESTIONNAIRE BOOKLETS AND ASK RESPONDENTS TO FILL IN THE INFORMATION REQUESTED ABOVE THE BROKEN LINE, AND THEN TO RATE THEIR OVERALL REACTION TO THE CONCEPT ON THE SCALE BELOW THE BROKEN LINE.... ASK THEM NOT TO TURN THE PAGE.)

Section 3 - Detailed Model Reactions

(HAVE THE RESPONDENTS COMPARE THE MODELS ON EACH OF THE FOLLOWING ASPECTS AND DISCUSS THEIR COMPARISONS. REMIND THEM TO REFER TO THE MODEL LETTERS AND NUMBERS THROUGHOUT.... PROBE FOR INCREMENTAL PRICE EXPECTATIONS WHERE APPROPRIATE.)

1. (SLING STRAP AND SWIVELS) Which do you prefer, the barrel bands or studs? How important are either or both of these to you? What are they worth? (COMPARE MODELS V, R AND Q)

2. (GRIP) Which of the different type grips do you prefer and why? (V IS THE MOST SWEPT BACK OF ALL).... Do you prefer the plain or with the grip cap? (W70 GRIP CAP)

3. (FORE-END CONTOUR) Do you prefer the regular fore-end contour or the schnable? (Q AND S HAS SCHNABEL). Are there any advantages or disadvantages to the schnabel? Any limitations? (POINT OUT THAT SCHNABEL NECESSARILY IMPLIES BARREL BAND -- (cf. #1, ABOVE.)

4. (BUTT PAD) There are several types of butt pads -- the standard plastic plate (S), the recoil pad (M) and the rubber butt pad (R). Which do you prefer and why? Do you consider any one or two of the three types to be preferable? (PROBE FOR REASONS -- LOOKS, FUNCTION, PRICE)

5. (CHECKERING) How important is checkering to you? How much is pressed or cut checkering worth to you? (USE MODELS T AND Q FOR CUT CHECKERING AND THE 700 FOR PRESSED CHECKERING)

6. (WOOD COLOR) Which wood color do you prefer? (MODELS S AND V ARE WALNUT; Q, T, M, AND R ARE BIRCH)

   - How much is the specific type of wood worth to you? (PROBE FOR INCREMENTAL VALUE OF WALNUT VERSUS OTHER TYPES)

7. Which finish or gloss level do you prefer? How important is this to you? (HIGH GLOSS IS MODEL R -- ALL THE REST ARE SATIN FINISH (VINYL))

8. (FRONT BEAD) Do you have any color preference for the front bead? (LOCATED IN THE FRONT SIGHT; ALL THE MODELS ARE GOLD)

9. (BOLT HANDLE CONTOUR AND STYLING) Which type of bolt handle contour do you prefer -- both functionally and for looks or "feel"? Why? (MODELS M, Q, R, S ARE DOG LEGGED; MODELS T AND V STRAIGHT)

10. (BOLT BODY) Do you prefer a blued or non-blued bolt body? Why? How important is it to you? What is it worth to you to have it or not have it?)

    - (JEWELING) What is a jeweled body worth to you? Do you prefer one?

11. a. (SAFETY) Overall, what are your feelings about safety with respect to center fire rifles? What are the main concerns here? What are the trade-offs between safety and operating convenience?

Now, regarding particular aspects of safety design....

b. How important is it to you to be able to lock the bolt handle when the safety is on? Why?

c. What are your opinions of, and preferences among, these different types of safetys...

- MODEL 70: three-position; bolt can be opened in <u>middle</u> position
- MODEL R: three-position; bolt can be opened in <u>rear</u> position
- MODELS M/S: three-position (in effect); press button to release bolt in safety lock position; release in on bolt shroud or on side near safety

(BE ALERT FOR PERCEPTIONS OF GOOD/BAD "FEEL" OF COMFORT/DISCOMFORT AS THE RESPONDENTS HANDLE THE MODELS AND WORK THE ACTION AND SAFETYS. ALSO, ARE THERE LEARNING PROBLEMS, NUISANCE, FRUSTRATION, ETC. WITH WORKING THESE SAFETYS.)

d. How important, really, is it to have the bolt locked down when the safety is on? Why?

e. Which of the various safety <u>locations</u> do you prefer -- tang, cross-bolt, standard Remington location (700, 788) or Winchester 70 location?

f. Do you find you have any trouble with your hand rotating while operating the safety (possible accidental firing)?

12. (AMMUNITION/CALIBER)

(IF NOT FULLY COVERED IN EARLY PART OF DISCUSSION....)

a. Bolt action guns (as opposed to lever action) will accept newer, high velocity calibers. Does this affect your reactions to this new gun concept and these models?

b. What calibers should this gun accommodate? Why?

13. (ACCURACY/SCOPE) Do you think that these shorter bolt action rifles are any less accurate than regular-length models?

(IF SO) b. Do you think a scope would offset the difference? (IN FACT, IT WOULD)

* * *

Now, let's turn to the Questionnaire Booklets.

CONCEPT STATEMENT

As you know, for many years hunters have had a choice among several different types of operating actions where rifles are concerned -- two of the most popular being lever action and bolt action. However, there are few, if any, guns on the market that can offer a combination of the advantages of both these types of guns -- that is, a smaller, lighter weight gun that offers the better performance characteristics of a bolt action gun.

Now, a leading gun manufacturer has developed a new concept in the center fire rifle category -- a bolt action gun scaled down to a smaller size, but one that can still accommodate the newer, high velocity cartridges. This new gun offers the "knockabout" convenience and portability that comes with smaller size and lighter weight -- qualities that have long been available in lever action -- but it offers them in a bolt action gun.

You get the "best of both worlds" in this new, high quality center fire rifle -- the convenience of smaller size and lighter weight (not just a "sawed-off" barrel, but carefully designed and proportioned overall), plus the opportunity to use the newer, high velocity cartridges as well as the other performance advantages of bolt action.

EXHIBIT 18

GRG #108

QUESTIONNAIRE BOOKLET

Group Number_____

Location_____

Date_____

Concept Reaction

Which of the ratings below most closely describes your overall reaction to the new product idea described on the sheet?

( ) Like it a lot

( ) Like it somewhat

( ) Indifferent

( ) Dislike it somewhat

( ) Dislike it a lot

(DO NOT TURN PAGE)

QUESTIONNAIRE BOOKLET

A. 1. Now that you've seen it -- and regardless of your preferences for the different feature variations we've discussed -- what do you think of the general idea of this new smaller size, lighter weight bolt action rifle? (PLEASE CHECK ONE:)

( ) Like it a lot

( ) Like it somewhat

( ) Indifferent

( ) Dislike it somewhat

( ) Dislike it a lot

2. Why do you say that?

B. Now, for each specific feature listed below, please place the appropriate model letter (Q, S, T, M, R, or V) in the proper column, according to which model you like best with respect to that feature; second best; and least.

	Best	Second Best	Least
1. Sling strap and swivel mounts (barrel band/studs)			
2. Grip design			
3. Fore-end contour design			
4. Butt pad			
5. Checkering (T and Q only)			
6. Wood color			
7. Wood gloss level			
8. Bolt handle -- contour and styling			
9. Safety - which type			
10. Safety - which location			
11. Overall - which gun do you prefer			

(DO NOT TURN PAGE)

C. Next, please indicate your preferences on each of the items below:

1. ( ) prefer grip cap
   ( ) Prefer no grip cap

2. ( ) Prefer checkering
   ( ) Prefer no checkering

3. ( ) Prefer regular fore-end contour
   ( ) Prefer schnabel fore-end contour

4. ( ) Prefer blued bolt body
   ( ) Prefer non-blued bolt body

5. ( ) Prefer jeweled bolt body
   ( ) Prefer non-jeweled bolt body

D. For comparison purposes in answering this next question, you might want to know that the suggested retail (list) prices of three of the currently marketed guns you've seen are as follows:

- Remington Model 788 - about $175.00
- Remington Model 700 ADL - about $245.00
- Winchester Model 94 - about $140.00

1. Now, taking into account the way you have "designed" this gun by your choices in the B and C question series you've just completed, write in here what you would expect the suggested retail (list) price of that gun to be.

$_____

2. Briefly explain your answer.

3. Now, please indicate below how interested you would be in buying that gun if that were the suggested retail (list) price.

( ) Definitely would buy
( ) Probably would buy
( ) Might or might not buy
( ) Probably would not buy
( ) Definitely would not buy

4. Briefly explain your answer.

(GO ON TO NEXT PAGE)

D. Finally, we need a little information about you for statistical analysis purposes....

1. What is your marital status?

( ) single
( ) married
( ) divorced/widowed/separated

2. What is the approximate age of you and your wife (if you have one)?

	Participant	Wife
Under 30	( )	( )
31 - 40	( )	( )
41 - 50	( )	( )
51 - 60	( )	( )
Over 60	( )	( )

3. Does any other member of your immediate family hunt or shoot? If so, who are they and what are their ages?

_____

_____

_____

_____

4. What is the last grade of school you attended?

( ) High school graduate or less
( ) Some college
( ) College graduate or more
( ) Technical/trade school

5. What is your occupation?

6. Which category below represents your total family income?

( ) Under $10,000
( ) $10,000 - $14,999
( ) $15,000 - $19,999
( ) $20,000 - $24,999
( ) $25,000 - $29,999
( ) Over $30,000

(GO ON TO NEXT PAGE)

7. Please write in next to the type(s) of hunting you have done in the past year about how often you have done it, and the make and model/action of the gun mainly used.

Activity	Frequency	Make and Model/Action
Water fowl (i.e., ducks/geese)		
Dove		
Small game (i.e., pheasant/rabbit/ quail/grouse/squirrel)		
Big game (i.e., deer)		
Target shooting (i.e., trap/skeet/ hand or portable trap)		
Target shooting - rifle		
Other: (specify)		

8. Overall, how many guns do you own?_____

* * *

Thanks very much for your cooperation.

EXHIBIT 19

the Gediman Research Group, Inc.

26 Sixth Street
Stamford, Connecticut 06905
203-348-0009

MARKET EVALUATION, POSITIONING, AND FEATURIZATION OF A NEW BOLT ACTION CARBINE STYLE CENTER FIRE RIFLE

For: Remington Arms Company, Inc.

March, 1979

TABLE OF CONTENTS

MANAGEMENT SUMMARY

This section summarizes the key results of the consumer research on Remington Arms' proposed new bolt action carbine style center fire rifle....

The findings quite clearly indicate that the new idea is a distinctive and promising new product prospect, with good appeal to center fire rifle users across the board and especially strong appeal to the bolt action segment. The following two tables show the level of consumer interest, first at the concept and then at the product stage.

Concept Reaction*	Total Sample (50)	
Like it a lot	30%	80%
Like it somewhat	50	
Indifferent	20	
Dislike it somewhat	-	
Dislike it a lot	-	

*The concept statement shown to respondents is reprinted on Page 14.

Product Reaction*	Total Sample (50)	
Like it a lot	42%	96%
Like it somewhat	54	
Indifferent	-	
Dislike it somewhat	4	
Dislike it a lot	-	

*All prototypes, collectively.

Price expectations for the new gun are at about the $180 level (median). Purchase interest (definitely or probably would buy) approaches two-thirds of the sample. Both anticipated price and definite purchase interest are stronger among the bolt action segment.

If the new entry can be kept at or near the anticipated price of $180 -- or in any event, under $200 -- there wouldn't appear to be too much risk of cannibalizing the comparatively higher quality, higher priced Model 700. Rather it is the Model 788 that might present consumers with a closer choice. But the research results strongly suggest that, on balance, whatever sales might come at the expense of the 788, these would be more than offset by "additional gun" purchases (i.e., as a "walking gun," a "starter" gun for a child, a gun for a woman, etc.) versus "instead of" type purchases...as well as by an appreciable amount of entirely new business coming from the lever action segment.

It is our opinion, based on this research, that the new product need not, and probably should not, be presented specifically as a "carbine," because of the connotations of that among hunters: While it is true a carbine is perceived as being a smaller and lighter weight rifle, it is also thought of as having shorter range capabilities and less accuracy. We feel this gun should be presented as being "the best of both worlds" -- that is, a smaller, lighter weight gun (as in many lever action offerings) that offers the better performance characteristics of a bolt action gun, (via higher velocity cartridges).

What the new offering should be called is properly a matter for advertising and other creative development. However, in keeping with the general idea of communicating "the best of both worlds," one possible direction (given here for illustrative purposes only) might be, say, "bolt action brush gun."

Because of the mixed reactions greeting various different combinations of functional and aesthetic features of the prototypes, we feel that a "composite" gun, combining different features of several of the guns, would be best.

This composite gun would have a rounded fore-end contour design similar to Model V, rather than a schnabel fore-end, and would accommodate studs, for which there is an overwhelming preference (vs. barrel bands). It would have the grip design of Model T; and because of an only slight consumer preference for a grip cap, probably should be offered without

that feature (and thus without whatever price increment the grip cap would entail).

The recoil pad of Model M is favored, and could be adopted with reasonable confidence, though Models V, S, and R would likely also be acceptable.

Checkering is overwhelmingly preferred, with some slight favor for Model Q which has the checkering all around the fore-end. It appears that checkering (unlike such features as grip cap, bolt jeweling, or front bead color) is important enough to consumers to support a price increment. Pressed checkering is preferable to no checkering, but would not support as high a price increment as cut checkering.

Walnut is the preferred wood with Model V being the highly favored color and (non-)gloss level. A straight, not dog-legged, bolt handle contour with a knurled knob (Model V) is significantly more popular, as is a non-blued, jeweled bolt body.

After much discussion, the safety type of Model S (2-position safety with a separate push button bolt release mechanism), located on the side, seems to win on the basis that it has the advantages of all or any of the other safety types, without the disadvantages.

# # #

INTRODUCTION

This research was undertaken to provide an initial (qualitative) assessment of the market appeal for a new bolt action carbine style center fire rifle, as well as guidelines for its optimal positioning; that is, its "reason for being," in relation to consumers' hunting lifestyles and gun orientations, on the one hand, and to pertinent existing products, on the other.

The positioning issue both affects and is itself affected by the aesthetic and functional featurization elements that have been variously incorporated into six prototypes. And it is a major objective of this research to address and interrelate both sides of the "equation" -- that is:

- evaluate the market appeal and establish the best possible positioning for the new gun;
- determine what combination of test features best supports and reinforces that optimal positioning.

Research Method

The findings and interpretations in this report are derived from five consumer group discussions, in the course of which participants discussed the new gun idea from many different

perspectives. Discussion within the groups first explored participants' general orientations to hunting, and in particular with lever and bolt action center fire rifles. Respondents were then presented with, and discussed, the new gun concept. Subsequent discussion focused in on the six prototypes, with their different combinations of functional and aesthetic elements, in order to assess consumers' perceived benefits, specific likes, dislikes, and expectations regarding use, users, price, and purchase intent. Following discussion and "hands on" examination of the prototypes (and four as-marketed guns included for purposes of comparison -- Remington Models 700 and 788, and Winchester Models 94 and 70), respondents rated and ranked the test designs on all key issues according to their preferences.

Sample and Fieldwork

The total sample consisted of 50 participants in five groups, and was about equally divided between men whose center fire rifle hunting is only or mainly with bolt action (48%) versus only or mainly with lever action (52%),* and collectively representing a wide range of socio-economic characteristics. The sample representation for the three cities in the study is:

*Two "pure" groups of lever action users, and three mixed groups were conducted.

- 24 consumers in two groups in Houston, Texas
- 11 consumers in one group in Atlanta, Georgia
- 15 consumers in two groups in Detroit, Michigan

* * *

The usual cautions for small-scale, group session research should be noted here, especially when comparing sub-segments. In this connection, note also that, both here and in the tabulations, raw numbers have been converted to percentages and rating scores only for purposes of analytic and editorial convenience; that is, in order to indicate more easily the direction, not the projectability, of the results. Nevertheless, as it turns out in this case, the results on most issues are fairly clear-cut.

* * *

A more detailed demographic breakdown of the sample, as well as all the statistical tabular data drawn from respondents' ratings of the test models, will be found in the Appendix section of this report.

GENERAL ATTITUDES AND PRACTICES

Beyond the few who have built-in, unchangeable, perceived preferences for one type gun or the other, respondents in all three regions, regardless of being bolt action or lever action users, are pretty much in agreement as far as their general attitudes and orientations to lever and bolt action center fire rifles are concerned.

Lever action center fire rifles are perceived by consumers to be lighter weight, therefore easier to handle, with greater portability and maneuverability:

> "I have a Winchester 94 (lever) and it is lighter than my Murray Hill bolt action by at least 2 lbs. I find it easier to handle and use."

> "In briars I'd use a lever for portability."

They are considered walking and stalking guns, best suited for brush hunting and woods because they won't get tangled in the brush as easily. In addition, they are seen as having shorter range capabilities, the result of operating under lower pressure, producing a slower bullet; and as having less latitude for cartridge capacities:

> "The biggest advantages of a lever are its lightness and maneuverability and it won't get tangled in the brush and briars."

The majority of the respondents feel that they can operate a lever action rifle faster, thereby being able to get the second shot off faster:

> "I prefer a lever because it fires quicker and holds the aim better."

> "I use a lever because it fires more rapidly without losing its target."

> "A bolt action takes more time to get the second shot off."

> "Bolts are notoriously slow."

There is a definite John Wayne/"Rifleman" type mystique about a lever action rifle which many attribute its popularity to:

> "When you were a kid you'd always see John Wayne using a lever action rifle."

> "Cowboy movies when you were young definitely stick with you."

Consumers find bolt action center fire rifles to be more accurate and to have longer range capabilities, due to the higher-velocity, higher energy cartridges they can handle, the greater range and accuracy of its cartridges. Because it is a heavier and more cumbersome gun than the lever action, it is predominantly considered best suited for wide, open country and greater (shooting, not walking) distances in contrast to the brush:

> "I enjoyed my 30-30 lever action rifle but the range capacities made me change."
>
> "You'll never find a really high caliber like a 7mm or a 388 Winchester in a lever action gun - only a bolt."
>
> "If they could make a lever action as accurate as a bolt it would sell."
>
> "Bolt action is stronger, more rigid because the breech and barrel is manufactured in one piece."

In a minority of the cases, opinion differs, usually on specific issues concerning one type action as compared to the other, most likely based on a respondent's particular built-in bias in favor of the type he uses. The following quotes illustrate some of these:

> "My 243 lever will shoot just as far and just as accurate as a bolt."
>
> "My lever is accurate. Accuracy really depends on who's operating it - whether it be a lever or bolt."
>
> "I think a lever is just as reliable as a bolt and more so than an automatic."
>
> "I don't think a bolt can shoot longer ranges with better accuracy."
>
> "With a given caliber and barrel length, the range of a bolt and lever would be the same."

Respondents also mention that their gun choice sometimes depends on a particular personal preference which may be based on a physical impairment such as sight...

> "I'm blind on the right side and to me a bolt is very clumsy on the left side - a lever is better for me."

...or a special concern such as safety and misfiring...

> "I have a Savage 99 I bought in 1950-51 and I've shot 5 boxes of shells a year and it's never misfired. You can't do better than that."

...or a particular feel or style of hunting...

> "I shoot a lever action for a totally different reason. I like the hammer and I can tell right away it is off. It's a personal preference with me."

> "A model 88 has a 2½ inch spread which takes the gun off the game every time you crank it whereas a good hunter who shoots with a bolt won't take it off the game."

> "A lever action lends itself to hunting on a horse whereas with a bolt it's harder to do."

> "It depends which type you are more familiar with."

> "To me its all subjective - personal preference. I just like using a bolt action better."

Carbine/"Carbine-ness"

The term carbine is found to denote principally one idea - shortness in barrel length. Carbines are generally, but not always, thought of as being about 2 inches shorter than a regulation sized rifle, thereby making them lighter in weight. The consensus of opinion perceives carbines as mainly or strictly lever action rifles and, with their shortness of length, contributing to the lever action's advantages of lightweight, portable, and easier to handle and maneuver, making it an excellent gun for brush and woods hunting. However, as with most lever action rifles, it also has the disadvantages of shorter range capabilities and less accuracy. A majority of the sample feel that even more range and accuracy are sacrificed when compared to a regular lever action because of these lost 2 inches. Range expectations of a carbine produce a mixed reaction from 50 yards to over 100 yards. The following summarize the general attitudes toward carbines:

> "Carbines are easier to use in brush, which is a very real issue here (Atlanta)."

> "It's a great walking gun especially through briar brush."

> "A carbine is a short gun designed to be carried on horseback."

> "A carbine is a great short barrel brush gun. It won't get tangled as easily."

> "The shorter barrel length affects its range and accuracy. A carbine is accurate up to a certain range."

> "Accuracy is a function of range."

> "Because of its shorter barrel length there is a loss of velocity because it's not holding in pressure. This lower velocity means less range and less accuracy."

Several men mention that, because of its smaller size and lightweight, a carbine makes a perfect "starter" gun for their sons and/or wife:

> "I have 3 sons and I have to buy each of their first shotgun and rifle. I bought all carbines to start with. Psychologically it is easier for them."

> "I bought my wife a carbine because it is lighter and easier for her to handle."

CONCEPT REACTIONS

The following concept was presented to the sample:

> As you know, for many years hunters have had a choice among several different types of operating actions where rifles are concerned -- two of the most popular being lever action and bolt action. However, there are few, if any, guns on the market that can offer a combination of the advantages of both these types of guns -- that is, a smaller, lighter weight gun that offers the better performance characteristics of a bolt action gun.
>
> Now, a leading gun manufacturer has developed a new concept in the center fire rifle category -- a bolt action gun scaled down to a smaller size, but one that can still accommodate the newer, high velocity cartridges. This new gun offers the "knockabout" convenience and portability that comes with smaller size and lighter weight -- qualities that have long been available in lever action -- but it offers them in a bolt action gun.
>
> You get the "best of both worlds" in this new, high quality center fire rifle -- the convenience of smaller size and lighter weight (not just a "sawed-off" barrel, but carefully designed and proportioned overall), plus the opportunity to use the newer, high velocity cartridges as well as the other performance advantages of bolt action.

* * *

Initial reactions to the concept, prior to seeing any prototypes, are very favorable: 80% of the sample state they like it a lot or somewhat -- based directly on the intended conceptual merits of bolt action performance in a smaller, lighter gun. The degree and quality of concept acceptance seems to be somewhat higher in Detroit and Atlanta, and among bolt action users. The remaining 20% of the sample are indifferent to the concept as opposed to overtly negative.

Respondents readily accept the idea because this new product offers them "the best of both worlds." The majority of men (including lever action users) would like a light weight gun but do not want to sacrifice the range and accuracy of a bolt. This finally offers them an alternative:

> "I'd like to see this - lightweight and a bolt with high velocity. I don't care how light a gun is, it gets heavy carrying it all day."
>
> "I love the idea. You never know in the beginning of the day what you'll need by the end. A lever is a disadvantage in this aspect."
>
> "If my accuracy wouldn't decrease with the light weight it would be great. I only switched due to the range before."
>
> "If you are in the market for a more maneuverable gun, this is it."
>
> "Weight really matters to me."

> "This gun would be ideal for the brush here in Michigan."

> "To me a bolt action is safer than a lever for my son. This would be perfect."

Only a few respondents in the sample make a contrast between this new gun concept and Remington's previous Model 600, which they speak favorably of:

> "This is a remarketing of a Remington 600. I've shot one and I'd like to have one."

> "This is similar to the Remington 600 which was great. I'm looking for something like that."

> "There's one on the market already - a Remington 600. Well actually it's discontinued now. It was recalled because of an accident with a 15 year old boy who violated nine basic gun handling rules."

Another advantage that hunters perceive in this gun is its ability to accommodate a scope, which a Model 94 cannot do without a side mount. This seems to be a very important issue with a good percentage of the sample:

> "In this area (Atlanta) you need a scope to see through the brush and thicket, trying to get a piece of the deer. This is a definite advantage of this new gun."

> "Just about anyone going in the woods today will use a scope."

> "When you get old enough where you can't see the front sight or the range you are shooting, you will learn to love a scope. It becomes a necessity."

The small percentage who do not accept the concept initially raise doubts about the ability to make such a gun that would have the advantages of both lever and bolt action. Several men seem worried or doubt the ability of a shorter barrel length to be able to handle high velocity cartridges efficiently and accurately:

> "How can you get as high a velocity out of a shorter barrel as with a long barrel?"
>
> "I don't believe a high velocity will come out of this gun and be accurate."
>
> "High velocity cartridges depend on barrel length for efficiency."

Other negative reactions are a result of strong personal preferences - either for a particular type gun that they use and don't want to change or for a particular type of hunting:

> "I'm sold on my lever. I'm not a very good hunter but my gun has killed anything (deer) it has hit. I'd never change to a bolt."
>
> "I don't like too lightweight a gun. I like something there to swing."
>
> "Not for me. I'm strictly a long bolt action user and I hunt accordingly. I'm used to the inconvenience of weight."
>
> "Good idea for someone who hunts long ranges. Not me - I hunt under 50 yards."

Some men seem concerned about the added recoil and muzzle blast:

> "I think with lighter guns you feel the recoil more. I prefer heavier guns."

> "You wouldn't be able to hear for 3 days."

> "I don't like the muzzle blast of short barrel guns."

When respondents are asked which type action users would find this gun more appealing, about two-thirds of the sample agree that bolt action users would. The remainder either feel it would be more appealing to lever action users or to both equally.

In the discussions, price expectations vary, ranging from a low of $160 to a high of $300. This concept is perceived to be more expensive in Detroit, falling in the $200 - $225 range, whereas Atlanta and Houston are somewhat lower, around $185.

PROTOTYPE REACTIONS

Respondents' first exposure to the six prototypes produces a mixture of spontaneous reactions. Three of the five groups find the models shorter than they expected. A large percentage recognize them right away to be Remington because of the bolt design and the checkering on two of the models. Many find them to be pretty much what they had expected. Others are surprised about the small stock and feel it would be more advantageous for smaller people (small men, women, children), while many state it would be perfect for themselves. Several respondents consider it not in line with the quality of the Remington 700, but rather closer to that of a lever or a lever carbine.

Yet, with all those initial pros and cons, consumers' rated reactions to the product -- that is, to the six prototypes collectively, before discussion of particular feature differences -- is even more favorable than at the concept level. Acceptance, in fact, is virtually unanimous with 96% liking it a lot or somewhat, and with top box approval ("like it a lot") appreciably higher now than at the concept level for the total sample, and nearly double for bolt action users (up from 33% to 63%).

Group discussions then centered on the six prototypes, with their different combinations of functional and aesthetic elements. Statistics for these issues -- compiled on the basis of respondents' ratings and rankings at the end of the group session -- can be found in the Appendix.

Studs Versus Barrel Bands and Fore-end Contour Design

These two issues are interrelated because of the fact that a schnabel design, due to its shape, can only accept barrel bands versus a regular fore-end contour design which can accomodate studs. This fact clearly affects the preference of the fore-end design. More than half of the sample in discussion find the schnabel design (Models Q and S) appealing both aesthetically and functionally. However, because of the overwhelming strong preference for studs (Models T and R) versus barrel bands (Models Q and S) and hunters' refusal to give up studs for the schnabel, they change their preference to the regular fore-end contour design (72%) with studs:

> "I'm a little man and I have little hands. I like the feel of the schnabel but I sure wouldn't want barrel bands."

> "If I couldn't have studs, I'd rather not have anything."

Model V fares extremely well, and because there is little or no difference in contour between T and V, we have to assume that the people who favor V don't want barrel bands or studs.

Grip Design and Grip Cap

There is a clear preference for Model T grip design. The most extreme swept back design (Model V) does almost as well on "best" and "second best" mentions; however, a high "liked least" score nets it out as a not very close second. Many respondents perceive Model V as being harder to grip:

> "Model V is more swept back and this makes it harder to squeeze with the open handed method of shooting."

> "V is too short for my big hands, especially for gripping and carrying."

There is a marginal preference overall for a grip cap (60% vs. 40%). Atlanta has a strong preference for it (91%) whereas Detroit prefers no grip cap (80%). Most respondents feel this feature is strictly aesthetic, with no real bearing on performance:

> "I like a grip cap - it adds a touch of class."

> "It's nice but not really worth paying for."

> "I don't really like it. It's not important to me. It has no bearing on the gun or its performance."

Butt Pad

The recoil pad of Model M scores best, but with considerable bi-polarity (quite a few "liked least," mainly in Atlanta, but more "liked best," mainly in Houston):

> "I like a recoil pad - you get more cushion and less recoil, kick."
>
> "I like a recoil pad. I don't take fast shots at running deer."
>
> "I wouldn't want a recoil pad or rubber pad it if would catch on my jacket."

The rubber butt pad on Model R, fairly popular in Houston, and the classic pad of Model V are tied for second, with the standard plastic plate of S, most popular in Atlanta, not far behind.

Checkering

Checkering is overwhelmingly preferred (84%) over no checkering. Not only do respondents consider it aesthetically more pleasing but they also consider it functionally more accommodating: it allows a better grip with no sticking, especially in wet weather:

> "With checkering I can move my hand without sticking - it gives a better grip."
>
> "Checkering is good in wet or hot weather - you can get a better grip. It looks nicer too."
>
> "I've never seen a high quality center fire rifle without checkering."

Although cut checkering (or "hand checkering," as some consumers call it) is preferred over pressed checkering, most would rather have the latter than no checkering at all:

> "Pressed checkering doesn't have as sharp edges as cut, but it's better than nothing."

The majority of respondents acknowledge that they are willing to pay extra for checkering, with responses falling between the $15.00 - $20.00 range, or 10% of the price of the gun. They do feel, however, that machine or pressed checkering should be cheaper than cut checkering.

Of the two prototypes with checkering, Models T and Q, there is a preference, though not an overwhelming one, for Model Q -- the one whose checkering runs underneath the fore-end:

> "This is the first one I've seen with checkering all the way around - I like it."

Wood Color

Model V, which is walnut, is clearly the conclusive favorite. The majority of the sample perceive walnut as the only good wood for a gun, especially any high quality gun:

> "If it's not black walnut, to a real enthusiast, it's a low quality gun."

Others feel it's not so much the goodness of walnut but the badness of birch (Models Q, T, M and R). However, the tone and "flavor" of some of the responses on this issue suggest that consumers would pay less attention to it in the "real world."

Wood Gloss

Model V, again, is overwhelmingly preferred, perhaps due in part to a "spillover" effect of its admired color. However, there is a strong case among consumers to support the preference for a non-gloss finish, as the following verbatims illustrate:

> "A polyurethane finish gets scratched in the brush and it always needs to be polished."

> "A high gloss looks nice but it's just not practical. It scratches too easily."

> "A high gloss finish is made for target shooting. Non-gloss is made for hunting."

The one high gloss model in the test (R) is widely liked, especially in Houston and among lever action users, but just as widely disliked, specifically in Atlanta and among bolt action users. There are few in the middle.

Front Bead

This issue does not seem to be too important to the respondents; many are indifferent to the question of color preference for the bead. However, there are a few isolated verbatims showing some minority preference for a gold or brass bead and some for a ball instead of a bead:

> "I like a gold or brass bead that can be shined up. It's easier to clean and see."

> "My preference is for a ball versus a bead. To me its easier to see."

> "Most people with a bolt action gun put a scope on it anyway, so it really doesn't matter."

Bolt Handle Contour and Styling

Model V, which is straight, not dog-legged, with a knurled knob is the clear favorite among all areas and both lever and bolt action users. Respondents prefer the large, completely rounded, knurled ball because of its feel:

> "I like V. It is swept back just a little bit and it has a nice big round knob on it and it is also checkered - which gives you a little bit of a grip."

Model T, which is straight like V but has a flat bolt handle is highly disliked across the board:

> "Terrible - you can't get a hold of it."

Bolt Body Blueing

This feature is almost unanimously rejected (96%), for the reason that it will not last:

> "It doesn't matter. It won't stay blue."

> "I prefer a polished bolt body because the blueing will rub off."

Bolt Body Jeweling

Jeweling is preferred by a three to one margin, but probably would not support much of a price increment, if any. Cost reactions are mixed, with some men stating it should be standard on the gun, but a few others perhaps willing to

pay between $5.00 and $10.00 for it:

> "If it's a good manufacturer it should be standard with the gun."
>
> "I think it looks nice but wouldn't pay more than $10.00 for it. $5.00 is more reasonable."
>
> "I prefer jeweling but I wouldn't pay extra for it."

Type of Safety

The 2-position safety with a separate bolt release mechanism is clearly approved (in the S version, though, not the M). In effect, it offers the advantages of any or all of the others, without the disadvantages:

> "I don't like the 3-position safety -- there's more to go wrong."
>
> "I prefer a separate release on the other side of the bolt away from the safety location. This would never foul up."
>
> "I like the bolt release completely separate from the safety -- less complications."

Between these two 2-position safetys with separate bolt release mechanisms, Model S with the button type bolt release is preferred much more strongly than M. The "rocking lever" treatment of M is actually the least preferred safety (of any and all types) in the entire test:

> "It's a brush catcher. and it takes (too) little pressure to release it."

Between the two types of conventional 2-position safetys, opinion is divided, with just a slight edge for the type in which the bolt is locked down on safe. Each type has its supporters, though.

Model V (bolt locked down on safe):

> "I have three teenage boys and i don't want them to have any choices."

Model Q (bolt can be opened on safe):

> "I don't think most people find it that important for the bolt to lock down -- as long as the safety is still on and it won't fire. That's the main thing. With Q you are able to load and unload with the safety on."

In addition to the personal safety aspects of the above viewpoints, there is some preference for the lock-down treatment on grounds that it prevents accidental snagging and lifting of the bolt on a twig, unbeknownst to the hunter, thus possibly resulting in a missed opportunity.

There is some favor, as well, for the 3-position safety, but others feel it is too complicated -- just another thing to go wrong:

> "I don't like the 3-position safety. There's more to go wrong. The simpler the better."

After a demonstration, however, several decided they like it:

> "Maybe with a 3-position safety there is less of a possibility that the gun would go off when loading it."

> "When I'm hunting with lots of people getting in and out of a car, I don't want it to go off. The 3-position safety would avoid this."

However, with all the different choices, there is a clear consumer preference in this research for a safety that has a separate bolt release mechanism that lets you "have it your way," whatever that way may be.

Location of Safety

The shroud location, as on the Winchester Model 70 fares poorly. The side locations on the test products are much preferred, especially Model V. A few respondents mention preference for the Remington Model 700 location.

Overall Preference

Respondents clearly prefer Model V by far when asked about overall preference; and this is supported by their strong preferences for Model V's fore-end contour design, bolt handle contour and styling, wood color, wood gloss, and location of safety. However, not too much importance should be attached to this particular finding, since the more detailed results on features, as discussed herein, suggest that some sort of "composite" model is called for, drawn from favored aspects of the various prototypes.

Calibers

There is a wide range of opinion on what calibers respondents feel would be most appropriate for this new gun. About 50% of the sample feel either a .243 or .308 caliber is best suitable, while almost a quarter of the sample agree that a 30-30, 6mm or a 270 would be best.

Price Expectations

Anticipated prices* for the versions of the gun that respondents themselves have "designed," via their reactions and preferences regarding the various features at test, range from a low of $125 to a high of $265. There are two modal levels -- one at $175 and another, smaller one at $200. The median expectation is about $180, with bolt action users a bit higher than lever action users, and the Detroit area higher than the other areas.

Purchase Intent

Overall, about two-thirds of the total sample express positive purchase intention ("definitely" or "probably" would buy) at their anticipated prices, with little difference (except in the top box) between those with higher versus lower anticipated prices. Overall, the "probablys" outnumber the "definitelys" by about two to one; but there is considerably more top box interest among bolt action users. Purchase intent is

*Respondents were instructed to answer in terms of "suggested retail (list) price"; and, for purposes of comparison, were given the suggested retail (list) prices of the Remington Model 788 ($175), Model 700 ADL ($245) and Winchester Model 94 ($140).

also higher in Atlanta (91%) and lowest in Houston (46%). There is no total outright rejection ("definitely" would not buy) and moderate rejection ("probably" would not buy) is rare; most of the rest of the sample is in the "might or might not" category.

# # #

A P P E N D I X

Table 1

Demographics of Sample

Area	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Houston	48%	100%	-%	-%	58%	42%
Atlanta	22	-	100	-	27	73
Detroit	30	-	-	100	60	40
Action						
Lever	52%	58%	27%	60%	100%	-%
Bolt	48	42	73	40	-	100
Guns Owned	(49)	(23)	(11)	(15)	(25)	(24)
One	18%	13%	-%	40%	24%	13%
Two	2	4	-	-	4	-
Three	12	13	9	13	16	8
Four	6	9	-	7	4	8
Five	4	4	9	-	8	-
Six	6	4	-	13	4	8
Seven	6	13	-	-	8	-
More than seven	46	40	82	27	32	63
Marital Status	(50)	(24)	(11)	(15)	(26)	(24)
Single	12%	8%	9%	20%	19%	4%
Married	82	88	91	67	73	92
Divorced/separated/widowed	6	4	-	13	8	4
Age of Respondent	(47)	(24)	(10)	(13)	(25)	(22)
Under 30	30%	25%	40%	31%	32%	27%
31 - 40	33	41	20	31	32	37
41 - 50	19	21	10	23	20	18
Over 50	18	13	30	15	16	18

(Cont'd.)

Table 1

Demograhics of Sample (Cont'd.)

Education	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
High school or less	14%	8%	18%	20%	12%	17%
Some college	40	38	55	33	46	33
College graduate or more	38	50	-	47	38	37
Technical/ trade school	8	4	27	-	4	13
Occupation	(50)	(24)	(11)	(15)	(26)	(24)
Professional/ managerial	46%	55%	36%	40%	23%	71%
Sales/clerical	10	4	9	20	15	4
Skilled worker	32	29	36	33	42	21
Unskilled worker	4	8	-	-	8	-
Retired/student	8	4	19	7	12	4
Income	(50)	(24)	(11)	(15)	(26)	(24)
Under $15,000	14%	16%	9%	13%	16%	13%
$15,000 - $19,999	12	13	18	7	15	8
$20,000 - $24,999	14	8	9	27	19	8
$25,000 - $29,999	18	21	27	7	19	17
Over $30,000	42	42	37	46	31	54
Family Members Who Hunt or Shoot*	(50)	(24)	(11)	(15)	(26)	(24)
Wife	14%	17%	18%	7%	15%	13%
Son(s)	30	33	36	20	38	21
Daughter(s)	6	4	18	-	4	8
Brother(s)	10	13	9	7	19	-
Father	8	8	9	7	15	-
None	48	46	27	67	35	63

*Multiple response

Table 2

Concept Acceptance

	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Like it a lot	30% } 80%	25% } 71%	27% } 91%	40% } 87%	27% } 73%	33% } 87%
Like it somewhat	50	46	64	47	46	54
Indifferent	20	29	9	13	27	13
Dislike it somewhat	-	-	-	-	-	-
Dislike it a lot	-	-	-	-	-	-

Table 3

Model Acceptance

	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Like it a lot	42% } 96%	38% } 92%	45% } 100%	47% } 100%	23% } 96%	63% } 96%
Like it somewhat	54	54	55	53	73	33
Indifferent	-	-	-	-	-	-
Dislike it somewhat	4	8	-	-	4	4
Dislike it a lot	-	-	-	-	-	--

Table 4

Specific Model Reactions*

	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Lightweight with bolt action/best of both worlds	44%	38%	45%	53%	31%	58%
Smaller in size/ shorter (positive)	26	25	27	27	23	29
Easy to handle/ to carry/to use/ faster/better handling and maneuverability	16	13	9	27	15	17
Offers high calibers in a carbine style gun	12	8	9	20	8	17
Good for brush country/small gun	12	21	9	-	15	8
Good for women/ children/small people	12	25	-	-	12	13
Nice appearance/ design/eye appeal	10	4	18	13	12	8
New/different	8	8	18	-	12	4
Compact/all around rifle	6	4	9	7	4	8
A good marketable product	4	-	9	7	4	4
Kicking/recoil power stronger	4	8	-	-	8	-
Looks too short/ too small	4	8	-	-	-	8
Other**	12	25	18	7	12	13
No reason/answer	6	-	18	7	-	-

*Multiple response

**Other includes: feels comfortable/good safety features/action seems simple and easy/good compromise buy/full accuracy for distance hunters/ likes all Remington guns.

Table 5

Appropriate Calibers for Model

Calibers	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
.243	56%	71%	64%	27%	46%	67%
.308	46	42	73	33	42	50
30-30	24	25	18	27	31	17
6 mm	24	21	55	7	15	33
.270	22	25	27	13	23	21
30-06	20	8	45	20	27	13
22-250	10	13	9	7	8	13
30 cal.	8	4	9	13	4	13
.222	6	8	-	7	4	8
7 mm	4	8	-	-	4	4
35	4	-	9	7	8	-
.306	4	-	-	13	4	4
.300	4	-	-	13	8	-
Other*	20	25	9	20	19	21

*Other includes: 22 Hornet/.223/250/.22 mag/.375 Win./.25/.223 to .30/Rem 700/44 mag/350 mag

Table 6

Overall Preference = Net Scores*

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	57	22	15	20	29	28
Q	7	7	-	-	-	7
S	4	6	3	-5	2	2
R	2	-4	-	6	2	-
M	-1	4	-2	-3	-2	1
T	-12	-8	-3	-1	-3	-9

*On this and on the next nine tables, net scores are derived from assigning two points for each "best" response; one point for each "second best" response and deducting two points for each "least" response.

Table 7

Fore-End Contour Design = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	37	5	17	15	16	21
T	32	9	9	14	14	18
R	9	4	3	2	5	4
M	4	2	1	1	4	-
Q	-	12	-9	-3	5	-5
S	-29	-5	-12	-12	-12	-17

Table 8

Sling Straps and Swivel Mounts
(Studs/Barrel Bands) = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
R	45	25	8	12	25	20
T	44	16	12	22	22	23
M	4	8	3	-7	-3	7
V	3	-4	2	5	2	1
S	-22	-4	-8	-10	-11	-11
-Q	-22	-9	-6	-7	-9	-13

Table 9

Bolt Handle - Contour and Styling = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	71	32	22	17	33	38
Q	20	11	1	8	12	8
S	16	5	2	9	1[illegible]	6
R	-	-1	-1	2	[illegible]	3
M	-2	-2	-	-	[illegible]	-4
T	-52	-20	-12	-20	-27	-25

Table 10

Grip Design = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
T	30	13	12	5	13	17
V	12	10	3	-1	12	-
Q	8	2	6	-	-2	10
S	3	3	-6	6	4	1
M	3	1	1	1	5	-2
R	1	-3	-1	5	1	-

Table 11

Butt Pad - Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
M	18	31	-14	1	16	2
V	13	-4	8	9	10	3
S	10	-22	20	12	-	10
R	9	21	-4	-8	5	4
T	4	4	2	-2	-1	5
Q	-1	-5	-	4	-4	3

Table 12

Wood Color = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	47	20	8	19	31	16
S	6	5	6	-5	-1	7
R	5	7	-4	2	-1	6
T	3	-4	2	5	-2	5
M	-	-	-	-	4	-4
Q	-9	-5	-	-4	-4	-5

Table 13

Wood Gloss Level = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	36	7	13	16	20	16
S	14	5	7	2	5	9
M	3	5	2	-4	2	1
R	3	18	-16	1	10	-7
T	2	-6	3	5	-4	6
Q	-6	-5	1	-2	-5	-1

Table 14

Type of Safety - Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
S	33	14	15	4	16	17
V	17	9	2	6	5	12
Q	11	1	-	10	-	11
R	6	12	-5	-1	6	-
Winchester 70	6	-	6	-	1	5
T	-1	1	-	-2	4	-5
M	-17	-12	-4	-1	-3	-14

Table 15

Location of Safety = Net Scores

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
V	34	16	7	11	14	20
R	15	10	1	4	1	14
S	10	10	8	-8	3	7
Q	16	9	-2	9	11	5
M	-7	-5	-	-4	1	-8
T	-2	-5	-	3	2	-4
Winchester 70	-7	-10	2	1	-6	-1

Table 16

Checkering*

Model	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Q	56%	58%	73%	40%	62%	50%
T	42	38	27	60	38	46
No choice	2	4	-	-	-	4

*In the case of this characteristic, only two models had a checkering feature, therefore, the net scores were not meaningful. Percentages in this table refer to the number of people who felt that model was the better of the two.

Table 17

Feature Preferences

	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Prefer grip cap	58%	67%	91%	20%	58%	58%
Prefer no grip cap	40	33	-	80	38	42
No answer	2	-	9	-	4	-
Prefer checkering	84%	87%	100%	67%	85%	83%
Prefer no checkering	16	13	-	33	15	17
Prefer regular fore-end contour	72%	58%	100%	73%	62%	83%
Prefer schnabel fore-end contour	28	42	-	27	38	17
Prefer blued bolt body	4%	4%	-%	7%	4%	4%
Prefer non-blued bolt body	96	96	100	93	96	96
Prefer jeweled bolt body	76%	75%	100%	60%	73%	79%
Prefer non-jeweled bolt body	24	25	-	40	27	21

Table 18

Price Expectations

	Total Sample (50)	Houston (24)	Atlanta (11)	Detroit (15)	Lever Action (26)	Bolt Action (24)
Median	$180.00	$175.00	$180.00	$200.00	$180.00	$187.50
Mode	$175.00	$175.00	$175.00	$200.00	$175.00	$175.00
Range	$125.00 to $265.00	$125.00 to $245.50	$160.00 to $265.00	$140.00 to $250.00	$125.00 to $245.00	$150.00 to $265.00

Table 19

Purchase Intent

	Total Sample (50)		Houston (24)		Atlanta (11)		Detroit (15)		Lever Action (26)		Bolt Action (24)	
Definitely would buy	20%	64%	21%	46%	27%	91%	13%	73%	12%	62%	29%	66%
Probably would buy	44		25		64		60		50		37	
Might or might not buy	22		33		-		20		26		17	
Probably would not buy	14		21		9		7		14		17	
Definitely would not buy	-		-		-		-		-		-	

Table 20

Purchase Intent at Different Price Expectation Levels

	Total Sample (50)				Lever Action (26)				Bolt Action (24)			
	$175 and Under (22)	$180 to $200 (19)	Over $200 (9)		$175 and Under (13)	$180 to $200 (10)	Over $200 (3)		$175 and Under (9)	$180 to $200 (9)	Over $200 (6)	
Definitely would buy	23%	26%	-%		8%	20%	-%		45%	33%	-%	
				67%				67%				67%
Probably would buy	40	37	67		46	50	67		33	23	67	
				63%				70%				78%
		63%				54%				56%		
Might or might not buy	23	21	22		31	30	-		11	11	33	
Probably would not buy	14	16	11		15	-	33		11	33	-	
Definitely would not buy	-	-	-		-	-	-		-	-	-	

EXHIBIT 20

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Xc: C.B. Workman
W.Forson

Remington PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
May 8, 1979

TO: PAUL HOLMBERG - Bridgeport

FROM: J. W. BROOKS - Ilion ← File

BOLT ACTION CARBINE

The following list contains the items discussed during our meeting last Thursday:

Stock

1. Rounded tip like V
2. Grip like T or M
3. Butt plate like S
4. Birch wood
5. Pressed checkering like pattern on T
6. Color like M
7. RK-W gloss finish
8. Top profile like R - not V

Other Items

9. Stamped hinged floor plate
10. M/700 front & rear sights (no hood). Check old M/700 sights.
11. Bolt handle M/700 - on V
12. Bolt body - bright
13. Barrel bracket like M or T
14. Swivel studs on stock
15. Metal finish like on present model
16. Stamped steel follower - M/600
17. Calibers 222, 6mm, 243, 308, 7mm-08
18. Model 700 Fire Control without bolt lock
19. Bolt Lock separate from fire control to be added depending on Development Schedule

We are in the process of having a stock made for this model with the proposed shape. We will use the Model 700 Trigger Assembly and Bolt Handle on the short Carbine receiver. By using this Trigger Assembly we must move the receiver forward to get the preferred grip shape. As we mentioned at the time, this will leave an extra amount of open inletting behind the receiver. This may be improved by reshaping the receiver and blending of the stock at this point. We will contact you when we have a stock finished.

If you have any questions concerning the above list, please contact us.

JWB:T
Ilion Research Division

EXHIBIT NO. 21

GUN SERIAL NUMBER A6890062

STOCK

- BIRCH WOOD
- VINYL FINISH
- CUT CHECKERING
- CLASSIC STYLING
- INLET FOR TRIGGER GUARD
- FRONT AND REAR SWIVEL STUDS

BARRELED ACTION

- 18½ INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- MODEL 700 BOLT HANDLE
- MODEL 700 TRIGGER HOUSING ASSEMBLY
- MODEL 700 TYPE BOLT RELEASE
- MODEL 700 TYPE SAFETY ASSEMBLY
- NEW BOLT LOCK ON BOLT PLUG
- NEW STAMPED FLOOR PLATE ASSEMBLY
- MODEL 700 FRONT SIGHT BASE
- MODEL 700 FRONT SIGHT
- MODEL 700 BDL FRONT SIGHT HOOD
- MODEL 700 REAR SIGHT ASSEMBLY

EXHIBIT NO 22

GUN SERIAL NUMBER 6226223

STOCK

- BIRCH WOOD
- GLOSSY FINISH - MODEL 3
- CUT CHECKERING
- CLASSIC STYLING
- INLET FOR TRIGGER GUARD

BARRELED ACTION

- 18½ INCH BARREL LENGTH
- MODEL 700 BARREL BRACKET
- ROUNDED RECEIVER TANG SIMILAR TO MODEL 700
- MODEL 700 BOLT HANDLE
- MODEL 700 TRIGGER HOUSING ASSEMBLY
- MODEL 700 TYPE BOLT RELEASE
- MODEL 700 TYPE SAFETY ASSEMBLY
- NEW STAMPED FLOOR PLATE ASSEMBLY
- MODEL 700 FRONT SIGHT AND BASE
- MODEL 700 BDL FRONT SIGHT HOOD
- MODEL 700 REAR SIGHT ASSEMBLY

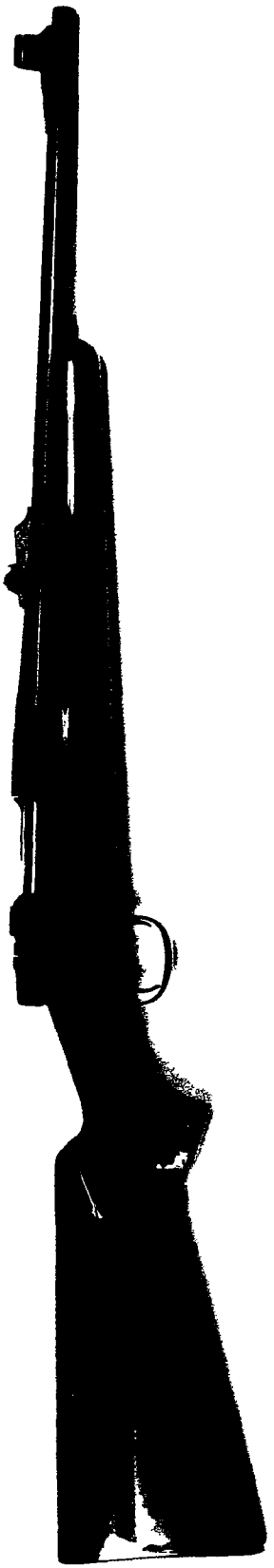


EXHIBIT 23

RD-49-E

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

Xc: C.B. Workman

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

MEMORANDUM OF MEETING

NEW BOLT ACTION RIFLE

November 15, 1979

PRESENT:

L. G. Wilke	D. E. Bullis
L. B. Bosquet	J. W. Brooks
D.D. Parker	P.G. Johnson
K. F. Blumer	

This meeting was held so Process Engineering could look at the first proposed model and suggest problem areas of manufacture that should be reviewed before final prototype models are made.

1. The checkering pattern is large and close to top of stock and bottom of grip. It may go over radius of grip and fore end too far for custom checkering.

2. The top edge of stock along barrel and receiver should be approx. .050 min. width to meet present manufacturing processes.

3. Define tang area with more detail to establish safety button clearance with stock, safety arm clearance to prevent breakthru during sanding, and possible machining operation to help improve blend sanding of tang area.

4. It would be nice to have rear grip end radius as close as possible to radius on bottom of stock at rear of grip for machining purposes.

5. Can bolt handle cut be described so that it can be put on at inletter rather than with Z-arm router.

6. Inletting of floor plate should have as many common radii as possible and as large as possible.

7. Screw holes in butt end of stock should be same as in M600 to use same fixtures if possible.

8. Pitch should be same as M600 to use same fixtures if possible.

JWB:T
Ilion Research Division

EXHIBIT 24

BOLT ACTION CARBINE - ACCURACY TEST - 3-12-80 - JERRY SELAN - 100 YD. RANGE - BENCH
SCOPE - LEUPOLD 3x9 VARI X-II
DRY PATCH BORE AT START - COOL BRL. BETWEEN GROUPS - 1 FOUL SHOT AFTER COOLING.

PLANT STANDARDS

	SERIAL NUMBER	PROOF	CALIBER	AMMO	LOT NO.	1ST GROUP SIZE	2ND GROUP SIZE	3RD GROUP SIZE	AVERAGE GR. SIZE	TOTAL AVE. GR. SIZE	MIN SIGHT ADJ.	MAX SIGHT ADJ.	HEADSPACE MIN. +	
1	A 68900059	✓	7MM REM	MAG HEADS		1.20	2.44	1.96	1.87		-.97	1.25"	.000	
2	A 68900035	✓	"	140 GR SPRING		1.84	1.60	2.60	1.91				.001	
3	A 68900041	✓	"	139 SP		1.56	1.60	1.96	1.56	1.78			.002	2.7
4	A 68900062	✓	"	154 GRAIN		1.72	1.39	1.18	1.41				.000	
5	A 68900045	✓	"			1.96	2.50	1.40	1.85				.001	
6														
7														
8														
9														
10														
11	A 68900050	✓	308 WIN	MOCK	LEADSLED	1.54	1.40	1.40	1.56				.001	
12	A 68900049	✓	"	GRS LIST	"	1.32	1.68	1.44	1.44				.001	3.8
13	A 68900044	✓	"	PSP	"	1.44	1.24	2.12	1.60	1.64			.002	
14	A 68900058	✓	"	"	"	1.90	1.24	1.44	1.52		-.51"	-.17"	.002	
15	A 68900057	✓	"	"	"	1.24	1.40	1.40	1.64				.002	
16														
17														
18														
19														
20														
21	A 68900037	✓	243 WIN	SOFT	LEAD BOLT	2.44	1.78	1.40	1.60				.000	
22	A 68900036	✓	"	PSP	"	1.60	.64	1.76	1.33				.000	
23	A 68900054	✓	"	"	"	1.16	.98	1.28	1.34	1.46			.000	2.7
24	A 68900048	✓	"	"	"	.96	.96	.92	.94		-.6"	1.25"	.000	
25	A 68900051	✓	"	"	"	1.68	2.52	2.18	2.12				.000	
26														
27														
28														
29														
30														
31	A 68900063	✓	6MM REM	100GR LEAD	GRS 100 GRS	2.10	2.44	2.46	2.22				.001	
32	A 68900061	✓	"	PSP LIST	"	1.28	1.96	2.08	1.76				.001	
33	A 68900040	✓	"	"	"	1.24	2.16	3.32	2.20	1.99			.001	2.7
34	A 68900053	✓	"	"	"	1.68	2.44	2.58	1.87				.001	
35	A 68900046	✓	"	"	"	1.96	3.12	1.60	2.18		.9"	1.25"	.001	
36														
37														
38														
39														
40														

24

R2528989

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

RD-61-8

REMINGTON ARMS COMPANY, INC.

EXHIBIT 25

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
May 12, 1980

TO: W. H. FORSON

FROM: J. W. BROOKS

SUBJECT: BOLT ACTION CARBINE IN 7mm-08 CALIBER - FIELD TEST

Per our telephone conversation last week, these models are still on schedule for field testing by June 1. We will need authorization for where and to whom these rifles should be sent. We can use an altered Model 700 shipping carton for shipping.

We will not be providing ammunition with the rifles.

We will notify you when the rifles are ready to ship.

If you have further questions, please let us hear from you. In the meantime we will keep you informed of our progress.

JWB:T
Firearms Research Division

BOLT ACTION CARBINE TEST GUNS

EXHIBIT 26

	1 SERIAL NUMBER	2 CALIBER	3 STOCK FINISH	4 WEIGHT	5 RETURNED	6 WEIGHT OF STOCK & BUTT PLATE
J. G. WILLIAMS	B6226240	7MM-08	RK	7# 2oz	3-12-81	
J. E. PREISER	B6226246	"	RK	7# 1½oz	3-12-81	
E. J. CONROY	B6226248	"	RK	7# 1oz	8-27-80	2# 4oz.
J. C. CALLAHAN	B6226251	"	RK	7#	7-16-80	2# 5½oz.
R. J. REINECK	B6226252	"	RK	6# 13oz	8-27-80	1# 15½oz.
P. H. HOLMBERG	B6226257	"	RK	6# 15½oz.	3-12-81	
P. J. BERGERE	B6226259	"	RK	6# 13oz.	7-10-80	2# 0oz.
D. GODFREY	B6226273	"	RK	6# 14½oz.	7-29-80	2# 1oz.
J. B. COCKMAN	B6226275	"	RK	7#	8-5-80	2# 3oz.
T. W. RAWSON	B6226218	"	VINYL	7# 2oz	8-27-80	2# 4oz.
W. H. FORSON JR.	B6226232	"	VINYL	6# 15oz	8-27-80	2# 1oz.
N. L. OLDRIDGE	B6226236	"	VINYL	7# 2oz.	3-12-81	
K. N. WAITE	B6226270	"	VINYL	6# 14oz	7-14-80	2# 1½oz.
E. G. LARSON	B6226220	"	LACQ.	7# 4oz.	8-27-80	2# 5½oz.
R. F. DIETZ	B6226244	"	LACQ.	7# 2oz	3-12-81	
W. L. FLINN	B6226245	"	LACQ.	7#	8-13-80	2# 2¾oz
	A6886473	308	RKW	6# 15oz		2# 2oz.
A. W. WHEATON	B6226253	7MM-08	LACQ.	7#	8-13-80	2# 3oz
	A6840050	308	RKW	7#		2# 4oz.
BIRCH (600 BBL) INLET	B6226223	7MM-08	RKW	6# 15oz.		2# 1oz.
WALNUT (700 BBL) INLET	A6890047	6MM	LACQ.	6# 7oz.		1# 14oz.
WALNUT STOCK 700 INLET			LACQ.			2# ¾oz.
WAL. " "			RKW			1# 14oz.
WAL. " "			RKW			1# 14oz.
WAL. " "			RKW			1# 15oz.
BIRCH " "			LACQ.			2# ½oz.

xc: R.L. Hall
H.K. Boyle
J.P. Linde
C.B. Workman
J.W. Brooks
L.B. Bosquet

EXHIBIT 27

Est. File #4152

May 27, 1980

G.D. Campbell

Bolt Action Carbine Rifles

Estimated 1980 factory cost for the walnut stocked version of the Bolt Action Carbine rifle has been developed. The processing of this stock parallels that of the Model 700 Classic. Specifications will include machine cut checkering and M/III finish with no grip cap or fore-end tip.

Illustrated on the first attached sheet is the 1980 full book factory costs of both the birch and walnut versions of the Bolt Action Carbine rifle. For comparison, the cost of an M/700 ADL and Mohawk 600 are also presented.

The second attachment compares the cost differences between the component assemblies of the aforementioned guns on an incremental cost basis. The incremental analysis will provide Research and Process Engineering a more definitive structural review of the proposed products.

Please see the attachments.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

By: S.M. Morris

SMM/kc
Attach. (2)

8½ x 11 — 6 columns
Write description column

Bolt Action Carbine - 1980 Full Book Factory Costs.

Component Assembly	1980 Bolt Action Carbine Full Book Factory Cost w/Birch	w/Walnut	1980 Full Book Factory Cost For: M/700 ADL	Mod. 600
	$	$		
Barrel Assembly	28.45	28.45		
Bolt Final Assembly	10.71	10.71		
Firing Pin Assembly	3.99	3.99		
Rear Sight Assembly	3.39	3.39		
Stock Assembly - Birch	20.82	—		
Stock Assembly - Walnut	—	37.09		
Trigger Assembly	3.80	3.80		
Trigger Guard Assembly	7.02	7.02		
Misc.				
Bolt Stop Pin & Spring	.24	.24		
Front Sight Ramp & Screws	1.29	1.29		
Magazine, Follower & Spring	3.48	3.48		
Frt. & Rr. Guard Screws & Sear Pin	.41	.41		
Final Assembly	13.41	13.41		
Test & Target	6.26	6.26		
Pack	1.14	1.14		
Sub-Total	$ 104.41	$ 120.68		
Additional Depreciation	1.24	1.24		
Additional Floor Space	.08	.08		
1980 Factory Cost	$ 105.73	$ 122.00	$ 113.46	$ 84.16

S.M. Morris
5-22-80

8½ x 11 — 6 columns
With description column

INCREMENTAL COST DIFFERENCES (STD. MAT'L, STD LABOR & DIR CHARGE ONLY)

BOLT ACTION CARBINE - M/700 ADL & Mohawk 600

1980 COST

	Bolt Action Carbine	B.A.C. vs M/700 ADL	B.A.C vs Mohk 600	M/700 ADL	Mohawk 600
Barrel Ass'y	$ 21.96	$ .53	$ .31	$ 21.43	$ 21.65
Bolt Final Ass'y	8.28	(.81)	(.61)	9.09	8.89
Firing Pin Ass'y	3.17	.20		2.97	3.17
Rear Sight Ass'y	2.56	—	1.61	2.56	.95
Stock Ass'y — Birch	15.89	(15.18)	1.91	31.07	14.18
Stock Ass'y — Walnut	29.10	(1.97)	14.92		
Trigger Ass'y	3.20	.14	(.15)	3.06	3.35
Trigger Guard Ass'y	5.41	3.28	4.96	2.13	.45
Final Ass'y	9.56	1.64	1.35	7.92	8.21
Total w/Birch	$ 70.03	$ (10.20)	$ 9.18	$ 80.23	$ 60.85
w/Walnut	$ 83.24	$ 3.01	$ 22.39	$ 80.23	$ 60.85

S.M. Mbezas
5-23-80

EXHIBIT 28

xc: R.L. Hall
H.K. Boyle
J.P. Linde
C.B. Workman
J.W. Brooks
L.B. Bosquet

Est. File #4152

June 3, 1980

G.D. Campbell

Bolt Action Carbine Rifles

Following our submission of the 1980 factory costs for the (2) versions of the Bolt Action Carbine Rifle, a request for suggested 1980 retail prices was forwarded. Accompanying this request was a Marketing directive to establish the retail prices using the current 1980 M/700 ADL and BDL factory margins. Respectively, these margins would be aligned to the birch and walnut versions of the B.A.C.

Please see the attached subdivision #3.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

By: S.M. Morris

SMM/kc
Attached

8½ x 11 — 6 columns
With description column

BOLT ACTION CARBINE - ESTABLISH A 1980 SUGGESTED RETAIL PRICE BY MAINTAINING M/700 ADL & BDL FACTORY MARGINS

	M/700 ADL	M/700 BDL		BOLT ACTION CARBINE W/BIRCH	BOLT ACTION CARBINE W/WALNUT
QUANTITY					
1980 RETAIL PRICE	$297.95	$357.95		—	—
1980 SUGGESTED RETAIL PRICE	—	—		$277.65	$324.18
NET SELLING PRICE	$157.84	$189.62		$147.09	$171.74
LESS: TOTAL COST	$131.83	$156.84		$122.85	$142.05
PRETAX EARNINGS	$26.01	$32.78		$24.24	$29.69
% OF NET SELLING	16.5%	17.3%		16.5%	17.3%

EXHIBIT 29

xc: R.L. Hall
H.K. Boyle
J.P. Linde
C.B. Workman
J.W. Brooks
L.B. Bosquet

Est. File #4152

June 16, 1980

G.D. Campbell

Bolt Action Carbine

A hi-spot cost analysis of a Bolt Action Carbine rifle with a birch stock and N/C cut checkering has been made. The processing of this stock was reviewed with Larry Wilke, and at that time it was decided to use M/III finish. The resulting 1980 factory cost for this version of gun would be $112.51. Please see the attached comparison.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

By: S.M. Morris

SMM/kc
Attached

Bolt Action Carbine - 1980 Full Book Factory Costs

Component Assembly	1980 Bolt Action Carbine Full Book Factory Cost w/Birch (Custom Checkering)	w/Walnut	w/Birch (N/C Checkering)	1980 Full Book Factory Cost For: M/700 ADL	M/700 BDL
	$	$	$		
Barrel Assembly	29.45	29.45	29.45		
Bolt Final Assembly	10.71	10.71	10.71		
Firing Pin Assembly	3.99	3.99	3.99		
Rear Sight Assembly	3.39	3.39	3.39		
Stock Assembly - Birch	20.82	—	27.60		
Stock Assembly - Walnut	—	37.09			
Trigger Assembly	3.80	9.50	3.80		
Trigger Guard Assembly	7.02	7.02	7.02		
Misc.					
Bolt Stop Pin & Spring	.24	.24	.24		
Front Sight Ramp & Screws	1.29	1.29	1.29		
Magazine Follower & Spring	3.48	3.48	3.48		
Ext. & Rr. Guard Screws & Sear Pin	.41	.41	.41		
Final Assembly	13.41	13.41	13.41		
Tag & Target	6.26	6.26	6.26		
Pack	1.14	1.14	1.14		
Sub-Total	$104.41	$120.68	$111.19		
Additional Depreciation	1.24	1.24	1.24		
Additional Floor Space	.08	.08	.08		
80 Factory Cost	$105.73	$122.00	$112.51	$113.46	$84.16

S.M. Morris
6-17-80

EXHIBIT 30

xc: R.L. Hall
H.K. Boyle
J.P. Linde
C.B. Workman
J.W. Brooks
L.B. Bosquet

Est. #4152

July 9, 1980

G.D. Campbell

Bolt Action Carbine

The high spot cost analysis of the proposed Bolt Action Carbine rifle has been revised to include the following changes:

- Substitute the M/600 Magazine Follower for the M/700 Magazine Follower ($2.54 cost reduction).
- Substitute the M/700 Package for the M/600 Package ($.29 cost reduction).
- Re-estimate the Walnut and Birch Stock with N/C cut checkering per processes supplied by PE&C ($1.25 cost reduction for Walnut Stock; $.62 cost increase for Birch Stock with N/C checkering).

Unit costs for the three options being considered are shown in the attached table. All costs are expressed in 1980 full book dollars. The proposed Bolt Latch mechanism is not included in these costs.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

By: T.R. Andrews

TRA/kc
Attached

Bolt Action Carbine
1990 Full Book Factory Costs

TRC 7/9/90

	Birch w/ Custom Checker	Walnut w/ NC Checker & Vinyl Finish	Birch w/ NC Checker & Mold III Finish		M/700 ADL	Mohawk 600
Barrel Assembly	$28.45	28.45	$28.45			
Bolt Final Assembly	10.71	10.71	10.71			
Firing Pin Assembly	3.99	3.99	3.99			
Rear Sight Assembly	3.39	3.39	3.39			
Stock Assembly - Birch	20.82	–	28.22			
Stock Assembly - Walnut	–	35.84	–			
Trigger Assembly	3.80	3.80	3.80			
Trigger Guard Assem.	7.02	7.02	7.02			
Misc.						
Bolt Stop, Pin & Spring	.24	.24	.24			
Front Sight, Ramp & Screws	1.29	1.29	1.29			
Magazine & Follower	.94	.94	.94			
Fot. Rr. Guard Screws & Screw Pin	.41	.41	.41			
Final Assembly	13.41	13.41	13.41			
Test & Target	6.26	6.26	6.26			
Pack	.85	.85	.85			
Sub-Total	101.58	116.60	108.92			
Additional Depreciation	1.24	1.24	1.24			
Additional Floor Space	.08	.08	.08			
Total	$102.90	$117.92	$110.30		$113.46	$84.16
Previous Estimate	$105.73	$122.00	$112.51			

EXHIBIT 31

xc: R.L. Hall
H.K. Boyle
J.P. Linde
C.B. Workman
J.W. Brooks
L.B. Bosquet
R.S. Swartz

Est. #4152

July 16, 1980

G.D. Campbell

Bolt Action Carbine - Bolt Lock Mechanism

An evaluation of the proposed bolt lock mechanism for the Bolt Action Carbine indicates it will result in $3.99 in additional cost on a 1980 full book basis. The additional costs are summarized by component in the attached table.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

By: T.R. Andrews

TRA/kc
Attached

8½ x 11 – 5 columns
Main descendant column

Bolt Action Carbine — Est # 4152

Bolt Lock Mechanism — TRO 7/16/80

1980 Full Book Factory Cost

Component	Factory Cost w/ Bolt Lock (Full Book)	Factory Cost w/o Bolt Lock (Full Book)	Additional Cost (Full Book)
Bolt Plug	2.69	1.44	1.25
Bolt Latch	1.95	–	1.95
Detent Plngr	.24	–	.24
Detent Plngr Spring	.01	–	.01
Detent Plngr Ret. Pin	.01	–	.01
Bolt Assembly	2.63	2.39	.24
Firing Pin Assembly	.79	.52	.27
Final Assembly	13.43	13.41	.02
Total	$21.75	$17.76	$3.99

RD-49 REV. 6-58

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT

CC: C. B. WORKMAN (No Attach.)
J. S. MARTIN " "
J. W. BROOKS " "
D. E. BULLIS " "

EXHIBIT 32

BRIDGEPORT, CONN.

MAY 14, 1980

KURT BLUMER

SUBJECT: FLOOR PLATE LATCH FOR BOLT ACTION CARBINE WITH STAMPED TRIGGER GUARD

I have made a patent search on the latch shown in Drawings C-91840, '841, '843, '850; B-91845, '848; and an unnumbered assembly drawing you signed on April 1. Nothing has been found that could raise any risk of patent infringement if Remington adopts this design.

There are any number of patents showing examples of magazine or floor plate latches of the type having a pivot pin mounted in the receiver, in the magazine, or in the trigger guard. None of these is any more similar to your design than the Model 700 floor plate latch you showed me. As one example generally illustrating the type of designs shown in prior patents, I am enclosing a copy of Patent 667,856 - Wagner.

On the basis of this search, it appears to me that we may be able to secure some patent protection on the new latch, and I will undertake to prepare an application.

W. L. Ericson

WILLIAM L. ERICSON
SENIOR PATENT COUNSEL

WLE/dt
Attach.

D-240

EXHIBIT 33

RD-48 REV. 4-48

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

cc: J. E. Preiser
P. H. Holmberg
W. J. Weeks

Bridgeport, CT
October 14, 1980

TO: W. H. FORSON

FROM: J. H. CHAMBERS JHC

SUBJECT: BOLT ACTION CARBINE FIELD TEST

During the middle of June, field tests of a prototype bolt action carbine were held by Regional Managers and select A. O. Building personnel. All the test guns were chambered for the 7mm-08 caliber.

The testers were also sent a questionnaire which they were asked to fill out after they had a chance to fire the test gun.

While there were varied comments about the test gun, consensus centered around the following issues:

- The gun tested was "too heavy" for a carbine - should be in the 6-1/2 lb. area.
- Stock was too "fat"- not trim enough for saddle/scabbard gun.
- Barrel diameter should be reduced to improve aesthetics and reduce weight.
- Price should be at least $20 below M/700ADL - ideally equally between M/788 and M/700ADL.

Other comments mentioned frequently were:

- Bolt handle should be "turned in" more - necessary for saddle gun.
- A walnut stock would be a big plus.
- This gun would fill void left by M/600.
- The floor plate is somewhat cheap looking - resembles M/541.

Should you wish to read through the 15 completed questionnaires, just let me know.

✓ Chrono.

JHC:hm

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226252

1. What do you like about the new bolt action rifle?

Cut Checkering, Hinge Stud, Short Stud, Hinged Floor Plate, Short Action, Wide Bolt Handle, Short Barrel, Good Pad Finish

2. What do you dislike about this new gun?

Barrel Too Heavy, Hinged Floor Plate Being Too Easy to Inadvertently Release, Too Heavy Overall - Should Weigh 6½ lbs or less To Compete in Cartridge, Should Have Wrap-Stock

3. How would you improve the consumer acceptance of this bolt action rifle?

Better Quality Wood (Walnut), Lighter Barrel Contour, Lighter Overall Weight, Cut Checkering, Non-Hinged Floor Plate

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Equals Model 700 Center Fire Rifles, Higher Than Other Center Fire Rifles

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

Between M/700 ADL and BDL If Improvements Made

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☑ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☑ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☐

Satin ☐

Have Only Really Examined Glossy So Hard To Tell

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☑

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

Too Heavy, Should Weigh 6½ Lbs Or Less

12. How do you feel about the new floor-plate?

Design Is Fine Except For Release. Also Difficult To Remove Backplate Without Removing Spring And Follower On Plate.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock		X			
Weight				X	
Recoil				X	
Ease of Operation (Get Difficult To Work When Barrel Is Shot)					X
Overall Quality			X		
Color of Stock Too Light				X	
Metal Finish			X		
Design of Checkering Pattern		X			

14. To whom do you think this rilfe will appeal?

Pick-Up Truck Hunters, Meat Hunters Animal Lovers Who Have To Carry Truck Rifle All Day

.....Continued

15. How should we advertise the rifle you tested?

A LIGHT WEIGHT EASY TO HANDLE, CAN CARRY ALL DAY LONG BUT STILL ACCURATE: REACH LOST SHOOTERS THAT FEEL THAT 20" BARRELS ARE VERY ACCURATE

16. What does the word "carbine" mean to you?

SHORT BARREL, LIGHT WEIGHT EASY TO HANDLE, POSSIBLY NOT TOO ACCURATE

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

IF ADVERTISED AND PROMOTED PROPERLY SHOULD HAVE LITTLE IMPACT, SHOULD CREATE NEW MARKET FOR "MOUNTAIN CARBINE"

Respondent's Name: ROBERT J. RONCZIK

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #B6226259

1. What do you like about the new bolt action rifle?

I like the concept of a high quality bolt action carbine. Plus-factors of my sample include cut checkering, correct barrel length and high gloss finish.

2. What do you dislike about this new gun?

If our objective is to provide consumers with a lightweight carbine, I would recommend additional investigation to reduce weight by approx. 1 lb. This sample weighs slightly over 7 lbs. and feels no lighter than an average M/700. Other negative factors as follows (see other side #2.).

3. How would you improve the consumer acceptance of this bolt action rifle?

1) Reduce weight and bulk.
2) Improve stock material, finish and design.
3) Provide aluminum cast trigger guard and mag. cover to enhance quality, reduce weight.
4) Include a hard rubber rifle pad replacing current butt plate.
5) Reduce barrel diameter and weight.

(Continued on other side, #3.)

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

An upgraded version of our M/788; at best, equal in perceived value to the M/700 ADL. (Not near M/700 BDL standards.)

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

In its current form, I would not price any higher than the M/700 ADL. I visualize the end product to be a miniature M/700 BDL priced at approximately $325.

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

My personal preference is satin, but I would recommend glossy finish in both instances for maximum consumer acceptance.

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

See question #2

12. How do you feel about the new floor-plate?

Floor plate operation is excellent; other comments in #2.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock				✓	
Weight					✓
Recoil		✓			
Ease of Operation		✓			
Overall Quality				✓	
Color of Stock					✓
Metal Finish			✓		
Design of Checkering Pattern			✓		

14. To whom do you think this rilfe will appeal?

In its present form the rifle will only appeal to M/788 customers looking for a slight improvement in overall quality. A true carbine will involve a much larger market.

.....Continued

15. How should we advertise the rifle you tested?

A compact and easy to handle bolt action rifle with excellent accuracy performance.

16. What does the word "carbine" mean to you?

My reaction to "carbine" is a compact, lightweight and quick pointing rifle.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Since this rifle does not appear capable of generating substantial new interest which might provide an extensive "carbine" market, I feel that most sales would be at the expense of our present M/788 and M/700 ADL offerings.

RANGE TESTED ON: 7/2/80
RETURNED TO JOHN BROOKS, ILION: 7/3/80
P.C.T. TO PAUL HOLMBERG: 7/3/80

Respondent's Name: Paul J. Bergere

Paul J. Bergere

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #B6226220

1. What do you like about the new bolt action rifle?

Stock dimensions + fit - Accuracy - General appearance as a carbine. Mag release is good idea for the resemblance of a 700 Jr.

2. What do you dislike about this new gun?

Dull finish detracts from the gun particularly with the birch. If a dull finish is desired a much darker stain should be used

Kicks like hell but I realize this is not a bench rifle. Floor plate release is too large and too easy to open. With gloves on the recoil will allow trigger finger to open release and drop magazine shells.

3. How would you improve the consumer acceptance of this bolt action rifle?

The wood finish and smooth up safety and bottom of in the stock - also see #2 objections

Rear sight is hollow "V" - I don't like particularly. Should be darkened with steel or checkering or oil after cutting.

We could consider 2 grades - 1 Birch other walnut with price differential

Pick up owners may be more interested in a cheaper "tool" with birch.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

As noted - a short 700 700 Jr.

A much more classical design than 600 was.

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

250 Birch 280 Walnut - It has some features the ADL does not have (Mag release) yet I don't believe we should compete with 700 price wise

.....Continued

6. Do you feel the gun's design is unique?

Yes ☒ - Answer Q7

No ☐ - Skip to Q8

7. What do you think is unique about the gun you tested?

The resemblance to 700 which should have customer appeal

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10 Not if we are to offer a carbine. The requests for return of the 600 in the southwest has been strong since 600 was obsoleted

9. What barrel length would you prefer?

Write barrel length here: ____ - If weight is a problem we could investigate a lighter barrel if balance & accuracy is not affected.

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒ Unless a darker stain can be used and the cutcheckering darkened and fuzziness removed

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☐ I would like to see a press checkered stock before replying.

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

On the heavy side for a carbine.

12. How do you feel about the new floor-plate?

Great idea but reduce size of release to prevent unexpected

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock	X				
Weight	see 11				
Recoil				X	but not a benchr
Ease of Operation	X				
Overall Quality		X	X		
Color of Stock					X
Metal Finish			X		
Design of Checkering Pattern			X		

14. To whom do you think this rilfe will appeal?

The pickup truck and woods hunter.

.....Continued

15. How should we advertise the rifle you tested?

Convenience to carry - accuracy etc

16. What does the word "carbine" mean to you?

A light weight easy to carry but operating rifle

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

The 788 will die slowly and it will affect 700 ADL sales
Hopefully it will cut the Ruger 22 popularity.

If we wanted to perk up 257 cfge sales and offer a cfge with light recoil the 257 Roberts with 100gr bullet should be considered

Respondent's Name: E H Russ

Target attached. 50 yard open sights 1.0" center to center spread.

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # 86726232

1. What do you like about the new bolt action rifle?

(a) Short bolt/action (d) 700 Trigger / hinged floorplate

(b) Position of safety (e)

(c) Stock design (Classic) + studs

2. What do you dislike about this new gun?

(a) Although the floorplate release is easier to use, it is cumbersome when removing the stock.

(b) Can't open bolt with safety "on." + it's noisy.

(c) Finish makes the rifle appear "cheap."

3. How would you improve the consumer acceptance of this bolt action rifle?

(a) Put a fancier pressed checkering pattern on it, similar to 7400. (b) Turn the barrel down some more (lighter wt) (c) Use AA-W and American walnut. Checker the bottom of fore-end.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Far above the 788 but ~~[illegible]~~ below the 700 "Classic." Wood grain not fitted w/ (grain).

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

As is: $295 with walnut & pressed checkering: $325

.....Continued

6. Do you feel the gun's design is unique?

Yes ☒ - Answer Q7

No ☐ - Skip to Q8

7. What do you think is unique about the gun you tested?

(a) Safety's place to bolt; (b) Contoured ejection port; (c) hinged floorplate action; (d) front stock screw is concealed; (e) Classic-stocked carbine

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☒ - Answer Q9

No ☐ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: 20"

Looks more balanced and would still be quick, more MV at

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒ Beechwood

Satin ☐ ← Walnut

.....Continued

11. How do you feel about the gun's weight?

It's a little heavy to carry, but this weight helps in balance, pointability and recoil comfort.

12. How do you feel about the new floor-plate?

I like hinged floor plate, but a flush-fitting clip magazine would be better for this carbine!

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock	✓				
Weight		✓ ↔	✓		
Recoil	off-hand-standing ✓		Bench		
Ease of Operation		✓			
Overall Quality		✓ ↔	✓		
Color of Stock				✓	
Metal Finish		✓			
Design of Checkering Pattern			✓		

14. To whom do you think this rilfe will appeal?

Mountain hunters, Deep woods hunters, Youths,

.....Continued

15. How should we advertise the rifle you tested?

Nationally. Although it would be between the 788 and 700, in price & quality, it will position itself as a "mini 700".

16. What does the word "carbine" mean to you?

Short barrel, short overall length, fast-handling.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

In the handling calibers, it would take some sales away from ADL, but generally would be "plus" sales. We'd get some of the Ruger 77 business.

Respondent's Name: G. A. Clinton

This short barreled/action is ideal for a fiberglass stock. With a thinner barrel, it would be a featherweight with great accuracy.

TRAVEL PRECLUDED MY ABILITY TO SHOOT RIFLE IN THIS TIME FRAME. REACTIONS ONLY TO VISUAL + HANDLING -

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # 362261B

1. What do you like about the new bolt action rifle?

THE CONCEPT - CARBINE - SHORT FAST HANDLING BOLT ACTION RIFLE

2. What do you dislike about this new gun?

THE EXECUTION - THE RIFLE IS TOO HEAVY AND CLUBBY LOOKING - DO NOT LIKE SHEET METAL TRIGGER GUARD FLOORPLATE - Bbl TOO HEAVY

3. How would you improve the consumer acceptance of this bolt action rifle?

SLIM DOWN Bbl, BETTER SIGHTS, WALNUT STOCK, SLIM DOWN STOCK PROFILE, DIFFERENT BOLT HANDLE. 700 BDL FLOOR PLATE ASSBLY.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

CLOSER TO 788 THAN 700. QUALITY OF EXECUTION IS SIMILAR. QUALITY OF DESIGN IS A BIT IN LIMBO. NOT CLEAR WHETHER SUPPOSED TO BE CHEAP M788 REPLACEMENT OR WHAT?

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

MAYBE $250. SOMEWHERE BETWEEN 788 + 700 ADL.

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

NOT AT THE EXPENSE OF WEIGHT

9. What barrel length would you prefer?

Write barrel length here: 20"

IF COULD KEEP WT SI (AFTER REDUCTION PER Q

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

BELIEVE CUSTOMER WOULD PREFER THIS. PERSONALLY PREFER SATIN.

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

WOULDNT WANT PRESS CHECKERED

.....Continued

11. How do you feel about the gun's weight?

TOO HEAVY

12. How do you feel about the new floor-plate?

CHEAP LOOKING — RELEASE IN WRONG PLACE — RECOIL WOULD KNOCK FINGER AGAINST RELEASE IN SOME SHOOTING POSITIONS.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock				X	
Weight					X
Recoil NA					
Ease of Operation			X		
Overall Quality				X	
Color of Stock				X	
Metal Finish			X		
Design of Checkering Pattern			X		

14. To whom do you think this rilfe will appeal?

M788 BUYER. THINK THIS GUN HAS IDENTITY PROBLEM. LOOKS LIKE 788 BUT HAS BETTER LOOKING ACTION. 700 ADL BUYER WANTING CARBINE WOULD ALSO CONSIDER.

.....Continued

15. How should we advertise the rifle you tested?

SHORT, LIGHT, FAST HANDLING, HANDY. COMPLEMENT TO FULL SIZE MAGNUM BIG GAME RIFLE. GOOD FOR MOUNTAIN AND THICK COUNTRY HUNTING.

16. What does the word "carbine" mean to you?

A SHORT, LIGHT SLENDER AND EFFICIENT RIFLE OF HIGH QUALITY. A MORE PORTABLE VERSION OF MY MAIN BIG GAME RIFLE

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

DO NOT SEE VERY MUCH PLUS BUSINESS IN CURRENT FORM. FEAR WOULD MOSTLY TAKE FROM 788 + 700 ADL SALES. IF GUN WERE HIGH QUALITY "LITTLE BROTHER" TO 700 BDL WOULD PICK UP MORE PLUS BUSINESS FROM INCUMBENT OWNERS OF THAT MODEL

Respondent's Name: TOM RAWSON

LOOKING FOR A "CARBINE".

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #36226253

1. What do you like about the new bolt action rifle?

Overall length is good; trigger and action appear and feel strong and well made. Cut checkering is definite plus.

2. What do you dislike about this new gun?

Stock dimensions and profile are short and stocky - too "FAT" for carbine or saddle gun

3. How would you improve the consumer acceptance of this bolt action rifle?

Modify stock; looks just like 788 with checkering. If to be sold in selected calibers as carbine, the stock needs to be trimmed down. Floor plate is plus, but only for those who don't want to carry extra clips

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Barrel, sights and action appear to be very close to M/700 - if not actually the same. The wood is obviously not walnut so wood quality is not a consideration (Perhaps then cut checkering not necessary) On balance comparison is favorable

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

Given this spread, this new gun would not fit. Needs to be at or near 788.

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☐

Satin ☒

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☐

Satin ☒

.....Continued

11. How do you feel about the gun's weight?

Too heavy

12. How do you feel about the new floor-plate?

Ambivalent. Many consumers in this price range probably like a pocketful of extra clips. Also, there are periodic reports of floor plate on m/700 opening after 1st shock of firing and gun full of shell falls on ground.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock					X
Weight				X	
Recoil				X	
Ease of Operation		X			
Overall Quality			X		
Color of Stock			X		
Metal Finish		X			
Design of Checkering Pattern			X		

14. To whom do you think this rilfe will appeal?

Budget conscious, Mass market oriented consumer. Must be "Remington" brand to appeal. Also to the guy who wants a "meat" gun - dependable and accurate, without all the frills of a 700 type bolt gun. This guy likes to put a lot of lead in the air, without worrying about how his gun looks and without worrying about possible mechanical problems of autoloader.

Continued

15. How should we advertise the rifle you tested?

Certainly by itself — and to the attention of the cost conscious. Remington quality at old fashioned price. Must be substantially better than M/700 though. Let the mass merchant sell this.

16. What does the word "carbine" mean to you?

Short, lightweight, "rapid-firing", saddle gun. Should be able to comfortably fit in scabbard.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Quite frankly I don't know. I think that price is too high. It would take away more 700 ADL business perhaps than add to 788 type business.

Respondent's Name: Vic Romano

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226275

1. What do you like about the new bolt action rifle?

Compact. Ideal carbine in length. Has traditional lines.

2. What do you dislike about this new gun?

Does not have a walnut stock.

3. How would you improve the consumer acceptance of this bolt action rifle?

Walnut stock - recoil pad.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Carbine version of Model 700 with birch stock.

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

Below 700 ADL.

.....Continued

6. Do you feel the gun's design is unique?

Yes [X] - Answer Q7

No [ ] - Skip to Q8

7. What do you think is unique about the gun you tested?

Typical carbine - Ideal pick-up truck rifle.

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes [ ] - Answer Q9

No [X] - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy [X]

Satin [ ]

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy [X]

Satin [ ]

.....Continued

11. How do you feel about the gun's weight?

Good

12. How do you feel about the new floor-plate?

Excellent feature.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock	X				
Weight	X				
Recoil		X			
Ease of Operation	X				
Overall Quality		X			
Color of Stock		X			
Metal Finish		X			
Design of Checkering Pattern		X			

14. To whom do you think this rilfe will appeal?

The hunter that cannot afford a Model 700 BDL or other higher priced rifle.

.....Continued

15. How should we advertise the rifle you tested?

As a carbine with Model 700 accuracy and performance.

16. What does the word "carbine" mean to you?

Short barrel.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Will hurt Model 788 sales.

Respondent's Name: W. B. Cockman - 7/25/80

~~AHH~~
JHC

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226273

1. What do you like about the new bolt action rifle?

(The Bolt Shroud [illegible]). I like it Because it is A Package - Short over All length - Fuse [illegible] Feeds well, good [illegible]

2. What do you dislike about this new gun?

Bolt should be Designed with the more Curved Scope set to hard on Anything - Not light Stock bulky in Some [illegible]

3. How would you improve the consumer acceptance of this bolt action rifle?

Tapper the Stock more - Especially in Fore end Area - lighter in weight in Smaller Calibers which [illegible]

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

The overall Quality is excellent. [illegible] [illegible] [illegible]

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

[illegible] 25 - 30 [illegible] price - [illegible] [illegible] [illegible]

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☐ - Skip to Q8

7. What do you think is unique about the gun you tested?

I'm unique that there is nothing on the market like it -

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: —

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☐

Satin ☒

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

OK for the one I shot 7mm-08 - Should be lighter in smaller calibers

12. How do you feel about the new floor-plate?

I like it - Easier way to unload - plus a feature a rifle does not normally have

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock	X	Excellent	Good	Fair	Poor
Weight			X		
Recoil			X		
Ease of Operation		X			
Overall Quality		X			
Color of Stock			X		
Metal Finish	X				
Design of Checkering Pattern		X			

14. To whom do you think this rilfe will appeal?

Women - Youth - Perhaps if the rifle is lighter it would be this type is not as a hard - to - handle gun -

.....Continued

15. How should we advertise the rifle you tested?

16. What does the word "carbine" mean to you?

Light, easy to handle, fast point — Short — Compact — Take up small amt of Room — Pickup & Tote Gun — Youth & Ladies Rifle

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

It would hurt the 788 - & the 700 ADL -

Respondent's Name: [illegible]

J.H.C

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226249

1. What do you like about the new bolt action rifle?

The bolt handle, the floor plate, and the sling studs.

2. What do you dislike about this new gun?

The finish is too light. The muzzle blast in the 7MM-08 is extremely strong. The safety is too small. The rifle is too heavy for a carbine.

3. How would you improve the consumer acceptance of this bolt action rifle?

I would darken the finish, make the safety larger like the one on the Model 788 and remove the sights.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

I do not think the cosmetic appearance of this rifle can compare with the Model 700 and the Model 788. I would much prefer the Model 788 for the additional money.

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

$224.95

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

It is too heavy for a short barrel rifle. My sample weighed approximately 8½ lbs., which is too heavy a gun of this design.

12. How do you feel about the new floor-plate?

The new floor plate is good. It could be of thicker material. I think that we could use the same type of floor plate we are using in our Model 700s.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock			X		
Weight					X
Recoil					X
Ease of Operation			X		
Overall Quality			X		
Color of Stock					X
Metal Finish			X		
Design of Checkering Pattern			X		

14. To whom do you think this rilfe will appeal?

I feel that this rifle would appeal to the beginner hunter or shooter. I do not believe a real avid rifleman would be in the market for this gun. He would go with the Model 700.

.....Continued

15. How should we advertise the rifle you tested?

If this rifle is introduced, I would advertise it very highly in the 4-H and Future Farmer magazines. I would get to the beginning shooter and hunter.

16. What does the word "carbine" mean to you?

I feel that a carbine is a fast swinging, light weight short barrel rifle, one that can be carried for a great length of time through the brush.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

None

Respondent's Name: W. L. Flinn

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #B6226270

1. What do you like about the new bolt action rifle?

Action, swept 700-type bolt handle, 18½" barrel.

2. What do you dislike about this new gun?

Stock finish, type of wood, sparse checkering on fore-end, trigger guard and floor plate.

3. How would you improve the consumer acceptance of this bolt action rifle?

Walnut stock, improved fore-end checkering as classic or BDL, 700 BDL trigger guard.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Only slightly above 788; not up to 700 standards. Almost a "788 BDL" in present configuration.

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

$250 to $260.00 due to "788 BDL" remarks above.

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

Test rifle weighed 6lbs. on UPS scale. 788 (overall 2" longer stock) weighed 6¼ lbs. Weight okay - helps handle recoil.

12. How do you feel about the new floor-plate?

A strong dislike for aesthetics. "Tinny look" as with 541 - complaints would be heard in this area. Suggest a 700 BDL type trigger guard - floor plate.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock			X		
Weight			X		
Recoil		X			
Ease of Operation				X *	
Overall Quality				X	
Color of Stock					X
Metal Finish		X			
Design of Checkering Pattern				X	

* Bolt sticky, major difficulties with ease of operation of safety and safety too loud for hunting rifle.

14. To whom do you think this rilfe will appeal?

Very narrow group as tested. No economy, no luxury. Only slightly better than 788 and not to 700 standards.

.....Continued

15. How should we advertise the rifle you tested?

Strength of action, ability to scope, quick and easy handling and a "purist's carbine".

16. What does the word "carbine" mean to you?

Short, brush-type rifle. Light and quick handling.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Some reduction of 700 ADL sales.

Respondent's Name: K. N. Wade Jr.

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226248

1. What do you like about the new bolt action rifle?

Good looking, quality gun, strong action.

Lives up to "Remington Quality"

2. What do you dislike about this new gun?

Rear sight--difficult to move. Ejection

was not smooth--shell remained in bolt head 1/2 the time

3. How would you improve the consumer acceptance of this bolt action rifle?

Tuck bolt in more and thin down stock and

remove floor plate

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

It compares very well

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

If possible, gun should be $20 to $30 less

than ADL

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

Gun weight is acceptable--if possible reduce slightly

12. How do you feel about the new floor-plate?

Should not have a floor plate on a carbine

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock			X		
Weight			X		
Recoil			X		
Ease of Operation					X
Overall Quality		X			
Color of Stock				X	
Metal Finish	X				
Design of Checkering Pattern		X			

14. To whom do you think this rilfe will appeal?

Mainly westerners--convenient for pick up truck racks and is an excellent saddle gun

.....Continued

15. How should we advertise the rifle you tested?

Quality, strength, low cost, accuracy--these should be included in advertising

16. What does the word "carbine" mean to you?

Carbine means a short light-weight gun.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

This model, with prices indicated above, would take sales from our 700 ADL

Respondent's Name: EDWARD J. CONROY

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #_____

1. What do you like about the new bolt action rifle?

fills gap in line

2. What do you dislike about this new gun?

3. How would you improve the consumer acceptance of this bolt action rifle?

Settle Wood question
Improve Ejection

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☑ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☑ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☑

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☑

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

OK

12. How do you feel about the new floor-plate?

OK

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock			✓		
Weight				✓	
Recoil					✓
Ease of Operation				✓	
Overall Quality			✓		
Color of Stock					✓
Metal Finish			✓		
Design of Checkering Pattern			✓		

14. To whom do you think this rilfe will appeal?

600 Market

.....Continued

15. How should we advertise the rifle you tested?

16. What does the word "carbine" mean to you?

Saddle gun

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Respondent's Name: [illegible]

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial #B6226236

1. What do you like about the new bolt action rifle?

The action appears to be a good solid "M/700 type". It is a quality piece and will convey value to the potential customer.

2. What do you dislike about this new gun?

The stained Birch stock is completely not acceptable. This is compounded by the cut checkering on the Birchwood. The stock dimensions and design are not consistent with the intended purpose, nor for the bolt handle. Both need revising, per the attached memo.

3. How would you improve the consumer acceptance of this bolt action rifle?

See the memo attached.

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

In general - very well.

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

Price positioning should be between the M/788 and the 700 ADL, but very close to the 700 ADL. With the givens above, a price of $279 would make it a hot number.

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☒ - Answer Q9

No ☒ - Skip to Q10

See the attached memo.

9. What barrel length would you prefer? Same as #8 above.

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

Too heavy for the overall length. Given design limitations, however, not much can be done.

12. How do you feel about the new floor-plate?

Unnecessary and inappropriate on a carbine.

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock					X
Weight				X	
Recoil			X		
Ease of Operation			X		
Overall Quality		X			
Color of Stock					X
Metal Finish			X		
Design of Checkering Pattern			X		

14. To whom do you think this rilfe will appeal?

The horse and/or pickup hunter.

.....Continued

15. How should we advertise the rifle you tested?

With cost stressing value, quality and position specifically toward the potential carbine user.

16. What does the word "carbine" mean to you?

Short, light, flat and suitable for use with a saddle scabbard.

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

In a good market such an introduction should not have any significant detrimental effect on the sales of other Remington Centerfire rifles.

Respondent's Name: Neil L. Oldridge

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B622 6251

1. What do you like about the new bolt action rifle?

Gun looks like a quality gun. Very handy to carry. Represents an excellent value (depending on price). In summary I liked the gun. Like RKW style finish & cut checkering

2. What do you dislike about this new gun?

Recoil was very high - gun hard to fire. Trigger pull was too stiff. Sights (iron) were difficult to adjust and had to be adjusted to extreme left. Floor plate release too big, might be released w/ gun recoils

3. How would you improve the consumer acceptance of this bolt action rifle?

Improve sights, improve trigger pull

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Very close if not superior to ADL

Cut checking is big plus

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

$275-300

.....Continued

6. Do you feel the gun's design is unique?

Yes ☒ - Answer Q7

No ☐ - Skip to Q8

7. What do you think is unique about the gun you tested?

Gun has 700 quality in bolt action carbine

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☒

Satin ☐

.....Continued

11. How do you feel about the gun's weight?

Good for carrying, not enough to soften recoil

12. How do you feel about the new floor-plate?

Very positive; believe it is too large - might accidently be hit with gun recoil

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock		X			
Weight			X		
Recoil					X
Ease of Operation		X			
Overall Quality	X				
Color of Stock				X	
Metal Finish		X			
Design of Checkering Pattern	X				

14. To whom do you think this rilfe will appeal?

To the carbine "crowd" - pick-up trucks and brush hunters and those that ~~[illegible]~~ need a gun around but don't actually use it that often where convenience is an overriding concern

.....Continued

15. How should we advertise the rifle you tested?

Emphasize its size and handling qualities

16. What does the word "carbine" mean to you?

short barrel, light weight, quick pointing easy to use

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

Recommend you include a 25 cutter as well. I believe the impact will be minimal

Respondent's Name: D.C. Callaber

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226 223

1. What do you like about the new bolt action rifle?

Carbine concept

2. What do you dislike about this new gun?

Birch stock. High-gloss finish, Barrel contour too heavy

3. How would you improve the consumer acceptance of this bolt action rifle?

Utility walnut stock, satin finish, standard weight barrel [illegible]

4. In terms of overall quality, how does this new gun compare to other center fire rifles in Remington's line?

Very favorable

5. Given a $210 suggested retail price for the M/788, a $298 price for the M/700 ADL and a $358 price for the M/700 BDL, where do you think the new gun would fit in our line from a price standpoint?

$275.00

.....Continued

6. Do you feel the gun's design is unique?

Yes ☐ - Answer Q7

No ☒ - Skip to Q8

7. What do you think is unique about the gun you tested?

_____

_____

_____

8. The gun you tested has an 18½" barrel. Would you prefer some other barrel length?

Yes ☐ - Answer Q9

No ☒ - Skip to Q10

9. What barrel length would you prefer?

Write barrel length here: _____

10a. We are considering a number of stock finishes and whether to cut or press checker the gun. If the new rifle were cut checkered would you prefer a glossy or satin finish?

Glossy ☐

Satin ☒

10b. If the gun were press checkered, would you prefer a glossy or satin finish?

Glossy ☐

Satin ☒

.....Continued

11. How do you feel about the gun's weight?

Too heavy! Could be made lighter with smaller contour barrel.

12. How do you feel about the new floor-plate?

Like it!

13. How would you rate the gun you tested on the following characteristics and features?

	Excellent	Very Good	Good	Fair	Poor
Contour of stock		X			
Weight				X	
Recoil					
Ease of Operation		X			
Overall Quality		X			
Color of Stock			X		
Metal Finish			X		
Design of Checkering Pattern		X			

14. To whom do you think this rilfe will appeal?

To the many who have demanded the remaining of the M700

.....Continued

15. How should we advertise the rifle you tested?

The improved model (?)

16. What does the word "carbine" mean to you?

A short handled, light weight rifle

17. Assuming the new gun was introduced in 1980 in .222, .22-250, .243, 6mm, .308 and 7mm-08 at a retail price $20 below the M/700 ADL, what impact would it have on other Remington center fire rifles?

It would cannibalize the Model 7, M-700

Respondent's Name: Jim Stiel

Bill,

I personally think that the .22/250 and 7mm-08 calibers should go with a carbine type rifle, as they are small, [illegible]

Jim

EXHIBIT 34

RO-48-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Xc: C.B. Workman
P.H. Holmberg
D.E. Bullis

Ilion, New York
October 28, 1980

TO: W. H. FORSON

FROM: J. W. BROOKS File

BOLT ACTION CARBINE

We have gone over the field test results you sent to us last week and from further discussion with you and Paul on the subject we are proceeding with a new rifle design with the following changes:

1. New lighter barrel that will be approx. 12 oz. lighter than on field test models.

2. Thinner and shorter walnut stock that will be approx. an ounce lighter than present walnut sample.

3. Increase release latch spring force and/or reduce length of latch.

The weight of the finished rifle in 7mm-08 caliber will be approximately 6¾ pounds. All other features will remain as indicated on our letter of May 8, 1979, or as on the field test models. The weight of the rifle will change approximately 2.5 oz. from 308 to 222 caliber.

We have checked other items that could help reduce the overall weight, We will not proceed with any of these items unless you are interested,

1. New design floor plate assembly using aluminum, similar to M700 BDL type. Save approximately .84 oz.

2. Receiver - remove material from ejection port. Save approx. .3 oz.

3. Model 788 rear sight in place of Model 700 rear sight, Save approx. .38 oz.

4. New design forged bolt handle similar to Model 600. Save approx. .48 oz.

If you have any further thoughts or information, please call.

JWB:T
Firearms Research Division

EXHIBIT 35

RO-49-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

Xc: C.B. Workman
P.H. Holmberg
D.E. Bullis

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
November 3, 1980

TO: W. H. FORSON

FROM: J. W. BROOKS File

SUBJECT: BOLT ACTION CARBINE REQUIREMENTS

As a followup to my letter of October 28th, on the above subject, we are proceeding with the attached list of requirements for the bolt action carbine.

If you have any additions or changes, we would appreciate information from you as soon as possible.

JWB:T
Attach.
Firearms Research Division

10-30-80
J.W.Brooks:T

BOLT ACTION CARBINE

Model Requirements

1. Stock - Walnut wood - average weight decrease of walnut over birch approx. 3½ oz. Making stock shorter and thinner than present field test sample will decrease weight approx. 1 oz. RK-W glossy finish and pressed checkering using pattern on field test models. M600 butt plate.

2. Barrel - Proposed .100 smaller OD than present M700. Approx. 12 oz. decrease over field test models, pending satisfactory performance.

3. Receiver - Like M600 but with longer tang like present field test models.

4. Model 600 bolt assembly with a Model 700 bolt handle. Bolt body altered to work with bolt lock.

5. New bolt plug with new bolt lock.

6. Model 700 barrel bracket.

7. Model 700 trigger assembly with new bolt stop release and reshaped M700 safety arm.

8. Model 600 bolt stop.

9. Model 700 BDL magazine.

10. Model 600 Follower and spring.

11. New trigger guard and floor plate assembly as used on field test rifles. Release latch will be made shorter and/or release latch spring stronger.

12. New rear trigger guard screw.
    Model 700 BDL front guard screw.

13. Model 700 rear sight base and sight. (New or alter to fit new barrel contour.)

14. Model 700 front sight base and sight. (New or alter to fit new barrel contour.)

15. Sling swivel studs.

JWB:T

EXHIBIT 36

REMINGTON ARMS COMPANY, INC.
Firearms Research Division

January 5, 1981

Xc: J.W.Brooks
D.E.Bullis

TO: J. R. SNEDEKER

FROM: C. J. MILLER - R. E. NIGHTINGALE

SUBJECT: MODEL 700 CARBINE

Work Order: C 1856

INTRODUCTION

Four Model 700s with undersized and shortened barrels were supplied to the Measurements Lab for strength evaluation.

SYNOPSIS

The two Model 700s tested passed our most severe strength tests.

PROCEDURE

The two Model 700s with barrels undersized on the outside diameter by .120" and shortened by 4 inches were chosen for testing. The .100" O.D. undersized barrels were not tested.

The first rifle (#B6261719) had a strain gage applied to the barrel for pressure measurements. Five proof rounds were fired and the barrel's O.D. was measured at one inch intervals starting at the muzzle. Then a super proof load (52.4 gr. of IMR 4198 and a 220 gr. bullet) was fired.

The second 700 Carbine (#B6261940) was proof tested. Then four 220 grain bullets were forced into the barrel and a super proof load was fired.

RESULTS

There was no measurable or visual damage to either barrel. The stocks were broken due to gases escaping through or by the bolt.

The peak pressures measured by strain gage technique on B6261719 with super proof was 192,000 PSI-Strain.

The peak pressure on rifle #B6261940 with super proof and 4 bullets estimated (from other 700 testing) to be 400,000 PSI-Strain.

CJM:REN:T
Research Measurements Lab

Model 700 Carbine B6261719

		1	2	3	4	5	6
		1st Proof	2nd Proof	3rd Proof	4th Proof	5th Proof	Super Proof
Muzzle	.537	.537	.537	.537	.537	.537	.537
1"	.537	.537	.537	.537	.537	.537	.537
2"	.537	.537	.537	.537	.537	.537	.537
3"	.537	.537	.537	.537	.537	.537	.537
4"	.537	.537	.537	.537	.537	.537	.537
5"	.537	.537	.537	.537	.537	.537	.537
6"	.540	.540	.541	.540	.540	.541	.540
7"	.551	.551	.551	.551	.551	.551	.552
8"	.568	.568	.568	.568	.568	.568	.568
9"	.598	.597	.598	.598	.598	.598	.598
10"	.625	.626	.625	.625	.625	.626	.625
11"	.655	.655	.655	.655	.655	.655	.655
12"	685	.685	.685	.685	.685	.685	.685
13"	.718	.718	.718	.718	.718	.717	.718
14"	.776	.775	.775	.777	.776	.777	.777
15"	.885	.885	.885	.885	.885	.885	.886

CHAMBER STRAIN TO P.S.I.

MODEL: 700 Carbine SERIAL No.: B6251940

CALIBER: 30-06 DATE: 12-11-80

GAUGE: 30-06-125BT

DISTANCE FROM BOLT FACE: 2.3"

INSIDE DIA.: .341

OUTSIDE DIA.: 1.029

PRESSURE = Strain x ($\frac{E}{2}$ x $\left(\frac{Ro^2}{Ri^2} - 1\right)$) = Strain x (121.58) PSI/(Uin/in)

REFERENCE AMMO:

	Uin / in	P.S.I.
Rem 180gr		52,000
Saami WZ14		60,000
Saami VB14		50,000
Proof 4		88,000
5		
Avg.		

Super proof + 4X220gr bullets

Estimated 400,000 PSI- STRAIN

CHAMBER STRAIN TO P.S.I.

MODEL: 700 Carbine

SERIAL No.: B6251719

CALIBER: 30-06

DATE: 12-11-80

GAUGE: EA-06-125BT

DISTANCE FROM BOLT FACE: 2.3"

INSIDE DIA.: .341

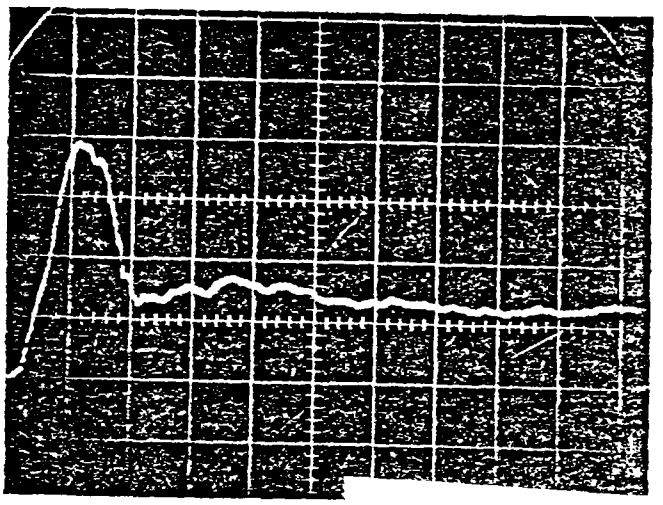
OUTSIDE DIA.: 1.030

PRESSURE = Strain x $\left(\frac{E}{2} \times \left(\frac{Ro^2}{Ri^2} - 1 \right) \right)$ = Strain x (121.85) PSI/Uinch

REFERENCE AMMO:

		Uin / in	P.S.I.
Proof	1	—	84,700
Proof	2	—	84,700
Proof	3	—	83,400
Proof	4	—	89,100
	5	—	
	Avg.		

Super Proof
524 gr IMR 4198 - 22 gr Load
50,000 PSI-Strain/Div
.2 msec/Div.



Model 700 Carbine 12-31-80

B526/940

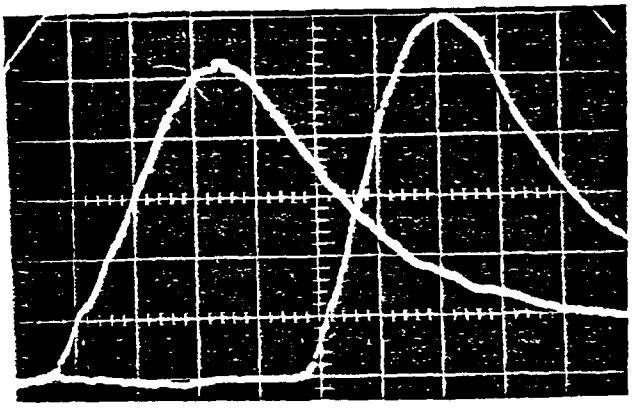
Chamber Pressure

PSI - STRAIN

Rem 180gr

Saami 180gr

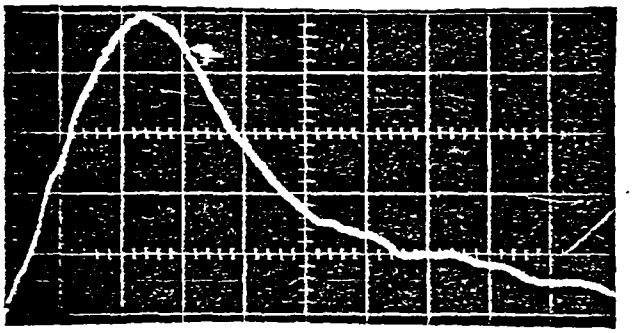
10,000 PSI-STRAIN/Div.



.2 msec/Div.

Saami 180gr

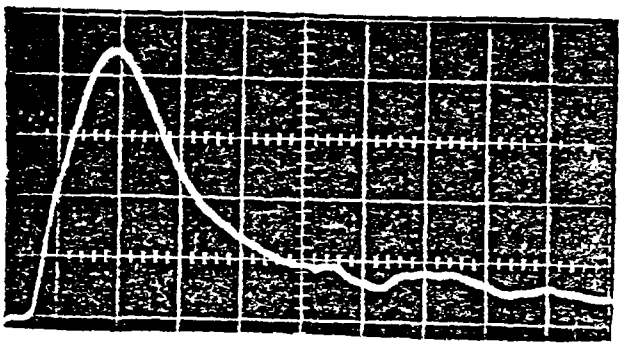
10,000 PSI-STRAIN/Div



.2 msec/Div.

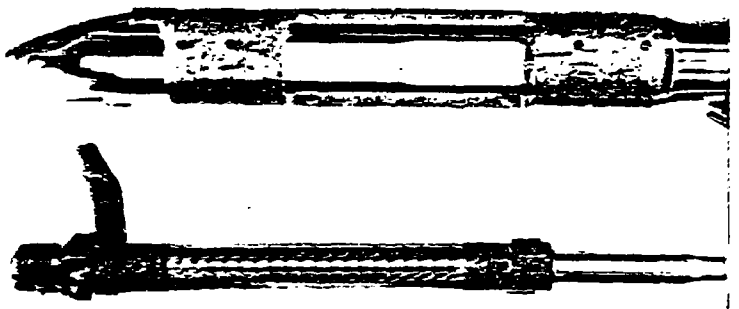
Rem Proof

20,000 PSI-STRAIN/Div.



.2 msec/Div.

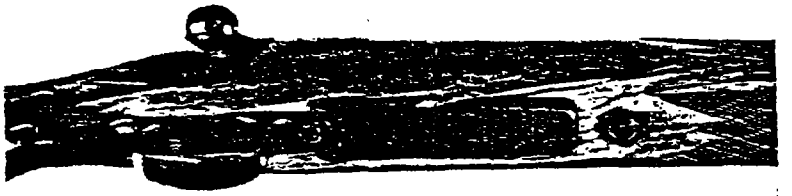
Model 700 Carbine
B6261719
Super Proof

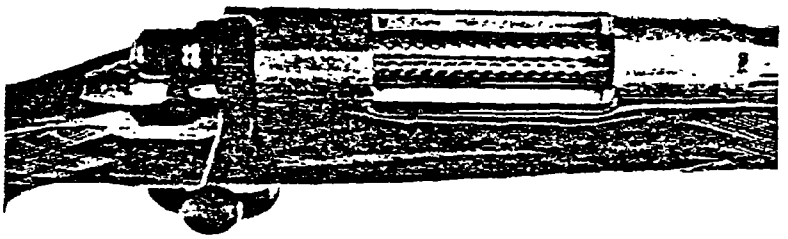


Model 700 Carbine

B6261940

Super Proof + 4 x 220 gr Bullets





REMINGTON ARMS COMPANY, INC.
Ilion Research Division

SUMMARY OF INTENTIONAL GUN ABUSE TEST

DATA

By REMINGTON

Date 12-11-80

FIREARM:

Make REMINGTON MARINE Model 700

Grade _____ Gauge 30/06 Serial Number B6261940

Origin EXP

Test Number Assigned C 1856

Comments SMALL PROJECTILE (-.120.)

HISTORY:

Condition NEW

Previous Rounds Fired 1 FIRING - 1 PROOF

Headspace at Test .00 - .004

Test Date 12-11-80

ABUSIVE LOAD USED:

Powder Type 4198

Powder Weight 52.4 GR.

Case Make and Type REMINGTON - PRIMED

Total Bullet Weight 1100 GR.

Total Shot Weight _____

Estimated Pressure _____

ADDITIONAL COMMENTS:

REMINGTON ARMS COMPANY, INC.
Ilion Research Division

SUMMARY OF INTENTIONAL GUN ABUSE TEST

DATA

By G. N.

Date 12-1-80

FIREARM:

Make Rem. Carbine 18" Bbl Model 700

Grade _____ Gauge 30/06 Serial Number R6261719

Origin E.R.P.

Test Number Assigned C1856

Comments _____

HISTORY:

Condition NEW

Previous Rounds Fired 2 Factory - 5 P200F

Headspace at Test min+.002

Test Date 12-11-80

ABUSIVE LOAD USED:

Powder Type 4198

Powder Weight 52.4 gr.

Case Make and Type Remington Primed

Total Bullet Weight 220 gr.

Total Shot Weight _____

Estimated Pressure 200,000 - via strain gage

ADDITIONAL COMMENTS:

Action frozen. Pipe wrench & hammer required to open. Bolt head damaged. No major damage to gun

WORK REQUEST

DATE REQUESTED 12-4-80 WORK ORDER C-1856

DESIGNER OR ENGINEER BULLIS

MODEL BOLT ACT. CARBINE CAL. OR GAUGE 30-06 BARREL TYPE SMALL PROFILE

TYPE OF TEST

NEW DESIGN _____ DESIGN CHANGE _____

DRY CYCLE _____ ACCURACY _____ HAND LOADING _____ STRESS _____

PRESSURE ✓ MUZZLE VELOCITY _____ FUNCTION _____ PHOTOS _____

EVALUATION ✓ BOLT VELOCITIES _____ OTHER _____

ESTIMATED COMPLETION DATE _____

REPORT REQUIRED

FORMAL _____ INFORMAL ✓ TEST RESULTS ONLY _____

TEST OBJECTIVE

TEST NEW M/700 SMALL PROFILE BARRELS FOR STRENGTH.

2 - 30-06 BBLS — .100" UNDERSIZE.. } 700 ACTION
2 - 30-06 " — .120" " }

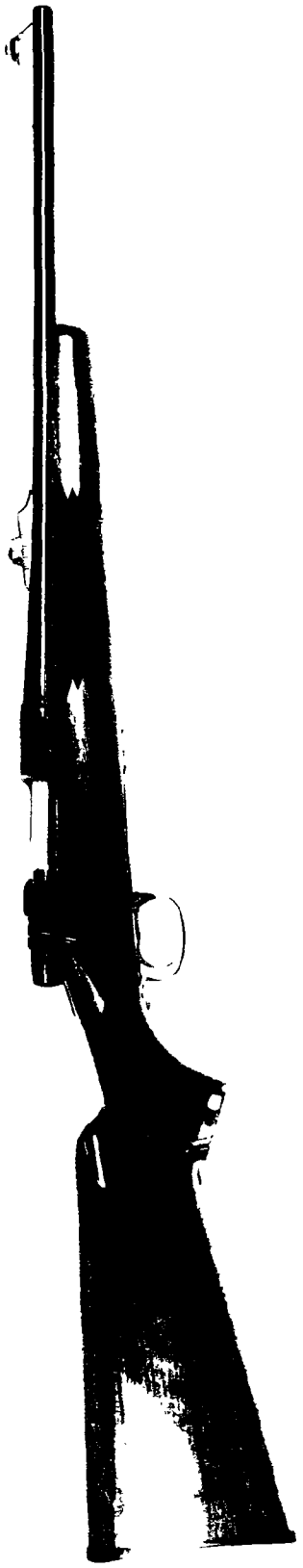
CHECK PRESSURES

GUNS REQUIRED

B6262583 — } .100 UNDER
B6262650 — }
B6261719 — } .120 UNDER
B6261940 — }

TEST COMPLETION DATE _____ SIGNED _____

B 1270



RD-49 REV. 6-58

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

EXHIBIT 38

cc: J. P. Glas
J. E. Preiser
P. H. Holmberg
J. P. Linde
G. D. Campbell

Bridgeport, Connecticut
March 11, 1981

TO: J. W. BROOKS

FROM: W. H. FORSON, JR.

SUBJECT: BOLT ACTION CARBINE - REVISED MODEL REQUIREMENTS

We reviewed a prototype bolt action carbine last week. Please make the following revisions to finalize the design requirements.

- Walnut stock to be slimmed down in grip and fore-end areas.
- Grip cap installed - Model 870 TC or similar.
- Classic type rifle butt pad.

WHF:daf

EXHIBIT 39

RD-46-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

Xc: C.B. Workman
P.H. Holmberg
D.E. Bullis

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
March 23, 1981

TO: W. H. FORSON

FROM: J. W. BROOKS

SUBJECT: BOLT ACTION CARBINE MODEL REQUIREMENTS

Per your letter of March 11 we have changed the model requirements for the Bolt Action Carbine as follows:

Stock

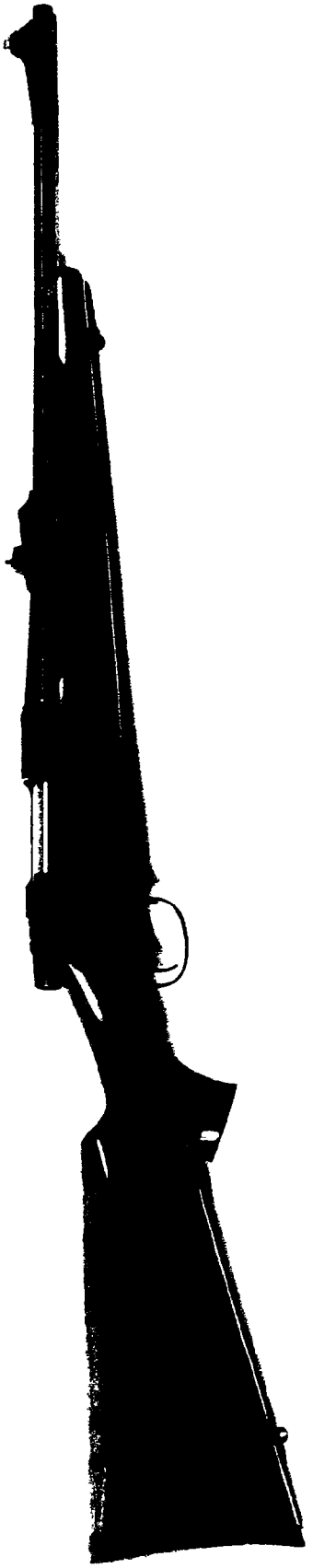
1. Walnut wood
2. RK-W glossy finish
3. M700 Classic butt pad
4. Swivel studs
5. Grip cap (similar to Model 870 TC)
6. Cut checkering
7. Shape of butt stock similar to sample reviewed in March. Grip similar to Model 7 sample. Fore End similar to schnabel but with tip rounded off.

Barreled Action

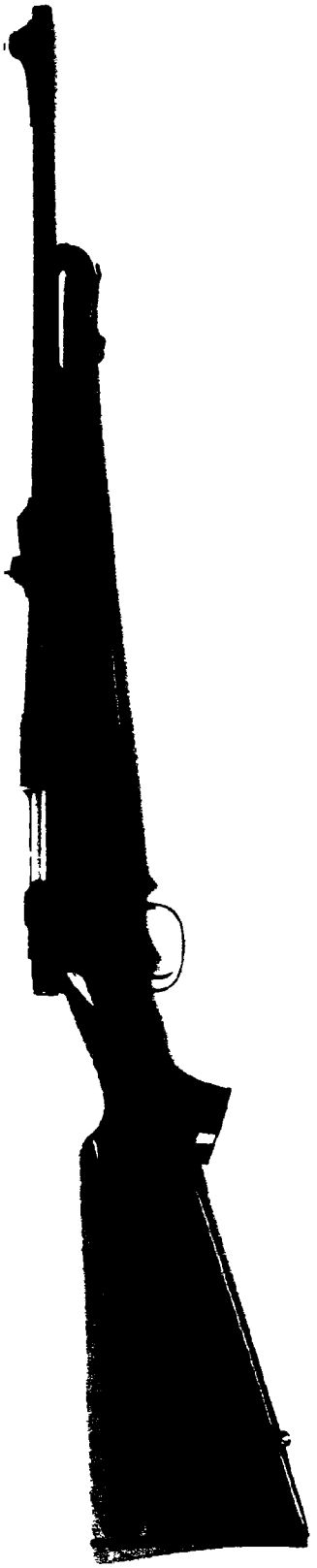
1. Barrel contour similar to M700 but approx. .100" smaller.
2. M700 rear sight assembly.
3. M700 front sight base with bottom radius to fit smaller barrel.
4. M700 front sight
5. M700 barrel bracket
6. M600 receiver with longer tang
7. M600 bolt stop with M700 type release
8. M700 trigger assembly with 2 position safety

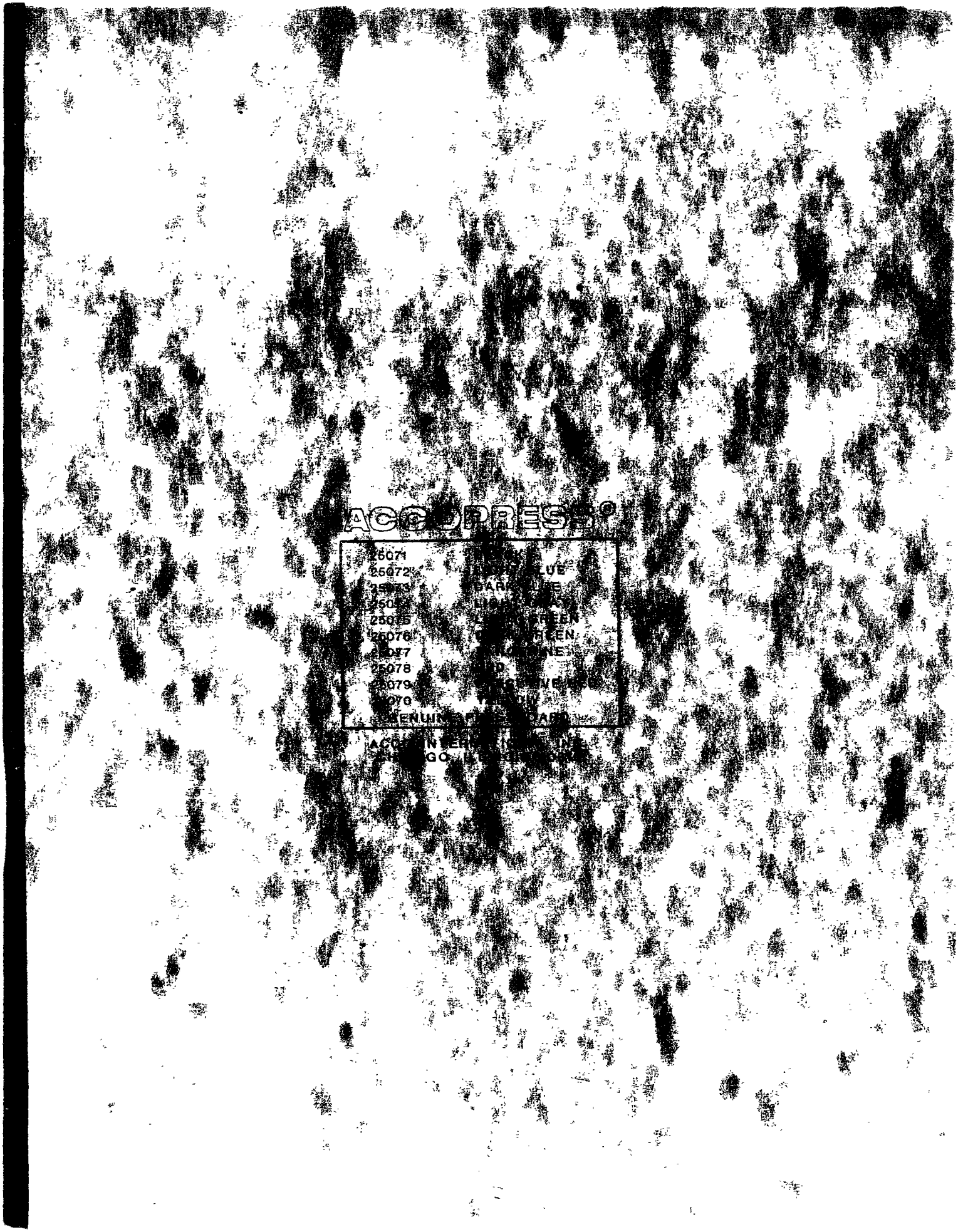
9. M600 bolt assembly with M700 bolt handle and altered for a bolt lock
10. New bolt plug
11. New bolt lock
12. M700 BDL short action magazine
13. New stainless steel follower and spring
14. New stamped trigger guard and floor plate assembly. Short release latch for front release.
15. New trigger guard screw
16. M700 BDL front guard screw

JWB:T
Firearms Research Division



42




ACCO PRESS
25071
25072
25073
25074
25075
25076
25077
25078
25079
25080
GENUINE
ACCO ENGINEERING
CHICAGO

— Bolt Action Carbine-Model Seven LWT -

File #8

xc: H.K. Boyle
H.C. Munson
C.B. Workman
T.L. Capeletti
W.K. Bryant
L.B. Bosquet
R.W. Farrington, Jr.
J.H. Sweeney
E.A. Burdick

Est. #4152

December 7, 1981

G.D. Campbell

Bolt Action Carbine

Estimated economic results have been developed for the proposed Bolt Action Carbine in both the first (1983) and third (1985) years of operation. These results are based on prices and volumes supplied by Marketing, and the "Present Operation" for each year was taken from the appropriate Accounting forecast.

Estimated first year results show net earnings of $410M and a 7.0% net return on investment (full allocation basis) based on a Bolt Action Carbine volume of 28,500 units. First year incremental results are $1,270 net earnings and a 23.9% net return on investment.

Estimated third year full allocation results based on a volume of 34,700 units are $740M net earnings and a 10.5% net return on investment. Third year incremental results are $1,770M net earnings and a 27.0% net return on investment.

J.C. Hutton

J.C. Hutton, Superintendent
Industrial Engineering Section

TRAndrews/kc
Attached

45-606 EYE EASE
45-706 20/20 BUFF

BOLT ACTION CARBINE

Estimated Unit Prices, Costs and Pretax Earnings

TRA 12/7/83

	FIRST YEAR OF OPERATION (1983)	THIRD YEAR OF OPERATION (1985)
SALES QUANTITY	28,500	34,700
RETAIL SELLING PRICE	$440.00	$501.00
NET SELLING PRICE	$235.95	$268.66
less: TOTAL COST	$208.44	$227.38
PRETAX EARNINGS	$ 27.51	$ 41.28
% OF NET SELLING PRICE	11.7%	15.4%

Bolt Action Carbine
Estimated Earnings and Net Return on Investment
(Quantities and Dollars in Thousands)

TRG 12/7/81

FIRST YEAR OF OPERATION (1983)

	PRESENT OPERATION	RESULTS FROM THIS PROJECT: FULL ALLOCATION	RESULTS FROM THIS PROJECT: INCREMENTAL BASIS	OPERATION AFTER THIS PROJECT
GENERAL DATA				
Sales				
Shotguns	342	-	-	342
Rim Fire Rifles	137	-	-	137
Center Fire Rifles	292	28	28	320
~~Shotgun Barrels~~ Total	771	28	28	799
SALES	$ 168,440	$ 6,730	$ 6,730	$ 175,170
Less: Mill Cost	$ 123,020	$ 5,270	$ 3,880	$ 128,290
Finished Product Distribution Expense	3,200	130	80	3,330
Selling & Administrative Expense	14,070	540	310	14,610
Total Cost	$ 140,290	$ 5,940	$ 4,270	$ 146,230
PRETAX EARNINGS	$ 28,150	$ 790	$ 2,460	$ 28,940
NET EARNINGS	$ 14,500	$ 410	$ 1,270	$ 14,910
INVESTMENT				
Project Expenditures	$ -	$ 570	$ 570	$ 570
Existing Facilities used directly in Operations	65,650	-	-	65,650
Allocated General Facilities	2,630	100	30	2,630
Working Capital	129,200	5,200	4,720	134,400
Total	$ 197,380	$ 5,870	$ 5,320	$ 203,250
NET RETURN ON INVESTMENT	7.3%	7.0%	23.9%	7.3%

SUPPLEMENTAL CALCULATIONS

Net earnings after amortizing (over 13 years) operations charges	$ 400	$ 1,260
Total capital required including operations charges - net	$ 6,010	$ 5,470
Return on total capital required including operations charges	6.7%	23.1%

Bolt Action Carbine
Estimated Earnings and Net Return on Investment
(Quantities and Dollars in Thousands)

TRG 1-7-81

	Third Year of Operation (1985)			
		Results from This Project		
	Present Operation	Full Allocation	Incremental Basis	Operation After This Project
GENERAL DATA				
Sales				
Shotguns	398	-	-	398
Rim Fire Rifles	143	-	-	143
Center Fire Rifles	367	35	35	402
~~Shotguns-Surplus~~ Total	908	35	35	943
SALES	$ 226,990	$ 9,320	$ 9,320	$ 236,310
Less: Mill Cost	$ 167,050	$ 6,940	$ 5,340	$ 173,990
Finished Product Distribution Expense	4,310	180	110	4,490
Selling & Administrative Expense	18,910	770	440	19,680
Total Cost	$ 190,270	$ 7,890	$ 5,890	$ 198,160
PRETAX EARNINGS	$ 36,720	$ 1,430	$ 3,430	$ 38,150
NET EARNINGS	$ 18,910	$ 740	$ 1,770	$ 19,650
INVESTMENT				
Project Expenditures	$ -	$ 570	$ 570	$ 570
Existing Facilities used directly in Operations	67,720	-	-	67,720
Allocated General Facilities	3,410	140	50	3,550
Working Capital	154,230	6,370	5,930	160,600
Total	$ 225,360	$ 7,080	$ 6,550	$ 232,440
NET RETURN ON INVESTMENT	8.4%	10.5%	27.0%	8.5%

SUPPLEMENTAL CALCULATIONS

Net earnings after amortizing (over 1~~0~~3 years) operations charges	$ 730	$ 1,760
Total capital required including operations charges - net	$ 7,220	$ 6,700
Return on total capital required including operations charges	10.1%	26.3%

TRQ
2/5/82

Bolt Action Carbine
Estimated Earnings and Net Return on Investment
(Dollars in Thousands)

	First Year of Operation (1983)			
		RESULTS FROM THIS PROJECT		
	PRESENT OPERATION	FULL ALLOCATION	INCREMENTAL BASIS	OPERATION AFTER THIS PROJECT
GENERAL DATA				
Sales				
Shotguns	341,500	–	–	341,500
Rim Fire Rifles	137,050	–	–	137,050
Center Fire Rifles	293,160	28,500	28,500	320,660
~~Shotgun Barrels~~ Total	770,710	28,500	28,500	799,210
SALES	$ 168,442	$ 6,676	$ 6,676	$ 175,118
Less: Mill Cost	$ 123,023	$ 5,412	$ 3,988	$ 128,435
Finished Product Distribution Expense	3,200	127	80	3,327
Selling & Administrative Expense	14,067	534	304	14,601
Total Cost	$ 140,290	$ 6,073	$ 4,372	$ 146,363
PRETAX EARNINGS	$ 28,152	$ 603	$ 2,304	$ 28,755
NET EARNINGS	$ 14,498	$ 317	$ 1,193	$ 14,815
INVESTMENT				
Project Expenditures	$ –	$ 570	$ 570	$ 570
Existing Facilities used directly in Operations	65,648	–	–	65,648
Allocated General Facilities	2,527	100	33	2,627
Working Capital	129,190	5,227	4,738	134,417
Total	$ 197,365	$ 5,897	$ 5,341	$ 203,262
NET RETURN ON INVESTMENT	7.3%	5.4%	22.3%	7.3%

SUPPLEMENTAL CALCULATIONS

Net earnings after amortizing (over 13 years) operations charges	$ 301	$ 1,180
Total capital required including operations charges - net	$ 6,014	$ 5,518
Return on total capital required including operations charges	5.0%	21.4%

Bolt Action Carbine
Estimated Earnings and Net Return on Investment
(Dollars in Thousands)

	Third Year of Operation (1985)			
		RESULTS FROM THIS PROJECT		
	PRESENT OPERATION	FULL ALLOCATION	INCREMENTAL BASIS	OPERATION AFTER THIS PROJECT
GENERAL DATA				
Sales				
Shotguns	397,500	-	-	397,500
Rim Fire Rifles	143,450	-	-	143,450
Center Fire Rifles	367,655	34,700	34,700	402,355
~~Shotgun Barrels~~ Total	908,605	34,700	34,700	943,305
SALES	$ 226,984	$ 9,070	$ 9,070	$ 236,054
Less: Mill Cost	$ 167,051	$ 7,091	$ 5,515	$ 174,142
Finished Product Distribution Expense	4,313	172	109	4,485
Selling & Administrative Expense	18,901	737	408	19,638
Total Cost	$ 190,265	$ 8,000	$ 6,032	$ 198,265
PRETAX EARNINGS	$ 36,719	$ 1,070	$ 3,038	$ 37,789
NET EARNINGS	$ 18,910	$ 557	$ 1,571	$ 19,467
INVESTMENT				
Project Expenditures	$ -	$ 570	$ 570	$ 570
Existing Facilities used directly in Operations	67,723	—	—	67,723
Allocated General Facilities	3,405	136	45	3,541
Working Capital	154,228	6,293	5,867	160,521
Total	$ 225,356	$ 6,999	$ 6,482	$ 232,355
NET RETURN ON INVESTMENT	8.4%	8.0%	24.2%	8.4%

SUPPLEMENTAL CALCULATIONS

Net earnings after amortizing (over 13 years) operations charges	$ 544	$ 1,557
Total capital required including operations charges - net	$ 7,176	$ 6,659
Return on total capital required including operations charges	7.6%	23.4%

xc: H.K. Boyle
H.C. Munson
C.B. Workman
T.L. Capeletti
W.K. Bryant
J.P. Linde
L.B. Bosquet
R.W. Farrington, Jr.

Est. #4152 (Revised)

File # 9

February 9, 1982

G.D. Campbell

Bolt Action Carbine

The estimated economic results for the proposed Bolt Action Carbine have been updated based on revised data issued by P.E.&C. The changes reflected in this update include:

- Metal finishes equal to the M/700.
- A revised stock machining process utilizing the Richardson RTR NC-Router.
- Revised discount factors and third year pricing.
- Including the cost effect of the rivetless extractor in the third year.
- Revised project expenditures.

The net effect of these changes is to increase the estimated unit cost by $4.64 in the first year and $3.17 in the third year. This results in reduced margins and net returns on investment in all positions.

The revised economic results are summarized as follows:

	First Year (1983)		Third Year (1985)	
	Full Book	Incremental	Full Book	Incremental
% Pretax Margin	9.0%	--	11.8%	--
Net Earnings	$ 317	$1,193	$ 557	$1,571
Net ROI	5.4%	22.3%	8.0%	24.2%

J.C. Hutton, Superintendent
Industrial Engineering Section

JC Hutton / RWF/h.

TRAndrews/kc
Attached

BOLT ACTION CARBINE

ESTIMATE UNIT PRICES, COSTS, AND PRE-TAX EARNINGS

	First Year Of Operation (1983)	Third Year Of Operation (1985)
QUANTITY	28,500	34,700
RETAIL SELLING PRICE	$ 440.00	$ 491.00
NET SELLING PRICE	$ 234.23	$ 261.38
Less: Total Cost	$ 213.08	$ 230.55
PRE-TAX EARNINGS	$ 21.15	$ 30.83
% OF NET SELLING PRICE	9.0%	11.8%

GDC:JS
2/10/82

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

File #9

Xc: C. B. Workman
J. W. Brooks
F. E. Martin

March 2, 1982

TO: T. L. Capeletti

FROM: J. S. Martin

SUBJECT: Bolt Action Carbine

The New Product Design Group was asked to help develop the aluminum cast floor plate/trigger guard. A meeting was held with John Brooks, Fred Martin, and myself on February 25, 1982.

A complete review of the work that Bill Simpson had started was covered. Fred Martin will start the design on February 26, 1982. He has estimated it will take three weeks to layout and detail. After this is complete, it will take four weeks to make a prototype. If the first one is successful, four more would be made and a test program would be set up. It is estimated to take four weeks to build the four prototypes and two weeks to test.

This job will set back the work on the New Bolt Action Rifle (M/7) by six weeks. It will also lay a heavy burden on the Model Shop and Test Lab. It is felt that this job should have been done two years ago and it will not meet the schedule for the 1983 announcement of the Bolt Action Carbine now anyway.

Summary

Schedule Should Look Like This

February 26	-	Start
March 22	-	Complete layout/design details
April 19	-	Complete first prototype
May 24	-	Complete four prototypes
June 14	-	Complete test and transmit

Schedule Will Be Like This

February 26	-	Start
March 22	-	Complete design
April 19	-	Complete prototype (redesign)
May 10	-	Complete redesign
June 14	-	Complete second prototype
July 19	-	Get Marketing approval
July 26	-	Complete four prototypes
August 9	-	Complete test (problem come up)
September 6	-	Complete redesign
October 4	-	Complete third prototype
November 1	-	Complete four prototypes
November 15	-	Complete test and transmit

It is felt by Management that this design could be needed to reduce cost. However, we can not meet the schedule (1983 announcement) date with this design.

It is also felt it will delay the work we are doing on Bolt Action Rifles that is now needed to increase our share in the market place.

JSM:ws

RD-69 REV. 5-38

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

File #9

~~Flapelette~~
J Brooks
Comments Please
Clark

March 4, 1982

C. A. Riley
C. B. Workman ✓

OUTSIDE SUGGESTION FROM G. H. LEE
FOR MODIFIED MODEL 660 CARBINE

Attached is material we received from a Garry H. Lee describing his suggestion for the reintroduction of a modified Model 660 Carbine. I note that we plan to introduce our new bolt action carbine towards the end of this year.

Please let me have your comments regarding Mr. Lee's suggestion so that I can respond.

Barry Estrin
B. Estrin

BE/vh
attch.
44.00-L

REMINGTON ARMS CO.
RECEIVED
MAR 8 - 1982
FIREARMS RESEARCH DIVISION

Remington Arms Company, Inc.

Ideas Pertaining to Reintroduction of a Modified Model 660 Carbine

(1) - Recent magazine articles have renewed my interest in your Model 600/660 carbine. In the March 1981 issue of the American Rifleman, pg. 42, John E. Maxson told how he made his ideal lightweight rifle by modifying a Model 600 carbine. Jim Carmichel, in the April 1981 issue of Outdoor Life, pg. 88, praised the Model 660 he had used on an elk hunt. It is unfortunately true, to paraphrase Mr. Carmichel, that the gun did not catch the sportsman's fancy until it was out of production.

(2) - The December 1974 issue of Guns & Ammo, pg. 36, carried an interesting article by John F. Rea on the Model 660. After shooting two of these carbines extensively for several years, he said it was undoubtedly the best carbine ever offered to the hunter. It is impossible to know what caused the demise of the firearm. Some have suggested it failed because it was competing with the Model 700. This sounds unlikely because of your introduction of the Model 788 rifle, and now you are marketing the Model 788 as a semi-carbine, as well as a rifle, without hurting your Model 700 sales. The two best possibilities for the failure of the Model 660 are the choice of cartridges for which it was chambered and the use of plastic in its fabrication.

(3) - Rifles are made with falling block, lever, pump, autoloading and bolt actions. They are chambered for the many different rounds from the .222 Rem. to the .458 Win. Although the bolt action is the most popular, the favorite singular rifle-cartridge combination is the Winchester/Marlin lever action chambered for the .30-30 Win. Levers chambered for other cartridges have only limited appeal. Undoubtedly the late John Wayne contributed much to the nostalgia of the .30-30, but the continuing acceptance of the rifle is because hunters realize the cartridge is adequate for their needs and the rifle is easy to

handle and pleasant to shoot. A bolt action carbine with similar performance and characteristics would gain the acceptance and popularity that the .30-30 Winchester has. The ideal choice for such a gun is the Model 660 chambered for the .30 Rem.

(4) There will be those who will want the carbine chambered for some cartridge other than the .30 Rem. It is well known that a 5½ to 6 lb. carbine with a 20-inch barrel has greater recoil and muzzle blast than a 7½ to 8 lb. rifle with a 22 to 24-inch barrel has when chambered for the same cartridge. The avid shooter is impervious to heavy recoil, but the average hunter is not an avid shooter. Although it is true recoil is not noticed during the excitement of the hunt, the anticipated recoil is considered in the gun shop when a rifle is being selected and is felt on the range when the rifle is being fired and zeroed in. This carbine is not designed for the Elmer Keiths, the Col. Askinses or the Jim Carmichels. It is designed for the John Does and the Joe Doakses who comprise the larger segment of the market. Col. Townsend Whelen believed the average shooter could tolerate approximately 15 ft.lbs. of recoil. This tolerance, along with muzzle blast, must be kept in mind when selecting alternate cartridges for the carbine.

(5) For those hunters who will want a cartridge that has a flatter trajectory than the .30 Rem. has, I suggest developing a new one based on the .30 Rem. case. It will utilize the same bolt face and thus absorb some of the tooling costs. The .243 Win. and 6 mm Rem. cartridges are loaded with lightweight bullets for high velocity. They produce mild recoil, approximately 13 ft.lbs., but have small expansion ratios which cause some muzzle blast. Although these cartridges are acceptable, they are not ideal for a carbine. An ideal cartridg can be made by necking the .30 Rem. case to .257 caliber and moving the shoulder forward approximately .145 inch. The case may have to be strengthened to withstand chamber pressures of 50,000 to 53,000 c.u.p. By retaining the

outside dimensions of the case while increasing the thickness of the walls, the capacity would be reduced by no more than one grain of water. With a 100-grain bullet seated to a depth of .270 inch, the cartridge will have sufficient powder capacity to propel the bullet at a velocity of approximately 2800 fps. This is between the velocities developed by the nearly obsolete .250 Sav. and .257 Roberts and well below that generated by the .25-06 Rem. Just as the .222 Rem., .222 Rem. Mag. and .223 Rem. complement rather than compete with the .22-250 Rem. and nearly obsolete .220 Swift, this cartridge would appeal to those who are not interested in the .25-06 Rem.

6 It goes without saying that developing and introducing a new cartridge is not without risk. Therefore, it is necessary to consider all possible applications for which the cartridge/case may be used. Here, the axiom, "Need is the mother of invention", comes into play. A .224 caliber cartridge based on this case would perform approximately the same as the popular .22-250 Rem. A .243 caliber cartridge would have somewhat less velocity than the .243 Win. and 6 mm Rem. For these reasons, plus the fact this is a light hunting carbine rather than a heavy varmint rifle, these cartridges may be disregarded. A .264 caliber cartridge would be nearly the same as a .257 caliber. It is true the larger caliber of two bullets of the same weight will have a greater muzzle velocity, everything else being equal, but it also has a smaller ballistic coefficient and therefore loses the velocity advantage on the way to the game at ranges of 200 yards or so. The 6.5 mm suffers from a bad reputation, although undeserved, and should be avoided.

7 A .257 caliber cartridge is the only practical one that can be developed from the .30 Rem. case for use in a hunting rifle. However, there is a conspicuous gap between cartridges based on the .308 Win. and those based on the .222 Rem. used in benchrest rifles and silhouette/hunting pistols. Cartridges for these

firearms based on the new brass would fill that gap and prove to be quite successful, particularly in the 6 mm and 7 mm calibers. The lack of an adequate supply of this brass to date has precluded wildcat development of such cartridges. If Remington Arms were to develop these cartridges in addition to the .257 caliber rifle cartridge, the rewards for the efforts invested would be greatly increased.

8 - The .223 Rem. and possibly 6 x 47 mm are two additional cartridges well suited for this carbine. They are good varmint cartridges at the shorter ranges and when properly handloaded are excellent for turkey hunting.

9 - For those who wish a more powerful weapon, the obvious choice of cartridges is limited to the .308 Win. and .358 Win. The .308 Win. is a well known and respected cartridge. Nothing derogatory can be said for its selection, and there is no need to repeat its fine qualities. The .358 Win. is a different matter. Since its introduction in 1955, it has never become popular. The reason for this, and this applies to the .350 Rem. Mag. also, is that hunters prefer bullets of .30 caliber or less for deer size game. A .35 caliber bullet appeals only to a relatively few hunters of the larger elk and moose. The .358 Win. is less powerful than the .350 Rem. Mag, but it kills just as effectively and recoils considerably less. Therefore, the .358 Win. will be accepted by those who would prefer the .350 Rem. Mag. and will be preferred by those who would not accept the .350 Rem. Mag.

10 - As to the carbine itself, it will, naturally, use the Model 660 action. It should be a quality piece so as to complement your Model 700 rather than compete with the Model 788. It should be offered with two styles of stock, a full Mannlicher and a conventional short stock. The stock should be as

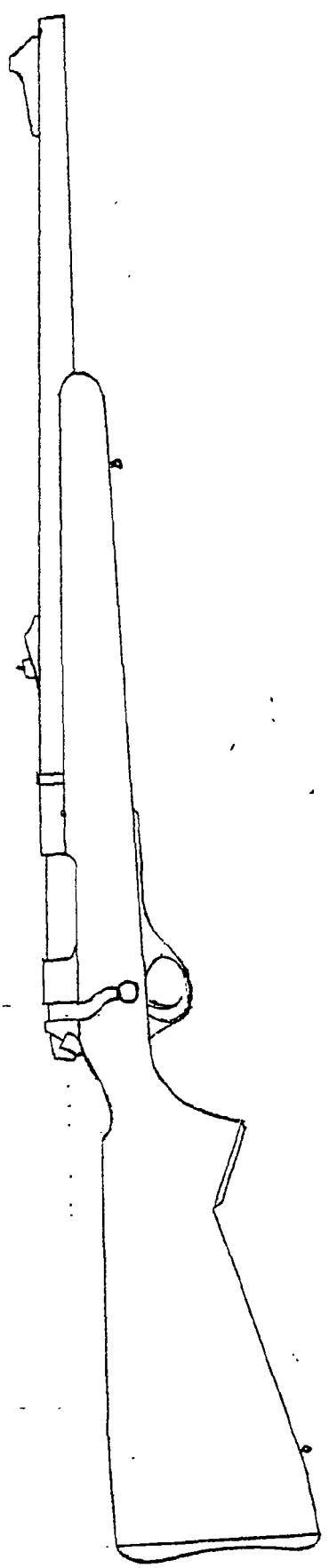
straight as possible with minimum drop at the heel. The comb should be high and wide with a very slight forward slope. A builtin cheekpiece also may be considered. The butt plate area should be ample with 5¼" x 1½" minimum dimensions. The length of pull should be 13½". The grip should be full or nearly full pistol, especiallly for the heavier cartridges. The forestock should be of sufficient size, not less than 1½" width, to provide a firm grip. The cross sectional dimensions in the receiver area can be scaled to the appropriate cartridge head diameter of .422" and .473" to achieve the desired slimness and weight. The 20-inch barrel should have a blade front sight similar to the Model 788. I prefer an aperature receiver sight but realize an open rear sight is quicker and more familiar to most hunters.

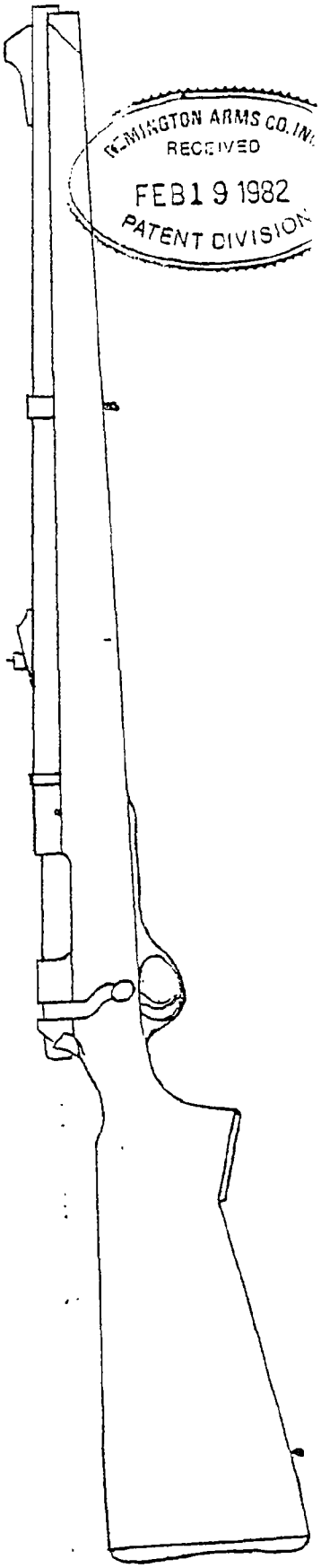
11 - Remington is continually involved in research and development. Your introduction of the .25-06, 8 mm Mag., 7 mm Express, 7 mm-08 and 7 mm BR cartridges are fine examples of your endeavors. You have redesigned your autoloading and pump rifles to improve already excellent products. There is a need for a small, light sporting rifle. Your comments on the resale value of the Model 600, as told by the editors of Outdoor Life, July 1981, pg. 8, indicates the current interest shown in the weapon. A Model 660, modified along the lines suggested will satisfy the need for a bolt action carbine that is easy to handle and pleasant to shoot, and chambered with an adequate cartridge. It will be welcomed by sportsmen and will enjoy a lasting popularity in the years to come.

12 - I respectfully hope you find this idea compatible with Remington's policy to provide products that satisfy the needs of the shooting community.

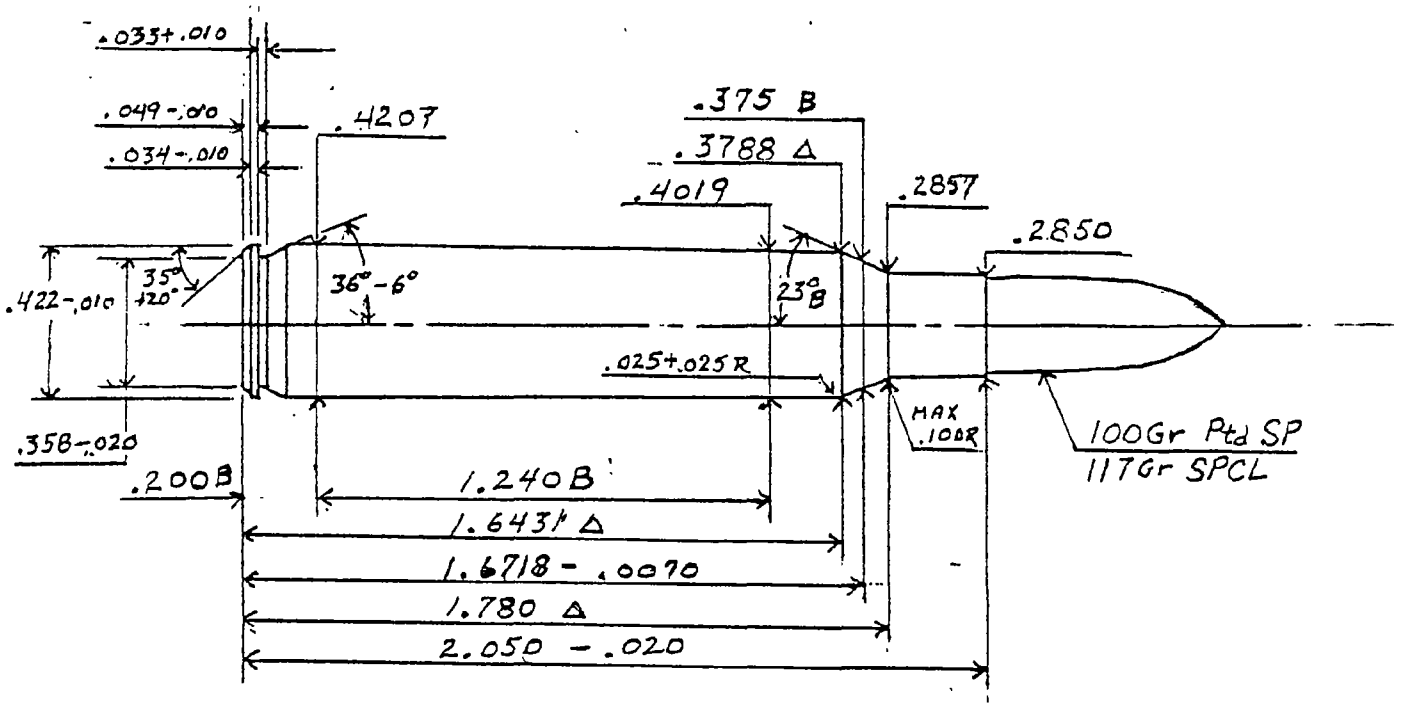
Garry H. Lee

Garry H. Lee





.250 REM.



RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: F.M. Ames
J.F. Bates
J.J. Bechard
J.W. Bower
H.K. Boyle
J.W. Brooks
T.L. Capeletti
G.E. Fletcher
J.P. Linde
J.S. Martin
C.E. Ritchie

Ilion, New York
May 27, 1982

C.B. Workman

LIMITED DISTRIBUTION

MODEL SEVEN PRODUCTION TOOLING

To alleviate an approximate 1600 man hours of tool room backlog work, caused by the 5/4 work plan, the Research Model Shop is providing assistance on a first priority basis.

Six jobs, estimated at 700 man hours of work, have been released to the shop. To meet the scheduled completion dates, six (6) model makers have been assigned to these jobs. This will result in approximately 120 man days delay of Research prototype work. Presently this will affect the XSG program.

The remaining model makers (6) will continue on priority model work, namely the Model Seven and 700 ADL Restyle. No delay is anticipated in completion of the six (6) XSG prototype models scheduled for July, 1982.

R.L. Sassone, Supervisor
Project Control & Administrative Services

RLS:m

MODEL SEVEN LWT 1983

DUPONT

RECORDS CONTROL SCHEDULE

RECORDS CATEGORY OR TITLE:

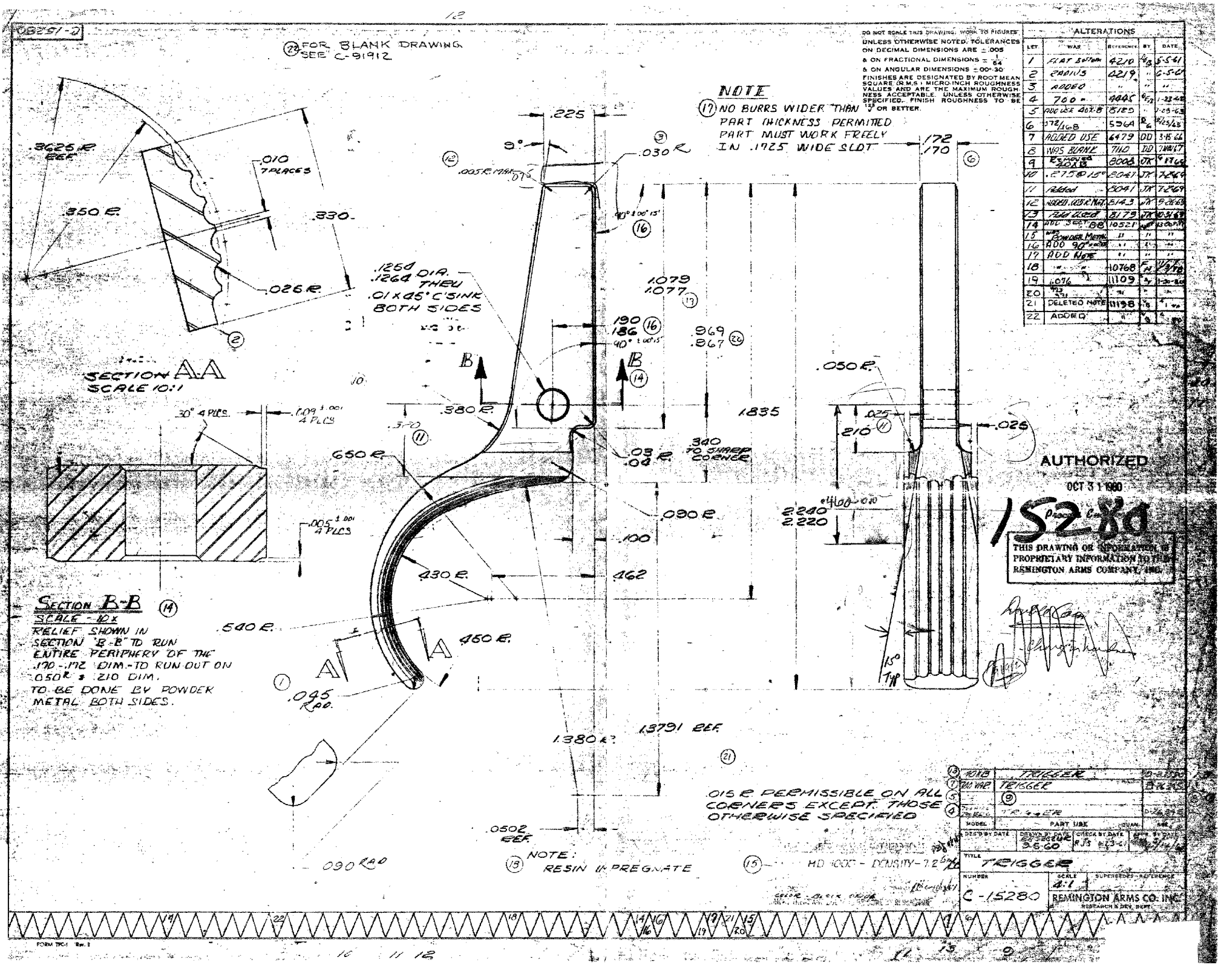
PROJECT RECORDS

PROJECT FILE

COPY "O" (OFFICIAL) ☒ "X" (EXTRA) ☐

TOTAL RETENTION: MAX. LIFE OF FACILITY OR UNTIL OBSOLETE

GS-11050 Rev. 8/78



FORM TYC 1 REV. 5/79

R.M.S. 12 1153

21616-D

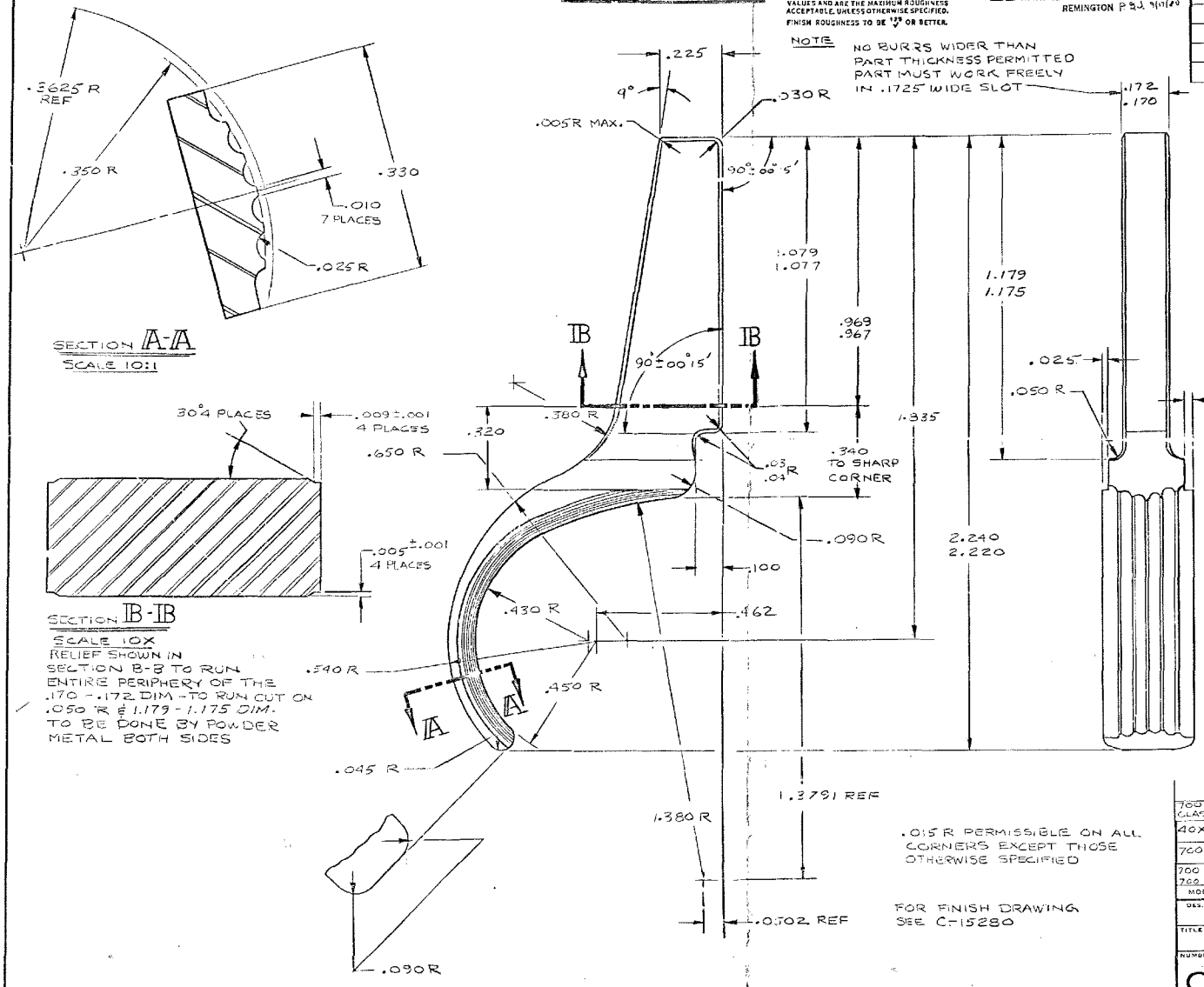
THIS DRAWING CONTAINS INFORMATION TO PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

DO NOT SCALE THIS DRAWING. WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
ON FRACTIONAL DIMENSIONS ± 1/64
ON ANGULAR DIMENSIONS ± 00°-30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE '32' OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL HD 1000 DENSITY 7.2 GM/CC
HEAT TREAT
HARDNESS
COLOR
COLOR TO BE DONE BY REMINGTON P&D 7/11/80

ALTERATIONS				
ALT.	WAS	REF.	BY	DATE

NOTE
NO BURRS WIDER THAN PART THICKNESS PERMITTED PART MUST WORK FREELY IN .1725 WIDE SLOT



.015 R PERMISSIBLE ON ALL CORNERS EXCEPT THOSE OTHERWISE SPECIFIED

FOR FINISH DRAWING SEE C-15280

after pressing & 1st coin - in plant
coin serrations - after punches new one } 3-4 pcs with punch (Purchase)

MODEL	PART NO.	PART USE
700 CLASSIC		TRIGGER
40XB		TRIGGER
700 VAR		TRIGGER
700 ADL 700 BDL		TRIGGER

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
	V.B. 4-1-80	R.G.V. 4-9-80	4/9/80

TITLE TRIGGER BLANK

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91912	4:1		700 CL 711193

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TFC REV 4BG

N.K.S. 10 1153

C-92249

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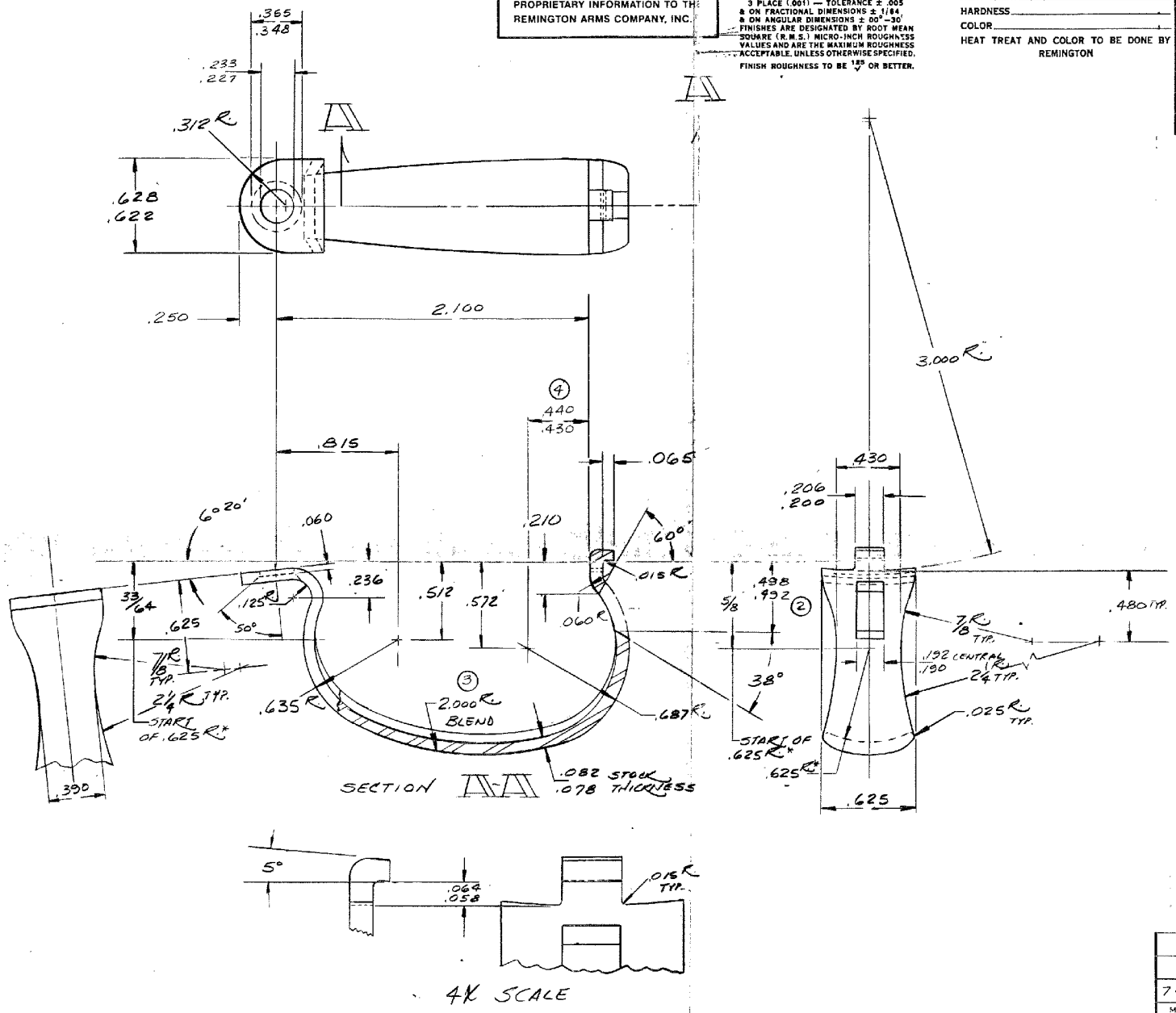
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64.
& ON ANGULAR DIMENSIONS ± 00° −30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL C-1010
HEAT TREAT
HARDNESS
COLOR
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	REVISED & REDRAWN	11615	WB	8/31/82
2	.472 / .478	11626	"	9/24/82
3	.855	11631	"	10/13/82
4	ADDED .440 / .430	"	"	"



FOR FINISH DWG. SEE A 91951

7 LWT.	92249	TRIGGER GUARD BLANK
MODEL	PART NO	PART USE

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
8-28-82	8-28-82	WB 8/31/82	WB 8/31/82

TITLE BLANK

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-92249	2X/4X	C16187	

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TFC-1 REV. 875 — N.K.S. 17 0653+

C-91840

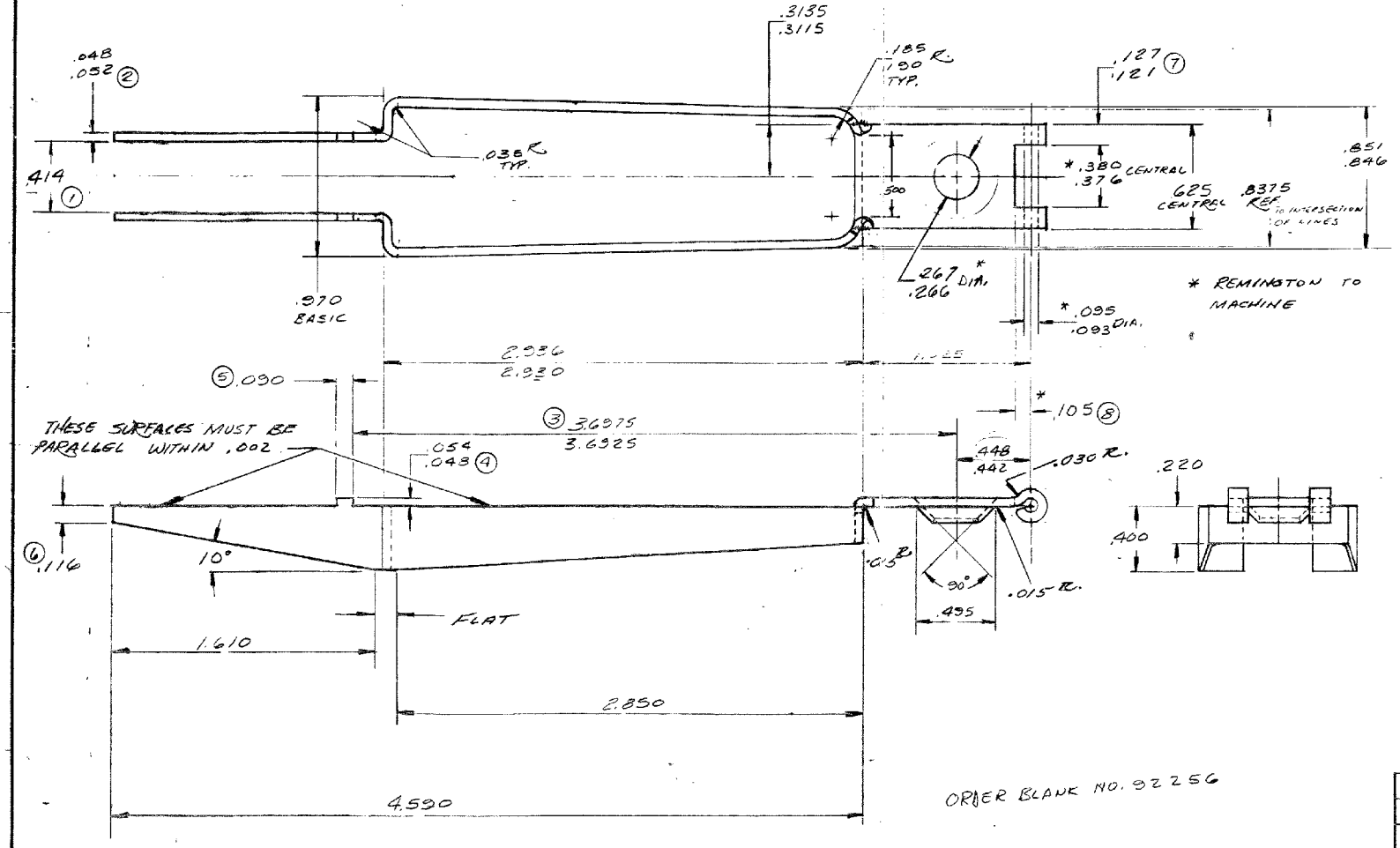
THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

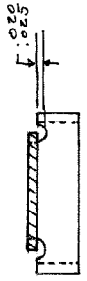
DO NOT SCALE THIS DRAWING: WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° - 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 √ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 1070
HEAT TREAT
HARDNESS
COLOR
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON RBJ 11/1/8

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	.425	11530	DCB	2/2/62
2	.047 / .053	"	"	"
3	ADDED	"	"	"
4	"	"	"	"
5	"	"	"	"
6	.100	11552	DCB	3/14/62
7	.250 / .244	"	"	4/9/62
8	* .102 / .098	11649	"	7/18/62





VIEW SHOWING RELIEF NOTCHES IN WRAP SUCTION

ORDER BLANK NO. 92256

AUTHORIZED
Process Engineering

MODEL	PART NO.	PART USE
	91840	FLOOR PLATE BASE

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
	12-3-70	T.J. PLUNKETT 11/14/61	11/20/61

TITLE: BASE

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91840	2X		XR#11591

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

1/4/82
SB

Model Seven Latch

Blanks produced	12/30/82	1/4/83	1/5/83	1/6/83	1/7/83	1/10/83
Remington	432	76	0	0	39	
Former	0	47	30	30	30	
Total to date	432	555	585	615	69	

Powder Metal

Parts in process					
Straddle mill	87	0	0	0	30
Mill Slot	0	0	0	0	0
Drill holes	0	0	47	0	0
Burnish	0	0	0	0	39
Color	0	76	0	0	0

Parts to Assembly	67	87	75	77	30
Total to date	345	432	507	584	614

xc: J.P. Linder
J.J. Hill
J.D. Bennett

Bob Enedeker 1-6-83

Problem: Excessive opening between Floor Plate Cover Assembly and Stock at Final Assembly.

Background: There was no specification for acceptable gap included in the gun specs. During T&P the question came up at Final Inspection and the decision was made to use the M/700 spec. of .030. This proved to be insufficient and was increased to .035. The M/700 is not gaged for this spec. and when the M/Seven production guns came then, they were not gaged either. On 1/5/83 an arbitrary spec. of .025 was decided on. Guns were brought to Final Insp. from the Warehouse and were gaged (with a feeler gage) to the .025 dimension. Forty-one (41) out of one hundred sixty-one (161) passed.

Program: Have a study run on the components which have an effect on this condition. The study should follow a group of parts from the blank thru the processing steps to Final Assembly. The components involved are:

- Floor Plate Base Blank C-92256
- Floor Plate Base C-91840
- Floor Plate Cover Blank C-92255
- Floor Plate Cover C-91841
- Floor Plate Pad Blank C-92449

Prints of each model drawing are attached. Included in the prints are the Floor Plate Base Assembly and the Floor Plate Cover Assembly. These prints are included for information purposes, as the study will include the bagging operations on both assemblies.

Thank you,
Brad Bergner

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # -

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/83	7LWT	FLOOR PLATE COVER

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91841	10, 20, 30	MILL, REAM, DEBURR	8575	

WORK REQUESTED

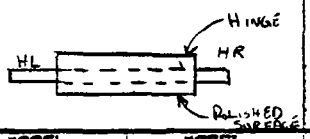
ORIENTATION OF HINGE TO UNDER SIDE OF COVER (.055)

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/19/83	30

REMARKS

HINGE HOLES AT ANGLE, SOME VARIED FROM .003 TO .012 END TO END OF PIN

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
HR - HIGH RIGHT HL - HIGH LEFT  	μ = .0567 σ = .0041 RANGE = .049 - .073		

	MODEL DWG-DIM. .055		MODEL DWG-DIM.		MODEL DWG-DIM.		MODEL DWG-DIM.		MODEL DWG-DIM.		MODEL DWG-DIM.		MODEL DWG-DIM.		MODEL DWG-DIM.	
#	DIM.	X	#	DIM.	#	DIM.	#	DIM.	#	DIM.	#	DIM.	#	DIM.	#	DIM.
HR 1	.073		16	HL .056	31		46		61		76		91			
HL 2	.054		17	HL .057	32		47		62		77		92			
HL 3	.049		18	HL .057	33		48		63		78		93			
HR 4	.058		19	HR .058	34		49		64		79		94			
HL 5	.057		20	HL .053	35		50		65		80		95			
HL 6	.051		21	HR .059	36		51		66		81		96			
HR 7	.060		22	HL .057	37		52		67		82		97			
STRAIGHT 8	.054		23	HR .059	38		53		68		83		98			
STRAIGHT 9	.053		24	HL .056	39		54		69		84		99			
HR 10	.060		25	HR .059	40		55		70		85		100			
STRAIGHT 11	.057		26	STR. .055	41		56		71		86					
HL 12	.054		27	HR .056	42		57		72		87					
HR 13	.059		28	HL .054	43		58		73		88					
HL 14	.053		29	STR. .057	44		59		74		89					
HR 15	.058		30	HL .058	45		60		75		90					

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST #

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/83	7 LWT	FLOOR PLATE COVER

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91841	10, 20, 30	MILL, REAM, DEBURR	8575	

WORK REQUESTED

HINGE HOLE

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/19/83	30

REMARKS: BURRS IN HOLES, SOME ARE THIN WALLED

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
μ = .0940 σ = .0005 RANGE = .093 - .095			

MODEL DWG. DIM. .093 D.A. .095 D.A.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.
# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM.
.095	.094						
.094	.095						
.094	.095						
.094	.094						
.094	.094						
.094	.094						
.094	.094						
.094	.094						
.094	.094						
.094	.093						
.094	.093						
.094	.095						
.093	.094						
.094	.094						
.094	.094						

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENGI	1/6/83	7LWT	FLOOR PLATE COVER

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91841	10,20,30		8575	

WORK REQUESTED

CHECK 3.850 DIM.

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/18/83	30

REMARKS.

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
μ = 3.8447 σ = .00176 RANGE = 3.840 – 3.847			

MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.
3.850							

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.
	3.84-			3.847																		
	3.845			8.846																		
	3.846			3.842																		
	3.844			3.845																		
	3.843			3.847																		
	3.841			3.845																		
	3.842			3.845																		
	3.840			3.847																		
	3.843			3.845																		
	3.846			3.845																		
	3.845			3.846																		
	3.846			3.846																		
	3.843			3.846																		
	3.845			3.845																		
	3.846			3.844																		

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # -

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
New Products Engineering	11-6/83	7LWT	Floor Plate Assy.

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
92255	30	Braze	8579	

WORK REQUESTED

See if cover is being bent at braze

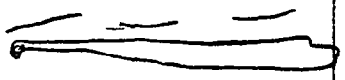
MEASURED BY	DATE	SAMPLE SIZE
G. Barnes	1/25/83	30

REMARKS

Bellying in new after braze, another by 2nd cross member

and ones marked the hinge was distorted

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
			

MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.
1	.012		16	.008		31			46			61			76			91	
2	.006		17	.009		32			47			62			77			92	
3	.009		18	.008		33			48			63			78			93	
4	.002		19	.006		34			49			64			79			94	
5	.008		20	.004		35			50			65			80			95	
6	.005		21	.010		36			51			66			81			96	
7	.007		22	.003		37			52			67			82			97	
8	.006		23	.007		38			53			68			83			98	
9	.011		24	.008		39			54			69			84			99	
10	.010		25	.005		40			55			70			85			100	
11	.009		26	.004		41			56			71			86				
12	.008		27	.003		42			57			72			87				
13	.010		28	.002		43			58			73			88				
14	.007		29	.006		44			59			74			89				
15	.006		30	.005		45			60			75			90				

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/83	7LWT	TRIGGER GUARD PLATE

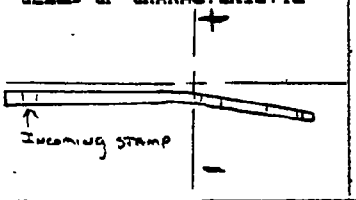
PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91845				

WORK REQUESTED: CHECK FOR STRAIGHTNESS BEFORE BRAZE

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/24/83	30

REMARKS: ALL ARE BENT 29 in one direction 1 in another

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
	$\bar{X} = .0159$ $\sigma = .0114$	disregarding #1 reading $\bar{X} = .0175$ $\sigma = .0076$	

MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.			MODEL DWG.DIM.		
#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	
1	.030	+	16	.010	-	31			46			61			76			91					
2	.020	-	17	.008	-	32			47			62			77			92					
3	.015	-	18	.010	-	33			48			63			78			93					
4	.015	-	19	.015	-	34			49			64			79			94					
5	.015	-	20	.010	-	35			50			65			80			95					
6	.040	-	21	.016	-	36			51			66			81			96					
7	.035	-	22	.017	-	37			52			67			82			97					
8	.022	-	23	.012	-	38			53			68			83			98					
9	.028	-	24	.015	-	39			54			69			84			99					
10	.012	-	25	.015	-	40			55			70			85			100					
11	.012	-	26	.013	-	41			56			71			86								
12	.015	-	27	.020	-	42			57			72			87								
13	.010	-	28	.018	-	43			58			73			88								
14	.030	-	29	.020	-	44			59			74			89								
15	.017	-	30	.022	-	45			60			75			90								

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

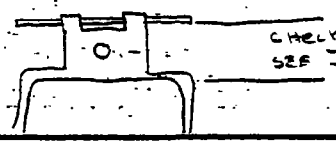
REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/77	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91840	10, 20, 30	MILL SLOT + REAM	8575	

WORK REQUESTED

ORIENTATION OF HINGE TO FLOOR PLATE BASE SHOULDER

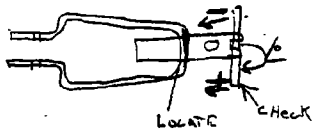


MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/13/83	30

REMARKS.

HINGE HOLE AT ANGLE BUT MILL CUT IS STRAIGHT

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
		$\mu = 0° 21'$ $\sigma = .8'$	

MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.	MODEL DWG.-DIM.
0°							

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.
	0° 15'			0° 20'																		
	0° 25'			0° 20'																		
	0° 15'			0° 15'																		
	0° 25'			0° 15'																		
	0° 20'			0° 20'																		
	0° 20'			0° 30'																		
	0° 30'			0° 20'																		
	0° 19'			0° 25'																		
	0° 25'			0° 37'																		
	0° 22'			0° 10'																		
	0° 25'			0° 25'																		
	0° 15'			0° 20'																		
	0° 8'			0° 30'																		
	0° 30'			0° 20'																		
	0° 30'			0° 25'																		

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST #

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENGINEERING	1/6/83	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91240	10, 20, 30	MILL SLOT + REAM HOLES	8575	

WORK REQUESTED

CLEARANCE CUT FROM ℄ OF HINGE HOLE TO MILL CUT

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/13/83	30

REMARKS

HINGE HOLES AT ANGLE, TOOK AVERAGE READING

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
$\bar{x} = .097$ $\sigma = .0026$			

MODEL DWG. DIM. .105	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.
DIM.	DIM.	DIM.	DIM.	DIM.	DIM.	DIM.	DIM.
.097	.101						
.096	.094						
.100	.097						
.098	.098						
.098	.100						
.096	.098						
.091	.094						
.094	.097						
.096	.097						
.100	.097						
.097	.093						
.101	.101						
.097	.095						
.096	.100						
.093	.098						

MOST PARTS 0°

0°45' TAPER

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG	1/6/83	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91840	10, 20, 30	MILL SLOT + REAM	8575	

WORK REQUESTED

ORIENTATION OF THE HINGE TO THE PARALLEL SURFACES OF THE BASE

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/13/83	30

REMARKS

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
$\bar{X}$ = 1° 11' σ = 14.2'			

MODEL DWG.DIM. 0°	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.	MODEL DWG.DIM.
# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM. X	# DIM.
1°15'	1°						
1°15'	1°15'						
0°50'	1°10'						
1°15'	1°10'						
1°15'	1°30'						
0°-3'	1°15'						
1°0'	1°15'						
1°10'	0°40'						
1°5'	1°10'						
1°5'	1°10'						
1°5'	0°50'						
1°5'	1°25'						
1°15'	1°25'						
1°15'	1°45'						
1°10'	1°40'						

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/83	7LWT	FLOOR PLATE EACE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
91840	10,20,30	MILL SLOT & REAM	8575	

WORK REQUESTED

OVERALL SIZE OF COUNTERSINK

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/13/83	30

REMARKS

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
$\bar{X}$ = .5096 σ = .00198 RANGE: .506 - .512			

MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.		MODEL DWG.DIM.	
.495															
#	DIM. X	#	DIM. X	#	DIM. X	#	DIM. X	#	DIM. X	#	DIM. X	#	DIM. X	#	DIM. X
	.510		.515												
	.510		.510												
	.512		.510												
	.510		.508												
	.510		.508												
	.508		.510												
	.507		.510												
	.506		.510												
	.510		.506												
	.512		.510												
	.508		.508												
	.506		.510												
	.510		.510												
	.512		.512												
	.510		.510												

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PRODUCTS ENG.	1/6/83	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
92256	PURCHASE PART		9289	

WORK REQUESTED

℄ OF HINGE TO PLATE

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	1/26/83	30

REMARKS

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC

DESC. OF CHARACTERISTIC

$\bar{X} = .0017$

$\sigma = .0025$

RANGE = .004 → -.005

DESC. OF CHARACTERISTIC

DESC. OF CHARACTERISTIC

MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.			MODEL CHG.-DIM.		
#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	
1	-.002		16	+.002		31			46			61			76			91					
2	+.002		17	+.002		32			47			62			77			92					
3	+.001		18	-.001		33			48			63			78			93					
4	+.004		19	+.002		34			49			64			79			94					
5	-.001		20	+.003		35			50			65			80			95					
6	+.003		21	0		36			51			66			81			96					
7	+.002		22	-.005		37			52			67			82			97					
8	+.001		23	0		38			53			68			83			98					
9	+.002		24	0		39			54			69			84			99					
10	-.001		25	0		40			55			70			85			100					
11	+.001		26	-.004		41			56			71			86								
12	0		27	-.005		42			57			72			87								
13	0		28	+.001		43			58			73			88								
14	+.003		29	-.005		44			59			74			89								
15	+.005		30	-.003		45			60			75			90								

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST #

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
New Prod. Eng.	1/6/83	7LWT	Floor Plate Base

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
92256	10, 20, 30	Mill Ream DeBurr	9289	

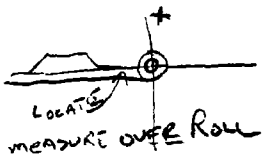
WORK REQUESTED

See change in ℄ after mill + ream to base plate

MEASURED BY	DATE	SAMPLE SIZE
G. Barnes	2/2/83	30

REMARKS

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
	taper is High(+) on Left side	$\bar{X}$ = -.0001 σ = .00127 Range = -.003 → .003	

MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X
1	+.002 taper -.001		16	+.004 taper 0																			
2	0 taper +.001		17	+.007 taper 0																			
3	0 taper +.001		18	+.003 taper -.002																			
4	+.007 taper 0		19	0 taper +.001																			
5	+.002 taper -.001		20	+.002 taper +.001																			
6	+.002 taper +.003		21	+.002 taper +.001																			
7	+.005 taper 0		22	+.005 taper -.001																			
8	+.004 taper -.001		23	0 taper +.001																			
9	+.005 taper +.001		24	+.003 taper -.001																			
10	+.003 taper -.001		25	0 taper 0																			
11	+.001 taper 0		26	+.005 taper -.001																			
12	+.003 taper 0		27	+.002 taper -.001																			
13	0 taper 0		28	+.005 taper -.002																			
14	+.004 taper +.002		29	+.005 taper -.003																			
15	0 taper +.001		30	+.001 taper -.001																			

NOTE: X INDICATES OUT OF TOLERANCE

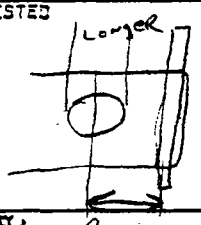
REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PROD. ENG.	1/6/83	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
92256	PURCHASE PART	BEFORE REAM & MILL	9289	

WORK REQUESTED



holes are 249 x 257

MEASURED BY	DATE	SAMPLE SIZE
D. Barnes	1/26/83	30

REMARKS

HOLES OBLONG .008 longer THAN WIDE

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
$\bar{X} = .443$ $\sigma = .0007$ RANGE = .442 → .444			

MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.			MODEL DWG-DIM.		
#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X
	.443			.443																			
	.444			.442																			
	.443			.442																			
	.444			.443																			
	.444			.444																			
	.443			.443																			
	.444			.442																			
	.442			.443																			
	.443			.444																			
	.443			.444																			
	.443			.444																			
	.443			.442																			
	.443			.442																			
	.444			.443																			
	.443			.444																			

NOTE: X INDICATES OUT OF TOLERANCE

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST # —

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
NEW PROD. ENG.	1/6/83	7LWT	FLOOR PLATE BASE

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.
9Z256	10,20,30	MILL REAM DEBURR	9289	

WORK REQUESTED

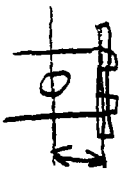
℄ BETWEEN HOLES

MEASURED BY	DATE	SAMPLE SIZE
G. BARNES	2/1/83	30

REMARKS

℄ of HOLES CLOSER AFTER REAM (MAINLY BECAUSE OF EGGSHAPE HOLE BEFORE REAM)

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC
$\bar{X}$ = .438 σ = .00133 RANGE: .435 → .440			

MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.	MODEL DWG. DIM.
.448-.442							

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X
1	.436		16	.437																			
2	.437		17	.438																			
3	.438		18	.435																			
4	.438		19	.438																			
5	.439		20	.439																			
6	.439		21	.438																			
7	.440		22	.437																			
8	.436		23	.440																			
9	.440		24	.438																			
10	.437		25	.440																			
11	.437		26	.440																			
12	.437		27	.438																			
13	.436		28	.439																			
14	.437		29	.440																			
15	.437		30	.438																			

NOTE: X INDICATES OUT OF TOLERANCE

Sample

PURCHASED PART INSPECTION

Part No. 92255 Lot No. _____

Drawing No. _____ Quantity 30

Part Name 7 LWT Floor Plate Cover Blank Gage or Cal. _____

P. O. Number _____ Sample Size 1st 30 /2nd _____

Vendor _____ AQL _____

Date Received _____ Material _____

Inspector RW Date 1-11-83 For Lab _____ Date _____

Accept Lot _____ Reject Lot _____ Accept Mtl. _____ Reject Mtl. _____

Special Notes:

GAGE NO.	DIM.	# IN TOL. 1st	# IN TOL. 2nd	# OUT OF TOL. UNDERMIN-OVERMAX 1st	2nd	1st	2nd	REMARKS
Mics	054 - 050	30						
plug Gage	090 - 075	30						
46036	3" Radius	30						
Calipers	630 - 620	30						
	640 - 630	30						
46055	Pos Gage	30						
46054	Pos of hole	30						
Bac - CL-9	Contour	30						
Lenght	3.960 - 3.950	30						
	155 - 145	30						
Visual	Tool Mark	1						29 pcs Tool Mark on hinge end
	Burrs	30						

RD-6747

Sample

PURCHASED PART INSPECTION

Part No. 92256 Lot No. _____

Drawing No. _____ Quantity 30

Part Name 7 LWT Floor plate Base Blankage or Cal. _____

P. O. Number _____ Sample Size 1st 30 /2nd _____

Vendor _____ AQL _____

Date Received _____ Material _____

Inspector DW Date 1-11-83 For Lab _____ Date _____

Accept Lot _____ Reject Lot _____ Accept Mtl. _____ Reject Mtl. _____

Special Notes: ~~Hng.~~ Hinge End - Had To be Filed To Fit Comp Fixture (OVERSIZE)

GAGE NO.	DIM.	# IN TOL. 1st	# IN TOL. 2nd	# OUT OF TOL. UNDERMIN 1st	UNDERMIN 2nd	OVERMAX 1st	OVERMAX 2nd	REMARKS
Plug Gage	090 - 080	13		17				004-005 undersize
	258 - 251			30				002 undersize
mics	052 - 048	30						
Calipers	405 - 395	30						
45637	448 - 442			30				Flush pin Won't Go
	1.030 - 1.020	30						
	630 - 620					30		
45638	Contour (max)	30						Part Tight
Bac-Ch-10	Profile					30		Parts .030 Low on centerline
	Flatness .002 Top Surface					30		
Visual	Burrs	30						
	Cracks	30						

J. P. LINDE

XC: S. D. Bennett
Z. J. Kowaslki
J. B. Mroz
J. R. Snedeker
R. L. Snedeker
File

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Brad Bosquet,
will you tie this in with the other program on the M17 floor plate?
John

February 2, 1983

TO: L. B. BOSQUET

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

PROBLEM: Final Inspection Rejects - excessive space between Floor Plate Cover and Stock

METHOD: Sample pieces (30) of floor plate base blank, floor plate cover and floor plate pad taken from Purchase Parts and measured for the following dimensions:

A.) Floor plate base blank

1.) All dimension checks for incoming purchase parts.

2.) Dim..448-.442 before operations.

3.) 90° c'sink

4.) Centerline hinge hole to flat of hinge before mill, ream and deburr.

5.) Width of c'sink (.495)

6.) Orientation of hinge to base.

7.) Dimension .448-.442 after operations.

8.) Centerline hinge hole to flat of hinge after mill, ream and deburr.

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

METHOD: contd.

B.) Floor plate cover

1.) All dimension checks for incoming purchase parts

2.) Dimension 3.850

3.) Dimension .055

4.) Contour before opeations

5.) Contour after operations

6.) Diameter of reamed hole (.093-.095)

C.) Floor plate pad

1.) 90° c'sink

2.) Depth of c'sink (.107-.093)

3.) Diameter of hole (.300)

OBSERVATIONS: A.) Floor Plate Base

*1.) Hinge hole undersize

* Take down hole undersize and eggshape

* Width of hinge oversize

* All parts out of parallelism from flat of base to hinge.

2.) Dimension .448-.442 - parts in tolerance (Note: holes are eggshaped)

3.) All parts at 90° c'sink

4.) Centerline hinge hole to flat ranges from .004-.005 before process.

TO: L. B. BOSQUET

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

OBSERVATIONS:

A.) Floor Plate Base - contd.

*5.) C'sink oversize all 30 parts.

6.) Hinge not parallel to base

*7.) Dimension .448-.442 - not in tolerance after mill, ream, deburr.

8.) Centerline of hinge hole to flat ranges from -.003 to .003 after mill, ream and deburr. (Note: ranges before and after may vary due to hinge hole being at taper.)

B.) Floor Plate Cover

1.) Found all 30 parts acceptable

*2.) Dimension .3850 found parts at low limit or below

3.) Dimension .055 found most parts in tolerance.

*4.) Contour on comparator showed both ends to be .010 high.

*5.) Contour after braze showed two variations to a lesser amount with several parts having hinge bent.

6.) .093-.095 hole found to be to model drawing.

C.) Floor Plate Pad

1.) Made 5 castings - found all to be 90°, but not at 4° angle and no .010 step at neck.

TO: L. B. BOSQUET

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

OBSERVATIONS: C.) Floor Plate Pad - contd.

2.) Depth of c'sink in tolerance

Checked pad with the altered c'sink and found to be .114 deep.

NOTE: Thickness varies from .171 to .181 with a .002 to .004 taper which could cause some plates to be higher than others.

*3.) Diameter hole .280-.281 with large burr at bottom.

* Denotes parts vary from model drawing.

NOTE: Full report upon request.

GEB/bdm

XC: G.E. BARNES
L. B. BOSQUET

R.L. SNEDEKER
J.R. SNEDEKER
S.D. BENNETT
Z.J. KOWALSKI
J.B. MROZ

TO: L.B. BOSQUET

FEB. 2, 1983

FROM: G.E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

PROBLEM: FINAL INSPECTION REJECTS - EXCESSIVE SPACE BETWEEN FLOOR PLATE COVER AND STOCK

METHOD: SAMPLE PIECES (30) OF FLOOR PLATE BASE BLANK, FLOOR PLATE COVER, AND FLOOR PLATE PAD TAKEN FROM PURCHASE PARTS AND MEASURED FOR THE FOLLOWING DIMENSIONS

A) FLOOR PLATE BASE BLANK

1) ALL DIM. CHECKS FOR INCOMING PURCHASE PARTS
2) DIM. .448 - .442 BEFORE OPERATIONS
3) 90° C'SINK
4) CENTERLINE HINGE HOLE TO FLAT OF HINGE BEFORE MILL, REAM, AND DEBURR
5) WIDTH OF C'SINK (.495)
6) ORIENTATION OF HINGE TO BASE
7) DIM .448 - .442 AFTER OPERATIONS
8) CENTER LINE HINGE HOLE TO FLAT OF HINGE AFTER MILL, REAM, AND DEBURR

B) FLOOR PLATE COVER

1) ALL DIM. CHECKS FOR INCOMING PURCHASE PARTS
2) DIM. 3.850
3) DIM .055

4) CONTOUR BEFORE OPERATIONS
5) CONTOUR AFTER OPERATIONS
6) DIA. OF REAMED HOLE (.093-.095)

C) FLOOR PLATE PAD
1) 90° C'SINK
2) DEPTH OF C'SINK (.107-.093)
3) DIA. OF HOLE (.300)

OBSERVATIONS: A) FLOOR PLATE BASE
* 1) HINGE HOLE UNDERSIZE
* TAKE DOWN HOLE UNDERSIZE AND EGGSHAPE
* WIDTH OF HINGE OVERSIZE
* ALL PARTS OUT OF PARALLELISM FROM FLAT OF BASE TO HINGE
2) DIM. .448-.442 - PARTS IN TOLERANCE (NOTE: HOLES ARE EGGSHAPED
3) ALL PARTS AT 90° C'SINK
4) CENTER LINE HINGE HOLE TO FLAT RANGES FROM .004 → -.005 BEFORE PROCESS
* 5) C'SINK OVERSIZE ALL 30 PARTS
6) HINGE NOT PARALLEL TO BASE
* 7) DIM. .448-.442 - NOT IN TOLERANCE AFTER MILL, REAM, DEBURR
8) CENTERLINE OF HINGE HOLE TO FLAT RANGES FROM -.003 TO .003 AFTER MILL, REAM, AND DEBURR
(NOTE: RANGES BEFORE AND AFTER MAY VARY DUE TO HINGE HOLE BEING AT TAPER)

B) FLOOR PLATE COVER
1) FOUND ALL 30 PARTS ACCEPTABLE
* 2) DIM. 3.850 FOUND PARTS AT LOW LIMIT OR BELOW
3) DIM. .055 FOUND MOST PARTS IN TOLERANCE

* 4) CONTOUR ON COMPARATOR SHOWED BOTH ENDS TO BE .010 HIGH

* 5) CONTOUR AFTER BRAZE SHOWED TWO VARIATIONS TO A LESSER AMOUNT WITH SEVERAL PARTS HAVING HINGE BENT

6) .093-.095 HOLE FOUND TO BE TO MODEL DRAWING

C) FLOOR PLATE PAD

1) MADE 5 CASTINGS FOUND ALL TO BE 90° BUT NOT AT 4° ANGLE AND NO .010 STEP AT NECK

2) DEPTH OF C'SINK IN TOLERANCE

CHECKED PAD WITH THE ALTERED C'SINK AND FOUND TO BE .114 DEEP

NOTE: THICKNESS VARIES FROM .171 TO .181 WITH A .002 TO .004 TAPER WHICH COULD CAUSE SOME PLATES TO BE HIGHER THAN OTHERS

* 3) DIA. HOLE .280-.281 WITH LARGE BURR AT BOTTOM

* DENOTES PARTS VARY FROM MODEL DRAWING

NOTE: FULL REPORT UPON REQUEST

2 FEB. 83
G. E. BARNES

RECOMMENDATIONS TO ALTER FIXTURES

PART	FIXTURE OR GAGE NUMBER	OBSERVATION	RECOMMENDATIONS
FLOOR PLATE COVER	D-46056	THE SPRING WHICH HOLDS PART ON THE FIXTURE IS SCRATCHING THE PARTS	COAT SPRING WITH PLASTISOL OR DEVCON
FLOOR PLATE COVER	E-46058	INDICATOR ARM PART OF GAGE AND ARE UNABLE TO GAGE FULL CUT ON HINGE	LONGER INDICATOR TIP REQUIRED OR ALTER HOLDING FIXTURE
FLOOR PLATE COVER	E-46060	TAKE DOWN HOLE HAS PROPER POSITIONING BUT THE REAMER FOLLOWS THE ORIGINAL HOLE WHICH IS AT TAPER	NEED BUSHING TO GUIDE REAMER TO CONTROL PROPER POSITIONING
FLOOR PLATE BASE	E-45641 E-45640	HINGE LOCATED IN A "V" ON THE FIXTURE & GAGE. THE HINGE HAS RAISED & DEFORMED METAL AND IS CAUSING A DEFLECTION	GRIND RELIEF IN BOTH THE GAGE & FIXTURE
FLOOR PLATE BASE	E-45644	ALSO LOCATES IN A "V" AND PART HAS BURRS & DEFORMED METAL THE FIXTURE NEEDS ALSO ALLOWS THE REAMER TO FOLLOW THE ALREADY FORMED HOLE	NEEDS RELIEF GROUND IN THE "V" NEEDS A GUIDE BUSHING TO HELP LOCATE HOLE PROPERLY

NO. 14 DATE 2-9-83

TO: L. B. Bosquet

FROM: J. P. LINDE

SUBJECT: M17 Trigger Guard - Floor Plate

DESCRIPTION: Please organize a meeting with R+D, Quality, Engineering and Production on the M17 LWT Trigger Guard-Floor Plate. List the problems for each component and proposed solutions (if they exist).

COMPLETE ACTION: ASAP DATE 2-28-83 DISCRETION

AUTHORITY:

✓	ACT ON OWN. REPORT AT REVIEW.
	ACT, BUT ADVISE. REPORT AT REVIEW.
	ADVISE BEFORE TAKING ACTION.

PROBLEM ANALYSIS SHEET REQUIRED: YES

REPORT: VERBAL ____ NOTE ____ LETTER ✓ REPORT ____

STATUS REPORT REQUIRED: YES

ORIGIN OF REQUEST: BRIDGEPORT MANAGEMENT ____ HCM/HKB ____ JPL ✓ OTHER DEPTS. ____

COMPLETION DATE: 2/28/83

STATUS REPORT DUE:

Floor Plate Base Assembly - Brazing

Responsibility

- Run a controlled test for 1 shift — N.P. Crowe
  - screen or straighten enough Trigger Guard Plates (P250) for one shift of operation — Quality Cont.
  - monitor:
    - improvement in yield due to check flatness spec on Trigger Guard Plate — N.P. Crowe, Qual. Cont.
    - effect of power variations to Tocco. Is there a relationship to specific times of the day in terms of poor braze? — Production
  - overcome difficulty of loading and fluxing parts by investigating possible design changes to provide a mechanical means of assembly prior to braze — Research

Floor Plate Cover Assembly - Brazing

- Continue work on redesign of induction coil — Polley
- Investigation of additional support for FP Cover in brazing fixture will be delayed until coil design is finalized. — Kowalski
- Q.C. report on brazing operation was reviewed. It is felt that the warpage experienced is not excessive.

MODEL KEY

DUC - D.U. COMM
DUS - D.U. SPECIAL
BAC - BOLT ACTION CARBINE
4LE - MODEL FOUR LIMITED EDITION

TRIAL & PILOT START KEY EVENTS

ENGINEER	MOD	COMPONENT	PROCESS RECORD ISSUED	TRIAL & PILOT NOTIFICATION	COMPONENT WITHDRAWAL	T & P START
Bottini	DUC	Barrel & Barrel Ass'y	ISSUED	ISSUED		2/15
Kowalski	DUC	Rec. & Rec. Ass'y	ISSUED	ISSUED	ISSUED	2/15
~~Bottini~~	~~4LE~~	~~Receiver~~				~~2/19~~
Poore	DUC	Fore-end	ISSUED	ISSUED		2/22
Poore	DUC	Stock Ass'y	ISSUED	ISSUED		2/22
Kowalski	DUS	Rec & Rec Ass'y	ISSUED	ISSUED		2/22
Bottini	DUS	Barrel & Barrel Ass'y	ISSUED	ISSUED		2/22
Bottini	4LE	Receiver Ass'y	ISSUED	ISSUED		3/5
Orf	BAC	Stock				3/12
Bennett	DUC	Trigger Plate Ass'y	ISSUED	ISSUED		3/15
Orf	4LE	Stock (Aluminum master)				3/19
Poore	4LE	Stock	ISSUED	ISSUED		3/19
Bennett	DUS	Trigger Plate Ass'y	ISSUED	ISSUED		3/22
~~Kowalski~~	~~4LE~~	~~Upset & Drilled Bbl Blank~~				~~3/26~~
Kowalski	DUC	Final Assembly	ISSUED	ISSUED		4/1
Poore	4LE	Fore-end	ISSUED	ISSUED		4/2
~~Kowalski~~	~~4LE~~	~~CFM Barrel Blank~~				~~4/2~~
Kowalski	4LE	Rear Sight Base	ISSUED			4/2
Kowalski	DUS	Final Assembly	ISSUED	ISSUED		4/5
Polley	4LE	Fore-end Tip Spacer				4/9
Bennett	4LE	Magazine	ISSUED	ISSUED		4/9
KOWALSKI	4LE	BARREL - FINAL SUB ASSEMBLY	ISSUED			
KOWALSKI	DUS	STOCK - RECEIVER ASSEMBLY	ISSUED	ISSUED		3-15
KOWALSKI	DUC	STOCK - RECEIVER ASSEMBLY	ISSUED	ISSUED		3-18

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TRIAL & PILOT START KEY EVENTS

ENGINEER	MOD	COMPONENT	PROCESS RECORD ISSUED	TRIAL & PILOT NOTIFICATION	COMPONENT WITHDRAWAL	T & P START
Bennett	4LE	Operating Handle	ISSUED	ISSUED		4/9
~~Kowalski~~	~~4LE~~	~~Barrel~~				~~4/9~~
Kowalski	4LE	Front Sight Ramp	ISSUED			4/16
Poore	4LE	Fore-end (Profiled)	ISSUED			4/23
Poore	4LE	Stock (Profiled)	ISSUED			4/23
Kowalski	4LE	Barrel Assembly	ISSUED			4/23
Bennett	4LE	Fore-end Cap	ISSUED	ISSUED		4/30
Bennett	4LE	Trigger Plate	ISSUED	ISSUED		4/30
Poore	4LE	Fore-end Ass'y	ISSUED			5/7
Kowalski	4LE	Rear Sight Assembly	ISSUED			5/7
Bennett	4LE	Magazine Assembly	ISSUED	ISSUED		5/14
Poore	4LE	Stock Assembly	ISSUED			5/14
Bennett	4LE	Fore-end Screw	ISSUED	ISSUED		5/21
Bennett	4LE	Trigger Plate Assembly	ISSUED	ISSUED		5/21
Kowalski	4LE	Barrel Assembly Comp.	ISSUED	ISSUED		5/21
Kowalski	BAC BAC	RECEIVER BLANK Receiver	ISSUED ISSUED	ISSUED ISSUED	ISSUED - 150 ISSUED - 150	6/11
Ciecko	BAC	Barrel Blank				6/18
Kowalski	4LE ~~BAC~~	Stock - Receiver Ass'y	ISSUED			7/2
Bennett	BAC	Floor Plate Cover				7/9
Bennett	BAC	Mag. Spring Retainer				7/9
Kowalski	4LE	Final Assembly	ISSUED			7/16
KOWALSKI	4LE	BARREL FINAL ASSEMBLY	ISSUED			

MODEL KEY

DUC - D.U. COMM
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TRIAL & PILOT START KEY EVENTS

ENGINEER	MOD	COMPONENT	PROCESS RECORD ISSUED	TRIAL & PILOT NOTIFICATION	COMPONENT WITHDRAWAL	T & P START
Bennett	BAC	Floor Plate Base				7/16
Kowalski	BAC	Floor Plate Cover Ass'y	ISSUED			7/23
Bottini	BAC	Bolt Body Assembly				8/13
Bennett	BAC	Trigger Guard Plate	ISSUED			8/13
Kowalski	BAC	Floor Plate Base Ass'y	ISSUED			8/20
Bennett	BAC	Bolt Handle				9/3
Bottini	BAC	Bolt Plug				9/3
Polley	BAC	Floor Plate Pad				9/3
Bottini	BAC	Barrel & Barrel Ass'y				9/10
Kowalski	BAC	Front Sight Ramp	ISSUED			9/10
Bennett	BAC	Safety Assembly				9/10
Bennett	BAC	Safety				9/10
Bennett	BAC	Safety Button				9/10
Bottini	BAC	Bolt Assembly				9/17
Bennett	BAC	Front Sight Ramp Screw				9/17
Korba	BAC	Bolt Stop Release	ISSUED			9/24
Bennett	BAC	Floor Plate Latch				9/24
Korba	BAC	Rear Guard Screw				10/1
Korba	BAC	Trigger Assembly				10/1
Korba	BAC	Trigger Guard				10/1
Kowalski	BAC	Final Assembly				10/29
KOWALSKI	DU TRADE	RECEIVER " ASSEMBLY STOCK REC. ASSEMBLY FINAL ASSEMBLY				

get copy of report from Ziggy

2-16-83

Floor Plate Base

Blank - review and list all problems to be resolved.
with vendor

- Mill slot for hinge - no problem
- Gaging for mill and ream opers adequate

Floor Plate Base Assy.

- Brazing operation - approx. 20% - 30% scrap
  - XTDR issued to release part after braze.
  - Trigger Guard Plate not flat as received from vendor
  - Poor and inconsistent braze
  - Check material because running part comes then to get brittle.
  - Burned areas on legs - flux being removed before heat is applied?
  - Tocco braze unit -
    power surges? control available power - ? monitor?
  - * preassemble Base Assembly prior to braze
  - are we checking flatness on Trigger Guard Plate?

new coloring racks have been designed to eliminate chipping

Floor Plate Cover - Incoming ends P.010 tight good - check one fixture

- Machining -
  - 3.850 dims. running undersize
  - marring at milling operation - TDR in to resolve
  - coloring - mars - new rack designed to provide separation
  -

- Brazing operation - P 5% scrap
  - warpage ≈ .010 as rec'd ≈ at braze (maybe from coil from hot spots)
  - investigate better support

- check sand tumble operation - if not accomplishing anything - remove - (sharp edges cut into wood)
- Ron Polley - working on new coil design - help from Tocco?
- 100% until we get out of trouble.
- soak enough for an 8 hr run (250)

Assembly -

- improper deburring - review and correct filing.
- binding at hinge area

- Meeting : 2/16/83 at 2:30 PE&C C.R.
  List all pertinent problems (don't try to resolve them at this time) problem ----- effect -----

- Review list - if necessary, establish a ranking from most severe to minor.
  have typed - send to all - request input (if any) from Production.

- Establish a solution and time/dollar estimate for resolving each problem - if a solution exists.

- Schedule a follow-up meeting and review proposals with everyone.

- Issue letter and schedule to John Linder by 2-28

Brad Bosquet,
when is the
report with the
tasks, completion
dates, and responsibilities

TOM

xc: J. P. Linde
S. D. Bennett
J. B. Mroz
R. D. Polley

February 16, 1983

A meeting was held this date to discuss problems involving the Model Seven Floor Plate Base Assembly - Floor Plate Cover Assembly and their related components. Present were:

L. B. Bosquet	W. L. Ganey
J. W. Brooks	J. A. Harter
D. E. Bullis	J. W. Kelly
G. E. Barnes	Z. J. Kowalski
P. C. Earl) IN	
W. Roark) TURN	

The purpose of the meeting was to generate as complete a list as possible of problems being encountered with these components. This initial meeting concentrated mainly on the components as they are received from the vendors and are processed through to final assembly. Noted were:

- Floor Plate Base Blank
  See attached Quality Control report.

- Floor Plate Base - Machining Operations
  Mill slot in hinge - production has no problems with this operation. Fixturing and gaging appears to be adequate.

  Ream Front Take Down Screw Hole and Hinge Pin Hole
  Fixturing and gaging appears to be adequate. Quality Control study indicates that all hinge pin holes are angled relative to the rest of the part.

- Trigger Guard Plate
  Parts are not flat as received from the vendor. Model drawing calls for parts to be flat within .010. Purchase Parts Inspection procedure to be reviewed and vendor will be contacted.

- Floor Plate Base Assembly - Brazing Operation
  The brazing of this assembly is yielding approx. 25-30% scrap.
  - assembled FPBA difficult to remove from fixture after braze. A TDR has been issued (ZK-199) to provide a means of removing assembly without damage.

- poor and/or inconsistent braze
  flatness and/or straightness of parts could be a contributor.
  power supplied to TOCCO unit appears to vary during the shift.

- difficult to flux and load parts and position brazing preform.

- Floor Plate Cover Blank
  As received from the vendor, the blank is dimensionally good. The only problem appears to be that the ends are approximately .010 higher than the center. One Purchase Inspection gage appears to mar the surface.

- Floor Plate Cover - Machining Operations
  3.850 ±005 dims is running slightly undersize. It was found that a clamp at the milling operation was marring the surface. This will be taken care of by changing the clamp surface from steel to nylon.

- Floor Plate Cover Assembly - Brazing Operation
  This brazing operation runs better than the Floor Plate Base Assembly. It produces approximately 5% scrap.

  The main problem noted at this operation is a slight warpage in two areas. This may be the result of hot spots developed in the heating cycle. Work is in progress on the redesign of the induction coil.

  A TDR will be issued to revise the fixture to provide additional support for the part during braze. This work will have to be coordinated with any change to the coil.

  A question was raised concerning the efficiency of the sand tumble in removing sharp edges which cut into the Stock finish. It was also pointed out that some deformation of the Magazine Spring Retainer may be caused by this operation. An operation will be added to check for warpage 100% until coil and fixture design is finalized.

- Final Assembly Problems

  The main problem mentioned was the binding of the hinge. It is felt that this is caused by improper deburring of the mill cuts. This operation will be reviewed by the engineer and the filers will be reinstructed.

Another cause for binding is covered on the attached study done by Quality Control. The hinge as formed by the vendors runs at an angle. This condition will be corrected.

Steps have been taken to eliminate poor coloring on the Cover and Base Assemblies. New racks have been designed - one in use for Floor Plate Cover (approx. 120/rack), one for Floor Plate Base due by 2/18.

- Functional Problems

  The single most critical functional problem is the unlatching of the Floor Plate Cover when the gun is fired. This problem is being actively worked on by another group, but if any solutions come out of this committee, they will be implemented. Bending of Floor Plate Covers - thicker material samples are being machined and will be tested to see if any improvement is noted. Thicker Trigger Guard Plates are available and a request has been issued to obtain thicker Floor Plate Base Blanks from the vendor.

LBB:hf
Attach.

Xc: S. D. Bennett
J. W. Brooks
D. E. Bullis
G. E. Barnes
P. C. Earl
W. L. Ganey
J. A. Harter
J. W. Kelly
Z. J. Kowalski
J. B. Mroz
R. D. Polley

Brad Bosquet,
I would like each item broken into tasks as you have them with a scheduled completion date.
John

February 23, 1983

J. P. LINDE

RE: MODEL SEVEN FLOOR PLATE BASE, ETC. - PRODUCTION PROBLEMS

Attached is a list of items requiring follow up which came out of the meeting held 2/16. Responsibilies have been assigned for each item.

L. B. Bosquet

LBB:hf
Attach.

- FLOOR PLATE BASE BLANK

  - Review Purchase Inspection procedure. Is it adequate based on experience gained to date? — Bennett, Quality

  - Send marked print to vendor indicating the results of Quality Control's study. Work up a program to resolve problem areas. — Bennett, Purchasing

  - Marked prints have been sent to vendor requesting samples from thicker material (.062). — Bennett, Purchasing

- FLOOR PLATE BASE (MACHINING OPERATIONS)

  - Review the .100 ± .005 slot in the hinge. Engineering layouts indicate a potential bind condition at assembly. Engineering recommends that this dimension be changed to .115 ± .005. — Research, Bennett

  - Review reaming operation to verify that part is located correctly. — Bennett

  - Review filing operation - is it adequate? Is it being done correctly? — Bennett

- TRIGGER GUARD PLATE

  - Quality Control study shows these parts are bent as much as .035. The model drawing calls for parts to be flat w/in .010. Review gaging of incoming parts. — Bennett

  - Samples of Trigger Guard Plates have been received made from .062 material. They were assembled and turned over to Research for testing 2/22. — Kowalski, Research

- FLOOR PLATE BASE ASSEMBLY

  - Brazing operation

    Bent Trigger Guard Plates may be a contributor to the brazing problems. Run a controlled study for one (1) shift using screened or straightened Trigger Guard Plates (approx. 250). Monitor the output to determine effect of flatness on yield. This study should also indicate whether or not there is a relationship between poor braze and specific times during the shift. — Kowalski, Polley, Production, Quality Control

TDR (ZK-199) has been issued to make removal of assemblies from the brazing fixture easier.	Kowalski Tool Design
- TDR's (ZK-197 and 198) have been issued to alter the drill jig and pinning gage for positioning and sizing the rear take-down screw hole.	Kowalski Tool Design

- FLOOR PLATE COVER BLANK

- review gaging of hinge pin hole as formed by vendor. We should check to be sure this is 90° to long axis of part and parallel to the flat portion of the tab.	Bennett

- FLOOR PLATE COVER - PROCESSING

- review reaming operation (Production has no problems with this operation) to verify that drill jig is orienting part correctly.	Bennett
- sharp edges at Latch end of part are cutting into the finish on the Stock. Run a sample of parts through sand tumble prior to brazing operation.	Bennett Production Research
- review deburring operation - is it adequate? Is it being done properly?	Bennett
- obtain quotation and lead times to go to thicker material (.062 or possibly .078).	Bennett Purchasing

- FLOOR PLATE COVER ASSEMBLY - BRAZING

- continue work already in progress to redesign induction coil for better heat. Redesign of brazing fixture to add additional support (if possible) will be investigated when coil design is finalized.	Polley Kowalski
- Thicker Floor Plate Covers (.062 material) have been processed and are ready for braze. They will be turned over to Research for testing by 2/28.	Production Kowalski Research

LBB:hf

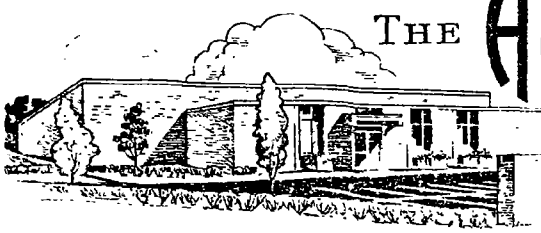
- ALTERING THE COINING PUNCH WHICH CREATES THE SERRATIONS ON THE FINGERPIECE AND,
- A NEW COINING DIE FOR SERRATING THE FINGERPIECE. THE BEST ESTIMATE FOR A NEW DIE AND ALTERED PUNCH IS 3-4 WEEKS.

L. B. Bragnet 3/14/83

1 gun 2 rounds
lower range

8:30
Evan Ritchie

cc: J. Brooks
B. Bosquet
J. Mroz



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4650 TIEDEMAN ROAD
CLEVELAND, OHIO 44144

February 28, 1983

Remington Arms Company, Inc.
Ilion, New York 13357

Attention: D. D. Ricci

Reference: #92256 Floor Plate Base

Dear Dwayne:

In reply to your letter of February 14, 1983, we find the following and make suggestions as noted below:

1. The .251/.258 diameter hole should be changed to .248/.256 as this diameter is line contact only and will always be egg shaped. It would be better on the low side to always assure ream stock.

2. The .080/.090 diameter hole should be changed to .078/.088 as this diameter will change with stock thickness variations.

3. The .442/.448 dimension should be eliminated as H & P manufactures to the 1.025 dimension.

4. The .620/.630 dimension over the hinge pin should be changed to .633/.645. H & P noted their quotation stated Remington to machine. This width over the roll will change with stock thickness variations.

5. The parallelism of the hinge platform to the legs are $90^{\circ} \pm 30'$. H & P checks as $90^{\circ} + 38'$. We believe there should be common methods of checking. Material thickness and chemistry will affect the squareness. Would suggest a sizing operation if this condition gets out of control.

6. The .215/.225 dimension H & P checks as .218/.221. We believe there should be common methods of checking.

We have checking fixtures on hand that need considerable rework to make them usable.

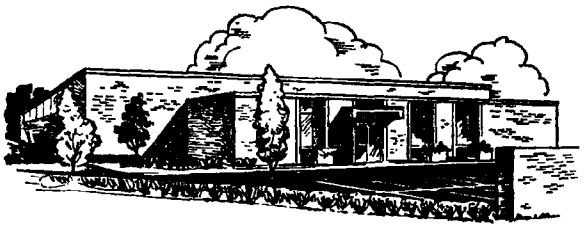
Yours sincerely,

Frank Ambrose

Frank Ambrose

rn

QUOTATION



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4650 Tiedeman Road • Cleveland, Ohio 44144

To Remington Arms Co., Inc.
Ilion, N. Y. 13357

Attn: D. D. Ricci

Date March 4, 1983

Terms 1% 10 days—30 days NET

F.O.B. Our Plant—Cleveland, Ohio

Gentlemen:

Replying to your inquiry of.....we take pleasure in quoting as follows:

Quantity	Description	Price
	Part Number 91840 Base 92256 Blank	
	Temporary tools and engineering to drop bottom of hinged platform in line with top of legs radius to be approx. .035 rad. Twelve (12) piece sample.	
	Total:	$1400.00

requires a model drawing change to add relief notches to blank drawing which have to go into the rail connector section .020/.025

Research contacted 3-9-83

The above Quotation is subject to acceptance within 30 days from date hereof; thereafter, prices are subject to change without notice, according to fluctuation of market prices of material, over which we have no control. We are not responsible for delays in deliveries due to strikes and conditions beyond our control.

Very truly yours,

H & P DIE & STAMPING CO.

By.....

H&P - 3-9-83 M/7 Floor Plate Base

8000 pcs ~~used~~ Remington

3000 shipped with .495 over.

corrected .495 & balance will be to corrected dim

---

on rush order - after above order is complete!

$1400.00 will cover alt. to permanent tlg - pull front pad in position and add relief notches - maintain .015 radius (may require .020 - .025 deep on notch.)

MARKED PRINTS TO REFLECT AFFECT OF ADD'L MAT'L THICKNESS WHERE APPLICABLE (MAINTAIN INSIDE DIMS PER J. BROOKS)

2 PRINTS TO D. RICCI, 1 TO J. BROOKS, 1-LBB

3-10-83

CHANGE .414 DIM ON MARKED PRINT TO TAKE ADD'L MAT'L. THICKNESS TO INSIDE PER D. BULLIS - CHANGED TO .394

CONTACTED PURCH & H&P - WILL REQUIRE ADD'L MONEY AS QUOTE WAS BASED ON USING PORTIONS OF EXISTING TOOLING WHERE POSSIBLE. THIS CHANGE REQUIRES HOLDING INSIDE DIM FOR MAG. OPENING BUT CLOSING IT IN UNDER THE TRIGGER GUARD PLATE.

H&P - THIS WILL AFFECT A SERIES OF FORM TOOLS - COST ADD'L. AND DELAY SAMPLES

REMINGTON - STAY WITH .414 FOR SAMPLES - CHANGE IF .062

MATERIAL WILL BE MADE PERMANENT

14 MARCH 1983

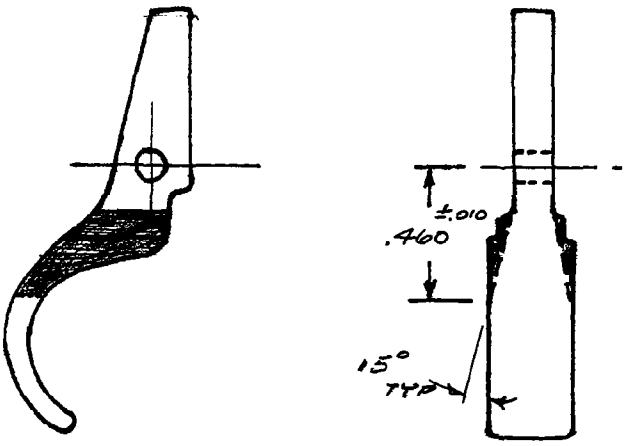
J.P. LINDE

RE: MODEL SEVEN LIGHTWEIGHT TRIGGER.

PROBLEM: POTENTIAL FOR BINDING ON SIDE OF TRIGGER SLOT IN TRIGGER GUARD PLATE.

SOLUTION:

- IMMEDIATE - PROVIDE ADDITIONAL CLEARANCE ON BOTH SIDES OF TRIGGER (15280) BY SETTING UP A MILLING OPERATION. CURRENT PRODUCTS IS WORKING ON A FIXTURE AND CUTTER TO ACCOMPLISH THIS.



- LONG-RANGE SOLUTION IS TO CHANGE THE P/M BLANK (91912) THIS REQUIRES:
  - ALTERING UPPER & LOWER PRESSING PUNCHES. ALTERATION CAN BE DONE ON PLANT.
  - ALTERING UPPER & LOWER COINING PUNCHES. ALTERATION CAN BE DONE ON PLANT

3-16-83 Model Seven LWT Silver Plate Base Blank

H&P

3½ - 4½ wks from order point 

Thicker S.P.B. Blank (.062 mat'l)

O.T. has been authorized - will letter del. by P 1 wk

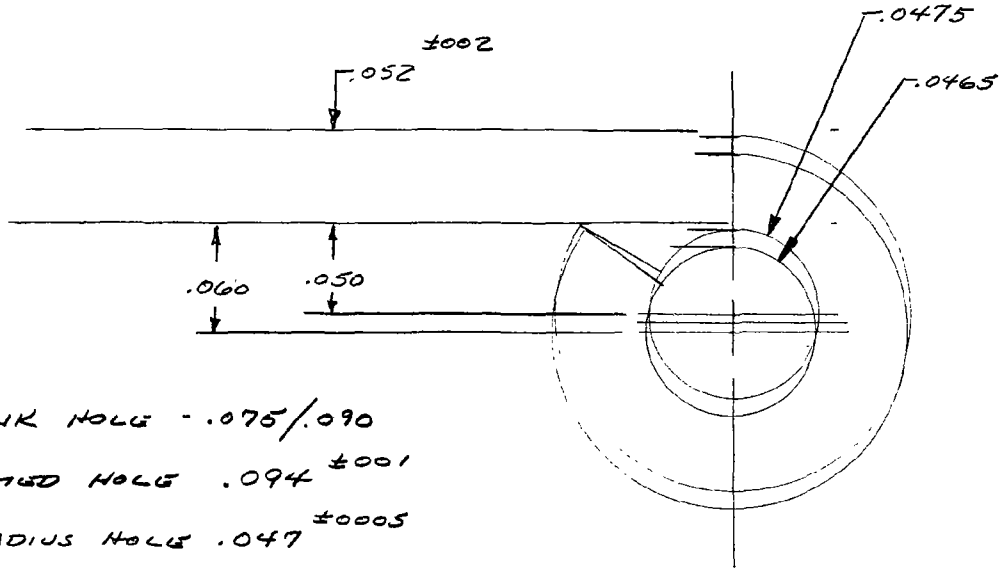
Go ahead given H&P 3-9

samples due wk of 3/28 or 4/4

Randy & Joe, Keith, Jerry.

Joe Regal

April 23



BLANK HOLE - .075/.090

REAMED HOLE .094 ±001

RADIUS HOLE .047 ±0005

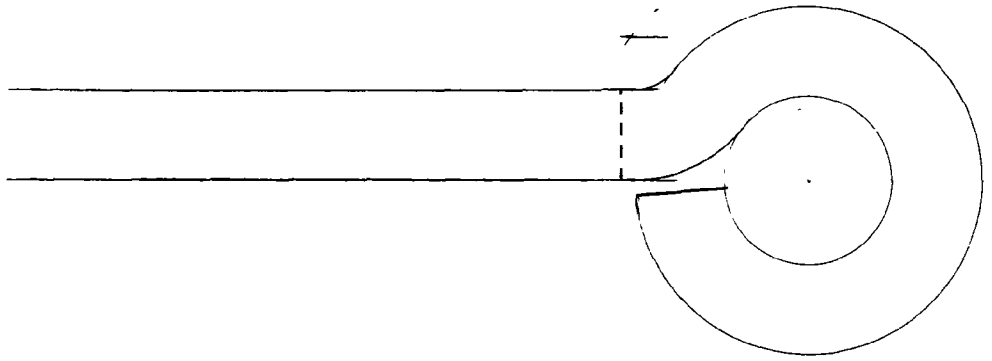
MAX MAT'L.	.054	MIN MAT'L	.050	CAN BE .014 MAX.
MAX TO ℄ HOLE	.060	MIN TO ℄ HOLE	.050	STOP AT TOP
	.114		.100	

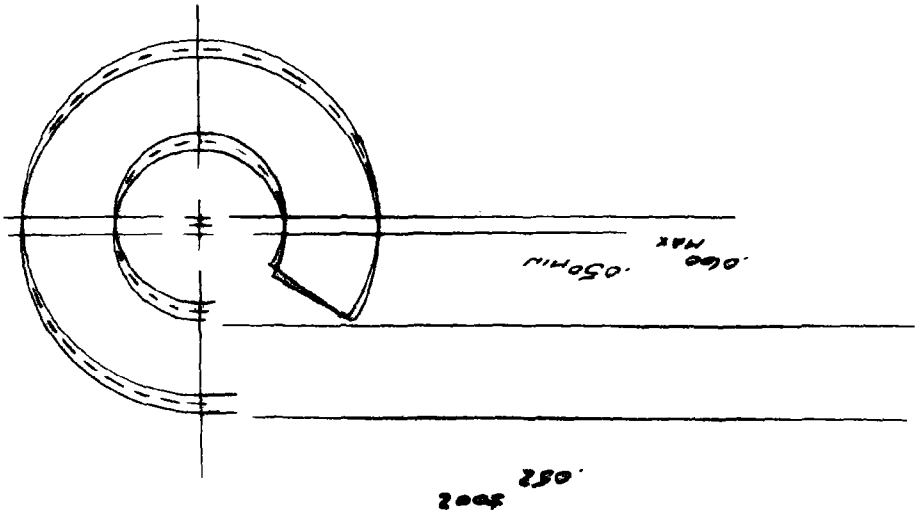
THIS COULD ALSO CAUSE:

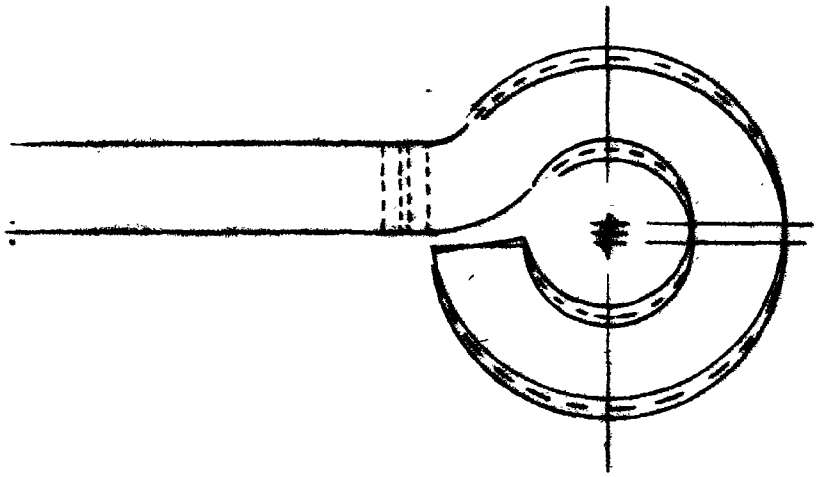
- HOLE TO BE REAMED AT AN ANGLE RELATIVE TO OUTSIDE
- THIN WALL CONDITION
- BINDING AT ASSEMBLY

* VERIFY .055 ±005 POSITION OF HINGE HOLE IN BLANK AND REMOVE DRILL BUSHING AND ALLOW REAMER TO FLOAT

* CHECK DRILL JIG TO BE SURE PART IS LOCATED WITH HINGE HOLE VERTICAL IN BOTH DIRECTIONS




.250
.250 MIN
.000 MAX



38

DON'T SAY IT—*WRITE IT*

To J. P. LINDE Date 3-17-83

From L. B. BOSQUET

Re: MODEL SEVEN LWT - REVISED TRIGGER

COSTS AND LEAD TIMES TO REVISE P/M TOOLING TO PROPOSED TRIGGER DESIGN.

PRESSING TOOLS :	NO CHANGE TO DIE	
	ALTER UPPER & LOWER PUNCHES IN HOUSE	2-3 DAYS
COINING TOOLS :	NO CHANGE TO DIE	
	ALTER UPPER & LOWER PUNCHES IN HOUSE	2-3 DAYS
COINING TOOLS - FINGERPIECE SERRATIONS :	NEW DIE	
	ALTER UPPER PUNCH	4 WEEKS
	(ALLOW A 1 WEEK TO CHANGE DRAWINGS AND SHIP TOOLING)	1 WEEK

TOTAL COST ESTIMATED AT $5000.00 LEAD TIME AT 5 WEEKS

"YOUR SAFETY ATTENTION MEANS ACCIDENT PREVENTION"

DATE 6-15-83 3-14-83	MODEL SEVEN LIGHTWEIGHT BOLT ACTION CENTERFIRE RIFLE	308 Win.	6mm Rem.	243 Win.	7mm-08	222 Rem.	.223 Rem.
SHEET 1 OF 3	Dotted line (– – – –) indicates same part number.						
DWG NO	PART NAME						
		PART NUMBERS					
B-21460	BARREL ASSEMBLY COMPLETE	21460	21461	21462	21463	21464	21465
D-34990	Barrel Assembly	34990	34991	34992	34993	34994	34995
D32725	Barrel (Blank 92252)	32725	32726	32727	32728	32729	32730
B-15279	Barrel Bracket (Blank A-15128)	15279	---	---	---	---	---
D-91876	Receiver (Blank B-31485- 31487)	91876	---		---		
C-91877	Receiver (Blank B-31485)					91877	---
C-91882	(Bbl & Rec. Marking)						
D-34970	Bolt Assembly	34970	---	---	---	34971	---
D-28735	Bolt Body Assembly	28735	---	---	---	28737	---
C-15407	Bolt Body	15407	---	---	---	---	---
C-28500	(Body Blank	28502	---	---	---	---	---
A-18493	Bolt Body Brazing Slug	18493	---	---	---	---	---
D-28665	Bolt Head (Blank C-32820)	28665	---	---	---	28667	---
A-18758	Bolt Pin	18758	---	---	---	---	---
B-17011	Ejector Washer	17011	---	---	---	---	---
B-92229	Bolt Handle (Blank D-92227)	92229	---	---	---	---	---
C-20185	Brazing Shim	20186	---	---	---	---	---
A-17017	Ejector (Blank A-13974)	17017	---	---	---	---	---
A-17676	Ejector Pin (Blank A-91802)	17676	---	---	---	---	---
A-17019	Ejector Spring	17019	---	---	---	---	---
C-91816	Extractor (Blank A-90523)	91816	---	---	---	---	---
C-91906	Extractor (Blank A-90522)					91906	---
C-15373	Front Sight (Blank C-90393)	15373	---	---	---	---	---
C-15719	Front Sight (Alternate)(Blank C-90425)	15719	---	---	---	---	---
B-92081	Front Sight Ramp (Blank B-92080)	92081	---	---	---	---	---
B-92084	Front Sight Ramp Screw (2) (Blank 92247)	92084	---	---	---	---	---
B-28505	Rear Sight Base Screw (2) (Blank B-90347)	28505	---	---	---	---	---
B-32520	Rear Sight Assembly	32524	---	---	---	---	---
C-32510	Rear Sight Aperture (Blank C-32535)	32510	---	---	---	---	---
C-91595	Rear Sight Base (Blank C-32530)	91595	---	---	---	---	---
C-90905	Rear Sight Slide (Blank C-90925)	90905	---	---	---	---	---
B-90906	Elevation Screw (Blank B-91910)	90906	---	---	---	---	---
B-90904	Windage Screw (Blank B-91911)	90904	---	---	---	---	---
A-28600	FIRING PIN ASSEMBLY	28601	---	---	---	---	---
A-92288	Bolt Plug (Blank C-15674)	92288	---	---	---	---	---
B-15410	Firing Pin (Blank B-16509)	15410	---	---	---	---	---
B-17022	Firing Pin Cross Pin	17022	---	---	---	---	---
C-23320	Firing Pin Head (Blank B-27975)	23321	---	---	---	---	---
A-15411	Main Spring	15411	---	---	---	---	---

DATE 4-29-82 6-15-83		MODEL SEVEN LIGHTWEIGHT BOLT ACTION CENTER FIRE	308 Win.	6mm Rem.	243 Win.	7mm-08	222 Rem.	223 Rem.
SHEET OF	2 3	Dotted line (– – – –) indicates same part number.						
DWG. NO.		PART NUMBER						
			PART NUMBERS					
C-15412		Bolt Stop (Blank 92253)	15412	– – –	– – –	– – –	– – –	– – –
C-24475		Bolt Stop Pin	24484	– – –	– – –	– – –	– – –	– – –
A-15413		Bolt Stop Spring	15413	– – –	– – –	– – –	– – –	– – –
C-22035		Front Guard Screw (Blank C-28810)	22037	– – –	– – –	– – –	– – –	– – –
C-16715		Magazine (Blank C-91934)	16715	– – –	– – –	– – –	– – –	
B-16716		Magazine (Blank C-17971)					16716	– – –
A-92455		Magazine Follower (Blank C-92454)	92455	– – –	– – –	– – –		
A-92508		Magazine Follower (Blank C-92507)					92508	– – –
B-15286		Magazine Spacer (Blank B-91936)					15286	– – –
A-15699		Magazine Spring (Blank 13713)	15699	– – –	– – –	– – –		
C-91905		Magazine Spring					91905	– – –
B-91881		Rear Guard Screw (Blank 92248)	91881	– – –	– – –	– – –	– – –	– – –
B-17034		Receiver Plug Screw (3) (Blank B-91913)	17034	– – –	– – –	– – –	– – –	– – –
C-24475		Sear Pin (2)	24476	– – –	– – –	– – –	– – –	– – –
A-100010		STOCK ASSEMBLY WALNUT	100010					
D-91544		Recoil Pad	91544	– – –	– – –	– – –	– – –	– – –
C-25410		Recoil Pad Screw (2) (Blank C-91916)	25410	– – –	– – –	– – –	– – –	– – –
B-15651		Reinforcing Screw	15651	– – –	– – –	– – –	– – –	– – –
E-91950		Stock Checkering Pattern D-91977)	91950	– – –	– – –	– – –	– – –	– – –
A-15358		Swivel Screw (2)	15358	– – –	– – –	– – –	– – –	– – –
D-91780		Grip Cap	91780	– – –	– – –	– – –	– – –	– – –
C-91779		Grip Cap Insert	91779	– – –	– – –	– – –	– – –	– – –
A-25380		Grip Cap Screws (2) (Blank A-91914)	25380	– – –	– – –	– – –	– – –	– – –

DATE 12-6-82 6-15-83		MODEL SEVEN LIGHTWEIGHT BOLT ACTION CENTER FIRE RIFLE						
SHEET OF	3 3	Dotted line (– – – –) indicates same part number.	.308 Win..	6mm Rem.	.243 Win.	7mm-08	.222 Rem.	223 Rem.
DWG. NO.		PART NAME						
			PART NUMBERS					
D-92458		TRIGGER ASSEMBLY	92458	– – –	– – –	– – –	– – –	– – –
C-91828		Bolt Stop Release (Blank 92251)	91828	– – –	– – –	– – –	– – –	– – –
B-91853		Safety Assembly	91853	– – –	– – –	– – –	– – –	– – –
C-91851		Safety	91851	– – –	– – –	– – –	– – –	– – –
C-91852		Safety Button	91852	– – –	– – –	– – –	– – –	– – –
B-23220		Safety Detent Ball	23222	– – –	– – –	– – –	– – –	– – –
A-15368		Safety Detent Spring	15368	– – –	– – –	– – –	– – –	– – –
B-17043		Safety Pivot Pin (Blank B-91918)	17043	– – –	– – –	– – –	– – –	– – –
A-17044		Safety Snap Washer	17044	– – –	– – –	– – –	– – –	– – –
C-15666		Sear Safety Cam (Blank C-91919)	15666	– – –	– – –	– – –	– – –	– – –
A-17047		Sear Spring	17047	– – –	– – –	– – –	– – –	– – –
C-15280		Trigger (Blank C-91912)	15280	– – –	– – –	– – –	– – –	– – –
B-17053		Trigger Screw Front (Blank B-91920)	17053	– – –	– – –	– – –	– – –	– – –
C-19461		Trigger Connector (Blank C-91921– C-91937)	19461	– – –	– – –	– – –	– – –	– – –
B-91128		Trigger Engagement Screw (Blank B-91922)	91128	– – –	– – –	– – –	– – –	– – –
C-26655		Trigger Housing Assembly	26655	– – –	– – –	– – –	– – –	– – –
A-14632		Trigger Housing Rivet (4)	14632	– – –	– – –	– – –	– – –	– – –
B-14630		Trigger Housing Spacer (Blk B-91923)	14630	– – –	– – –	– – –	– – –	– – –
B-14631		Trigger Housing Spacer, Rear (Blank B-91924)	14631	– – –	– – –	– – –	– – –	– – –
C-30780		Trigger Side Plate, Right (Blank C-32785)	30780	– – –	– – –	– – –	– – –	– – –
C-30780		Trigger Side Plate, Left	30781	– – –	– – –	– – –	– – –	– – –
C-24475		Trigger Pin	24477	– – –	– – –	– – –	– – –	– – –
A-15400		Trigger Spring	15400	– – –	– – –	– – –	– – –	– – –
A-15481		Trigger Stop Screw (Blank A-91926)	15481	– – –	– – –	– – –	– – –	– – –
C-91850		Floor Plate Base Assembly	91850	– – –	– – –	– – –	– – –	– – –
C-91840		Floor Plate Base (Blank 92256)	91840	– – –	– – –	– – –	– – –	– – –
A-92576		Floor Plate Base Brazing Preform	92576	– – –	– – –	– – –	– – –	– – –
B-91845		Trigger Guard Plate	91845	– – –	– – –	– – –	– – –	– – –
1st C-91842		Floor Plate Cover Assembly	91842	– – –	– – –	– – –	– – –	– – –
2nd C-91841		Floor Plate Cover (Blank 92255)	91841	– – –	– – –	– – –	– – –	– – –
A-92577		Floor Plate Cover Brazing Shim	92577	– – –	– – –	– – –	– – –	– – –
C-91846		Magazine Spring Retainer	91846	– – –	– – –	– – –		– – –
B-92581		Floor Plate Latch & Spring Assembly	92581	– – –	– – –	– – –	– – –	– – –
C-91843		Floor Plate Latch (Blank C-92254)	91843	– – –	– – –	– – –	– – –	– – –
B-91848		Floor Plate Latch Spring (Blank C-92250)	91848	– – –	– – –	– – –	– – –	– – –
A-90380		Floor Plate Latch Spring Pin	90380	– – –	– – –	– – –	– – –	– – –
A-92450		Floor Plate Pad (Blank C-92449)	92450	– – –	– – –	– – –	– – –	– – –
A-16451		Floor Plate Pivot Pin	16451	– – –	– – –	– – –	– – –	– – –
A-91951		Trigger Guard (Blank C-92249)	91951	– – –	– – –	– – –	– – –	– – –

3-24-83

To: J. D. Campbell
From: L B Bourquet

Re: Proposed change to thicker material on the Model Seven Floor Plate Base, etc.

- Sample components made from thicker material have been ordered and will be used for verification testing. Status:

  Trigger Guard
  Vendor will ship 250 pcs 4-1

  Floor Plate Base Blank
  Vendor will ship 250 pcs 3-31 4-1

  Trigger Guard Plate
  Sample parts are on the plant

  Floor Plate Cover Blank
  Sample parts are on the plant

  Floor Plate Latch Spring
  Vendor will ship by 3-30

- In anticipation of acceptable testing of the above samples, each vendor has been asked:
  - are the temporary tools capable of producing 7000 parts?
  - what is the estimated lead time to produce 7000 parts?
  - what is the estimated time involved to change vendor tooling back to the present design?
  - if there are open orders for the present part, what is the lead time to produce them?

- is the thicker material available? If not, what is the estimated lead time to procure it?

• Long range program based on permanent shift to thicker material.

	mat'l lead time	lead time	accum lead time
- Trigger Guard			
produce 7m pcs on temp. tools		4 wks	4 wks
convert tooling back to pres. design		2	6
convert to heavier mat'l. permanently		5	11
samples		1	12
production		4	16
- Floor Plate Base Blank			
produce 7m pcs on temp. tools		4	4
convert tooling back to present des.		1	5
* procure thicker material	11 wks		
run open production order (present des)		4	9
change tooling permanently		4	13
samples		1	14
production		4	18
- Trigger Guard Plate			
no tooling changes required			
produce 7m pieces		2	
material -	2 wks		
production -			

NOTE: .080 ±.003 MAT'L IS C-1010 NOT 1070

VENDOR WON'T QUOTE 1070 MAT'L. IN .080

	mat'l	lead time	assume lead time
- Floor Plate Cover Blank			
produce 7m pieces on temp. tools			N.G.
convert to new present des. (if parts on order)			
material	1 wk		
convert tooling permanently and supply samples		2 wks	2
production		2 wks	4
- Floor Plate Latch Spring			
* produce 7m pcs on temporary set-up or build permanent tooling		(2) (6)	
material	2 wks		
samples		—	
production		1	

* vendor produces prototype part on temporary bench type hand operations and can produce 7m pieces this way at approx. .17 each in 2 wks.
The other way to go is with permanent tooling - 6 wks and a piece price of approx. .06 each and a tooling charge of about $2400.00

.045
.052

Trigger Gd Plate
samples from Square were 1010 mat'l

mat'l. - lead
run time
7000 pieces
using 1010 - .080 ±.003
mat'l 2 wks
existing tools 2 wks

won't quote 1090

Floor Plate Cover
material - P 1 week — 1 week
~~alter~~ temp tools won't produce 7m parts
alter permanent tools (samples) — 2 wks
production — 2 wk
alter permanent tools - back to .050 — 2 wks

SPJ -
mat'l 2 weeks
7000
with temp set-up P .17 each — 2 weeks

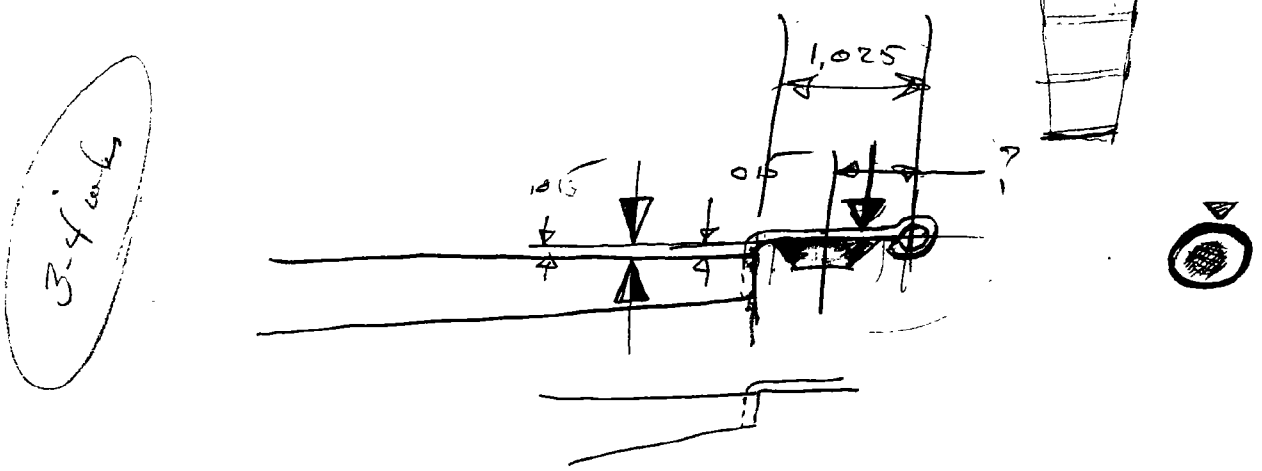
permanent tools $2400 P .06 ea — 6 weeks
alter & sample
production - — 1 week

Review w/ Research? } Reason: in some cases tooling is being
Mgmt? } changed prior to acceptance - if not
accepted could put production schedule
in jeopardy.

① Trigger Guard - bending fixture - T.R. - Date?
② ~~Butt~~ Locator for RTR - inlet Rec. & Barrel Groove. Date
new program - date

~~Model Seven Trigger~~

3/21/83



Quotation for F.P.B.B.
lead time?
R look expedite by authorizing engineering time clock?
raw mat'l - ~~[illegible]~~ Purch. - contact vendors -
advance release necessary?

.062 ± .003 is std.
.062 ± .002 ordered
spheroidized annealed
#2 finish
mill run - not from warehouse
steel - 8-10 wks
20,000 lbs.
R 150,000 pcs.
enough for 1500-2000 finish. pcs. on floor

1st LEAD TIMES -

AFTER PERMANENT TOOLING ?
~~4-6~~ 6-8 weeks (.062)
Sample approval - to prod. 3-4 wks.

send sample of T.G. Plate - for try out of Trigger Guard.

T.G.

permanent tooling - approximately the same
because tooling for 788 has to remain

STATUS
MODEL 7 STOCK

Brad - Please review
fw
3/25/83
LCW

Problem

Pressure binding - mostly to left side

Suspected Causes

1. Receiver seat in stock uneven, usually high on left.
2. Rear T/D hole run-out

Corrective Action

G-16 bulletin

1. Indexing pins realigned to insure station-to-station centrality
2. Fixtures realigned to insure fixture-to-fixture indexing and turning center centrality
3. Thompson fastenings and rods repaired on stations 5, 9 & 11.
4. One guide pin housing repaired. Two others judged O.K.
5. Bbl groove/bbl layout completed
6. Process layouts revised for bbl groove.
7. Base gage drawings revised. Alterations to be made before next run
8. Rear T/D hole to be increased to .250 DIA
9. Receiver seat to be widened to 1.390 (1.360 receiver) with .030 flat on bottom to insure receiver will not "cant". (use 1.360 DIA cutter)

Lowered up 28M units over 1A forecast
1A increased 35M

W Pickett
WILL GO BACK ON AFTER 1100 SPEC. SHAPER FIXTURE
3-31-83
HAVE MARKED PRINTS

10. New bbl mandrell ordered
11. magazine cut depth to be pulled up 7/16".

RTR

1. Clearance cuts added to bottom inlet to clear trigger slot and magazine cut.
2. Indexer (butt locator) pinned to prevent misalignment.
3. Bore gage being reviewed (3/25) to confirm tie-up with M/D dimension which were transmitted 2/28/83.

Reviewed & verified w/eng does not tie up with gage - need info from Larry & Dave. done 3/29

MISC

1. Production (John Miller, Dept 72) has been inspecting and repairing all stocks before send and checking equipment on action.
2. Temporary operation (and gage) set up to redrill to .250 dia. all in-process stocks in Dept 72.
3. 15 of 16 stocks from preliminary G-16 set-up showed NO TRIGGER MOVEMENT when assembled by Everett Barnes

ALTERNATE INLETTING

On 3/25/83 E.L. MORRIS JR. issued a capacity study (attached) which shows that the RTR would be burdened 109% in May by adding top inletting and transferring the external cuts to the Heian.

Adding the M/7 LTW to the REML would burden that only 49% thru 1983 at a cost of $55,000 (rough est.) to provide tooling.

Maurice Montean has outlined an N/C program and designed a butt locator for the RTR as requested by J.P. LINDE. design of butt locator complete - need decision on which way to go.

RECOMMENDATIONS

1. Make trial run of M/7 stocks on G-16 after machine has been repaired and aligned, and the base gage has been altered. If the parts are satisfactory continue to use the G-16, backed up by auditing and maintenance programs.

2. If parts are not satisfactory and cause is determined to be the G-16;

a. Repair machine and try again

b. Proceed with RTR indexing program for short-term improvement and order tooling for REML.

TIME FRAME

1. PARTS FROM G-16 – 4/1/83

2. RTR LOCATOR, PRGRAM, CUTTERS – ONE MONTH

3. REML TOOLING

DESIGN	ONE MONTH
BID	ONE MONTH
BUILD	FOUR MONTH
TOTAL	SIX MONTHS

x.c. V.P. Lines
R.W. Farrington
E.M. Morris

3-25-83

L.G. Wilke,

Per your request capacities have been re-evaluated on the proposal to relocate operation 60 (Top Inlet), presently performed on the G-16 for the M/7Ltw, to the REML, Richardson RTR Router, and the Heian CNC Machining Center.

Model	Daily Schedual (including 15% Scrap) April	May	3rd Quarter	4th Quarter
7 Ltw	173	196	255	288
700	426	443	460	483
788	115	92	61	58

Machine	Machine Hours (% Burdening) April	May	3rd Quarter	4th Quarter	Models Run
REML - Current	7.1 (31%)	7.4 (33%)	7.7 (34%)	8.1 (36%)	M/700
- Proposed	9.2 (40%)	9.7 (42%)	10.5 (46%)	11.1 (49%)	M/700, M/7Ltw
RTR - Current	16.7 (73%)	18.6 (82%)	23.6 (104%)	26.3 (115%)	M/7Ltw-external cuts, M/3200, Target Stock
Proposed	22.1 (97%)	24.7 (108%)	31.6 (139%)	35.3 (155%)	M/7Ltw-Top Inlet*, M/3200, Target Stock
Heian - Anticipated				20.0 (88%)	M/700, 7Ltw, 788, 580, 541
Proposed				24.8 (109%)	M/700, 7Ltw, 7Ltw-Inlet, 788, 580, 541

* Assuming M/7Ltw external cuts relocated to Heian

On a capacity basis the REML would be the best candidate for succeeding the G-16 for top inletting of the M/7Ltw.

E.L. Morris Jr.

xc: J. F. Linge
R. W. Farrington
E. M. Morris

3-25-83

L. G. Wilke,

Per your request capacities have been re-evaluated on the proposal to relocate operation 60 (Top Inlet), presently performed on the G-16 for the M/7Ltw, to the REML, Richardson RTR Router, and the Heian CNC Machining Center.

Model	Daily Schedual (including 15% Scrap) April	May	3rd Quarter	4th Quarter
7 Ltw	173	196	255	288
700	426	443	460	483
788	115	92	61	58

Machine	Machine Hours (% Burdening) April	May	3rd Quarter	4th Quarter	Model's Run
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Proposed	9.2 (40%)	9.7 (42%)	10.5 (46%)	11.1 (49%)	M/700, M/7Ltw
RTR - Current	16.7 (73%)	18.6 (82%)	23.6 (104%)	26.3 (115%)	M/7Ltw-external cuts, M/5200, Target Stock
Proposed	22.1 (97%)	24.7 (108%)	31.6 (139%)	35.3 (155%)	M/7Ltw-Top Inlet*, M/5200, Target Stock
Heian - Anticipated				20.0 (88%)	M/700, 7Ltw, 788, 580, 541
Proposed				24.8 (109%)	M/700, 7Ltw, 7Ltw-Inlet, 788, 580, 541

* Assuming M/7Ltw external cuts relocated to Heian

On a capacity basis the REML would be the best candidate for succeeding the G-16 for top inletting of the M/7Ltw.

E. L. Morris Jr.

· "Immediate fix"
- Assembled 25 308 Cal 3-7 with:

pinned stocks -
fixture avail to drill stocks

Trigger guards -
altered - rear tab bent up - RESEARCH PROVIDING AT PRESENT
FIXTURE IN DESIGN BUILD
heat treated

research testing

LATCH - showed some wear with
heat treated T.G. at P 3000 rounds — research
2 guns — will try h.t. latch — research

testing 3-7
of 28 guns tested 1 F.P. opened
checking Latch Spring
no split stock

+ Additional stocks avail (P 86) 3-8
guns will be assembled & tested

MODEL SEVEN LIGHTWEIGHT

PROBLEM:

- STOCK SPLITTING
- FLOOR PLATE COVER OPENS

	RESPONSIBILITY	COMPLETION
PROGRAM TO RESOLVE:		
• IMMEDIATE		
- STOCK SPLITTING		
MODIFIED M/600 DRILLING FIXTURE	ORE	COMPLETE
DESIGN AND BUILD TEMPORARY DRILL JIG		
DESIGN	N.P. PROCESS	COMPLETE
BUILD	TOOL ROOM	
- FLOOR PLATE COVER OPENS		

MODEL SEVEN LIGHTWEIGHT
FLOOR PLATE COVER OPENS

RESPONSIBILITY COMPLETE

- IMMEDIATE
  - A QUANTITY OF RIFLES IN .308 CALIBER WILL BE ASSEMBLED WITH THE FOLLOWING MODIFICATIONS:

PINNED STOCKS	PRODUCTION
ALTERED AND HEAT TREATED TRIGGER	PROCESS ENG.
GUARDS	CHEM & MET

  - 28 GUNS

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Xc: L. B. Bosquet
D. D. Ricci
J. D. Rogers
C. B. Workman

April 8, 1983

TO: J. P. LINDE

FROM: G. D. CAMPBELL GC

MODEL SEVEN LWT LARGE CALIBER PRODUCTION

Objective

Implement the design revisions which Research proposes for the Model Seven LWT Trigger Guard and Floor Plate components, without altering or disrupting the current production schedule.

Status Summary

agreed 4/11 to transmit immediately

Research has proposed the redesign of all Trigger Guard and Floor Plate components to prevent potential failures for "Floor Plate Opens" in .308 and 7MM-08 calibers. They are currently producing 250 sample guns for test, and plan to transmit the new design about May 1.

Five purchased components are involved in the design change (Trigger Guard, Trigger Guard Plate, Floor Plate Base, Floor Plate Cover, and Floor Plate Spring). All require tooling changes, some of which will take eight to nine weeks, including sample approval. Another five weeks will be required to obtain production components. Assuming no action until Research transmits the design, redesigned components would be available for assembly beginning about July 21. However, the current production schedule calls for large caliber production from June 13 to August 24.

Temporary vendor tooling was purchased by Research in March, and was used to produce 250 sample parts for design verification testing. Purchasing has contacted the vendors to determine: 1) whether that tooling can be used to produce 10,000 parts for production; 2) lead times to produce the 10,000 parts; and 3) lead time to convert permanent tools and begin supplying parts. Using this information, a Critical Path Network was developed which maintains the integrity of the current production schedule, subject to the following conditions:

1. Temporary tooling cannot be used to produce Floor Plate Cover. The vendor will be released by mid-April to alter permanent tools and produce parts.

2. The vendor cannot guarantee 10,000 Floor Plate Bases off temporary tools. P. E. & C. should work with Research and Purchasing to loosen non-critical tolerances to maximize production off temporary tools.

3. Purchasing will release the Floor Plate Base vendor to purchase thicker material prior to design transmittal. Material delivery is expected to take about 11 weeks.

4. Planning will reschedule 2,000 Model Seven's in .243 caliber ahead of the first .308 run. These .243's were originally scheduled for assembly in late August.

GDC:hv

XC: G.D. CAMPBELL

4-12-83

C. B. WORKMAN

SUMMARY

THE COSTS INVOLVED IN CHANGING FROM THE PRESENT DESIGN AND/OR MATERIAL THICKNESS ON THE MODEL SEVEN LWT FLOOR PLATE BASE AND RELATED COMPONENTS HAS BEEN ESTIMATED AS FOLLOWS.

VENDORS - TEMPORARY TOOLING	$ 10,950.00
VENDORS - PERMANENT TOOLING	36,975.00
PURCH. INSP. GAGING	9,065.00
PRODUCTION GAGING & FIXTURING	2736.00
TOTAL	$ 59,726.00

BREAKDOWN BY COMPONENT IS ATTACHED

R B Bourquet

BREAKDOWN OF COSTS BY COMPONENT:

- FLOOR PLATE BASE

VENDOR - TEMPORARY TOOLING	$5800.00
VENDOR - PERMANENT TOOLING	11820.00
PURCH. INSP. GAGING	1540.00
PRODUCTION GAGING & FIXTURES	1936.00
TOTAL	$21096.00

- TRIGGER GUARD PLATE

VENDOR - TEMPORARY TOOLING	0.00
VENDOR - REVISE TO NEW DESIGN	1250.00
PURCH. INSP. GAGING	550.00
PRODUCTION GAGING & FIXTURING	0.00
TOTAL	$1800.00

- FLOOR PLATE BASE ASSEMBLY

PRODUCTION FIXTURING	$600.00
TOTAL	$600.00

- FLOOR PLATE COVER

VENDOR - TEMPORARY TOOLING	0.00
VENDOR - PERMANENT TOOLING	2800.00
PURCH. INSP. GAGING	200.00
PRODUCTION GAGING & FIXTURING	200.00
TOTAL	$3200.00

- TRIGGER GUARD

VENDOR - TEMPORARY TOOLING	5150.00
VENDOR - PERMANENT TOOLING	18730.00
PURCH. INSP. GAGING	6325.00
PRODUCTION GAGING & FIXTURING	0.00
TOTAL	$30205.00

• FLOOR PLATE LATCH SPRING

VENDOR - TEMPORARY TOOLING	0.00
VENDOR - PERMANENT TOOLING	2375.00
PURCH. INSP. GAGING	450.00
PRODUCTION GAGING & FIXTURING	0.00
TOTAL	$2825.00

L B Bragnet 4/12/83

C. B. WORKMAN

MODEL SEVEN LWT FLOOR PLATE BASE ETC.

PROPOSED DESIGN CHANGE TO HEAVIER MATERIAL

• VENDOR TOOLING

FLOOR PLATE BASE BLANK

TEMPORARY TOOLING CHANGES TO PRODUCE 7000 - 10000 PARTS - (INCLUDES $875 PAID BY RESEARCH) $ 5800.00

PERMANENT TOOLING $11820.00

TRIGGER GUARD PLATE

NO CHANGE REQ'D TO PRODUCE 10,000 THICKER PARTS TO CURRENT DESIGN

TOOLING CHARGES TO GO TO PROPOSED WIDER DESIGN $1250.00

TRIGGER GUARD

TEMPORARY TOOLING CHANGES TO PRODUCE 10,000 PARTS (INCLUDES $3975 PAID BY RESEARCH) $ 5150.00

PERMANENT TOOLING $18730.00

FLOOR PLATE COVER BLANK

PERMANENT TOOLING WAS ALTERED TO PRODUCE 10,000 PARTS

ADDITIONAL REVISIONS TO PERMANENT TOOLING $2800.00

FLOOR PLATE LATCH SPRING

TEMPORARY TOOLING TO PRODUCE
10,000 PARTS

PERMANENT TOOLING 2375.00

• PRODUCTION TOOLING

GAGES AND FIXTURES WILL HAVE TO BE
REVISED OR BUILT NEW TO
ACCOMMODATE HEAVIER MAT'L.

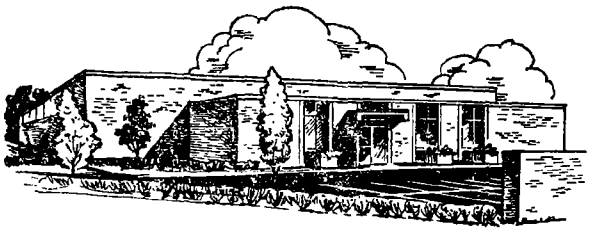
COST IS ESTIMATED AT $11250.00

• SUMMARY

TEMPORARY TOOLING
PERMANENT TOOLING
PRODUCTION GAGING & FIXTURING $11250.00

TOTAL

QUOTATION



216-671-8000

THE H&P DIE & STAMPING COMPANY

DIV. OF UNITED SCREW AND BOLT CORP.

Engineering • Development • Tools • Dies • Stampings

Sub-Assemblies • Bus Supplies

4650 Tiedeman Road • Cleveland, Ohio 44144

To Remington Arms Co., Inc.
Ilion, N.Y. 13357

Attn: D. D. Ricci

Date April 5, 1983

Terms 1% 10 days—30 days NET

F.O.B. Our Plant—Cleveland, Ohio

Gentlemen:

Replying to your inquiry of.....we take pleasure in quoting as follows:

Quantity	Description	Price
	Part Number 92249 Guard Permanent .036 increase front end 4°-30' Angle reverse tab back end	
	Total: $785.00 per M in 1000 piece lot Total: 738.00 per M in 2500 piece lot Total: 717.00 per M in 5000 piece lot Total: 709.00 per M in 10 M piece lot	
current 669.00/M		
	1. 1st Form Die ---------- New ---------	$ 4300.00
	2. Rework Hole Pierce Die to do 16187-92249 -------	470.00
	3. Rework Hole Coin Die to do 16187-92249 ---------	450.00
	4. Rework Hole Repierce Die to do 16187-92249 -----	490.00
	5. Finish Form 2 Stations Die ------- New ---------	5250.00
	6. Rework Front End Trim Die ----------	470.00
	7. Rework Hook Trim Die to do 16187-92249 ---------	445.00
	8. Rework Back End Trim Die ----------	495.00
	9. Rework Hook & 3.00 Radius Trim Die ----------	1520.00
	10. Alter Slot Die ----------	620.00
	11. Alter Coin Die ----------	470.00
	12. Develop & Engineering ----------	3750.00
	TOTAL ----------	$18730.00
	Samples: 7/8 weeks	
	Production start 4 weeks after approval.	

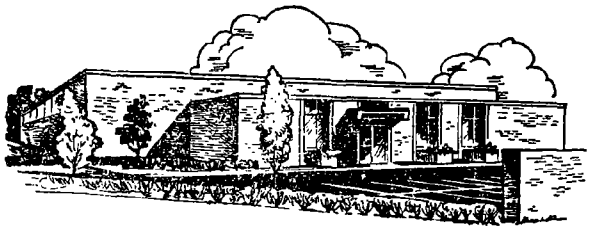
The above Quotation is subject to acceptance within 30 days from date hereof; thereafter, prices are subject to change without notice, according to fluctuation of market prices of material, over which we have no control. We are not responsible for delays in deliveries due to strikes and conditions beyond our control.

Very truly yours,

H & P DIE & STAMPING CO.

By.....

QUOTATION



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4650 Tiedeman Road • Cleveland, Ohio 44144

To Remington Arms Co., Inc.
Ilion, N.Y. 13357

Attn: D. D. Ricci

Date April 5, 1983

Terms 1% 10 days—30 days NET

F.O.B. Our Plant—Cleveland, Ohio

Gentlemen:

Replying to your inquiry of.....we take pleasure in quoting as follows:

Quantity	Description	Price
	Part Number 91840 Base Permanent .060/.064 stock	
	Total: $708.00 per M in 1000 piece lot	
	Total: 683.00 per M in 2500 piece lot	
	Total: 677.00 per M in 5000 piece lot	
current 520.50/M	→Total: 668.00 per M in 10 M piece lot	
	1. Alter Blank & Pierce Die ----------	$ 2280.00
	2. Rework Coin Relief Notch Die ----------	465.00
	3. Rework 1st Form & Start Curl Die ----------	1670.00
	4. Rework U Form Die ----------	1490.00
	5. Rework Cam Trim Die Tabs ----------	735.00
	6. Rework 2 Stations Curl Die ----------	2240.00
	7. Develop & Engineering ----------	2940.00
	TOTAL ----------	$11820.00
	Samples: 6/7 weeks	
	Production start 3 weeks after approval.	

The above Quotation is subject to acceptance within 30 days from date hereof; thereafter, prices are subject to change without notice, according to fluctuation of market prices of material, over which we have no control. We are not responsible for delays in deliveries due to strikes and conditions beyond our control.

Very truly yours,

H & P DIE & STAMPING CO.

By.....

April 18, 1983

Remington Arms
Bridgeport, Connecticut 06602

Attn: Robert R. March
Purchasing Agent

Re: Former, Dwg. #E-45992, P.O. # I-82376

Dear Bob:

In reference to your memo of 4/12/83, we have calculated cancellation charges for the subject former, which has been on hold since April 1982. The charges are as follows:

Stock Charge	$ 350.00
Roughing Charges	935.00
*Fixturing & Set-up	825.00
Carrying Charge	290.00
Total	$2400.00

*The total fixturing charges were quoted to be distributed equally to this former and the one we completed per your P.O. #I-82374 (completed 10/21/82).

Thank you for the opportunity to resolve this situation. Should you have any questions, please don't hesitate to contact Tim King or myself.

Best Regards,

Doug Price
Vice President - Sales

DP/bf

RD-49-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: C.B. Workman
L.B. Bosquet
D.E. Bullis
S.R. Franz
E. Yetter, Jr.

Ilion, New York
April 19, 1983

TO: J.W. BROOKS

FROM: C.E. RITCHIE CER

SUBJECT: MODEL SEVEN THICK FLOORPLATE ASSEMBLIES

A mismatch exists between the Model Seven floorplate base and the magazine box. This mismatch can cause difficulty in loading a fourth round in the magazine. Testing to date indicates the thicker base assemblies greatly aggravate this condition.

Eighty Six (86) guns were built by Production for Research with the thinner assemblies and no magazine loading problems were found. Recently, Research built eight (8) guns with the thicker assemblies and three (3) guns would take only three rounds in the magazine and one other had occasional loading problems. It is, therefore, the Test Lab's recommendation to stop the order for the thick floor plate bases until this condition can be rectified.

CER:js

OPERATION LOG - M/7 FLOOR PLATE ASS'Y
OPER #30 19/APRIL/83

NOTE: ALL OPERATION CYCLES ARE CONSIDERED TO HAVE PRODUCED ADEQUATELY BRAZED ASSEMBLIES EXCEPT AS NOTED

CYCLE	TIME	OBSERVATION
		CYCLE - .22 MIN
0	START 7:20	WATER PRESSURE ~ 50#
		% RATED VOLTS — 88
		% RATED AMPS — 66
		% RATED KW — 54
		% RATED KVAR - 20 LEAD
3	7:24	FAILURE - LEFT SIDE
		PLATE BOW UPWARD
		BRAZE FLOW DOWNWARD
13	7:47	SAME AS CYCLE #3
14	7:50	FAILURE LEFT SIDE
		PLATE BOW UPWARD
		BRAZE FLOW UPWARD
18	8:00	FAILURE LEFT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW DOWNWARD
25	STOP 8:21	NO CHANGE AT 25 CYCLES

PAGE 2 of 3
RCD
19 APR 83

CYCLE	TIME	OBSERVATION
26	START 8:41	NO CHANGE
27	8:45	FAILURE RIGHT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW DOWNWARD
30	8:53	FLOOR PLATE BASE SPRUNG;
		BRAZE OK
35	9:04	FLOOR PLATE BASE SPRUNG;
		BRAZE OK
37	9:09	FLOOR PLATE BASE SPRUNG;
		BRAZE OK
47	9:30	FAILURE LEFT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW DOWNWARD
50	9:36	NO CHANGE AT 50 CYCLES
68	10:25	FAILURE LEFT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW UPWARD
75	10:43	NO CHANGE
79	11:34	FAILURE LEFT SIDE
		PLATE BOW UPWARD
		BRAZE FLOW DOWNWARD
—	12:00	WATER PRESSURE 75#
97	12:17	FLOOR PLATE BASE SPRUNG;
		BRAZE OK
100	12:24	NO CHANGE AT 100 CYCLES
—	12:30	WATER PRESSURE 50#

CYCLE	TIME	OBSERVATION
106	1:00	FAILURE LEFT SIDE
		PLATE BOW UPWARD
		BRAZE FLOW DOWNWARD
125	1:50	FAILURE LEFT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW UPWARD
		NO CHANGE AT 125 CYCLES
134	2:14	FAILURE RIGHT SIDE
		PLATE BOW DOWNWARD
		BRAZE FLOW DOWNWARD
135	2:17	FAILURE RIGHT SIDE
		PLATE BOW UPWARD
		BRAZE FLOW DOWNWARD
145	STOP 2:37	
		R. DELLER
		Q.C.
		19 APRIL 83

FLATNESS	TALLY	TOTAL
0	II	2
.001	I	1
.002	III	3
.003	I	1
.004	~~IIII~~ ~~IIII~~ IIII	14
.005	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~	45
.006	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~	50
.007	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ II	27
.008	~~IIII~~ ~~IIII~~ II	12
.009	IIII	4
.010	~~IIII~~ ~~IIII~~ II	12
.011	~~IIII~~	5
.012	~~IIII~~ I	6
.013	IIII	4
.014	III	3
.015	I	1

TOL

$\bar{X}$ FOR PARTS IN TOL ONLY = .00603

PARTS IN TOL = 171

σ FOR PART IN TOL ONLY = .001811

$\bar{X}$ FOR ALL PARTS = .00667

ALL PARTS = 190

σ FOR ALL PARTS = .002604

R. DELLER
Q.C.
MAR. 83

FLATNESS	TALLY	TOTAL
0		
.001		
.002	TO M/D TOL.	
003	$\bar{X}$ = .00866	
004	σ = .00099	
.005	80 PCS	
.006	I	1
.007	~~IIII~~ III	8
.008	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ II	27
.009	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~	25
.010	~~IIII~~ ~~IIII~~ ~~IIII~~ IIII	19
.011	~~IIII~~ III	8
.012	III	3
.013	III	3
.014	III	3
.015	III	3

ALL PARTS

$\bar{X}$ = .00943

σ = .00190

100 PCS

10V.

R. DOLLAR
Q.C.,
MAR. 83

ALTERATIONS TO BE DONE BY REM. FOR THICKER FL. PLATE BASES

FLOOR PLATE BASE

- MILL .030 OFF TRIG. GUARD PLATE SURFACE. THRU .635 WIDTH.
- MILL .010 OFF EACH SIDE OF TAB.
- MILL .120 FIGURE AT HINGE.

FLOOR PLATE PAD

- USE SAMPLES .010 THINNER
- MILL CUT FOR HINGED AREA
- C'SINK SCREW HEAD AREA

FLOOR PLATE COVER

- COIN OR MILL .052 DIMENSION AT LATCH CONTACT POINT

STOCK

- .010 OVERALL MAG. INLET
- TRIG. GUARD PLATE INLET .030 DEEPER

XC: L. B. Bosquet
J. R. Snedeker
R. L. Snedeker

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

April 21, 1983

TO: J. B. MROZ J.B.M.

FROM: R. C. DELLER

PROBLEM: Poor yield at operation #30, M/7LWT Floor Plate Base Assembly (Braze) C-91850

PROCEDURE:

1. Obtain a sufficient quantity of M/7 trigger guard plates (B-91845).
2. Measure and sort the trigger guard plates to M/D flatness tolerance. Enough "Good" plates for an eight (8) hour production shift will be required.
3. Using the sorted plates, monitor the braze operation (#30) for a full workshift. Use floor plate bases (C-91840) supplied by the production department.
4. Prepare a log of all observations.
5. Save all poor braze assemblies for examination by Process Engineering and Trial and Pilot Engineer.

OBSERVATIONS:

1. Trigger guard plates generally bow in the same direction. (Concave toward the shiny side)
2. Based on two separately sampled lots, flatness of the trigger guard plate to the M/D varies considerably.
3. This study had to be delayed while Gage D-46123 was corrected to M/D and P/R tolerances. This generated the need for a new machine capability study to reflect the above changes.

Poor yield at operation #30, M/7 LWT Floor Plate Base Assembly (Braze) C-91850

OBSERVATIONS: Contd.

4. Other than an increase in water pressure from 50 to 75, PSI from 1200 to 1230 hrs. all other operating parameters remained constant.

5. Failure observations at braze:

   a. 2/3 failures were left side.
      1/3 failures were right side.

   b. Total failures = 12 (8.275%)
      (Total Pcs. = 145)

   c. There were equal freq. of failure with plates bowed up and down.

   d. Braze material flowed downward on 75% of the failures.

   e. Braze material flowed upward on 25% of the failures.

6. Floor plate bases which were sprung out of shape, did not cause any braze failures during the test. (145 cycles with four (4) sprung bases observed)

7. Time of day did not appear to affect braze failure.

CONCLUSION:

1. Braze failure is unpredictable.

2. Braze failure appears to happen when braze shim deflects away from the influence of flux and junction of parts being brazed due to the sudden heating.

ATTACHMENTS:

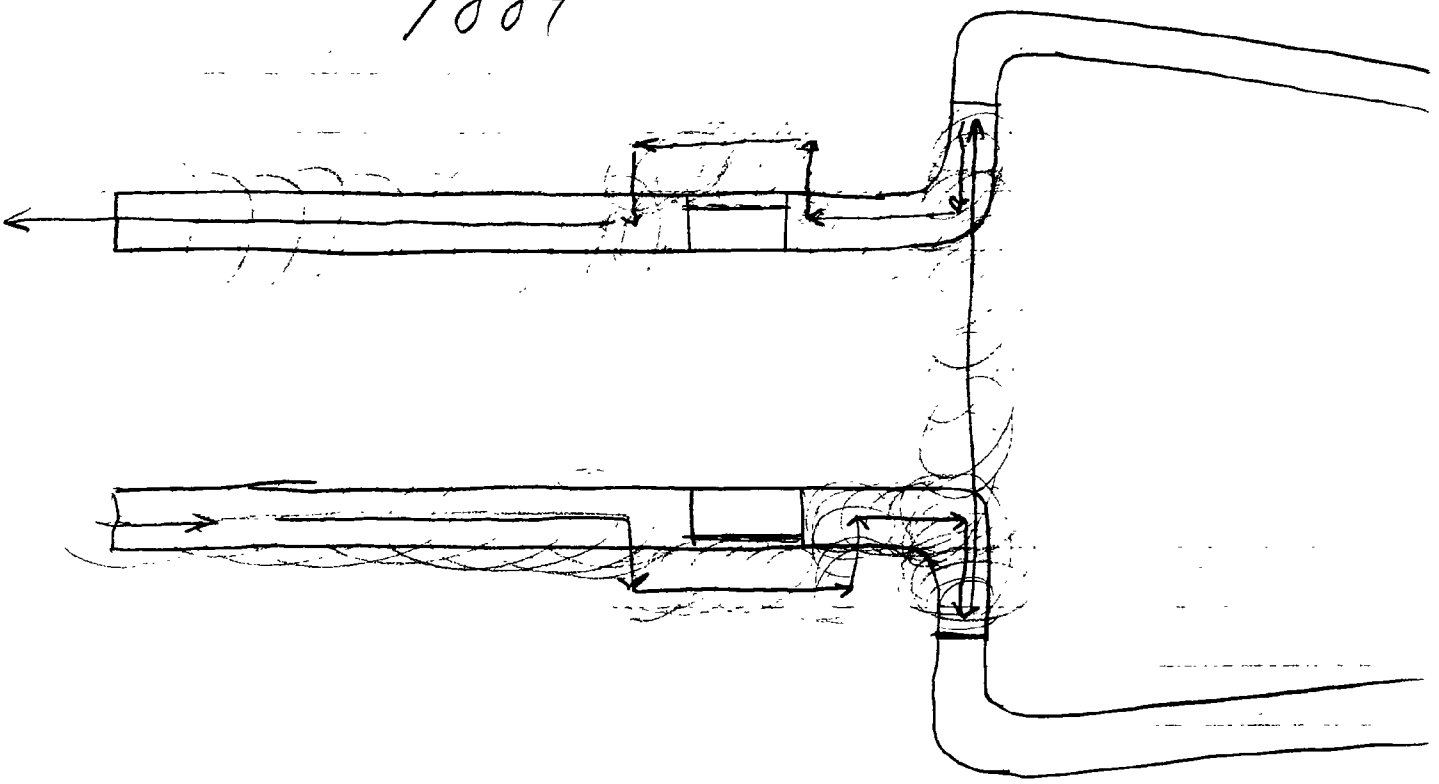
1. Measurement tallies trigger guard plate for two lots of plates.

2. Operation log - M/7 LWT floor plate ass'y, operation #30.

RCD/cac
JRS JRS.

Bob Sanzo
Iggy

11:00 4/24/83



Problem –

10M pieces made on temporary tooling will require some modification by Remington.

Bob feels that the N/C group can do the required modification to the F.P. Base – will have answer by 4/29 – will probably use Matsura

will require:

- some sort of fixture
-

G-46-A REV. 1-78

ENGINEERING DUPONT COMPUTATION SHEET

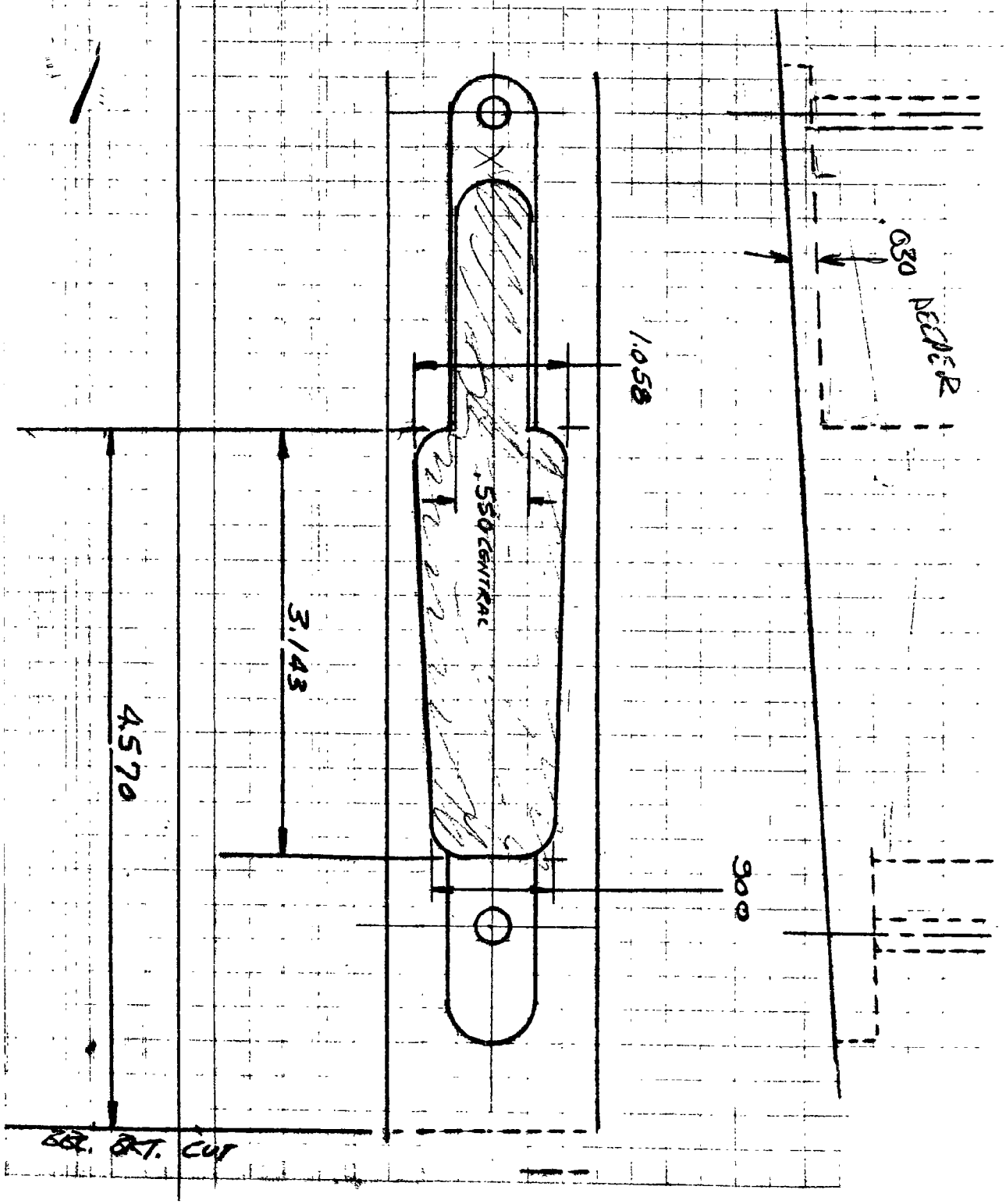
SHEET NO. _____

TITLE OF PROJ. OR STUDY _____ PROJ. OR STUDY NO. _____

SUBJECT _____ WORKS _____

COMPUTER _____ DATE _____ 19 _____

STOCK INLETTING



USE STANDARDS FOR MINIMUM ESSENTIAL INSTALLATIONS

xc: G. D. Campbell
D. J. Anderson

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"_____ April 26, 1983

J. P. LINDE

SUBJECT: MODIFICATIONS REQUIRED TO MODEL SEVEN LIGHTWEIGHT COMPONENTS BEING PRODUCED ON TEMPORARY VENDOR TOOLING.

FLOOR PLATE BASE

The Research N/C group has been contacted to use the Matsura to remove additional material from this component to allow use of a thicker Trigger Guard Plate. A fixture, program, and operator will be required.	N P Process Research N/C Production
Hinge clearance cut must be milled deeper to permit proper functioning of the thicker Floor Plate Cover.	N P Process Production
It may be necessary to deepen the countersink to provide proper seating of the Take Down Screw.	Research N P Process Production

FLOOR PLATE COVER

A slight mill cut must be added to ensure proper functioning of the Floor Plate Latch.	N P Process Production

FLOOR PLATE PAD

This part must be thinner and the hinge clearance larger to accomodate the thicker Floor Plate Base. Powder Metal to be contacted to press 10M pieces to the thinner platform dimension. A milling operation will be set up to enlarge the hinge clearance. Research has a form cutter. A set of vise jaws will be designed and built.	N P Process Powder Metal Production

STOCK INLETTING

A revised tape has been prepared and approximately 200 Stocks have been run with revised inletting.	N P Process Chem. & Met. Production

L. B. Bosquet

LBB:hf

xc: G. D. Campbell
D. J. Anderson

RD-69-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

April 26, 1983

J. P. LINDE

SUBJECT: MODIFICATIONS REQUIRED TO MODEL SEVEN LIGHTWEIGHT COMPONENTS BEING PRODUCED ON TEMPORARY VENDOR TOOLING.

FLOOR PLATE BASE - need intermediate dwg & number

The Research N/C group has been contacted to use the Matsura to remove additional material from this component to allow use of a thicker Trigger Guard Plate. A fixture, program, and operator will be required.	N P Process Research N/C Production
Hinge clearance cut must be milled deeper to permit proper functioning of the thicker Floor Plate Cover.	N P Process Production
It may be necessary to deepen the countersink to provide proper seating of the Take Down Screw.	Research N P Process Production

FLOOR PLATE COVER - transmit final design

A slight mill cut must be added to ensure proper functioning of the Floor Plate Latch.	N P Process Production

FLOOR PLATE PAD vendor can add a cutting, open to tooling - results in parts on the floor in plenty of time

This part must be thinner and the hinge clearance larger to accomodate the thicker Floor Plate Base. Powder Metal to be contacted to press 10M pieces to the thinner platform dimension. A milling operation will be set up to enlarge the hinge clearance. Research has a form cutter. A set of vise jaws will be designed and built.	N P Process Powder Metal Production

P/A can have a set (after 2 new 1) ready in about 5 weeks to produce this design - dwg to be transmitted

STOCK INLETTING complete new set (3 grinders) P 6 weeks - (order today - due P 6-10) auto it check back if expedited? need transmittal

A revised tape has been prepared and approximately 200 Stocks have been run with revised inletting.	N P Process Chem. & Met. Production

L. B. Bosquet

LBB:hf

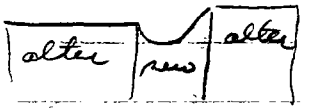
Trigger Guard Plate

5-7714 Sam

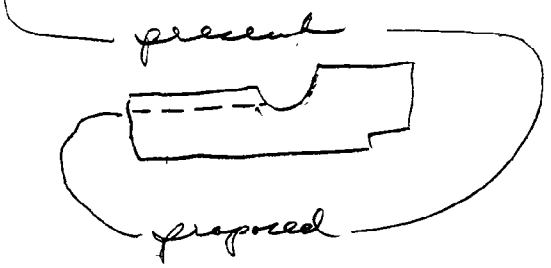
Floor Plate Pad

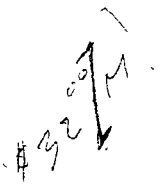
P/M can press deeper for platform area
can't increase hinge clearance without:

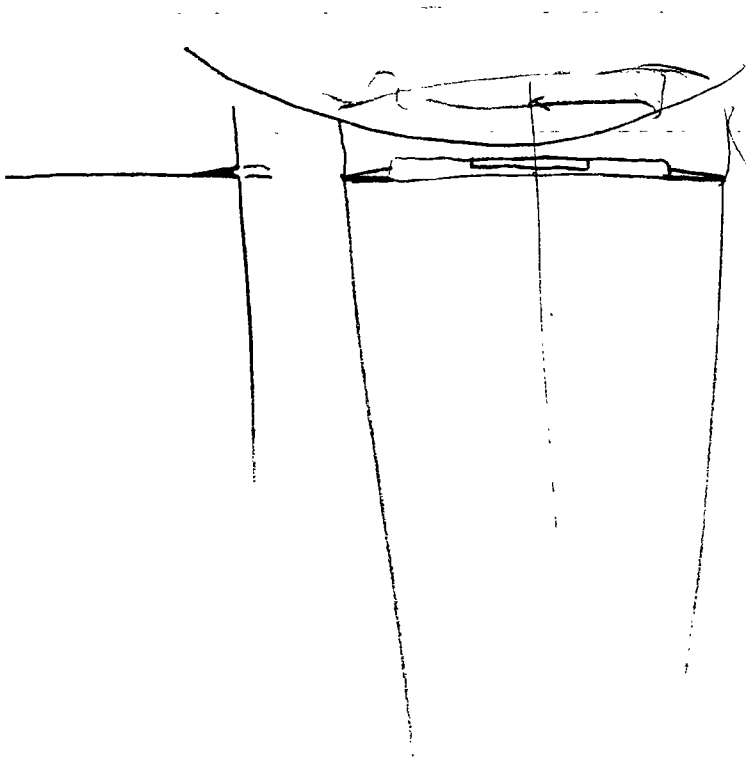
- altering 2 punches
- make 1 new punch



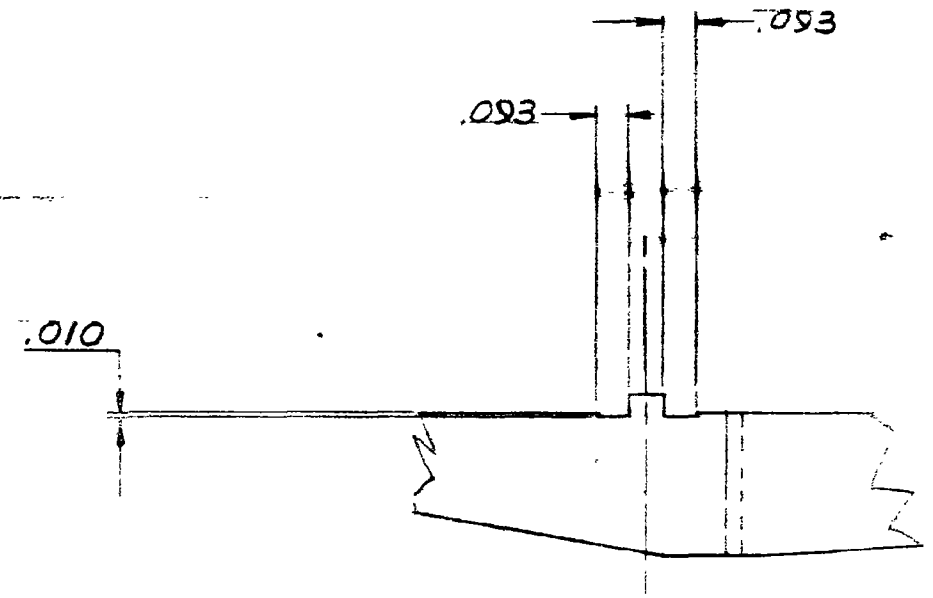
this would take P 5 weeks







.490



2 X SIZE

(1) Model Seven 700T — Redesign

4/26/23
SB

* Transmit ASAP

Status

L.B. Bonnet, J.W. Brooks
D.D. Ricci, C.D. Bennett

* Cover C92721 (need blank #)
Allied can up-date tooling for 1300. — 2 weeks.
Brad to verify to Dwayne that extra time is OK:
need requisition

Latch Spring B92722
250 prototypes on order due in 2 weeks (5/9)
Added .402 dim
.100 dia the same
Final design pending test. (for permanent tools)
10,000 pcs to be ordered on temporary tools
need requisition

* Trigger Guard Plate B92718
Square to produce 10,000 pcs on permanent tools
need requisition

Trigger Guard Blank C92719
.029/.033 dim from base line to tab replaces .034-.032
all other dimensions the same as marked print for
10,000 temporary parts (XC 92249)
need requisition

(2) Model Seven LWT – Redesign

4/26/83
SB

Floor Plate Base: C92720 (need blank #)
need intermediate number for 10,000 pcs on temporary tools (parts are received already as #92256)
Boxes must be remarked to new #.
need requisition.

Floor Plate Pad Blank C92449 (marked print)
P/M needs 5 weeks ARO to change radius from .110 to .120.
Interim parts might need to have .120R milled
Brad to check schedule for need.

{P/M needs @ 6 weeks to design & build 1 new set of lower punches to provide parts to latest design – die would have to be sent in for fitting of punch set.

5/2/83

Model Seven Lwr.

- dip at rear of bottom inletting - check w/ Dave & Bob supply
- bend or put detent in latch coverage area of Floor Plate Cover
- coin or chamfer edge of Trigger Guard Plate
- Latch can reach point where it cannot move any further forward.
- Latch Spring:
  what is vendor holding on spread on w/dwg?

FORM RD 15A REV 1. 12-81

POWDER METAL
PURCHASE REQUISITION

PURCHASE ORDER NO. _____

DATE ISSUED 5/2/83

THIS BLOCK FOR PURCHASING DEPT USE ONLY

PLACED ON POWDER METAL PRODUCTS DIVISION

STREET NO. _____ CITY _____ STATE _____ ZIP CODE _____

CONTACT PERSON _____ TELEPHONE NO. _____

QUOTATION REFERENCE: Verbal (R.F.Decker)

ORDER STATUS
CRITICAL ☐
TAXABLE ☐
EXEMPT ☐

SHIP VIA _____ F.O.B. _____ TERMS _____

NOTICE TO WRITER

SPECIFICATIONS MUST BE CLEARLY STATED GIVING WHENEVER POSSIBLE CATALOGUE MACHINE NUMBERS, ETC.

QUANTITY	DESCRIPTION	PRICE	DISCOUNT %	DELIVERY WANTED
1	Complete set of lower punches to fit existing die for Model SEVEN LWT Floor Plate Pad Blank C-92449 (to advance print provided ~~Alt #~~ C 92728 ALT #7)	$1000.00		6/6/83

REASON: LOWEST PRICE ☐ OTHER ☒

ITEM NO.	CHARGE ACCOUNT	WORK ORDER	DELIVER TO BLDG. NO.
		90290	NOTIFY MR.
			ISSUED BY Spencer Bennett SB
			APPROVED BY

QUOTATION

ALLIED TOOL & DIE, INC.

16146 PURITAS AVE. -:- CLEVELAND, OHIO 44135
Phone: 941-6196

TO: REMINGTON ARMS CO.
ILION, N.Y. 13357
ATTN: MR. DWAYNE RICCI

Date MAY 4,1983

Gentlemen:
As per your request, we hereby quote you as follows.

Dwg./Part #	Description	Price
92255	FLOOR PLATE COVER BLANKS:	
	TO CHANGE PROGRESSIVE DIE TO .062 MATERIAL	$ 2,800.00
don't scrap	SCRAP OUT 1185 LBS. OF .062 MATERIAL	$ 511.52
	SUB-TOTAL	$ 3,311.52
	LESS SCRAP ALLOWANCE ($50.40 LONG TON)	$ - 26.66
	SUB-TOTAL	$ 3,284.86
	COST TO REVERT PROGRESSIVE DIE BACK TO .052 MATERIAL	$ 580.00
	TOTAL COST	$ 3,864.86
	NEWPIECE PRICE FOR 10 M PCS. PER 1 M PCS.	$ 89.50

Price Key
needed for payment

1 week for changeover
1-2 weeks to run parts
reg issued 5/11

Terms: Net 10 days.

This quotation is subject to terms and conditions printed on the reverse side of this sheet and becomes part of your order unless otherwise noted.

Yours truly,
ALLIED TOOL & DIE, INC.

PRICE SUBJECT TO CHANGE DUE TO POSSIBLE MATERIAL AND SERVICE PRICE INCREASES.

TERMS AND CONDITIONS OF SALE FOR SPECIAL TOOLING

This quotation is subject to acceptance within thirty (30) days.

Deliveries are determined from the date of receipt of written purchase order or receipt of material if you are to furnish, whichever is the later. Every effort will be made to deliver as promised. No responsibility is assumed for any delays.

It is understood that there are no conditions or agreements outside of this written proposal; and that all prior conversations, agreements, or representations with reference to its subject matter are hereby superseded. Clerical errors are subject to correction.

Any tax imposed by any present or future law on the sale of the articles covered hereby shall be added to the amount to be paid.

Our terms are net 10 days, f.o.b. our Plant. All sizable and/or long delivery orders are subject to monthly invoicing as the work progresses.

ALL ORDERS ARE ACCEPTED WITH THE FOLLOWING CONDITIONS:

a. All orders are not subject to cancellation nor deferment of shipment when ready unless we are indemnified against loss resulting therefrom; and further, the Allied Tool & Die Company shall not be responsible for delays or nonperformance caused by strikes, fires, or other causes beyond our control.

b. The Customer shall defend, at his own expense, any suit which shall be brought against us by reason of the manufacture or sale of special parts made to the Customer's specifications.

c. The Allied Tool & Die Company shall have the right to stop work at any time and withhold deliveries of any or all of the goods ordered and property relating to said work, if any payment herein stipulated is not made promptly as agreed or upon proof of Customer's inability to pay as agreed and thereupon the selling price of hours and material in process at such date shall be due and payable.

d. The Customer will allow extra charges for authorized changes.

e. The Customer will have a responsible member of his company approve all designs made by us. We will correct any errors in our designs mutually agreed upon, but we will assume no liability for corrections to the designed product.

f. The Allied Tool & Die Company will not be responsible for product performance where the product is manufactured to the Customer's own design, prints, or specifications.

g. The Allied Tool & Die Company's liability for defective work or material shall be confined solely to replacement or repair of defective goods.

h. The Allied Tool & Die Company reserves the right to correct errors in our products. No charges for repair will be accepted without our written authorization.

i. The Allied Tool & Die Company shall have the right to scrap without liability prints submitted for quotation, patterns, special tools, and designs used in the manufacture of material herein quoted unless notice is given to ship these items with the completed product or within 30 days of completion of the order.

HSB
5-9-83

MODEL SEVEN LIGHTWEIGHT
ELIMINATION OF FPO FOR 308 AND 7MM-08

OBJECTIVE:

IMPLEMENT PROPOSED DESIGN REVISIONS (WHEN AVAILABLE) TO THE TRIGGER GUARD AND FLOOR PLATE COMPONENTS WITHOUT DISRUPTING PRODUCTION SCHEDULE.

STATUS:

THE REVISED PRODUCTION SCHEDULE CALLS FOR PRODUCING THIS YEAR'S FORECAST FOR 6MM, 243, AND 222 WITHOUT INTERRUPTION. THIS STRATEGY ESTABLISHES A NEW TARGET DATE OF 9/1 FOR RESUMING FINAL ASSEMBLY OF 308 AND 7MM-08.

A PROPOSED DESIGN CHANGE MUST BE AVAILABLE BY 6/13 IN ORDER TO HAVE OUR VENDORS SUPPLY PARTS FROM TEMPORARY TOOLING TO MEET THE 9/1 DATE.

ATTACHED IS THE PROPOSED SCHEDULE FOR EACH COMPONENT AND THE ASSUMPTIONS USED.

MODEL SEVEN LIGHTWEIGHT - REVISED SCHEDULE
THICKER MATERIAL - FLOOR PLATE BASE, ETC.

- ASSUMPTIONS:
  - A CHANGE WILL BE MADE TO USE THICKER MATERIAL.
  - THE 1982 FORECAST FOR .243, 6MM, AND 222 WILL BE MET ABOUT THE FIRST OF SEPTEMBER
  - START-UP OF FINAL ASSEMBLY FOR 308 & 7MM-08 WILL BE THE FIRST OF SEPTEMBER
  - FINALIZED DESIGN WILL BE SIMILAR TO THAT PROPOSED IN APRIL
  - FINALIZED DESIGN WILL ALLOW VENDORS TO USE MOST OF THEIR PERMANENT TOOLING WITH SOME TEMPORARY TOOLING NECESSARY
  - TWO WEEK SHUTDOWN NOT CONSIDERED

	COMPLETION GOAL	COMPLETION LATE
• VERIFY REVISED DESIGN AND TRANSMIT	7-11	8-17
• FLOOR PLATE LATCH SPRING		
- PLACE ORDER FOR 10M PARTS ON TEMPORARY TOOLS	6-13	7-28
- VENDOR SHIP 10M PARTS	7-11	8-31
- RELEASE VENDOR TO REVISE PERMANENT TOOLING	7-11	8-17
- VENDOR MODIFY TOOLING AND SUBMIT SAMPLES	8-24	10-24
- INSPECT SAMPLES AND RELEASE VENDOR	8-31	10-31
- VENDOR SHIP FIRST PRODUCTION LOT	9-15	11-14

	GOAL	LATE
• FLOOR PLATE COVER		
- ORDER 10M PIECES - REQUIRES ALTERATION TO PERMANENT TOOLS	6-13	6-29
- VENDOR HAS 1185 lbs OF .062 MAT'L. ON HAND	~~6-29~~	~~7-13~~
- VENDOR ALTER PERMANENT TOOLS AND SUPPLY SAMPLES	7-11	7-27
- INSPECT SAMPLES AND RELEASE VENDOR	7-18	8-3
- VENDOR SHIP FIRST PRODUCTION LOT	8-1	8-18
- COMPLETE SECONDARY OPERATIONS	8-15	8-31

• FLOOR PLATE BASE		
- PLACE ORDER FOR 10M BLANKS ON TEMPORARY TOOLS	6-13	7-21
- VENDOR HAS .060/.063 MAT'L ON ORDER - DUE @ 6-6		
- VENDOR SHIP 10 M BLANKS	7-11	8-19
- COMPLETE SECONDARY OPERATIONS	7-21	8-31
- VENDOR ALTER PERMANENT TOOLING AND SUPPLY SAMPLES	8-17	9-28
- INSPECT SAMPLES AND RELEASE VENDOR	8-24	10-5
- VENDOR SHIP FIRST PRODUCTION LOT OF BLANKS	9-14	11-2
- COMPLETE SECONDARY OPERATIONS	9-26	11-14

	GOAL	LATE
• TRIGGER GUARD		
- ORDER 10M PARTS ON TEMPORARY TOOLS	6-13	6-27
- VENDOR SHIP 10M PARTS	7-18	8-1
- COMPLETE SECONDARY OPERATIONS	8-1	8-31
- VENDOR ALTER PERMANENT TOOLS AND SUPPLY SAMPLES	9-14	9-28
- INSPECT SAMPLES AND RELEASE VENDOR	9-21	10-5
- VENDOR SHIP FIRST PRODUCTION LOT	10-5	11-2
- COMPLETE SECONDARY OPERATIONS	10-31	11-14
• TRIGGER GUARD PLATE		
- PLACE ORDER FOR 10M PARTS ON TEMPORARY TOOLS	6-13	7-21
- VENDOR PURCHASE THICKER MATERIAL	6-27	8-4
- VENDOR SHIP 10M PARTS	7-11	8-19
- COMPLETE SECONDARY OPERATIONS	7-21	8-31
- RELEASE VENDOR TO ALTER PERMANENT TOOLING	7-12	8-30
- VENDOR ALTER PERMANENT TOOLS AND SUPPLY SAMPLES	8-10	9-28
- INSPECT SAMPLES AND RELEASE VENDOR	8-17	10-5
- VENDOR SHIP FIRST PRODUCTION LOT	9-15	11-2
- COMPLETE SECONDARY OPERATIONS	9-27	11-14

GOAL LATE

• FLOOR PLATE PAD

- RELEASE P/M TO DESIGN AND BUILD NEW LOWER PUNCH SET

OR

RELEASE P/M TO DESIGN AND BUILD NEW TOOLS COMPLETE

- P/M RUN 10M PARTS ON REVISED TOOLING,

OR

P/M RUN 10M PARTS ON NEW TOOLS

- INSPECT AND RELEASE P/M
- COMPLETE SECONDARY OPERATIONS

RBB
5-9-83

MODEL SEVEN LIGHTWEIGHT
TRIGGER GUARD - FLOOR PLATE ASS'Y.

• DIE CAST PROPOSAL

- QUOTED IN 218 ALLOY
- TIME LINE FROM FIRM DESIGN:
  - VENDOR QUOTE FIRMED UP TO FINAL DESIGN — 2 WEEKS*
    *COULD GIVE APPROVAL TO START WHILE QUOTE BEING FIRMED
  - VENDOR BUILD TOOLING AND SUBMIT SAMPLES — 16 WEEKS
  - INSPECT SAMPLES — 1 WEEK
  - REVISE TOOLING & SUBMIT SAMPLES — 4 WEEKS
  - INSPECT SAMPLES AND RELEASE VENDOR — 1 WEEK
  - FIRST PRODUCTION SHIPMENT (1 WEEK TRANSIT TIME INCLUDED) — 5 WEEKS

23-29 WKS
$33,000

- PRODUCTION TOOLING
  - DESIGN ~ 1300 HRS (ASSUME 4 DESIGNERS) — @ 8 WEEKS
  - BUILD ~ 3027 HRS — 12-14 WEEKS
- PROCESSING (IN-PLANT) — 1-2 WEEKS

- TOTAL ESTIMATED LEAD TIME FROM FIRM DESIGN TO PRODUCTION PARTS AT FINAL ASSEMBLY — 6-7 MONTHS

• INVESTMENT CAST PROPOSAL

- QUOTED 1040 STEEL, ANNEALED & CARBON RESTORED
- ESTIMATED TIME LINE FROM FIRM DESIGN:
  - VENDOR QUOTE FIRMED UP TO FINAL DESIGN (COULD GIVE APPROVAL TO START WHILE QUOTE BEING FIRMED UP) — 2 WEEKS
  - VENDOR BUILD TOOLING AND SUBMIT SAMPLES. — 8-10 WEEKS
  - INSPECT SAMPLES — 1 WEEK
  - IF NECESSARY - REVISE TOOLING AND SUBMIT NEW SAMPLES — 4 WEEKS
  - INSPECT SAMPLES AND RELEASE VENDOR — 1 WEEK
  - FIRST PRODUCTION SHIPMENT — 16 WEEKS

26 - 34 WEEKS

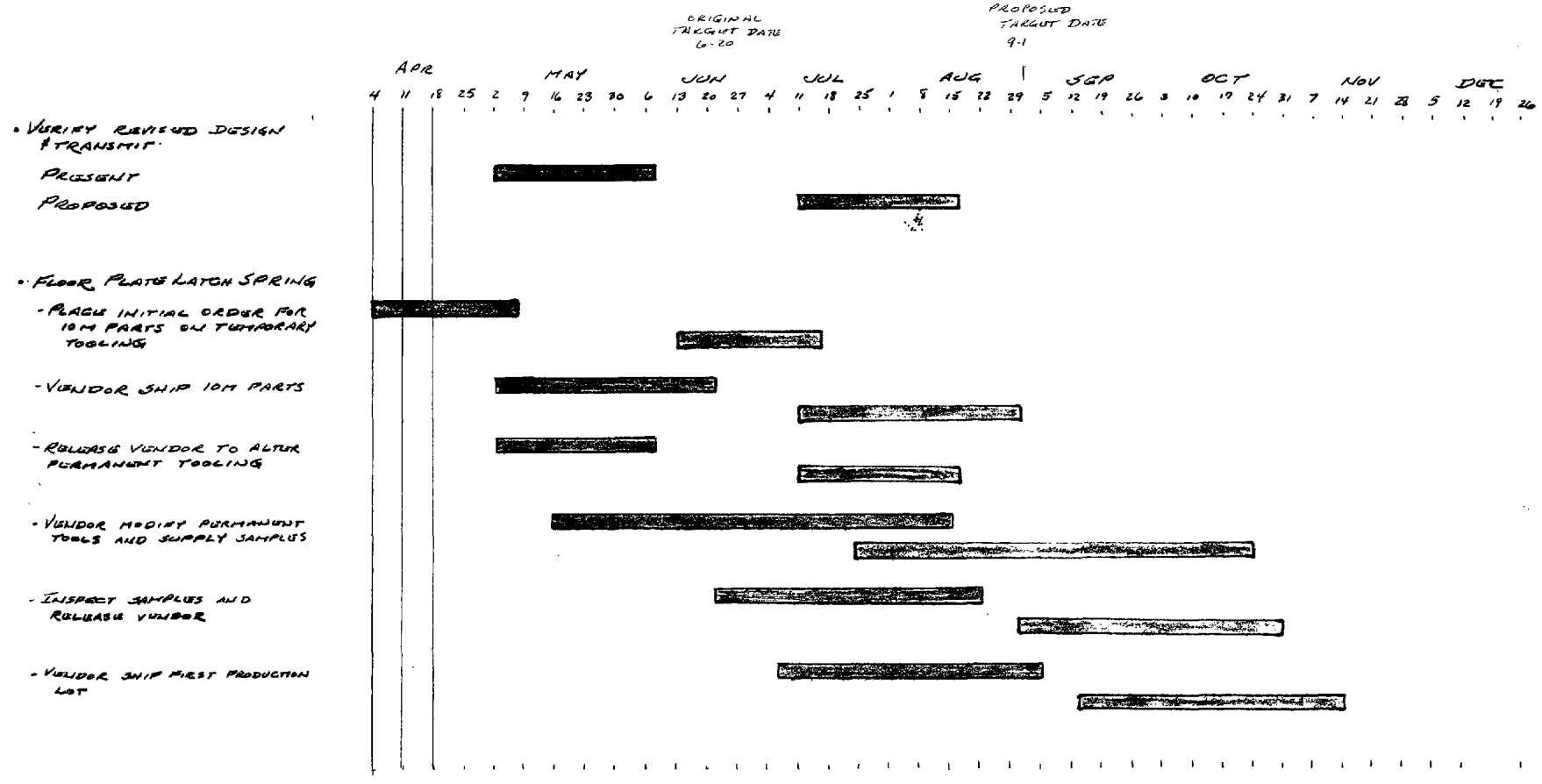
$18,000

- PRODUCTION TOOLING

  ASSUME ABOUT THE SAME AS THE DIE CASTING — 20-24 WEEKS

- PROCESSING (IN-PLANT) — 1-2 WEEKS

- TOTAL ESTIMATED LEAD TIME FROM FIRM DESIGN TO PRODUCTION PARTS AT FINAL ASSEMBLY — 7-9 MONTHS



FORM RD 15A REV 1, 12-81

PURCHASE REQUISITION

PURCHASE ORDER NO. _____

DATE ISSUED ~~5/11/83~~

THIS BLOCK FOR PURCHASING DEPT. USE ONLY

PLACED ON ALLIED TOOL & DIE

STREET NO. _____ CITY _____ STATE _____ ZIP CODE _____

CONTACT PERSON _____ TELEPHONE NO. _____

QUOTATION REFERENCE: _____

ORDER STATUS
CRITICAL ☐
TAXABLE ☐
EXEMPT ☐

SHIP VIA _____ F.O.B. _____ TERMS _____

NOTICE TO WRITER

SPECIFICATIONS MUST BE CLEARLY STATED GIVING WHENEVER POSSIBLE CATALOGUE MACHINE NUMBERS, ETC.

QUANTITY	DESCRIPTION	PRICE	DISCOUNT %	DELIVERY WANTED
	~~Cost to revert permanent tooling for Floor~~	~~$580.00~~		
	~~Plate Blank #92255 back to handle .052 mat'l~~			

REASON: LOWEST PRICE ☐ OTHER ☐

ITEM NO.	CHARGE ACCOUNT	WORK ORDER	DELIVER TO BLDG. NO.
			NOTIFY MR.
			ISSUED BY ~~S.D.Bennett~~
			APPROVED BY ~~L.B.Bosquet~~

FORM RD 15A REV 1, 12-81

PURCHASE REQUISITION

PURCHASE ORDER NO. _____

DATE ISSUED 5/11/83

THIS BLOCK FOR PURCHASING DEPT. USE ONLY

PLACED ON ALLIED TOOL & DIE

STREET NO. _____ CITY _____ STATE _____ ZIP CODE _____

CONTACT PERSON _____ TELEPHONE NO. _____

QUOTATION REFERENCE: _____

ORDER STATUS
CRITICAL ☐
TAXABLE ☐
EXEMPT ☐

SHIP VIA _____ F.O.B. _____ TERMS _____

NOTICE TO WRITER

SPECIFICATIONS MUST BE CLEARLY STATED GIVING WHENEVER POSSIBLE CATALOGUE MACHINE NUMBERS, ETC.

QUANTITY	DESCRIPTION	PRICE	DISCOUNT %	DELIVERY WANTED
	Cost to alter permanent tooling to make			
	Floor Plate Cover Blank #92255 out of .062			
	thick material	$2800.00		

REASON: LOWEST PRICE ☐ OTHER ☐

ITEM NO.	CHARGE ACCOUNT	WORK ORDER	DELIVER TO BLDG. NO.
			NOTIFY MR. S.D.Bennett
			ISSUED BY L.B.Bosquet
			APPROVED BY

FORM RD 15A REV. 1, 12-81.

PURCHASE REQUISITION

PURCHASE ORDER NO. _____

DATE ISSUED 5/11/83

THIS BLOCK FOR PURCHASING DEPT USE ONLY

PLACED ON H & P DIE & STAMPING

STREET NO. _____ CITY _____ STATE _____ ZIP CODE _____

CONTACT PERSON _____ TELEPHONE NO. _____

QUOTATION REFERENCE: _____

ORDER STATUS
CRITICAL ☐
TAXABLE ☐
EXEMPT ☐

SHIP VIA _____ F.O.B. _____ TERMS _____

NOTICE TO WRITER

SPECIFICATIONS MUST BE CLEARLY STATED GIVING WHENEVER POSSIBLE CATALOGUE MACHINE NUMBERS, ETC.

QUANTITY	DESCRIPTION	PRICE	DISCOUNT %	DELIVERY WANTED
	To cover cost of temporary tooling to increase			
	locking tab dim. by .036 and to reverse the			
	angle at the rear take down screw hole on			
	Trigger Guard Blank #92249 (marked print)	$1175.00		
	To cover the cost of 10M Trigger Guard Blanks			
	to be produced on above temporary tooling			
	at $975.00/M per marked print	$9750.00		

REASON: LOWEST PRICE ☐ OTHER ☐

ITEM NO.	CHARGE ACCOUNT	WORK ORDER	DELIVER TO BLDG. NO.
			NOTIFY MR. S. D. Bennett
			ISSUED BY L. B. Bosquet
			APPROVED BY

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Xc: L. B. Bosquet
R. C. Bottini
File: Proposal 1011

May 10, 1983

TO: R. J. LONG

FROM: D. J. ANDERSON DJA

RE: MODEL SEVEN LWT - .223 CALIBER

The above project has been accepted by the Operations Committee and a trial and pilot lot of 100 pieces is required for August assembly.

Please make whatever arrangements necessary. Barrel blanks have been completed through the GFM today.

DJA:hv

81343

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington Peters

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. P. Linde
G. Hill
J. Brooks
C. E. Ritchie

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831361

MODEL SEVEN – .222 CALIBER TRIAL & PILOT EVALUATION

1. O. J. ANDERSON 5/26
2. L. N. BOSQUET 5/27
3. P. C. JOHNSON
4. J. LINDE

Prepared by: 5-18-83

Date Prepared: C. E. Ritchie

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

C. Edwin Ritchie 5/23/83

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831361

REPORT TITLE: Model Seven – .222 Caliber Trial & Pilot Evaluation

MODEL(S): Seven

GAUGE OR CALIBER: .222

DATE: 5-16-83

WORK ORDER NO.: 81343-904

PART NAME:

DESIGNER/ENGINEER: G. Hill/J. W. Brooks

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - 8 OUT OF 40 GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

   NO. OF ROUNDS PER GUN: _____

   TOTAL ROUNDS FIRED IN TEST: _____

   AMMO TYPE: MAGS. _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE ___

May 18, 1983

TO: C. B. WORKMAN

FROM: C. E. RITCHIE

REPORT TITLE: MODEL SEVEN – .222 CALIBER TRIAL & PILOT EVALUATION

ABSTRACT

A request was received from G. Hill, Supervisor, Process Engineering, to perform a Trial & Pilot evaluation of the Model Seven .222 Caliber production firearm.

SCOPE OF WORK

Perform a Trial & Pilot evaluation on an 8 gun sample from a 40 gun production run.

TEST RESULTS

Only a Visual Inspection was performed. The sample lot was rejected due to the following:

1.) 3 of the 8 guns had been assembled using old style unheat treated trigger guards with the tab bent in the old position (upwards).

2.) 1 stock was cracked.

REPORT TEXT

Of the 8 firearms inspected, the following major objections were pointed out:

1.) 3 of the 8 guns had been assembled using old style unheat treated trigger guards with tabs bent in the old position (upwards).

2.) 1 stock was cracked (beginning at the floor plate tab and running about ¾" towards the muzzle of the gun).

These objections were the basis for rejection of this sample lot. No other physical testing was performed on the sample.

TEST PROCEDURE

An eight gun sample was selected by Charles Stephens, Research Test Lab, from a 40 gun production run.

A visual inspection was conducted in the Test Lab on 5-17-83 at 1:00 p.m. by Z. Kowalski, Process Engineering, D. Bullis, Current Firearms Design, R. Nightingale and E. Ritchie, Test Lab. Guns were wiped down with a clean cloth and inspected by each member of the committee and comments were recorded. Comments on individual guns can be found in the Appendix.

A P P E N D I X

Visual Inspection – T & P Evaluation
M/Seven .222 Cal.

7602556

- rear swivel screw hole not properly aligned.
- floor plate cover exceeds .026" gap .
- grip cap over polished to mis-shape the cap.

7602642

- front swivel screw - bright mark on dome and hole not properly aligned.
- dent in top of stock

7602629

- 2 pin holes and 1 dent in stock.
- light checkering on pistol grip - both sides.
- trigger guard used has tab bent in the old directior (appears not to be heat-treated).

7602508

- excess space between floor plate pad and inlet cut in stock.

7602651

- comb cut (left side) is mis-shaped.
- wood inlet - rear of trigger guard - impression of trigger guard in wood - screw hole probably mis-aligned.
- 2 pin holes in the bottom of the fore-end area.
- light checkering - pistol grip area both sides.

7602631

- 2 dents in pistol grip.
- dent on left top rail of stock.
- bottom of comb is mis-shaped - 3 flats.
- trigger guard used has tab bent in the old direction (appears not to be heat-treated).

7602637

- cracked stock - starts at floor plate pad.

7602605

- sight screw hole marred on rear sight.
- rear trigger guard screw marred.
- dent in floor plate pad.
- scratch on the floor plate cover.
- dent in top of the stock.
- trigger guard used has tab bent in the old direction (appears not to be heat-treated.)

General Note – 1.) Barrel bracket on all guns were dull finished.

2.) Ejection port radius on the stock are all 3/16" radius drawing calls for 3/8" radius.

L.B. Bragnet

MICRO

RD-6738 Rev. 380

DCR 11755

Sheet 1 of 1

DESIGN CHANGE REQUEST (DCR)

OR

TRANSMITTAL OF DRAWINGS / PARTS LIST

Requested By	Changed By	Date
Research	P. Nasupany	7/5/83
Originating Date	Transmittal Date	
7/5/83	7-12-83	

Model	Part Name / List	Drawing No.	Part No.
7 LWT	Barrel Assembly Complete	B-21460	21465
" "	Barrel Assembly	D-34990	34995
" "	Barrel	D-32725	32730
" "	Parts List Sheets 1 Thru 3		

Dwg. No.	Rev. No.	Design Change
B-21460	1	Added 223 Rem. caliber.
D-34990	3	" " " "
D-32725	5	" " " "
"	6	Added Part No. 32730 & LA 507.
PARTS LIST		Added 223 Rem cal To Parts List Sheets 1-2 & 3

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

(X) Other

Paul Nasupany

Designer Signature

Reason for Change: Add 223 Rem. caliber per Operation Committee minutes of May 25 1983 meeting

Disposition of Parts on Hand: (check below)

( ) Scrap ( ) Alter ( ) Use Inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered:

APPROVED: 7/11/83

7-5-83

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529235

G-88

DON'T SAY IT—*WRITE IT*

To FRANK WRISLEY

Date 10/18/83

From LARRY WILKE

RE: M/7 OPTI-SAND

PLEASE RELEASE THE OPTI-SAND FORMER FOR BUILD.

COMMENT: PRODUCTION WILL NOT BE ABLE TO RUN M/7 ON HEIAN FOR 2 WEEKS OR MORE. COST SAVINGS ON OPTI-SAND IS ESTIMATED AT $2833 PER MONTH SO WE CAN'T AFFORD TO DELAY.

LW

"YOUR SAFETY ATTENTION MEANS ACCIDENT PREVENTION"

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• SEQUENCE OF OPERATIONS •

MODEL SEE BELOW COMPONENT STOCK PART NO. _____

DATE 10-21-83 COMPUTER R. J. OEF SHEET 1 OF 1

OPER NO.	OPERATION NAME	MACHINE	DEPT. NO.	HOURS DESIGN	HOURS BUILD
	SPORTSMAN 12	OPTI-SAND	04	270	1400
					$4600.
	SPORTSMAN 74-76	OPTI-SAND	04	180	1060
					$4600
	1100-870 SPECIAL 12 ga	OPTI-SAND	04	140	840
					$4300
	1100-870 SPECIAL 20 ga	OPTI-SAND	04	125	570
					$4300
	TOTAL			715	3870
					$17,800

D-6568 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SPT 12 COMPONENT STOCK PART NO. —
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTISAND DEPT. NO. 14
COMPUTER R.J. ORF DATE 10-21-83 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD	
FORMER FABRICATION:					
FOLLOWER WHEEL (RICHARDSON to					
ZUCKERMAN) →		NEW	15	45	PT
CUTTER BODY (RICHARDSON to					
ZUCKERMAN) →		NEW	20	55	TF
a) WOOD BLANK				$300	TF
PREP & FABRICATION →			20	20	TF
b) ALUMINUM BLANK				$200	TF
PREP & FABRICATION →			20	110	TCF
ALTERATIONS →				40	TF
c) STEEL BLANK					
PREP & FABRICATION →			20	$3500	TF
NEW FORMER FOR CARVE					
PREP & FABRICATION			20	110	TF
ALTERATIONS				40	
SUB-TOTAL			115	420	
				$4600	

SKETCH

RD-8567 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SPT 12 COMPONENT STOCK PART NO. _____
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTI-SAND DEPT. NO. 04
COMPUTER R. J. ORF DATE 10-21-83 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
SUB TOTAL			115	420 $4600
PART FABRICATION:				
TENON DRIVERS	0	8 Req	20	360 TOTAL
BUTT LOCATORS & CENTERS	0	8 Req	15	270 TOTAL
FORMER DRIVER	0	1 Req	15	45
FORMER CENTER	0	1 Req	15	45
CRADLES ✓	0	16 Req	20	100 TOTAL
BASE GAGE (POSITION OF GRID)	TC	1 Req	40	140
SPEED & FEED CAMS ✓	TC	1 EA.	5	20
MACHINE LAYOUT	FTS-7039	0	25	
	E-44928			
TOTAL			270	1400

SKETCH $4600

RD-6567 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SPT-74&76 COMPONENT STOCK PART NO.
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN (OPTI-SANDER) DEPT. NO. 04
COMPUTER R. J. ORF DATE 10-21-63 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
FORMER FABRICATION:				
FOLLOWER WHEEL (RICHARDSON TO				
ZUCKERMAN)		A/U		
CUTTER BODY (RICHARDSON TO				
ZUCKERMAN)		A/U		
a) WOOD BLANK				$300
PREP & FABRICATION			20	20
b) ALUMINUM BLANK				$800
PREP & FABRICATION			20	110
ALTERATIONS				40
c) STEEL BLANK				
PREP & FABRICATION			20	$3500
SUB - TOTAL			60	170

SKETCH

$4600

RD-5567 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SET-74 & 76 COMPONENT STOCK PART NO.
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN (OPTI-SANDER) DEPT. NO. 04
COMPUTER R.J. ORF DATE 10-21-63 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD	
(from Pg 1) → SUB-TOTAL			60	170	
				$~~3500~~ 4600	
PART FABRICATION					
TENON DRIVERS		8 Req	20	360	O
BUTT LOCATORS		8 Req	15	270	O
FORMER DRIVER		A/U			
FORMER CENTER		A/U			
CRADLES		12 Req	20	100	O
BASE GAGE (POSITION OF GRIP)		NEW	40	140	C
SPEED & FEED CAMS		1 EA	5	20	PT O
MACHINE LAYOUT			20	—	
TOTAL			180	1060	
				$4600	

SKETCH

SD-6567 1-19-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL 1100 870 Special 12 Ga COMPONENT Stock PART NO.
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTI-SAND DEPT. NO. 04
COMPUTER R.J. ORF DATE 10-21-83 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
FORMER FABRICATION:				
ALUMINUM BLANK				$800.-
PREP & FABRICATION			20	80
ALTERATIONS				40
STEEL BLANK				
PREP & FABRICATION			20	$3500.-
SUB-TOTAL			40	120

SKETCH

$4300

FD-8567 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL 1100 ~~870~~ 12 GA SPECIAL COMPONENT STOCK PART NO. _____
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTI-SAND DEPT. NO. 04
COMPUTER R. J. ORF DATE 10-21-83 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
SUB-TOTAL			40	120
				$4300
PART FABRICATION:				
TENON DRIVERS (SAME AS SPT-12)		A/U		
BUTT LOCATORS (1100)	0	8 REQ	15	270 TOTAL
BUTT LOCATORS (870)	0	8 REQ	15	270 TOTAL
FORMER DRIVER		A/U		
FORMER CENTER		A/U		
CRADLES	0	16 REQ	20	100 TOTAL
BASE GAGE (POSITION OF GRIP)				
(ALTER SPT-12)	0		20	60
SPEED & FEED CAMS	PTO	1 EA	5	20
MACHINE LAYOUT	0		25	
TOTAL			140	840

SKETCH

$4300.

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

20 GA.

MODEL 1100 870 SPECIAL COMPONENT STOCK PART NO. _____

OPERATION OPTI-SAND (MACHINE SAND COMPLETE OPER. NO. 100

MACHINE ZUCKERMAN OPTI-SAND DEPT. NO. 04

COMPUTER R. J. ORF DATE 10-21-63 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD	
FORMER FABRICATION:					
ALUMINUM BLANK				$800	
PREP & FABRICATION			20	80	G
ALTERATIONS				40	
STEEL BLANK					
PREP & FABRICATION			20	$3500-	B
TOTAL			40	120	
				$4300	

SKETCH

1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

206A

• COMPUTATION •

MODEL 1100 870 SPECIAL COMPONENT STOCK PART NO.

OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100

MACHINE ZUCKERMAN OPTI-SANDER DEPT. NO. 04

COMPUTER R. J. ORF DATE 10-21-83 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
SUB-TOTAL			40	120
				$4300.-
PART FABRICATION:				
TENON DRIVERS (SAME AS SPT-74)		ALL		
BUTT LOCATORS	0	3 Req	15	270 TOTAL
FORMER DRIVER		ALL		
FORMER CENTER		ALL		
CRADLES	0	16 Req	20	100 TOTAL
BASE GAGE (POSITION OF GRIP)				
(ALTER SPT 74-76)	0		20	60
SPEED & FEED CAMS	PTO	1 EA.	5	20
MACHINE LAYOUT			25	
TOTAL			125	570

SKETCH

$4300 -

ARROWHEAD TOOL BUILDERS, INC.
428 CHESTNUT STREET • PHOENIX, N. Y. 13135 • TEL. (315) 695-2026

October 25, 1983

Remington Arms
Ilion, New York 13357

Attn: Ed Murray

Re: Remington P.O. #I-82376 dated 4/29/82

Dear Ed:

Per my conversation with yourself and Bob March concerning the subject purchase order, we are requesting an amended order to change the price from $3900.00 to $5300.00 due to the real hours established on several former projects since this order was placed in early 1982. Also enclosed you will find a copy of my letter to Bob March in February 1983, in which we had requested an initial change in price to $4290.00. The $5300.00 price is based on a full length former we completed for Remington earlier this year at that price.

The delivery for Former #E-45992 will be January 15, 1984. Our normal delivery for a former is in the five to six week range; however, we have a commitment to deliver D-44423 (your P.O. C-11196) on November 28, 1983 and can not start E-45992 until it is complete.

Also, as we discussed, Arrowhead billed you for a cancellation charge of $2400.00 relative to the subject purchase order. Please find a copy of my letter dated April 18, 1983 attached describing the reasons for those charges. Our accounting department will clear the purchase order by issuing a credit for that amount.

Should you have any questions, please don't hesitate to give me a call. Thank you for your assistance.

Best Regards,

Doug Price

Doug Price
Sales Manager

DP/bf
cc: Bob March

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• SEQUENCE OF OPERATIONS •

MODEL 7 LWT COMPONENT Stock Profiled PART NO. 92466

DATE 10/31/83 COMPUTER F. R. Wrisley SHEET 1 OF 1

OPER NO.	OPERATION NAME	MACHINE	DEPT. NO.	HOURS DESIGN	HOURS BUILD
	USE PART # 91950				
	TO MAKE				
	STOCK PROFILED # 92466				
60	Coat butt with RKW &	BENCH	71	—	—
	assemble Recoil Pad.				
65T	Glue toe of Pad to Stock.	—	71	—	—
70	Sand Outside Contour	ZUCKERMANN OPTISAND	71	40 hr.	120 hr. $5300
				97 hr. *	511 hr. *
81	N/C Rout Stock exterior	HEIAN	72	—	—
90	Drill holes for Grip Cap &	REMINGTON SPECIAL	71	—	—
	Rear Sling Swivel				
100	Assemble Grip Cap	BENCH	71	—	—
105	Drill Stock & assemble	DRILL PRESS	71	—	—
	Reinforcing Screw				
107	Sort for major repair	—	71	—	—
115	Machine & hand sand complete.	—	71	—	—
	Visual Stock & repair minor				
	wood faults.				
125	Inspect for proper sanding,	—	8055	—	—
	shape, and repairs 100%				
130R	Repair Stocks that have	—	71	—	—
	pin knots & bird pecks				
140R	Repair Stocks that have	—	71	—	—
	chips, cracks, broken or				
	loose pads, etc.				
	TO MRP Crib # 24				
*	Actual hours already completed.				
				40 hr.	120 hr. $5300
	TOTAL			97 hr. *	511 hr. *

RD-6568 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL 7 LWT COMPONENT Stock Profiled PART NO. 92466
OPERATION Sand Outside Contour OPER. NO. 70
MACHINE ZUCKERMANN OPTISAND DEPT. NO. 71
COMPUTER F.R. Whiley DATE 10/31/83 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
ZUCKERMANN OPTISAND	—	Add Use	—	—
Machine Layout -TDR # 81 - Completed	F-45995	New	60 *	365 *
Master Stock	E-45974	Add Use	—	—
Former Master - Aluminum -TDR# 82, TDR#87, 88, 92, 134, 135,	E-45993	New	21 *	138 *
Former -Cast Iron -TDR # 83	E-45992	New	12 *	$5300
Former Driver - Det. 9/2	F-45995	(in Layout)	—	—
Former Center	—	Add Use	—	—
Stock Driver - Det. 2,5,6	E-44928	Add Use	—	—
Stock Center - Det 3/2	F-45995	(in Layout)	—	—
Cradle Plate -Front - Det. 6/3	F-45995	(in Layout)	—	—
Cradle Plate -Rear - Det. 5/3	F-45995	(in Layout)	—	—
Follower Roll (2)	C-43072	Add Use	—	—
Contact Roll (16)	C-43125	Add Use	—	—
TOTAL			93*	$5300 503*

SKETCH

* Actual hours on work already completed.

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL 7 LWT COMPONENT Stock Profiled PART NO. 92466
OPERATION Sand Outside Contour OPER. NO. 70
MACHINE ZUCKERMANN OPTISAND DEPT. NO. 71
COMPUTER J. R. Wheeley DATE 10/31/83 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD
Belt Guide (8)	C-45473	Add Use	—	—
Rough Sanding Belts - (8)	—	Add Use	—	—
5"x59" -80 Grit				
Finish Sanding Belts - (8)	—	Add Use	—	—
5x59" -P120 Grit				
Dial Base Gage	G-42541	Alter	40	120
Grip Centrality				
Position of Grip				
Feed Template -TDR#146	E-45915	Alter	2 *	4 *
Speed Template -TDR#147	E-45480	Alter	2 *	4 *
TOTAL			40 4*	120 8*

SKETCH

* Actual hours on work already completed.

ENGINEERING ESTIMATE

xc: D.J. Anderson, L.B. Bosquet, H.K. Boyle, W.K. Bryant, R.W. Farrington, G.E. Fletcher, G.J. Hill, P.G. Johnson, W.S. Johnson, C.H. Kohn, J.P. Linde, R.J. Long, J.W. Smith

Title: MODEL SEVEN LWT OPTISAND FORMER
Date: 11-2-83
Estimated by: F. Wrisley

PROPOSED START-UP 10. 20. 30. 40. 19 84

MODEL SEVEN LWT

	CAP. $	OP. $		
ENGINEERING/DEVELOPMENT				
Investigation				
Design				
Models for Evaluation				
Design Testing				
DESIGN				
Machines				
Tooling	2100	1700		
BUILD AND PROCURE				
Machine Fabrication				
Machine Shipping				
Machine Installation				
Machine Alterations				
Tool Fabrication	9500	11200		
Tool Alterations	3600			
Perishable Tooling				
Vendor Tooling				
Production Aids				
LOT OPERATIONS				
Machine Rearrangement				
Pilot Lot Manufacturing				
Pilot Lot Testing		400		
Component Obsolescence				
CONTINGENCIES				
Inflation	800	600		
Unplanned Tool Revisions		2100		
Unplanned Machine Revisions				
SUBTOTAL	16000	16000		
TOTAL INVESTMENT	32000			

ENGINEERING ESTIMATE

xc: D.J. Anderson, L.B. Bosquet, H.K. Boyle, W.K. Bryant, R.W. Farrington, G.E. Fletcher, G.J. Hill, P.G. Johnson, W.S. Johnson, C.H. Kohn, J.P. Linde, R.J. Long, J.W. Smith

Title: OPTI-SAND STOCK MACHINE
Date: 11-14-83
Estimated by: R. Orf

PROPOSED START-UP 1Q. 2Q. 3Q. 4Q. 19 84

	SPORTSMAN 12		SPORTSMAN 74-76	
	CAP. $	OP. $	CAP. $	OP. $
ENGINEERING/DEVELOPMENT				
Investigation				
Design				
Models for Evaluation				
Design Testing				
DESIGN				
Machines				
Tooling	3300	4200	2200	2700
BUILD AND PROCURE				
Machine Fabrication				
Machine Shipping				
Machine Installation				
Machine Alterations				
Tool Fabrication	17500	27200	13000	22800
Tool Alterations				
Perishable Tooling		2000		700
Vendor Tooling				
Production Aids				
PILOT OPERATIONS				
Machine Rearrangement				
Pilot Lot Manufacturing		900		900
Pilot Lot Testing				
Component Obsolescence		600		600
CONTINGENCIES				
Inflation	2200	3100	1800	2700
Unplanned Tool Revisions		4000		3600
Unplanned Machine Revisions				
SUBTOTAL	23000	42000	17000	34000
TOTAL INVESTMENT	65000		51000	

ENGINEERING ESTIMATE

xc: D.J. Anderson, L.B. Bosquet, H.K. Boyle, W.K. Bryant, R.W. Farrington, G.E. Fletcher, G.J. Hill, P.G. Johnson, W.S. Johnson, C.H. Kohn, J.P. Linde, R.J. Long, J.W. Smith

Title: OPTI-SAND STOCK MACHINE
Date: 11-14-83
Estimated by: R. Orf

PROPOSED START-UP 1Q. 2Q. 3Q. 4Q. 19 84

	M/870-1100 12 & 20 Ga.		SPORTSMAN 78	
	CAP. $	OP. $	CAP. $	OP. $
ENGINEERING/DEVELOPMENT				
Investigation				
Design				
Models for Evaluation				
Design Testing				
DESIGN				
Machines				
Tooling	2200	5000	2700	2400
BUILD AND PROCURE				
Machine Fabrication				
Machine Shipping				
Machine Installation				
Machine Alterations				
Tool Fabrication	15800	33900	20800	21900
Tool Alterations				
Perishable Tooling		1300		700
Vendor Tooling				
Production Aids				
PILOT OPERATIONS				
Machine Rearrangement				
Pilot Lot Manufacturing		1400		900
Pilot Lot Testing				
Component Obsolescence		1000		600
CONTINGENCIES				
Inflation	2000	3400	1500	2500
Unplanned Tool Revisions		5000		4000
Unplanned Machine Revisions				
SUBTOTAL	20000	51000	25000	33000
TOTAL INVESTMENT	71000		58000	

SCOPE: Attached are five estimates which cover costs for formers and part fabrication required to sand the entire Sportsman line, the Model Seven LWT and the M/870-1100 12 & 20 Ga. Stocks on the Opti-Sand Machine.

NATIONAL 45-606 EYE-EASE 45-706 20/20 BUFF

M/700 Optional Form

11/2/83
C.H.K.

oper #	Component & operation	1 Design Tooling Hrs	1 Cap $	2 Build Tooling Hrs	2 Cap $	3 Design Tooling Hrs	3 Op $	4 Tools Build Hrs	4 Op $	5 Tool Alteration Hrs	5 Cap $	6 Trial & Test Op.	6 Op $
	Stock												
70	Grind Outside	73		138	5300	64		373		120			$400
	Contour	x25=	1825	x30	=4140	x25=	1600	x30=	11190	x30=	3600		
	Say		1900		9500		1600		11200		3600		400
	Tool Reduction		200		800		100		1000		300		

	Cap $	Op $
	2100	1700
	9500	11200
	3600	1400
		2100
	15200	15400
Contingencies	800	600
	16000	16000
	32000	

xc R.W. Farrington Jr.

G-38

DON'T SAY IT—WRITE IT

To E. R. Wrisley

Date Nov. 4, 1983

From E. L. Morris, Jr

re: Opti-sand M/7 Ltw Long Stocks

Per your request a high-spot evaluation has been performed on the proposal to Opti-Sand M/7Ltw long stocks and perform a reduced Machine and Hand Sand vs. the current Machine and Hand Sand Operation. This high-spot indicates a potential $30,000 annual (1984) labor savings based on the reduction in labor required at operation 110 Machine and Hand Sand Complete.

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

Proposal No. #1081

Xc:

P E & C EVALUATION REQUEST

MODEL: _____ Current ☐ New ☐ Revised ☐

TITLE: Opti Sand Machine Former

DEVELOPMENT SCHEDULE ITEM? _____ PRODUCT ACCEPT. DATE _____

SUBMITTED BY F. Wirsley + R. Orf DATE 11/4/83

FOR NEW/REVISED MODELS ONLY		Year	Volume	Price
	First Year			
	Third Year			
	SOURCE:			

PROPOSED WORK: Opti-Sand the Sportsman line the M/7LWT and the M/820-1100 12820 go stock.

DRAWINGS ATTACHED: _____

PARTS LIST DATED: _____

ENGINEERING COST ESTIMATE: DATE REQUIRED 11-21-83

LEAD ESTIMATOR F. Wirsley & R Orf DATE COMPLETED 11/29/83

ECONOMICS: DATE REQUIRED 12-2-83 DATE COMPLETED _____

OPERATIONS COMMITTEE REVIEW _____

PROJECT DRAFT COMPLETED _____

COMMENTS:

THE H&P DIE & STAMPING COMPANY
DIV. OF UNITED SCREW AND BOLT CORP.
Engineering · Tools · Dies · Stampings
Sub-Assemblies · Bus Supplies

216 671-8000

4650 TIEDEMAN ROAD
CLEVELAND, OHIO 44144

November 14, 1983

Remington Arms Co., Inc.
Ilion, N.Y. 13357

Attention: Messrs. Ferreira and Bosquet

Gentlemen:

FIRST OF ALL I HAVE NOTHING TO DO WITH CURRENT PURCH. PARTS - Q.C.
SECOND - WHY DID HE HAVE BOTH GAGES?

On June 17, 1983, we returned Remington's gage for all operating handles for correction and H & P's gage for updating. We are now manufacturing operating handles and the gage has not been returned.

On July 12, 1983, and previously, we called Remington's attention to the 92256 base gage and the trigger guard gage we have on hand that are not usable, please advise when exchange can be made.

Yours sincerely,

Frank Ambrose

Frank Ambrose

rn

M/7 LWT STEEL PARTS

WE HAVE NO INTENTION OF MAKING ANY CHANGES TO THESE GAGES

Bolt Action Carline
1983 Introduction

11-3-81
JBB

Tool Design

There are approximately 6000 hours of tool design involved in this model. In order to meet the proposed Trial and Rebat schedule it will be necessary to contract with outside design houses for at least 50% of the design. Design to be accomplished in 12 weeks (3 months)

6000 ÷ 40 = 150 man weeks

assume that five (5) Remington designers are assigned to this project

5 x 40 x 12 = 2400 hours can be completed

6000 - 2400 = 3600 hours to be "farmed out"

3600 ÷ 12 ÷ 40 = 7.5 or 8 outside designers.

G-88

DON'T SAY IT—*WRITE IT*

To Big

Date 11-10-83

From Brad

Please check the M/7 LWT Assembled Actions (308 Cal) left over from the first go round.

If they look rusty (especially the bores) have someone oil them.

Spot checked actions in Crib 29 - OK. - no rust -

11-10-83

K

"SAFETY RULES ARE PERFECT TOOLS"

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• SEQUENCE OF OPERATIONS •

ODEL SPT. 78 COMPONENT STOCK PART NO.

ATE 11-23-83 COMPUTER R.J. OEF SHEET 1 OF 1

PER NO.	OPERATION NAME	MACHINE	DEPT. NO.	HOURS DESIGN	HOURS BUILD
	BASIS:				
	① VOL. 18,000/YR.				
	② USE ZUCKERMAN CARVER FORMER.				
100	(OPTI-SAND) MACHINE SAND COMPLETE		72	188	1405
					B1100.—
	TOTAL				

-6568 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SPT. 78 COMPONENT STOCK PART NO. —
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTI-SAND DEPT. NO.
COMPUTER R.J. ORF DATE 11-23-83 SHEET 1 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD	
FORMER FABRICATION:					
a) PREP ALUMINUM BLANK			10	20	
b) COPY 1:1 FROM (PRESENT)				140	TF C
c) ALTERATIONS				40	
		BLANK		$300.	
a) PREP STEEL BLANK			10	25	
b) COPY 1:1 FROM ALUMINUM				160	TF C
c) ALTERATIONS				10	
		BLANK		$800.	
SUB TOTAL			20	395	
				$1100.—	

SKETCH

RD-6567 1-18-63

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

• COMPUTATION •

MODEL SPT 78 COMPONENT Stock PART NO. —
OPERATION (OPTI-SAND) MACHINE SAND COMPLETE OPER. NO. 100
MACHINE ZUCKERMAN OPTI-SAND DEPT. NO.
COMPUTER R. J. ORIE DATE 11-23-63 SHEET 2 OF 2

TOOLING	DRAWING NUMBER	REMARKS	HOURS DESIGN	HOURS BUILD	
PART FABRICATION:	(SUB TOTAL)	→	20	395 ($1100)	
FRONT DRIVERS		8 REQ	20	360	0
BUTT DRIVERS & CENTERS		8 REQ	15	270	0
CRADLES		16 REQ	20	100	0
BASE GAGE POSITION OF GRIP		NEW	50	160	C
SPEED & FEED CAMS			5	20	PT 0
MACHINE LAYOUT	F-TS-7039		25		0
	E-44928				
JANG GAGE.			30	100	C
FOLLOWER ROLLS		A/U	3		
TOTAL			188	1405	

SKETCH

$1100.

RD-6567 1-18-63

11-23-83
RJC.

Sportsman 78 on opti-sander.

Procedure for producing former for opti-sand.

① Use the Zuckerman carver former for the ~~M/788~~ classic and run stocks on the Richardson carver.

② Copy the former 1:1 into aluminum for the opti-sander.

③ Use the aluminum former on the opti-sander and ~~the~~ sand the stocks from the Richardson carver.

④ Alter aluminum former as needed and try again

⑤ Copy aluminum former into steel.

Optic-Sand Cities Item
Sept. 78

Component Operation	Range Tooling Cap $	Rand Tooling Cap $	Range Tooling Op $	Rand Tooling Op $	Rand Tooling Op $	Rand Tooling Op $	Rand Tooling Mfg. Op $			CAP $	OP $
Stock (Sept 78)										2700	2500
100 Optic-Sand Complete	100	655	1100	88	730	20	500	800		20800	219000
	x25= 2500	x30= 19650	x25= 2200	x30= 21900	x27= 540						700
SAY	2500	20800	2200	21900	600		500	800			600
Tool Revision	200	2000	200	2000	100		100	100			900
											4000
										23500	30500
									Contingency	1500	2500
										25000	33000

Optic Sand Complete

Components & operations	Design Tooling #	Design Tooling CAP $	Build Tooling #	Build Tooling OP $	Design Tooling #	Design Tooling OP $	Build Tooling #	Build Tooling OP $	Build Tooling #	Build Tooling OP $	Component Stock OP $	Pilot Ops Mfg OP $		CAP $	OP $
Stock (Spt 72)														33300	4300
Optic Sand Complete	120		440	4300	150		895	300	65		500	500		175000	27200
	x25=	3000	x30=	13200	x25=	3750	x30=	26850	x27=	1755					2000
Say		3000		17500		3800		27200		1800	500	800			600
Tool Revision		300		1500		400		2500		200	100	100			900
															4000
														208800	38900
													Contingency	2200	3100
														230000	42000
Stock (Spt 74/76)														CAP $	OP $
Optic Sand Complete	80		290	4200	100		750	300	20		500	800		2200	2700
	x25=	2000	x30=	8700	x25=	2500	x30=	22500	x27	540				130000	22800
Say		2000		13000		2500		22800		600	500	800			700
Tool Revision		200		1300		200		2300		100	100	100			600
															900
															3600
														152200	31300
													Contingency	18000	2700
														170000	34000
Stock (m 870/1100 (average)														CAP $	OP $
Optic Sand Complete	80		240	8600	185		1130		40		800	1200		2200	5000
	x25=	2000	x30=	7200	x25=	4625	x30=	33900	x27	1080				158800	33900
Say		2000		15800		4700		33900		1100	800	1200			1300
Tool Revision		200		1500		300		3500		200	200	200			1000
															1400
															5000
														180000	47600
													Contingency	2000	3400
														220000	51000
													Total	60000	127000

REQUEST FOR MEASUREMENT ASSISTANCE

REQUESTED BY: J. McCoy | DATE: 10-2-84 | MODEL: M/7 | PART DESCRIPTION: Trigger Guard

PART NO.: 92836 | OPER.: | OPERATION DESCRIPTION: | CODE: | SUBD.:

WORK REQUESTED: Measure .475 Dim.

MEASURED BY: E.L. Barnes | DATE: 10-3-84 | SAMPLE SIZE: 30

REMARKS:

MEASURED DIMENSIONS

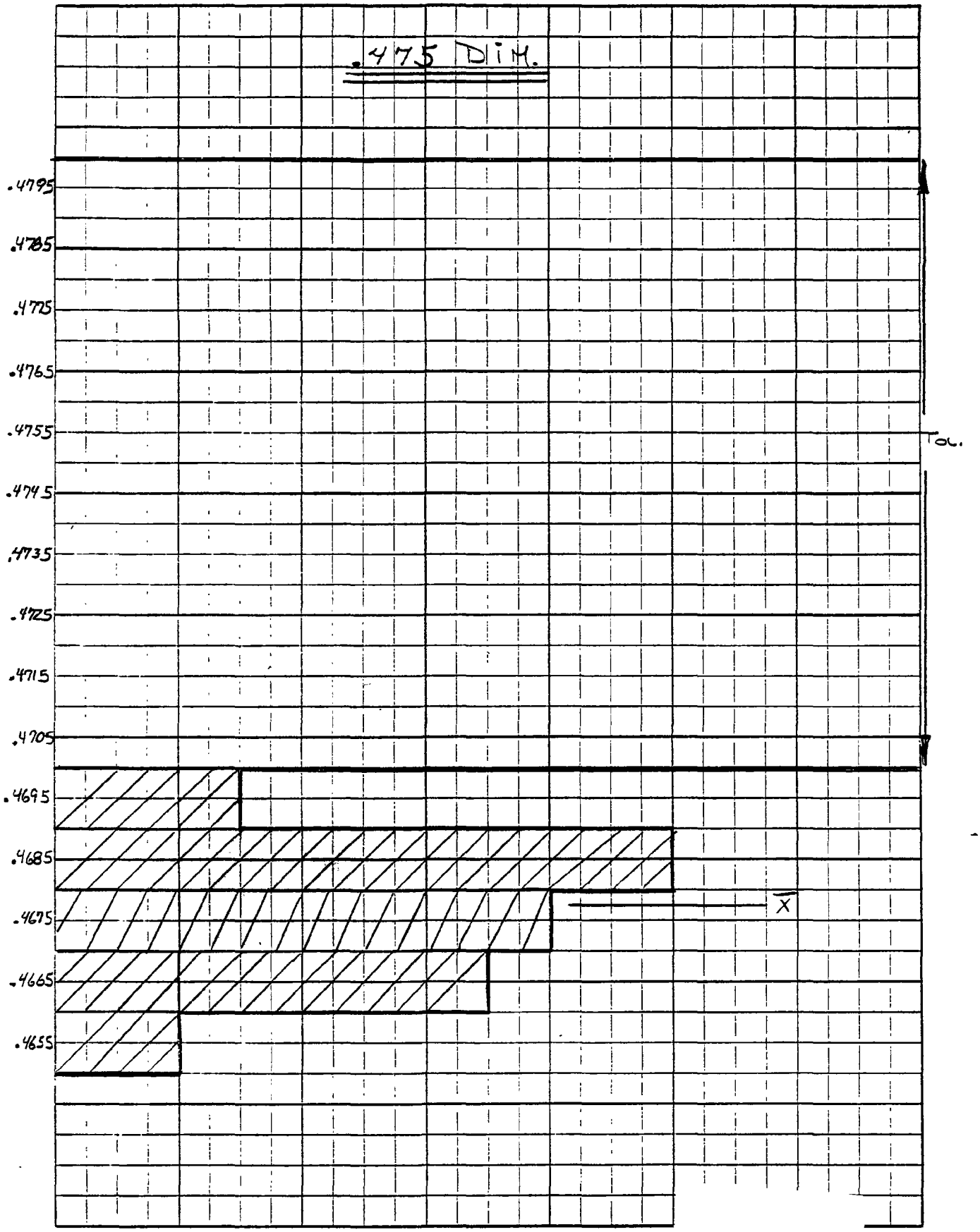
DESC. OF CHARACTERISTIC: N = 30, $\bar{X}$ = .4678, σ = .00107

MODEL DWG. DIM. .470 .480		MODEL DWG. DIM.		MODEL DWG. DIM.		MODEL DWG. DIM.		MODEL DWG. DIM.		MODEL DWG. DIM.		MODEL DWG. DIM.		MODEL DWG. DIM.	
DIM.	X	DIM.	X	DIM.	X	DIM.	X	DIM.	X	DIM.	X	DIM.	X	DIM.	X
.4683	X	.4671	X												
.467	X	.466	X												
.4686	X	.4693	X												
.467	X	.468	X												
.4668	X	.4685	X												
.4672	X	.4673	X												
.4691	X	.4687	X												
.4688	X	.4665	X												
.4667	X	.4662	X												
.4688	X	.4657	X												
.4669	X	.4679	X												
.4687	X	.4676	X												
.470		.4685	X												
.4672	X	.4684	X												
.4687	X	.4678	X												

NOTE: X INDICATES OUT OF TOLERANCE

.475 DIM.

CELL BOUNDRIES	CELL MIDPOINT	TALLY	F	%
.465				
	.4655	//	2	6.7%
.466				
	.4665	///////	7	30%
.467				
	.4675	////////	8	56.7%
.468				
	.4685	//////////	10	90%
.469				
	.4695	///	3	100%
.470				



RD-49-B

QR 000581

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

XC: L. B. Bosquet
J. J. Burns
R. L. Snedeker
K. W. Soucy

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

October 4, 1984

TO: S. D. BENNETT

FROM: J. B. MROZ J.B.M.

M/7 LWT. TRIGGER GUARD BLANK D-92836

REQUEST: Find the range of variation on the .475" ± .005" (see attached letter and model drawing).

METHOD: Measure 30 trigger guards for .475" ± .005" dimension on the 30" comparator in Q.C. lab.

RESULTS: Range - .470" - .4657 = .0043"
Mean - .4678"
Std. Dev. - .00107"
6 Std. Dev. - .0064"
(See attached data sheets and graph)

CONCLUSION: Vendor is not within control on this dimension.

JBM/cac
Attach.

Xc: D.J. Anderson, L.B. Bosquet, H.K. Boyle, W.K. Bryant, R.W. Farrington, G.E. Fletcher, G.J. Hill, P.G. Johnson, J.C. Woudenberg, K.W. Soucy, R.J. Long, C.H. Kohn, A.D. Johnson

ENGINEERING ESTIMATE

TITLE M/700 CLASSIC & MODEL SEVEN LWT RECOIL PAD
DATE 12-7-84
ESTIMATED BY Spencer Bennett

PROPOSAL #1125

PROPOSED START-UP 1Q 2Q 3Q 4Q . 19 85

	CAP. $	OP. $		CAP. $	OP. $
ENGINEERING DEVELOPMENT					
Investigation					
Design					
Models for Evaluation					
Design Testing					
DESIGN					
Machines					
Tooling	500				
BUILD AND PROCURE					
Machine Fabrication					
Machine Shipping					
Machine Installation					
Machine Alterations					
Tool Fabrication	1100				
Tool Alterations					
Perishable Tooling					
Vendor Tooling	3500				
Production Aids					
PILOT OPERATIONS					
Machine Rearrangement					
Trial & Pilot Operations		400			
R & D Design Confirmation					
Machine Runoff					
Trial and Pilot Scrap					
Comp. Obsolescence(Inv. Scrap)					
CONTINGENCIES					
Plant Overhead Charges 4.4%	250				
Inflation	510	40			
Unplanned Tool Revisions					
Unplanned Machine Revisions					
SUB-TOTAL	5860	440			
TOTAL INVESTMENT	6300				

SCOPE: Purchase Recoil Pad and stamping dies to produce larger steel reinforcement.

[redacted]

PROCESS ENGINEERING ESTIMATE - TRIAL AND PILOT SHEET

700 CLASSIC • SEQUENCE OF OPERATIONS •

MODEL 7 LWT COMPONENT RECOIL PAD PART NO. 91544

DATE 12/7/84 COMPUTER Spencer Burnett SHEET 1 OF 1

OPER NO.	OPERATION NAME	MACHINE	DEPT. NO.	HOURS DESIGN	HOURS BUILD
	PURCHASE RECOIL PAD FROM BEEBE RUBBER COMPANY.				
	PURCHASE NEW STAMPING DIES TO PRODUCE LARGER STEEL REINFORCEMENT.				
	TOOL CHARGE : $3500. (STAMPING DIE ONLY)				
	PIECE PRICE : $2.30 EACH (PAD WITH STEEL REINFORCEMENT)				
	PURCHASED PARTS INSPECTION		9260		
	HOLE SPREAD GAGE	NEW		20	35
	TO STOCK ASSEMBLY				
	TOTAL			20	35

RD-6568 1-18-63

G-88

DON'T SAY IT—*WRITE IT*

To L.B. Bosquet

Date 1/4/85

From Spencer Bennett

in re: M/700 Classic Recoil pad D91544

attached is estimate for new larger steel reinforcement for 700 classic - M/7 LWT recoil pad.

We tried 18 samples and found no opening at the toe between pad and stock.

This change should minimize the open-toe condition and, hopefully, eliminate the need for gluing pads.

S.E.

Look at this as a possible cost improvement item.

Thank you,

Brad Bosquet

"YOUR SAFETY ATTENTION MEANS ACCIDENT PREVENTION"

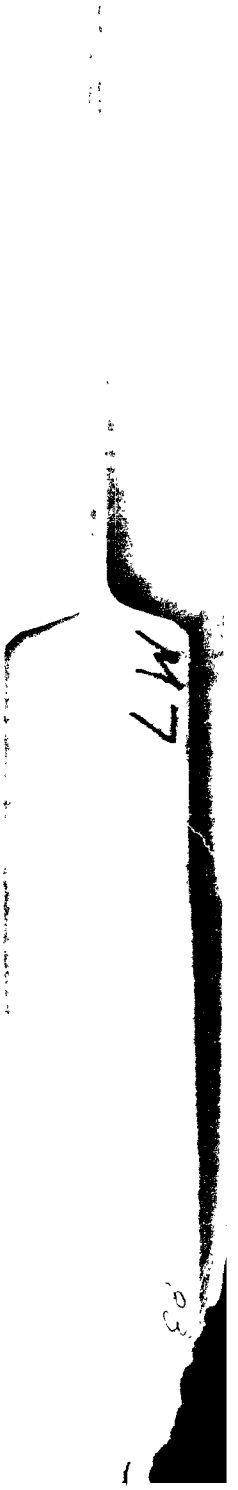
National Brand 45-605 Eye-Ease Made in USA

M/700 classic & M/7 LWT recoil pad.

11/7/85
J.C.W.

Component & operation	1 Vendor Tooling CAP.	$	2 Tool Design HR	CAP	$	3 Tool Build HR	CAP	$	4 Trial & Pilot ops OP	$
Stamping skin to produce larger Steel Reinforcement	35	00								
Punches Center Inspection Hole spread gage			20			35				400
	35	00	20			35				400
			125 :		500	130 :		1050		
SAY	35	00			500		11	00		400

CAP $	OP $
35 00	400
15 00	
11 00	
51 00	400
PLANT O/H 3 50	
Contig 5 10	40
58 60	440
~~6 30~~	



TO: J.W. BROOKS

(Received by C.B. Workman - 8/23/83)

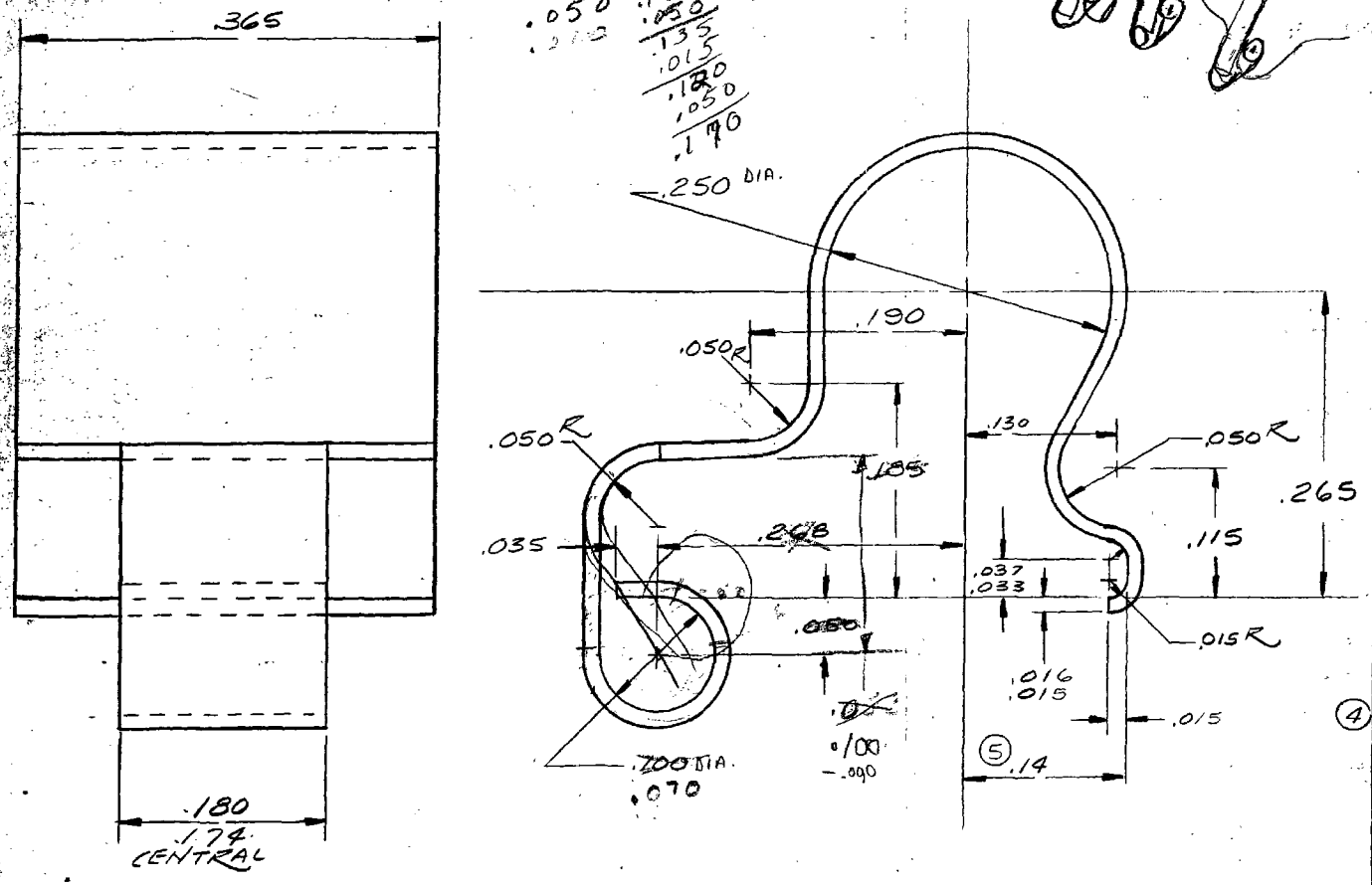
B-91848

THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

DO NOT SCALE THIS DRAWING: WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00°–30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 1095
HEAT TREAT
HARDNESS SPRING TEMPER
(2) COLOR
~~HEAT TREAT AND COLOR TO BE DONE BY REMINGTON~~ P.S.J 11/10/81

ALTERATIONS				
ALT.		REF.	BY	DATE
1	ADDED BLANK No.	11563	[illegible]	4/4/82
2	BLACK OXIDE	11620	[illegible]	9/9/82
3	BLANK #92250	"	"	"
4	BOLT ALT. CARBINE		"	"
5	.140	"	"	"



W.O. C 1853-000 Y

(3) 0

AUTHORIZED
SEP 15
Process Engineering

MODEL	PART NO.	PART USE
(4) 7LWT	91848	LATCH SPRING (FLOOR PLATE)

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
	4-17-80	J. Plunkett 11/4/81	11/10/81

TITLE LATCH SPRING

NUMBER	SCALE	SUPERSEDES	REFERENCE
B-91848	10/1		DCR # 11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TFB REV. 477 N.H.S. 19 1153

FORM TFC REV 4-80 — N.R.S. 19 1953

C-91843

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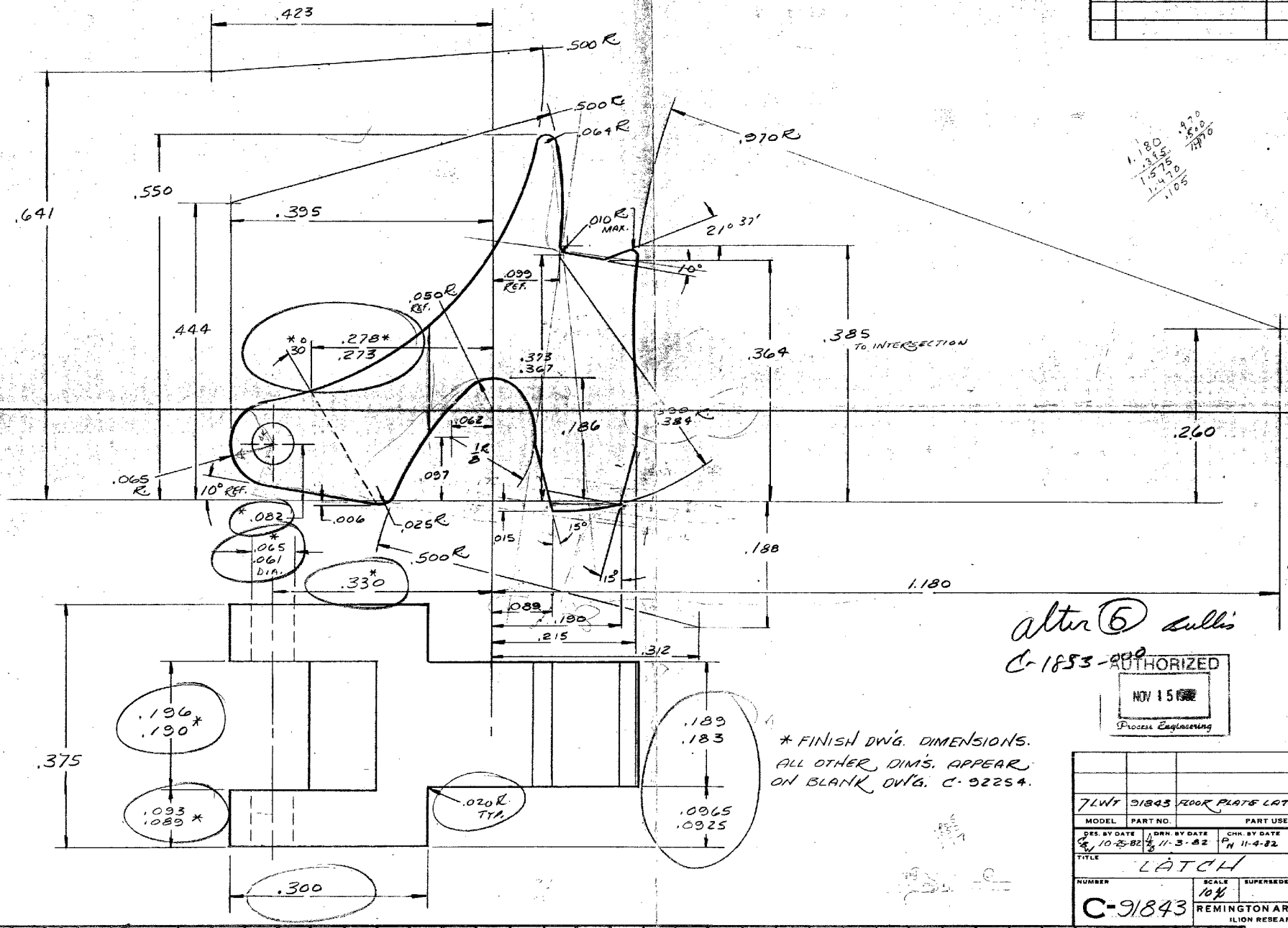
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° −30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL
HEAT TREAT
HARDNESS
COLOR BLACK OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALTERATIONS				
ALT.	WAS	REF.	BY	DATE
9	Revised & Redrawn	11641	DB	11-11-82



alter 6 sullis
C-1853-000

AUTHORIZED
NOV 15
Process Engineering

* FINISH DWG. DIMENSIONS.
ALL OTHER DIM'S. APPEAR ON BLANK DWG. C-92254.

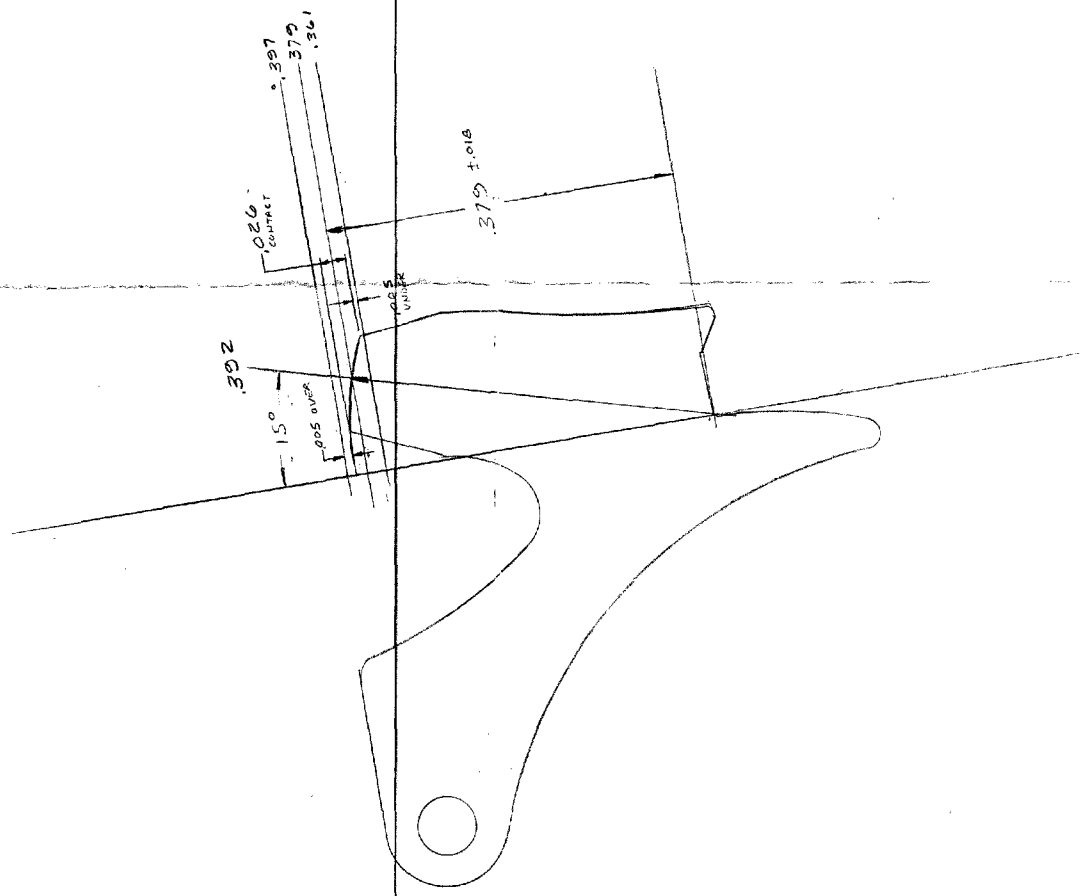
MODEL	PART NO.	PART USE
7LWT	91843	FLOOR PLATE LATCH

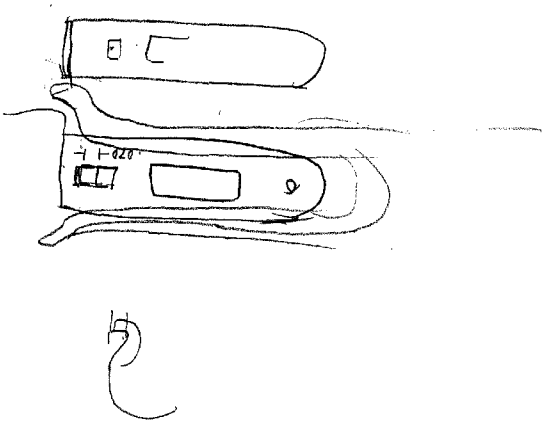
DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
10-25-82	11-3-82	11-4-82	11/8/82

TITLE: LATCH

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91843	10X		

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.


.397
.379
.361
.026
COUNTER
.379 ±.018
.005
UNDER
.392
1.5°
.005 OVER



December 17, 1982

F. M. AMES	W. W. COOK	P. G. JOHNSON
L. W. BAUM	L. B. FERREIRA	W. S. JOHNSON
L. B. BOSQUET	G. E. FLETCHER	M. J. KANTOR
J. W. BROOKS	G. J. HILL	C. E. RITCHIE

FROM: G. D. CAMPBELL / D. J. ANDERSON

MODEL SEVEN PRODUCTION STARTUP

A summary of the active programs to resolve startup difficulties with the Model Seven LWT is attached. Program status and anticipated completion dates are as of December 17, 1982. Progress will be monitored and status updated as required.

GDC/DJA:hv
Attachment

MODEL SEVEN PRODUCTION STARTUP

PROGRAM STATUS

PROGRAM/KEY EVENT	RESPONSIBILITY	COMPLETION
I. Eliminate/Minimize ESCR Rejects (.243 Cal.)		
o File chamfer on rail to repair finished guns and Barrel assemblies (.243 only)	PRODUCTION	COMPLETE
o File chamfer on rail of all new .243 Receivers prior to assembly to Barrels (Dept. 58)	PRODUCTION	IN PROGRESS
o Revise Receiver design (add angle to rail) and process for all calibers-M/Seven only		
- Provide samples for test	PE&C/PRODUCTION	1/14/83
- Function test	RESEARCH	TBD
- Transmit design change	RESEARCH	TBD
- Revise process	PE&C/PRODUCTION	TBD
II. Eliminate Floor Plate Latch Failure		
o Continue M/Seven assembly with available Latches - hold for Latch replacement	PRODUCTION	IN PROGRESS
o Provide correct Latches using EDM process in quantities sufficient to support production		
- Start producing 60/day with Research EDM (3 shifts)	RESEARCH	COMPLETE
- Order additional from Fermer Tool & Die (rate TBD)	PE&C/PURCHASING	12/17/82
- Complete straddle mill fixture	TOOL ROOM	12/20/82
- Start mill, drill, deburr, and heat treat operation	PRODUCTION/PE&C	12/20/82
- First parts to Final Assembly	PRODUCTION/PE&C	12/21/82

PROGRAM/KEY EVENT	RESPONSIBILITY	COMPLETION
II. Eliminate Floor Plate Latch Failure (Continued)		
o Provide correct Powder Metal Latches		
- Revise tooling	POWDER METAL	1/3/83
- Production parts	POWDER METAL	1/5/83
III. Establish Floor Plate to Stock clearance specification		
o Continue M/Seven assembly holding maximum clearance at 0.035 inch (nominally same as M/700)	PRODUCTION	IN PROGRESS
o Determine clearance specification required	RESEARCH	TBD Doug
o Revise design and/or process so that specification can be met	RESEARCH/PE&C	TBD

GDC:hv

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" December 30, 1982

J. P. LINDE

SUBJECT: MODEL SEVEN LIGHTWEIGHT FLOOR PLATE LATCH - MATERIAL SUBSTITUTION FOR FIRST PRODUCTION GUNS

In August of this year approximately 1000 pieces of the original design part were received from Powder Metal. These blanks were made of HD 1000 powder metal pressed and coined to a density of 7.2. This lot of parts was accepted and was used in the Trial and Pilot of this model. The balance was to be used in the initial production run.

During the Trial and Pilot testing a functional problem was noted - the Floor Plate Cover opened during shooting. Research analysis of the problem resulted in a redesigned Latch. Samples were made from C-1018 wrought steel, tested (in the plant and in the field), and were found acceptable in overcoming the problem.

The revised design was transmitted on November 11 and new Powder Metal tooling was ordered. Blanks were received December 3. Initial testing indicated that they functioned properly. However, as the first production guns were being tested it was noted that the problem was still present.

A meeting was held December 9 with representatives from New Product Process Engineering, Powder Metal, and Research in attendance. It was decided to tighten the dimensions locating the latching surface radius. The powder metal tooling vendor was contacted and instructed to build a new set of pressing and coining tools. Revised model drawings were transmitted December 13 on DCR 11658. The new pressing tools will be shipped to Remington (by air freight) on January 7, 1983 and the coining tools the following week.

Research N/C group was contacted and began producing Latch blanks on their wire EDM equipment. Two additional machining operations were set up and the first Latches processed through to Final Assembly on December 21. Research was originally requested to provide 500 blanks by January 1, 1983. In light of the powder metal tooling delivery this quantity was increased to a total of approximately 1400 blanks by January 21.

In order to provide an adequate supply of parts, Fermer Tool and Die was contracted to provide 250 blanks by January 1. This quantity was increased on 12/22 to a total of 1000 pieces by January 21, 1983.

It is anticipated that the new powder metal tooling will provide parts beginning about January 19, 1983. In summary: the original Latch design was a contributor to the "Floor Plate Cover Opens" malfunction; the redesigned Latch has eliminated the problem; new powder metal tooling will be available in mid January; to provide Latches for assembly until then, a total of approximately 2400 pieces is being produced from C-1018 wrought steel.

L. B. Bosquet, Supervisor
N. P. Process Engineering

LBB:hf

#820391

DROP / JAR OFF TEST
ON HARD WOOD SURFACE FROM
3' DROP ELEVATION.

	1	2	3	4	5	6	7	8	9	10
	M/7 NEW STYLE TRIGGER	M/7 NEW STYLE TRIGGER	M/7 OLD STYLE TRIGGER	M/700 OLD STYLE TRIGGER		M/7	M/7	M/7	M/700	M/700 NEW TRIGGER SPRING & SEAR
SERIAL NO.	#7601285	#7601292	#7601289	#A6351001		#7601285	#7601292	#7601289	#A6351001	#A6341722
SAFE POSITION	ON OFF	ON OFF	ON OFF	ON OFF		ON OFF	ON OFF	ON OFF	ON OFF	ON OFF
TRIGGER PULL (lbs.) AVG.	5.0 lbs.	5 lb.	4.75 lb	5.75 lb		3.0 lb	3.0 lb	3.0 lb	3.0 lb	3.0 lb
SEAR ENGAGEMENT	.015"	.015"	.015"	.015"		.015"	.015"	.015"	.015"	.015"
MUZZLE FIRST	OK OK	OK OK	OK OK	OK OK		OK OK	OK OK	OK OK	OK OK	OK OK
BUTT FIRST	OK OK	OK OK	OK OK	OK OK		OK OK	OK OK	OK OK	OK OK	OK OK
RIGHT SIDE	OK OK	OK OK	OK OK	OK OK		OK OK	OK OK	OK OK	OK OK	OK OK
LEFT SIDE	OK OK	OK OK	OK OK	OK OK		OK OK	OK OK	OK OK	OK OK	OK OK
TOP SIDE	OK OK	OK OK	OK OK	OK OK		OK OK	OK OK	OK OK	OK JO	OK OK
BOTTOM SIDE 12"	– OK	– OK	– OK	OK OK		OK OK	OK OK	OK OK	OK OK	OK OK
18"	– 3JO/4	– JO/4	– OK	OK OK		OK 1JO/4	OK 3JO/4	OK 2JO/4	OK 4JO/4	
24"	– 4JO/4	– 2JO/4	– 1JO/4	OK OK		OK 2JO/4	OK 4JO/4	OK 4JO/4	OK 4JO/4	
36"	OK 4JO/4	OK 4JO/4	OK 2JO/4	OK OK		OK JO	OK JO	OK JO	OK JO	
TOP SIDE 12"									OK OK	
18"									OK OK	
24"									OK OK	
36"									OK JO	

Go to 4' when JO's start

John Brooks
Please See Me
Clark
(Tooling Cost?)

xc: H.C. Munson
J.P. Linde
C.B. Workman

Est. #4457

January 19, 1983

H.K. Boyle

High Spot Cost Comparison
M/7 Floor Plate Assembly vs. M/700 Trigger Guard

Estimated cost for the Model Seven Floor Plate Assembly has been determined in respect to the M/700 Trigger Guard Assembly. More specifically, economics reveal a M/7 cost of $940.998/C versus a M/700 cost of $756.646/C.

Costs include standard labor, direct expense, and material costs. Variance and industrial relations have been applied to the appropriate accounts.

Cost differential for the two designs disclose a $184.342/C increase for the M/7 Floor Plate Assembly.

Industrial Engineering Section
R.W. Farrington, Jr., Supervisor
RW Farrington Jr
D.G. Scram
By: D.G. Scram

DGS/kc

xc: H.C. Munson
J.P. Linde
C.B. Workman

Est. #4457

January 19, 1983

H.K. Boyle

High Spot Cost Comparison
M/7 Floor Plate Assembly vs. M/700 Trigger Guard

Estimated cost for the Model Seven Floor Plate Assembly has been determined in respect to the M/700 Trigger Guard Assembly. More specifically, economics reveal a M/7 cost of $940.998/C versus a M/700 cost of $756.646/C.

Costs include standard labor, direct expense, and material costs. Variance and industrial relations have been applied to the appropriate accounts.

Cost differential for the two designs disclose a $184.342/C increase for the M/7 Floor Plate Assembly.

Industrial Engineering Section
R.W. Farrington, Jr., Supervisor
R W Farrington Jr
D.G. Scram
By: D.G. Scram

DGS/kc

RD-89-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: L. B. Ferreira
✓J. W. Brooks
L. B. Bosquet
R. C. Bottini
R. J. Long
File

January 20, 1983

TO: S. D. Bennett

FROM: D. D. Ricci

REFERENCE: #92227 Bolt Handle

Per conversations with Vestshell since my 12-27-82 letter, the following revised approach will be taken;

- Additional orders have been issued for the square neck,round ball handles to insure continuity.

- Rather than physically alter any of the new cavities at this time (to reduce the excess costs for prototype work and rebuild once a decision is made), Vestshell will exhaust all possibilities of design improvement to eliminate the 'hot tears'. Waxes will be hand scrapped using parts produced from the old die - square neck, round ball design.

All options will be produced to metal and forwarded to Remington for review. Estimated time is three (3) weeks.

Vestshell has explored an option to metal form, changing the acute angle from 1/16 radius to 3/32" radius. 'Hot tears' were diminished but not eliminated.

Example of option consideration;

1. 1/16 acute angle to 1/8 radius
2. 1/16 acute angle to 3/32 radius with sections A-A, B-B, C-C .100 radius change to
   a. .070
   b. .080
   etc.

We hope this meets with your approval, as Vestshell is proceeding most expeditiously to eliminate this condition as well as provide our Production requirements.

DDR/y

1-31-83

M 7 & 700 222 Follower

Feb 1 afternoon notify vendor for go ahead to make 650 prototype followers

Feb 8 vendor complete parts

Feb 10 Parts arrive Ilion

Feb 11 Heat treat of parts.

Feb 14 to Nickel plate.

Feb 15 Parts to test lab for testing

Feb 17 Transmitt prints to Press

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: S. D. Bennett
Z. J. Kowaslki
J. B. Mroz
J. R. Snedeker
R. L. Snedeker
File

February 2, 1983

TO: L. B. BOSQUET

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

PROBLEM: Final Inspection Rejects - excessive space between Floor Plate Cover and Stock

METHOD: Sample pieces (30) of floor plate base blank, floor plate cover and floor plate pad taken from Purchase Parts and measured for the following dimensions:

A.) Floor plate base blank

1.) All dimension checks for incoming purchase parts.

2.) Dim..448-.442 before operations.

3.) 90° c'sink

4.) Centerline hinge hole to flat of hinge before mill, ream and deburr.

5.) Width of c'sink (.495)

6.) Orientation of hinge to base.

7.) Dimension .448-.442 after operations.

8.) Centerline hinge hole to flat of hinge after mill, ream and deburr.

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

METHOD: contd.

B.) Floor plate cover

1.) All dimension checks for incoming purchase parts

2.) Dimension 3.850

3.) Dimension .055

4.) Contour before opeations

5.) Contour after operations

6.) Diameter of reamed hole (.093-.095)

C.) Floor plate pad

1.) 90° c'sink

2.) Depth of c'sink (.107-.093)

3.) Diameter of hole (.300)

OBSERVATIONS: A.) Floor Plate Base

*1.) Hinge hole undersize

* Take down hole undersize and eggshape

* Width of hinge oversize

* All parts out of parallelism from flat of base to hinge.

2.) Dimension .448-.442 - parts in tolerance (Note: holes are eggshaped)

3.) All parts at 90° c'sink

4.) Centerline hinge hole to flat ranges from .004-.005 before process.

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

OBSERVATIONS: A.) Floor Plate Base - contd.

*5.) C'sink oversize all 30 parts.

6.) Hinge not parallel to base

*7.) Dimension .448-.442 - not in tolerance after mill, ream, deburr.

8.) Centerline of hinge hole to flat ranges from -.003 to .003 after mill, ream and deburr. (Note: ranges before and after may vary due to hinge hole being at taper.)

B.) Floor Plate Cover

1.) Found all 30 parts acceptable

*2.) Dimension .3850 found parts at low limit or below

3.) Dimension .055 found most parts in tolerance.

*4.) Contour on comparator showed both ends to be .010 high.

*5.) Contour after braze showed two variations to a lesser amount with several parts having hinge bent.

6.) .093-.095 hole found to be to model drawing.

C.) Floor Plate Pad

1.) Made 5 castings - found all to be 90°, but not at 4° angle and no .010 step at neck.

FROM: G. E. BARNES

MODEL SEVEN LWT FLOOR PLATE ASSEMBLY

OBSERVATIONS: C.) Floor Plate Pad - contd.

2.) Depth of c'sink in tolerance

Checked pad with the altered c'sink and found to be .114 deep.

NOTE: Thickness varies from .171 to .181 with a .002 to .004 taper which could cause some plates to be higher than others.

*3.) Diameter hole .280-.281 with large burr at bottom.

* Denotes parts vary from model drawing.

NOTE: Full report upon request.

GEB/bdm

MODEL SEVEN LIGHTWEIGHT

CALIBERS:	222 Rem., 6mm Rem., .243 Win., 7mm-08 Rem., .308 Win.
BOLT BODY:	Damascene Finish
BOLT HANDLE:	Smooth Knob
EXTRACTOR:	Rivetless
SAFETY:	Positive thumb type - 2 position - no bolt lock
EJECTOR:	Spring loaded in bolt face
STOCK:	Schnabel fore-end Grip-cap - with insert (can be replaced with pewter Sid Bell design like Model Four) Recoil Pad Cut Checkering - 18 lines per inch Sling Swivel Studs Walnut Wood Medium Gloss Finish Length of Pull - 13 1/2 inches Drop at comb 19/32 Drop at heel 29/32
FLOOR PLATE:	Steel-hinged
TRIGGER GUARD:	Steel
RECEIVER:	Round Scope Mounting holes - 2 on front ring and 1 on rear ring
BARREL:	Length 18½ inches - 6 grooves Pressure Pad at front of Stock
SIGHTS:	Front sight on base Rear sight adjustable for windage and evaluation

MODEL SEVEN LIGHTWEIGHT - Contd.

GENERAL WEIGHT:	6¼ pounds
LENGTH OVERALL:	37½ inches
PITCH:	1 13/32 inches (To bbl. center line)
AMMUNITION CAPACITY:	222 - 5 in Magazine & 1 in chamber 6mm - 4 in Magazine & 1 in chamber 243 - 4 in Magazine & 1 in chamber 7mm-08 - 4 in Magazine & 1 in chamber 308 - 4 in Magazine & 1 in chamber
METAL FINISH:	Highly polished and buffed
STRENGTH:	Three rings of steel around cartridge head (Bolt, Barrel and Receiver) same as M/700

2/2/83
JWB:js

Remington
DU PONT

REMINGTON ARMS COMPANY, INC.

SPORTING ARMS-AMMUNITION-TARGETS-TRAPS

ILION, NEW YORK 13357

TELEPHONE (315) 894-9961

February 2, 1983

Mr. Nick Harvey
Technical Editor
Sporting Shooter Magazine
Hills End
via Mudgee
North South Wales, Australia 2850

Dear Mr. Harvey:

Clark requested that we send you the enclosed information on the Model Seven Lightweight.

We also have a Model 700 barreled action in .257 Roberts Caliber for you.

The Model Seven Lightweight with a bolt lock will be sent to you this month along with the Model 700 barreled action.

Sincerely yours,

John W. Brooks

John W. Brooks, Supervisor
Current Firearms Design

JWB:js
Enc.

2-7-83

Recommendations to correct tolerance for Tight floor Plate.
Doug

- 3 latches Layouts show this will cover all conditions
- File cover to fit latch.
- alter Trigger & sear pivot surface (at assembly)

xc: H.K. Boyle
H.C. Munson
J.P. Linde
C.B. Workman
L.B. Bosquet
S.D. Bennett
D.G. Scram

Est. #4457

February 8, 1983

G.D. Campbell

Model Seven Lwt. Trigger Guard Assembly

The attached evaluation shows the estimated economic impact of the proposed cast aluminum trigger guard assembly for Model Seven Lwt. rifles. This aluminum trigger guard assembly would replace the current Model Seven stamped steel/brazed trigger guard assembly.

This proposal will result in an estimated $62M net saving in operating cost and 44% net return on investment in the third year of operation (1986). Estimated first year results are a $56M net savings and a 38% net return on investment.

The major improvement contributing to this estimated savings is elimination of the brazing operations required with the current stamped steel design. The proposed aluminum trigger guard assembly will also result in reduced polishing costs as it utilizes an Almco finishing process compared to manual polishing and buffing of the present trigger guard assembly.

This proposal would require capital investment of $167M and $42M in project operation charges.

Industrial Engineering Section
R.W. Farrington, Jr., Supervisor
R.W. Farrington Jr.

TRAndrews/kc
Attached

2-9-83

Program for Testing different length Latches in M/7 cut

1. Set up condition for

- Max stock depth
- Max inletting
- Max Trig Guard cut for Latch.
- Shortest radius on Latch (.367)

Feb 25 - Max cover thickness

2. Set up condition for —

- Min stock depth
- Min inletting
- Min Trig Guard cut for Latch
- Min cover thickness

Feb. 25 - Longest radius on Latch (.387)

3. Set up Mean conditions for —

- Mean stock depth
- " inletting
- " Trig Guard cut for Latch
- mean cover thickness

Feb. 25 - Mean rad. on Latch. (.377)

Feb 28 - Assemble each condition —

March 2 - Test fire all conditions from jack & shoulder.

- Satisfied
- cover (File)
- Trigger Guard 1

fFeb,11,1983

Leslie "Les" Bowman
P.O. Box 88
Ocate, New Mexico 87734

505 666-2444

John W.Brooks
Current Firearms Supervisor.
Remington

Dear John:

Thanks for the letter re the barrel.Will look for it. I would like to ask you a question if you do not mind. When Mike Walker and Wayne leek were there I wrote to either for all info that I needed and knew which one would have the answer I required. But since they left I do not know the divisions of dapartments and who is head of them well enough to address any one but Clark,. Will you bring me up to daye on that.Also I use to get back there fair often and stay with Mike or Wayne and get thru the factory . I sure do miss that.

I did get the new Model 7 that was sent me but we have had the damndest run of weather you ever saw here That has kept me from doing any shooting to amount to much.IN fact for four days we had to walk the 5/8th mile to the gate to our place here on the hardtop to get the mail from the box or to catch a ride to Larnie's (my daughter) store thats down the road 3 miles.Even UPS did not deliver out this way.Our trouble was not caused by the depth of the snow but by the drifts.I had no chains for the tractor either and it just would not move on that icy hard snow.Thats what you get some times by living in the country.Then too the chores pile up and take so muck of ones time in such weather.

I just recieved one of Bill Rugers latest .357 Maximum Blackhawks with its 10½ " barrel for test and evaluation.Also Dick had sent me 300 rounds of ammo for it and I have some more ammo coming from Federal for it. I also have one of the new Mequan rests coming to try it out on.

But just as ssoon as things clear up I want to get at that Model 7 first to findout how well it can shoot.First thing was I could not get enough adjustment on the 1½ x 5 Leupole scope to clear it up for my right eye /SO changed to to a 12X Leupold and that one just would not shoot for me .Might have been in the mount but I di d not try to run the trouble down but installed a new Weaver T 10. And since then I have no time to do any thing about shooting it. (Oh yes,Weaver is sending me a mount for the Blackhawk handgun and also a 4 X extended eye relief scope) I just am not a rabid handgun man.Have several and use some for special purposes but just d o not care greatly for handgun shooting.)

I am also NOT a short rifle barrel fan.I just cannot see building a good rifle and adopting a good cartridge and then sawing t barrel off to 18 inches and slowing the thing down so much. A close friend gunsmoith just made me up a Custom RugerNO 1 in 7MM Exxpress caliber with a 27" BR quality Shilen barrel .First loads tried give inch groups at just 3,000 FPS using 150 gr Noslers. I wanted a ruger with 28" barrel to match my Colt Sharps.270 that does so well. I get 3275 FPS from 130 gr Win.Silver tip 130 gr factory oads in that sharps.And I get just at 3500 FPS with max loads and

no undue pressure signs. However I use the gun on my Yukon and suc h hunts several times for single head of game such as sheep or goat. For those trips I load my own using 130 gr Nosler bullets to 3360 FPS as I want that shilen BR quality barrel to last me my lifetime.

But I had never owned a rugerNo 1 tho I had shot many. None too accurate.I mean really accurate.SO I got this one to try.

I suggested to Dick Dietz after the seminar that maoe Rem.should chamber a few of the model 7s to the .350 Rem.Mag for those who like a light gun for safety in Dangerous game country such as Alaska's brown and grizzly areas.People that work there,not so muc h hunters. That is the only small cartridge that has sufficient energy and bullet weight (250 gr) for such.I know as I kiled the first one of the Browns with the first out 350 Rem.Mag 600.I chose to shoot t what I had figured was that cartridges max limit to do a presentable job on Brown bear.I had set that at 150 yards max.And my kill measured 146 yards.Bullet hit dead on the shoulder point,broke both shoulders.The bear fell for ward,grabbed a mouthful of driftwood and was dead..A caliber such as the .358 Win.just will not get the job done as well.

BUT one thing I would want in such a chambering is a barrel at least 22" long.That would add just a wee bit moreFPE .

Anyway ,thats heaps for your letter and the information.

Best regards

Les Bowman

P.S. The barrel length on the .350 chambering would also cut down on muzzle blast .

Leslie "Les" Bowman
P.O. Box 88
Ocate, New Mexico 87734

OCATE, N.M.
FEB
12
A.M.
1983
87734

John Brooks -Current design Super...
Remington Arms CO
Ilion
N.Y. 13357

xc: J. P. Linde
S. D. Bennett
J. B. Mroz
R. D. Polley

February 16, 1983

A meeting was held this date to discuss problems involving the Model Seven Floor Plate Base Assembly - Floor Plate Cover Assembly and their related components. Present were:

L. B. Bosquet	W. L. Ganey
J. W. Brooks	J. A. Harter
D. E. Bullis	J. W. Kelly
G. E. Barnes	Z. J. Kowalski
P. C. Earl) IN	
W. Roark) TURN	

The purpose of the meeting was to generate as complete a list as possible of problems being encountered with these components. This initial meeting concentrated mainly on the components as they are received from the vendors and are processed through to final assembly. Noted were:

- Floor Plate Base Blank
  See attached Quality Control report.

- Floor Plate Base - Machining Operations
  Mill slot in hinge - production has no problems with this operation. Fixturing and gaging appears to be adequate.

  Ream Front Take Down Screw Hole and Hinge Pin Hole
  Fixturing and gaging appears to be adequate. Quality Control study indicates that all hinge pin holes are angled relative to the rest of the part.

- Trigger Guard Plate
  Parts are not flat as received from the vendor. Model drawing calls for parts to be flat within .010. Purchase Parts Inspection procedure to be reviewed and vendor will be contacted.

- Floor Plate Base Assembly - Brazing Operation
  The brazing of this assembly is yielding approx. 25-30% scrap.
  - assembled FPBA difficult to remove from fixture after braze. A TDR has been issued (ZK-199) to provide a means of removing assembly without damage.

- poor and/or inconsistent braze
  flatness and/or straightness of parts could be a contributor.
  power supplied to TOCCO unit appears to vary during the shift.

- difficult to flux and load parts and position brazing preform.

- Floor Plate Cover Blank
  As received from the vendor, the blank is dimensionally good. The only problem appears to be that the ends are approximately .010 higher than the center. One Purchase Inspection gage appears to mar the surface.

- Floor Plate Cover - Machining Operations
  3.850 ±005 dims is running slightly undersize. It was found that a clamp at the milling operation was marring the surface. This will be taken care of by changing the clamp surface from steel to nylon.

- Floor Plate Cover Assembly - Brazing Operation
  This brazing operation runs better than the Floor Plate Base Assembly. It produces approximately 5% scrap.

  The main problem noted at this operation is a slight warpage in two areas. This may be the result of hot spots developed in the heating cycle. Work is in progress on the redesign of the induction coil.

  A TDR will be issued to revise the fixture to provide additional support for the part during braze. This work will have to be coordinated with any change to the coil.

  A question was raised concerning the efficiency of the sand tumble in removing sharp edges which cut into the Stock finish. It was also pointed out that some deformation of the Magazine Spring Retainer may be caused by this operation. An operation will be added to check for warpage 100% until coil and fixture design is finalized.

- Final Assembly Problems

  The main problem mentioned was the binding of the hinge. It is felt that this is caused by improper deburring of the mill cuts. This operation will be reviewed by the engineer and the filers will be reinstructed.

Another cause for binding is covered on the attached study done by Quality Control. The hinge as formed by the vendors runs at an angle. This condition will be corrected.

Steps have been taken to eliminate poor coloring on the Cover and Base Assemblies. New racks have been designed - one in use for Floor Plate Cover (approx. 120/rack), one for Floor Plate Base due by 2/18.

- Functional Problems

  The single most critical functional problem is the unlatching of the Floor Plate Cover when the gun is fired. This problem is being actively worked on by another group, but if any solutions come out of this committee, they will be implemented. Bending of Floor Plate Covers - thicker material samples are being machined and will be tested to see if any improvement is noted. Thicker Trigger Guard Plates are available and a request has been issued to obtain thicker Floor Plate Base Blanks from the vendor.

LBB:hf
Attach.

Production rifles Cal 308
Production actions (altered where noted)

2-17-33

3365

- altered latch + spring obs
  File Floor plate base in trigger opening.
- altered spring (Production latch) obs
  (Compressed loop)
- original latch + spring Fail 200gr round in chamber
  (Relieved in M.S) none in mag.

  2nd obs none in chamber
  3rd obs none in mag.
  5 rounds obs
  5 rounds obs
  180gr 5 rds obs
  200gr 1 round obs
  " 1 round obs.

- original latch 1st shot open now after that 5 more + 2 more obs

7/21

- original latch + spring Fail 200gr 1 round in chamber
  (Relieved in M.S.) 1 " " "
  1 " " "
- 3365 original trigger guard + Floorplate base + spring + latch
  Fail 1 round in chamber
  1 " " "
  1 " " "
- original latch + spring
  Full mag. 1st round obs
  2nd round obs
  3rd rd open
  4rd open
  5rd obs

2-17-83

3721

- original latch + spring (noted in MS) M870 feed latch shim under latch spring
  - 2 prac 3 mag fail - ok

3461 - original latch
  5 rd - open on all
- add M870 feed latch shim under latch spring

3281 - original latch - 5 rd open on all
  original latch (was supposed to be .020 but original was used)
- ~~add M870 feed latch shim under latch spring~~.
- 5 rds - 1 rds opened
  all rest 5 rd opened
- 5 rds 1st ok
  2 - 5 hung.
- add .020 spring + Production latch
- 5 rds ok
- loosen screws (take down)
- 5 rd all release

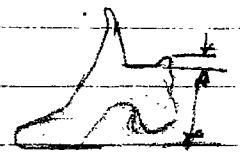
2-17-83

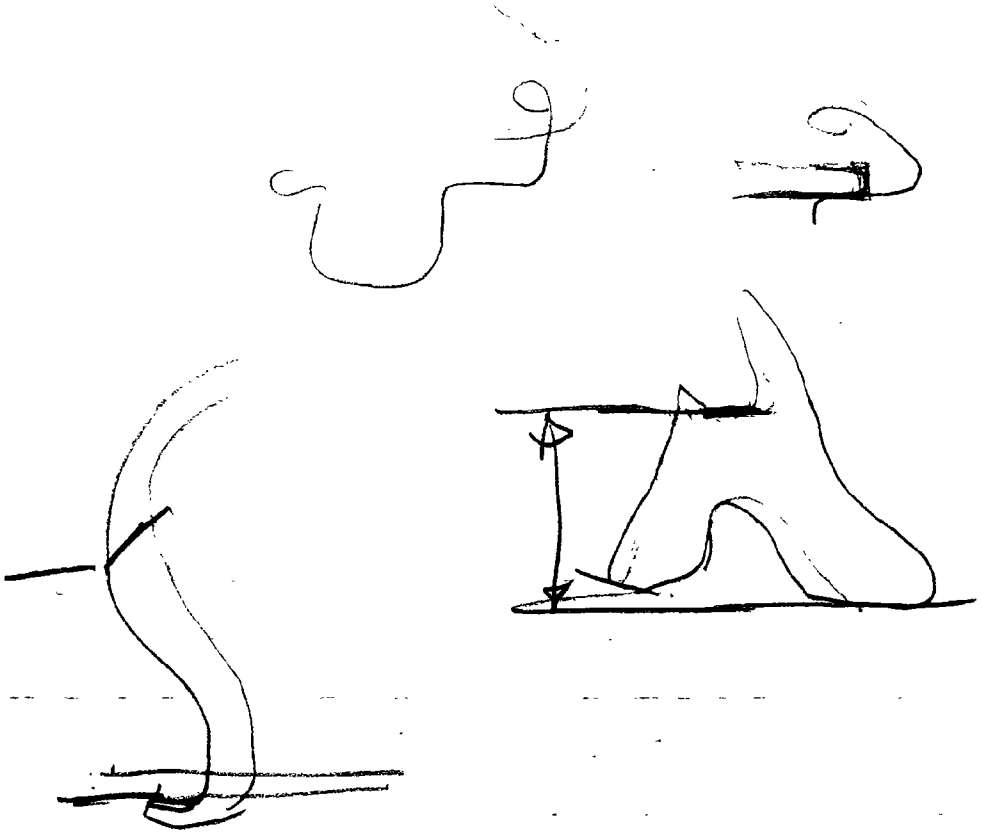
2905 original latch & spring.

- 5 rds ok
- 5 rds 1st releases
- add 1rd to above & it releases
- add 1rd to above & it releases
- add 1rd to above & it releases
- add 1rd to above ok

next 4 rds ok

use 3461 & or 3281 (screws snug.)

- Keep screws tight.
- Reinforcing screw in stock? –
- Increased coverage – 100% of latch.
  (alter latch)
- 025 spring.
- Latch + Spring from Semmar guns.
- alter spring to take up latch upward movement.
  (Re heat treat.)
- Calibers in 600? –
- Latch D in back leg vertical to pivot or slide surface 
- High Speed photos



2-17-83

3281 Production latch & altered spring → 9

- Spring force 10# to open cover
- Fire 10 rds 180 gr Rem Oke. 2nd rd hand feed
- Spring force 8# to open cover.

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington / Peters

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
T. J. Plunkett

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830241

M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE DESIGN EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

Prepared by: J. Baggetta

Date Prepared: 2-1-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date 2-21-83

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830241

REPORT TITLE: M/Seven LWT. .308 Caliber – New Machined 6061 Aluminum Floor Plate Design Evaluation (Spring Loaded Ball Type Latch Design)

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .308

DATE: 1-24-83

WORK ORDER NO.: C-1856-000

PART NAME: Latch

DESIGNER/ENGINEER: T. J. Plunkett

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 3
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Headspace
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 3

   NO. OF ROUNDS PER GUN: 30

   TOTAL ROUNDS FIRED IN TEST: 90

   AMMO TYPE: MAGS. _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE X

REMINGTON ARMS CO., INC:
Firearms Research Division

Report No. 830241

February 1, 1983

TO: R. NIGHTINGALE

FROM: J. BAGGETTA

REPORT TITLE: M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

ABSTRACT

A request was received from T. Plunkett, Current Firearms Design, to evaluate the M/Seven LWT., redesigned Floor Plate Latching System. (Spring Loaded Ball Type Design.)

SCOPE OF TEST

To evaluate the performance of the redesigned M/Seven LWT. - .308 Caliber Floor Plate Latching System checking the floor plate latch opening on recoil.

TEST RESULTS

A. Jack Live Round Fire Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 45 rounds (15 rounds each) experiencing no malfunctions.

B. Field Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

REPORT TEXT

Three (3) M/Seven LWT. .308 caliber rifles with the redesign latch (spring loaded ball-type design) were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

TEST PROCEDURE

A. Measurements

- Headspace – (Refer to Appendix "A" Data Sheet No. 1.

B. Test Conditions

Condition No. 1 – Indoor Jack Shooting

- The test was run using the Test Lab shooting room jacks.
- The rifles were loaded with 4 rounds in the magazine and one in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.

Condition No. 2 – Ilion Fish & Game Club Outdoor Range

- The test was run using the Ilion Fish & Game Club Rifle Range.
- The weather was overcast, 32° and windy.
- The rifles were loaded with 4 rounds in the magazine and 1 in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.
- Four shooters were used incorporating the round robin system.

C. Ammunition

Indoor Jack Shooting

- Winchester - 200 gr. Silver Tip

Field Function Test

- Remington - 180 gr. Soft Point
- Winchester - 200 gr. Silver Tip

D. Rifles Used In Test

M/Seven LWT. .308 Caliber

7600139
B6226256
7600050

REPORT TEXT - cont'd.

E. Hi-Speed Movies

- Hi-Speed movies were previously taken of this design showing latch motion by Test Lab personnel in the Photo Lab Room.

- Hi-Speed movies can be reviewed in the Photo Lab Room.

F. Photos

- Pictures were taken of the redesigned M/Seven LWT. .308 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

- Pictures were taken of the old style latch M/Seven LWT. .222 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

A P P E N D I X " A "

DATA SHEETS

Report No. 830241

M-7 Lwt .308 Caliber Redesign Latch

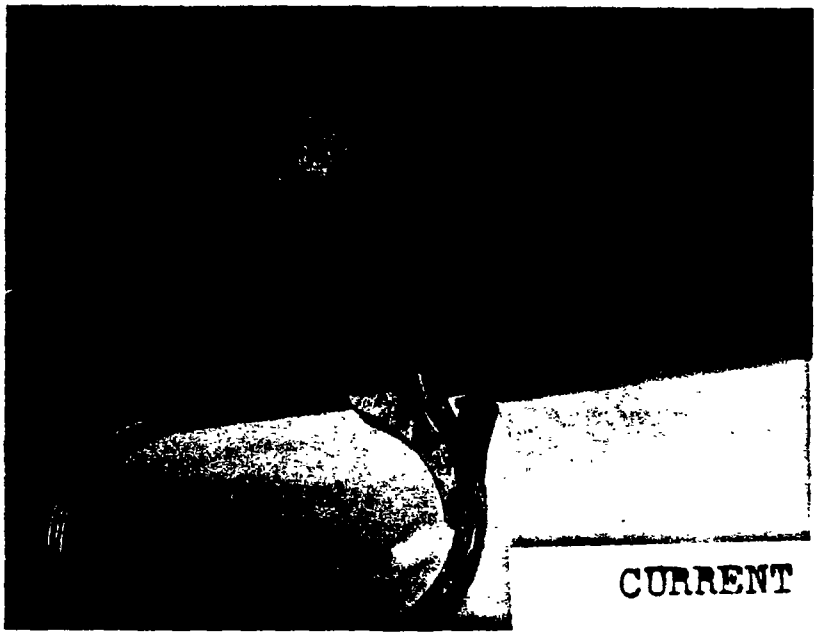
2-1-83

J.A.B

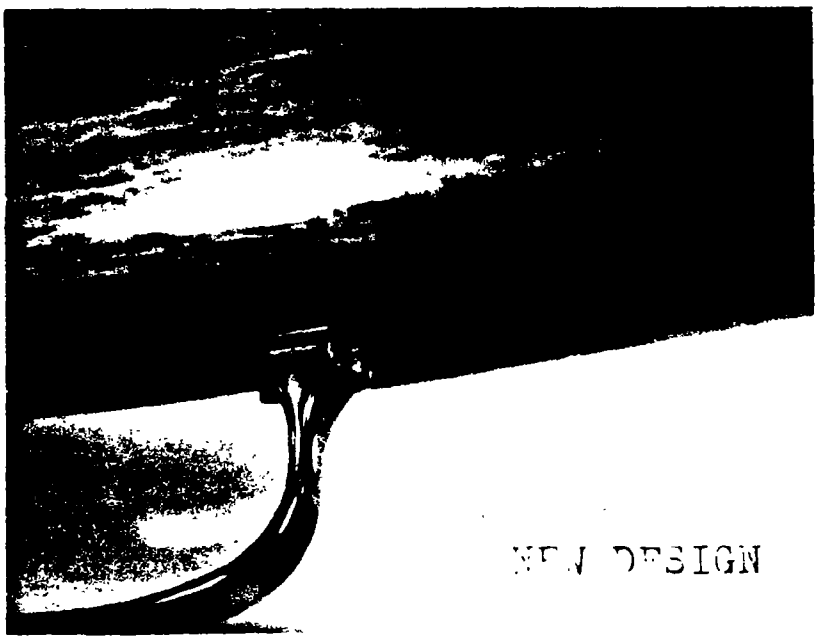
Measurements / Gun #	Head Space Min +	1	2	3	4	5	6
B6226256	.003"						
B7600139	.004"						
7600050	.004"						
* Remington	Standard			Min +	to .010"		

M-7 Lwt .222 caliber

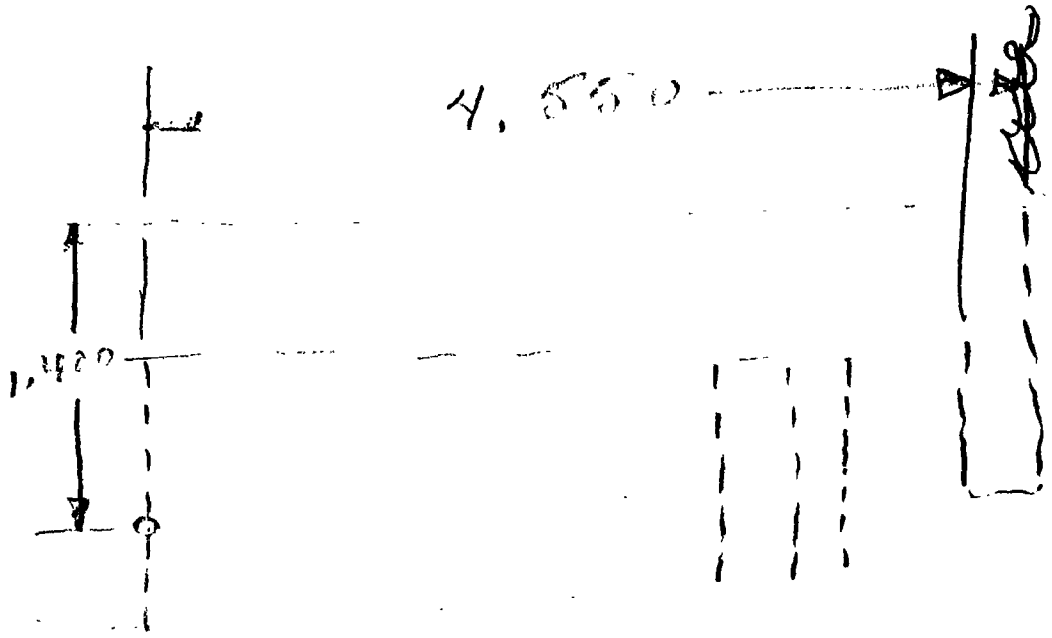
Data Sheet #2



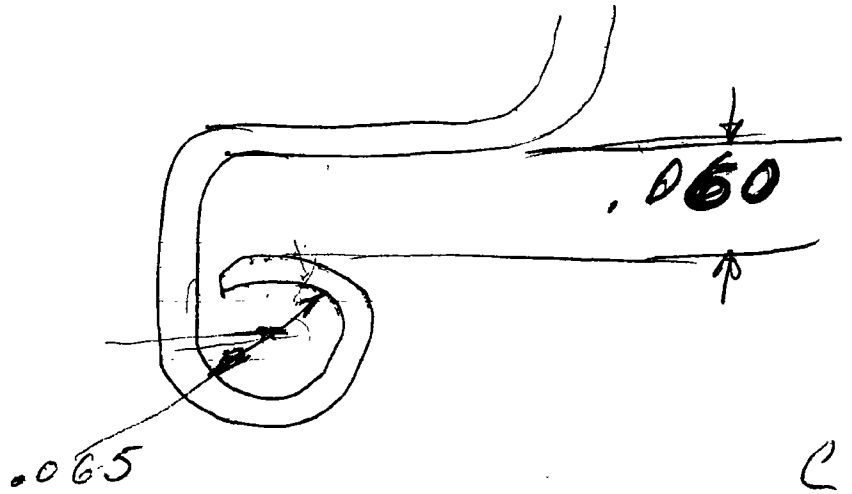
M-7 Lwt 308 caliber



copy to D Hill
2-22-83
in anticipation
of adding screw

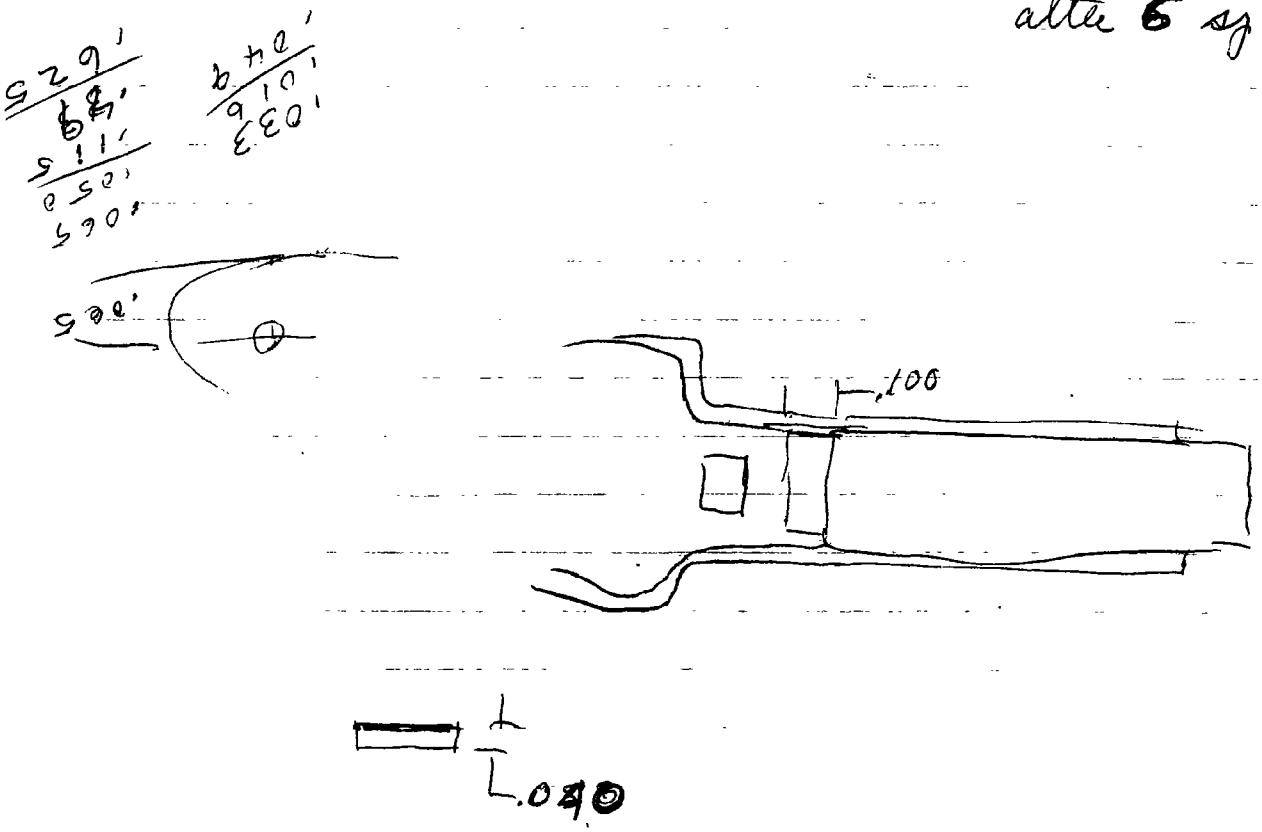


Model 7 Stock
Proposed position of
Reinforcing screw
2-22-83
[illegible]



C 1853-000-4

alter 6 springs



TO: J.W. BROOKS 2/22/83

FROM: T.J. PLUNKETT

M/9 FLOOR PLATE LATCH SPRINGS. MEAS. HARDNESS OF FOUR SPRINGS. TWO EARLIER PARTS FROM GUNS #'S 7600075 & 7600116 AND TWO CURRENT PRODUCTION SPRINGS. The two from earlier guns are seminar guns. The forces are similar to those in report no. 823191

READINGS:

7600075 = R15H-83 = RC 45
7600116 = R15H-84 = RC 48/49
CURRENT SPG. = R15H-83 = RC 45
CURRENT SPG. = R15H-84 = RC 48/49

NOTE:

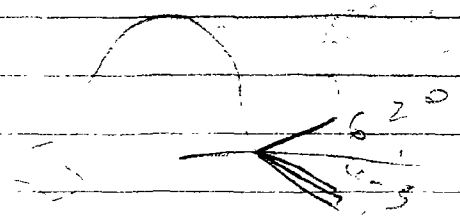
1- R15H/83 IS TO LOW
R15H 84/85 IS MARGINAL
2- RC 48/52 IS THE RANGE SPRINGS SHOULD BE IN.

Winters seminar guns

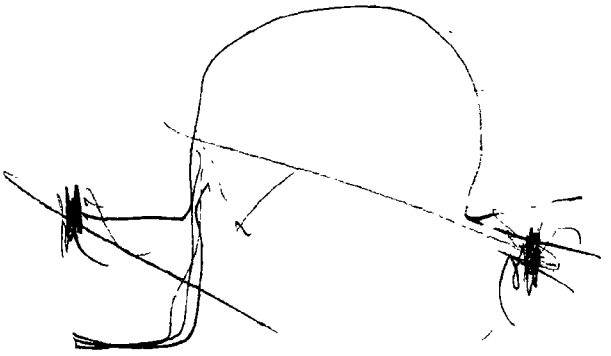
7600125	8-9 #'s	2/22/83
116	9 1/2 #'s	
051	9 1/2 #'s	
124	9 1/2 #'s	
7603321	4 1/2-5 #'s	Production gun - High speed video gun 2-10-83
140	8 1/2-9 #'s	

- Floor Plate Base - M7 - alter for .080 + .095
- Trigger guard Plate - .080 - .095 from vendor carbonize half of each single.
- Latch spring .065 hole - shorter Dwg. vendor cause
- Floor Plate covers .060 - .062 1010 mtl.
- " " " .052 ± .005 1010 mtl.
- .052 carbonize + Hot Dip RA 74-75
- M788 + 582 Trigger Guard approx 50 per year
- " Floor Plate 13 since last may
- 582 " " 21 " " "

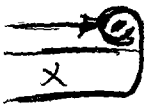
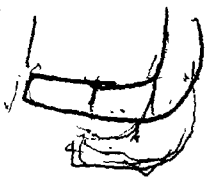
T-6. F. Anderson
H.T. T6. check before + after vendor make .080 + .095
carbonize half of each.



- Latch wearing.
- Drag Spring retainer bending flat.
- Spring Dimension add load or dim.
- H.T. 280 TG. measure before + after
- H.T. Latch. 25.



2-25-83

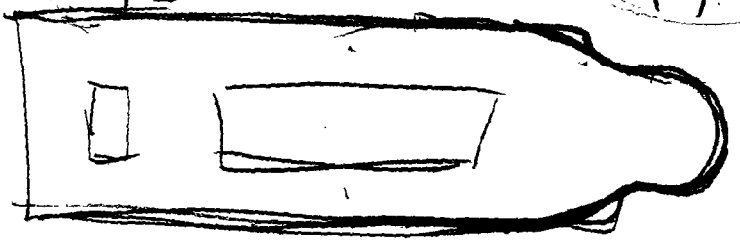
- Have thick + what mall: up to .100 .080
- Check with vendor on notch in place of blank for positioning holes for Flat Plate base.
- 2 - .050 - no change to part. same part. Bracing?
- C Spring change  .080 - .100
- 

.080 - .100

.185 ±5
.050 ±5
.135 ±5
.015 .060
.120
.050

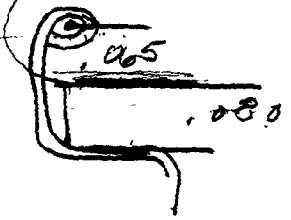
.268 ±5
.050 ±5
.140 ±5
.458 ±5

.268 ±5
.050 ±5
.318 ±10



.065
.032
.097

.065
.080
.145



.065
.080

.065
.095
.160

Xc: S. D. Bennett
J. W. Brooks
D. E. Bullis
G. E. Barnes
P. C. Earl
W. L. Ganey
J. A. Harter
J. W. Kelly
Z. J. Kowalski
J. B. Mroz
R. D. Polley

February 23, 1983

J. P. LINDE

RE: MODEL SEVEN FLOOR PLATE BASE, ETC. - PRODUCTION PROBLEMS

Attached is a list of items requiring follow up which came out of the meeting held 2/16. Responsibilies have been assigned for each item.

L. B. Bosquet

LBB:hf
Attach.

- FLOOR PLATE BASE BLANK

  - Review Purchase Inspection procedure. Is it adequate based on experience gained to date? — Bennett, Quality

  - Send marked print to vendor indicating the results of Quality Control's study. Work up a program to resolve problem areas. — Bennett, Purchasing

  - Marked prints have been sent to vendor requesting samples from thicker material (.062). — Bennett, Purchasing

- FLOOR PLATE BASE (MACHINING OPERATIONS)

  - Review the .100 ± .005 slot in the hinge. Engineering layouts indicate a potential bind condition at assembly. Engineering recommends that this dimension be changed to .115 ± .005. — Research, Bennett — Doug

  - Review reaming operation to verify that part is located correctly. — Bennett

  - Review filing operation - is it adequate? Is it being done correctly? — Bennett

- TRIGGER GUARD PLATE

  - Quality Control study shows these parts are bent as much as .035. The model drawing calls for parts to be flat w/in .010. Review gaging of incoming parts. — Bennett

  - Samples of Trigger Guard Plates have been received made from .062 material. They were assembled and turned over to Research for testing ~~2/22~~. Testing complete — Kowalski, Research

- FLOOR PLATE BASE ASSEMBLY

  - Brazing operation

    Bent Trigger Guard Plates may be a contributor to the brazing problems. Run a controlled study for one (1) shift using screened or straightened Trigger Guard Plates (approx. 250). Monitor the output to determine effect of flatness on yield. This study should also indicate whether or not there is a relationship between poor braze and specific times during the shift. — Kowalski, Polley, Production, Quality Control

TDR (ZK-199) has been issued to make removal of assemblies from the brazing fixture easier.	Kowalski Tool Design
- TDR's (ZK-197 and 198) have been issued to alter the drill jig and pinning gage for positioning and sizing the rear take-down screw hole.	Kowalski Tool Design

- FLOOR PLATE COVER BLANK

- review gaging of hinge pin hole as formed by vendor. We should check to be sure this is 90° to long axis of part and parallel to the flat portion of the tab.	Bennett

- FLOOR PLATE COVER - PROCESSING

- review reaming operation (Production has no problems with this operation) to verify that drill jig is orienting part correctly.	Bennett
- sharp edges at Latch end of part are cutting into the finish on the Stock. Run a sample of parts through sand tumble prior to brazing operation.	Bennett Production ? Research
- review deburring operation - is it adequate? Is it being done properly?	Bennett
- obtain quotation and lead times to go to thicker material (.062 or possibly .078).	Bennett Purchasing

- FLOOR PLATE COVER ASSEMBLY - BRAZING

- continue work already in progress to redesign induction coil for better heat. Redesign of brazing fixture to add additional support (if possible) will be investigated when coil design is finalized.	Polley Kowalski
- Thicker Floor Plate Covers (.062 material) have been processed and are ready for braze. They will be turned over to Research for testing by 2/28.	Production Kowalski Research — Doug

LBB:hf

RD-6565
Rev.
SMT: 3-26-79

ESTIMATE # 4457

ESTIMATED SAVINGS & RETURN ON INVESTMENT

ENGINEER: T. R Andrews

DATE: February 4, 1983

	1ST YEAR OF OPERATION		3RD YEAR OF OPERATION	
	Present Stamped Steel Trigger Gd Assy.	Proposed Cast Aluminum Trigger Gd Assy	Present	Proposed
Forecast Year	1984		1986	
Quantity Forecast (Model Seven Lwt)	31600		39,755	
OPERATING COSTS				
Purchased Parts	$ 92,900	$ 99,000	$128,200	$136,600
Raw Material	–	–	–	–
Standard Labor	81,500	47,600	112,500	65,700
Labor Variance @	57,100	28,500	78,700	39,300
Industrial Relations @ 47.6%	66,000	36,200	91,000	50,000
Supplies				
Tool Replacement				
Cutter Grind	18,900	14,400	26,500	20,200
Tool Maintenance				
Maintenance				
Energy	14,700	5,900	21,900	8,900
Equipment Depreciation @ 7.5%	–	12,500	–	12,500
Sub Totals	$331,100 A	$244,100	$458,800 A	$333,100
Gross Savings Before Admin. Exp.		$ 87,000		$125,700
Admin. Exp. @4.3% Gross Savings	B	$ 3,700	B	$ 5,400
Sub Totals	$331,100 A+B	$247,900	$458,800 A+B	$338,500
SAVINGS IN OPERATING COST		$ 83,300		$120,300
Less: Income Tax @48.5 %		($ 40,400)		($ 58,300
Plus: Amortization of Investment Tax Credit 1st year 8%; 3rd year 0		$ 13,400		$ –
NET SAVINGS		$ 56,300		$ 62,000
INVESTMENT				
Project Expenditures		$ 167,000		$167,000
Manufacturing & Working Facilities		$ –		$ –
Net Change in Working Capital		($ 17,700)		($ 25,800
Total Capital Required for this Project		$ 149,300		$141,200
RETURN ON INVESTMENT - THIS PROJECT		37.7 %		43.9%
Net Savings - After Amortization of Operation Charges		$ 54,700		$ 60,400
Project Operation Charges		$ 42,000		$ 42,000
Less: Administration Expense @4.3 % & Income Taxes @48.5 % (Factor .5072)		($ 21,300)		($ 21,300
Total Capital Required Including Research & Development & Other Charges		$ 170,000		$161,900
RETURN ON TOTAL CAPITAL REQUIRED		32.2 %		37.3%
Equipment to be Released				
Increased Space Requirements (Decrease)				
Production Capacity				
Forecast Burdening		%		

MODEL SEVEN LWT.

MEETING OF 2-28-83

PRESENT:

C.B. WORKMAN	E.W. YETTER, JR.
T.G. BAUMAN	S.R. FRANZ
A.A. HUGICK	D.E. BULLIS
C.E. RITCHIE	J.W. BROOKS

The following items are scheduled to be done and followed by people designated:

- Bob Orf, Doug Bullis

  200 Stocks ready for sand are to be drilled and a reinforcing screw added in the Model Shop 3-1. Production will furnish the Stocks 3-2 and 3-3.

- Tom Bauman, Adam Hugick

  Pick up 250 Model Seven Trigger Guards and have Model Shop alter rear tab to positive 4° - 5° downward bend. (Opposite present bend) Mark parts, measure parts, carburize and heat treat parts. Remeasure parts. Complete by 3-3.

- Evan Ritchie, Ed Yetter, Scott Franz, Doug Bullis

  Production assemble pinned Stocks to 180 actions in 308 Caliber with help of R&D. Use special heat treated Trigger Guards. Send thru Gallery 3-3 and 3-4. R&D will select 10 guns to field test and at least three for endurance to 3000 rounds. 3-5 and 3-7. Inspect parts.

- Doug Bullis

  Have 25 latches heat treated. Use in above rifles. Use in two (2) endurance rifles if field tests are satisfactory.

- Doug Bullis

  Floor Plate base machined to take .080 Trigger Guard Plate. Ready from Model Shop 3-1.

- Doug Bullis

  Trigger Guard Plate .080 material in inspection. Ready for half to be carburized 3-1.

- Doug Bullis and Ziggy Kowalski

  Braze Floor Plate base to Trigger Guard. Plate 3-2 or 3-3.

- Doug Bullis

  Inlet 10 Stocks .030 deeper to be used with floor plate bases assembly with .080 Trigger Guard plates.

- Doug Bullis

  Mark latch spring print for vendor. Spring to fit .080 Trigger Guard Plate and 1/16 pin in latch. Order samples 3-2.

- Doug Bullis

  Mark prints of Trigger Guard 3-1 for Brad Bosquet to give to F. Ambrose 3-2 when he visits him.

- Doug Bullis

  Check fit of .060 floor plate cover on present floor plate base assembly. Check strength of .060 cover.

Model 7 Up date on meeting of 2-28-83

- 200 stocks completed in Model shop & returned to production.
- 250 Trigger Guard have been had the rear tab altered to 4°30'. They have all been heattreated. The last 150 are being measured. The first 100 are being used to assemble 308 cal rifles with pinned stocks that are coming thru the line.

Phil Johnson has checked a sample of the first 20, the second 100 & the last 150. The are as follows;

	measured	measured	
20	RC 47	R15N 91	= RC 61
100	RC 48	R15N 91	= RC 61
150	RC 40	R15N 85	= RC 47-48

We will endurance test sample

- Floor Plate Guards have been machined to the Tlo. & Trigger Guard plate.
- The Trigger Guard plates as received + samples that have been carburized are with Zigzag Kawaski to have brazed to Floor plate bases.
- Bragging of above parts will be done this week.
- The 10 stocks with dap cutting should be done this week.
- machined prints sent to vendor, waiting for my reply. Purchasing or Process to call today.
- Ships Fri March 11th. F ambrose makes a dozen Trigger Guard with longer hooks to fit .030 mch.
- Strength of Thick covers check. Figures being completed.

from the 100 lot & the 150 lot. Phil believes the 150 lot are closer to spring temper & will not break if adjusted. If they are satisfactory at endurance testing we can go with the lower hardness.

- This morning Irvin Detchie, Ed Gutter & Doug Ballis are with the assembler during assembly of approx 30 rifles. The test lab will use some of these for field & endurance testing.
- Heat treated latches are being put in several rifles. 2 of these will be used in the endurance testing w/ the two different heat treated trigger groups

3-4-83

- Spence & or Dwayne (If present testing is not done by March 15.)
- Check volume of 222 cal followers required in May. 117 & 750
- If present prototypes is satisfactory in tests how many more would be required for production.
- Can vendor make the required amount on temporary tooling. If not how many can he make on present temporary tooling.

1 ab 5000

- When is latest date he has to start to make parts like present prototypes parts.
- Latest date to start permanent tooling to have parts for May Assembly. (Heat treat + plate by Remi.)

$1,500 to shortcut for completing

- Do we want to use up parts on hand. & Spence how many on hand if tests are ok.

2-28-83

Writers Gun # 7600075

Writers Latch + Spr.	Writers T. Guard	(Prod.) New Trig. Guard
Latch open	8#	7#

New Prod. Latch + Spr.	Writers Gd.	Prod. Gd.
Open	10#	10#

Springs over lap some + with lap out latch some except for front bead radius.

J. H. Brooks

RD-49-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: S. Franz
R. L. Snedeker
E. W. Yetter, Jr.
File

March 4, 1983

TO: J. R. SNEDEKER

FROM: E. L. BARNES

PROBLEM: M/7 LWT Latch Spring

METHOD: 30 - guns from different assemblers.

Latch spring disassembled and measured for .4705/.5075 dimension. (Could not get same size sample from each assembler.)

OBSERVATIONS:

Assembler 83 sample of 17 - 5 out of tol. = 29%
Assembler 93 sample of 6 - 2 out of tol. = 33%
Assembler 91 sample of 3 - 1 out of tol. = 33%
Assembler 30 sample of 3 - O.K.
Assembler 22 sample of 1 - O.K.

ELB/bdm
Attachs.

REQUEST FOR MEASUREMENT ASSISTANCE

REQUEST #

REQUESTED BY	DATE	MODEL	PART DESCRIPTION
Ed Yetter / Scott Franz	3-1-93	7 LWT.	Latch Spring

PART NO.	OPER.	OPERATION DESCRIPTION	DEPT.	BLDG.

WORK REQUESTED

Measure .4705/.5075 Dim. after Assembly. From Different Assembler's

MEASURED BY	DATE	SAMPLE SIZE
E.L. Barnes	3-2-83	

REMARKS

MEASURED DIMENSIONS

DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	DESC. OF CHARACTERISTIC	
Assem. - 83	Assem. - 93	Assem. - 91	Assem. 30	Assem. 22
N = 17 $\bar{x}$ = .5053 α = .0072	N = 6 $\bar{x}$ = .5052 α = .0065	N = 3 $\bar{x}$ = .499 α = .0084	N = 3 $\bar{x}$ = .4997 α = .0066	
MODEL CHG. DIM. .4705 .5075	MODEL CHG. DIM.	MODEL CHG. DIM. .4705 .5075	MODEL CHG. DIM.	MODEL CHG. DIM. .4705 .5075	MODEL CHG. DIM. .4705 .5075	MODEL CHG. DIM. .4705 .5075	MODEL CHG. DIM. .4705 .5075

#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X	#	DIM.	X
1	.5017		16	.5126	X	1	.5025					1	.4965					1	.4963		1	.503	
2	.5097	X	17	.506		2	.500					2	.5093	X				2	.4938				
3	.4945					3	.5725	X				3	.492					3	.5062				
4	.515					4	.4998																
5	.5014					5	.5024																
6	.4958					6	.5144	X															
7	.5014																						
8	.5086	X																					
9	.5157	X																					
10	.5033																						
11	.5052																						
12	.5017																						
13	.4967																						
14	.5032																						
15	.519	X																					

NOTE: X INDICATES OUT OF TOLERANCE

48

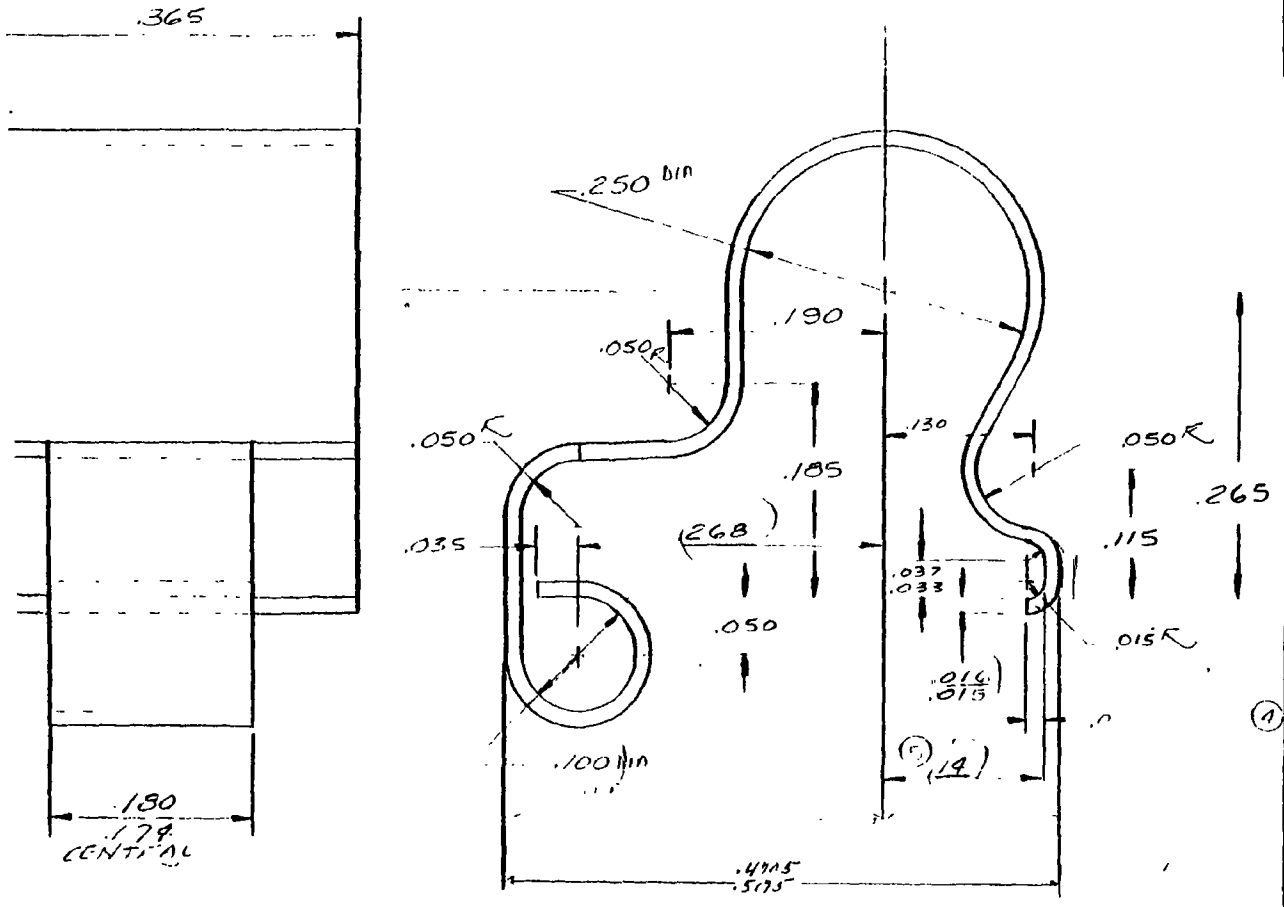
THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

DO NOT SCALE THIS DRAWING. WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
ON FRACTIONAL DIMENSIONS ± 1/64,
ON ANGULAR DIMENSIONS ± 00' - 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE UNLESS OTHERWISE SPECIFIED
FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 1095
HEAT TREAT
HARDNESS SPRING TEMPER
(7) COLOR
HEAT ~~TREAT AND COLOR TO BE DONE BY~~
REMINGTON DBJ 11/6/81

ALTERATIONS

ALT.	WAS	REF	BY	DATE
1	ADDED BLANK No.	11563	RLS	4/21/82
2	BLACK OXIDE	11620	JG	2/1/82
3	BLANK #92250			
4	EXCEPT CARBINE			
5	.140			



.0155 ±.0005
.140 .010
.268 .005
.050 .0035
.0155 .0005
.4890 ±.0185

.4705 .031 .439 R
.4705 .5075 .031 .476 R

(3) (1)

MODEL	PART NO	PART USE
7LWT	91848	LATCH SPRING (FLOOR PLATE)

DES. BY DATE	DRN BY DATE	CHK BY DATE	APP BY DATE
	4-17-80	11/4/81	11/6/81

TITLE: LATCH SPRING

NUMBER	SCALE	SUPERSEDES	REFERENCE
B-91848	10X		DCR # 11520

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

SN 3676 Box with slot — Latch with more relief.

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: C.E. Ritchie
D.D. Ricci
D.E. Bullis
P. Nasypany
S.D. Bennett

Ilion, New York
March 7, 1983

TO: C.B. WORKMAN

FROM: J.W. BROOKS

SUBJECT: MODEL SEVEN AND 700 222 CALIBER NO-BIND FOLLOWERS

The Model 700 and Seven rifles in 222 Caliber are scheduled by Production for assembly the last week of April and May. Volumes are 1700 for the Model 700 and 4,000 for the Model Seven.

We have 650 prototype stamped no-bind 222 Caliber Followers on hand. They were reformed by the vendor from Model 600 stamped Followers. They are to be used for two purposes.

- Check to see that the no-bind Follower performs as well as the standard stamped Follower.
- Investigate new magazine springs to improve feeding over present production spring.

Testing has been delayed because the Followers had to be recorded as the first sample was under size. The testing was to be completed by March 15 which is the latest date Production can order parts to be delivered in time for May 1 assembly. The date has been confirmed with the Follower vendor as he needs to make new dies. The spring vendor has not been contacted as yet to see if his date can be changed. The Test Lab cannot finish the first phase of their spring testing for two weeks. The second phase will be completed when more production rifles are available in May.

Testing of the no-bind Followers will begin this week with current production springs vs. standard Followers and production spring.

If testing is satisfactory and a decision can be made to release the Follower drawings to Production by March 15, this will be done.

If this is not possible and more time is needed and the prototype Followers look promising the vendor stated that he can furnish us approximately 5,000 prototype Followers a week. He can alter all we have on hand if we wish to go this way before going to permanent tooling.

If we decide to notify the vendor by March 15 to commence the permanent tooling, he stated that in approximately two weeks he would have approximately a $1500 tooling charge toward the final charge in case we need to stop the tooling for another design. The final tooling charge total will be under $4,000 for complete new tooling.

If Phase One does not give enough of a confidence level to order new springs we will use current production springs until testing is completed. Feeding should be no different than present.

JWB:js

3-7-83

Per Phil Trigger Guards
Heat Treated to date

Lot Size				
20	RC	47	15N 91	= 2L6P
100	RC	48	15N 91	= RC6P
150	RC	40	15N 85	= RC 47-48

405 planning for 222

3-7-83

M7 — 4000 — [illegible]

M700 — 1700

last week of april

30	Rc 47/49	?
180	Rc 47/49	15N/90
150	Rc 40/45	15N/85/86

P Johnson

G-88

DON'T SAY IT — WRITE IT

To George Dickson

Date 3-8-83

From John W Brooks

Subject: M722 Parts C16,793 + C17056

Please do not scrap these parts at this time. Please re-evaluate with us in 6 months or so.

Stamped follows

KEEP SAFETY IN MIND IN '79

DON'T SAY IT—WRITE IT CC: J.W. BROOKS

To JIM SNEDEKER Location

From D. BULLIS Location Phone No.

Subject M/7 LWT STOCKS (POINTS TO CHECK) Date 3-9-83

- RECEIVER HOLE SPACING IN STOCK.
- FRONT TAKE DOWN SCREW HOLE TO BBL. BRACKET SURFACE.
- POSITION OF HOLES IN RELATION TO INLETTING (SIDE TO SIDE).
- POSITION OF RECEIVER & MAGAZINE INLETTING IN RELATION TO FLOOR PLATE BASE INLETTING.
- POSITION OF TRIGGER HOUSING OPENING IN RELATION TO TRIGGER GUARD PLATE INLETTING.
- AMOUNT OF FILL OR CHIPS COVERED WITH FINISH IN INLETTING.

G-88 REV. 10-62

SECURITY IS EVERYONE'S RESPONSIBILITY

Per Dwayne 3-9-83

- Trojan Grand Prix 250 2 day (.080)
- Flea P.B. 3-4½ wks 3875 250 pc.
- Trojan Grand $2700 250 pc. just back, interest week 1200
- Spring 300 pc $465 2 wks.
- Coolers $1,75 250 pc one week

DON'T SAY IT WRITE IT

To ED YETTER Location

From T. BAUMAN Location Phone No.

Subject M/7 TRIGGER GUARD Date 3-10-83

GUN # 3705 AT 3165 RDS GUARD # D3 CHANGE

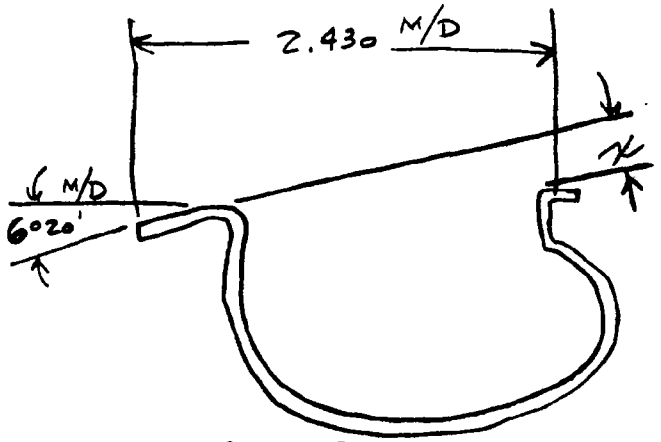
START { 2.479 LENGTH 2.486 } 3165 RDS .007
START { .230 OFFSET .232 } 3165 RDS .002

GUN # 3765 AT 3165 RDS GUARD # J0 CHANGE

START { 2.460 LENGTH 2.474 } 3165 RDS .014
START { .230 OFFSET .224 } 3165 RDS -.006

G-88 REV. 10-62

SECURITY IS EVERYONE'S RESPONSIBILITY

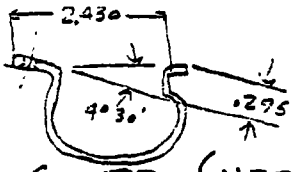


M/7
TRIGGER GUARDS AS REC'D FROM VENDOR, MEASURED, HEAT TREATED & RE-MEASURE (NO PRIOR BENDING DONE BY REMINGTON)

THIS SAMPLE IS TO DETERMINE CHANGED TO H.T. WITH PARTS STAMPED & FINAL FORMED BY VENDOR

PART #	PARTS AS REC'D FROM VENDOR M/D 2.430	X	AFTER HEAT TREAT 2.430	X	AFTER REDRAW AT 600° 2.430	X	TOTAL CHANGE 2.430	X
* A	2.422	.115	2.443	.113	2.436	.113	.014	-.001
* B	2.430	.125	2.435	.112	2.430	.116	0	-.009
* C	2.440	.112	2.466	.157	2.459	.147	.019	.035
* D	2.426	.113	2.426	.104	2.422	.106	-.004	-.007
* E	2.423	.112	2.406	.098	2.400	.092	-.023	-.020
* F	2.425	.130	2.435	.133	2.430	.138	.005	.008
* G	2.422	.113	2.467	.168	2.461	.165	.039	.052
* H	2.422	.137	2.435	.145	2.432	.144	.010	.007
* I	2.425	.125	2.430	.135	2.427	.133	.002	.008
* J	2.424	.119	2.430	.122	2.421	.115	-.003	-.004
* K	2.425	.127	2.452	.136	2.445	.135	.020	.008
* L	2.422	.118	2.463	.153	2.456	.150	.034	.032
* M	2.425	.118	2.446	.120	2.440	.133	.015	.015
* N	2.427	.118	2.438	.124	2.432	.121	.005	.003
* O	2.425	.128	2.443	.125	2.436	.134	.011	.006

.041
.045 avg



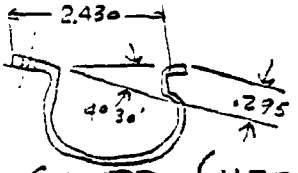
3-1-83

SH. #1

* H.T. THEN POLISH & COLOR 102

M/7 TRIGGER GUARD (HEAT TREATED)

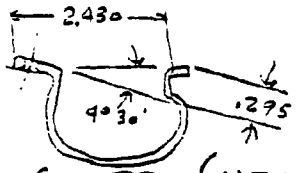
PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
A 0	2.430		2.414			.251	2.448	
A 1	2.423		2.410			.247	2.446	
A 2	2.427		2.402			.315	2.383	
A 3 *	2.435		2.412	.295	2.426	.285	2.420	⊖
A 4 *	2.424		2.416	.253	2.438	.256	2.443	
A 5 *	2.439		2.412	.231	* 2.466	.220	2.475	
A 6	2.435		2.413			.305	2.401	
✓ A 7 *	2.439		2.408	.245	2.434	.244	2.440	
A 8	2.440		2.417			.253	2.431	
A 9	2.433		2.413			.230	2.451	
B 0 *	2.439		2.420	.263	2.446	.256	2.441	
B 1	2.435		2.400			.280	2.399	
B 2 *	2.425		2.390	.256	2.414	.254	2.417	⊙
B 3	2.435		2.412			.282	2.405	
B 4	2.435		2.404			.289	2.400	
B 5	2.435		2.418			.257	2.440	
✓ B 6 *	2.431		2.419	.271	2.446	.273	2.447	
B 7	2.428		2.411			.275	2.421	
B 8	2.440		2.400			.225	2.458	
B 9 *	2.425		2.416	.280	2.441	.272	2.454	
C 0	2.440		2.412			.260	2.438	
✓ C 1 *	2.423		2.403	BROKEN	* 2.461		—	
C 2	2.427		2.417			.260	2.425	
C 3	2.432		2.400			.270	2.412	
C 4 *	2.432		2.415	.230	2.465	.231	2.465	
C 5	2.427		2.416			.212	2.457	
C 6	2.437		2.416			.264	2.425	



3-1-83
SH #2

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 40°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
✓C7 *	2.427		2.410	.261	2.436	.253	2.445	
C8	2.422		2.420			.233	2.452	
C9	2.435		2.409			.265	2.444	
D0	2.426		2.407			.279	2.402	
D1	2.435		2.400			.240	2.431	
✓D2 *	2.436		2.415	.257	2.435	.261	2.444	
✓D3 *	2.437		2.427	.255	*2.474	.230	2.479	
D4 *	2.435		2.420	.245	2.459	.245	2.462	
D5	2.437		2.406			.265	2.427	
D6 *	2.429		2.406	.277	2.416	.275	2.419	⊙
D7 *	2.430		2.419	.244	*2.483	.246	2.494	⌀
D8 *	2.435		2.420	.247	2.450	.237	2.458	
D9 *	2.438		2.414	.287	2.436	.281	2.430	
✓E0 *	2.434		2.420	.213	*2.475	.214	2.481	⊗
E1	2.435		2.404			.240	2.448	
✓E2 *	2.437		2.416	.283	2.425	.286	2.428	⊖
E3	2.435		2.404			.263	2.431	
✓E4 *	2.435		2.426	.220	*2.488	.225	2.491	⌀
E5 *	2.439		2.408	.267	2.453	.265	2.452	
✓E6 *	2.435		2.413	.210	*2.480	.202	2.486	
✓E7 *	2.427		2.409	.232	*2.460	.226	2.464	
✓E8 *	2.421		2.410	.245	*2.458	.240	2.457	
E9 *	2.438		2.418	.220	*2.475	.217	2.475	
F0			2.412			.288	2.418	
F1			2.401			.285	2.400	
F2			2.417			.258	2.422	
F3			2.410			.235	2.441	

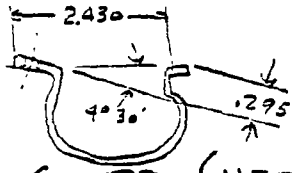


3-1-83

SH#3

M/7 TRIGGER GUARD (HEAT TREATED)

PART#	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
F4			2.402			.275	2.422	
F5			2.408			.271	2.423	
F6			2.401			.282	2.433	
F7			2.402			.260	2.431	
F8			2.407			.275	2.411	
F9			2.400			.268	2.420	
G0 *			2.403	.265	2.420	.270	2.428	
G1 *			2.403	.242	2.411	.265	2.420	
G2			2.405			.270	2.422	
G3			2.413			.205	2.456	
G4			2.407			.276	2.403	
G5			2.408			.268	2.430	
G6 *			2.405	.258	2.425	.255	2.415	⊙
G7			2.402			.255	2.441	
G8			2.410			.287	2.423	
G9			2.418			.290	2.425	
H0			2.404			.270	2.411	
H1			2.411			.260	2.440	
H2			2.410			.247	2.436	
H3 *			2.392	.249	2.422	.246	2.434	
H4			2.424			.225	2.438	
H5			2.412			.273	2.415	
H6 *			2.392	.249	2.444	.240	2.443	
H7			2.406			.287	2.408	
H8 *			2.404	.268	2.444	.279	2.445	
H9			2.406			.293	2.403	
I0 *			2.401	.270	2.432	.263	2.434	

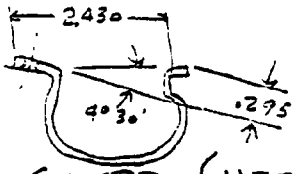


3-1-83

SH. #4

M/7 TRIGGER GUARD (HEAT TREATED)

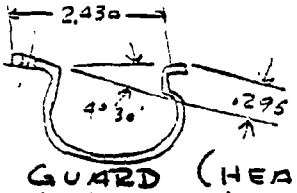
PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
I1			2.404			.305	2.394	
I2			2.405			.262	2.428	
I3 *			2.402	.280	2.419	.276	2.418	⊙
I4 *			2.404	.257	2.430	.264	2.427	
I5			2.405			.265	2.407	
I6			2.406			.270	2.422	
I7 *			2.401	.237	2.453	.230	2.460	
I8			2.411			.240	2.442	
I9			2.413			.295	2.460	
J0 *			2.409	.227	2.464	.230	2.460	
J1			2.425			.257	2.444	
J2			2.401			.280	2.401	
J3			2.417			.245	2.463	
J4			2.407			.267	2.431	
J5 *			2.404	.275	2.426	.270	2.428	
J6			2.405			.310	2.402	
J7			2.407			.277	2.406	
J8 *			2.417	.283	2.422	.282	2.424	
J9			2.401			.295	2.402	
K0 *			2.401	.249	2.446	.240	2.456	
K1 *			2.406	.279	2.428	.283	2.422	
K2			2.409			.253	2.439	
K3			2.410			.250	2.423	
K4			2.411			.257	2.427	
K5 *			2.400	.243	2.447	.245	2.448	
K6 *			2.405	.243	2.454	.239	2.460	
K7			2.405			.289	2.435	



3-1-83
SH. #5

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
K8			2.413			.278	2.415	
K9			2.403			.287	2.404	
L0 *			2.408	.264	2.435	.256	2.431	
L1			2.408			.245	2.442	
L2 *			2.419	.250	2.439	.251	2.439	
L3 *			2.410	.239	2.468	.227	2.466	
L4			2.404			.273	2.431	
L5			2.402			.286	2.411	
L6 *			2.408	.233	2.451	.224	2.456	
L7 *			2.405	.250	2.453	.245	2.460	
L8 *			2.402			.275	2.417	
L9 *			2.402	.250	2.424	.243	2.430	
M0 *			2.413	.270	2.443	.265	2.450	
M1			2.401			.225	2.450	
M2			2.405			.280	2.414	
M3 *			2.407	.280	2.416	.277	2.430	
M4			2.408			.260	2.429	
M5			2.403			.257	2.431	
M6 *			2.407	.221	2.461	.215	2.465	⊗
M7			2.403			.297	2.410	
M8			2.413			.265	2.412	
M9 *			2.409	.240	2.469	.235	2.473	
N0 *			2.404	.277	2.423	.266	2.430	
N1			2.404			.283	2.413	
N2 *			2.403	.267	2.418	.268	2.425	
N3			2.403			.300	2.393	
N4			2.413			.282	2.407	

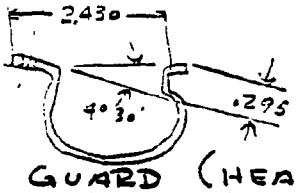


3-1-83

SH#6

M/7 TRIGGER GUARD (HEAT TREATED)

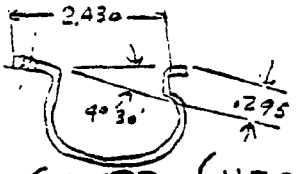
PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
N5			2.409			.275	2.421	
N6			2.410			.245	2.436	
N7 *			2.412	.278	2.416	.268	2.422	
N8 *			2.411	.235	2.463	.228	2.468	
N9 *			2.403	.240	2.456	.233	2.471	
O0			2.408			.230	2.413	
O1 *			2.410	.215	2.484	.205	2.485	⊗
O2			2.421			.257	2.403	
O3 *			2.402	.260	2.426	.242	2.439	
O4 *			2.415	.275	2.422	.270	2.431	
O5 *			2.409	.242	2.455	.242	2.466	
O6 *			2.400	.242	2.428	.255	2.442	
O7 *			2.400	.217	2.457	.217	2.456	
O8 *			2.403	.247	2.431	.244	2.434	
O9 *			2.400	.225	2.476	.227	2.482	
P0			2.403			.250	2.438	
P1 *			2.401	.261	2.430	.260	2.437	
P2 *			2.394	.220	2.465	.217	2.480	
P3			2.405			.264	2.407	
P4			2.402			.251	2.421	
P5			2.404			.262	2.437	
P6			2.419			.268	2.435	
P7			2.410			.276	2.417	
P8 *			2.410	.233	2.466	.233	2.478	
P9 *			2.408	.269	2.418	.268	2.425	
Q0 *			2.391	.250	2.434	.245	2.440	
Q1 *			2.409	.270	2.422	.269	2.426	



3-1-83
SH. #7

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
Q2			2.405			.293	2.425	
Q3			2.403			.237	2.453	
✓ Q4 *			2.412	.279	2.437	.277	2.437	
Q5 *			2.413	.232	2.452	.234	2.451	
Q6 *			2.412	.258	2.458	.252	2.460	
Q7 *			2.394	.275	2.422	.266	2.423	
Q8			2.411			.285	2.404	
✓ Q9 *			2.414	.233	2.474	.234	2.470	
R0 *			2.405	.253	2.456	.251	2.455	
R1 *			2.413	.263	2.428	.265	2.439	
R2 *			2.413	.250	2.467	.240	2.467	
R3 *			2.406	.233	2.490	.221	2.482	
R4			2.408			.230	2.400	
✓ R5 *			2.408	.295	2.427	.289	2.431	
R6 *			2.416	.245	2.423	.250	2.431	
R7 *			2.417	.230	2.477	.225	2.478	
R8 *			2.402	.261	2.436	.259	2.435	
✓ R9 *			2.410	.223	2.481	.221	2.490	
S0 *			2.405	.239	2.433	.253	2.446	
✓ S1 *			2.415	.237	2.465	.235	2.474	
S2 *			2.412	.255	2.482	.233	2.475	
S3			2.410			.260	2.414	
S4 *			2.414	.232	2.474	.226	2.474	
✓ S5 *			2.408	.210	2.485	.203	2.493	ϕ ⊗
S6			2.405			.255	2.438	
✓ S7 *			2.415	.277	2.428	.274	2.432	
S8 *			2.410	.247	2.453	.245	2.456	

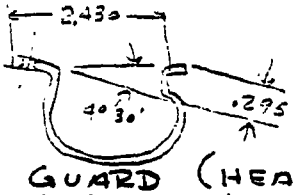


201

3-1-83
SH. # 8

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
S9			2.401			.280	2.401	
T0 *			2.403	.258	2.435	.260	2.439	
T1 *			2.410	.254	2.474	.247	2.474	
T2 *			2.390	.263	2.423	.261	2.428	
T3			2.401			.277	2.406	
T4 *			2.403	.263	2.424	.262	2.427	
T5 *			2.408	.228	2.456	.224	2.468	
✓T6 *			2.405	.289	2.428	.285	2.438	
✓T7 *			2.408	.272	2.417	.262	2.434	
T8 *			2.420	.247	2.464	.249	2.465	
✓T9 *			2.403	.250	2.427	.245	2.421	
U0			2.403		31 pcs	.272	2.423	
U1			2.425		25 out of 102	.245	2.431	
U2			2.402			.288	2.400	
U3			2.415			.272	2.422	
U4			2.404			.277	2.407	
U5			2.400			.255	2.432	
U6			2.410			.250	2.446	
U7			2.408			.260	2.419	
U8			2.405				2.416	
U9			2.411			.230	2.451	
V0			2.404			.246	2.413	
V1			2.407			.289	2.416	
V2			2.400			.259	2.432	
V3			2.409			.262	2.425	
V4			2.406			.245	2.442	
V5			2.403			.275	2.405	

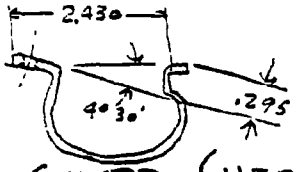


3-1-83

SH. # 9

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
V6			2.409			.255	2.440	
V7			2.410			.283	2.411	
V8			2.404			.236	2.442	
V9			2.408			.305	2.489	
W0			2.404			.235	2.400	
W1 *			2.401			.252	2.437	
W2			2.412			.227	2.456	
W3			2.404			.268	2.418	
W4			2.409			.265	2.429	
W5			2.413			.289	2.415	
W6			2.409			.275	2.435	
W7			2.425			.250	2.449	
W8			2.416			.272	2.434	
W9			2.408			.237	2.433	
X0			2.401					P. JOHNSON
X1			2.405			.293	2.404	
X2			2.400			.255	2.421	
X3			2.403			.283	2.420	
X4			2.411			.290	2.414	
X5			2.411			.288	2.403	
X6			2.405			.250	2.415	
X7			2.400			.265	2.418	
X8			2.407			.239	2.432	
X9			2.400			.260	2.423	
~~Y0~~								
Y1			2.410			.232	2.433	
Y2			2.413			.267	2.422	



3-1-83

SH. #10

M/7 TRIGGER GUARD (HEAT TREATED)

PART #	START 2.430 BEFORE BEND	BEND 4°30' .295	2.430 AFTER BEND	AFTER H.T. .295	AFTER H.T. 2.430	PARTS COMPLETELY FINISHED & COLORED .295	PARTS COMPLETELY FINISHED & COLORED 2.430	
Y3			2.394			.247	2.436	
Y4			2.402			.243	2.430	
Y5			2.412			.255	2.432	
Y6			2.405			.280	2.401	
Y7								
Y8								
Y9								
Z0								
Z1								
Z2								
Z3								
Z4								
Z5								
Z6								
Z7								
Z8								
Z9								

ROUTE:

~~J. W. Brooks~~
~~D. E. Bullis~~
~~B. [redacted]ny~~
~~E. J. Hagen~~
~~T. J. [redacted]~~

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
March 8, 1983

TO: C.B. WORKMAN

FROM: J.W. BROOKS

SUBJECT: MODEL SEVEN 308 CALIBER STOCK CRACKING AND FLOOR PLATE INVESTIGATION

Stock

- Testing of ten (10) Stocks, with reinforcing screws have been completed. Drawings have been transmitted and the plant is producing Stocks with reinforcing screws.

Trigger Guard

- 250 Trigger Guards with rear tab altered and heat treat have been given to Production to put on 308 Caliber rifles with pinned Stocks. We will field test sixteen (16) of these rifles and endurance test four (4).

- 250 Trigger Guards are on order from the vendor with an altered front hook. They will be shipped to us by March 16. They will be ready for testing by approximately March 23. They will be used to test rifles with thicker Trigger Guard Plates and Floor Plate bases.

Trigger Guard Plate

- We have eighteen (18) parts made from .080 material. They will be brazed to current floor plate bases and tested. They will be ready for testing March 11.

- 250 parts from .080 material will be available by March 11. These parts will be used with the thicker floor plate base samples.

Floor Plate Base

- 250 parts from .062 material will be available in three to four and a half weeks or by April 8. They will have to be Model Shop machined and brazed by Production. They will be available approximately April 22 for testing.

Floor Plate Cover

- 250 parts from .062 material will be available by March 15. They will be available for testing approximately March 25.

Latch Spring

- 300 new latch springs will be available by March 23.

The above five items will be used together to test the Model Seven in 308 Caliber for floor plate opening conditions. When these parts are ready for testing we will have results from present endurance testing so that we will know if a heat treated latch is required. If it is required, we will use them when testing these five items.

JWB:js

G-88

DON'T SAY IT—*WRITE IT*

To J. Brooks

Date 3-9

From D. Rice

#92256 Floor Plate Base

I checked my files and a transmittal was issued to make a blank dwg C-92256. Therefore make necessary changes to that dwg per H&P letter.

Question: Shouldn't C-91840 say for blank see C-92256 not see #92256.

Taken care of yesterday

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

G-88

DON'T SAY IT—*WRITE IT*

To _____ Date _____

From _____

Frank Ambrose 216 671 8000

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

cc: C.E. Ritchie
S.D Bennett

G-88

DON'T SAY IT—*WRITE IT*

To J. Brooks

Date 3/10

From D. Russ

Referencing your letter 3-7-83 - 222 caliber
no-bend followers

Checked MRP inventory on part # 16793 m/600 follower
1010 pcs. in inventory
Further investigation by D. Jackson revealed an
error - only 368 pc. in inventory

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

Meeting of 3-10-83

Wade, Johnson, Burns, Cooke, Munson, Butler, Yetter, Ritter, Fray, Jackson, Rounds, Haney, J Snedker

- Spring retainer bending in front.
- Trigger side clearance. marks print for J. Little.
- Punied stocks for all calibers
- Production to use 2000 finished stocks for 222
- Heat treated Trigger Guard for all models.
-

3-15-83

- Floor Plate base
  - thicker metal. ~~.062~~ carbon - no carbon various thickness
    what would be delay? —

I

- Present Timing is 3 - 4½ week
  - what is best time working 24 hr/day?
  - what is cost? ??

2-3 wks

Frank will call back tomorrow.

3-11 Dwayne said Frank will shoot for 3-31 for parts to us. He will give info on what is reqd for thicker metal.

REMINGTON ARMS COMPANY
Model Seven Rifle ads

March 11, 1983

Brooks Info

INTRODUCING THE RIFLE
THAT'S 100% REMINGTON,
BUT 20% LESS* SIZE AND WEIGHT.

* COMPARED to the AVERAGE BARREL LENGTH & WEIGHT OF MODEL 700'S.

FEEL THE DIFFERENCE.

(LOGO) MODEL SEVEN
LIGHTWEIGHT

The new Model Seven is the lightest, fastest, most compact Remington bolt action rifle ever. And, like every firearm we've made in American since 1816, it has quality written all over it.

Once you see and shoulder the Model Seven, you'll know it's tailored for day-long duty in the toughest terrain, from steep hills to knee-deep bogs.

Every Model Seven is only 1½" longer than a yardstick. And, weighing an honest 4 oz. above the magic 6 lbs., it's one of the lightest big game bolt actions you can buy. At any price.

And check these hard-hitting calibers, ideally suited to the Seven's compact dimensions: 308, 6mm Rem., 7mm-08 Rem., 243, and 222 Rem.

Sure, there are other so-called "lightweight" rifles out there. But most got that way by turning down their barrels, lopping off an inch here and there, or by using lightweight materials. Not so with Remington, we designed a completely new rifle.

Long man-hours in research and on the range helped us develop a lightweight rifle that's all new — from the ground up. Yet its action and specially tapered barrel are built to be as strong and dependable as those Remington barreled actions that have been preferred by target champions and custom gunmakers for decades.

The Model Seven's American walnut stock is cut checkered, satin finished, and sports a distinctive Schnabel fore-end. Every part of this rifle, right down to its crisp trigger and ~~steel~~ wingard floor plate is made here in America. To the quality and accuracy standards shooters expect — and get — from Remington. The result is a high value lightweight rifle that's not 1" longer, 1 oz. heavier, or $1 more expensive than it should be.

Try the Seven for size at your nearby Remington dealer or read more about it in our free catalog. The Model Seven Lightweight, just one more way we're doing our best to keep you "First in the Field."

(Remington logo, Du Pont oval)

(small type at bottom of ad):

Remington is a trademark registered in the U.S. Patent & Trademark Office by Remington Arms Company, Inc., Bridgeport, CT 06601.

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: J.P. Linde, S.W. Johnson, J.J. Burns, W.W. Cook, H.C. Munson, D.E. Bullis, C.E. Ritchie, E.W. Yetter, S.R. Franz, D. Jackson, H. Roark, W.L. Ganey, J.R. Snedeker

Ilion, New York
March 14, 1983

TO: C.B. WORKMAN

FROM: J. W. BROOKS

SUBJECT: MODEL SEVEN LIGHTWEIGHT

The following items were discussed and agreed upon for future production rifles in .222, 6 mm, and .243 Caliber.

- Pinned Stocks (reinforcing screw) for all future Stocks.
- Production would use approximately 2,000 finished Stocks without reinforcing screws for .222 rifles.
- Research will transmit trigger guard drawing with rear tab bent in opposite direction than it is now and also add heat treat specifications.
- Research will furnish marked drawing of Model Seven trigger with extra relief cut on each side.

JWB:js

RD-49-R

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: J.P. Linde, S.W. Johnson, J.J. Burns, W.W. Cook, H.C. Munson, D.E. Bullis, C.E. Ritchie, E.W. Yetter, S.R. Franz, D. Jackson, H. Roark, W.L. Ganey, J.R. Snedeker

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JWB:js

.308 CALIBER

RIFLE - SN	Report Dated 3-15-82		Report No. 82-0491	Report No. 82331
	Acc. 7-7-81	7-15-81	150-200 gr 12 Types Ammo. 3-12-82	200 Gr. 12-17-82
B 6226264	15 rds.	500 rds. 7 F.P.O.	180 rds.	20 rds.
256	15 rds.	500 rds. 1 F.P.O.	180 rds.	20 rds.
265	15 rds.	500 rds.		
237	15 rds.	500 rds.	180 rds.	20 rds.
276	15 rds.	500 rds.	180 rds.	
	Report # 822811 10-18-82	Report # 822811 10-28-82	Report # 822811 10-29-82 No. 5 Design	Report # 828331 200 Gr.
	10-25-82	50 rds. 200 Gr.	50 rds. 200 gr.	12-14-82
7600003	165 rds. 79 F.P.O.	No. 5 design ok		
08	165 rds. 59 F.P.O.			
13		(?) ok	ok	
16		(?) ok	ok	
22	165 rds. 22 F.P.O.	No. 5 design ok		
28		ok	ok	
34		ok	ok	
36	165 rds. ok	(?) ok	ok	
40	165 rds. 76 F.P.O.	5 F.P.O.	ok	
43	165 rds. ok	No. 5 design ok		
50		11 F.P.O.	ok	20 rds.
52		(?) ok	ok	
58	165 rds. ok	(?) ok	ok	
62		(?) ok	ok	
63		(?) ok	ok	
65		1 F.P.O.	ok	
67				20 rds.
79				20 rds.
88				20 rds.
96		6 F.P.O.	ok	

.308 CALIBER - Contd.

101	165 rds. 12 F.P.O.	No. 5 design ok		20 rds.
102				20 rd
103	165 rds. ok	(?) ok	ok	~~20 rds~~.
107				20 rds.
120		6 F.P.O.	ok	
139	165 rds. 52 F.P.O.	No. 5 design ok		20 rds

Report No. 820491

.243 CALIBER	11-15-82	7-15-81
B 6226266	75 rds.	160 rds.
225	75 rds.	160 rds.
234	75 rds.	160 rds.
262	75 rds.	160 rds.
272	75 rds.	
271		160 rds.

6MM		
B 6226233	75 rds.	140 rds.
263	75 rds.	140 rds.
255	75 rds.	140 rds.
230	75 rds.	140 rds.
258	75 rds.	140 rds.

7mm-08 CALIBER	
B 6226249	140 rds.
232	140 rds.
252	140 rds.
220	140 rds.
251	140 rds. F.P.O.

.222 CALIBER	
B 6364418	100 rds.
423	100 rds.
421	100 rds.
422	100 rds.
417	100 rds.

JWB:js
2-23-83

308 Cal

Rifle S.N.	Report dated 3-15-82		Report no. 82 0491 150-200 gr 12 Types of ammo	Report no. 823331 200 gr.
	acc. 7-7-81	7-15-81	3-12-82	12-17-82
B6226264.	15 rds	500 rds 7 F.P.O.	180 rd	20 rd
256.	15	500 1 F.P.O.	180 rd	20 rd
265	15	500 rds		
237.	15	500 rds	180 rds	20 rds
276.	15	500 rds	180 rds	

	Report no. 822811 10-18-82 10-25-82		Report no. 822811 10-28-82 5 rds 200 gr	Report 822811 10-29-82 no 5 design 50 rd 200 gr	Report no. 823331 200 gr 12-14-82
7600003	165 rds	79 F.P.O	no 5 design ob.		
38	165 rds	59 F.P.O.			
76 00013			? ob	ob.	
16			? ob	ob.	
22	165 rds	22 F.P.O.	no 5 design ob.		
28			ob.	ob.	
34			? ob	ob.	
36	165 rd.	ob	? ob.	ob.	
40	165 rds	76 FPO	5 F.P.O.	ob.	
43	165 rds	ob	no 5 design ob		
50			11 F.P.O.	ob.	20 rd
52			? ob	ob.	
58	165 rds	ob.	? ob	ob.	
62			? ob	ob.	
63			? ob	ob.	
65			1 F.P.O.	ob.	
67					20 rd
79					20 rd
88					20 rd
96			6 F.P.O.	ob.	
101	165 rds	12 F.P.O.	no 5 design ob.		20 rds
102					
103	165 rds	ob	? ob	ob.	
107					20 rds
123			6 F.P.O.	ob.	
139	165 rds	5 F.P.O.	no 5 design ob.		20 rd

Report no. 820471

243 Cal	11-15-82	7-5-81
B 6226260	75 rds	160 rds
225	75 rds	160 rds
234	75 rds	160 rds
262	75 rds	160 rds
272	75 rds	
271		160 rds

6 MM		
B 6226233	75 rds	140 rds
263	75 rds	140
255	75 rds	140
230	75 rds	140
258	75 rds	140

7mm 08 Cal.	
B6226249	140 rds
232	[illegible]
252	140
220	140
251	140 12 FRD.

222 cal	
B6364418	100 rds
423	100
421	100
422	100
417	100

3-15-83

Nylock Plug or Patch

- ~~.025~~ .043 drill to .085 deep from crest of thd. " to .045 deep " " "
- 25% more usage with plug than patch
- 15 insertions guaranteed for plug or patch.

- This info per Joe Ferreira.
- Nylock people will make a dozen samples for us if we furnish screws.

4-6-83

Furnish Joe parts for plug + patch (14 each) for samples from my stock

B-91881

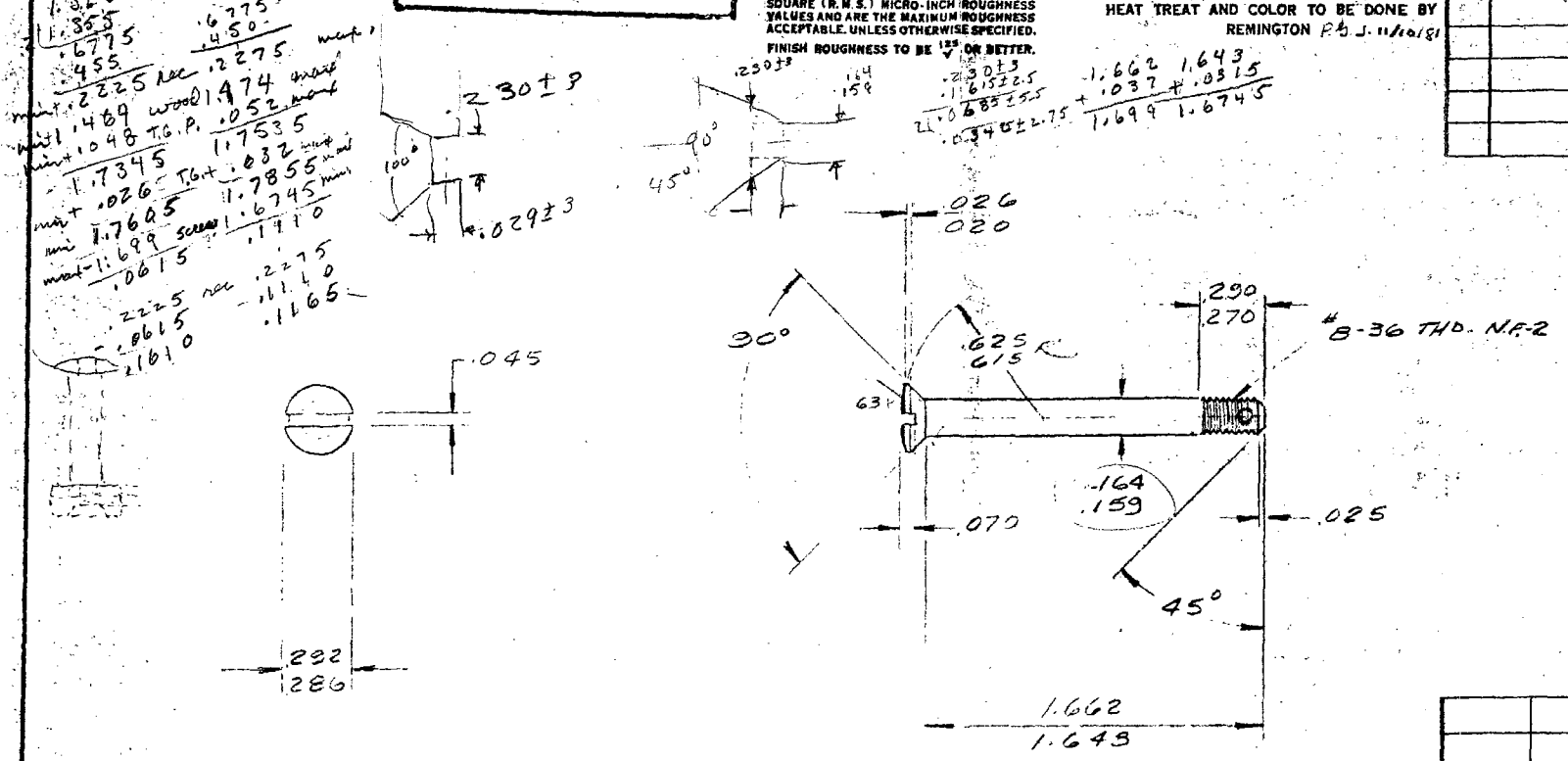
THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

DO NOT SCALE THIS DRAWING. WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
± ON FRACTIONAL DIMENSIONS ± 1/64
± ON ANGULAR DIMENSIONS ± 30' − 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 ✓ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 08/20 CARBON STEEL
HEAT TREAT CYANIDE
HARDNESS 15N 88 MIN.
COLOR N. BLACK
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON RB J. 11/10/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE



ORDER BLANK No. 92243

SEE ASSY. OR PART BASIC	91881	REAR GUARD SCREW
MODEL	PART NO.	PART USE
DES. BY DATE	DRN. BY DATE	CHK. BY DATE / APP. BY DATE
TITLE SCREW		
NUMBER B-91881	SCALE 2X	SUPERSEDES / REFERENCE DCN # 11501

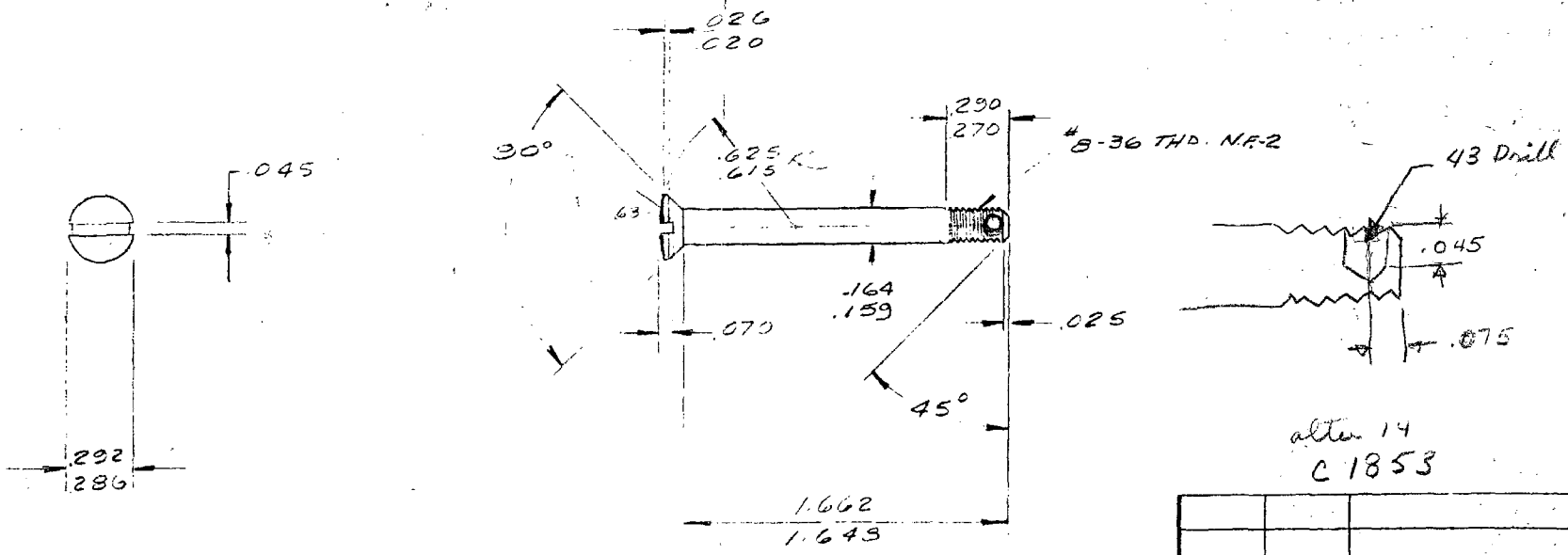
REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

B-91881

DO NOT SCALE THIS DRAWING: WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° -30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 ✓ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 18/20 CARBON STEEL
HEAT TREAT CYANIDE
HARDNESS 15N 85 MIN.
COLOR N. BLACK
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON RB J. 11/10/81

ALTERATIONS				
ALT.	WAS	REF.	BY	DATE



alter 14
C 1853

ORDER BLANK NO. 92248

SCL. FOR CAL. BINL	91881	REAR GUARD SCREW
MODEL	PART NO	PART USE

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
1-2-80	1-9-80	11/9/81	11/20/81

TITLE SCREW

NUMBER	SCALE	SUPERSEDES	REFERENCE
B-91881	2X		DCE # 11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

3-16-83

TO: J.W. BROOKS
FROM: D.E. BULLIS
SUBJ: M/7LWT FLOOR PLATE UNLATCHING.

TEN SCRAP STOCKS WERE INLETTED .030 DEEPER IN THE TRIGGER GUARD PLATE AREA TO ACCEPT A GUARD THAT IS .030 THICKER. 5 WERE PUT UP WITH .030 THICK T.G. PLATES WHICH WERE CARBURIZED & 5 WERE PUT UP USING REGULAR (UN-HEAT TREATED) PLATES.

ALL RIFLES HAD

- .050 THICK FLOOR PLATE COVERS.
- STANDARD LATCH & SPRING.
- HEAT TREATED, [illegible] WITH A .030 NOTCH CUT INTO NOTCH FOR .030 THICKER GUARD PLATE.

ALL WERE FIRED FROM HEAVY JACK WITH 308 CAL. — 180 P.S.P. FORTY ROUNDS WERE FIRED THRU EACH RIFLE WITH NO OPENINGS.

TEN STANDARD TRIGGER GUARDS HAD .030 CUT INTO NOTCH TO FIT PLATES, & RE-SHOT ABOVE TEST. TWO GUARDS FAILED. (LATCH OPENED) HEAT TREATED, BENT GUARDS WERE PUT BACK ON THESE TWO GUNS & RE-SHOT WITH NO COVER OPENINGS.

RD-6738 Rev. 380

J. N. Brooks

DCR

MICRO 11694

DESIGN CHANGE REQUEST (DCR)

OR

TRANSMITTAL OF DRAWINGS / ~~PARTS LIST~~

Sheet 1 of 2

Requested By	Changed By	Date
R.E.D.	D.E.B.	3-23-83
Originating Date	Transmittal Date	
3-23-83	3-23-83	

Model	Part Name / ~~List~~	Drawing No.	Part No.
700 7LWT	TRIGGER	C-15280	15280
"	TRIGGER BLANK	C-91912	91912

Dwg. No.	Rev. No.	Design Change
C-15280	23	REMOVE .320 AS SHOWN
	24	" .210 " "
	25	" .025 " "
	26	ADD USE M/7LWT " "

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

(✓) Other

Doug Bullis

Designer Signature

Reason for Change: To allow for more clearance on side of trigger for ease of assembly.

Disposition of Parts on Hand: (check below)

( ) Scrap (✓) Alter ( ) Use Inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered)

APPROVED: John W Russell 3-23-83 CMW 3/23/83

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529382

RD 6589

MICRO

DESIGN CHANGE REQUEST
and
TRANSMITTAL OF DRAWINGS

DCR # 11694

Sheet 2 of 2

Dwg. No.	Rev. No.	Recommended Design Change - Reason - Disposition of Parts
C491912	1	REMOVE .025 AS SHOWN
	2	" .320 " "
	3	RE DIMENSION 1.179/1.175 TO 1.129/1.125 AS SHOWN
	4	ADD USE 7CWT
	5	ADD 1.433 AS SHOWN

J. W. Brooks

MICRO

RD-6738 Rev. 380

DCR 11697

DESIGN CHANGE REQUEST (DCR)

Sheet 1 of 1

~~OR~~

~~TRANSMITTAL OF DRAWINGS~~ / ~~PARTS LIST~~

Requested By	Changed By	Date
R & D	D.E.B.	3/23/83
Originating Date	Transmittal Date	
3-23-83	3-25-83	

Model	Part Name / ~~List~~	Drawing No.	Part No.
7/LWT	BOLT HANDLE BLANK	D-92227	92227

Dwg. No.	Rev. No.	Design Change
D-92227	4	REDRAW & REVISE AS SHOWN.

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

(✓) Other

Doug Sullis

Designer Signature

Reason for Change: Changes in neck area are required by Vendor so he can make Bolt Handles without cracking.

Disposition of Parts on Hand: (check below)

( ) Scrap ( ) Alter ( ) Use inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered)

APPROVED: John W Brooks 3-24-83

J. N. Brooks

MICRO

RD-6738 Rev. 380

DCR 11693

DESIGN CHANGE REQUEST (DCR)

OR

TRANSMITTAL OF DRAWINGS / ~~PARTS LIST~~

Sheet 1 of 2

Requested By	Changed By	Date
R.E.D.	D.E.B.	3-21-83
Originating Date	Transmittal Date	
3-1-83	3-21-83	

Model	Part Name / ~~Title~~	Drawing No.	Part No.
SEVEN	MAG. SPRING	C-91905	91905
SEVEN, M/700 .222	MAG. SPRING	C-91133	91133

Dwg. No.	Rev. No.	Design Change
C-91905		OBSOLETE
C-91133		ADD USE M/7LWT 222 CAL.

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

(✓) Other

Designer Signature

Reason for Change:

Testing shows this spring to have fewer firing malfunctions than current transmitted spring.

Disposition of Parts on Hand: (check below)

(✓) Scrap ( ) Alter ( ) Use inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered)

APPROVED: John W. Brooks 3-22-83

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529385

RD 6739

MICRO

DCR # 11693

Sheet 2 of 2

PARTS LIST CHANGE NOTICE (PLCN)

TRANSMITTAL ~~OF DRAWINGS / PARTS LIST~~

Requested By	Changed By	Date
R & D	DEB	3-17
Originating Date	Transmittal Date	
3-17-83	3-18-83	

(PLCN) Use form below if part number is changed / add – used, or superseded.

	Drawing No.	Part No.	Part Name	Qty.
Current Listing	C-91905	91905	MAGAZINE SPRING 222	1
New Listing	C-91133	91133	MAGAZINE SPRING 222	1
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				

NOTE: Please mark your Parts List to agree. ✓

(✓) Superseded Part is Obsolete (check disposition below)

( ) Use Up (✓) Scrap ( ) Service Repair ( ) Other Model Use

( ) New Part is: (✓) Steel ( ) Powder Metal ( ) Assembly ( ) Wood (✓) Purchased ( ) Other

APPROVED: _____ _____ _____

J. W. Brooks

RD-6738 Rev. 380

MICRO 11699

DCR

DESIGN CHANGE REQUEST (DCR)

OR

TRANSMITTAL OF DRAWINGS / ~~PARTS LIST~~

Sheet 1 of 1

Requested By	Changed By	Date
J.W. BROOKS	T.T. PLUNKETT	3/25/83
Originating Date	Transmittal Date	
3-25-83	3-29-83	

Model	Part Name / ~~Sa~~	Drawing No.	Part No.
7 LWT.	TRIGGER GUARD - BLANK	C-92249	92249

Dwg. No.	Rev. No.	Design Change
C-92249	8	PICTORICAL CHANGE OF BEND.
"	9	ADDED 4°30'
"	10	ADDED 90°
"	11	REMOVED 6°20'
"	12	ADDED .295
"	13	CHANGE 5° TO 4°30'.

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

(✓) Other

Thomas T. Plunkett 3/23/83

Designer Signature

Reason for Change: TO PUT POSITIVE PRESSURE ON FLOOR PLATE BASE

Disposition of Parts on Hand: (check below)

( ) Scrap (✓) Alter ( ) Use inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered)

APPROVED: John W. Brooks 3/29/83 3-29-83

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529387

RD-6738 Rev. 380

J. W. Brooks

DCR **11691**

DESIGN CHANGE REQUEST (DCR)

OR

TRANSMITTAL OF DRAWINGS / ~~PARTS LIST~~

Sheet 1 of 2

Requested By	Changed By	Date
M.R.P.	D.E.B.	3/11/83
Originating Date	Transmittal Date	
3-11-83	3-17-83	

Model	Part Name / ~~List~~	Drawing No.	Part No.
7LWT	RECEIVER	C92470	92470

Dwg. No.	Rev. No.	Design Change
C-92470		OBSOLETE DWG.

Classification of Change

( ) Functional Change

( ) Safety Mechanism Revision

( ) Appearance

NOTE: Any or all of the above changes to current models require approval of Operations Committee and approval of DCR by Div. Manager. On models NOT IN PRODUCTION, the above changes require approval of Div. Manager ONLY.

( ) Other

Doug Bullis

Designer Signature

Reason for Change:

THIS CLEARANCE IS NOW SHOWN ON RECEIVER DRAWING D91876 (Bracket angle on Bolt lug guide)

Disposition of Parts on Hand: (check below)

( ) Scrap ( ) Alter ( ) Use Inventory ( ) RD 6589 Attached

(P.E.&C: If part is either scrapped or altered)

APPROVED: John W Brooks 3-11-83 3/16/83

RD 6739

DCR # 11691

Sheet 2 of 2

PARTS LIST CHANGE NOTICE (PLCN)

TRANSMITTAL OF DRAWINGS / PARTS LIST

Requested By	Changed By	Date

Originating Date	Transmittal Date

(PLCN) Use form below if part number is changed / add – used, or superseded.

	Drawing No.	Part No.	Part Name	Qty.
Current Listing	C-92470	92470	RECEIVER (243 CAL.)	1
New Listing	D-91876	91876	"	1
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				
Current Listing				
New Listing				

NOTE: Please mark your Parts List to agree.

( ) Superseded Part is Obsolete (check disposition below)

( ) Use Up ( ) Scrap ( ) Service Repair ( ) Other Model Use

( ) New Part is: ( ) Steel ( ) Powder Metal ( ) Assembly ( ) Wood ( ) Purchased ( ) Other

APPROVED: _____ _____ _____

SALES DEPARTMENT

Remington Rem-O-Gram

Quick Facts About REMINGTON PRODUCTS

10 01
J.W. BROOKS
ILION

cc: House Force

Bridgeport, Connecticut
March 24, 1983

TO THE FIELD FORCE:

You have already received a request to contact your jobber customers, instructing them to hold further delivery of any Model Seven rifles on hand and to supply you with a list of dealers who have received delivery of Model Seven rifles.

Our ultimate intention is to update all Model Seven rifles shipped to date by means of a return to the nearest Remington warranty gunsmith service location or to Arms Service in Ilion.

We have discovered that if a Model Seven rifle is disassembled after it leaves the factory, it is possible for the rifle to be reassembled incorrectly, producing off-center trigger alignment that might cause subsequent malfunction of the trigger and accidental firing of the rifle. The updating service on the rifle will eliminate the possibility of such incorrect reassembly.

To accomplish this, you are requested to obtain:

1. A list of all Model Seven rifles and matching serial numbers still in an individual jobber's inventory.
2. A list from the jobber of the names and addresses of dealers to whom Model Seven rifles have been shipped, including serial numbers.

Both jobbers and dealers will then be contacted by Product Service with instructions on how to have the rifles updated. Consumer purchasers of Model Seven rifles will also be contacted by Product Service with a request and instructions to have the rifles updated.

REMINGTON ARMS COMPANY, INC., BRIDGEPORT 2, CONN.

Form No. RD 451

Printed In U.S.A.

In all contact with jobbers, dealers, and retail customers on this subject, it is important to emphasize that the potential malfunction is remote, can occur only on a Model Seven rifle that has been disassembled and subsequently reassembled outside the factory, and that the update applies only to Model Seven rifles and not to any other Remington models.

This update is being incorporated into all Model Seven rifles to be shipped in the future.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr

2-26-73

7mm-08 rifles
To Bob Jay
Barreled actions

B6226254

B6226220

B6226241

7600142

7600141

B6226252

B6226249

G-88

DON'T SAY IT—*WRITE IT*

To ~~C. B. WORKMAN~~ J. Brooks

Date April 4, 1983

From J. P. LINDE JPL

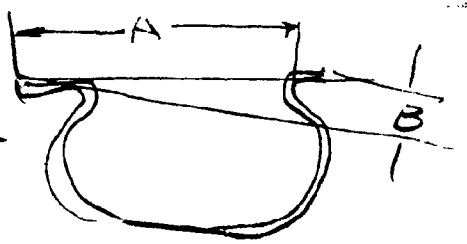
This is a file copy of deviations we made on the Model Seven LWT. The letter was written to describe the changes and the reasons for the changes at the time.

This is a copy for your files.

JPL:hv

"YOUR SAFETY ATTENTION MEANS ACCIDENT PREVENTION"

Print spec.

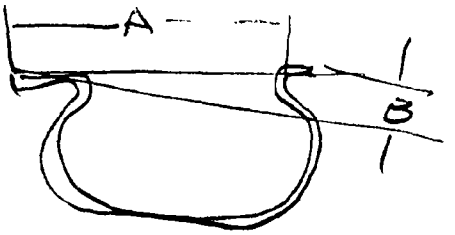


	2.430 A	AFTER H.T.	.295 B	AFTER H.T.
1	2.437	2.455	.262	.261
2	2.443	2.467	.262	.218
3	2.434	2.469	.262	.227
4	2.437	2.468	.257	.233
5	2.438	2.467	.268	.247
6	2.435	2.470	.265	.240
7	2.435	2.472	.292	.260
8	2.434	2.461	.262	.241
9	2.437	2.455	.256	.230
10	2.430	2.449	.274	.280
11	2.440	2.462	.262	.244
12	2.444	2.470	.259	.242
13	2.438	2.470	.268	.234
14	2.437	2.468	.266	.236
15	2.437	2.450	.264	.263
16	2.442	2.450	.265	.255
17	2.435	2.463	.261	.237
18	2.440	2.465	.253	.230
19	2.433	2.490	.258	.204
20	2.435	2.458	.262	.248
21	2.440	2.468	.265	.228
22	2.440	2.473	.263	.250
23	2.439	2.468	.263	.233
24	none		none	
AVE.	2.437	(2.465)	AVE. .264	(.241)

4-4-83
Plant re-shaped Trigger Guards - Spence Sennett - model shop.

4-7-83
Doing guess work to Process & they will correct fixture to get .295 dim.

	MODEL DWG. 2.430	MODEL DWG .295
	A	B
1	2.437	.262
2	2.443	.262
3	2.434	.262
4	2.437	.257
5	2.438	.268
6	2.435	.265
7	2.435	.292
8	2.434	.262
9	2.437	.256
10	2.430	.274
11	2.440	.262
12	2.444	.259
13	2.438	.268
14	2.437	.266
15	2.437	.264
16	2.442	.265
17	2.435	.261
18	2.440	.253
19	2.433	.258
20	2.435	.262
21	2.440	.265
22	2.440	.263
23	2.439	.263
24		
AVE	2.437	.264



4-4-83

Production bent Trigger guards before heat treat.

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: R.E. Fielitz
H.K. Boyle
H.C. Munson
J.P. Linde
J.W. Brooks

Ilion, New York
April 7, 1983

TO: C.B. WORKMAN

FROM: C.E. RITCHIE

SUBJECT: MODEL SEVEN NEW STYLE TRIGGER EVALUATION

The purpose of the evaluation was to analyze the effect of removing material from both sides of the trigger to allow additional trigger clearance. Three analyses were performed as follows:

1. John Brooks, Supervisor Current Firearms Design evaluated the effects of stack-up of dimensional tolerances;

2. Scott Franz and Ed Yetter, Jr. Basic Systems Research Group evaluated the theoretical aspects of the new trigger compared to old style trigger during a drop jar-off test and

3. The Research Test Lab performed a physical drop/jar-off test on both the old and new style triggers.

Results of these analyses are as follows:

1. With the new style trigger cuts an additional .0135" per side is achieved.

2. The theoretical calculations indicated there is a 10% greater moment of inertia with the new style trigger over the old style trigger.

3. Drop and jar-off tests indicate the new style trigger to be as good "as the old style". The new style trigger also meets or surpasses SAAMI jar-off test requirements.

Overall results indicate the new style trigger should be a satisfactory replacement for the old style trigger.

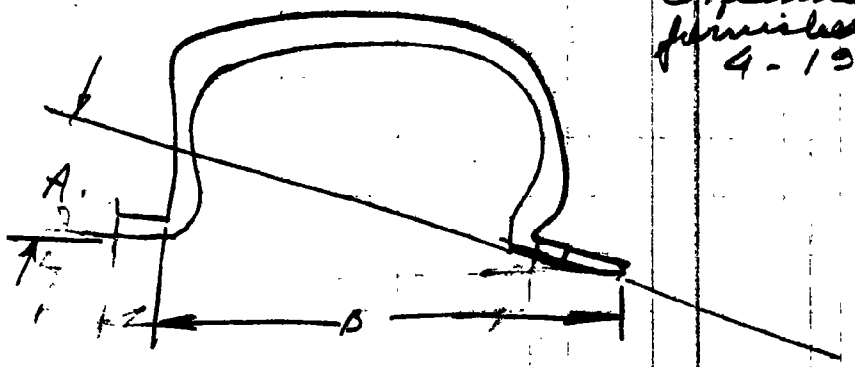
If additional information is needed of test or evaluation reports, please contact me.

CER:js

Plant Shaped 7. Guards

after H.T.
Print specs
A = .325
B = 2.430

S. Bennett furnished parts
4-19-83



	A.	B
1	.302	2.453
2	.293	2.447
3	.295	2.450
4	.298	2.440
5	.285	2.453
6	.315	2.434
7	.320	2.445
8	.300	2.454
9	.306	2.449
10	.290	2.460
11	.295	2.457
12	.293	2.453
13	.306	2.450

These were done after the dies were altered from .285 bend. I have info on these parts before heat treat.

M/7 HVT Trigger guard blank 91951 (.295 dim 4°30' ∡) 4/15/83 SB

Dimension

#	Before HT	After HT
1	.323	.313
2	.317	.303
3	.323	.300
4	.328	.304
5	.318	.302
6	.324	.322
7	.336	.330
8	.323	.312
9	.330	.313
10	.318	.304
11	.321	.307
12	.317	.307
13	.321	.314
avg	.323	.310
avg diff. from mean	.028	.015
range	.317 – .336	.300 – 330
spread	.019	.030

checked on comparator per S Jones Bennett

2.430

	Before A	AFTER H.T.	Before B	AFTER H.T.
1	2.437	2.455	.262	.261
2	2.443	2.467	.262	.218
3	2.434	2.469	.262	.227
4	2.437	2.468	.257	.233
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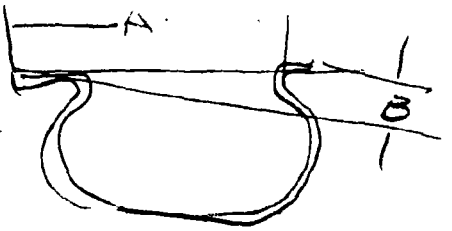
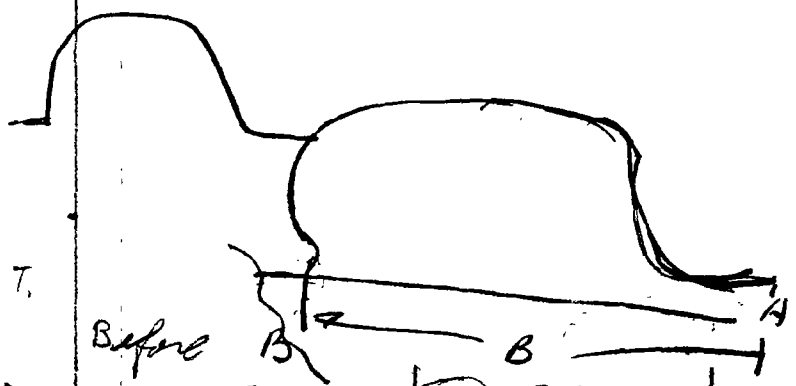
21	2.440	2.468	.265	.228
22	2.440	2.473	.263	.250
23	2.439	2.468	.263	.233
24	none		none	
AVE.	2.437	(2.465)	AVE. .264	(.241)



4-4-83

Plant re-shaped Trigger Guards - Spence Bennett - model shop.

New Samples from H & P



	Before H.T. A	Before B	After A	After B
1	.310	2.431	.308	2.443
2	.308	2.442	.286	2.462
3	.316	2.447	.309	2.457
4	.348	2.433	.337	2.450
5	.315	2.443	.340	2.435
6	.326	2.443	.320	2.455
7	.331	2.429	.328	2.448
8	.338	2.440	.322	2.445
9	.320	2.444	.300	2.460
10	.306	2.433	.293	2.450
11	.348	2.432	.355	2.435
12	.327	2.443	.310	2.460

Trigger Guards received from H + P 4-5-83
measured before H.T.

M.	.324	2.439	.317	2.450

250 Heat treated Guards to Cute Cross for Superchrom + polish and color 4-8-83

Summary of Testing 4/15/83 Model Seven
Heavy material Floor Plate assemblies.

Assembly: Rear hole drilled out on all guns
Filed magazine box hole in stock on 2 guns
All guns needed latch coverage adjustment
adjustment was difficult due to thick material
magazine box bends when adjustment is made.
3 guns needed mag. box repair after latch
coverage adjustment.

Lab Shooting: 9 guns shot: 10 rnds with old guards
10 rnds with new guards
5 guns F.P.O. with old guards
1 gun F.P.O. with new guard
3 guns took 3 rnds in Box.

Field Shooting: Field Function Test 135 rnds total
assorted ammo types.
8 guns. No F.P.O.
3 guns took only 3 rnds in mag.
2 guns had 1 stem high each
1 gun had 1 bolt override
Replaced Trigger guard to Vendor part
on 4 guns half way through test -
No problems.

Gun#

3489 - Assembly: rear stock hole drilled out
Magazine box hole in stock filed
4th round into magazine loads hard.
Lab shooting: No floor plate openings in
10 rnds with old Trigger Guard
No floor plate openings in
10 rnds with New Trigger Guard
Field Shooting 135 rnds. No malfunctions

3136 Assembly: rear stock hole drilled out.
Lab shooting: 5 F.P.O. in 10 rnds with old
Trigger Guard.
No F.P.O. in 10 rnds with new
trigger guard. - magazine took
only 3 rnds
Field Shooting: Only 3 rnds fit in mag during entire
test. 1 stem high

3748 Assembly: rear stock hole drilled out
4th round in magazine loads hard
Lab shooting: No F.P.O. in 10 rnds with old
trigger guards. NO F.P.O. in 10
rnds with New Trigger guard.
Field shooting: 135 rnds - no. malfunctions

3429 Assembly: Rear hole in stock drilled out
Magazine box hole in stock filed
4th round in magazine loads hard.
Lab Shooting: 2 F.P.O. in 10 rnds with old Trigger Guard
No F.P.O. in 10 rnds with New Trigger Guar
Field Shooting: 3 rnds only in magazine entire test

Gun #

2905 Assembly: Drilled rear hole in stock
Lab Shooting: NO F.P.O. 10 rnds old Trigger guard. No F.P.O. 10 rnds New Trigger guard. 4th rnd. in magazine loads hard.

3477 Assembly: Drilled out rear hole in stock
Lab shooting: No F.P.O. 10 rnds old Trigger guard. No F.P.O. 10 rnds New Trigger guard. Only took 3 rnds in magazine
Field Shooting: No malfunctions

3319 Assembly: Drilled rear hole in stock
Lab shooting: 7 F.P.O. in 10 rnds old Trigger Guard
No F.P.O. in 10 rnds New Trigger Guard
Field Shooting: No malfunctions

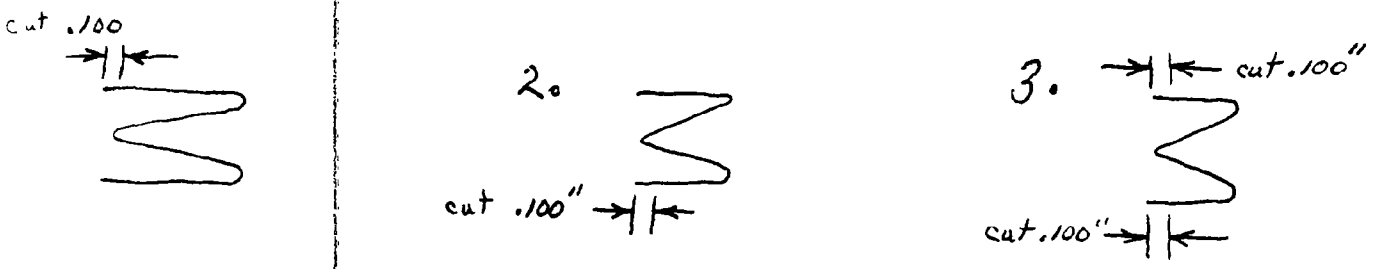
2962 Assembly: Drilled rear hole in stock
Latch opening too hard - opened up spring
Bolt handle would not close - interference with stock - filed stock
Lab Shooting: 4 F.P.O. of 10 rnds old Trigger Guard
4 F.P.O. of 10 rnds New trigger Guard.
Field Shooting: Did not include in field test.
Further work will be done with this gun. Problem lies with bad Trigger guard causing poor latch coverage.

4-18-83

Model 7 - Magazine Capacity Investigation

Test Description: Magazine springs were altered as listed below to determine if these changes would eliminate the follower catching on the magazine box/floorplate base edge caused by misalignment of the assembly.

1. Shortened .100" - follower side
2. " " - floorplate side
3. Shortened .100" on both sides



(S.N. 7603136)

A rifle from the field test on 4-15-83 was used for the test since this rifle would only take 3 rds in the magazine. All 3 spring configurations were assembled in this rifle and dummy rds were loaded to determine the magazine capacity.

Results: None of the three spring configurations above improved the loading of the magazine. In some instances, four rds could be loaded with difficulty with all three springs, but this was also the case with the unaltered spring.

SRF 4-18-83

→ Brooks

TD-69-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: C.B. Workman
L.B. Bosquet
D.E. Bullis
S.R. Franz
E. Yetter, Jr.

Ilion, New York
April 19, 1983

TO: J.W. BROOKS

FROM: C.E. RITCHIE CER

SUBJECT: MODEL SEVEN THICK FLOORPLATE ASSEMBLIES

A mismatch exists between the Model Seven floorplate base and the magazine box. This mismatch can cause difficulty in loading a fourth round in the magazine. Testing to date indicates the thicker base assemblies greatly aggravate this condition.

Eighty Six (86) guns were built by Production for Research with the thinner assemblies and no magazine loading problems were found. Recently, Research built eight (8) guns with the thicker assemblies and three (3) guns would take only three rounds in the magazine and one other had occasional loading problems. It is, therefore, the Test Lab's recommendation to stop the order for the thick floor plate bases until this condition can be rectified.

CER:js

(1) Action on Existing assemblies.
(2) Action on permanent fix
Schedule for completion

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

xc: C.B. Workman
L.B. Bosquet
D.E. Bullis
S.R. Franz
E. Yetter, Jr.

Ilion, New York
April 19, 1983

TO: J.W. BROOKS

FROM: C.E. RITCHIE

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CER:js

John

4-20-83

Special rifle Stocks are at white wood sand.

Should be nearly complete mid to late next week. We'll probably have to "feed" them to you. like 30 - 50 per day.

Don

Model Seven 4/20/83

TO: J.W. Brooks Notes and recommendations

FROM: EW Yoffer/S.R. Franz

- If the following are encountered, replace the Trigger Guard:
  1. latch pushing through trigger guard
  2. inadequate coverage (<50%)
- Do Not adjust coverage by prying between box and floorplate base.
  Use this adjustment for Cover to stock clearance Only

  Caution: It is easy to distort the magazine box when making this adjustment with the thick Floor Plate assemblies. It is possible to dimple the box (at the very least). This dimple can cause magazine loading problems.
- The old style latch springs are recommended. New springs make latches more difficult to work (avg. force 8.21bs). Old springs work much better (avg. force 5.01bs). No floor plate openings were found during firing with the old springs.
- Latch coverage and therefore possibility of floor plate openings are very sensitive to the shape of the trigger guard. This shape cannot be guaranteed due to heat treatment. This sensetivity can be greatly reduced by a clearance cut in the back of the floor plate latch. It is recommended that dies be changed to accomodate this cut.

- Floor Plate base to Magazine box mismatch left to right must be corrected to reduce loading problems. This can be done by filing the magazine box hole in the stock.
- Floor Plate base to Magazine box mismatch front to rear will cause loading problems. Redesigning the floor plate base to eliminate the mismatch is the only good solution to this.

4-27-83

Floor Plate Base (250)

- 250 Received 3-31-83
- To Production for machining
- 50 to model shop 4-6
- 200 to model shop 4-7, Finished 4-13
- 10 to Brazer 4-11 - use current fixture.
- 10 to Test lab for assembly to rifles 4-13
- Test 4-15
- Production Brazing fixture ready 4-20
- M1100 special part needed at Brazer.
- 200 Floor Plate bases started 4-22-4-23
- 200 to slam + sand tumble 4-25
- Polish + color 4-25 - 4-27
- assembly 4-27?

4-29-83

Model Seven Lightweight
Aluminum Floor Plate Assembly

- Time + cost estimate
- Test 11 prototypes
- Firm design + dwgs.

Steel Floor Plate Assembly.

- Barge Tongue Guard to Floor Plate Base
- Change latch for more engagement
- make contact between floor plate cover + latch a flat contact surface.
- Indent in cover for latch to fit into.
- Redesign latch.
- New latch spring with more clearance between T.G.P. + latch

Stock Dimensions – used with .080 Trigger Guards Plates & .061 Flat Plates.

	FRONT		MID		REAR	
1.	.239	.241	.096	.089	.102	.104
2.	.251	.248	.117	.117	.115	.113
3.	.236	.237	.107	.104	.110	.116
4.	.243	.244	.098	.103	.109	.123
5.	.239	.238	.098	.094	.100	.114
6.	.245	.246	.100	.103	.095	.100
7.	.246	.248	.094	.100	.091	.091
8.	.219	.219	.095	.103	.095	.105
9.	.246	.247	.081	.090	.105	.107
10.	.237	.241	.104	.105	.105	.095
11.	.244	.245	.106	.107	.096	.101
12.	.232	.237	.088	.099	.100	.106
13.	.231	.244	.094	.102	.102	.094
14.	.243	.241	.099	.106	.095	.094
15.	.249	.236	.101	.093	.099	.096
16.	.245	.239	.095	.098	.093	.095
17.	.240	.238	.086	.091	.103	.106
18.	.236	.242	.098	.102	.112	.104
19.	.243	.238	.096	.097	.105	.103
20.	.244	.243	.098	.100	.101	.100
21.	.250	.251	.110	.108	.107	.118
22.	.237	.230	.082	.084 (HEAVY VARNISH)	.104	.116
23.	.238	.241	.084	.099	.097	.105
24.	.235	.244	.094	.102	.107	.112
25.	.243	.246	.095	.097	.103	.099
26.	.252	.243	.092	.098	.102	.106
27.	.250	.249	.099	.102	.091	.097
28.	.242	.238	.090	.091	.098	.098
29.	.241	.240	.089	.099	.106	.108
30.	.243	.247	.088	.097	.101	.113

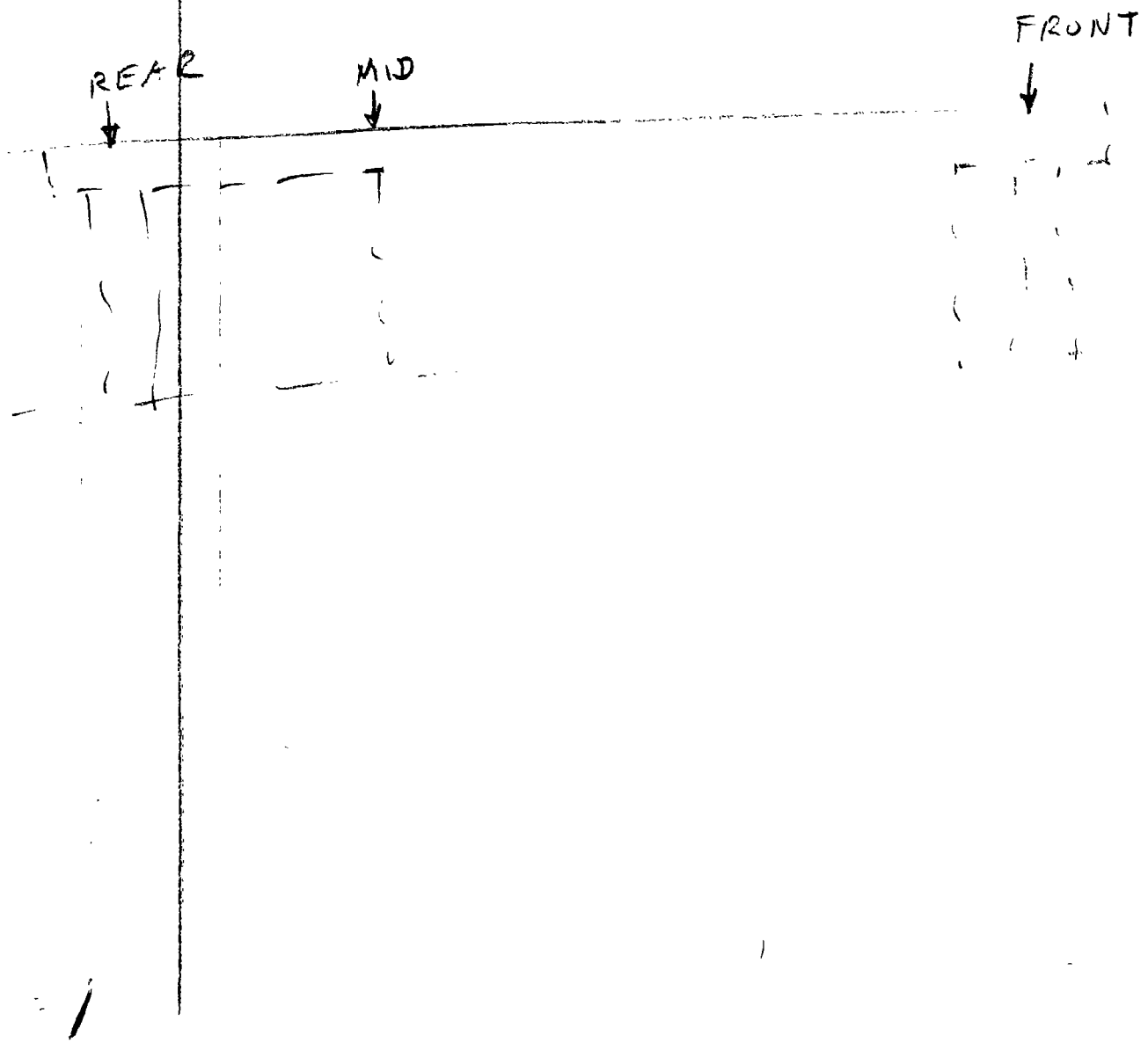
#	FRONT Left	FRONT Right	MID. Left	MID. Right	REAR Left	REAR Right
31	.245	.246	.094	.101	.101	.113
32	.238	.246	.080	.092	.103	.101
33	.246	.246	.107	.104	.118	.113
34	.245	.250	.095	.100	.106	.104
35	.243	.246	.096	.099	.104	.102
36	.244	.247	.096	.105	.088	.096
37	.243	.242	.096	.100	.102	.099
38	.253	.249	.097	.102	.098	.107
39	.239	.237	.088	.095	.103	.099
40	.244	.245	.095	.101	.101	.097
41	.238	.241	.103	.093	.097	.105
42	.247	.246	.091	.105	.108	.115
43	.244	.242	.095	.104	.097	.098
44	.243	.237	.094	.091	.096	.099
45	.240	.247	.092	.097	.097	.107
46	.242	.241	.096	.093	.095	.092
47	.246	.243	.093	.089	.102	.096
48	.247	.240	.085	.086	.109	.107
49	.243	.244	.094	.097	.095	.098
50	.248	.249	.095	.101	.101	.107
51	.245	.247	.088	.098	.096	.103
52	.233	.244	.089	.085	.102	.098
53	.242	.249	.096	.098	.101	.099
54	.247	.237	.092	.093	.097	.106
55	.239	.245	.094	.101	.085	.084
56	.247	.248	.094	.104	.086	.088
57	.237	.244	.092	.099	.087	.097
58	.243	.240	.103	.108	.099	.106
59	.228	.251	.107	.117	.112	.112
[illegible]	.242	.251	.118	.124	.121	.124

GUARD CUT.

#	FRONT Left	FRONT Right	MID Left	MID Right	REAR Left	REAR Ri
61	.237	.242	.115	.124	.115	.11
62	.237	.247	.105	.107	.103	.10.
63	.244	.246	.107	.106	.112	.10.
64	.238	.245	.092	.102	.096	.095
65	.238	.237	.099	.105	.098	.106
66	.240	.239	.096	.096	.100	.101
67	.237	.241	.104	.105	.101	.104
68	.248	.249	.110	.111	.101	.116
69	.241	.245	.102	.102	.115	.116
70	.242	.245	.099	.103	.107	.115
71	.251	.245	.089	.095	.103	.110
72	.247	.241	.102	.100	.096	.101
73	.237	.243	.098	.096	.096	.097
74	.235	.240	.100	.102	.103	.103
75	.245	.243	.091	.104	.105	.111
76	.242	.245	.101	.103	.102	.111
77	.249	.245	.099	.106	.112	.109
78	.234	.231	.103	.102	.100	.105
79	.239	.243	.103	.103	.100	.110
80	.245	.243	.096	.098	.100	.103
81	.248	.242	.097	.097	.099	.103
82.	.249	.245	.102	.103	.102	.106
83.	.238	.243	.102	.100	.107	.102
84.	.253	.249	.105	.105	.102	.106
85.	.247	.248	.101	.099	.108	.114
*86	.253	.250	.088	.091	.103	.104
*87	.238	.228	.089	.095	.104	.103
*88	.245	.244	.095	.095	.102	.106
*89	.257	.255	.098	.104	.116	.107
*90	.250	.251	.098	.112	.129	.13

TRUE. CURVED CUT

	FRONT Left	FRONT Right	MID Left	MID Right	REAR Left	REAR Right
91	.255	.256	.111	.111	.125	.126
92	.252	.247	.091	.097	.114	.115
93	.249	.252	.093	.099	.117	.118
94	.257	.252	.101	.111	.116	.120
95	.247	.248	.097	.097	.115	.115
96	.252	.253	.085	.094	.097	.097



Stock Dimensions — used with .080 Trigger guard Plates + .080 Floor Plate bases

	FRONT		MID		REAR	
1.	.239	.241	.096	.089	.102	.104
2.	.251	.248	.117	.117	.115	.113
3.	.236	.237	.107	.104	.110	.116
4.	.243	.244	.098	.103	.109	.123
5.	.239	.238	.098	.094	.100	.114
6.	.245	.246	.100	.103	.095	.100
7.	.246	.248	.094	.100	.091	.091
8.	.219	.219	.095	.103	.095	.105
9.	.246	.247	.081	.090	.105	.107
10.	.237	.241	.104	.105	.105	.095
11.	.244	.245	.106	.107	.096	.101
12.	.232	.237	.088	.099	.100	.106
13.	.231	.244	.094	.102	.102	.094
14.	.243	.241	.099	.106	.095	.094
15.	.249	.236	.101	.093	.099	.096
16.	.245	.239	.095	.098	.093	.095
17.	.240	.238	.086	.091	.103	.106
18.	.236	.242	.098	.102	.112	.104
19.	.243	.238	.096	.097	.105	.103
20.	.244	.243	.098	.100	.101	.100
21.	.250	.251	.110	.108	.107	.118
22.	.237	.230	.082	.084 (HEAVY VARNISH)	.104	.116
23.	.238	.241	.084	.099	.097	.105
24.	.235	.244	.095	.102	.107	.115
25.	.248	.246	.095	.097	.103	.099
26.	.252	.243	.092	.098	.102	.106
27.	.250	.249	.099	.103	.091	.097
28.	.242	.238	.090	.091	.098	.095
29.	.241	.240	.089	.099	.106	.108
30.	.243	.247	.095	.097	.101	.113

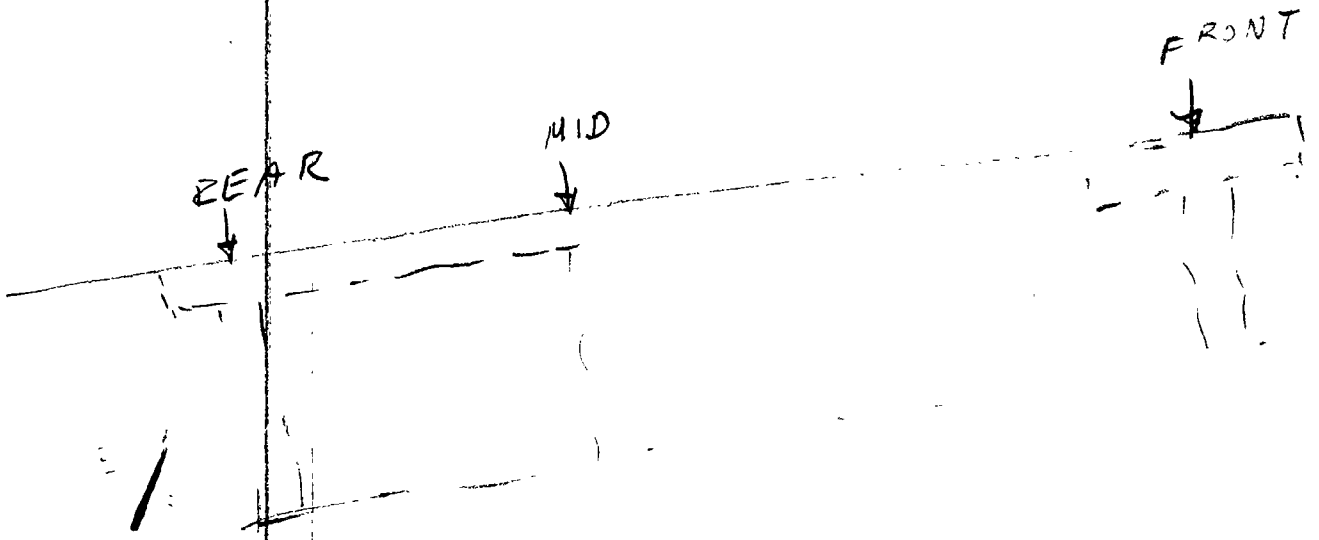
#	FRONT Left	FRONT Right	MID. Left	MID. Right	REAR Left	REAR Right
1	.245	.246	.094	.101	.101	.113
2	.238	.246	.080	.092	.103	.101
3	.246	.246	.107	.104	.118	.113
4	.245	.250	.095	.100	.106	.104
5	.243	.246	.096	.099	.104	.102
6	.244	.247	.096	.105	.088	.096
7	.243	.242	.096	.100	.102	.099
8	.253	.249	.097	.102	.098	.107
9	.239	.237	.088	.095	.103	.099
10	.244	.245	.095	.101	.101	.097
11	.238	.241	.103	.093	.097	.105
12	.247	.246	.091	.105	.108	.115
13	.244	.242	.095	.104	.097	.098
14	.243	.237	.094	.091	.096	.099
15	.241	.247	.092	.097	.097	.107
16	.242	.241	.096	.093	.095	.092
17	.246	.243	.093	.089	.102	.096
18	.247	.240	.085	.086	.109	.107
19	.243	.244	.094	.097	.095	.098
20	.248	.249	.095	.101	.101	.107
51	.245	.247	.088	.098	.096	.103
52	.233	.244	.089	.085	.102	.098
53	.242	.249	.096	.098	.101	.099
54	.247	.237	.092	.093	.097	.106
55	.239	.245	.094	.101	.085	.084
56	.247	.248	.094	.104	.086	.088
57	.237	.244	.092	.099	.087	.097
58	.243	.240	.103	.108	.099	.106
59	.228	.251	.107	.117	.112	.112
	.245	.251	.118	.124	.121	[illegible]

GUARD CUT.

#	FRONT Left	FRONT Right	MID Left	MID Right	REAR Left	REAR Right
61	.237	.242	.115	.124	.115	.11
62	.237	.247	.105	.107	.103	.10
63	.244	.246	.107	.106	.112	.10
64	.238	.245	.092	.102	.096	.095
65	.238	.237	.099	.105	.098	.106
66	.240	.239	.096	.096	.100	.101
67	.237	.241	.104	.105	.101	.104
68	.248	.249	.110	.111	.101	.116
69	.241	.245	.102	.102	.115	.116
70	.242	.245	.099	.103	.107	.115
71	.251	.245	.089	.095	.103	.110
72	.247	.241	.102	.100	.096	.101
73	.237	.243	.098	.096	.096	.097
74	.235	.240	.100	.102	.103	.103
75	.245	.243	.091	.104	.105	.111
76	.242	.245	.101	.103	.102	.111
77	.249	.245	.099	.106	.112	.109
78	.234	.231	.103	.102	.100	.105
79	.239	.243	.103	.103	.100	.110
80	.245	.243	.096	.098	.100	.103
81	.248	.242	.097	.097	.099	.103
82.	.249	.245	.102	.103	.102	.106
83.	.238	.243	.102	.100	.107	.102
84.	.253	.249	.105	.105	.102	.106
85.	.247	.248	.101	.099	.108	.114
*86	.253	.250	.088	.091	.103	.104
*87	.238	.228	.089	.095	.104	.103
*88	.245	.244	.095	.095	.102	.106
*89	.257	.255	.098	.104	.116	.107
*90	.250	.251	.098	.112	.129	.13[illegible]

TRUE. CURVED CUT

	FRONT Left	FRONT Right	MID Left	MID Right	REAR Left	REAR Right
91	.255	.256	.111	.111	.125	.126
92	.252	.247	.091	.097	.114	.115
93	.249	.252	.093	.099	.117	.118
94	.257	.252	.101	.111	.116	.120
95	.247	.248	.097	.097	.115	.115
96	.252	.253	.085	.094	.097	.097



5/21/83

4-30-83

M/7 - Floor Plate Base brazed to T. G. Tab

Tab Biased to Rear + Brazed

Gun #	# Rds.	# FPO	Coverage	Touching?	Opening Force
3775	11	1	.0287	Y	4.5
3481	20	0	L .0173	Y	5.7 M
3728	20	0	.0359 M	Y	4.0
3475	20	1	.0257 M	Y	4.0
3689	20	0	.0244 M	Y	5.5
2814	20	0	.0318 M	Y	4.5
3457	20	0	H .0361 M	Y	4.2
3611	20	1	.0204	Y	3.8
3377	5	2	.0305 M	Y	2.2 L
3668	20	0	.0311	Y	5.0
3405	20	0	.0221	Y	4.5
3433	10	2	.0301 M	Y	4.0
3366	20	0	.0280	Y	5.2
3493	20	0	.0356 M	Y	3.8
3676	20	0	.0301	Y	4.6
15					

Guns w/FPO - 5

Total Shot - 15

Reject Rate 33%

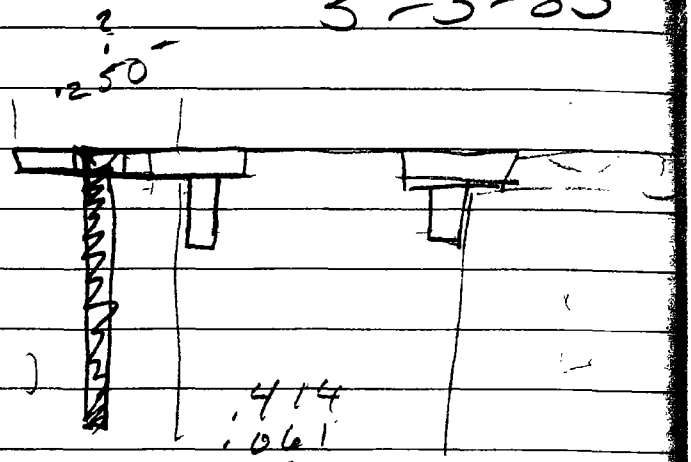
M = Modified 45° cut on back of Table

Tab Biased to Front & Brazed

Gun #	# Rds.	# FPO	Coverage	Touching?	Opening Force (lbs)	Endurance #FPOS / #RNDS
2979	20	0	.0329 M	N	3.4	0/200
3260	20	0	* .0397	Y	5.8	0/200
3767	20	0	.0336	Y	4.2	0/200
3417	20	0	.0355	Y	6.2 H	0/200
3828	20	0	.0429 M	N	4.0	0/200
3680	20	0	? Modified		3.6	2/157
3478	20	0	.0442 M	N	5.8	0/200
3333	20	0	.0381	Y	5.0	0/200
2992	20	0	H .0505 M	Y	4.0	0/200
3792	20	0	.0403 M	Y	3.0 ?	1/100
3731	20	1	.0528 M	Y	2.2 L	2/60
3327	20	0	.0287	N	3.2 ?	0/200
3672	20	0	.0315	N	5.4	0/60
3794	20	0	L .0284 M	N	4.5	0/200
4019	20	0	.0406 M	N	5.0	0/200
15						
Guns w/FPO's		1				
Guns Shot		15				
Reject Rate		6.7%				

5-3-83

Dave Finley



Screw T.G.P. to Stockmear T.G. make TBP as wide as F.P.B. Max Dim. (1.?) and taper or straight back to rear screw hole.

.414
.061
.061
.536
.020 ?
.556 ?

QR - 000059

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: J. W. Brooks
R. A. Jackson
J. B. Mroz
R. L. Snedeker
C. B. Workman

Doug

May 6, 1983

TO: J. R. SNEDEKER

FROM: G. E. BARNES Gary Barnes

M/7 LATCH SPRING MEASUREMENTS

DIMENSIONS MEASURED:

.100 Diameter
.250 Diameter
.015 - .016 Mat'l. Thickness
.393 - .423 Dimension (See attached marked print)

PROCEDURE:

1. Take 30 pieces randomly from a lot size of 8,700, the only lot of M/7 latch springs on the plant. (Marked with Pen, 1-30)

2. Fit ".250" diameter with pin (Snug fit to check actual dia.)

3. Fit ".100" diameter with pin (Snug fit to check actual dia.) (This fit is dia. "A")

4. Square the spring to optical comparator (20X) and measure distance from inside of .100 dia. to inside of hook (See marked drawing dimension "B")

5. Add ½ diameter "A" to dimension "B" to obtain dimension "C" which is the distance from the center of the ".100 dia.", as the hinge pin sees it, to the inner hook surface.

6. Measure material thickness (20X Optical Comparator).

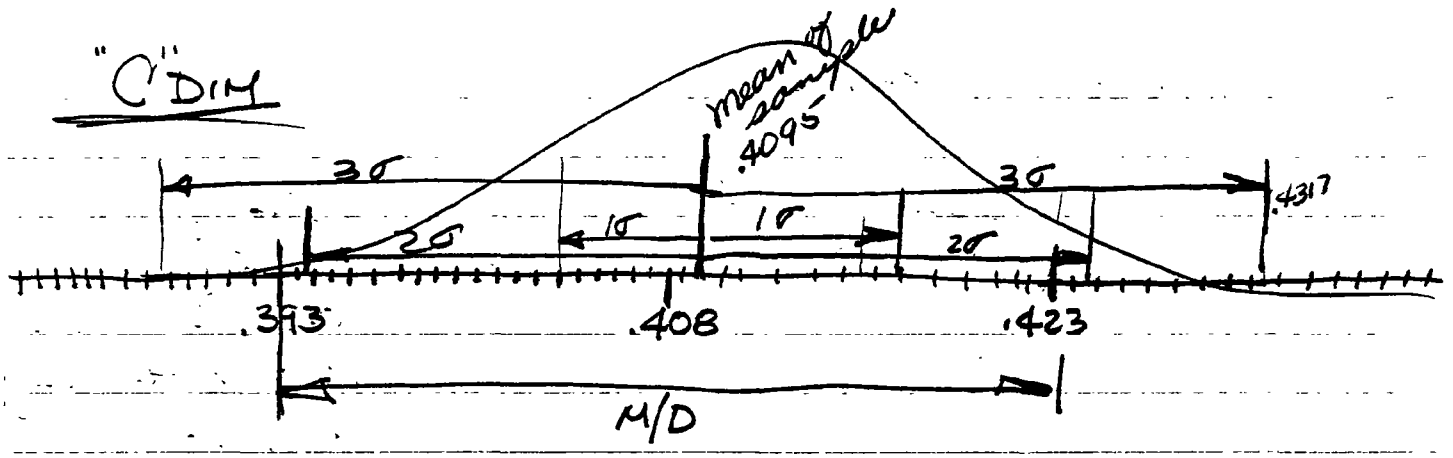
M/7 LATCH SPRING MEASUREMENTS - Cont. QR - 000059

RESULTS: All dimensions checked were within model drawing specifications on all thirty pieces.

DIMENSION "C":	Model Drawing	= .408 ± .015
	Mean	= .4095
	Sample Std. Deviation	= .0074
	Range	= .393 - .422
DIAMETER "A":	Model Drawing	= .095 - .105
	Mean	= .1003
	Sample Std. Veviation	= .0007
	Range	= .099 - .102
".250" DIAMETER:	Model Drawing	= .245 - .255
	Mean	= .2495
	Sample Std. Deviation	= .0013
	Range	= .247 - .252
MATERIAL THICKNESS:	Model Drawing	= .015 - .016
	Mean	= .0152
	Sample Std. Deviation	= .0004
	Range	= .015 - .016

GEB/cas
JRS
Attach.

"C" Dim



$Z_L = \frac{.393 - .4095}{.0074}$ $\qquad$ $Z_R = \frac{.423 - .4095}{.0074}$

area to left of .393 = 1.2%
area to right of .423 = 3.4%
4.6% out of M/D tol.
"C" dim.

"A" Diameter

area to left of .095 = 0%
area to right of .105 = 0%
0.0% out of M/D tol.
"A" Diameter

.250" Diameter

area to left of .245 = .02%
area to right of .255 = 0.00
.02% out of M/D tol
.250" Diameter

M/7 LATCH SPRING MEASUREMENTS

(SEE MARKED ATTACHED DRAWING)

05 MAY 83

SAMPLE PIECE NUMBER	.250 DIA. (.001 INCH)	.100 DIA "A" (.001 INCH)	.393 - .423 DIMENSION "C" (.001 INCH)	.015 - .016 MATERIAL THICKNESS (.001 INCH)		
1	252	100.5	422	16		1
2	248	99.5	405	16		2
3	251	99.5	415	15		3
4	250	100.5	413	16		4
5	250	100.0	410	15		5
6	251	101.0	416	15		6
7	247	99.5	397	15		7
8	249	99.0	414	15		8
9	248	101.0	404	15		9
10	250	102.0	415	15		10
11	249	101.0	412	16		11
12	250	99.5	405	15		12
13	250	100.0	404	15		13
14	251	100.0	413	15		14
15	250	100.0	399	15		15
16	250	101.0	393	16		16
17	249	101.0	410	15		17
18	248	100.0	414	15		18
19	248	101.0	408	15		19
20	248	100.0	394	15		20
21	250	101.0	416	16		21
22	250	99.5	412	15		22
23	252	100.5	422	15		23
24	248	101.0	414	15		24
25	248	100.0	410	15		25
26	247	100.0	402	15		26
27	250	100.5	412	15		27
28	250	101.0	409	15		28
29	250	101.0	413	15		29
30	250	99.5	409	15		30

M[illegible] in [illegible] Inventory

308 Cal.

Management [illegible]

Ser. No.	Condition
7603720	No adjustments
3726	"
3644	
3157	
3170	
3665	
3797	
3154	
3680	F.P. filed
3729	[illegible]
2969	
3495	
3739	"
3143	?
3629	?
(15)	

Test Lab

Ser. No.	Condition
7603489	Field test
3429	"
3477	
1289	Drop test
1285	
1272	
2652	
2568	

Ser. No.	Condition
7602529	
2593	
2470	
2473	
2636	
2482	
2469	
2595	
2525	
4061	Prod Guns. (4 parts)
4095	
4168	
4252	
4041	
3879	
4194	
4069	
3843	
4050	
4095	
4173	
4176	
3958	
3770	
4068	
3977	(37)

308. [illegible]

Ser. No.	Condition
7603587	[illegible]
3475	
3720	
3481	
3775	
2814	
3457	
3611	
3377	
3668	
3406	
3433	
3366	
3493	
3676	
4019	
3327	
3794	
2979	
3828	
3672	
3792	
2992	
3731	
3260	
3333	
3478	
3417	

7603767	
4017	D.B. [redacted]
2983	
4078	
[illegible]	
4079	
3950	
4142	[illegible]
3935	
4211	
4044	
	[redacted]
3277	[illegible]
3195	
3499	
3455	
3760	
3411	
3298	
3660	[illegible]
2965	[illegible]
0414	
3401	
2981	[illegible]
3599	
3780	
3703	
3543	

55

M/7 - 308 [illegible]

Ser. No.	Condition
760 3765	orig. guns (end-drawn guns)
3705	end-drawn gun
3701	no pin, cracked stock
3759	
3443	no pin no crack
3791	" "
3664	no pin, cracked
2971	pinned, bad chamber
3622	no stock, no F.P. assem.
3445	" "
2959	"
3383	orig Ht. Tht. Guard not ordered
2984	
3604	24 [illegible] - G.

3432

15

14
2
11
[illegible]
15
34

139
25
[illegible]

179

Non-[illegible] [illegible] (all parts)

7 stock & F.P. assemblies

6 stock

7603734 damaged [illegible]

3296

3222

3625 no stock no F.P. assem no mag box

3631

636448 6mm (?) T.W.B. area, no stock F.P. assem no [illegible]

6226270 7mm-08

6226262 243 [illegible]

3746 [illegible] X-bolt

3412 [illegible] F.P. assembly

3455 [illegible] T.G.

3750 [illegible] failure 1st prod. test

3639

2962 no stock bolt F.P. assem

3748 Field test, 1st prod. test

3136 "

3319 "

3319 "

3352 unfinished new stock

3468 ?

3690 ?

3365 unpinned [illegible]

3337 " "

3721 X-pin screw [illegible] wet [illegible]

3461

(25)

	orig T. G., no stock
7603608	" "
3281	" "
3718	orig. no x-pin no 1st Trt frame cracked
3650	no stock no F.P. assem.
3714	" " " ; no mag. box
3293	orig T.G, no x-pin
3653	1st Trt T.G, x-pin
3502	old T.G., no x-pin. cracked
3448	strain gage, obl, rear screw, F.P. assembly
2987	old T.G., no x-pin, cracked stock
3627	" " "
3787	1st 1st 4th Trt T.G.
3370	old T.G., no x-pin, cracked
3770	old "
3464	"
15	

2 stocks inletted for 4th assem.
1 " " " thin assem.

M/7 - 243 Cal

Ser. No.

7601290
1293
1286
1300
1297
1301
1296
1287
1294
9

1288 endurance gun
0921 "
11

M/7 - 223 Report # 830532

Ser. No.
7600149
0150
0151
0153
0154
0156
0157
0152
0155
0158
10

Model Seven 308

Field Test 5/6/83

All with modified hatches for increased coverage

All guns - coverage adjusted by removing wood from stocks not by bending F.P. assembly.

DATA LISTING
ON DATA SET:
FT GUNS

DCOVB COVA	DFB DFA
.0696	6.5000
.0690	6.5000
.0633	4.5000
.0640	4.5000
.0633	4.7500
.0556	4.7500
.0691	5.2500
.0677	5.0000
.0678	5.5000
.0478	5.2500
.0649	5.7500
.0600	4.7500
.0556	4.7500
.0540	5.5000
.0558	5.5000
.0547	4.5000
.0643	6.2500
.0543	6.0000
.0605	4.7500
.0587	4.7500

wide T.G. Plate.

DCOV	DOF
-.0006	0.0000
.0007	0.0000
-.0077	0.0000
-.0014	-.2500
-.0200	-.2500
-.0049	-1.0000
-.0016	.7500
-.0011	-1.0000
	-.2500

NEGATIVE MEANS Reduction

more coverage possible with adjustment

10 -.0018 0.0000

-.0100	-.2500
-.0018	0.0000

5-26-83

M 7 Hewin Math, June 10 25 parts

1. opening force 7 lb min.
2. 50% latch coverage min
3. Bedding position of T.G. securely in stock (washers) (no problem)
4. Trigger guard tight to T.G.P.
5. angle at rear 5°-10°
6. clearance between floor Plate cover + stock. (?)
7. Heat treated T.G.

al Trigger Guard - June 15.

Transmitt al casting drwg.

QUOTATION

No. 11165
PLEASE SHOW THIS NUMBER ON YOUR ORDER

Aerospace NYLOK CORPORATION

NYLOK® SELF-LOCKING THREADED FASTENERS
11 THOMAS ROAD
HAWTHORNE, NEW JERSEY 07507
201-427-8555
TWX: (710) 988-4140

RECEIVED
JUN - 6 1983
PURCHASING DEPARTMENT

TO Remington Arms Co Inc
Ilion NY 13357

ATTN: Louis B Ferreira

DATE 6-3-83

YOUR REFERENCE Request

Thank you for your inquiry dated 6-2-83

We are pleased to quote you the following prices:

QUANTITY	DESCRIPTION	PRICE	DELIVERY
10000	P/N 92248 8-36 x 31/32 Stl Slot Oval Hd Pellet	77.50/M	1-2 Wks to Drill 2-3 Wks Insert the Pellet
25000	" " " " " " " " " "	74.20/M	" " " " "
50000	" " " " " " " " " "	69.55/M	" " " " "

NOTE - For pellet processing the parts would have to be sent to us in a soft condition for drilling, we would return drilled parts to Remington Arms for heat treat then you would re-ship to us for insertion of pellet.

10000	P/N 92248 8-36 x 31/32 Stl Slot Oval Hd Patch	9.10/M	1-2 Wks ARM
25000	" " " " " " " " " "	8.15/M	1-2 Wks ARM
50000	" " " " " " " " " "	7.05/M	1-2 Wks ARM

THE ABOVE PRICES WERE QUOTED FOR PROCESSING ONLY!

We appreciate this opportunity to quote you and look forward to receiving your order for our prompt attention.

Both prices and delivery dates quoted above are subject to confirmation and are not binding on the Seller until confirmed by written acceptance of Buyer's order. The Buyer in placing any order on this quotation shall be understood as accepting the conditions of the Seller's standard terms of sale printed on reverse side hereof.

Prices quoted are based on bulk packaged shipments, and are firm for 30 days, unless otherwise noted.

No product shall be returned without prior written approval

AEROSPACE NYLOK CORPORATION

By WILLIAM J. LANG

ORIGINAL

TERMS Net 30 days;

F.O.B. POINT: HAWTHORNE, N. J.

WJL/pn

THE ULTIMATE IN FASTENER RELIABILITY

Rear

700BDLR A 26355 1.529 14 A 91918

n ADLR C A 15287 1.480 .455 A 91803

Front

BDLF C 22035 C 28810

ADLF C 22035. C 28810

600 F A 15853 1.490

R B 17580 1.570 .555

7 R B 91801 1.662 .648 92248

F C 22035 1.129 .114 C 28810

F	R
.887	1.435
.895	1.433

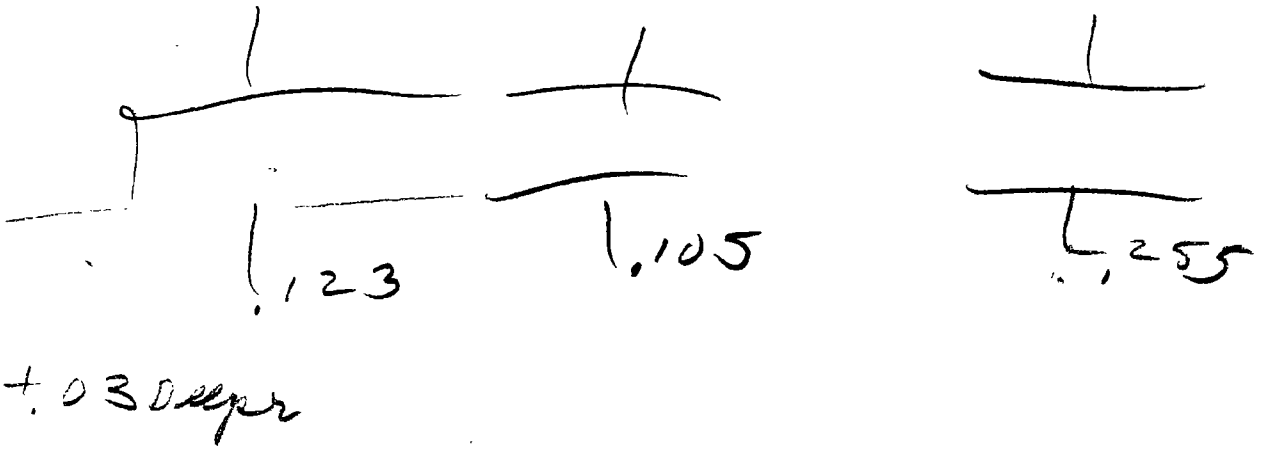
.860	1.469
.010	.030
.850	1.439

G-88

DON'T SAY IT—*WRITE IT*

To _____ Date _____

From _____



"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

.865	1.448
.865	1.455
.856	1.435
.868	1.445
.868	1.450

.09 3310

.05 9510

1.469
.030
1.439

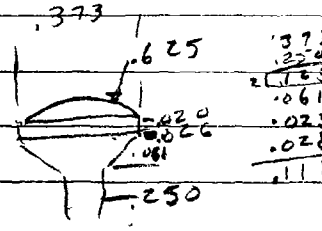
.860

Stocks with heavier math.

1.439±5

.850

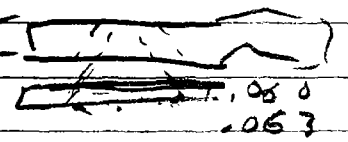
.59653
.15625 .1391
.0285
$h = r - \frac{1}{2}\sqrt{4r^2 - c^2}$
.065 .373
.373



.373
.250
.163
.061
.023
.028
.112

.080
.082 T.G.P.

.092
.098 T.G.



.2265±3.5 Rec
1.439±5 wood
.0815±1.5 T.G.P.
.080±2 T.G.
1.8270±12

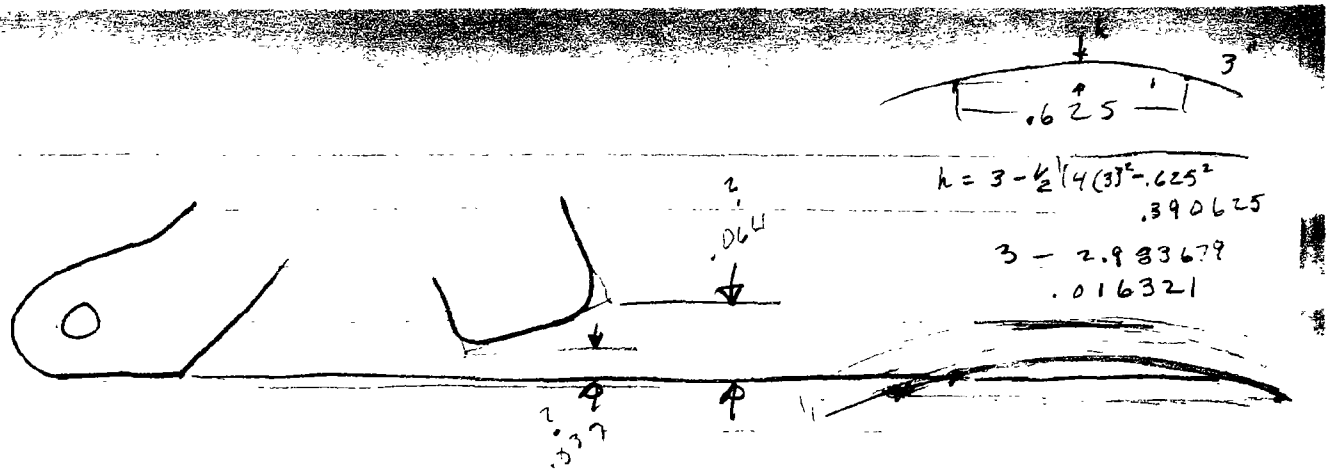
.1475±Rec well
.860±5 wood
.170±3 Pad
.0615±1.5
1.2390±9.5

Screw 1.1285±7.5 body
+ .112 head.
1.2335

Screw 1.662
.648


1.562
.015
1.547


.015



1. What is latch clearance above T. G. P. when setting flat.
2. When setting flat does part clear slot in Trigger Guard. Top & bottom.
3. Where does Floor Plate cover come in relation to latch when laying on 3" R section of stock.

Heels

Rivets for costs +131

- no tooling cost included
- Matl. + Labor
- (Polishing & buffing) & assembly.
- al cost higher than steel.

SALES DEPARTMENT

Remington Rem-O-Gram

Quick Facts About REMINGTON PRODUCTS

10 01
J.W. BROOKS
ILION

cc: House Force

June 22, 1983

TO THE FIELD FORCE

REVISED AVAILABILITY - MODEL SEVEN & MODEL 1100 SPECIAL FIELD

MODEL SEVEN 7mm-08 AND 308

We have been unable to meet our previous committment to have all Model Seven rifles in production early in 1983. Demand for our bolt action center fire rifles has been much stronger than expected resulting in heavy back orders on key calibers. Our efforts to clear up Model 700 back orders have delayed work on production of the Model Seven 7mm-08 and 308 calibers. At this point, it appears that product will be available in the first quarter 1984.

In consideration of this delay, we will alter our Early Order-Early Ship Program to enable distributors to replace their 7mm-08 and 308 orders. Distributors may place a single order prior to September 1 for immediate delivery for any specification in the Model 700 or 222, 243, and 6mm calibers in the Model Seven. The total number of rifles ordered may not exceed their total order for Model Seven 7mm-08 and 308. This additional order will qualify for the 4% Early Order-Early Ship discount and current anticipation terms.

MODEL 1100 SPECIAL FIELD 12 GAUGE

Endurance testing of the Model 1100 Special Field 12 Gauge has revealed a tendancy for fore-ends to crack after extensive shooting. We are not satisfied with this condition and have re-designed the fore-end retention system. Tooling required for the improved design will delay production until early 1984.

Twenty gauge guns are not affected and will be delivered on schedule. As with the Model Seven, we will extend the Early Order-Early Ship Program so that distributors may replace their Model 1100 Special Field 12 gauge guns with any other Model 1100 specification including the 20 gauge Special Field. They may

MODEL 1100 SPECIAL FIELD 12 GAUGE (Cont'd.)

order up to the total quantity of 12 gauge Special Field shotguns previously ordered. This single order will qualify for the 4% discount and current anticipation terms if received by September 1 for immediate delivery.

Please review Model Seven and Model 1100 Special Field 12 gauge order positions with your distributors. Make certain they understand the one-time option available to them to replace the delayed product at Early Order-Early Ship Program prices.

Every effort is being made to expedite delivery of these products. We will keep you posted of further developments.

E. J. Conroy

E. J. Conroy
Director of Sales

EJC:WHF:daf

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: L. Ferreira
S. Johnson
R. Long
J. Brooks
File

July 29, 1983

TO: J. Linde

FROM: D. Ricci

REFERENCE: M/7 Steel Purchase Parts Components for Fire Control Area

The Steering minutes and other verbal communications say that all involved vendors should have been notified of the steel design obsolescence and that Purchasing should refrain from ordering additional parts.

It is my understanding that the die cast design will be released for build approximately ~~9-1-83,~~ with first samples due in December '83. Upon approval, trial & pilot and production build leadtimes, the earliest phase-in would be late first quarter or early 2nd quarter 1984.

Therefore, in absence of any further communication, Purchasing will continue to order the steel components per the MRP schedule, but minimum quantities to facilitate the transition next year. We'll begin advising our vendor of the possibility of a new design (since it is not a proven one) in order to keep them from running any shelf stock or ordering excess raw materials.

Also, previous orders had been issued for certain thicker design components, but were placed on hold. Again, if not advised otherwise, all outstanding orders for tools, components or raw materials will be cancelled and invoiced according to all work performed prior to the hold notification.

Based on current inventories, it appears that additional orders will have to be placed toward the end of August for MRP requirements in December '83. We will proceed with the program outlined unless otherwise advised.

DDR/sjk

ROUTE:

J. ~~W. Brooks~~
~~D. E. Bullis~~
~~P. McCarney~~
~~L. J. Hagen~~
~~T. J. Plunkett~~

LISTENING to American consumers in history!

Thank You,

M. V. Jones

P.S. I'm a salesman, and would happily take the responsibility for moving 10K or so of these myself.

MVJ

MACHINE CAPABILITY STUDY PROGRAM SUMMARY

STUDY NO. 632
AUDITORS INITIALS E.L.B.

DISTRIBUTION LIST:

J.R.SNEDEKER
P.C.EARL
J.W.BROOKS
FILE
J.MROZ
S.D.BENNETT
J.HARTER

MODEL: M/7 LWT
PART NAME: TRIGGER GUARD
PART NUMBER: 91951

OPER. DESCRIPTION: BEFORE+AFTER HEAT TREAT
OPER. NUMBER: 16

MACH: N/A
MACH. NO.: N/A
CYCLE TIME: N/A

DEPARTMENT NUMBER: 51
BUILDING NUMBER: N/A
DATE: 8-30-83

COMMENTS:

PAGE	GAGE NO.	GAGE DESCRIPTION	DESCRIPTION OF CHARACTERISTIC	DWG. DIM.	FIXT NO	I/O TOL	EXPEC YIELD	STAT
1	COMPATATOR	DIAL INDICATOR	4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	4.5000	0	IN	96.	UNC
2	COMPARATOR	DIAL INDICATOR	.295 DIM ANGLE	0.2950	0	OUT	73.	UNC
3	COMPARATOR	DIAL INDICATOR	4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	4.5000	0	OUT	87.	UNC
4	COMPARATOR	DIAL INDICATOR	.295 DIM ANGLE	0.2950	0	OUT	30.	UNC
5			SUMMARY-EXPECTED YIELD - AS RUN				8.	
6			SUMMARY-EXPECTED YIELD W/MEAN OF TOLERANCE APPLIED				18.	

APPROVED AS CONTROLLABLE BY:

FOREMAN, QUALITY CONTROL

REVIEWED BY:

PRODUCTION SUPERVISOR

PROCESS ENGINEER

MACHINE CAPABILITY STUDY

STUDY NO. 632

GAGE NUMBER: COMPATATOR
COMMENTS: BEFORE HEAT TREAT

MODEL DRAWING DIMENSIONS
MIN: 4.0000 MAX: 5.0000

DESCRIPTION OF CHARACTERISTIC: 4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE
TYPE OF GAGE: DIAL INDICATOR

LOW-TOL.		UPPER-TOL.	HISTOGRAM
4.6670	1	4.0000	X**********
4.5000	2	4.0344	
4.4171	3	4.0688	XX
5.0000		4.1033	
4.3670	5	4.1377	
4.3330	6	4.1721	X
4.2000	7	4.2065	X
4.6670	8	4.2410	X
4.2500	9	4.2754	
4.4670	10	4.3098	
4.3831	11	4.3442	XXX
4.3330	12	4.3787	XX
4.5000	13	4.4131	XX
4.4670	14	4.4475	
4.0830	15	4.4819	XX
4.5829	16	4.5164	XX
4.6169	17	4.5508	X
4.5500	18	4.5852	XXX
4.5829	19	4.6196	X
4.0830	20	4.6541	XX
4.7830	21	4.6885	
4.2830	22	4.7229	X
4.0000	23	4.7573	X
4.6000	24	4.7917	XX
4.7170	25	4.8262	
4.1671	26	4.8606	
4.7500	27	4.8950	
4.4171	28	4.9294	X
4.9170	29	4.9639	
4.3330	30	4.9983	X**********

MEAN

MEAN = 4.48395

ONE STANDARD DEVIATION = 0.24730 SIX STANDARD DEVIATIONS = 1.48383

EXPECTED YIELD - AS RUN = 96. PERCENT
EXPECTED YIELD - WITH MEAN OF TOLERANCE APPLIED = 96. PERCENT
********* THIS SET OF DATA IS NOT CONTROLLABLE TO 6 STANDARD DEVIATIONS *********

STUDY NO. 632

GAGE NUMBER: COMPARATOR
COMMENTS:
BEFORE HEAT TREAT

MODEL DRAWING DIMENSIONS
MIN: 0.2900 MAX: 0.3000

DESCRIPTION OF CHARACTERISTIC: .295 DIM ANGLE
TYPE OF GAGE: DIAL INDICATOR

```
                                  LOW-TOL.          UPPER-TOL.                    HISTOGRAM
          :.....................:.....:.....:.....:.....:.....:.....:.....:.....:
0.2868    :                     1     *                       *:  0.2764 X
0.2865    :                    2      *                       *:  0.2772 X
0.2862    :                   3       *                       *:  0.2780
0.2940    :                           *          4            *:  0.2788
0.2348    :                 5         *                       *:  0.2797
0.2855    :                 6         *                       *:  0.2805
0.2925    :                           *     7                 *:  0.2813
0.2940    :                           *          8            *:  0.2821
0.2925    :                           *     9                 *:  0.2829
0.2855    :                 10        *                       *:  0.2837 XX
0.2835    :            11             *                       *:  0.2845 X
0.2900    :                           *12                     *:  0.2853 XXX
0.2890    :                       13  *                       *:  0.2862 XX
0.2900    :                           *14                     *:  0.2870 XX
0.2850    :                 15        *                       *:  0.2878
0.2920    :                           *    16                 *:  0.2886 X
0.2954    :                           *              17       *:  0.2894 XX
0.2835    :            18             *                       *:  0.2902 XXXXXX**********************************
0.2920    :                           *    19                 *:  0.2910 X
0.2900    :                           *20                     *:  0.2918 XX
0.2905    :                           *21                     *:  0.2927 XXX
0.2890    :                       22  *                       *:  0.2935
0.2764    :23                         *                       *:  0.2943 XX
0.2902    :                           24                      *:  0.2951 X
0.2870    :                   25      *                       *:  0.2959
0.2908    :                           * 26                    *:  0.2967
0.2884    :                       27  *                       *:  0.2975
0.2772    :  28                       *                       *:  0.2983
0.2930    :                           *        29             *:  0.2992
0.2900    :                           *30                     *:  0.3000 ***********************************
          :.....................:.....:.....:.....:.....:.....:.....:.....:.....:
                                      MEAN
```

MEAN = 0.28837

ONE STANDARD DEVIATION = 0.00450 SIX STANDARD DEVIATIONS = 0.02703

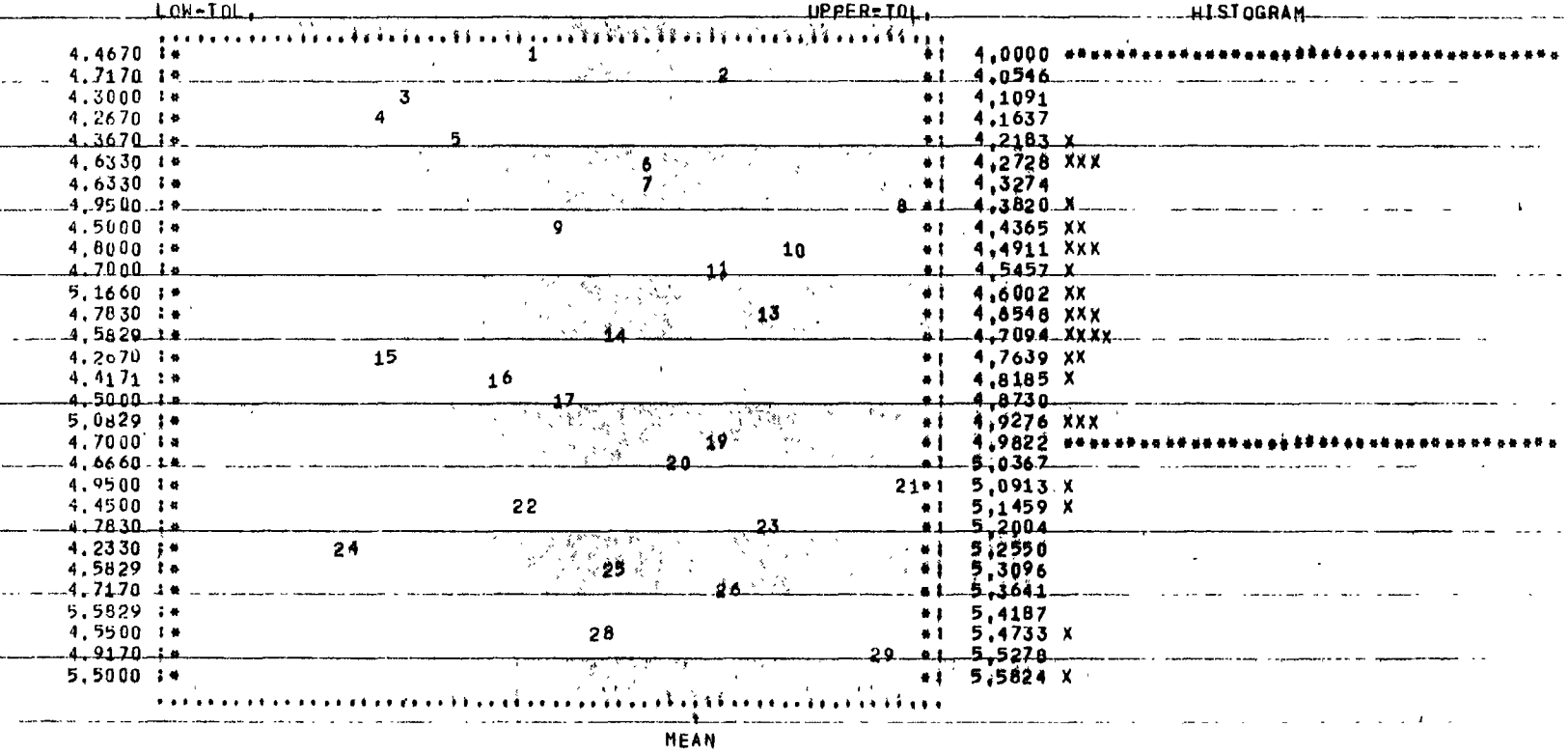
EXPECTED YIELD - AS RUN = 35. PERCENT
EXPECTED YIELD - WITH MEAN OF TOLERANCE APPLIED = 73. PERCENT
********** THIS SET OF DATA IS NOT CONTROLLABLE TO 6 STANDARD DEVIATIONS **********

STUDY NO. 632

GAGE NUMBER: COMPARATOR
COMMENTS: AFTER HEAT TREAT

MODEL DRAWING DIMENSIONS
MIN: 4.0000 MAX: 5.0000

DESCRIPTION OF CHARACTERISTIC: 4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE
TYPE OF GAGE: DIAL INDICATOR



MEAN = 4.69214

ONE STANDARD DEVIATION = 0.33108 SIX STANDARD DEVIATIONS = 1.98647

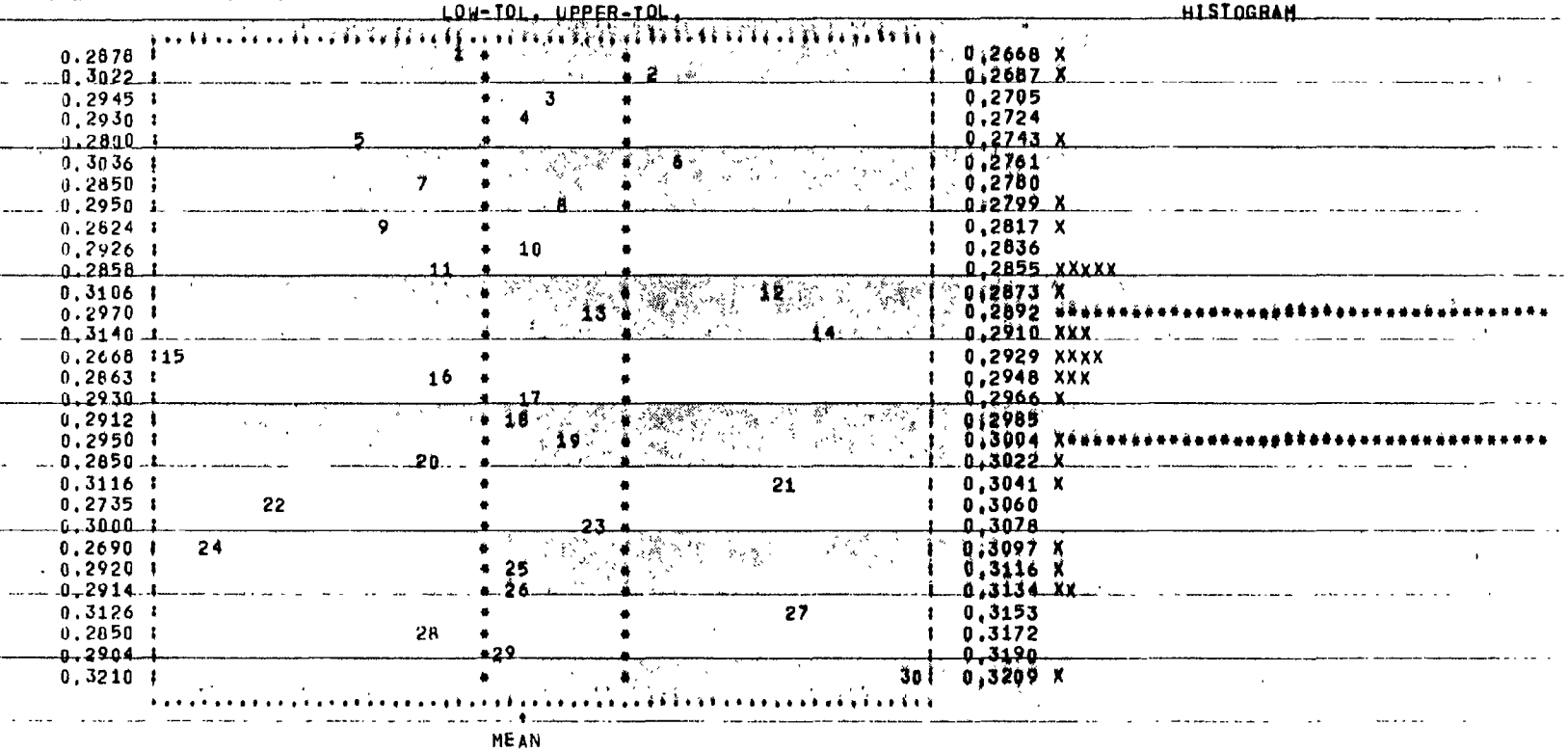
EXPECTED YIELD - AS RUN = 81. PERCENT
EXPECTED YIELD - WITH MEAN OF TOLERANCE APPLIED = 87. PERCENT
********* THIS SET OF DATA IS NOT CONTROLLABLE TO 6 STANDARD DEVIATIONS *********

STUDY NO. 632

GAGE NUMBER: COMPARATOR
COMMENTS: AFTER HEAT TREAT

MODEL DRAWING DIMENSIONS
MIN: 0.2900 MAX: 0.3000

DESCRIPTION OF CHARACTERISTIC: .295 DIM ANGLE
TYPE OF GAGE: DIAL INDICATOR



MEAN = 0.29291

ONE STANDARD DEVIATION = 0.01285

SIX STANDARD DEVIATIONS = 0.07711

EXPECTED YIELD - AS RUN = 30. PERCENT
EXPECTED YIELD - WITH MEAN OF TOLERANCE APPLIED = 30. PERCENT
********** THIS SET OF DATA IS NOT CONTROLLABLE TO 6 STANDARD DEVIATIONS **********

SUMMARY-EXPECTED YIELD - AS RUN

STUD# NO. 632

DESCRIPTION OF CHARACTERISTIC	EXPECTED YIELD
4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	96,
.295 DIM ANGLE	35,
4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	81,
.295 DIM ANGLE	30,
TOTAL YIELD	8,

SUMMARY-EXPECTED YIELD - WITH MEAN OF TOLERANCE APPLIED

STUDY NO. 632

DESCRIPTION OF CHARACTERISTIC	EXPECTED YIELD
4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	96.
.295 DIM ANGLE	73.
4DEG 30 MIN ANGLE REAR TAKE DOWN HOLE	87.
.295 DIM ANGLE	30.
TOTAL YIELD	18.

G-88

DON'T SAY IT—*WRITE IT*

To Tool Products Date Die cast

From

16 weeks tools from time of release

Brad 2 - 3 -

4 Production.

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

G-88

DON'T SAY IT—*WRITE IT*

To Investment Casting. Date

From

8-10 weeks

16 week production

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

A/7 LOOT WIDE TRIGGER SPG VS NARROW TRIGGER SPG
LB FORCE TO OPEN FLOOR PLATE COMPARISON.

REPORT # 823197

WO # C 1856 [illegible] 11/15 [illegible] D. BULLS.

Report No. 823191

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STATS	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 11-15-83
CAL. or GAGE: —	TEST RESULTS ONLY ✓	DATE NEEDED BY: A.S.A.P.
BARREL TYPE: —		REQUESTED BY: RULLIS
PROOFED: YES — NO —		WORK ORDER NO: R-1255-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
___ Function Test	___ Environmental Test	✓ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

MEASURE FORCE REQUIRED TO RELEASE LATCH USING C.B. WORKMANS NEW DESIGN LATCH WITH REGULAR PINNED SPRING VS. HALF WIDE SPRING.

GUNS REQUIRED:

3 - TEST GUNS
3 - REG PINNED SPRING & LATCH
3 - HALF SPRING.

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___
TEST COMPLETED BY: [illegible]
REPORT DATE: [illegible]

RD-46-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT — PETERS DUPONT

Distribution: J. W. Brooks
C. E. Ritchie
D. E. Bullis

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

"TEST RESULTS ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 823191

M/SEVEN LWT. WIDE LATCH SPRING VS. NARROW LATCH SPRING
POUND FORCE TO OPEN FLOOR PLATE COMPARISON

Prepared by: R. Howe

Date Prepared: 11-15-82

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature: James Hennings — Date: 12-1-82

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature: C. Evan Ritchie — Date: 11/15/82

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 823191

REPORT TITLE: M/SEVEN LWT WIDE LATCH SPRING VS. NARROW LATCH SPRING POUND FORCE TO OPEN FLOOR PLATE COMPARISON

MODEL(S): M/SEVEN LWT.

GAUGE OR CALIBER:

DATE: 11-15-82

WORK ORDER NO.: C-1856-000

PART NAME: Latch Spring

DESIGNER/ENGINEER:

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Pound Force To Open Floor Plate
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 3

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE _____

November 16, 1982

"RESULTS ONLY"

TO: J. H. Hennings

FROM: R. Howe

REPORT TITLE: M/SEVEN LWT. WIDE LATCH SPRING VS. NARROW LATCH SPRING POUND FORCE TO OPEN FLOOR PLATE COMPARISON

REASON FOR TEST

To measure pound force difference required to open floor using "Regular" wide pinned latch spring vs. narrow "Half Wide" pinned latch spring.

TEST PROCEDURE

Three (3) M/Seven LWT. from R. & D. Gun Room were set up with C. B. Workman's New Design No. 5 Latch and "Regular" pinned wide latch spring . Then pound forces were checked with Chatillon Spring Scale (three readings for each). The three wide springs were then replaced with narrow "Half Wide" springs and Lb. force to open, taken again (3 each) for comparison.

TEST RESULTS

		No. 1 Lb. Reading	No. 2 Lb. Reading	No. 3 Lb. Reading	Average Of 3 Lb. Readings
"Regular" Wide Spring	No. 1	7.25	7.75	7.50	7.50
	No. 2	8.75	9.00	8.00	8.58
	No. 3	11.50	11.50	12.00	11.66
"Half Wide" Narrow Spring	No. 1	4.50	4.75	4.75	4.66
	No. 2	4.00	4.25	4.00	4.08
	No. 3	4.25	4.50	4.25	4.33

Supplement Comparison Test On M/700 on the following page.

November 16, 1982

REPORT TITLE

Supplement: M/700 Trial & Pilot Classic 300 H & H Mag. Pound Force To Open Floor Plate For Comparison To M/Seven LWT. Using Wide and Narrow Latch Springs.

TEST PROCEDURE

Eight (8) M/700 Trial & Pilot "Classic" 300 H & H Mag.from Engineering were checked for pound forces to open Floor Plate (average of three readings each) with Chatillon Spring scale (0 to 10 lbs.) for a comparison with M/Seven LWT. w/"Regular " and "Half Wide" Springs on previous page.

TEST RESULTS

	Lb. Reading No. 1	Lb. Reading No. 2	Lb. Reading No. 3	Average of 3
Gun No. 1	6.50	7.00	6.25	6.58
2	7.00	7.50	7.75	7.41
3	8.50	9.00	9.25	8.91
4	8.25	8.75	8.50	8.50
5	5.75	6.25	6.00	6.00
6	6.75	7.00	6.75	6.83
7	7.50	7.75	7.50	7.58
8	6.00	6.25	6.00	6.08

[redacted] 6 PRINTS OF M-7 -X-82
7 LATCH DESIGNS 1 to 5 G.V.
4 USED IN HI-SPEED
MOVIES REPORT #822811
10-22-82

REPORT # 822811

RO-40-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington / PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
D. E. Bullis

RESEARCH TEST and MEASUREMENT REPORT – Report No. 822811

M/SEVEN "TRIAL & PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING – 308 CAL. & 7MM-08 CAL.

Prepared by: R. Howe

Date Prepared: 10-25-82

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date 11-16-82

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date 11/16/82

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 822811

REPORT TITLE: M/SEVEN LWT. "TRIAL & PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING.

MODEL(S): M/SEVEN LWT.

GAUGE OR CALIBER: .308 & 7MM-08

DATE: 10-25-82

WORK ORDER NO.: C-1856-000

PART NAME: Floor Plate

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 20
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Lbs. Pressure to Open Floor Plate
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: 165/20 Guns

TOTAL ROUNDS FIRED IN TEST: 3,300

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

October 25, 1982

TO: J. H. Hennings

FROM: R. Howe

REPORT TITLE: M/SEVEN LWT. "TRIAL & PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING

ABSTRACT

Ten M/Seven LWT. .308 cal. and Ten M/Seven LWT. 7MM-08 "Trial & Pilot" line guns were received from D. Bullis for evaluation. All twenty were "Live Fire" field function tested by R. & D. Test Lab.

SCOPE OF TEST

To check for Floor Plate coming open on firing of live rounds.

TEST RESULTS:

Of the twenty guns tested 50% showed low to high frequency of the Floor Plate openings when fired with 140 gr. and larger bullet weights.

REPORT TEXT

Of the twenty guns tested, six of the ten .308 cal. and four of the ten 7MM-08 cal. (or 50%) had from one to very high occurrence of the Floor Plate falling open when fired (off the shoulder) using 140 gr. and larger bullets.

All occurrences are broken down as to gun number, shooter and bullet weight in Appendix "A". All other data and measurements in Appendix "B".

NOTE: High speed films of "Floor Plate Opening When Fired" are available in the R. & D. Photo Lab Library.

TEST PROCEDURE

A. Measurements

The following measurements were taken on all twenty guns tested:

Headspace " After Proof" – .000 inch.
Floor Plate Latch Release Force – .lbs.

B. Test Conditions

All twenty guns were checked in the Test Lab for Headspace after proof and Floor Plate Latch release forces (in pounds) were taken for each gun as follows:

Three readings each with 0 - 1 - 2 - 3 & 4 "Dummy" rounds in the magazine. Results in Appendix "B".

They were then taken to the Rifle Range at the Ilion Fish and Game Club to be live fired (from the shoulder) to a total of 165 rds each. (For a test total of 3,300 rds. for twenty guns.)

To check for Floor Plate falling open on firing. Results in Appendix "A".

"TEST RESULTS"

"A P P E N D I X "A"

10-18-82

M/I EWI NO BIND FOLLOWER FEED FUNCTION TEST (CAL.308)

(# TIMES FLOOR PLATE FELL OPEN ONLY)

R. HOWE

W.O. # C1856-000

SHOOTER #	(* = 5 SER.# CHOSEN ON ORIGINAL W.O.)	7600008 GUN #1 * TIMES FLOOR PLATE OPENED	7600003 #2 *	7600040 #3 *	7600022 #4 *	7600101 #5 *	7600139 #6	7600058 #7	7600036 #8	7600103 #9	7600043 #10	TOTAL PER SHOOTER	TOTAL FOR TEST 1650 RDS.	% FOR TOTAL TEST
	BULLET WT. →	F165 PR.BT.	W150 S.TIP / F180 PSP	F150 PSP	W200 S.TIP	W180 S.TIP	F165 PR.BT.						300	18.18%
1.	R. WILLIAMS	15	3 / 15	1	15	1	15	OK	OK	OK	OK	65		
	BULLET WT. →	R180 PSP / W180 S.TIP	F165 PR.BT.	F180 PSP		W200 S.TIP	R180 PSP / W180 S.TIP							
2.	R. EASTWOOD	15 / 13	12	14	OK	11	5 / 8	OK	OK	OK	OK	78		
	BULLET WT. →	W200 S.TIP	R180 PSP / W150 S.TIP	W150 PP / R150 PSP / F165 BT.			W200 S.TIP							
3.	H. WEAVER	15	15 / 15	1 / 2 / 15	OK	OK	15	OK	OK	OK	OK	78		
	BULLET WT. →		W200 S.TIP	W180 S.TIP / R180 PSP	R150 PSP									
4.	C. DICKENSON	OK	15	15 / 13	1	OK	OK	OK	OK	OK	OK	44		
	BULLET WT →	F180 PSP	F150 PSP	W200 S.TIP	R180 PSP / W180 S.TIP	OK	F180 PSP							
5.	D. JENNINGS	1	4	15	4 / 2		9	OK	OK	OK	OK	26		
	TOTAL PER GUN →	59	79	76	22	12	52	OK	OK	OK	OK			
	TOTAL PER BULLET WT. →	W150 S.TIP 3	W150 P.P. 1	W180 S.TIP 54	W200 S.TIP 86	F150 P.S.P. 5	F165 PREM. B.T. 57	F180 P.S.P. 39	R150 PSP 3	R180 PSP 52	W110 PSP 0	W125 PSP 0		
										2542				
	Round Count	2648	2648	2743	2665	2650	2670	2740	2648	2743	2470	25582		

APENDIX "A"

REPORT # 822811

M\7 LWT. "NO BIND FOLLOWER" FEED FUNCTION TEST (CAL. 7 MM-08)

10-20-82

(# TIMES FLOOR PLATE FELL OPEN ONLY)

R. HOWE

W.O. # C-1856-000

SHOOTER #	SERIAL NO. — GUN NO. — AMMO. R-140-PSP "ALL"	1 7600098 1	2 7600010 2	3 7600094 3	4 7600133 4	5 7600137 5	6 7600081 6	7 7600080 7	8 7600148 8	9 7600130 9	10 7600144 10	11 TOTAL PER SHOOTER	12 TOTAL FOR TEST 1650 RDS	13 % FOR TOTAL TEST
													154	9.33%
1.	R. WILLIAMS					2	45					47		
2	R. EAST WOOD						19					19		
3.	H. WEAVER	1				2	27					30		
4.	C. DICKENSON					1	30	1				32		
5.	D. JENNINGS					1	25					26		
	TOTAL PER GUN —	1	OK	OK	OK	6	146	1	OK	OK	OK			

TOTAL PER BULLET WT. "154"
ALL AMMO - R-140-PSP -

M/7 LWT. "TRIAL + PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING. REPORT # 822811

10-25-82

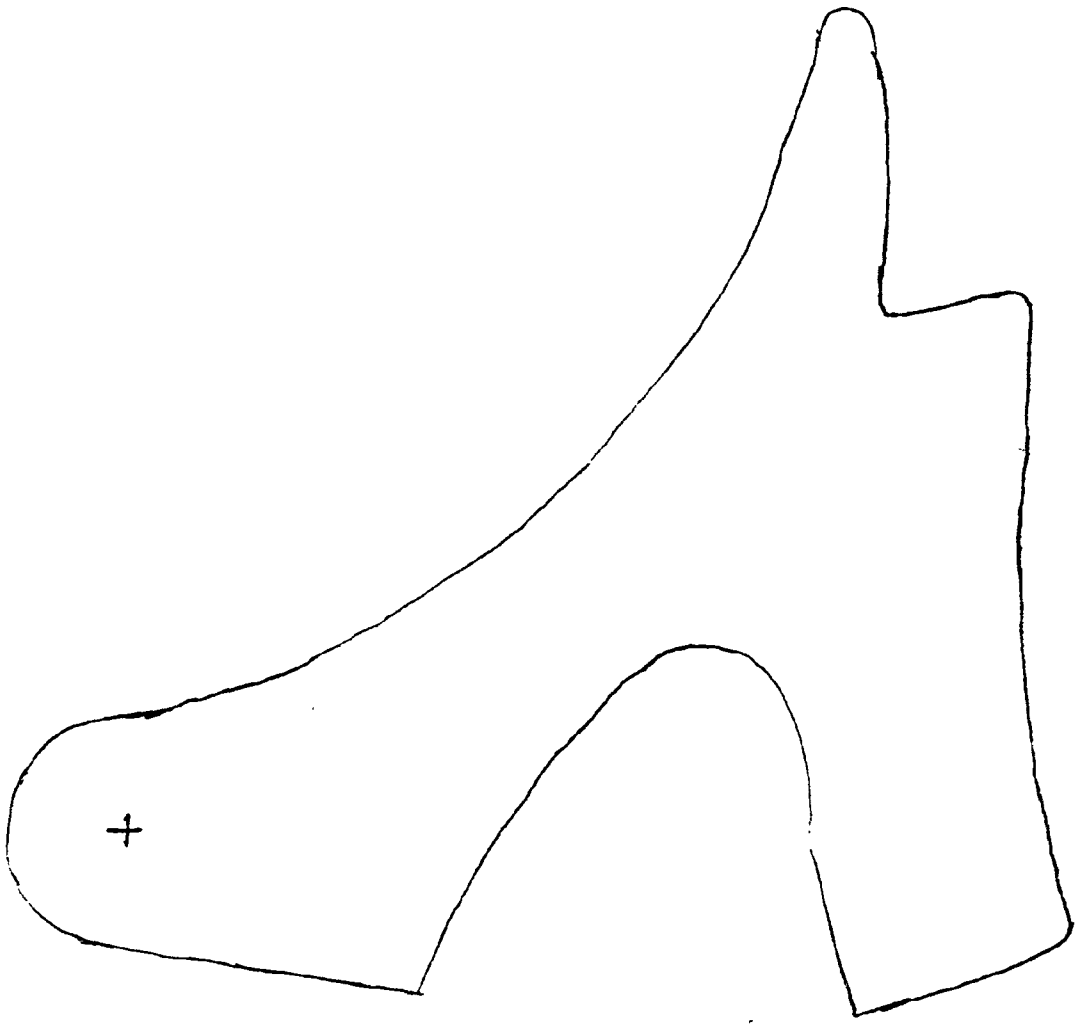
R. HOWE
W.O. #9856-000

FLOOR PLATE LATCH RELEASE FORCE LBS.
AVG. OF THREE MEASUREMENTS

GUN NO	M/7 LWT. CAL. 308 SER #	HEAD SPACE MIN +	0 RDS IN MAG.	1 RDS IN MAG.	2 RDS IN MAG.	3 RDS IN MAG.	4 RDS IN MAG.	AVG.	AVG FOR 10 GUNS
1	7600008	+.005	2.50	2.25	2.42	2.42	2.42	2.40	
2	7600003	.004	2.33	2.00	2.16	2.33	2.50	2.27	
3	7600040	.004	2.67	2.33	2.33	2.33	2.83	2.50	
4	7600022	.005	2.25	2.42	2.33	2.50	2.42	2.38	
5	7600101	.005	2.75	2.66	2.50	2.58	2.75	2.65	> 2.85
6	7600139	.004	3.66	3.33	3.33	3.16	3.08	3.32	
7	7600058	.004	2.67	2.75	2.58	2.42	2.33	2.55	
8	7600036	.004	3.25	3.16	3.33	3.25	2.92	3.28	
9	7600103	.004	4.16	3.75	4.16	3.83	3.25	3.83	
10	7600043	.004	3.67	3.16	3.42	3.16	3.33	3.35	
	M/7 LWT. CAL 7mm-08 SER #								
1	7600098	+.004	1.92	1.75	1.83	1.67	1.67	1.76	
2	7600010	.004	3.25	2.50	2.67	2.58	2.33	2.67	
3	7600094	.003	2.16	2.33	2.16	2.25	2.08	2.20	
4	7600133	.004	2.25	2.08	2.25	2.00	1.75	2.07	
5	7600137	.003	2.58	2.25	2.42	2.50	2.67	2.48	> 2.25
6	7600081	.004	1.92	2.16	1.83	2.00	2.08	2.00	
7	7600080	.003	2.16	1.83	1.92	2.00	1.75	1.93	
8	7600148	.003	2.50	2.16	1.83	2.16	2.50	2.20	
9	7600130	.002	2.41	2.08	1.75	2.33	1.83	2.08	
10	7600144	.003	3.33	3.16	3.00	3.25	2.83	3.11	

M/7 L.W.T. LATCH DESIGN #

NOTE: ALTERATIONS SHOWN BY DOTTED LINES ------



Report No. 52281

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
✓ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LNT	FORMAL ✓	DATE REQUESTED: 10-2-87
CAL ~~or GAGE~~: 308		DATE NEEDED BY: 10-12-87
BARREL TYPE: CAPB.	TEST RESULTS ONLY ____	REQUESTED BY: L Pulle
PROOFED: YES ✓ NO ____		WORK ORDER NO: CAPB

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Pick up 10 model 7 LNT 308 cal.
= 0022
0101
0040
0003
0003
[illegible] 5 others for [illegible]
a function test [illegible]
check for [illegible] coming [illegible]

GUNS REQUIRED:

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 11-3-87
TEST COMPLETED BY: R Rose
REPORT DATE: 11-3-87

PLAINTIFF'S COMMING OPEN ON FIRING.
REPORT # 822811

[redacted]

APENDIX "A"

10-18-82

M17 LWT "NO BIND FOLLOWER" FEED FUNCTION TEST (CAL. .308)

(# TIMES FLOOR PLATE FELL OPEN ONLY)

REPORT #822811

R. HOWE

W.O # C 1856-000

SHOOTER #	(* = 5 SER.# CHOSEN ON ORIGINAL W.O.)	SER # →	7600008	7600003	7600040	7600022	7600101	7600139	7600058	7600036	7600103	7600043	TOTAL PER SHOOTER	TOTAL FOR TEST 1650 RDS.	% FOR TOTAL TEST
			GUN #1 * TIMES FLOOR PLATE OPENED	#2 *	#3 *	#4 *	#5 *	#6	#7	#8	#9	#10			
	BULLET WT. →		F165 PR.BT.	W150 S.TIP / F150 PSP	F150 PSP	W200 S.TIP	W150 S.TIP	F165 PR.BT.						300	18.18%
1.	R. WILLIAMS		15	3 / 15	1	15	1	15	OK	OK	OK	OK	65		
	BULLET WT. →		R150 PSP / W150 S.TIP	F165 PR.BT.	F150 PSP		W200 S.TIP	R150 PSP / W150 S.TIP							
2.	R. EASTWOOD		15 / 13	12	14	OK	11	5 / 8	OK	OK	OK	OK	78		
	BULLET WT. →		W200 S.TIP	R150 PSP / W150 S.TIP	W150 PSP / R150 PSP			W200 S.TIP							
3.	H. WEAVER		15	15 / 15	1 / 2 / 15	OK	OK	15	OK	OK	OK	OK	78		
	BULLET WT. →			W200 S.TIP	W150 S.TIP / R150 PSP	R150 PSP									
4.	C. DICKENSON		OK	15	15 / 13	1	OK	OK	OK	OK	OK	OK	44		
	BULLET WT →		F150 PSP	F150 PSP	W200 S.TIP	R150 PSP / W150 S.TIP	OK	F150 PSP							
5.	D. JENNINGS		1	4	15	4 / 2		9	OK	OK	OK	OK	26		
	TOTAL PER GUN →		59	79	76	22	12	52	OK	OK	OK	OK			
	TOTAL PER BULLET WT. →		W150 S.TIP 3	W150 P.P. 1	W150 S.TIP 54	W200 S.TIP 86	F150 P.S.P. 5	F165 PRM.B.T. 57	F150 P.S.P. 39	R150 PSP 3	R150 PSP 52	W110 PSP 0	W125 PSP 0		

APPENDIX "A"

M\7 LWT. "NO BIND FOLLOWER" FEED FUNCTION TEST (CAL. 7 MM-08)

(# TIMES FLOOR PLATE FELL OPEN ONLY)

10-20-82

REPORT # S22811

R. HOWE

W.O. # C-1856-000

SHOOTER #	SERIAL NO. / GUN NO. / AMMO. R-140 PSP "ALL"	7600098 1	7600010 2	7600094 3	7600033 4	7600137 5	7600081 6	7600080 7	7600148 8	7600130 9	7600144 10	TOTAL PER SHOOTER	TOTAL FOR TEST 1650 RDS	% FOR TOTAL TES
1.	R. WILLIAMS					2	45					47	154	9.33
2.	R. EAST WOOD						19					19		
3.	H. WEAVER	1				2	27					30		
4.	C. DICKENSON					1	30	1				32		
5.	D. JENNINGS					1	25					26		
	TOTAL PER GUN	1	OK	OK	OK	6	146	1	OK	OK	OK			

TOTAL PER BULLET WT. 154"

ALL AMMO - R-140 PSP -

10-25-82

M/7 LWT. "TRIAL PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING

REPORT # 822811

R. HOWE
W.O. #1856-000

FLOOR PLATE LATCH RELEASE FORCE LBS.
AVG. OF THREE MEASUREMENTS

GUN NO	M/7 LWT. CAL. .308 SER #	HEAD SPACE MINT	0 RDS IN MAG.	1 RDS IN MAG.	2 RDS IN MAG.	3 RDS IN MAG.	4 RDS IN MAG.	AVG.	AVG FOR 10 GUNS
1	7600008	+.005	2.50	2.25	2.42	2.42	2.42	2.40	
2	7600003	.004	2.33	2.00	2.16	2.33	2.50	2.27	
3	7600040	.004	2.67	2.33	2.33	2.33	2.83	2.50	
4	7600022	.005	2.25	2.42	2.33	2.50	2.42	2.38	
5	7600101	.005	2.75	2.66	2.50	2.58	2.75	2.65	> 2.85
6	7600139	.004	3.66	3.33	3.33	3.16	3.08	3.32	
7	7600058	.004	2.17	2.25	2.38	2.42	2.33	2.65	
8	7600036	.004	3.75	3.16	3.33	3.25	2.92	3.28	
9	7600103	.004	4.16	3.75	4.16	3.83	3.25	3.83	
10	7600043	.004	3.60	3.16	3.42	3.16	3.33	3.35	
	M/7 LWT. CAL. 7mm-08 SER #								
1	7600098	+.004	1.92	1.25	1.83	1.67	1.67	1.76	
2	7600010	.004	3.25	2.50	2.67	2.33	2.33	2.67	
3	7600094	.003	2.16	2.33	2.16	2.25	2.08	2.20	
4	7600133	.004	2.25	2.08	2.25	2.00	1.75	2.07	
5	7600137	.003	2.58	2.25	2.42	2.50	2.42	2.44	> 2.25
6	7600081	.004	1.92	2.16	1.83	2.00	2.08	2.00	
7	7600080	.003	2.16	1.83	1.92	2.00	1.75	1.93	
8	7600148	.003	2.50	2.16	1.83	2.16	2.50	2.20	
9	7600130	.002	2.41	2.08	1.75	2.33	1.83	2.08	
10	7600144	.003	3.33	3.16	3.00	3.25	2.83	3.11	

" A P P E N D I X " B "

"CONTENTS"

All Data, Malfunctions and Measurements Not Contained
In Appendix "A"

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822611 PAGE NO. _____

DATE: 10-19-82 MODEL: 7 LWT ~~GAUGE~~ CAL: 7MM-08 SERIAL NO. X

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~

(WEATHER 64° SUNNY · 1:30pm)

TTL. RDS. FIRED: 1650
TTL. MALFUNCTIONS: 379
MALFUNCTION RATE: 22.96%

"MALFUNCTIONS"

ALL AMMO WAS R 140 PSP

GUN #	SUMMARY SHEET BY R. Howe SER #	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	~~BOLT WON'T TAKE~~ EMPTY SHELL CATHES REC.	~~BOLT TAKE OVER~~ LIGHT BLOW	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	HEAVY BOLT LIFT POWER OVERCOME	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING MAG. HARD WITH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
1	7600098		165										1														1	2	1.2%
2	7600010		"				30																					30	18.1%
3	7600094		"				15				3				10													28	16.9%
4	7600133		"				36					3									1							39	10.8%
5	7600137		"				30					28															6	64	38.7%
6	7600081		"																								146	146	88.4%
7	7600080		"				15	1																			1	17	10.3%
8	7600148		"																									0	
9	7600130		"						3												1							4	2.4%
10	7600144		"			1														3			45					49	29.6%
TOTAL (PER MAL.)																													

FLOOR PLATE OPENED TOTAL — 154

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. _____

DATE: 10-13-82 MODEL: 7 LWT CAL GAUGE: .308 SERIAL NO. X

PREVIOUS ROUNDS ——— TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~

M/7 CAL .308 NO BIND FOLLOWER FEED FUNCTION TEST.

TTL. RDS. FIRED: 1650
TTL. MALFUNCTIONS: 410
MALFUNCTION RATE: 24.8%

"MALFUNCTIONS"

GUN #	SUMMARY SHEET BY R Howe SER #	~~SHOOTER~~ GUNSTON BKS. 3.0.	NO. OF ROUNDS FIRED	FIRING	TOATFEED SEMI	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH ROUND	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
1	7600008	✓	165												2					7							59	68	41.2%
2	7600003	✓	165												7												79	86	52.1%
3	7600040	✓	165											1						12							76	89	53.9%
4	7600022	✓	165																	1							22	23	13.9%
5	7600101	✓	165												7					27							12	46	27.8%
6	7600139		165											2						20	1						52	75	45.4%
7	7600058		165												2					11								13	7.8%
8	7600036		165											1														1	.6%
9	7600103		165												3													3	1.8%
10	7600043		165																	6								6	3.6%
	TOTAL (PER MAL.)																												

FLOOR PLATE OPENED TOT. 300

1859

RO-46-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington — PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
D. E. Bullis

RESEARCH TEST and MEASUREMENT REPORT – Report No. 822811 "Supplement"

M/7 LWT. "TRIAL & PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING. .308 CAL. AND 7MM-08 CAL.

Prepared by: R. Howe

Date Prepared: 11-3-82

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature: J. Hennings — Date: 11-16-82

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature: C. Evan Ritchie — Date: 11/16/82

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 822811 "Supplement"

REPORT TITLE: M/7LWT. "Trial & Pilot" Function Test For Floor Plate Coming Open on Firing. .308 Cal. and 7MM-08 Cal.

MODEL(S): M/7LWT.

GAUGE OR CALIBER: .308 & 7MM-08 Cal.

DATE: 11-3-82

WORK ORDER NO.: C-1856-000

PART NAME: Floor Plate

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 20
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Lbs. Pressure to Open Floor Plate
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: X

RIM FIRE _____ CENTER FIRE _____

November 5, 1982

TO: J. Hennings

FROM: R. Howe

REPORT TITLE: M/SEVEN LWT. TRIAL & PILOT FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING.

(SUPPLEMENT TO REPORT No. 822811 SHOT ON OCT. 12th & 19th, 1982)

REASON FOR SUPPLEMENT TEST:
After the Field Test of 10-12-82 and 10-19-82 that showed 50% malfunction rate it was decided to change the design of the Floor Plate Latch on the M/Seven LWT.

Changes were made as follows:

Design No. 0. Standard Current Production Latch
1. Standard Current Pinned
2. Standard Current Pinned and Clipped
3. Standard Current Pinned, Chambered and Clipped
4. Pinned, Chambered, Clipped and Extended Square
5. Pinned, Chambered, Clipped and Extended Angle
6. "Standard" Design of Aluminum

NOTE: All above Designs were placed in guns and shot in Photo Lab with the following ammo types; Cal. – .308 – W-200 – Silver Tip, Cal. – 7MM-08 – R-140-PSP. High Speed Movies of the above latch designs showing their respective success or failure are available in the Photo Lab Library. See Appendix "A".

Drawings of above designs in Supplement Appendix "A".

After observing the above movies, it was decided to Field Test,"on 10-28-82" Design No. 5 using both a wide standard production latch spring and a narrow "altered" production latch spring. Five of each spring type for a total of ten guns, to be fired 50 rounds each. Guns were numbered 1 through 10.

It was also decided to use ten M/Seven LWTs from production with the "current" standard (Design No. 0.) production latch and spring as a control group for this test. These were numbered 11 through 20 and also fired 50 rounds each.

Guns 1 through 10 with new Design No. 5 latch were set up as follows:

Numbers 1 - 3 - 7 - 8 - 9 with narrow "Altered" Spring
Numbers 2 - 4 - 5 - 6 - 10 with wide standard spring

Results (of test on 10-28-82)

50 rounds W-200-S. Tip. shot in each gun.
Guns No. 1 through 10 with New Design No. 5 latch showed little or no movement of latch and only gun No. 3. using "Altered" narrow spring had any problem with Floor Plate falling open, while guns No. 11 through 20 (Control Group) had considerable problems with Floor Plate falling open and latch movement.

All Floor Plate openings and Latch Movement listed in Supplement Appendix "B".

Follow-up Test for Design No. 5

On 10-29-82, guns No. 1 - 3 - 7 - 8 - 9 and guns No. 11 through 20 were equipped with Latch Design No. 5 and "Standard" Wide Spring. Then taken back to the Ilion Fish and Game Rifle Range and shot 50 rounds each with W-200 S. Tip.

Results (Of Field Test On 10-29-82)

All 15 of the above guns with New Design No. 5 Latch and Wide Spring had no occurance of latch moving or Floor Plate falling open shooting 50 rounds each of W-200 - S. Tip.

Results of above Test in Supplement Appendix "C".

NOTE: "Opinion" : All Take Down "Floor Plate" screws on M/Seven LWT. should be tightened at least 30 inch pounds to prevent flexing of Floor Plate on recoil.

M/Seven LWT. Latch Evaluation High Speed Film List
(Available in Photo Lab Library)

Design No. 0.		Original	"Current"	Old Latch	
3 Shots	1.	Ser. Gun No.	.058	Latch Stayed Closed	Film 3D-1
	2.	" " "	.022	" " "	
	3.	" " "	.040	" " "	
Design No. 0.					
1 Shot		7MM-08	.140 gr. Bullet	Opened	Film 3D-2
Design No. 0.					
5 Shots	1.	Ser No.	.003	Opened	Film 3D-3
	2.	" "	.010	"	
	3.	" "	.103	Stayed	
	4.	" "	.139	Opened	
	5.	" "	.028	Stayed	
Design No. 0.					
J. W. Brooks "Current" Old Latch w/.020 Spring.					
1 Shot	1.	Ser. No. .028			Film 3D-4
Design No. 2		Old Latch Pinned & Clipped			
		7MM–08 – .140 Gr.			Film 3D-5
5 Shots	1.	Ser. No.	.003	Stayed	
	2.	" "	.101	"	
	3.	" "	.043	"	
	4.	" "	.139	"	
	5.	" "	.103	Opened	
Design No. 3		Modified Pinned Latch			
		Pinned & Chambered & Clipped			Film 3D-6
4 Shots	1.	Ser. No.	.101	Opened	
	2.	" "	.139		
	3.	" "	.103		
	4.	" "	.003	W/Prototyped Guard Shot No. 4 Only	
Design No. – Fred Martin Latch "W/Ball End"					Film 3D-7
1 Shot	1.	Ser. No.117	10-20-82		

Design No. 5 "Approved & Now In Use" (W/Wide Spring) Film 3D-8

3 Shots	1.	Design No. 5	Reg. Wide Spring,	Ser. No. .040	Stayed
	2.	Design No. 0	Reg. Wide Spring,	" " .050	Opened
	3.	Design No. 5	Narrow Spring	" " .040	Stayed

Design No. 6 – Aluminum Latch
"7" Seven Films W/Prototype Guard

Film 3D-9
" 10
" 11
" 12
" 13
" 14
" 15

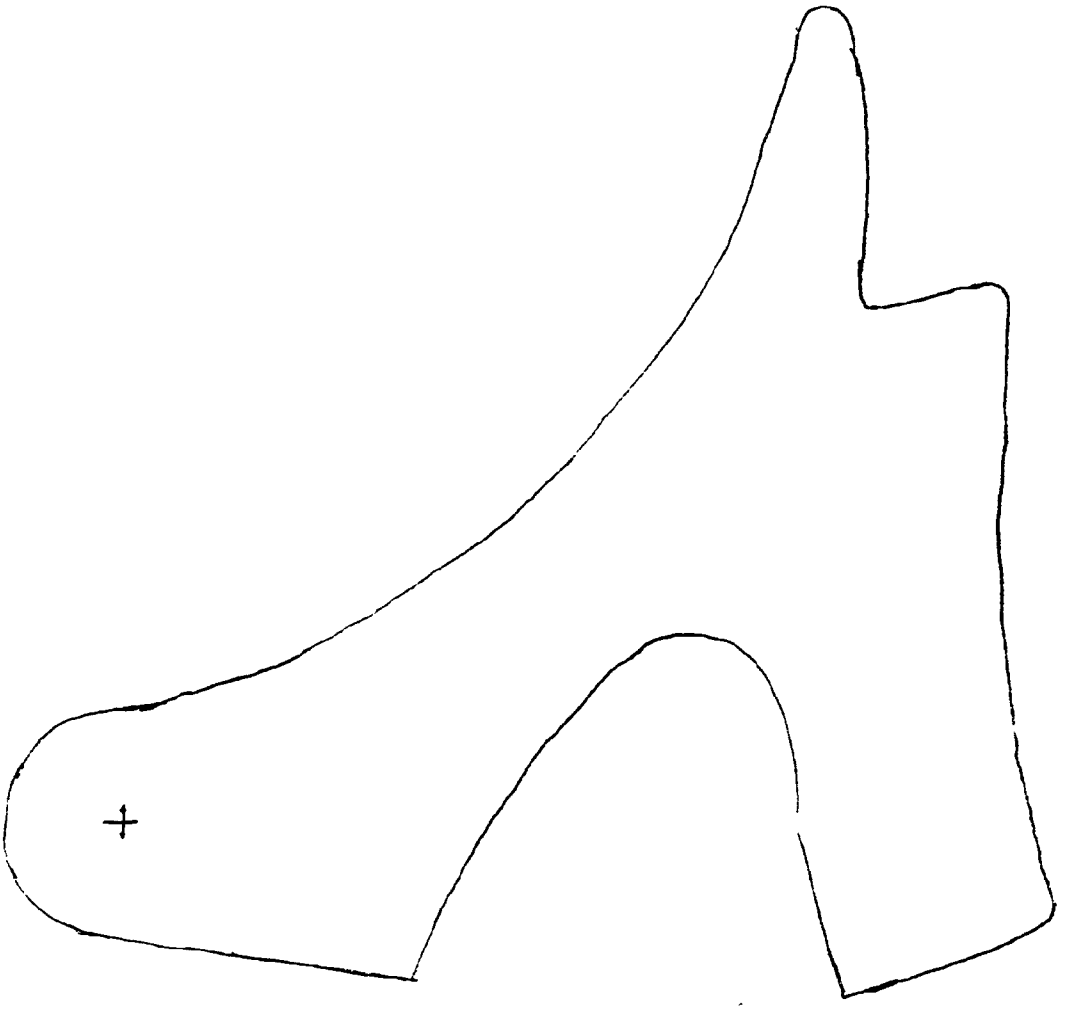
Supplement

"A P P E N D I X "A"

M\7 L.W.T. LATCH DESIGN #0

"CURRENT" STANDARD LATCH (FROM PRODUCTION)

NOTE: ALTERATIONS SHOWN BY DOTTED LINES ------

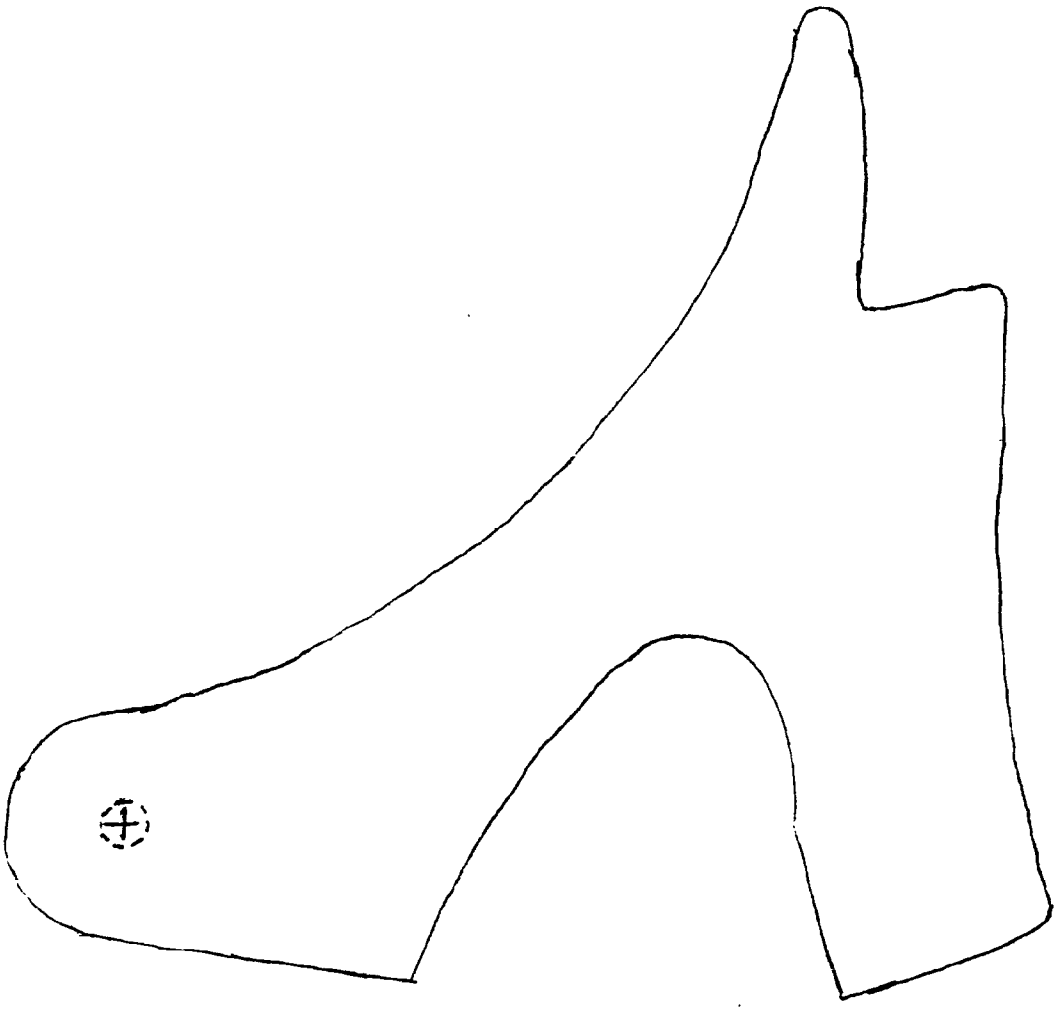


M\7 L.W.T. LATCH DESIGN #1

"CURRENT" PINNED

NOTE

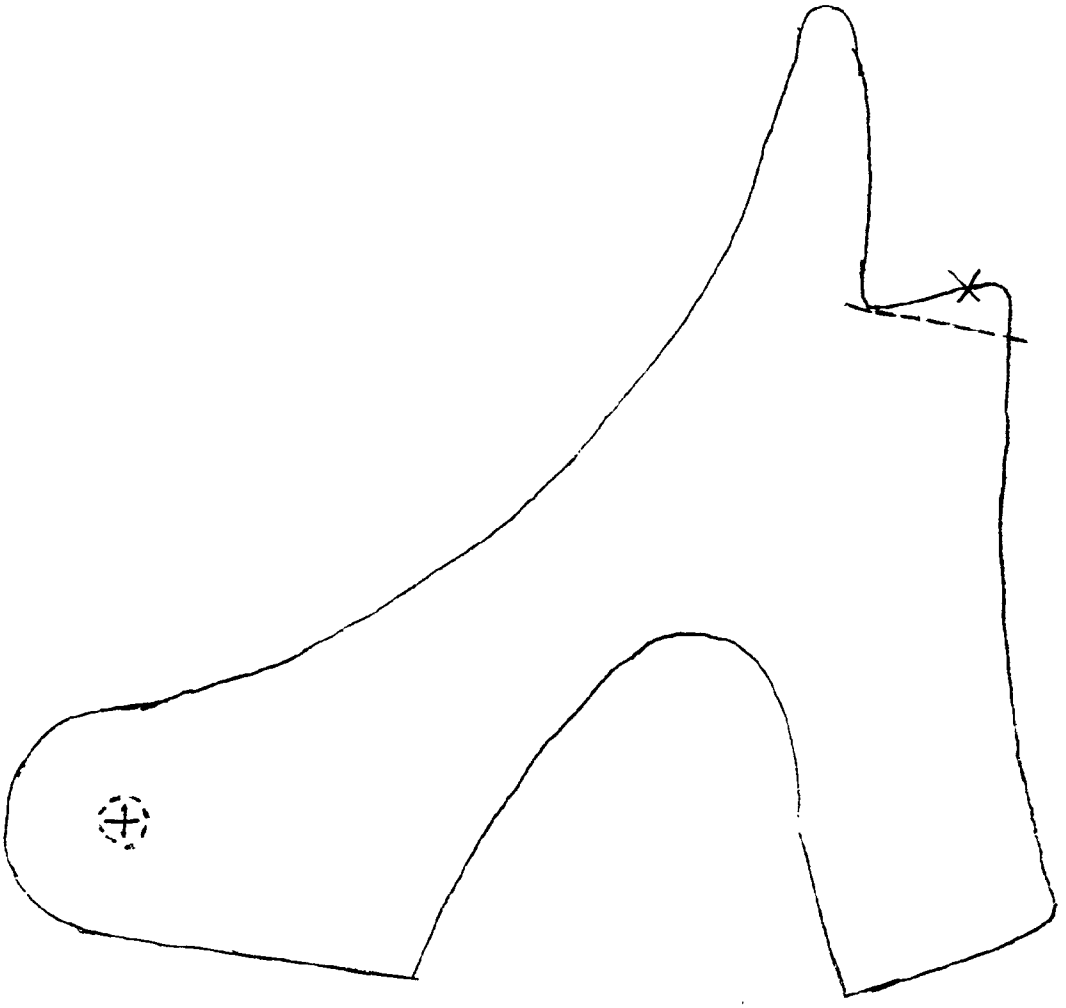
ALTERATIONS SHOWN BY DOTTED LINES ------



M\7 L.W.T. LATCH DESIGN #2

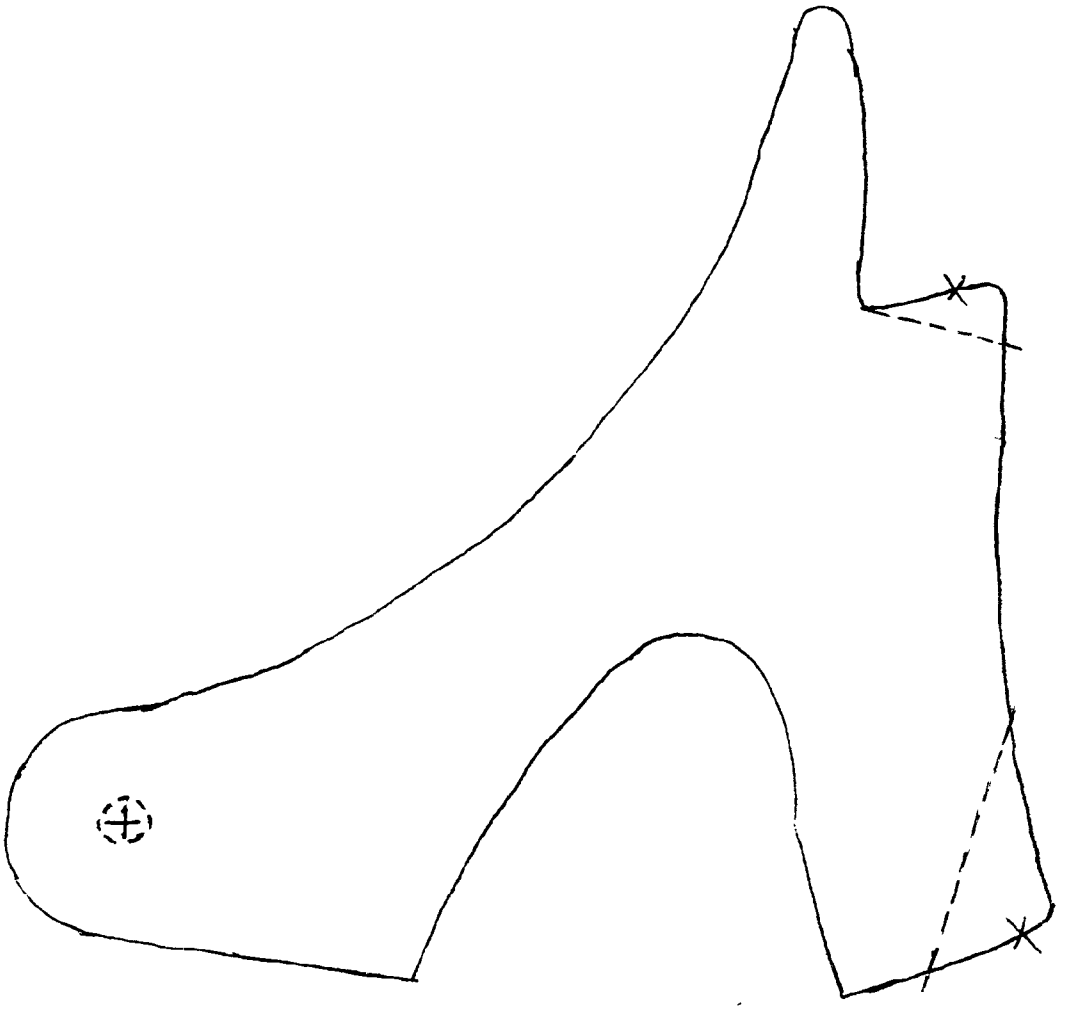
NOTE "CURRENT" PINNED + CLIPPED

ALTERATIONS SHOWN BY DOTTED LINES ------



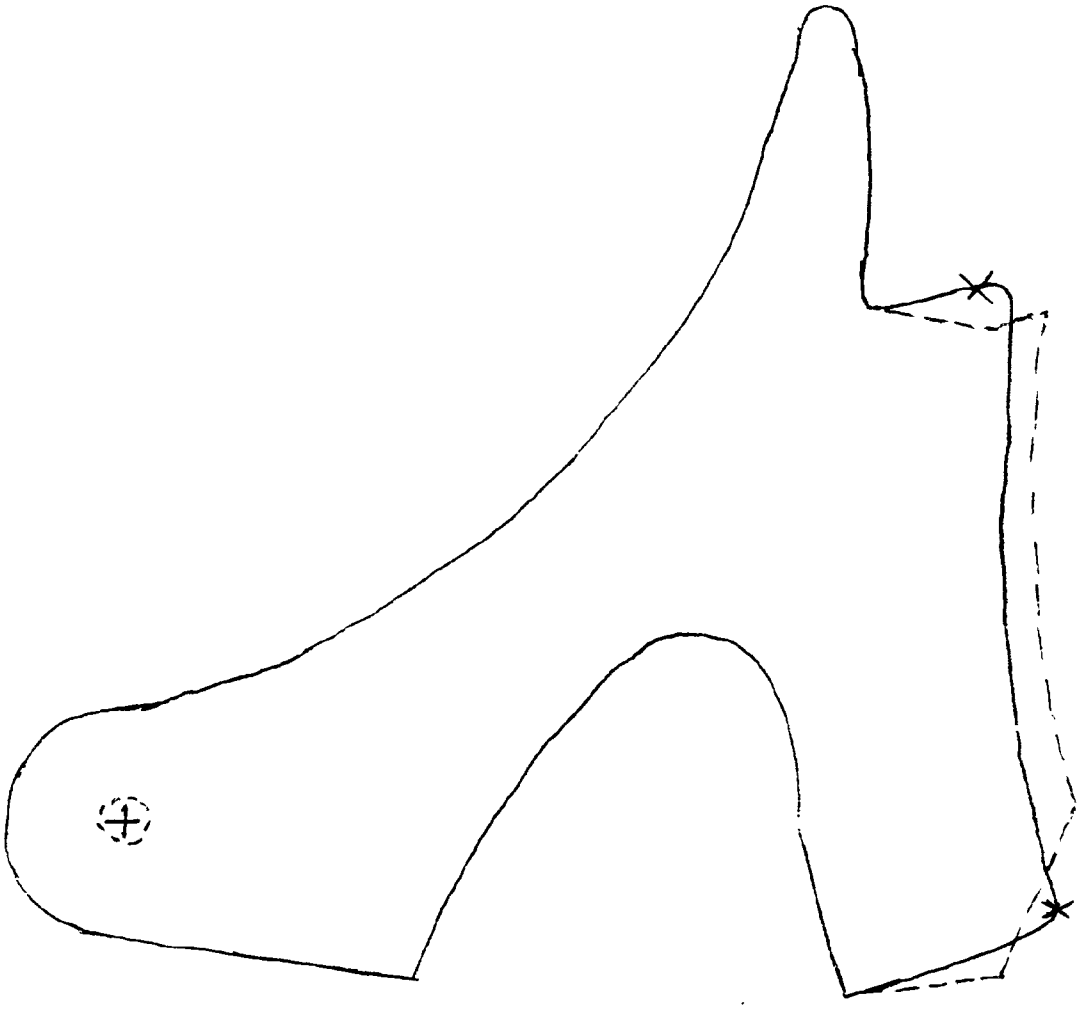
M7 L.W.T. LATCH DESIGN #3

NOTE "CURRENT" PINNED + CHAMFERED + CLIPPED
ALTERATIONS SHOWN BY DOTTED LINES ------



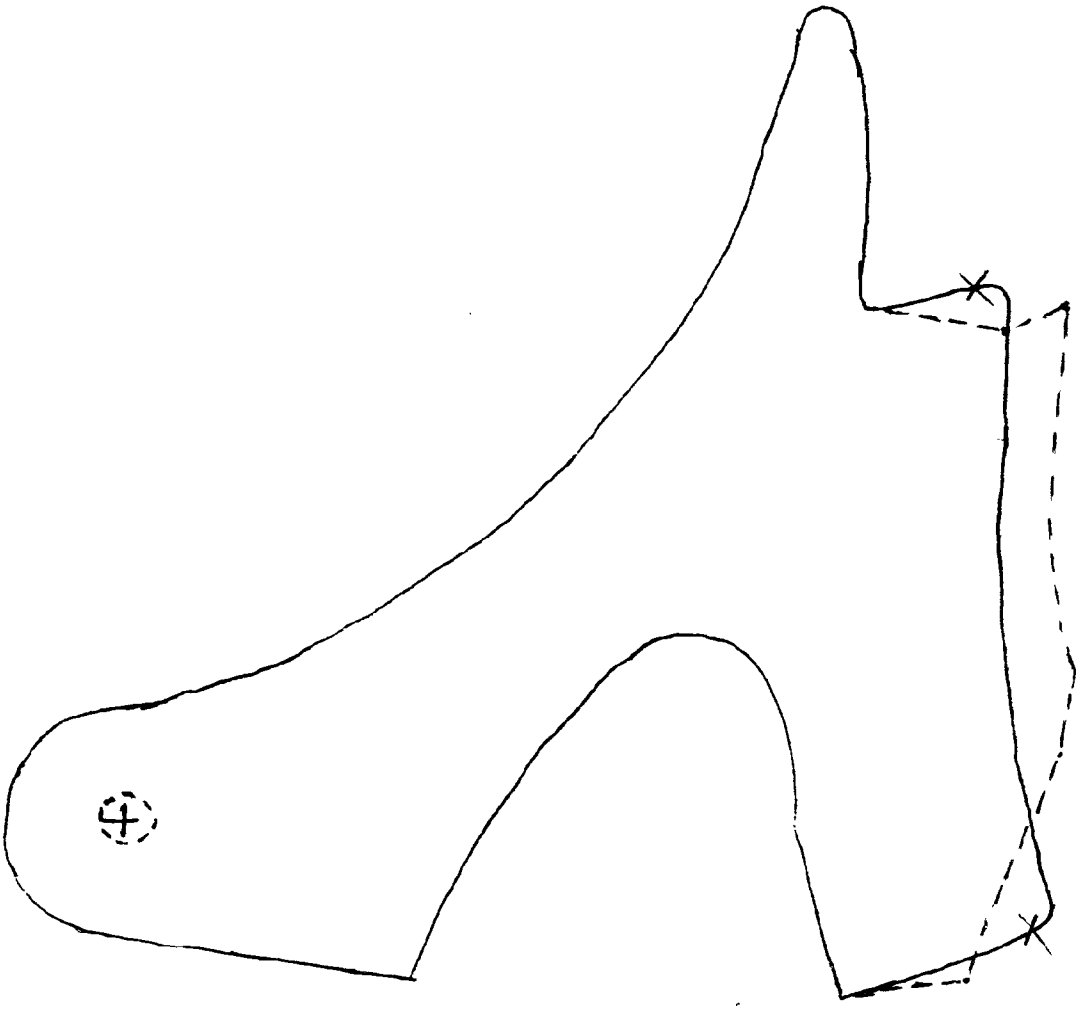
M/7 L.W.T. LATCH DESIGN # 4

NOTE PINNED, CHAMFERED, CLIPPED + EXTENDED SQUARE
ALTERATIONS SHOWN BY DOTTED LINES ------



M/7 L.W.T. LATCH DESIGN #5

NOTE PINNED, CHAMFERED, CLIPPED + EXTENDED ANGLE ALTERATIONS SHOWN BY DOTTED LINES ------



Supplement

" A P P E N D I X " B "

Test of 10 - 28 - 82

NATIONAL 45 713 20/20 BUFF 10-28-82 TEST

M/7 LWT "TRIAL + PILOT" FUNCTION TEST FOR FLOOR PLATE COMING OPEN ON FIRING.
(ALL AMMO. CAL .308 - W-200-SILVER TIP)

SHOOTER #	SHOOTER NAME (5 RDS EACH GUN)	GUN #N #1	W 2	N 3	W 4	W 5	W 6	N 7	N 8	N 9	W 10	C 11	C 12	C 13	C 14	C 15	C 16	C 17	C 18	C 19	C 20
1	JOE BAGGETTA	OK	OK	MUST S 2-5	OK	OK	OK	M-1 S 2-5	M 1 S 2-5	OK	OK	OK	M-1 S 3-5	FPO M-2 S 3-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	M 1-2 S 3-5	M-1 S 2-5	M-1 S 2-5	M 1-2 S 3-5
2	BOB HOWE	OK	OK	M 5TH	OK	OK	OK	OK	OK	OK	OK	OK	M-1 S 3-5	M 1-2 S 3-5	M-1 S 2-5	M 1-2 S 3-5	M-1 S 2-5	M 1-2 S 3-5	FPO 1-2 M-3 5-45	M-1 S 2-5	M-1 S 2-5
3	BOB BALASKA	OK	OK	FPO 1ST S 2-5	OK	OK	OK	OK	OK	OK	OK	OK	S-1-2 M 3-4 S 5	FPO S-3 M-4 5-5	M-1 S 2-5	M 1-4 S 5	M-1 S 2-5	M-1 S 2-5	FPO M-2 S 3-5	M 1-5	M-1 S 2-5
4	BOB SMITH	OK	OK	M 1ST S 2-5	OK	OK	OK	OK	OK	OK	OK	OK	M-1 S 2-5	FPO 1-2 M 345	OK	M 1-3 S 2-45	OK	M 1-5	FPO M 2 S 3-5	OK	OK
5	RON WILLIAMS	OK	OK	FPO 1ST S 2-5	OK	OK	OK	OK	M-1 S 2-5	OK	OK	M-1 S 2-5	M-1 S 2-5	FPO M-2 S 3-5	M-1 S 2-5	M 123 S 4-5	M-1 S 2-5	M-1 S 2-5	FPO M-2 S 3-5	FPO M-2 S 3-5	M-1 S 2-5
6	RALPH EASTWOOD	OK	OK	FPO 1ST M2 5-3-5	OK	M-1 S 2-5	OK	OK	OK	M-1 S 2-5	OK	OK	M-1 S 2-5	M 1-5 S 2-34	M 1-2 S 3-5	M 123 S 45	M-1 S 2-5	M 124 S 3-5	M-1 S 2-5	M 1235 S 4	M 1-2 S 3-5
7	CAL DICKERSON	OK	OK	FPO 1+2 M3 5-4+5	OK	OK	OK	OK	OK	OK	OK	OK	M 1-4 S 2-3-5	FPO 1-2 M-3 545	M 1 S 2-5	FPO M 2-5 S 3-4	M 1-3 S 45	M 1-24 S 3-5	FPO 1-2 M-3 5-45	FPO M 2-5 5-3-4	M 1+5 S 234
8	DALE JENNINGS	OK	OK	M-1 S	OK	OK	OK	OK	OK	OK	OK	OK	M-1-3 S 2-45	M 1-2 S 3-5	M 1-2 3+4 S 5	M-1 S 2-5	M-1 S 2-5	OK	FPO 1-2 S 3-5	FPO M 235 5-4	M-1 S 2-5
9	CHARLIE STEPHENS	OK	OK	FPO 1 M-2 5-3-5	OK	OK	OK	OK	OK	OK	OK	M-2 S 3-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	FPO M-2 S 3-5	FPO M 235 5-4	M- 123 45
10	DON WILLIAMS	OK	OK	M-1 S 2-5	OK	OK	OK	M-1 S 2-5	M-1 S 2-5	OK	OK	M-1 S 3-5	M-1 S 2-5	M-1 S 2-5	M-1 S 2-5	M 1 S 2-5	M-1 S 2-5	M 1-2 S 3-5	FPO M-2 S 3-5	FPO 1+2 M 3-5	M 1 S 2-5

CODE

C-CURRENT PROD. LATCH

W-DESIGN #5 WIDE SPG.

N-DESIGN #5 NARROW SPG.

M-LATCH MOVED

S-LATCH STAYED

FPO-FLOOR PLATE OPENED

OK-LATCH + PLATE STAYED IN PLACE.

GUN #	SER #
1	7600028
2	7600003
3	7600040
4	7600022
5	7600101
6	7600139
7	7600058
8	7600036
9	7600103
10	7600043
11	7600052
12	7600063
13	7600120
14	7600013
15	7600065
16	7600034
17	7600062
18	7600050
19	7600096
20	7600016

Supplement

APPENDIX "C"

Test of 10-29-82

NATIONAL 45-713 20/20 BUFF 10-29-82

M/7 LWT "TRIAL + PIL

(ALL AMMO. CAL. 35 AMO "WIDE" SPRING,

(C)

SHOOTER #	SHOOTER NAME (5 RDS EACH GUN)	#	SER. #
1	JOE BAGGETTA	1	7600028
		3	7600040
2	BOB HOWE	7	7600058
		8	7600036
3	BOB BALASKA	9	7600103
		11	7600052
4	BOB SMITH	12	7600063
		13	7600120
5	RON WILLIAMS	14	7600013
		15	7600065
6	RALPH EASTWOOD	16	7600034
		17	7600062
7	CAL DICKERSON	18	7600050
		19	7600096
8	DALE JENNINGS	20	7600016
9	CHARLIE STEPHENS		
10	DON WILLIAMS		

(4) SER 139
(3) SER 043
DESIGN #2 (2) SER 101
M/7 LWT (1) SER 003 10-20-82
OLD LATCH PINNED + CLIPPED (5 SHOTS)

DESIGN #3 ? MODIFIED PINNED LATCH
PINNED & CHAMFERED & CLIPPED
4 SHOTS SER. #1 - 101 - OPENED -
#2 139
#3 103
1 SHOT #4 003 - PROTOTYPE GUARD.

DESIGN #0 [redacted]3 ORIGINAL OLD LATCH 10-18-82
5 SHOTS 1 SER # 003 - OPENED
2 # 010 "
3 103 STAYED
4 139 OPENED
5 028 STAYED

DESIGN # - FRED MARTIN LATCH - W/BALL
10-20-82
1 SHOT #1 - SER # 117

DESIGN #0 J.W. BROOKS ORIGINAL OLD LATCH W/.020 SPRING
1-SHOT #1 - SER # 028 10-20-82

DESIGN #0 ORIGINAL OLD LATCH 10-20-82
SHOT #1 SER # 058 STAYED
2 — 022 "
3 — 040 "

M-7 LOT LATCH EVAL

DESIGN-1 ALUM LATCH – 308 200 GR.

5 SHOTS ~~###~~ 081 ~~SER#~~ OPENED ONCE

X DESIGN #1 ALUM LATCH – 308 – 200 GR

SHOTS 1 – STAYED SER 081

DESIGN #5 ~~REG SPG~~

SHOT #1 #5 SER # 040 REG SPG CAL 308 – 200 GR 10-28-82

#0 CURRENT – 050 OPENED

#5 040 – NAR. SPG.

SHOT #1 – DESIGN # LATCH #5 – SER # 040 REG SPG STAYED 308 – 200 GR

#2 – OLD LATCH #0 SER 050 – " " OPENED

#3 – LATCH #5 SER # 040 NARROW SPG STAYED

X DESIGN # – J. BROOKS – PINNED ALUM. LATCH

PROTOTYPE GUARD. (MOVED) 3 ~~#~~ ~~#~~ #2

SER – M-7-003

DESIGN #0 ORIGINAL 7MM-08 140 GR.

OLD LATCH

X 1-SHOT OPENED #2

3

✓ 1. std Latch

~~2. Std Pinned Spring~~ 2 Pinned & clipped

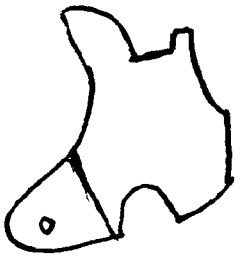
2 ✓ 3. Pinned & chamfered & clipped

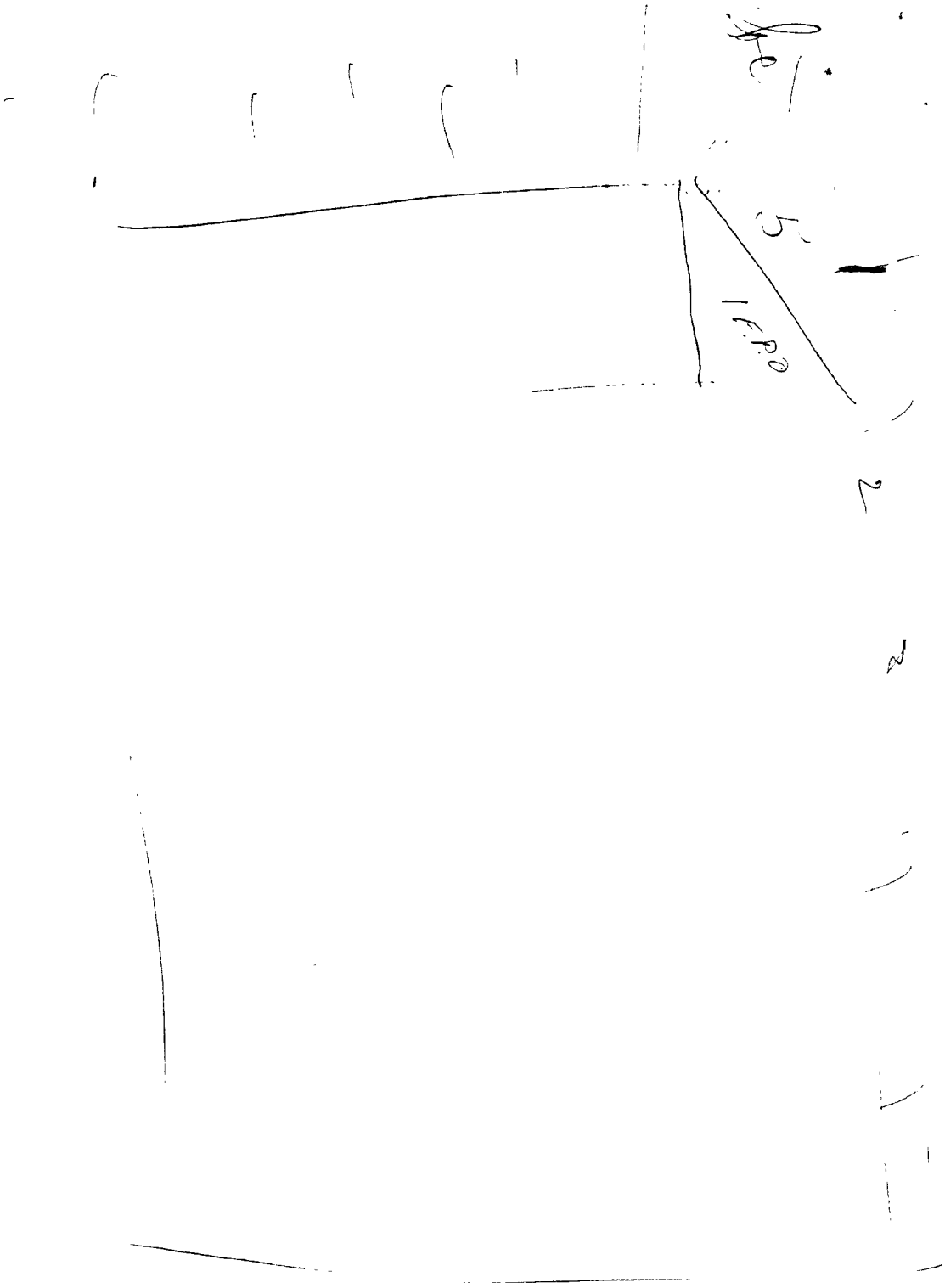
✓ 4. Pinned, chamfered, clipped & extended square -

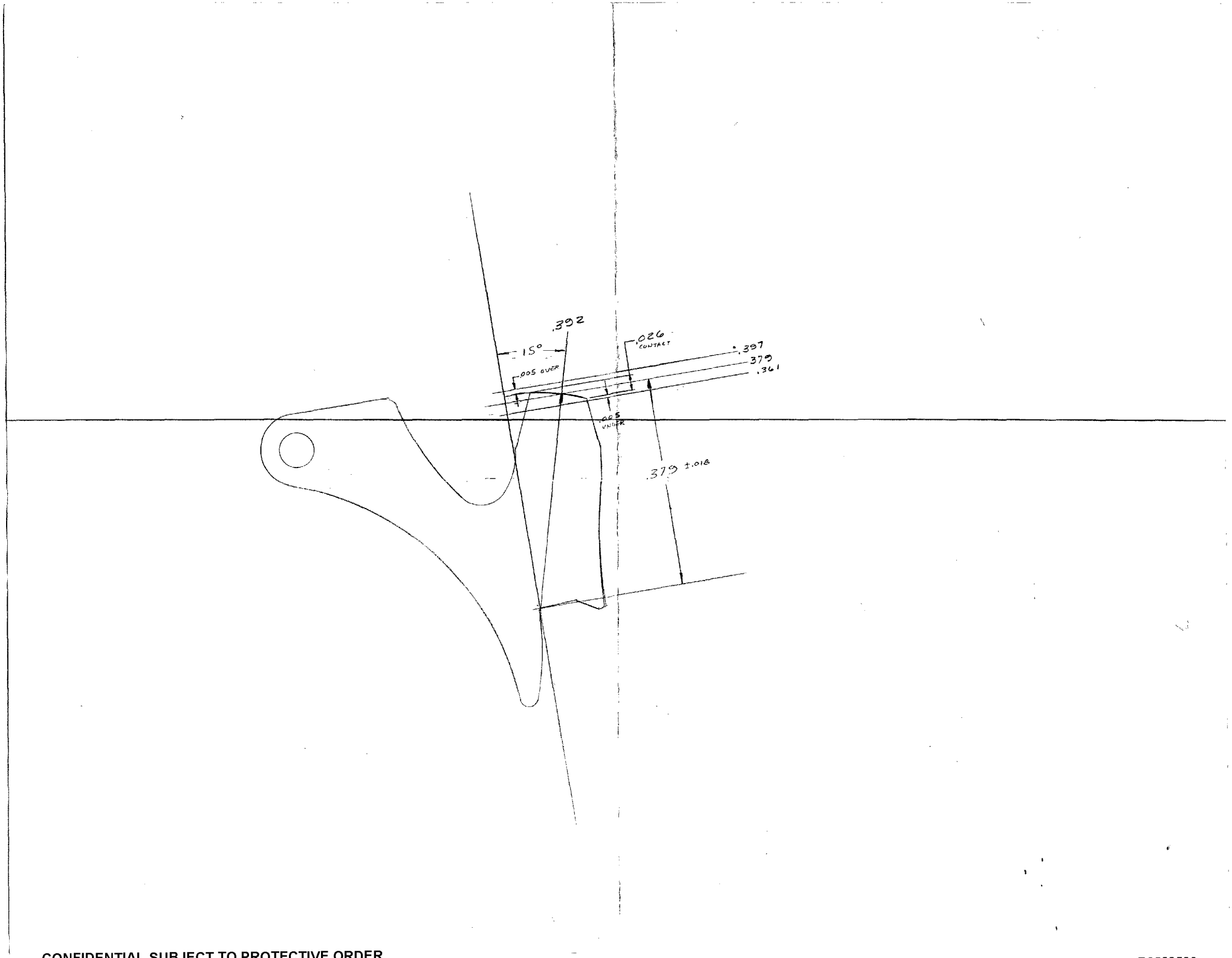
5. Pinned chamfered clipped & extended angle.

✓ 6. Aluminum std - PINNED.

~~7. Aluminum (cp)~~.




5
1 F.P.S.
2


.392
15°
.026
CONTACT
.397
.379
.361
.005 OVER
.005
UNDER
.379 ±.018

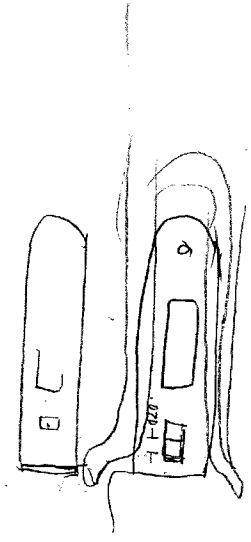


Fig 2

FORM TPC-1 REV. 8/75

R.N.S. 17 0483

C-91840

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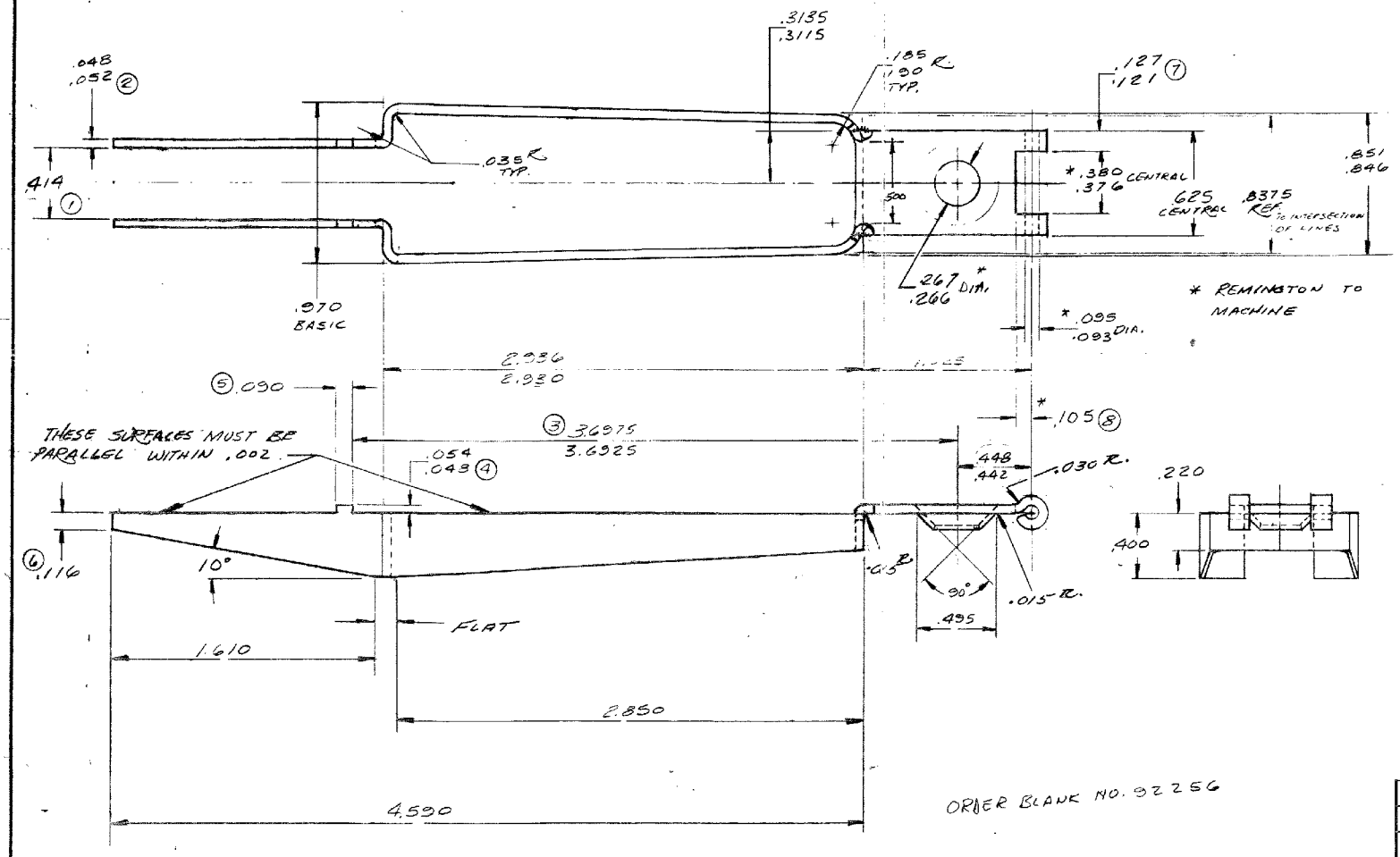
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00°-30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 √ OR BETTER.

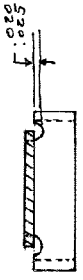
RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL 1070
HEAT TREAT
HARDNESS
COLOR
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON RGJ 11/11/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	.425	11530	L/B	4/2/82
2	.047 / .053	"	"	"
3	ADDED	"	"	"
4	"	"	"	"
5	"	"	"	"
6	.100	11552	L/B	4/15/82
7	.250 / .244	11593	"	6/7/82
8	* .102 / .098	11649	"	7/19/82



* REMINGTON TO MACHINE



VIEW SHOWING RELIEF NOTCHES IN WRAP SECTION

ORDER BLANK NO. 92256

AUTHORIZED
OCT 1982
Process Engineering

	91840	ROOR PLATE BASE
MODEL	PART NO.	PART USE

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
	12-3-75	J.J. Plunkett 11/4/81	11/20/81

TITLE BASE

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91840	2/1		R.A. #11581

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TFC REV 4-80 N.N.S. 10 1153

C-91843

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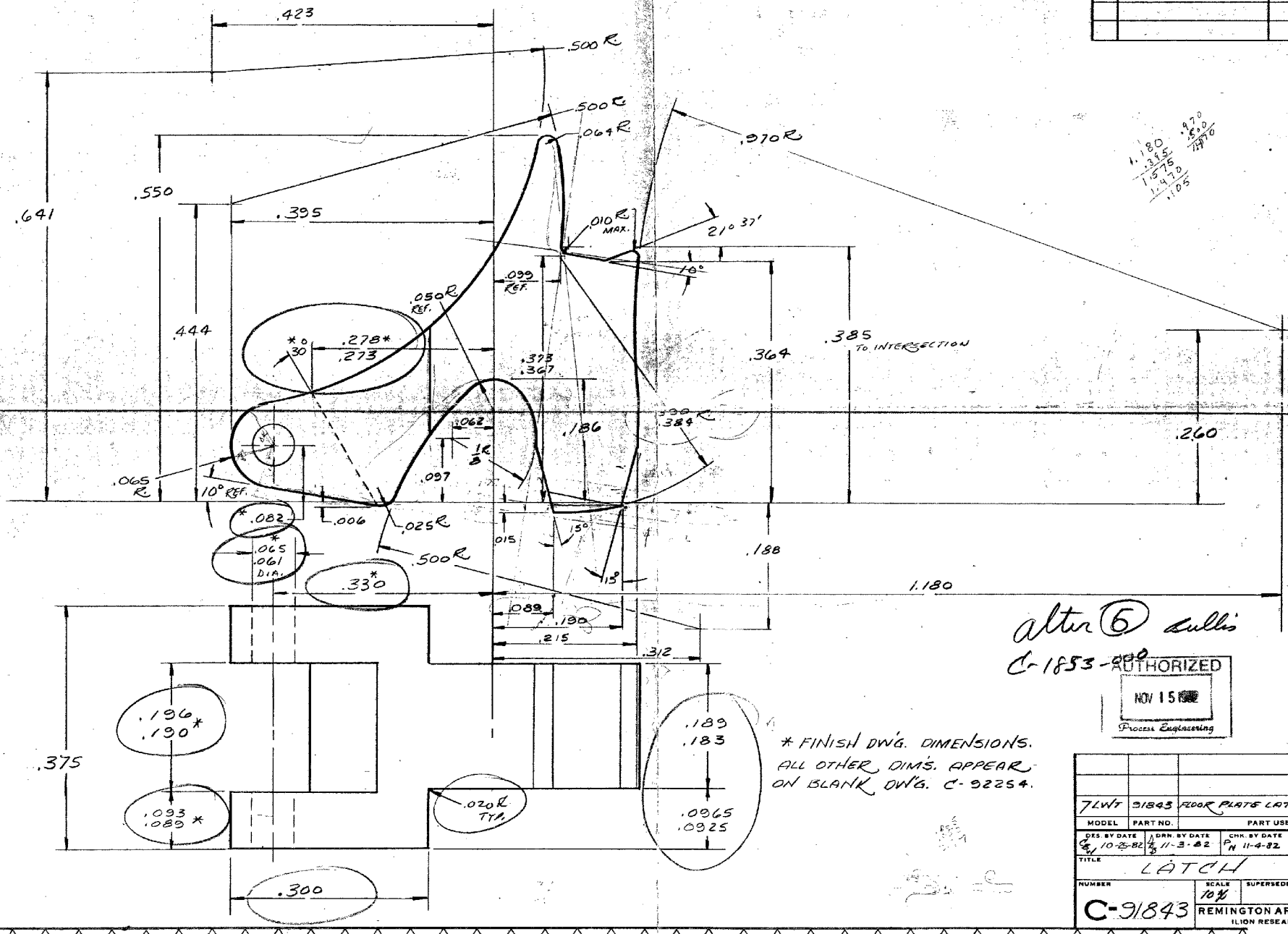
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° - 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED, FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL
HEAT TREAT
HARDNESS
COLOR BLACK OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
9	Revised & Redrawn	11641	DB	11-11-82



alter 6 sullis
C-1853-000

AUTHORIZED
NOV 15
Process Engineering

* FINISH DWG. DIMENSIONS.
ALL OTHER DIMS. APPEAR ON BLANK DWG. C-92254.

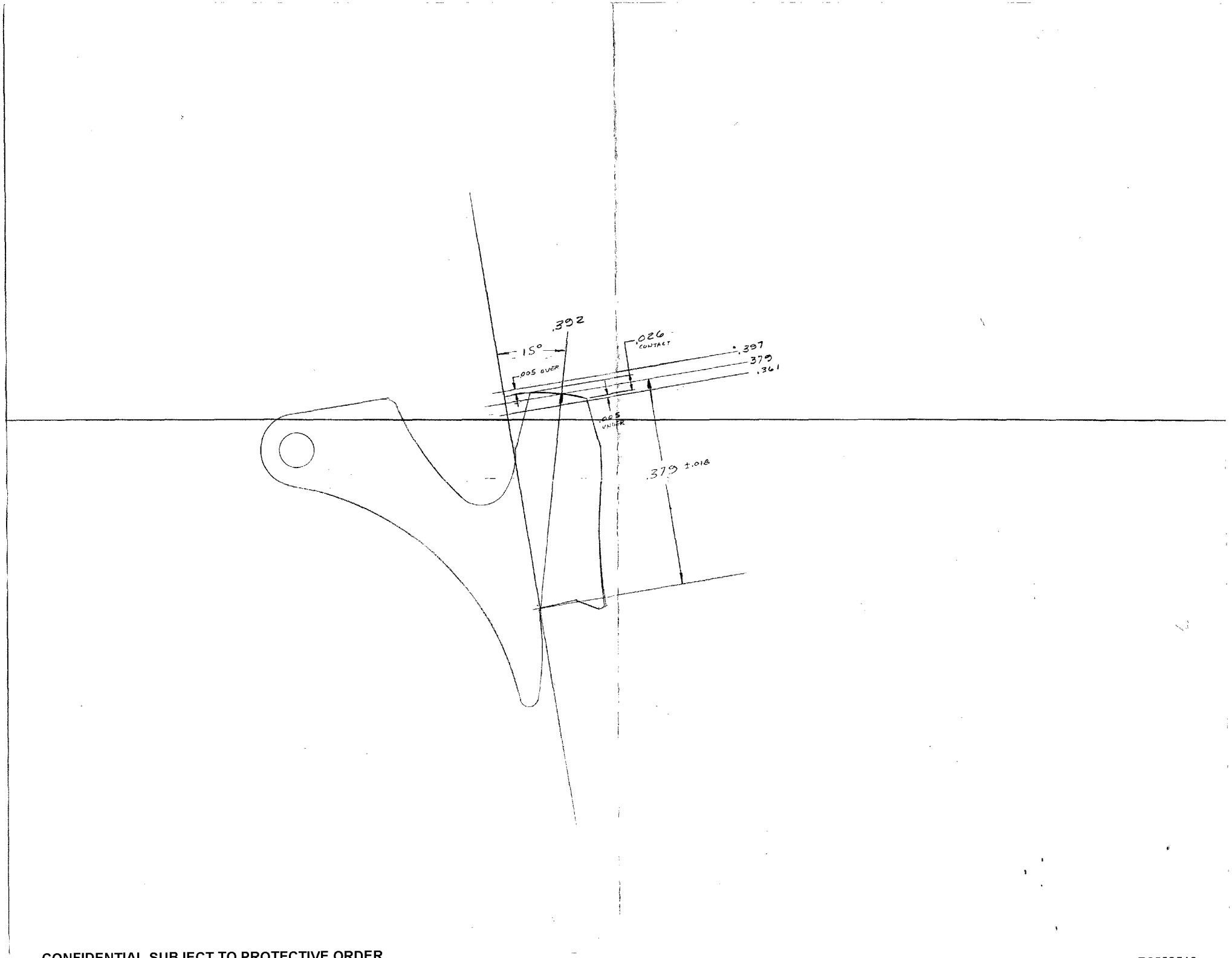
MODEL	PART NO.	PART USE
7LWT	91843	FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
10-25-82	11-3-82	11-4-82	11/8/82

TITLE LATCH

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91843	10%		

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.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15°
.026
CONTACT
.397
.379
.361
.005 OVER
.005
UNDER
.379 ±.018

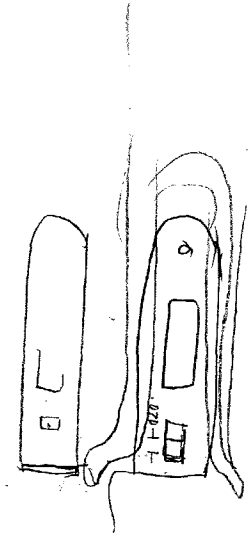
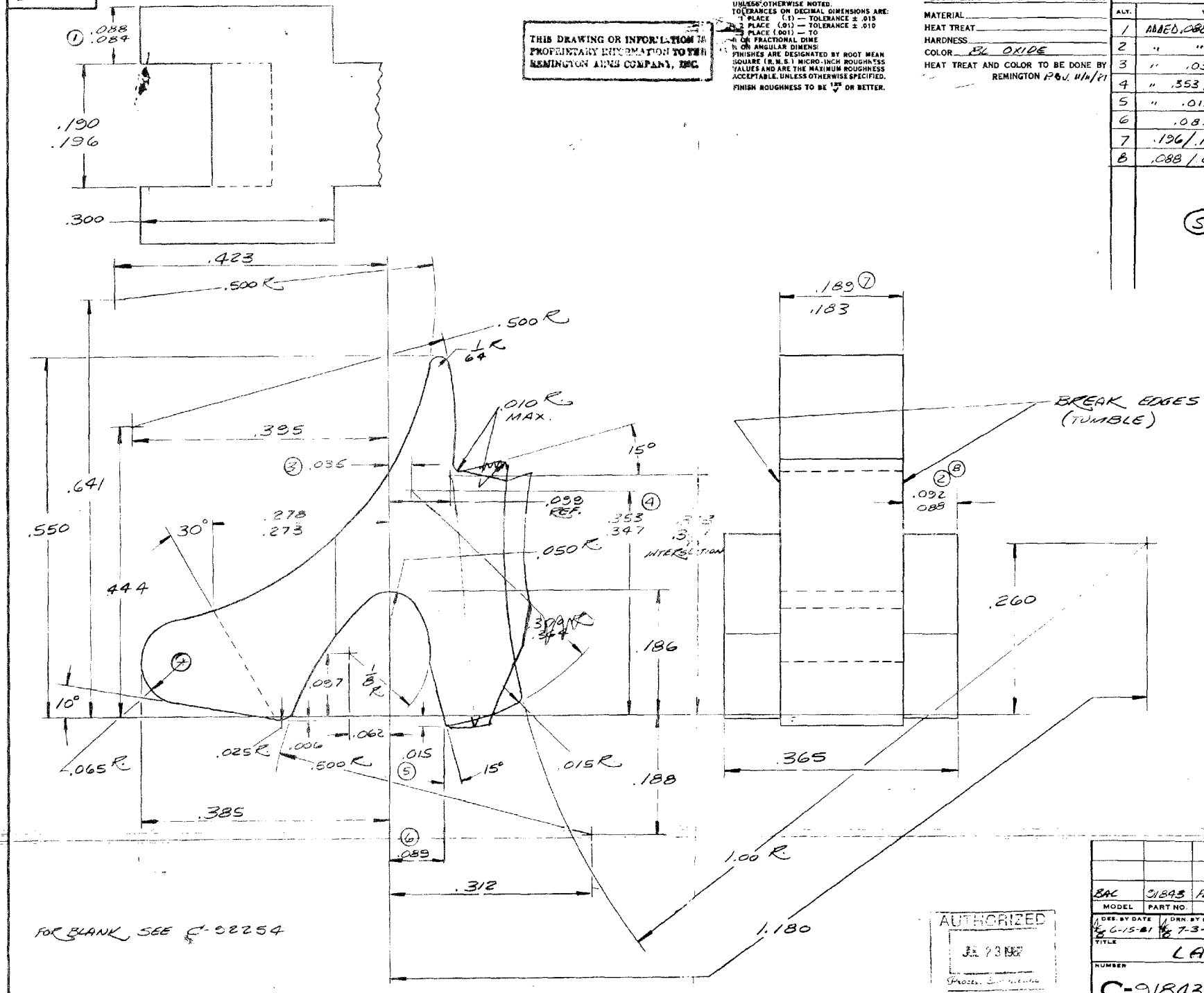


Fig 2

FORM TFC 1 REV 6-70

N.R.S. 10 1953

C-91843



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TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TO
4 OR FRACTIONAL DIME
½ ON ANGULAR DIMENS
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 ✓ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT

MATERIAL
HEAT TREAT
HARDNESS
COLOR BL OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON PBU 11/10/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	ADDED .088/.084	11530		7/4/62
2	" " "	"	"	"
3	" .035	11557	"	3/16/62
4	" .353/.347	4	"	"
5	" .015	4	"	"
6	.085	"	"	"
7	.196/.190	11606	"	7/21/62
8	.088/.084	"	"	"

5

AUTHORIZED
JUL 23 1982
Process Engineering

MODEL	PART NO.	PART USE
BAC	91843	FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
6-15-81	7-3-81	11/9/81	11/10/81

TITLE LATCH

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91843	10X		DCR #1150

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

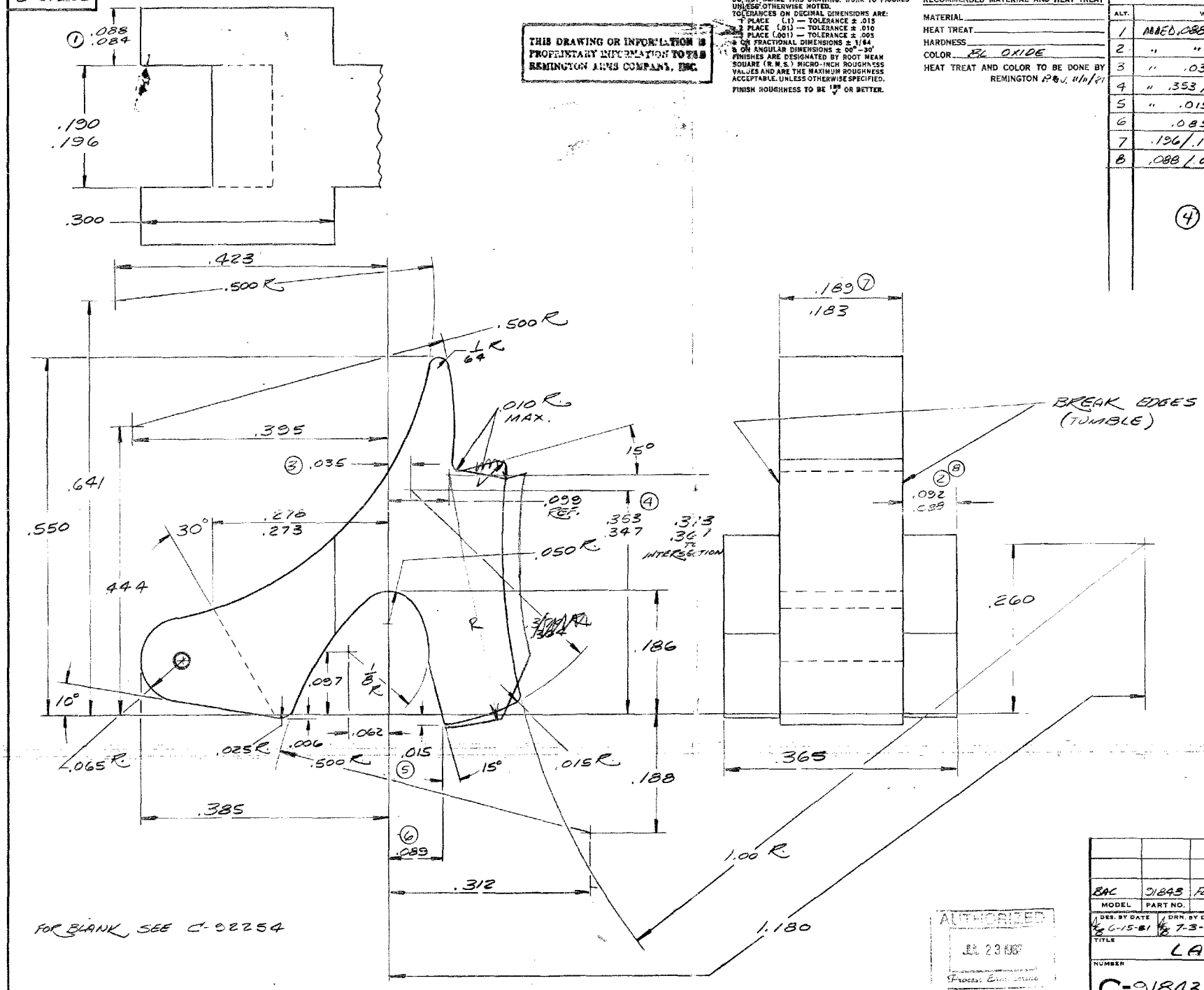
FOR BLANK SEE C-92254

R2529512

FORM TPC 1 REV 575

H.H.S. 18 1163

C-91843



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1 PLACE (.1) — TOLERANCE ± .015
2 PLACE (.01) — TOLERANCE ± .010
3 PLACE (.001) — TOLERANCE ± .005
± ON FRACTIONAL DIMENSIONS ± 1/64
± ON ANGULAR DIMENSIONS ± 00° - 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE. UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT

MATERIAL
HEAT TREAT
HARDNESS
COLOR BL OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON Rev. 11/10/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	ADDED .088/.084	11530		3/4/82
2	" " "	"	"	"
3	" .035	11557	"	3/29/82
4	" .353/.347	"	"	"
5	" .015	"	"	"
6	.085	"	"	"
7	.196/.190	11606	"	7/22/82
8	.088/.084	"	"	"

④

AUTHORIZED
JUL 23 1982
Process Eng. Service

MODEL	PART NO.	PART USE
BAC	91843	FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
6-15-81	7-3-81	11/9/81	11/20/81

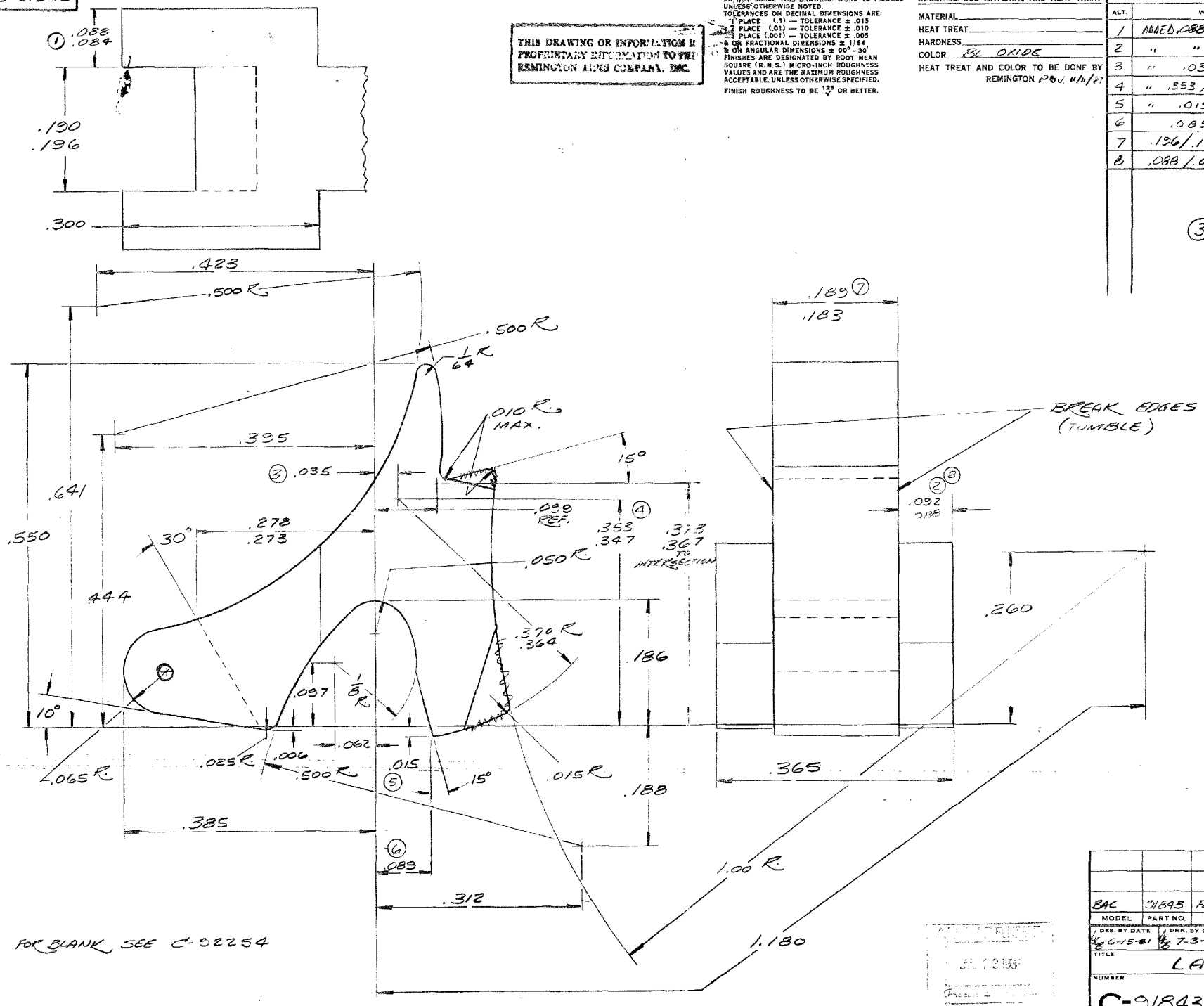
TITLE: LATCH

NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91843	10X		DCR #11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM ENG 1 REV 675 — N.N.S. 19 1953

C-91843



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± ON ANGULAR DIMENSIONS ± 00° – 30'
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FINISH ROUGHNESS TO BE 125 ✓ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL
HEAT TREAT
HARDNESS
COLOR BL OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON PBV 11/11/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	ADDED .088/.084	11530		3/4/82
2	" " "	"	"	"
3	" .035	11557	"	3/25/82
4	" .353/.347	"	"	"
5	" .015	"	"	"
6	.085	"	"	"
7	.196/.190	11606	"	3/22/82
8	.088/.084	"	"	"

③

FOR BLANK SEE C-92254

MODEL	PART NO.	PART USE
BAC	91843	FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
G 6-15-81	G 7-3-81	11/9/81	11/20/81

TITLE: LATCH

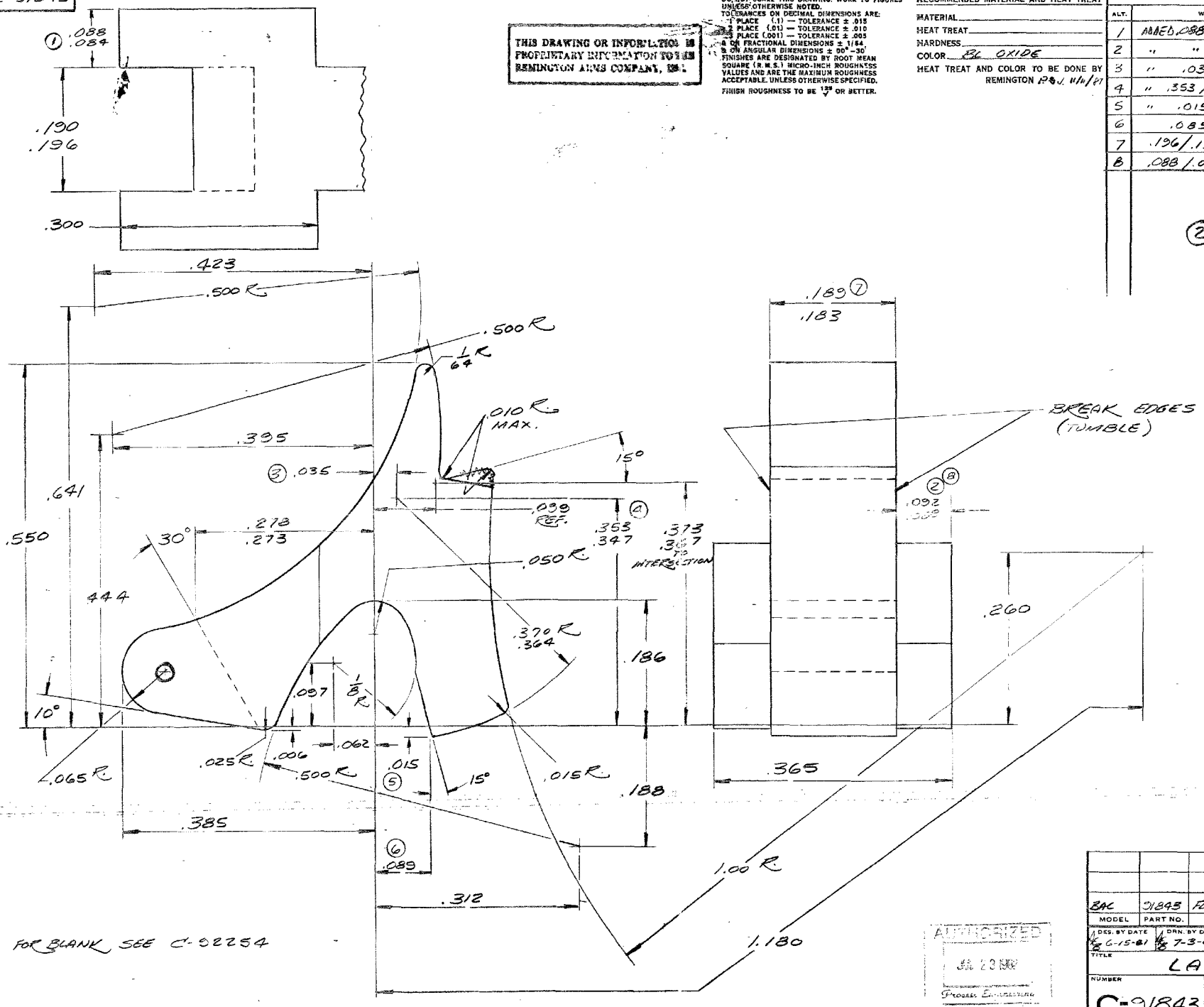
NUMBER: C-91843 — SCALE: 10X — SUPERSEDES — REFERENCE: DCR # 11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TPC 1 REV 876

R.R.S. 19 1153

C-91843



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& ON ANGULAR DIMENSIONS ± 00°-30'
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FINISH ROUGHNESS TO BE 125 OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL
HEAT TREAT
HARDNESS
COLOR BL OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON RSJ 11/11/81

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	ADDED .088/.084	11530		7/2/82
2	" " "	"	"	"
3	" .035	11557	"	3/29/82
4	" .353/.347	"	"	"
5	" .015	"	"	"
6	.085	"	"	"
7	.196/.190	11606	"	7/22/82
8	.088/.084	"	"	"

②

FOR BLANK SEE C-92254

AUTHORIZED
JUL 23 1982
Process Engineering

MODEL	PART NO.	PART USE
BAC	91843	FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
6-15-81	7-3-81	11/9/81	11/20/81

TITLE LATCH

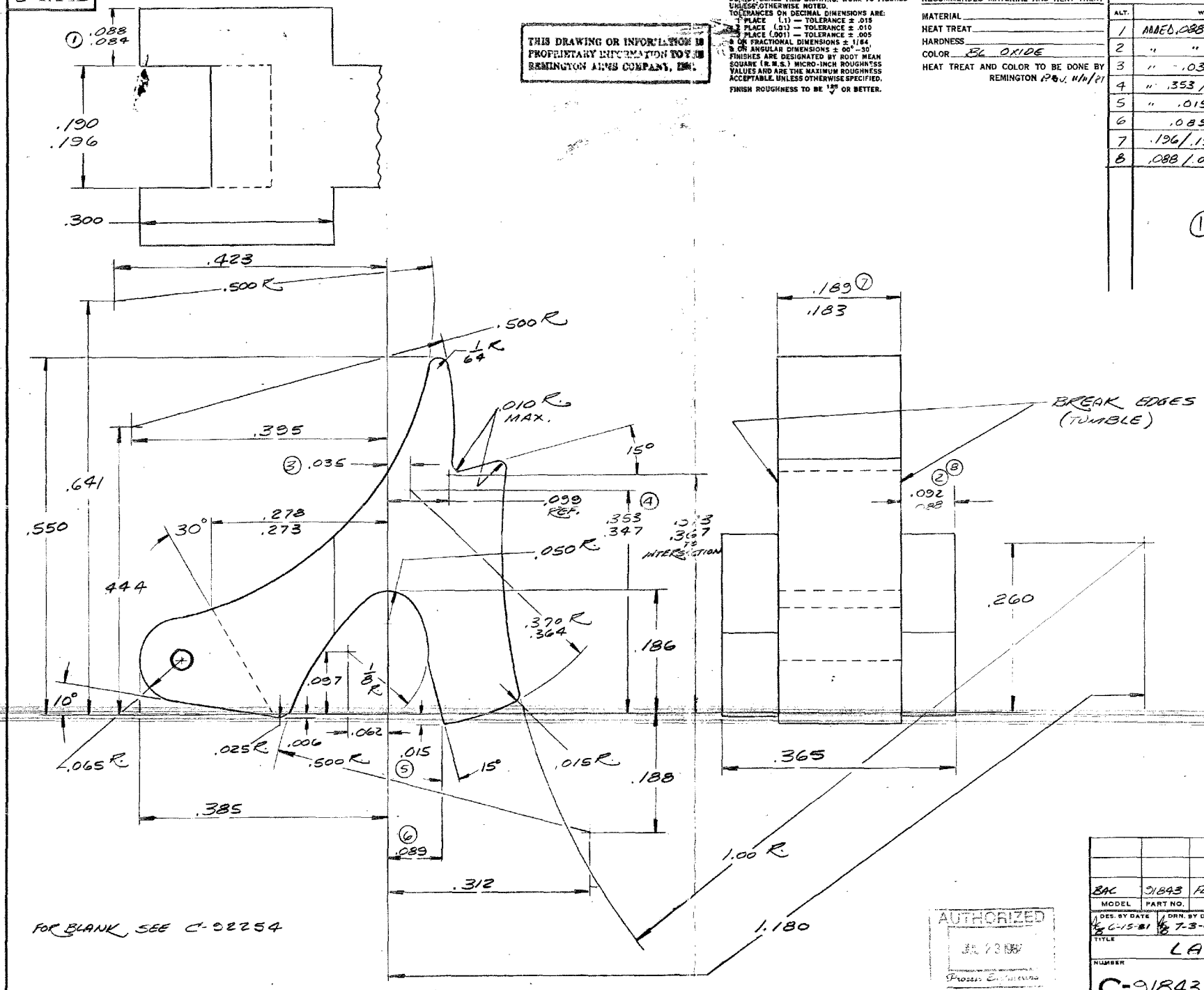
NUMBER	SCALE	SUPERSEDES	REFERENCE
C-91843	10X		DCR #11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

FORM TPC 1 REV 876

H.R.S. 10 053

C-91843



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FINISH ROUGHNESS TO BE 125/ OR BETTER.

RECOMMENDED MATERIAL AND HEAT TREAT
MATERIAL
HEAT TREAT
HARDNESS
COLOR Bc OXIDE
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALTERATIONS

ALT.	WAS	REF.	BY	DATE
1	ADDED .088/.084	11530		7/4/82
2	" " "	"	"	"
3	" .035	11557	"	7/29/82
4	" .353/.347	"	"	"
5	" .015	"	"	"
6	.085	"	"	"
7	.196/.190	11606	"	7/22/82
8	.088/.084	"	"	"

①

FOR BLANK SEE C-92254

AUTHORIZED
Process Engineering

BAC	91843	FLOOR PLATE LATCH
MODEL	PART NO.	PART USE
DES. BY DATE C-15-81	DRN. BY DATE 7-3-81	CHK. BY DATE 11/9/81
APP. BY DATE 11/20/81		

TITLE LATCH

NUMBER C-91843 | SCALE 10X | SUPERSEDES | REFERENCE DCR # 11501

REMINGTON ARMS CO. INC.
ILION RESEARCH DIV.

PREVIOUS ROUNDS

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. 308 SERIAL NO. 7600008

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL. 308 FUNCTION TEST

"MALFUNCTIONS" WEATHER CLOUDY & COOL 54°

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

HEAD SPACE MIN. .005

SUMMARY SHEET BY R. HOWE

	SHOOTER	NO. OF ROUNDS	FIRING	WAFFEED SHELL	DON'T FEED	DON'T FLY BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	RW	5																	1									
MED.	RW	5																	1									
FAST	RW	5	OK																									
R 180 PSP																												
SLOW	RE	5																								5		
MED	RE	5																								5		
FAST	RE	5																								5		
W 110 PSP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
TOTAL (PER MAL.)																												

[redacted]

WOT U-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600008

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING (HARD 4 FIR RD)	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	CD	5																	1									
MED	CD	5																	1									
FAST	CD	5																	1									
W-150 S.TIP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
W-150 P.P.																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3

DATE: 10-12-82 MODEL: M/7 LTW. CAUSE: CAL .308 SERIAL NO. 7600008

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP	RI																											
SLOW	RE	5																								4		
MED	RE	5.												2½												4		
FAST	RE	5																								5		
W-200 S.TIP																												
SLOW	HW	5																								5		
MED	HW	5																								5		
FAST	HW	5																								5		
F 150 PSP																												
SLOW	CD	5	O/K																									
MED	CD	5	O/K																									
FAST	CD	5	O/K																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 4

DATE: 10-12-82 MODEL: 7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600008

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE UPWARD	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5																	1							1		
F 165 PREM BT.																												
SLOW	RW	5																								5		
MED	RW	5																	1							5		
FAST	RW	5																								5		
TOTAL (PER MAL.)																												

WO# C 1856-000 FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 1 (2)

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. .308 SERIAL NO. 7600003

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEAD SPACE MIN +.004

SUMMARY SHEET BY R. HOWE

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	RE	5												2½														
MED.	RE	5												1½														
FAST	RE	5	OK																									
R 180 PSP																												
SLOW	HW	5																								5		
MED	HW	5																								5		
FAST	HW	5																								5		
W 110 PSP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600003 (2)

PREVIOUS ROUNDS ——

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MISFEED SERIAL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
W-150 S.TIP																												
SLOW	RW	5																								1		
MED	RW	5																								2		
FAST	RW	5	OK																									
W-150 P.P.																												
SLOW	RL	5												2½														
MED	RL	5												1 3														
FAST	RL	5												1 1														
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3 (2)

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL. 308 SERIAL NO. 7600003

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	SEALED SHELL	DON'T EJECT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHER	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	NW	5																								5		
MED	NW	5																								5		
FAST	NW	5																								5		
W-200 S.TIP																												
SLOW	CD	5																								5		
MED	CD	5																								5		
FAST	CD	5																								5		
F150 PSP																												
SLOW	DJ	5																								3		
MED	DJ	5																								1		
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 4 (2)

DATE: 10-12-82 MODEL: 7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 7600003

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	TRIGGER PULL OPENED	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	RW	5																								5		
MED	RW	5																								5		
FAST	RW	5																								5		
F 165 PREM BT.																												
SLOW	RE	5																								3		
MED	RE	5																								4		
FAST	RE	5																								5		
TOTAL (PER MAL.)																												

WO# C 1856-000 FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (3) DE NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. .308 SERIAL NO. 7600040

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

NEAD SPACE MIN +,004 SUMMARY SHEET BY R. NOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD.	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	HW	5	OK																									
MED.	HW	5																								1X		
FAST	HW	5																								1X		
R 180 PSP																												
SLOW	CD	5																								3		
MED	CD	5																								5		
FAST	CD	5																								5		
W 110 PSP																												
SLOW	DJ	5																	1									
MED	DJ	5																										
FAST	DJ	5																	1									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 'E NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600040 (3)

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING NARROW PRD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLUX PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
W-150 S.TIP																												
SLOW	RE	5	OK																									
MED	RE	5											1															
FAST	RE	5																	1									
W-150 P.P.																												
SLOW	NW	OK																										
MED	NW																											
FAST	NW	OK																								1		
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 I 3 NO. 3

(3)

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL. 308 SERIAL NO. 7600040

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING/UNLOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENS	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	CD	5																	1							5		
MED	CD	5.																	1							5		
FAST	CD	5																	1							5		
W-200 S.TIP																												
SLOW	DJ	5																								5		
MED	DJ	5																								5		
FAST	DJ	5																								5		
F 150 PSP																												
SLOW	RW	5																								1		
MED	RW	5	OK																									
FAST	RW	5	O/C																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 4

DATE: 10-12-82 MODEL: 7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 76000 40 (3)

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING WARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Floor Plate Opened	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	RE	5																	1							5		
MED	RE	5.																	1							5		
FAST	RE	5																	1							4		
F 165 PROMBT.																												
SLOW	NW	5																	1							5		
MED	NW	5																	1							5		
FAST	NW	5																	1							5		
TOTAL (PER MAL.)																												

WO# C 1856-000 FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 822811 PAGE NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 7600022 (4)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

NEED SPACE MIN + .005 SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	CD	5	OK																									
MED.	CD	5																	1							14		
FAST	CD	5	OK																									
R 180 PSP																												
SLOW	DJ	5																								2		
MED	DJ	5																								1		
FAST	DJ	5																								1		
W 110 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

WO# U-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600022 (4)

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T SLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
W-150 S.TIP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
W-150 P.P.																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3 (4)

DATE: 10-12-82 MODEL: M/7 LTW. GAUGE: CAL .308 SERIAL NO. 7600022

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST.

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAFEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Firing Plate Opens	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	DJ	5																								1		
MED	DJ	5																								1		
FAST	DJ	5	OK																									
W-200 S.TIP																												
SLOW	RW	5																								5		
MED	RW	5																								5		
FAST	RW	5																								5		
F 150 PSP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 AGE NO. 4 (4)

DATE: 10-12-82 MODEL: 7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 7600022

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRA FEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
F 165 PremBT																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

WO# C185-000 FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~: CAL. 308 SERIAL NO. 7600101 (5)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL. 308 FUNCTION TEST

"MALFUNCTIONS"

HEAD SPACE MIN +.005 SUMMARY SHEET BY R. NOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLY BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH SHELL	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	DJ	5	OK																									
MED.	DJ	5	OK																									
FAST	DJ	5	OK																									
R 180 PSP																												
SLOW	RW	5																	1									
MED	RW	5																	1									
FAST	RW	5																	1									
W 110 PSP																												
SLOW	RE	5																	1									
MED	RE	5																	1									
FAST	RE	5																	1									
TOTAL (PER MAL.)																												

WO# C-1856-100

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PM NO. 2 (5)

DATE: 10-12-82 MODEL: M/7 LTW CAL GAUGE: .308 SERIAL NO. 7600101

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAZZED SHEET	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING 1 RD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BEELPLGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	NW	5																	1									
MED	NW	5																	1									
FAST	NW	5																	1									
W-150 S.TIP																												
SLOW	CD	5												1/5					1									
MED	CD	5												1/5					1									
FAST	CD	5												1/5					1									
W-150 P.P.																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PM NO. 3

DATE: 10-12-82 MODEL: M/7 LTW. GAUGE: CAL .308 SERIAL NO. 7600101 (5)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T ECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOUR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	RW	5																	1									
MED	RW	5																	1							1		
FAST	RW	5																	1									
W-200 S.TIP																												
SLOW	RE	5												2					1							3		
MED	RE	5																	1							5		
FAST	RE	5												2					1							3		
F 150 PSP																												
SLOW	HW	5																	1									
MED	HW	5																	1									
FAST	HW	5																	1									
TOTAL (PER MAL.)																												

WO#C-1856-100

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PP NO. 4 (5)

DATE: 10-12-82 MODEL: 7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600101

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD TO	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP	[illegible]	1																										
SLOW	CD	5																	1									
MED	CD	5																	1									
FAST	CD	5																	1									
F 165 PREMBT.																												
SLOW	OD	5																	1									
MED	OD	5																	1									
FAST	OD	5																	1									
TOTAL (PER MAL.)																												

WO# C 1857-000 FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 1

(6)

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 7600139

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEAD SPACE MIN+.004

SUMMARY SHEET BY R. Howe

	SECOND	NO. OF ROUNDS	FIRING	FAILED SEARS	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENS	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	RW	5	[redacted]																1									
MED.	RW	5	OK																									
FAST	RW	5	OK																									
R 180 PSP																												
SLOW	RE	5											1													1		
MED	RE	5																								4		
FAST	RE	5											1															
W 110 PSP																												
SLOW	HW	5																	1									
MED	HW	5																	1									
FAST	HW	5																	1									
TOTAL (PER MAL.)																												

WOT C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2 (6)

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600139

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD.	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	CD	5																	1									
MED	CD	5																	1									
FAST	CD	5																	1									
W-150 S.TIP																												
SLOW	DJ	5																	1	1								
MED	DJ	5																	1									
FAST	DJ	5																	1									
W-150 P.P.																												
SLOW	RW	5																	1									
MED	RW	5																	1									
FAST	RW	5																	1									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL .308 SERIAL NO. 7600139

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST. "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T SUBMACH	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	RE	5																	1							1		
MED	RE	5.																								3		
FAST	RE	5																								4		
W-200 S.TIP																												
SLOW	NW	5																								5		
MED	NW	5																								5		
FAST	NW	5																								5		
F150 PSP																												
SLOW	CO	5																	1									
MED	CO	5																	1									
FAST	CO	5																	1									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4

DATE: 10-12-82 MODEL: 7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 2600139 (6)

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	DJ	5																								3		
MED	DJ	5																								3		
FAST	DJ	5																								3		
F 165 PremBT.																												
SLOW	RW	5																	1							5		
MED	RW	5																	1							5		
FAST	RW	5																	1							5		
TOTAL (PER MAL.)																												

WO# C 1857-000 FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. 308 SERIAL NO. 7600058

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL. 308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEADSPACE MIN +.004

SUMMARY SHEET BY R. HOWE

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOAT PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	RE	5																	1									
MED.	RE	5	OK																									
FAST	RE	5	OK																									
R 180 PSP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
W 110 PSP																												
SLOW	CD	5			1/2														1									
MED	CD	5																	1									
FAST	CD	5																	1									
TOTAL (PER MAL.)																												

WO" C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2 (7)

DATE: 10-12-82 MODEL: M/7 LTW CAL GAUGE: .308 SERIAL NO. 7600058

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SECTION	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD.	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5		1[3]																								
W-150 S.TIP																												
SLOW	RW	5	OK																									
MED	RW	5	K																									
FAST	RW	5																	1									
W-150 P.P.																												
SLOW	RE	5	OK																									
MED	RE	5												1[2]														
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3 (7)

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL. 308 SERIAL NO. 7600058

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING/HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	TRIGGER PULLS OBTAINED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
W-200 S.TIP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
F150 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

WOTC-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4 (7)

DATE: 10-12-82 MODEL: 7 LTW ~~GAUGE~~ CAL: .308 SERIAL NO. 7600058

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRIGGER SPRING	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	RW	5																	1									
MED	RW	5												13					1									
FAST	RW	5																	1									
F 165 PROMBT.																												
SLOW	RE	5																	1									
MED	RE	5																	1									
FAST	RE	5																	1									
TOTAL (PER MAL.)																												

WO# C 1856-000 FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (8) ...E NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~: CAL. 308 SERIAL NO. 7600036

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL. 308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEAD SPACE MIN +.004

SUMMARY SHEET BY R. Howe

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	HW	5	OK																									
MED.	HW	5	OK																									
FAST	HW	5	OK																									
R 180 PSP																												
SLOW	CD	5	OK																									
MED	CD	5											1															
FAST	CD	5	OK																									
W 110 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811

PAGE NO. 2 (8)

DATE: 10-12-82 MODEL: M/7 LTW CAL GAUGE: .308 SERIAL NO. 7600036

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	MALFEED SEEN	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLAKE PLATED BRASS	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
W-150 S.TIP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
W-150 P.P.																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3 (8)

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL. .308 SERIAL NO. 7600036

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL. .308 FUNCTION TEST. "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FRACTURED SHELL	DON'T FEED	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Trigger Plate Opened	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
W-200 S.TIP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
F150 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PA NO. 4 (8)

DATE: 10-12-82 MODEL: 7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600036

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD WITH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOUR PLNR OPENED	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	RE	5	OK																									
MED	RE	5.	OK																									
FAST	RE	5	OK																									
F 165 PREM BT.																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
TOTAL (PER MAL.)																												

WO# C185T-000 FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 822811 PAGE NO. 1 (9)

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. .308 SERIAL NO. 7600103

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL .308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEAD SPACE MINT. 004 SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SERIAL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD UPTO RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
R 180 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
W 110 PSP																												
SLOW	RW	5	OK																									
MED	RW	5												1														
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (9) PAGE NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600103

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOW PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	RE	5												2/3														
MED	RE	5	OK																									
FAST	RE	5	OK																									
W-150 S.TIP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
W-150 P.P.																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3 (9)

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL .308 SERIAL NO. 7600103

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY R Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FEED SHELL	DON'T ENTER	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE (PENET)	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	DJ	5	ok																									
MED	DJ	5.	ok																									
FAST	DJ	5	ok																									
W-200 S.TIP																												
SLOW	RW	5	ok																									
MED	RW	5	ok																									
FAST	RW	5	ok																									
F 150 PSP																												
SLOW	RE	5	ok																									
MED	RE	5	ok																									
FAST	RE	5	ok																									
TOTAL (PER MAL.)																												

WOT C7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811

PAGE NO. 4 (9)

DATE: 10-12-82 MODEL: 7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600103

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Front Plate Opened	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	HW	5	O/K																									
MED	HW	5	O/K																									
FAST	HW	5	OK																									
F 165 PremBT.																												
SLOW	RD	5	O/K																									
MED	RD	5	O/K																									
FAST	RD	5	O/K																									
TOTAL (PER MAL.)																												

WO# C 18-76-000 FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 1

DATE: 10-12-82 MODEL: M/7 LTW ~~GAUGE~~ CAL. 308 SERIAL NO. 7600043 (10)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL. 308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

HEADSPACE MINT. .004

SUMMARY SHEET BY R NOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAZZED SERIAL	DON'T EXTRACT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING WARD WITH RP	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Trigger Pull Pounds	MALFUNCTIONS PER	MALF. RATE PER
R 150 PSP																												
SLOW	DJ	5	OK																									
MED.	DJ	5	OK																									
FAST	DJ	5	OK																									
R 180 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
W 110 PSP																												
SLOW	RE	5																	1									
MED	RE	5																	1									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

WOT C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (10) OE NO. 2

DATE: 10-12-82 MODEL: M/7 LTW CAL GAUGE: .308 SERIAL NO. 7600043

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

M/7 CAL 308 FUNCTION TEST "MALFUNCTIONS"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAGFEED SHEET	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Flat Primed	MALFUNCTIONS PER	MALF. RATE PER
W-125 PSP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	HW	5	OK																									
W-150 S.TIP																												
SLOW	CD	5																	1									
MED	CD	5	OK																									
FAST	CD	5	OK																									
W-150 P.P.																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

WO# C-1856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3

DATE: 10-12-82 MODEL: M/7 LTW. CALIBER: CAL .308 SERIAL NO. 7600043 (1L)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL .308 FUNCTION TEST.

"MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
W-180 S.TIP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
W-200 S.TIP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
F 150 PSP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
TOTAL (PER MAL.)																												

WOT C-7856-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 4

DATE: 10-12-82 MODEL: 7 LTW CAL ~~GAUGE~~: .308 SERIAL NO. 7600043 (10)

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 CAL .308 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING HARD 4TH RD	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Fired Dropped Ejected	MALFUNCTIONS PER	MALF. RATE PER
F 180 PSP																												
SLOW	CD	5																	1									
MED	CD	5																	1									
FAST	CO	5																	1									
F 165 PremBT.																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

PREVIOUS ROUNDS _____

DATE: 10-19-82 MODEL: 7 LWT. CAL. ~~GAUGE~~: 7mm-08 SERIAL NO. (1) 2600098

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	~~[illegible]~~ EMPTY SHELL OTHERS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	HOLDLOCKS	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5										P																
FAST	RE	5	OK																									
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
TOTAL (PER MAL.)																												

[redacted]

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (1) 7600098

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SERIAL	DON'T EXTRACT	EMPTY SHELL OTHERS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. ① 7600098

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SEEMS	DON'T EJECT	EMPTY SHELL OTHERS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	HW	5	OK																							1		
MED	HW	5	OK																									
FAST	HW	5	OK																									
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600098 (1)

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SEEMS	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (2)

PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600010

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WAFFED SHELL	DON'T EXTRACT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5																						
TOTAL (PER MAL.)																												

W.O. C1890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (2)

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600010

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MISFIRED SHELL	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

W.O. C1890 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 812811 PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (2) 7600010

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	NW	5	ok																									
MED	NW	5	ok																									
FAST	NW	5	OK																									
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5																						
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 4

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (2) 7600010

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WALTERED SHELL	DON'T EJECT	EMPTY SHELL OTHRS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REGAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5	ok																									
MED	RW	5	ok																									
FAST	RW	5	ok																									
SLOW	RE	5	ok																									
MED	RE	5	ok																									
FAST	RE	5	ok																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (3) PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600094

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	MISFIRINGS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	HW	5	OK																									
MED	HW	5												1														
FAST	HW	5	OK																									
SLOW	CD	5												1 5														
MED	CD	5												1 5														
FAST	CD	5												1 5														
SLOW	DJ	5												1 5														
MED	DJ	5												1 5														
FAST	DJ	5												1 5														
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPRT NO.: 822811 (3) PAGE NO. 2

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 2600094

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T EXTRACT	EMPTY SHELL OFTEN'S RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5												1/4														
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5								1/5																		
MED	RE	5								1/5																		
FAST	RE	5	OK																									
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 3

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 (3) SERIAL NO. 2600094

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WALFRED SERIES	DON'T ENTER	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5																						
SLOW	DJ	5												5														
MED	DJ	5												5														
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

W.O. C78-0000

FIELD CYCLE TEST - CENTERFIRE

REPRT NO.: 822811 PAGE NO. 4

DATE: 10-19-82 MODEL: 7 LWT. CAL. ~~GAUGE~~: 7mm-08 (3) SERIAL NO. 7600094

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5	OK																									
MED	RE	5								1/5																		
FAST	RE	5	OK																									
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O. 67890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (4) PAGE NO. 1

PREVIOUS ROUNDS: ____

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600133

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	EMPTY SHELL OTHERS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	HEAVY BOLT LIFT POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5					2 4/5																	
SLOW	DJ	5	ok																									
MED	DJ	5	ok																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (4)

PREVIOUS ROUNDS: ____

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600133

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 LWT 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T EXTRACT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER SHOULDER NBL	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5	OK																									
MED	RE	5									15									13								
FAST	RE	5	OK																									
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5																						
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600133 (4)

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SERIAL	DON'T EXTRACT	EMPTY SHELL CASES RETD	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

W.O. C1896 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (4) PAGE NO. 4

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600133

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEARS	DON'T ENGAGE	EMPTY SHELL OPENS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHT	STEM CHAMBER LOWT.	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T DISENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	NW	5	ok																									
MED	NW	5	ok																									
FAST	NW	5	OK																									
SLOW	CD	5				5																						
MED	CD	5	OK																									
FAST	CD	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600137 (5)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SECURE	NO. OF ROUNDS FIRED	FIRING	WAS FIRED SECURE	DON'T EJECT	EMPTY SHELL OPENS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5																								1		
SLOW	RW	5																								1		
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600137 (5)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE HBL	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHT	STEM CHAMBER LOWT.	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5																								1		
SLOW	CD	5				5					3 13/15																	
MED	CD	5				5					5 1/4																	
FAST	CD	5				5					5 1/4																	
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

(5)

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600137

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T FIRE	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5																								1		
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5																								1		
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4

(5)

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600137

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	EMPTY SHELL CATCHES RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE HBL	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T DISTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5				5					5																	
MED	CD	5				5					5															1		
FAST	CD	5				5					5																	
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (6) PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600081

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SECONDS	NO. OF ROUNDS FIRED	FIRING	WEAPON SERIAL	DON'T ENTER	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5																								5		
MED	RW	5																								5		
FAST	RW	5																								5		
SLOW	RE	5																								1		
MED	RE	5																								1		
FAST	RE	5																								5		
SLOW	HW	5																								2		
MED	HW	5																								5		
FAST	HW	5																								5		
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (6) PAGE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600081

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAZZED SHELL	DON'T EXTRACT	EMPTY SHELL OTHERS RET	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REPLACES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP	~~CD~~	7																										
SLOW	CD	5																								5		
MED	CD	5																								5		
FAST	CD	5																								5		
SLOW	DJ	5																								5		
MED	DJ	5																								3		
FAST	DJ	5																								2		
SLOW	RW	5																								5		
MED	RW	5																								3		
FAST	RW	5																								5		
TOTAL (PER MAL.)																												

C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 6 7600081

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5																								4		
MED	RE	5																								3		
FAST	RE	5																								5		
SLOW	HW	5																								5		
MED	HW	5																								5		
FAST	HW	5																								5		
SLOW	CD	5																								5		
MED	CD	5																								5		
FAST	CD	5																								5		
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (6) PAGE NO. 4

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600081

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAPPED SEARS	DON'T ENGAGE	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5																								5		
MED	DJ	5																								5		
FAST	DJ	5																								5		
SLOW	RW	5																								5		
MED	RW	5																								5		
FAST	RW	5																								5		
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 (7) SERIAL NO. 7600080

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SECURE	NO. OF ROUNDS FIRED	FIRING	WAS FIRED SEMI	DON'T EJECT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER CHAMBER 2 RED	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	4	[redacted]								1																	
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
SLOW	CD	5				5																						
MED	CD	5				5																						
FAST	CD	5				5																						
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (7) 7600080

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	[redacted]	DON'T EXTRACT	[redacted] EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7896 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (7) 7600080

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MISFIRED SHELL	DON'T EXTRACT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
SLOW	CD	5	OK																									
MED	CD	5																										
FAST	CD	5	OK																							1		
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7890 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4

(7)

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600080

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	[redacted]	DON'T [redacted]	[redacted] EMPTY SHELL CATCHES RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHER	STEM CHAMBER LOWER	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T [redacted]	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O. C-7850 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (8) 600148

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WAFFED SHELL	DON'T EJECT	EMPTY SHELL ONLY RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7836 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 2

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (8) 7600148

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SECONDS	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7850 000

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (8) 7600148

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MISFIRED SHELL	DON'T EXTRACT	EMPTY SHELL OFTENS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 PAGE NO. 4

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600148 (8)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SERIAL	DON'T LATCH	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O. C 785 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (9) RE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL. ~~GAUGE~~: 7mm-08 SERIAL NO. 7600130

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SERIAL	DON'T EJECT	EMPTY SHELL OTHER REC	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE LIGHT BOLT	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
SLOW	DT	5	OK																									
MED	DT	5	OK																									
FAST	DT	5	OK																									
SLOW	RW	4									N																	
MED	RW	5	OK																									
FAST	RW	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (9) TE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 7600130

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MATERIAL SHEET	DON'T EXTRACT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RE	5									1/2																	
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	NW	5	OK																									
MED	NW	5	OK																									
FAST	NW	5	OK																									
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
TOTAL (PER MAL.)																												

W.O. C78: 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 JE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. (9) 7600130

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRIGGER SEEMS	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER CHAMBERING LIGHT BLOW	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BRIDGES	ADJUSTMENTS	BREAKAGES	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5	OK																									
MED	DJ	5	OK																									
FAST	DJ	5	OK																									
SLOW	RW	5	OK																									
MED	RW	5	OK																									
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5																		13								
FAST	RE	5								[redacted]	12																	
TOTAL (PER MAL.)																												

W.O. C78. 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 UE NO. 4

PREVIOUS ROUNDS

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 9 7600130

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FEED SERIES	DON'T EJECT	EMPTY SHELL OTHER RD	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	HW	5	OK																									
MED	HW	5	OK																									
FAST	HW	5	OK																									
SLOW	CD	5	OK																									
MED	CD	5	OK																									
FAST	CD	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

W.O.: C-1836-000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 PAGE NO. 1

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 #10 SERIAL NO. 2600144

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. Howe	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SERIAL	DON'T EJECT	EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	DJ	5																				2 1/4						
MED	DJ	5			1/4																							
FAST	DJ	5	OK																									
SLOW	RW	5																				3 3/4						
MED	RW	5																				2 3/4						
FAST	RW	5	OK																									
SLOW	RE	5																				2 1/2						
MED	RE	5																				3 3/4						
FAST	RE	5																				4 3/4						
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (#70) PAGE NO. 2

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7MM-08 SERIAL NO. C 2600144

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FEEDING	WAS FEED SMOOTH	DON'T EJECT	EMPTY SHELL OTHERS RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	MAG. LOADS HARD POWER OVERRIDE WITH	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	HW	5																										
MED	HW	5																				1 2						
FAST	HW	5																				2 3/4						
SLOW	CD	5									1											3 1/4						
MED	CD	5									1											2 2/5						
FAST	CD	5									1											3 2/3						
SLOW	CJ	5																				2 3/8						
MED	CJ	5																				1 1/4						
FAST	CJ	5	OK																									
TOTAL (PER MAL.)																												

W.O. C7856 000

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822811 (#10) (L) PAGE NO. 3

DATE: 10-19-82 MODEL: 7 LWT. CAL. ~~GAUGE~~: 7mm-08 SERIAL NO. 7600144

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SEMI	DON'T EJECT	~~[illegible]~~ EMPTY SHELL OTHER RED	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	MALF. RATE PER
R140 PSP																												
SLOW	RW	5																				1 3/4						
MED	RW	5																				1 1/2						
FAST	RW	5	OK																									
SLOW	RE	5	OK																									
MED	RE	5	OK																									
FAST	RE	5	OK																									
SLOW	NW	5																				2 3/4						
MED	NW	5																				3 2/3/4						
FAST	NW	5																				3 2/3/4						
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822811 (#10) (1) PAGE NO. 4

DATE: 10-19-82 MODEL: 7 LWT. CAL.: 7mm-08 SERIAL NO. 1600144

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT. 7MM-08 FUNCTION TEST "MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SHOOTER	NO. OF ROUNDS FIRED	FEEDING	FAILED TO EXTRACT	DON'T EJECT	EMPTY SHELL OTHER REC	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	FLOOR PLATE OPENED	MALFUNCTIONS PER	HALF. RATE PER
R140 PSP																												
SLOW	CD	5																				1/4						
MED	CD	5																				1/3						
FAST	CD	5																				1/5						
SLOW	DJ	5	OK																									
MED	DJ	5																				1/2						
FAST	DJ	5	OK																									
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

PREVIOUS ROUNDS: ____

DATE: [illegible] MODEL: V LTW GAUGE: 308 SERIAL NO. ____

TEST TITLE: [illegible]

m/7 cal 308 Function Test

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SELECTOR	NO. OF ROUNDS FIRED	FEEDING	WALTZED SERIAL	DON'T ENGAGE	DON'T SLIP BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SERIAL STEPS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SERIAL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION FLAG UP	DON'T FORWARD	REPLACES	ADJUSTMENTS	REPLACEMENTS	BOLT VARIOUS	REMARKS (ON BAC	YES
SERIAL 1620043																												
W 110 GR S	RE	5	ok																									
F	RE	5																									OK	
W 200 GR S	RE	5																										
F	RE	5																										
SE 2610103 S	RE	5	ok																									
W 110 GR F	RE	5	ok																									
W 200 GR S	RE	5	ok																									
F	RE	5	ok																									
TOTAL (PER MAL.)																												

REMARKS

① SMALL STEMS [illegible] - CANNOT LOAD [illegible] IN MAGAZINE AT TIME
BENT TAB [illegible] ON MAG FOLLOWER (10 WORK OF 10 BULLETS) - FLIPPED OUT [illegible] DOES NOT
WORK OK

DIAGRAMS (IF NEEDED)

JACK ENDURANCE CENTERFIRE

REPORT NO.: 822811 PAGE NO. 2

DATE: 10-12-82 MODEL: 7 ETW GAUGE: 308 SERIAL NO.

PREVIOUS ROUNDS

TEST TITLE: [illegible]

M/7 CAL. 308 FUNCTION TEST

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	CASED SHELL	DON'T EXTRACT	DON'T EJECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEPS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER FIRE	STEM CHAMBER EJECT	STEM CHAMBER FIRE	STEM CHAMBER EJECT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BLKG UP	DON'T COMPACT	REMARKS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITY	REMARKS (ON BACK) YES	NO
SER# 7600036																												
W 110 GR S	RS	5	OK																									
F	RS	5	OK																									
W 200 GR S	RS	5	OK																									
F	RS	5	OK																									
SER# 7600008																												
W 110 GR S	RS	5	OK																									
F	RS	5	OK																									
W 200 GR S	RS	5	OK																									
F	RS	5	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

JACK ENDURANCE CENTERFIRE

REPORT NO.: 822811 PAGE NO. 5

DATE: 10-10-82 MODEL: 721W GAUGE: 308 SERIAL NO.

PREVIOUS ROUNDS

TEST TITLE: [illegible] FALLOWS [illegible] AMMO

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 CAL 308 FUNCTION TEST

"MALFUNCTIONS"

AMMUNITION Load Size	SELECTOR	NO. OF ROUNDS FIRED	FIRING	TRIGGER SPRING	DON'T ENGAGE	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER EDGE	STEM CHAMBER LOW	STEM CHAMBER EDGE	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION ENG UP	DON'T EXTRACT	RELEASES	AUTOMATICS	SHORT STROKE	SCHMOCKER TIDE	REMARKS (ON BACK) TEO	NO
SF 1600040																												
W110 64 S	NE	5	ok																									
F	NE	5																									2	
W 110 64 S	NE	5																									2x	
F	NE	5	ok																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

10-15-82

RIFLE #			
10	043 -	5 1/4 # - 5 #	0
9	103 -	4 1/2 #, 4 1/2 #	0
8	0036	4 1/4 #,	0
7	0058	4 #	0
6	0139	4 3/4 #	52
5	0101	4 1/4 #	12
X	010	4 1/2 # — 7mm-08- C.B.W. rifle	
4	022 -	4 # nice & free	22
3	040	4 #	76
2	003	3 # - 3 1/4 # good latch	79
1	008	3 3/4 # good latch	59

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600008 RIFLE # 1

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	2.75	2.50	2.25	7.50	2.50
1 " " "	2.50	2.25	2.00	6.75	2.25
2 " " "	2.50	2.50	2.25	7.25	2.42
3 " " "	2.25	2.75	2.25	7.25	2.42
4 " " "	2.50	2.25	2.50	7.25	2.42
			AVG.	7.20	2.40

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600098 = RIFLE # 1

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	1.75	2.00	2.00	5.75	1.92
1 " " "	1.75	1.75	1.75	5.25	1.75
2 " " "	2.00	1.75	1.75	5.50	1.83
3 " " "	1.75	1.50	1.75	5.00	1.67
4 " " "	1.75	1.75	1.50	5.00	1.67
			AVG	5.30	1.76

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600003 RIFLE # 2

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	2.50	2.25	2.25	7.00	2.33
1 " " "	1.75	2.00	2.25	6.00	2.00
2 " " "	2.25	2.25	2.00	6.50	[illegible]
3 " " "	2.25	2.50	2.25	7.00	2.33
4 " " "	2.50	2.50	2.50	7.50	2.50
			AVG.	6.80	2.27

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600010 = RIFLE # 2

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	3.00	3.25	3.50	9.75	3.25
1 " " "	2.25	2.50	2.75	7.50	2.50
2 " " "	2.50	2.75	2.75	8.00	2.67
3 " " "	2.50	2.75	2.50	7.75	2.58
4 " " "	2.25	2.25	2.50	7.00	2.33
			AVG.	8.00	2.67

Return latch by hand

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600040 RIFLE # 3

FLOOR PLATE LATCH RELEASE FORCE LBS.

1. 0 RDS IN MAG.
1 " " "
2 " " "
3 " " "
4 " " "

1	2	3	TOTAL	AVG.
3.00	2.50	2.50	8.00	2.67
2.25	2.25	2.50	7.00	2.33
2.50	2.25	2.25	7.00	2.33
2.50	2.25	2.25	7.00	2.33
3.00	3.00	2.50	8.50	2.83
		AVG.	7.50	2.50

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600094 = RIFLE # 3

FLOOR PLATE LATCH RELEASE FORCE LBS.

1. 0 RDS. IN MAG
1 " " "
2 " " "
3 " " "
4 " " "

1	2	3	TOTAL	AVG.
2.25	2.25	2.00	6.50	2.16
2.25	2.50	2.25	7.00	2.33
2.25	2.00	2.25	6.50	2.16
2.25	2.25	2.25	6.75	2.25
2.00	2.00	2.25	6.25	2.08
		AVG.	6.60	2.20

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600022 RIFLE # 4

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	2.25	2.25	2.25	6.75	2.25
1 " " "	2.50	2.50	2.25	7.25	2.42
2 " " "	2.50	2.25	2.25	7.00	2.33
3 " " "	2.75	2.50	2.25	7.50	2.50
4 " " "	2.50	2.50	2.25	7.25	2.42
		AVG		7.15	2.38

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600133 = RIFLE # 4

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	2.25	2.00	2.50	6.75	2.25
1 " " "	2.00	1.75	2.50	6.25	2.08
2 " " "	2.25	2.75	1.75	6.75	2.25
3 " " "	2.00	2.25	1.75	6.00	2.00
4 " " "	1.75	1.75	1.75	5.25	1.75
			AVG.	6.20	2.07

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600101 RIFLE # 5

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG
1. 0 RDS IN MAG.	2.75	2.75	2.75	8.25	2.75
1 " " "	2.75	2.50	2.75	8.00	2.66
2 " " "	2.50	2.50	2.50	7.50	2.50
3 " " "	2.75	2.50	2.50	7.75	2.58
4 " " "	2.25	3.25	2.75	8.25	2.75
			AVG	7.95	2.65

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600137 = RIFLE # 5

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG
1. 0 RDS. IN MAG	2.25	2.50	3.00	7.75	2.58
1 " " "	2.50	2.25	2.00	6.75	2.25
2 " " "	2.50	2.25	2.50	7.25	2.42
3 " " "	2.25	2.75	2.50	7.50	2.50
4 " " "	2.50	2.75	2.75	8.00	2.67
			AVG.	7.45	2.48

W.O. # C-1856000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600139 RIFLE # 6

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	4.0	3.50	3.5	11.00	3.66
1 " " "	3.50	3.25	3.25	10.00	3.33
2 " " "	3.25	3.25	3.50	10.00	3.33
3 " " "	3.00	3.5	3.00	9.50	3.16
4 " " "	2.75	3.25	3.25	9.25	3.08
			AVG	9.95	3.32

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600081 RIFLE # 6

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	2.00	2.00	1.75	5.75	1.92
1 " " "	2.50	2.00	2.00	6.50	2.16
2 " " "	1.75	2.00	1.75	5.50	1.83
3 " " "	2.00	2.00	2.00	6.00	2.00
4 " " "	2.25	2.00	2.00	6.25	2.08
			AVG.	6.00	2.00

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600058 RIFLE # 7

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	2.75	2.75	2.50	8.00	2.67
1 " " "	2.50	2.75	3.00	8.25	2.75
2 " " "	2.50	2.75	2.50	7.75	2.58
3 " " "	2.25	2.50	2.50	7.25	2.42
4 " " "	2.25	2.25	2.50	7.00	2.33

Return latch by hand

AVG → 7.65 2.55

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600080 = RIFLE # 7

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	2.25	2.00	2.25	6.50	2.16
1 " " "	1.75	1.75	2.00	5.50	1.83
2 " " "	2.25	1.75	1.75	5.75	1.92
3 " " "	2.00	2.25	1.75	6.00	2.00
4 " " "	1.50	1.75	2.00	5.25	1.75

AVG 5.80 1.93

W.O. # C-1856-000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600036 RIFLE # 8

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	4.00	3.75	3.50	11.25	3.75
1 " " "	3.25	3.00	3.25	9.50	3.16
2 " " "	3.50	3.25	3.25	10.00	3.33
3 " " "	3.50	3.25	3.00	9.75	3.25
4 " " "	2.50	2.75	3.50	8.75	2.92

Return latch by hand

AVG 9.85 3.28

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600148 = RIFLE # 8

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	2.00	2.50	2.50	7.00	2.50
1 " " "	2.25	2.25	2.00	6.50	2.16
2 " " "	1.75	2.00	1.75	5.50	1.83
3 " " "	2.00	2.25	2.25	6.50	2.16
4 " " "	2.25	3.00	2.25	7.50	2.50

AVG. 6.60 2.20

W.O. # C-1856-000 REPORT -- 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600103 RIFLE # 9

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	4.25	4.25	4.00	12.50	4.16
1 " " "	3.50	3.75	4.00	11.25	3.75
2 " " "	4.75	4.25	3.50	12.50	4.16
3 " " "	3.75	3.75	4.00	11.50	3.83
4 " " "	3.25	3.50	3.00	9.75	3.25

Return latch by hand

AVG. 11.50 3.83

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600130 = RIFLE # 9

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	2.50	2.50	2.25	7.25	2.41
1 " " "	1.75	2.25	2.25	6.25	2.08
2 " " "	1.75	1.75	1.75	5.25	1.75
3 " " "	2.25	2.50	2.25	7.00	2.33
4 " " "	1.50	2.25	1.75	5.5	1.83

AVG. 6.25 2.08

W.O. # C-1856000 REPORT # 822811

10-18-82

M/7 CAL. .308 FLOOR PLATE LATCH EVAL.

SER# 7600043 RIFLE # 10

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS IN MAG.	3.50	3.50	4.00	11.00	3.67
1 " " "	3.00	3.25	3.25	9.50	3.16
2 " " "	3.50	3.50	3.25	10.25	3.42
3 " " "	3.50	3.00	3.00	9.50	3.16
4 " " "	3.50	3.50	3.00	10.00	3.33

Return latch by hand

AVG 10.05 3.35

M/7 CAL 7MM-08 FLOOR PLATE LATCH EVAL.

SER# 7600144 RIFLE # 10

FLOOR PLATE LATCH RELEASE FORCE LBS.

	1	2	3	TOTAL	AVG.
1. 0 RDS. IN MAG	3.50	3.25	3.50	10.0	3.33
1 " " "	3.00	3.00	3.50	9.5	3.16
2 " " "	3.00	3.00	3.00	9.0	3.00
3 " " "	2.75	3.25	3.75	9.75	3.25
4 " " "	2.75	2.50	3.25	8.5	2.83

Return latch by hand

AVG. 9.35 3.11

MODEL SEVEN

DUPONT **RECORDS CONTROL SCHEDULE**

RECORDS CATEGORY OR TITLE: Model Seven

COPY "O" (OFFICIAL) ☐ "X" (EXTRA) ☒

TOTAL RETENTION: life of Company

GS 11050 Rev 8/78

RD-40 REV. 6-68

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

Recvd for Jan 25th JAN 18 1983

cc: C. A. Riley
R. J. Long
J. P. Linde
G. D. Campbell

File w/ Marketing/Prod Planning

Bridgeport, Connecticut
January 13, 1983

John w/ file

[redacted]

TO: P. J. MEYER

FROM: W. H. FORSON, JR.

SUBJECT: REVISION TO MODEL SEVEN FORECAST

Total Company orders for the Model Seven are approaching 5,000, which is sufficient to recognize trends that differ from the original forecast. Based on an analysis of orders to date, please implement the following revised forecast.

Caliber	DEMAND Quantity	ORIG. DEMAND	PRODUCTION ORIG SCH'D	PRODUCTION REV SCH'D
222	3,600	5000	5600	
243	10,000	11500	16,240	
6mm	2,400	1800	1800	
7mm-08	3,200	4500	5500	
308	9,300	5700	8500	
TOTAL	28,500	28,500	37,640	

John: Please fill in revised schedule for me. I know we've cut 1st run of 7mm-08 to 2,000
WH 1/18

Bill

WHF:daf

Setup file M/7
(File cabinet - "model")

PART NAME: FINAL ASSEMBLY
TYPE: LEVEL 1 COMPONENTS
COOLANT: 10M
SET UP TIME: 15099
MACH. HRS.
MACHINE
MODEL No.: SEVEN LWT
DEPT. No.: 61
OPER. No.
PAGE 1 OF 4

COMPONENTS		CP.BS 26 & 27		STATUS		
BARREL ASSY COMPLETE	PART NUMBERS					
308 WIN.	21460	—				
6 MM REM	21461	—				
243 WIN #34992	21462	346				
7MM-08	21463	—				
222 REM	21464	—				
FRONT GUARD SCREW	22037	10413	(ON FLOOR)			
FIRING PIN ASSEMBLY	28601	235				
* BOLT STOP	15412	0		F52449-3000 - IN PURCHASE PARTS		
BOLT STOP PIN	24484	23366	(ON FLOOR)			
BOLT STOP SPRING	15413	5467	(ON FLOOR)			
MAGAZINE						
308 WIN, 6MM-243-7MM-08	16715	9753				
222	16716	—				
* MAGAZINE FOLLOWER						
.308-.6MM-.243-.7MM-08	92455	0	+	F52079-500 - IN PURCHASE PARTS		
.222	92157	—				
MAGAZINE SPACER .222	15286	—				
MAGAZINE SPRING						
308-6MM-243-7MM-08 (SMG)	17891	0	1300 Avail	4800	SHIPPED	11/17
.222 (17N)	91905	—				
REAR GUARD SCREW	91881	1509				
RECEIVER PLUG SCREW (3)	17034	184000				
REAR SIGHT BASE SCREW (2)	28505	62974	(ON FLOOR)			--
REAR PIN	24476	10184	(ON FLOOR)			
STOCK ASSEMBLY 92466	100010	0		F41177-256	DUE 11/22	
SWIVEL ASSEMBLY (2)	26555	11680	(ON FLOOR)			
SWIVEL SCREW FRONT	15358	26575	(ON FLOOR)			
SWIVEL SCREW REAR	15359	"	"			
TRIGGER ASSEMBLY	92458	0		F52267-244	DUE 11/22	
TRIGGER GUARD	91951	793				
* FLOOR PLATE BASE ASSY	91850	0		F52784-3	DUE 11/22	(FLOOR PLATE BASE BLA 492256-4570 REQD-3/8)
* FLOOR PLATE COVER ASSY	91842	0	100	F52248-489	DUE 11/18	
~~FLOOR PLATE LATCH~~	~~91843~~	0		DUE	FROM P.M.	12/10
~~FLOOR PLATE LATCH SPRING~~	~~91848~~	0		10,000	LOST ON PLANT	(CAME IN #92250)
* FLOOR PLATE PAD	92450	0		DUE	FROM	P.M. 11/24
FLOOR PLATE PIVOT PIN	16451	11050	(ON FLOOR)			
BOLT ASSY (308, 6mm, 243)	84970	0	30 +	F21560 F21562	OVER DUE-678 pc.	NEED PART BODY ASSY
FRONT SIGHT RAMP	92081	0	* to	DUE	FROM	P.M. 11/13
FRONT SIGHT RAMP SCREW	92084	7258				
Floor Plate latch & spr. screw						

REMARKS

DATES AND REASONS FOR REVISIONS & C.C. - * - MM. X - 28797

FINAL PILOT

R Stong
11-22-82

M/7 ORIG Dec Schedule 60/day x 16 days = 960

Month end was chg'd adding 2 days to December
(Shouldn't affect our total prod plan for December)

For start-up assembly [Scheduled Mon 11-29-82]
we are lacking:

#15412 (adm) Bolt Stop (need cell H/T - wrong matl) - will be ready 11-29
92455(2) 92428(5) 7 day Mag Collum (hold at PP Insp) - " " "
#17891 0 day Mag Spg [due from vendor 11-17] " " "
STK Assy (256 o'due) - " " "
TRIG Assy (244 o'due) - " " "
F.P Cover Assy (489 in process) - " " "
FP Latch (P/M - due 12/10)
FP Pad (P/M - due 11-24)
Bolt Assy (678 in Process?) - " " "
Fit Sight Ramp (P/M - due 11-24) " " "

92451 2
92428 5
92454 –

256
F41177
136 issued
complete 51

552
F41432
0 issued
0 completed

100010 0 0/11 pending
92466 4 15
91950 165 16
2023

272
F41143
272 issued
60 completed

560
F41246
560 issued
12 complete

256
F4110
256 issued
102 complete

x720 issued - 1881 comp → x F 220 - 839
– x F 357 - 1920
0 issued

Sequence

M | 7	243	2400	DEC – FEB	
	308	1500	FEB – MAR	
	222	2000	MAR	OUT
	7mm 08	2000	MAR – APR	
	6mm REM	1000	APR	
	243	3000	APR	
	308	2000	MAY	
	222	3000	JUNE	

The L.S.Starrett Company

BEARCAT TEETH

Dick:

M/7 Mag. follower

received Purchased Dept

Parts 11/16

not yet inspected.

Hammer - Jim Harter

1350/950

(over)

Barb

BALDWIN-HALL COMPANY
P.O. Box 4847 6552 Ridings Road
Syracuse, N.Y. 13221
Phone (315) 463-9251

M/7 Bolt Stops
F 52449 HT
P.P. not yet issued.

M/7 Floor Plate Base
P.P. held for Material
(entire lot rejected
by PE+C)

Nov 1969

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

XC: J. P. Linde
R. J. Long
W. S. Johnson
File

Jdl
model 7
In file model models

January 26, 1983

TO: D. D. RICCI

FROM: M. S. HALL

SUBJECT: M/7 FLOOR PLATE BASE

Purchased Parts Inspect rejected 2 lots of parts totaling 9632 pieces. Parts have cracks and 6 characteristics out of specs.

Production needs parts.

In attendance at meeting 1/25/83:

D. J. Anderson	J. B. Mroz
S. D. Bennett	D. D. Ricci
L. B. Bosquet	J. R. Snedeker
M. S. Hall	R. L. Snedeker
Z. J. Kowalski	

CONCLUSIONS FROM MEETING:

In Plant Parts

Purchased Parts will screen parts and release to Production parts that don't have cracks.

Future Vendor Parts

1.) Vendor has changed grain flow of material to eliminate cracks.

2.) Vendor will be expected to meet following specs.:

a.) .080-.090 dia's. of hinge pin hole.

b.) .495 $\pm$ .005 dim. of coined countersink.

CONCLUSIONS FROM MEETING:

Future Vendor Parts (contd.)

3.) Inspection point will be clarified on .625 dim. on width of hinge pin section and .220 dim. (height of front end). Production will file .625 dim. over hinge section.

4.) B. Bosquet will get with vendor on .251-.258 dia. of take down screw hole to resolve this problem.

5.) B. Bosquet will get with Research on possible redimensioning of .442-.448 dim. (position of takde down hole from hinge pin hole).

6.) Gary Barnes will check parts to see if ℄ of hinge pin hole is in line with bottom of plate.

MSHall

MSH/bdm

SALES DEPARTMENT

Remington Rem-O-Gram

Quick Facts About REMINGTON PRODUCTS

file

M/7

10 02
R.J. LONG
ILION

cc: House Force

Bridgeport, Connecticut
March 24, 1983

MAR 28 1983

TO THE FIELD FORCE:

You have already received a request to contact your jobber customers, instructing them to hold further delivery of any Model Seven rifles on hand and to supply you with a list of dealers who have received delivery of Model Seven rifles.

Our ultimate intention is to update all Model Seven rifles shipped to date by means of a return to the nearest Remington warranty gunsmith service location or to Arms Service in Ilion.

We have discovered that if a Model Seven rifle is disassembled after it leaves the factory, it is possible for the rifle to be reassembled incorrectly, producing off-center trigger alignment that might cause subsequent malfunction of the trigger and accidental firing of the rifle. The updating service on the rifle will eliminate the possibility of such incorrect reassembly.

To accomplish this, you are requested to obtain:

1. A list of all Model Seven rifles and matching serial numbers still in an individual jobber's inventory.

2. A list from the jobber of the names and addresses of dealers to whom Model Seven rifles have been shipped, including serial numbers.

Both jobbers and dealers will then be contacted by Product Service with instructions on how to have the rifles updated. Consumer purchasers of Model Seven rifles will also be contacted by Product Service with a request and instructions to have the rifles updated.

REMINGTON ARMS COMPANY, INC., BRIDGEPORT 2, CONN.

Form No. RD 451

Printed In U.S.A.

In all contact with jobbers, dealers, and retail customers on this subject, it is important to emphasize that the potential malfunction is remote, can occur only on a Model Seven rifle that has been disassembled and subsequently reassembled outside the factory, and that the update applies only to Model Seven rifles and not to any other Remington models.

This update is being incorporated into all Model Seven rifles to be shipped in the future.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr

Remington. DUPONT

REMINGTON ARMS COMPANY, INC.

TELEX 964-201 STRATFORD CT

SPORTING ARMS-AMMUNITION-TARGETS-TRAPS
939 BARNUM AVENUE
P.O. BOX 1939
BRIDGEPORT, CONNECTICUT 06601

TELEPHONE 203-333-1112

APR 6 1983

March 31, 1983

TO OUR DISTRIBUTORS:

Remington Arms Company has discovered a problem that may develop with the Model Seven rifle and is requesting you hold further delivery of the Model Seven that remain in your inventory until notified. This letter provides you with the necessary details regarding this request.

We have discovered that if a Model Seven rifle is disassembled after it leaves the factory, it is possible for the rifle to be reassembled incorrectly, producing off-center trigger alignment that might cause subsequent malfunction of the trigger and accidental firing of the rifle.

Since a rifle may be disassembled at any time in the future for one of several reasons, we wish to update all Model Seven rifles with a preventative modification that eliminates the possibility of such incorrect reassembly. As a result, if you have not already done so, we are requesting your assistance with the following actions:

1. Please hold any Model Seven rifles still in your inventory.

2. Please send to us (c/o Remington Arms Co., Inc., 939 Barnum Avenue, P. O. Box 1939, Bridgeport, CT 06601, Attention J. D. Glenn) or provide your Remington Field Representative with a list of the names and addresses of dealers to whom you have shipped Model Seven rifles with matching serial numbers for those rifles. We will then contact those dealers with instructions for the updating modification.

3. Please return any Model Seven rifles still in your possession to the Remington warranty gunsmith service location nearest you for the updating modification. A list of such locations is enclosed. If it is inconvenient or difficult for you to return Model Seven rifles to a warranty service location, you may also ship them to:

   Remington Arms Co., Inc.
   Arms Service Division
   Ilion, NY 13357

   To expedite, shipments should be made prepaid. Upon receipt of a copy of your freight bill, Remington will issue a check for same. Your receipt should also be referred to J. D. Glenn (c/o Remington Arms Co., Inc., 939 Barnum Avenue, P. O. Box 1939, Bridgeport, CT 06601) for handling.

In returning Model Seven rifles to either location, please include your company name and return mailing address inside each box. The updating of your rifles and return to you will be accomplished as quickly as possible. While the possibility of the described malfunction is remote and it can occur only if the rifles are disassembled after they leave the factory, we believe it is in the best interests of the eventual owner to have this preventative modification performed.

We apologize for whatever inconvenience this may cause you. This update applies only to Remington Model Seven rifles shipped prior to this date and not to any other Remington models. The corrective action will be incorporated into all Model Seven rifles to be shipped in the future.

If you have any further questions, or if any of your dealers have questions concerning this request, please feel free to call us on the following toll free number, 800-243-2953 (operational after April 8, 1983), between 8:00 a.m. and 4:30 p.m. Eastern Standard Time.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr
Enc.

MAY 12 1983

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Xc: L. B. Bosquet
R. C. Bottini
File: Proposal 1011

May 10, 1983

TO: R. J. LONG

FROM: D. J. ANDERSON DJA

RE: MODEL SEVEN LWT - .223 CALIBER

The above project has been accepted by the Operations Committee and a trial and pilot lot of 100 pieces is required for August assembly.

Please make whatever arrangements necessary. Barrel blanks have been completed through the GFM today.

DJA:hv

ID-89-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

M/7

xc: L.B. Ferreira
L.B. Bosquet
R.J. Long
S.D. Bennett

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" May 26, 1983

TO: D.J. Anderson

FROM: D.D. Ricci

M/7 RE-DESIGN STATUS

PHASE I - Strengthen Design

1. Plate - change to .080 material

   a. no changes transmitted

   b. no orders issued

2. Spring - alter configuration

   a. order I-1648 issued to marked print for 10,000 parts on temporary tools

      1) order cancelled 5-9-83 - no cancellation charges

   b. issued an additional production for 10,000 to alleviate vendor of material since not a standard thickness

3. Cover - change to .062 material

   a. order I-1667 issued for 10,000 parts from altered permanent tools. Requisition issued to cover $2,800.00 tooling alteration only.

      1) order put on hold as there will be a consideration for the steel if scrapped. Steel will be inventoried and tooling segments shelved until June '83. Determination required at that time.

      2) no production parts produced.

PC-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" May 26,1983

M/7 RE-DESIGN STATUS

PHASE I - Page 2

4. Base - change to .062 material

   a. order I-1636 issued for 10,000 parts (#92724) requisition received

   b. letter issued to vendor authorizing purchase of additional raw material, but hold until further decision in June '83. If not used then, a cancellation charge will be incurred.

   c. parts have been received.

5. Guard - temporary tool change to front & rear configurations

   a. order I-1637 verbally issued. Requisition issued for $1,175.00 tooling charge and 10,000 parts at $975.00/M.

      1) order is on hold and vendor has incorporated enough changes that parts can not be used as #92249. Value of parts with 3 operations left to lengthen hook end is $744.00/M

RD-69-L

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"_____ May 26, 1983

PHASE II - RETURN TO ORIGINAL DESIGN

1. Plate - #91845

   a. no changes required to tools

   b. 9,000 parts in inventory - next order required the end of July '83.

      1) I-1796 issued for 10,000 parts due 7-1-83.

2. Spring - #91848

   a. no changes required to tools

   b. 7,000 parts in inventory. Original order for 10,000 never cancelled is due May '83.

   c. due to cancellation of proposed design (non standard steel to consider) have issued an additional order for 10,000 #9.848 also due May '83. Therefore, enough parts until October '83.

3. Cover - #92255

   a. tooling change will be required to return to .050 material

      1) Requisition issued for $580.00 - Order I-3330

   b. 11,000 parts in inventory

   c. next order required August '83.

      1) I-3331 issued for 10,000 parts due 6/30.

FD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____ May 26, 1983

PHASE II - RETURN TO ORIGINAL DESIGN - page 2

4. Base #92256

   a. tooling change will be required to return to .050 material

      1) Requisition issued

      2) Order I-1797 issued to complete change week of 5/23.

   b. next order required for June '83.

      1) I-1798 issued for 10,000 parts due 6-8-83.

5. Guard #92249

   a. tooling change will be required to return to original design C-92249 Alt # 7 - rear tab & front hook unchanged.

   b. but R&D has issued a transmittal to change rear tab only C-92249 Alt #13

      1) I-3332 issued to alter tools $10,880.00 11-13 weeks.

      2) Also additional charge of $1175.00 for temporary tools required to get parts in July.

   c. Parts required in July

      1) I-3333 issued for 10,000 parts due 6-30-83.

PHASE III - RETURN TO PHASE I?

Meeting to be held 5/26 for discussion and earliest implementation based on production's current requirements and vendor's leadtime.

DDR/1

SALES DEPARTMENT

Remington Rem-O-Gram

Quick Facts About REMINGTON PRODUCTS

10 02
R.J. LONG
ILION

File
m/7

JUN 13 1983

June 6, 1983

TO THE FIELD FORCE:

The following information covers all Model 7 production since the recent update notice. You can identify these models by:

(1) A dot on the left side of the trigger.

(2) A circle P (P) on all master cartons (5 pack).

(3) A circle P (P) on each individual gun box.

All firearms updated by either Arms Service or Remington Warranty Gunsmiths will have triggers marked as indicated above.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr

REMINGTON ARMS COMPANY, INC., BRIDGEPORT 2, CONN.

Form No. BD 451

Printed in U.S.A.

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

AUG 15 1983

XC: L. Ferreira
S. Johnson
R. Long
J. Brooks
File

July 29, 1983

TO: J. Linde

FROM: D. Ricci

REFERENCE: M/7 Steel Purchase Parts Components for Fire Control Area

The Steering minutes and other verbal communications say that all involved vendors should have been notified of the steel design obsolescence and that Purchasing should refrain from ordering additional parts.

It is my understanding that the die cast design will be released for build approximately 9-1-83, with first samples due in December '83. Upon approval, trial & pilot and production build leadtimes, the earliest phase-in would be late first quarter or early 2nd quarter 1984.

Therefore, in absence of any further communication, Purchasing will continue to order the steel components per the MRP schedule, but minimum quantities to facilitate the transition next year. We'll begin advising our vendor of the possibility of a new design (since it is not a proven one) in order to keep them from running any shelf stock or ordering excess raw materials.

Also, previous orders had been issued for certain thicker design components, but were placed on hold. Again, if not advised otherwise, all outstanding orders for tools, components or raw materials will be cancelled and invoiced according to all work performed prior to the hold notification.

Based on current inventories, it appears that additional orders will have to be placed toward the end of August for MRP requirements in December '83. We will proceed with the program outlined unless otherwise advised.

DDR/sjk

Bullet, Remington Core-Lokt Report #83-01
M/7 Lot 300 Function test of latest P17 & AFCM
-(1-10-83) for pulling plate opening.

[redacted]

G.C.C. 1856

Report No. [illegible]

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STATS	REPORT REQ'D.	
MODEL: 700	FORMAL ____	DATE REQUESTED: [illegible]
CAL or GAGE: 308	TEST RESULTS ONLY ✓	DATE NEEDED BY: [illegible]
BARREL TYPE: [illegible]		REQUESTED BY: [illegible]
PROOFED: YES ✓ NO ____		WORK ORDER NO: [illegible]

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

These are the latest P.M. Litches to date (1-10-83).

Function test 5 rifles to check for flow plate opening.

GUNS REQUIRED:

2622626 4 7660102
67 7600088
49

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 1-18-83
TEST COMPLETED BY: R. JONES
REPORT DATE: ____

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

Distribution:
D. BULLIS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

TEST RESULTS ONLY

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830101

M/7 LWT. .308 CAL. FUNCTION TEST OF LATEST POWDER METAL LATCH (1-10-83) FOR FLOOR PLATE OPENING ON FIRING

Prepared by: R. HOWE

Date Prepared: 1-18-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830101

REPORT TITLE: M/7 LWT. .308 CAL. FUNCTION TEST OF LATEST POWDER METAL LATCH (1-10-83) FOR FLOOR PLATE OPENING ON FIRING.

MODEL(S): M/7 LWT.

~~GAUGE OR~~ CALIBER: .308

DATE: 1-18-83

WORK ORDER NO.: C-1856-000

PART NAME: FLOOR PLATE LATCH

DESIGNER/ENGINEER: D. BULLIS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 5
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: 130

TOTAL ROUNDS FIRED IN TEST: 650

AMMO TYPE: MAGS: _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

TO. J. HENNINGS
FROM, R. HOWE

"TEST RESULTS ONLY"

TEST TITLE:

M/7 LWT. 308 CAL. FUNCTION TEST OF LATEST POWDER METAL LATCH 1-10-83 FOR FLOOR PLATE OPENING ON FIRING.

REASON FOR TEST:

TO DETIRMINE IF FLOOR PLATE LATCH WILL RELEASE FLOOR PLATE WHEN RIFLE IS LIVE FIRED UNDER FIELD CONDITIONS.

TEST PROCEDURE:

THIS WAS A FIELD FUNCTION TEST ONLY AND WAS SHOT AT THE ILION FISH + GAME CLUB RIFLE RANGE AT 100 YDS., ~~130~~ 120 RDS PER GUN, FIFTEEN ROUNDS EACH OF R-150-PSP, R-180-PSP, W-150-PP, W-180-ST, W-200-ST, F-150 PSP, F-180-PSP AND F-165-PREM BT. EACH AMMO TYPE BEING SHOT 5 RDS SLOW, 5 MED, + 5 FAST FEED SPEEDS.

THE ROUND ROBIN SYSTEM WAS USED WITH EACH SHOOTER FIRING 15 RDS. AT THE ABOVE THREE FEED SPEEDS AND THEN CHANGING GUNS UNTIL EACH GUN WAS FIRED A TOTAL OF ~~130~~ 120 RDS.

TEST RESULTS:

OF THE FIVE RIFLES TESTED NONE HAD AN OCCURANCE OF FLOOR PLATE FALLING OPEN ON LIVE ROUND FIRING FOR ENTIRE TEST.

"CONT."

TEST RESULTS "CONT".

NO OTHER MALFUNCTIONS OCCURED WITH THE EXCEPTION OF THE FOLLOWING NOTE.

NOTE:

AFTER FIRST 150 RDS. OF TEST (30 RDS EACH GUN) FOLLOWERS IN ALL FIVE TEST GUNS WERE ALTERED BY BENDING LEGS IN SLIGHTLY BECAUSE FOLLOWER WAS HANGING UP ON STEEL STAMPING OF FLOOR PLATE FRAME AND CUTTING MAGAZINE CAPACITY FROM 4 ROUNDS TO 3. AFTER ALTERING FOLLOWERS ALL GUNS TOOK 4 RDS IN MAGAZINE WITH NO FURTHER PROBLEMS.

Report No. 830101

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT	FORMAL ____	DATE REQUESTED: 1-10-83
CAL or GAGE: 308	TEST RESULTS ONLY ✓	DATE NEEDED BY: A.S.A.P.
BARREL TYPE: CARB		REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ____		WORK ORDER NO: ~~C-4000000~~ C-1856000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

These are the latest P.M. Latches to date (1-10-83).

Function test 5 rifles to check for floor plate opening.

GUNS REQUIRED:

6726264	7660102
67	7600088
49	

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: 1-18-83

(WEATHER - OVERCAST + 24°)

(1) B PAGE 1

DATE: 1-14-83 MODEL: 7 LWT CAL. [redacted]: .308 SERIAL NO. 6226264

PREVIOUS ROUNDS

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT .308 FUNCTION TEST **"MALFUNCTIONS"**

Bob - 1
George - 2
Jim - 3
Paul - 4
Fred 5

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 150 PSP	1																											
SLOW		5	/																									
MED		5	/																									
FAST		5	✓																									
R 180 PSP	2																											
SLOW		5	/																									
MED		3	/																									
FAST		3																										
~~W 150 SP~~																												
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ CENTERFIRE
FIELD CYCLE

REPROT NO.: _____ PAGE NO. 2

DATE: 1-14-83 MODEL: 7 LWT ① CAL ~~GAUGE~~: 308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W150 PP	3																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
W180 ST	4																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
W200 S.T.	5																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ FIELD CYCLE CENTERFIRE

REPROT NO.: _____ PAGE NO. 3

(1)

DATE: 1-14-83 MODEL: 7 LWT. CAL. ~~GAUGE~~: .308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT. 308 FUNCTION TEST. "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-150 PSP	1																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
F-180 PSP	2																											
SLOW		5	/																									
MED		5																										
FAST		5	/																									
F 165 PREMBT	3																											
SLOW		5	/																									
MED		5	/																									
FAST		3	/																									
TOTAL (PER MAL.)																												

FIELD TEST

DATE: 1-14-83 MODEL: 7 LWT CAL. [redacted]: .308 SERIAL NO. 7600067

(2) 6226267 PAGE 1 2

PREVIOUS ROUNDS ____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 150 PSP	2																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																								✓	
R 180 PSP	3																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
~~W 150 SP~~																												
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ CENTERFIRE
FIELD CYCLE

(2)

REPROT NO.: _____ PAGE NO. 2

DATE: 1-14-83 MODEL: 7 LWT CAL ~~GAUGE~~: 308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W150 PP	4																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W180 ST	5																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W200 S.T.	1																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ FIELD CYCLE CENTERFIRE

REPROT NO.: _____ PAGE NO. 3

(2)

DATE: 1-14-83 MODEL: 7 LWT CAL. ~~GAUGE~~: .308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST. "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-150 PSP	2																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
F-180 PSP	3																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5																										
F 165 PREMBT	4																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
TOTAL (PER MAL.)																												

(3)

PAGE 7

DATE: 1-14-83 MODEL: 7 LWT CAL. [redacted]: .308 SERIAL NO. 76000 49

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 150 PSP	3																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
R 180 PSP	4																										✓	
SLOW		5	✓																									
MED		5																										
FAST		5																										
~~W 150 SP~~																												
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

(1) After initial loading only 3 shell would go in mag

(2) same as (1)

~~JACK ENDURANCE~~ CENTERFIRE
FIELD CYCLE

REPROT NO.: _____ PAGE NO. 2

DATE: 1-14-83 MODEL: 7 LWT (3) CAL ~~GAUGE~~: 308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W150 PP	5																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W180 ST	1																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W200 S.T.	2																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
TOTAL (PER MAL.)																												

~~TRACK ENDURANCE~~ FIELD CYCLE CENTERFIRE (3) REPROT NO.: _____ PAGE NO. 3

DATE: 1-14-83 MODEL: 7 LWT. CAL. ~~GAUGE~~: .308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT. .308 FUNCTION TEST. "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-150 PSP	3																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
F-180 PSP	4																											
SLOW		5	—																									
MED		5	—																									
FAST		5	—																									
F 165 PREMBT	5																											
SLOW		5	—																									
MED		5	—																									
FAST		5	—																									
TOTAL (PER MAL.)																												

FILLBOTTLE

DATE: 1-14-83 MODEL: 7 LWT CAL. [redacted]: .308 (4) SERIAL NO. 7600088

PAGE 1

PREVIOUS ROUNDS ____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

M/7 LWT, .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIDER	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 150 PSP	4																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
R 180 PSP	5	-																									✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
~~N 150 SP~~																												
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ CENTERFIRE
FIELD CYCLE

REPROT NO.: _____ PAGE NO. 2

(4)

DATE: 1-14-83 MODEL: 7 LWT CAL ~~GAUGE~~: 308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W150 PP	1																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W180 ST	2																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W200 S.T.	3																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ FIELD CYCLE CENTERFIRE (4) REPROT NO.: _____ PAGE NO. 3

DATE: 1-14-83 MODEL: 7 LWT CAL. ~~GAUGE~~: .308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST. "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-150 PSP	4																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
F-180 PSP	5																											
SLOW		5	/																									
MED		5	/																									
FAST		5																										
F 165 PRMBT	1																											
SLOW		5																										
MED		5																										
FAST		5																										
TOTAL (PER MAL.)																												

FIELD TEST

DATE: 1-14-83 MODEL: 7 LWT CAL. [redacted]: .308 SERIAL NO. 7600002

PREVIOUS ROUNDS

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 150 PSP	5																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																								✓	
R 180 PSP	1	5	✓																									
SLOW		5																										
MED		5	✓																									
FAST																												
~~N 150 SP~~																												
~~SLOW~~																												
~~MED~~																												
~~FAST~~																												
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ CENTERFIRE
FIELD CYCLE

(5)

REPROT NO.: _____ PAGE NO. 2

DATE: 1-14-83 MODEL: 7 LWT CAL ~~GAUGE~~: 308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT .308 FUNCTION TEST "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W150 PP	2																										✓	
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W180 ST	3																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
W200 S.T.	4																											
SLOW		5	✓																									
MED		5	✓																									
FAST		5	✓																									
TOTAL (PER MAL.)																												

~~JACK ENDURANCE~~ FIELD CYCLE CENTERFIRE (5) REPROT NO.: _____ PAGE NO. 3

DATE: 1-14-83 MODEL: 7 LWT CAL. ~~GAUGE~~: .308 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: M/7 LWT TEST FOR FLOOR PLATE COMING OPEN

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

M/7 LWT. 308 FUNCTION TEST. "MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGE	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-150 PSP	5																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
F-180 PSP	1																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
F 165 PREMBT	2																											
SLOW		5	/																									
MED		5	/																									
FAST		5	/																									
TOTAL (PER MAL.)																												

M 7 FLOOR PLATE Cover .830197
inner- + Competition Rifles 830451

15 Feb. 83
830451
C Stephens

M7 LWT Floor Plate Cover

Floor Plate No.	Ft./lbs.	Location of Bend
1	6.0	Hinge
2	7.5	Hinge
3	6.0	Hinge
4	5.25	Hinge
5	5.0	Hinge
6	5.5	Hinge
7	6.0	Hinge
8	5.75	Hinge

.060 THICK COVERS

FL. PL. NO.	FT/LBS.
1	5.0
2	4.5
3	4.5
4	5.0

Record No. [illegible]

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

AREA OF TESTING

____ Developmental	____ Safety Related	____ Litigation
____ Design Assistance	✓ Comparative Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake: ____
____ Production Assistance	____ Plant Assistance	____ Other

FIREARM STATS

MODEL: See below

CAL or GAGE: See below

BARREL TYPE: —

PROOFED: YES — NO —

REPORT REQ'D.

FORMAL ____

TEST RESULTS ONLY ✓

DATE REQUESTED: 1-19-83

DATE NEEDED BY: 2-1-83

REQUESTED BY: [illegible]

WORK ORDER NO: CW004-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
____ Function Test	____ Environmental Test	✓ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Find the force required to bend or break the floor plate cover on the Model 7 rifle when over operated.

Record # of force ⊥ to cover

- Lever arm length
- Floor plate cover model
- Thickness + width at point of bend or break
- Picture of part before + after.

Compare competitive guns.

GUNS REQUIRED:

✓ Mi 70 XTR
✓ Smith + Wesson model 1500
✓ Browning B.B.R.
Mossberg 8003
✓ Ruger 77
Sako
Westerby Vanguard

(Plan with M17 floor plates to set up the test)

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 1-21-83

TEST COMPLETED BY: [illegible]

REPORT DATE: N/A

Report No. 830191

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	✓ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake: ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STATS	REPORT REQ'D.	
MODEL: See below	FORMAL ____	DATE REQUESTED: 1-19-83
CAL or GAGE: See below	TEST RESULTS ONLY ✓	DATE NEEDED BY: 2-1-83
BARREL TYPE: —		REQUESTED BY: J.W. Brooks
PROOFED: YES — NO —		WORK ORDER NO: C[illegible]-000 [illegible]-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
____ Function Test	____ Environmental Test	✓ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Find the force required to bend or break the floor plate cover on the Model 7 rifle when over opening.

Record # of force ⊥ to cover
- Lever arm length
- Floor plate cover metal
- thickness + width at point of bend or break.
- Picture of part before + after.

Compare competitive guns.

-GUNS REQUIRED:
M 70 XTR
Smith + Wesson model 1500
Browning BBR
Mossberg
Ruger 77
Sako
Weatherby Vanguard

(Play with M17 floor plates to set up the test)

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 1-24-83
TEST COMPLETED BY: C.S.
REPORT DATE: ~~[illegible]~~

20 Jan. 83

M7 Floor Plate Force Evaluation

830191

C. Stephens

	Manufacture	1 Arm Length	2 Force lbs.	3	4 Mat'l	5	6
1	Rem. M7 #1	3.8	4	Bent	Stamped		
2	Rem M7 2	3.8	3 1/4	Bent	Stamped		
3	Rem M7 3	3.8	2 3/4	Bent	Stamped		
4	Rem M7 4	3.8	2 3/4	Bent	Stamped		
5	Rem M7 5	3.8	2 3/4	Bent	Stamped		
6	Sako	3.2	38	Bent	Cast		
7	Mossberg	3.15	12	Bent	Stamped		
8	Weatherby	3.14	6 1/2	Bent	Stamped		
9	Ruger	4.7	18	Broke	Inv. Casting		
10	Browning	4.6	29. 1/2	Bent	Mach.		
11	S+W	3.7	8 1/2	Bent	Stamped		
12	Winchester	4.13	16 1/2	Broke	Cast		
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
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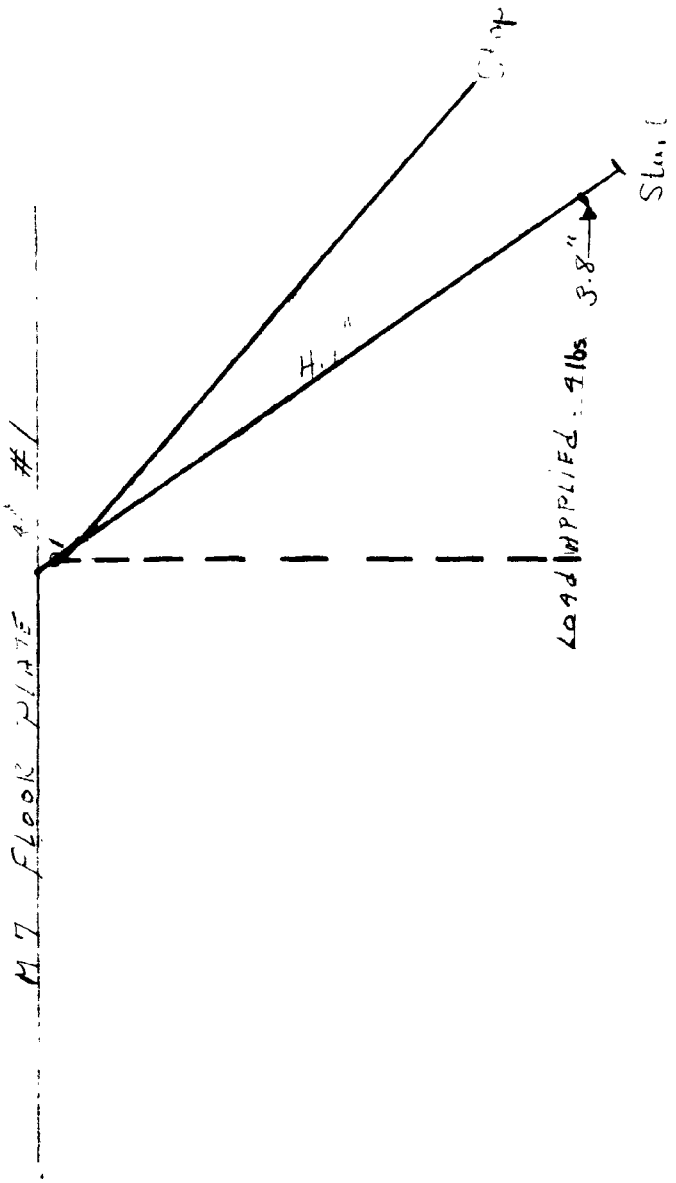
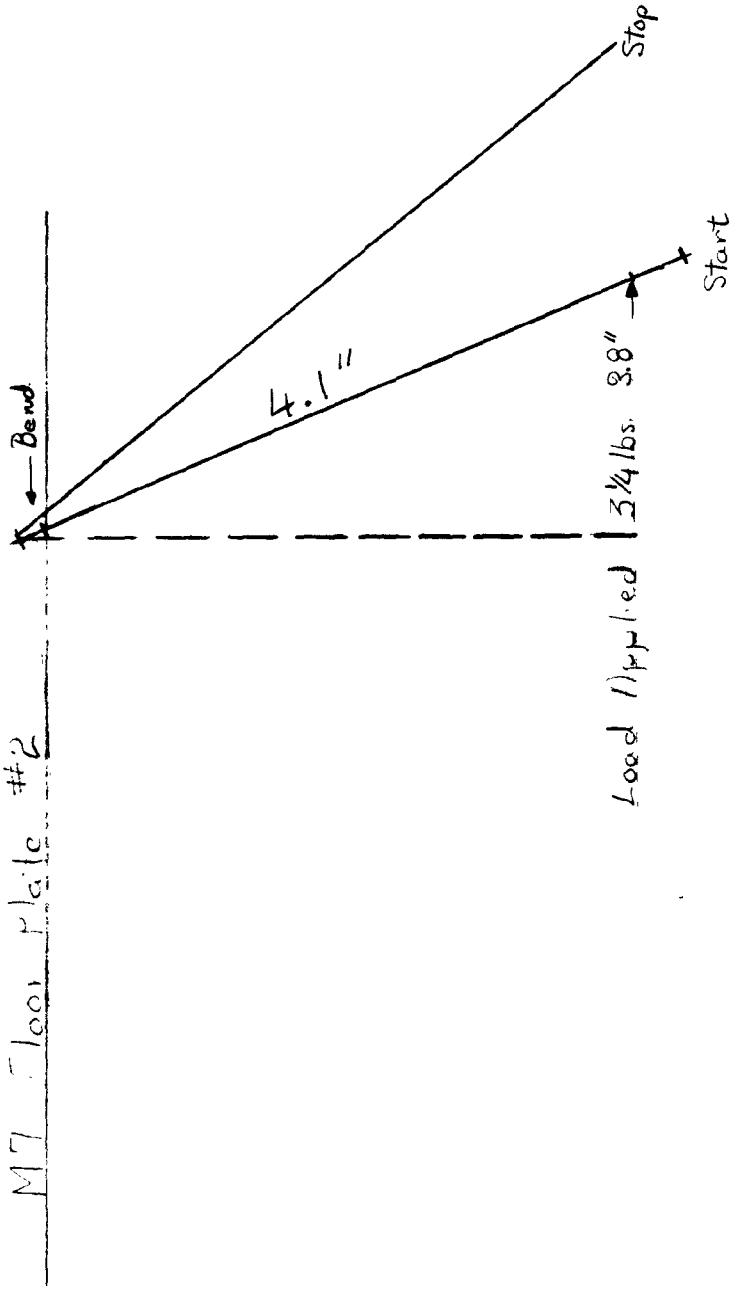
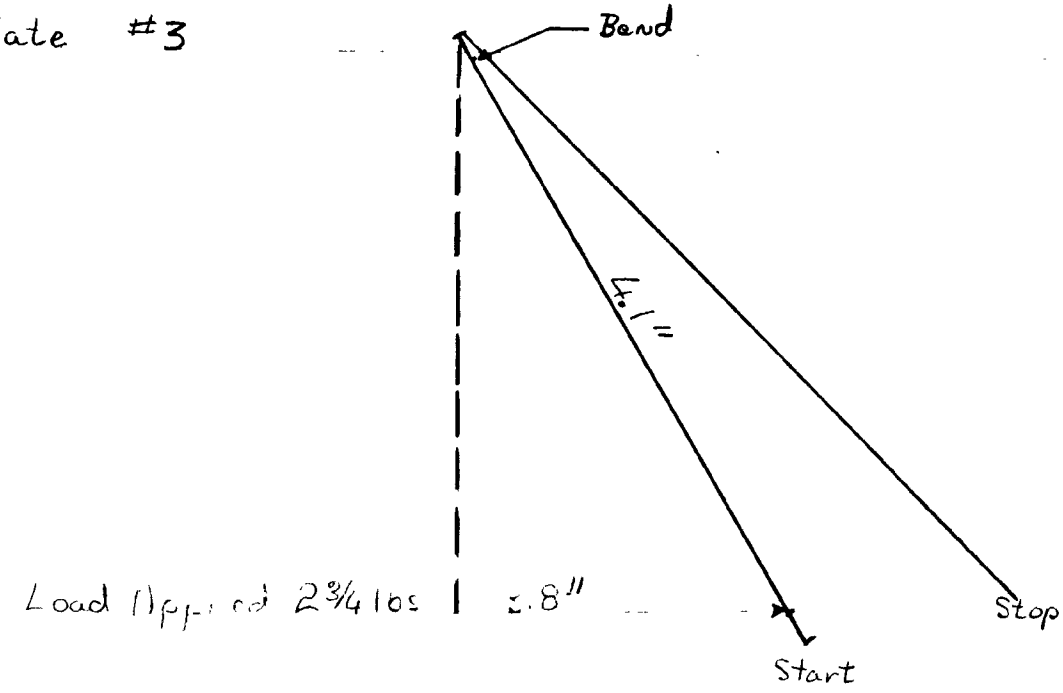
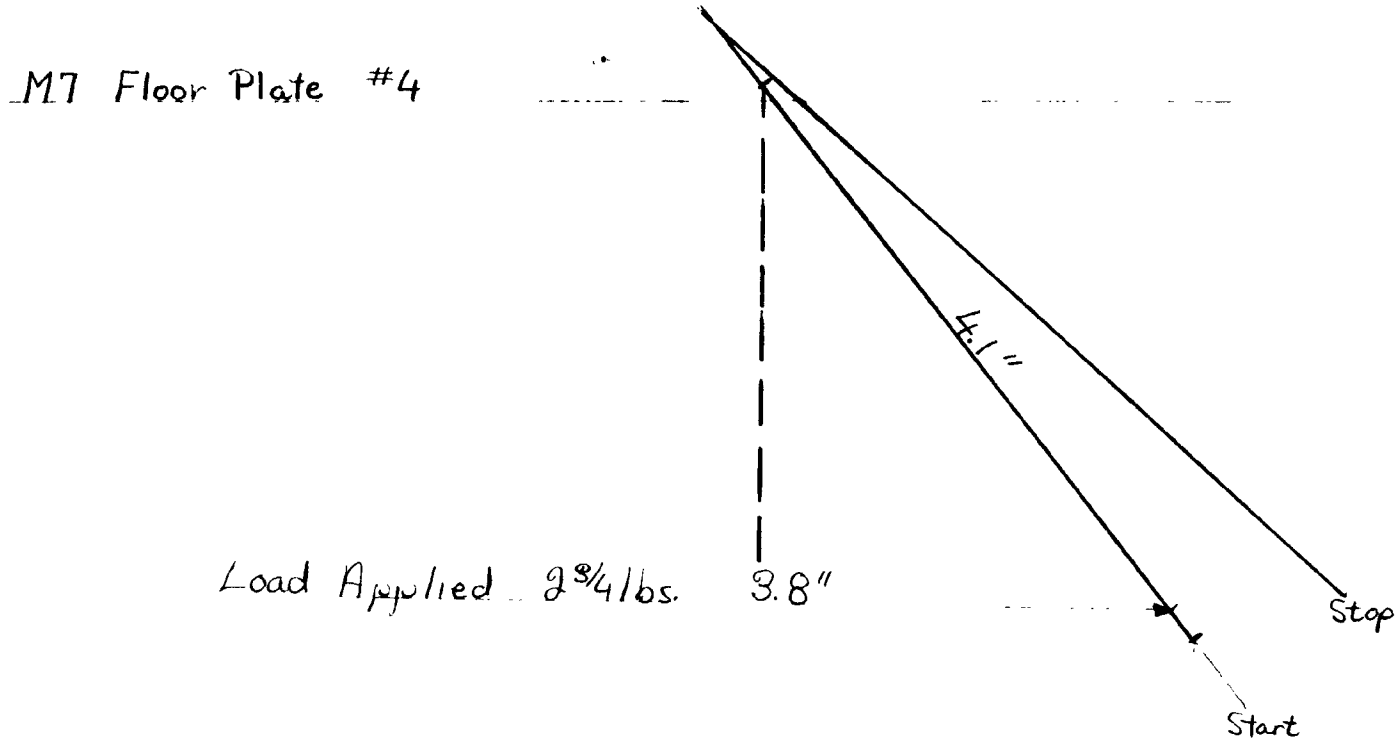
37							
38							
39							
40							


M7 FLOOR PLATE
4.1" #1
LOAD APPLIED: 9lbs
3.8"

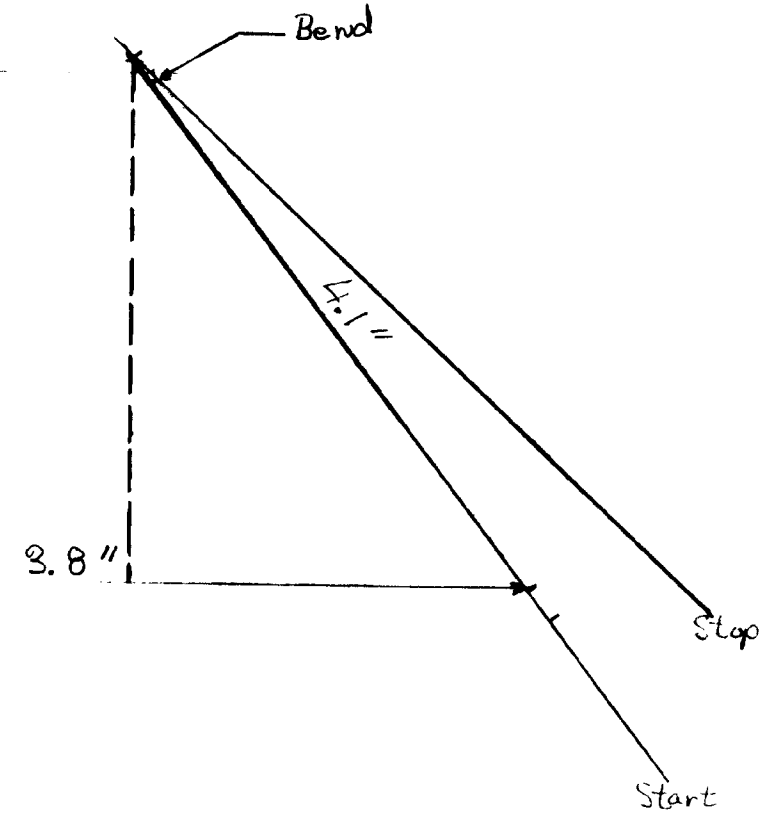

M7 Floor Plate #2
Bend
Load Applied 3¼ lbs.
3.8"
4.1"
Start
Stop

M7 Floor Plate #3

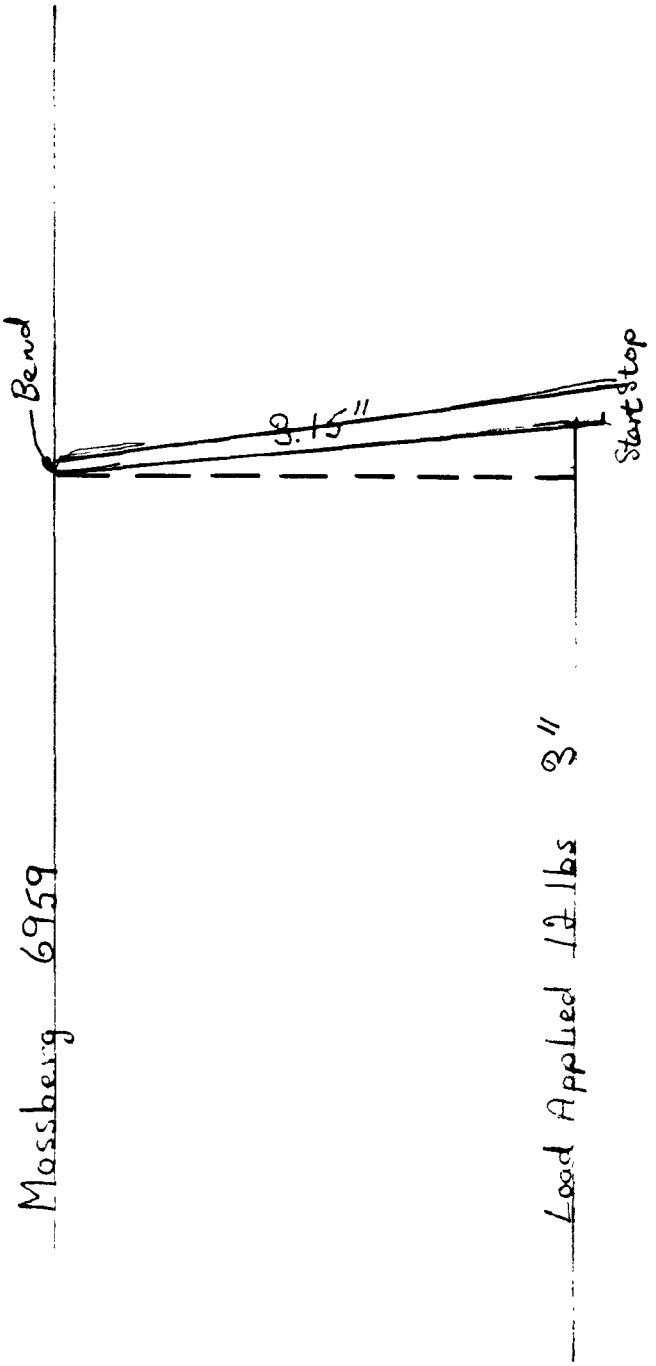


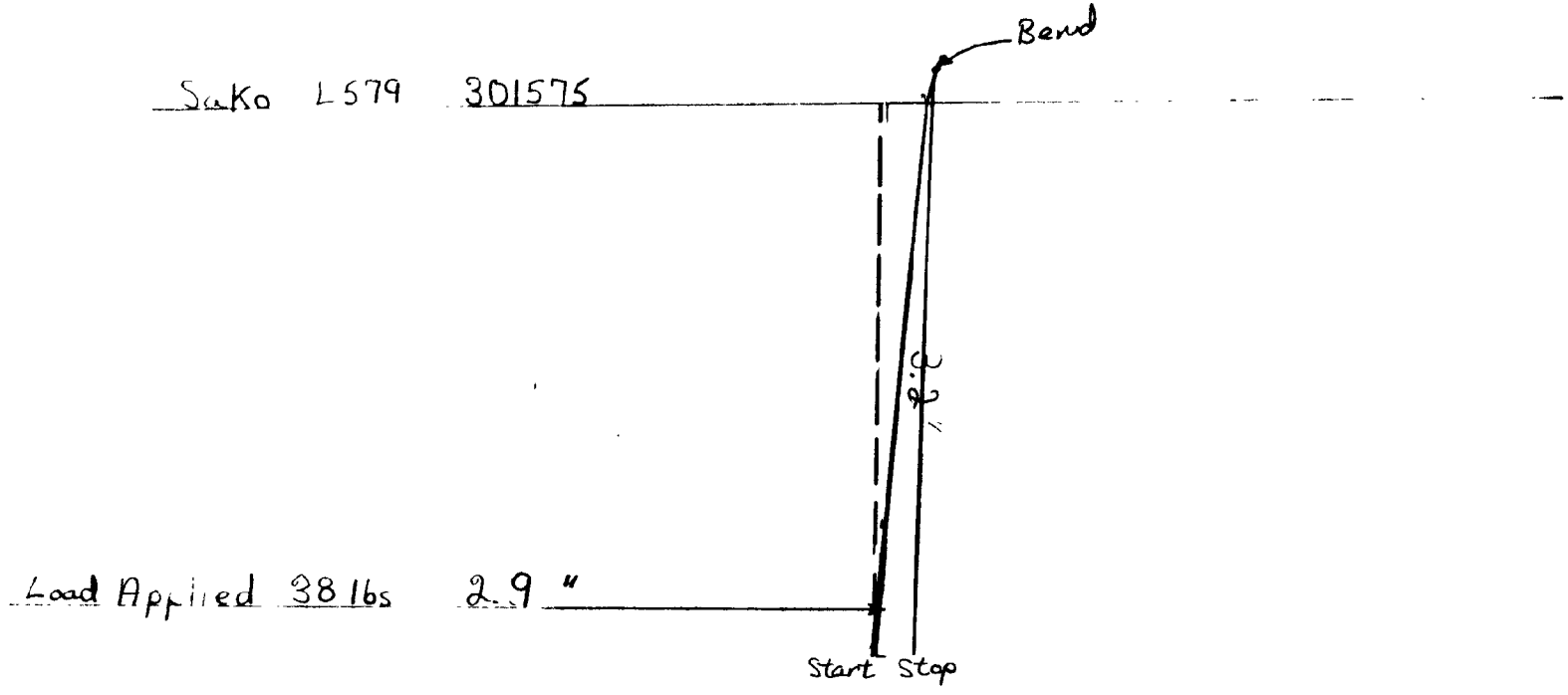


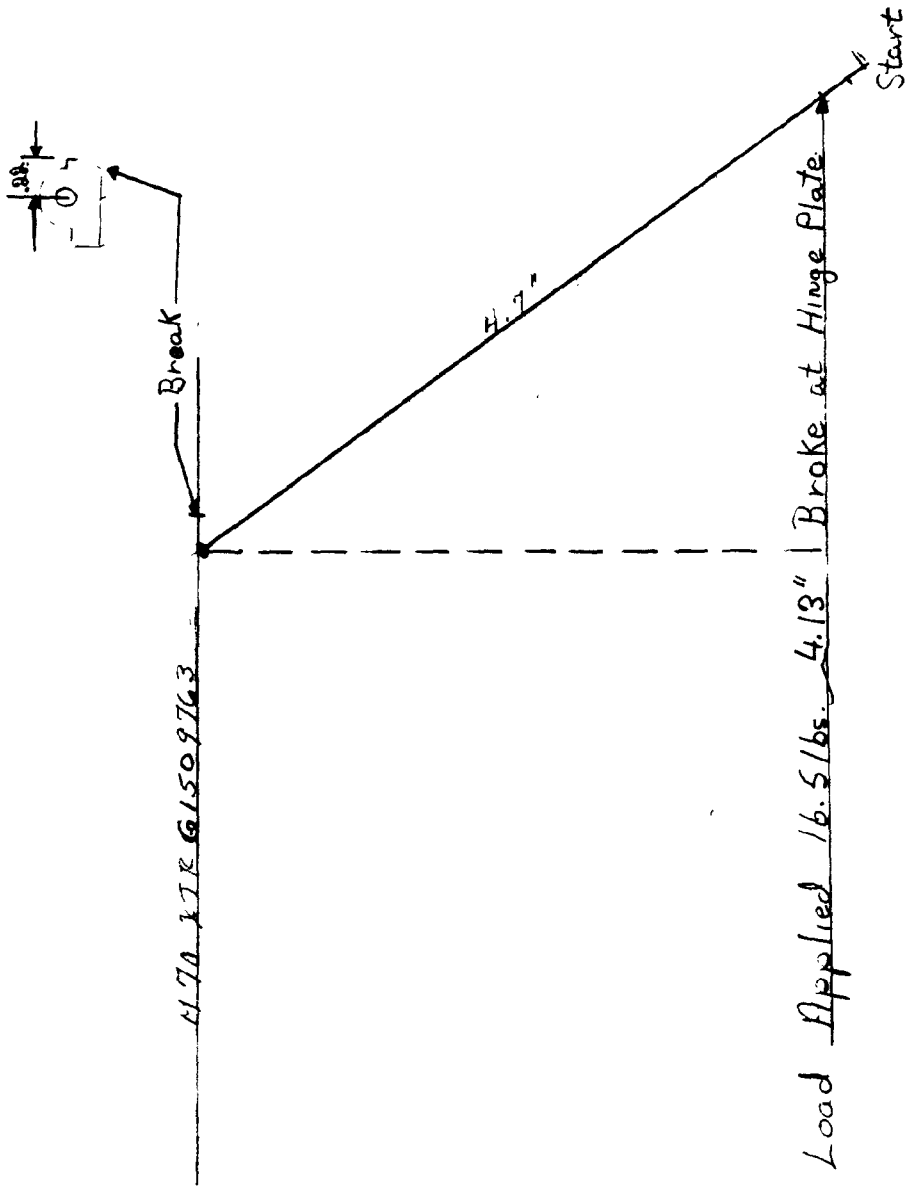
M7 Floor Plate #5



Load Applied 2 3/4 lbs.

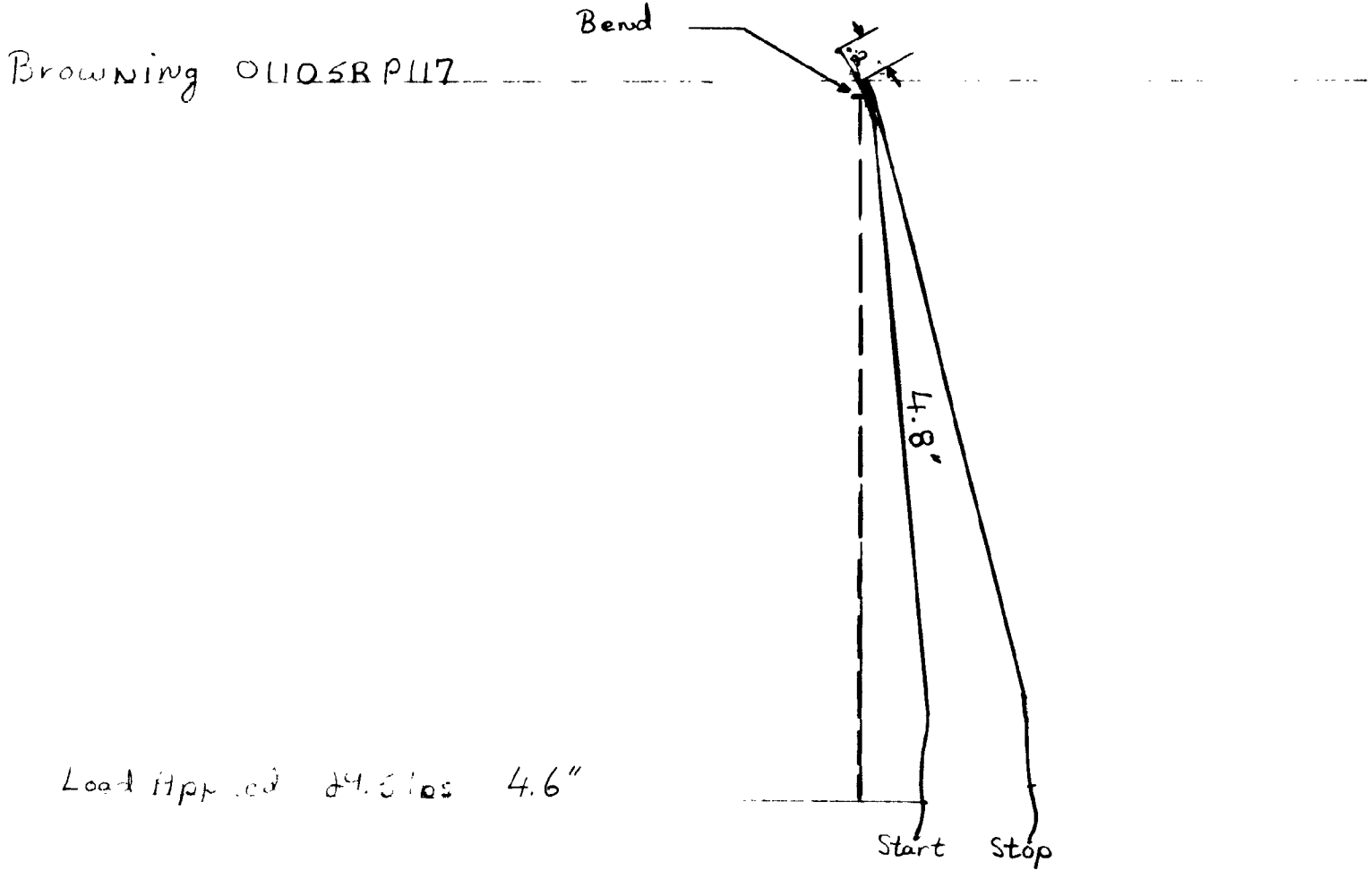

Mossberg 6959
Load Applied 12 lbs
3"
Bend
0.15"
Start Stop



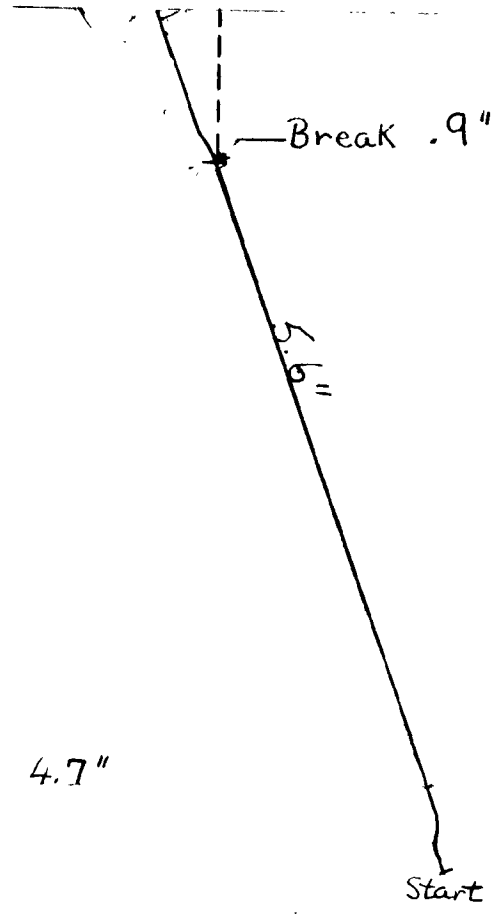

Start
Break at Hinge Plate
4.13"
4.7"
Load Applied 16.5 lbs.
Break
1.00"
4.7a 17R G150976 3

QF

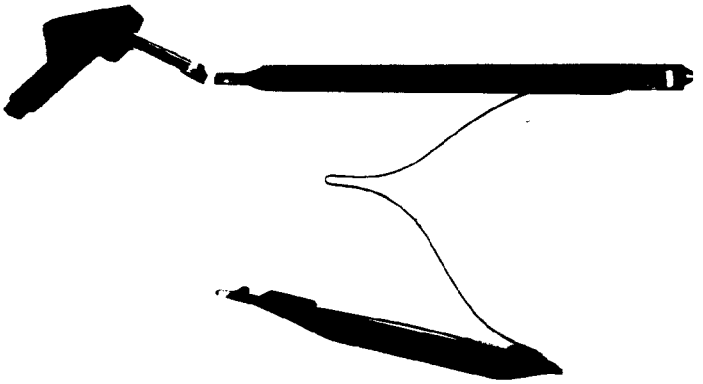
WIN. M/70 (report 830191)
FLOOR PLATE TEST
1-20-83

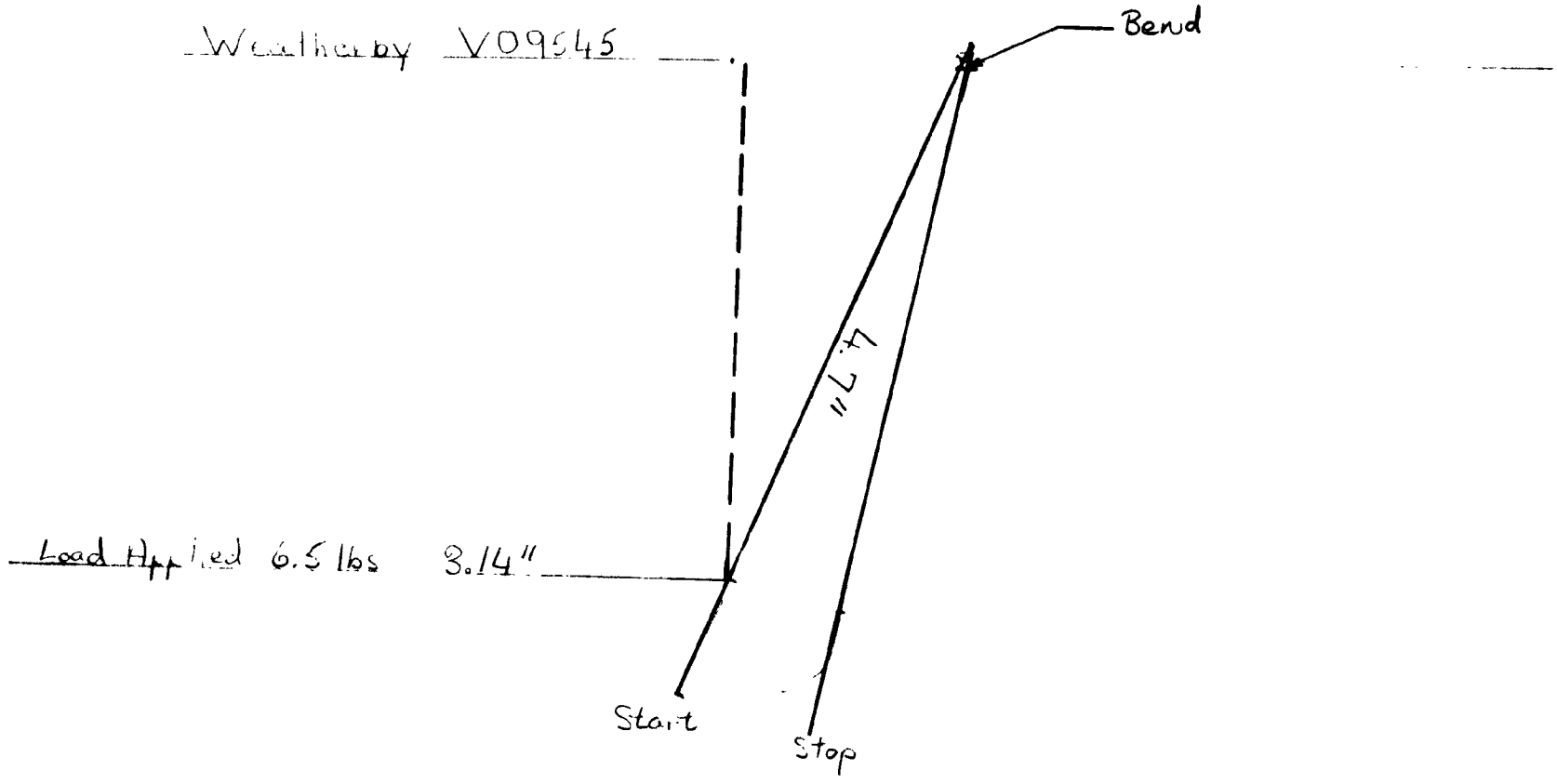


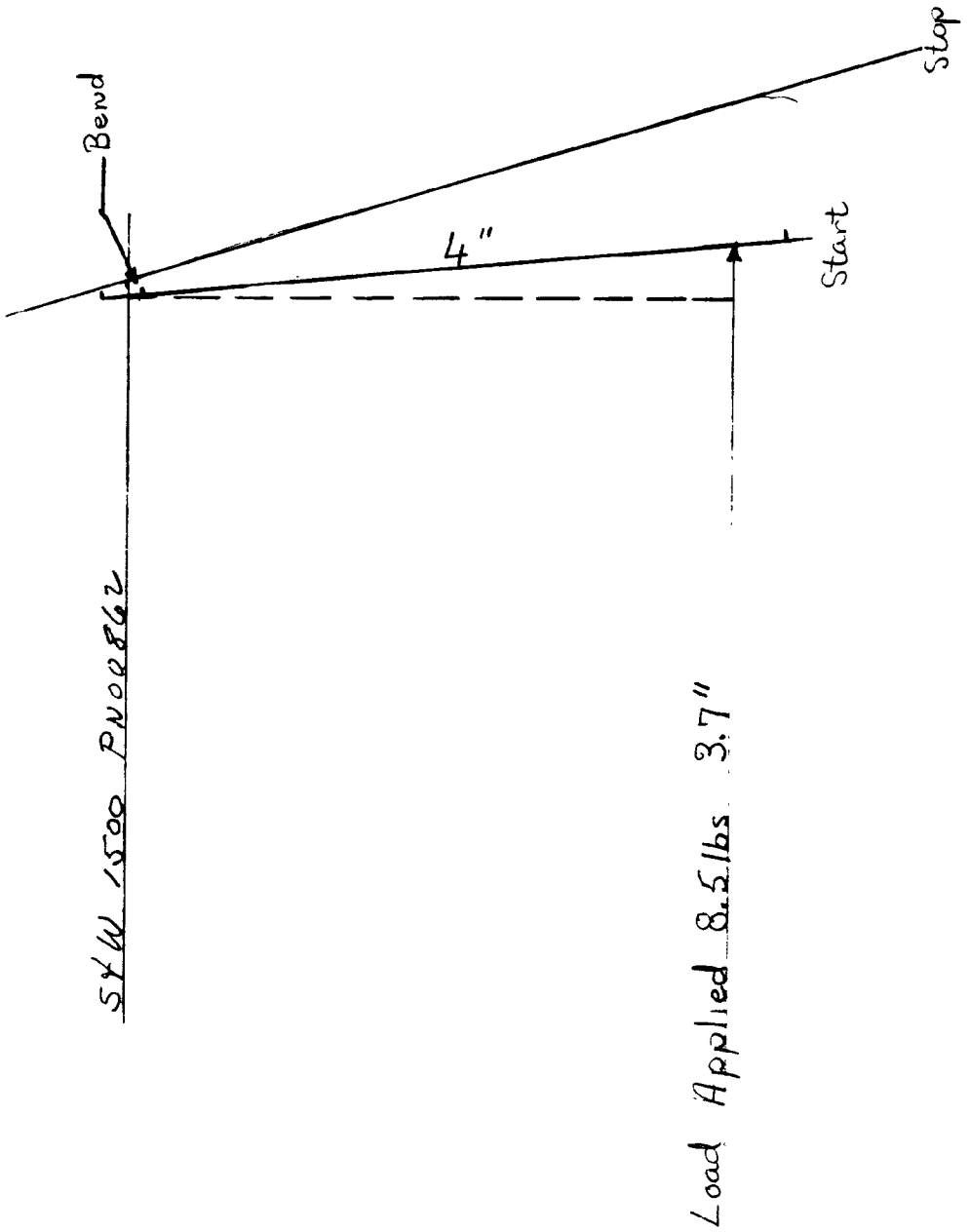
M77 Ruger 70-71405



Load Applied 18 lbs 4.7"






SKU 1500 PN002862
Bend
4"
Start
Stop
Load Applied 8.5 lbs 3.7"

M-7LWT Report No. 822731
Cal. 222 W.O. # C-1856-001
D. Ballis

Report No. [illegible]

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: [illegible]
CAL. ~~or GAGE~~: 222	TEST RESULTS ONLY ____	DATE NEEDED BY: ____
BARREL TYPE: CAFBINE		REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ____		WORK ORDER NO: [illegible]

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

WE WOULD LIKE A COMPARISON TEST RUN ON THE 7 LWT. 222 CALIBER.

1. FEEDING + EJECTION LIVE & FIRED ROUNDS USING NEW, NO-BIND FOLLOWERS.

2. SAME TEST USING OLD STAMPED FOLLOWERS.

FAST, MEDIUM & SLOW FEEDING.

GUNS REQUIRED:

5 - M 7LWT WITH NEW, & OLD STAMPED FOLLOWERS (40 BOLT)

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: [illegible]

TEST COMPLETED BY: [illegible]

REPORT DATE: [illegible]

RD-48-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington — PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
D. Bullis

RESEARCH TEST and MEASUREMENT REPORT – Report No. 822731

M/SEVEN LWT. .222 CALIBER STAMPED NO-BIND FOLLOWER vs. M/600 STAMPED FOLLOWER COMPARISON TEST

Prepared by: J. Baggetta

Date Prepared: 1-24-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 822731

REPORT TITLE: M/Seven LWT. .222 Caliber Stamped No-Bind Follower vs. M/600 Stamped Follower Comparison Test

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .222

DATE: 9-30-82

WORK ORDER NO.: C-1856-000

PART NAME:

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 5
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 5

NO. OF ROUNDS PER GUN: 75

TOTAL ROUNDS FIRED IN TEST: 750

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

Two Followers Per Gun.

January 24, 1983

TO: R. E. NIGHTINGALE

FROM: J. BAGGETTA

REPORT TITLE: M/SEVEN LWT. .222 CALIBER STAMPED NO-BIND FOLLOWER vs. M/600 STAMPED FOLLOWER COMPARISON TEST.

ABSTRACT

A request was received from D. Bullis, Current Firearms Design, to Field Function Test, 5 M/Seven LWT. .222 caliber with the Stamped No-Bind Follower vs. M/600 Stamped Follower.

SCOPE OF TEST

To evaluate the M/Seven LWT. .222 Caliber Stamped No-Bind Follower vs the M/600 Follower for feeding and ejection malfunctions.

TEST RESULTS

1.) Five (5) M/Seven LWT. .222 caliber were fired a total of 375 rounds (75 rounds each) experiencing a total of 45 malfunctions for an overall malfunction rate of 12.0%.

2.) Five (5) M/Seven LWT. .222 caliber with the M/600 Stamped Follower were fired a total of 375 rounds (75 rounds each) experiencing a total of 54 malfunctions for an overall malfunctions rate of 14.4%.

REPORT TEXT

1.) Five of the Stamped No-Bind Followers tested experienced a total of 45 malfunctions. For individual malfunction, see Appendix "A" Data Sheet No. 1.

2.) Four of the five M/600 Stamped Followers experienced 54 malfunctions. For individual malfunctions. See Appendix "A" Data Sheet No. 2.

TEST PROCEDURE

1.) Five (5) Stamped No-Bind Followers were assembled into the M/Seven LWT. .222 Caliber rifles, upon completion of this test, the 5 M/600 Stamped Followers were assembled into the M/Seven LWT. .222 caliber rifles.

2.) Field Function Test
- The Field Function Test was run at the Ilion Fish & Game Club Rifle Range. Five men were used to fire the rifles, incorporating the round robin system. Each man took 15 rounds of each ammo. type and would fire 5 rounds each of Slow, Medium and Fast feed rate. The rifles were cooled every 15 rounds (able to hold barrel in hand). It was a one page Field Function Test.

3.) Ammunition
Ammunition used in the Field Function Test:
- Remington – 50 gr. Pointed Soft Point
- Remington – 50 gr. Hollow Point
- Remington – 55 gr. Metal Case
- Federal – 50 gr. Soft Point
- Winchester – 50 gr. Pointed Soft Point

4. Test Rifles
Rifles used in the Field Function Test:

M/Seven LWT. .222 Caliber
- B6364423
- B6364417
- B6364418
- B6364428
- B6364421

"APPENDIX "A"

Data Sheets

30LLIS

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 0-00121 PAGE NO. _____

Pistol Sheet No. 1

PREVIOUS ROUND: _____

DATE: 10-12-82 MODEL: 7 LW CAL ~~GAUGE~~: .222 SERIAL NO. X

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~

TTL. RDS. FIRED: 375
TTL. MALFUNCTIONS: 45
MALFUNCTION RATE: 12%

NEW DESIGN "NO BIND" FOLLOWER.

"MALFUNCTIONS"

SUMMARY SHEET BY R. HOWE	SEIZURE	NO. OF ROUNDS FIRED	FIRING	MISFIRED SHELLS	DON'T EJECT	DON'T EJECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	7 ROUNDS HARD 5TH. RD.	MALFUNCTIONS PER	MALF. RATE PER
B6364423		75													1												1	1.5%
B6364417		75												1	2		1										4	5.3%
B6364418		75											3	1	3		1			4						3	15	20%
B6364422		75											5				1										6	8%
B6364421		75												1		1	4			13							19	25.3%
TOTAL (PER MAL.)																												

BULLIS

PREVIOUS ROUNDS

DATE: 10-12-82 MODEL: 7 LV CAL. GAUGE: .222 Date Shot

SERIAL NO. X

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~

TTL. RDS. FIRED: 375
TTL. MALFUNCTIONS: 54
MALFUNCTION RATE: 14.4%

STANDARD PRODUCTION STAMPED FOLLOWER "MALFUNCTIONS"

	SUMMARY SHEET BY R. HOWE SER. #	SECURE	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T ELCT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	DEFAULTS	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
1	B6364423		75																		17							17	22.6
2	B6364417		75																									0	—
3	B6364418		75											3							11							14	18.6
4	B6364422		75											1							10							11	14.6
5	B6364421		75												1			3			8							12	16
	TOTAL (PER PAL.)																												

Report No. 822731

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT.	FORMAL ✓	DATE REQUESTED: 9-30-82
CAL. ~~or GAGE:~~ 222		DATE NEEDED BY: ____
BARREL TYPE: CARBINE	TEST RESULTS ONLY ____	REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ____		WORK ORDER NO: C-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

WE WOULD LIKE A COMPARISON TEST RUN ON THE M/7 LWT. 222 CALIBER.

1. FEEDING + EJECTING LIVE & FIRED ROUNDS USING NEW, NO-BIND FOLLOWERS.
2. SAME TEST USING OLD STAMPED FOLLOWER.

FAST, MEDIUM & SLOW FEEDING.

GUNS REQUIRED:

5 - M 7LWT WITH NEW, (NO BIND) & OLD STAMPED FOLLOWERS.

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364423

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M'F. RATE PER
R50 PSP																												
S	RW	5	OK																									
M	RW	5.													R													
F	RW	5	OK																									
R50 HP																												
S	RW	5	OK																									
M	RW	5	OK																									
F	RW	5	OK																									
R55 Mouse																												
S	RE	5	OK																									
M	RE	5	OK																									
F	RE	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 822731 PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364423

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MA . RATE PER
F 50 SP	~~[illegible]~~	5	OK																									
S	K	5	OK																									
M	K	5	OK																									
F	K	5	OK																									
W 50 PSP																												
S	OJ	5	OK																									
M	OJ	5	OK																									
F	OJ	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (2)

PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT ~~GAUGE:~~ 222 SERIAL NO. B6364417

TOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M... RATE PER
R50 PSP																												
S	RH	5	OK																									
M	RH	5	OK																									
F	RH	5												2/5														
R50 HP																												
S	RE	5	OK																									
M	RE	5	OK																									
F	RE	5	OK																									
R55 Mcore																												
S	K	5	OK																									
M	K	5	OK																									
F	K	5												1/4														
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (2)

PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364417

ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	RATE PER MG
F 50 SP																												
S	DJ	OK																										
M	DJ	O/K																										
F	DJ	O/K																										
W 50 PSP																												
S	RW	5															N											
M	RW	5	O/K																									
F	RW	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364418 (3)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	LOADS HARD 5TH RD.	MALFUNCTIONS PER	MALF. RATE PER
R50 PSP	~~RE~~	~~5~~																										
S	RE	5																		1								
M	RE	5	OK																									
F	RE	5	OK																									
R50 HP																												
S	K	5																								1		
M	K	5																								1		
F	K	5												1R												1		
R55 Mcase																												
S	DJ	5													1B													
M	DJ	5													1B													
F	DJ	5													1B													
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (3) PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364418

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T FEED	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MA RATE PER
F 50 SP	~~RH~~	5																										
S	RH	5																		1								
M	RH	5																		1								
F	RH	5																		1								
W 50 PSP																												
S	RH	5											1 3															
M	RH	5											1 3				1 2											
F	RH	5											1 3															
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822 731 PAGE NO. 1

DATE: 10-11-82 MODEL: 7 LWT -GAUGE: 222 (4) SERIAL NO. B6364422

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T EJCT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MAL. RATE PER
R50 PSP																												
S	K	5	OK																									
M	K	5	OK																									
F	K	5															1/4											
R50 HP																												
S	DJ	5	OK																									
M	DJ	5	OK																									
F	DJ	5	OK																									
R55 Mcase																												
S	RW	5											1/3															
M	RW	5											1/4															
F	RW	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (4)

PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. 6364422

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	RATE PER MA
F 50 SP																												
S	RH	5											15															
M	RH	5											15															
F	RH	5											15															
W 50 PSP																												
S	RE	5	OK																									
M	RE	5	OK																									
F	RE	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (5)

PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364421

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

Follower Comparison

"MALFUNCTIONS" NO BIND

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MAL. RATE PER
R50 PSP																												
S	DJ	5																		2½								
M	DJ	5												1/3						1								
F	DJ	5																		2½								
R50 HP																												
S	RW	5															1/3											
M	RW	5	OK																									
F	RW	5	OK																									
R55 Mcore																												
S	RH	5	OK																									
M	RH	5																		1/3								
F	RH	5																		2⅓								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364421 (5)

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" NO BIND

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAZZED SHELL	DON'T EJECT	DON'T ALW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MA . RATE PER
F 50 SP																												
S	RE	5																		1								
M	RE	5															1											
F	RE	5														1				1								
W 50 PSP																												
S	R	5															1			1								
M	R	5																		1								
F	R	5															1			1								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (1)

PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364423

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MAL. RATE PER
R50 PSP																												
S	RW	5																		1								
M	RW	5																		1								
F	RW	5																		1								
R50 HP																												
S	RH	5																		1								
M	RH	5																		1								
F	RH	5																		1								
R55 Nosc																												
S	RE	5	OK																									
M	RE	5																		1								
F	RE	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (1)

PAGE NO. 2

PREVIOUS ROUNDS _____

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364423

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLY BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
F 50 SP																												
S	K	5																		2½								
M	K	5																		2½								
F	K	5																		2½								
W 50 PSP																												
S	DJ	5																		3⅔								
M	DJ	5																		1½								
F	DJ	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (2)

PAGE NO. 1

DATE: 10-11-82 MODEL: 7 LWT GAUGE: 222 SERIAL NO. B6364417

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M-F. RATE PER
R50 PSP																												
S	RH	5	OK																									
M	RH	5	OK																									
F	RH	5	OK																									
R50 HP																												
S	RE	5	OK																									
M	RE	5	OK																									
F	RE	5	OK																									
R55 Mcore																												
S	K	5	OK																									
M	K	5	OK																									
F	K	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. (2) 86364417

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" Stamped Follower

SUMMARY SHEET BY	SECOND	NO. OF ROUNDS FIRED	FIRING	TRA FEED SEMI	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	RATE PER M
F 50 SP																												
S	DJ	5	OK																									
M	DJ	5	OK																									
F	DJ	5	OK																									
W 50 PSP																												
S	RU	5	OK																									
M	RU	5	OK																									
F	RU	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (3) PAGE NO. 1

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364418

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MA-F. RATE PER
R50 PSP																												
S	RE	5																		1								
M	RE	5	OK																									
F	RE	5											2							1								
R50 HP																												
S	K	5																		1								
M	K	5																		1								
F	K	5																		1								
R55 Mcase																												
S	DJ	5	OK																									
M	DJ	5											1	5						1								
F	DJ	5																		1								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (3) PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B6364418

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M . RATE PER
F 50 SP																												
S	RW	5																		1								
M	RW	5																		1								
F	RW	5																		1								
W 50 PSP																												
S	RN	5	OK																									
M	RN	5	OK																									
F	RN	5																		1								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 (4) PAGE NO. 1

DATE: 10-11-82 MODEL: 7 LWT GAUGE: 222 SERIAL NO. B6364422

PREVIOUS ROUNDS ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	WEAPON SEMI	DON'T EJECT	DON'T EJCT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREECHES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MAL. RATE PER
R50 PSP																												
S	K	5																		1								
M	K	5																		1								
F	K	5																		1								
R50 HP																												
S	DJ	5	OK																									
M	DJ	5	OK																									
F	DJ	5	OK																									
R55 Mcut																												
S	RW	5																		1								
M	RW	5																		1								
F	RW	5																		1								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (4) PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. B636 4422

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EXTRACT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	RATE PER
F 50 SP																												
S	RH																			1								
M	RH												3							1								
F	RH																			1								
W 50 PSP																												
S	RE	5	OK																									
M	RE	5																		1								
F	RE	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822731 PAGE NO. 1

DATE: 10-11-82 MODEL: 7 LWT GAUGE: 222 (3) SERIAL NO. B636442 1

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M-F. RATE PER
R50 PSP																												
S	DJ	5	OK																									
M	DJ	5	OK																									
F	DJ	5	OK																									
R50 HP																												
S	RW	5																		1								
M	RW	5																		1								
F	RW	5																		1								
R55 Mcase																												
S	RH	5																		1								
M	RH	5																		1								
F	RH	5											3															
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 822731 (5) PAGE NO. 2

DATE: 10-11-82 MODEL: 7LWT GAUGE: 222 SERIAL NO. 86364421

PREVIOUS ROUNDS: ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Follower Comparison "MALFUNCTIONS" STAMPED FOLLOWER

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T FEED	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	M. RATE PER
F 50 SP																												
S	RE	5	OK																									
M	RE	5	OK																									
F	RE	5	OK																									
W 50 PSP																												
S	K	5															1 3			1 1								
M	K	5															1 3			1 1								
F	K	5															1 3			1 1								
TOTAL (PER MAL.)																												

Oct. 11, 1982

Report No. 822731
W.O. # C-1856-000

Model 7LWT
Cal. 222

	Headspace
1. B-6364423	MIN. +.002
2. B-6364417	MIN. +.004
3. B-6364418	MIN. +.004
4. B-6364422	MIN +.003
5. B-6364421	MIN +.002

M-7LWT FUNCTION TEST 222
WR 823271
WO C-1856 LIVE ROUND FEED

Report No. 8[illegible]

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Comcentive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7[illegible]	FORMAL ____	DATE REQUESTED: [illegible]
CAL ~~or GAGE~~: 222	TEST RESULTS ONLY ✓	DATE NEEDED BY: [illegible]
BARREL TYPE: CA[illegible]		REQUESTED BY: [illegible]
PROOFED: YES ✓ NO ____		WORK ORDER NO: [illegible]

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

1. FEED & EJECT LIVE & FIRED ROUNDS USING
- NO-BIND FOLLOWER & M/600 MAG. SPRING.
- 600 " " " "
- NO-BIND " & EXP. 2ND LOAD MAG. SP.
- 600 " " " " " "

GUNS REQUIRED:

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 1-27-83

TEST COMPLETED BY: J. Bac[illegible]

REPORT DATE: —

Report # 823271 1-27-83

Test Results Only

To D. Bullis

From J. Baggetta

Test Title

M 700 .222 caliber evaluation of feeding and ejection of design No. 1 stamped No-Bind Follower vs M-600 Follower - (Using M-600 magazine spring and experimental 2# load magazine spring.

Test Results

The following rifles had the experimental 2# load magazine spring assembled in them.

- Four design No. 1 stamped No-Bind Followers were fired a total of 360 round (90 rounds each) experiencing 48 malfunction for an overall malfunction rate of 13.3%.

- Four M-600 followers were fired a total of 360 rounds (90 rounds each) experiencing 50 malfunctions for an overall malfunction rate of 13.9%.

The following rifles had the M-600 magazine spring assembled in them.

- Four design No. 1 stamped No-Bind follower were fired a total of 360 rounds (90 rounds

each) experiencing 66 malfunctions for an overall malfunction rate of 18.3 %.

- Four M-600 followers were fired a total of 360 rounds (90 rounds each) experiencing 55 malfunctions for an overall malfunction rate of 15.3 %.

Rifles used in ~~Test~~ Field Function Test
M-7 Lwt 222 caliber
B 6364423
B 6364418
B 6364422
B 6364421

~~FIELD CYCLE TEST~~ - CENTERFIRE
JACK FUNCTION

REPROT NO.: 823271

PAGE NO.

PREVIOUS ROUNDS

DATE: 12-15-82

MODEL: 7 LWT

GAUGE: 222

SERIAL NO.

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~
600 Follower - M. 600 Mag Spring

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS ~~PER~~ RATE	MALF. RATE ~~PER~~
B6364423		90											2							20							24.4	24.4
B6364418		90											1	2						18							23.3	23.3
B6364422		90											2	2		1											5.6	5.6
B6364421		90												3						4							7.8	7.8
TOTAL (PER MAL.)																												

Report No. 823271

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ____	DATE REQUESTED: 11-28-82
CAL. or GAGE: 222	TEST RESULTS ONLY ✓	DATE NEEDED BY: [illegible]
BARREL TYPE: CAPR		REQUESTED BY: [illegible]
PROOFED: YES ✓ NO ____		WORK ORDER NO: A 1256-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

1. FEED & EJECT LIVE & FIRED ROUNDS USING
- NO-BIND FRONT & M/600 MAG. SPRING.
- 600 " " " "
- NO-BIND " & EXP. 2ND LOAD MAG. SP.
- 600 " " " " " "

GUNS REQUIRED:

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

~~FIELD CYCLE TEST~~ - CENTERFIRE
JACK FUNCTION

REPORT NO.: 823271 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 12-15-82 MODEL: 7 LWT GAUGE: 222 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~
NO-BIND Follower Design #1
M-600 MAG Spring

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAFFED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS ~~PER~~ Pinto ~~Sec~~ Follower Bolted	MALF. RATE ~~PER~~ over-All
B6364423		90												3						19							24.4	24.4
B6364418		90											5	1	1	3				16							28.9	28.9
B6364422		90								1			1	1		3											7.8	7.8
B6364421		90												9						2							12.2	12.2
TOTAL (PER MAL.)																												

~~FIELD CROSS TEST~~ Jack Function - CENTERFIRE

REPROT NO.: 823271 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 12-14-82 MODEL: 7 Cwt GAUGE: 222 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~
600 Follower + Exp 2# Load Mag Spring

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS ~~PER~~ Rate Follower Related	MALF. RATE ~~PER~~ OVER-ALL
B6364423		90											3														3.3	3.3
B6364418		90											6	2													8.9	8.9
B6364422		90											16	18		1											38.9	38.9
B6364421		90											1	3													4.4	4.4
TOTAL (PER MAL.)																												

~~FIELD CYCLE TEST~~ - CENTERFIRE
JACK FUNCTION

REPRT NO.: 823271

PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 11-30-82 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - ~~AMMO TYPE~~ - ~~SHOOTER~~

No-Bind Follower + Exp 2# Load Mag Spring (Design #1)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	CRACKED SHELL	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS ~~FOR~~ Rate Follower Related	MALF. RATE ~~FOR~~ OVER-ALL
B6364423		90											5	2		1											8.9	8.9
B6364418		90											1	1	3		3										8.9	8.9
B6364422		90											1	9	1		1			3							16.7	16.7
B6364421		90												7	2	1	6			1							18.9	18.9
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 823271 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 11-30-82 MODEL: 72wt GAUGE: 222 SERIAL NO. B636442 3

TEST TITLE: Function Test Live Round Feed #1
No Bind Follower + Exp 2# Load Mag Spring
Design #1

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 8
MALFUNCTION RATE: 8.9 0/0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50Gr PSP																												
Slow	JB	5												1														
Medium	JB	5	OK																									
Fast	JB	5											1															
R-50Gr HP																												
Slow	JB	5											1															
Medium	JB	5											1															
Fast	JB	5											1															
R-55Gr Metal Case																												
Slow	JB	5											1															
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 823271 PAGE NO. _____

DATE: 11-30-82 MODEL: 7 Lwt GAUGE: 222- SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-50Gr SP																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5	OK																									
F-55Gr Metal Case BT																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50Gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5														1												
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 825211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 11-30-82 MODEL: 722cf GAUGE: 222 SERIAL NO. B636441V

TEST TITLE: Induction Test Live Round Feed #3
No B.No Follower + Exp 2# Load Mag Spring
Design #1

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 8
MALFUNCTION RATE: 8.9%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 Gr PSS																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5	OK																									
R-50 Gr HP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5													1													
R 55 Gr Metal Cpt																												
Slow	JB	5													1													
Medium	JB	5	OK																									
Fast	JB	5													1													
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRUT NO.: 0 2 3 2 1 1 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 11-30-82 MODEL: 7 Lwt GAUGE: 222- SERIAL NO. _____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow		JB	5	OK																								
Medium		JB	5														1											
Fast		JB	5														1											
F 55Gr Metal Gas Bi																												
Slow		JB	5	OK																								
Medium		JB	5	OK																								
Fast		JB	5	OK																								
W-50Gr PSB																												
Slow		JB	5	OK																								
Medium		JB	5	OK																								
Fast		JB	5										1				1											
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 82-5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 11-30-82 MODEL: 721 ADL GAUGE: 222 SERIAL NO. B6364422

TEST TITLE: Function Test Live Round Feed #4

No Bind Follower + Exp 2# Load Mag Spring Design #1

TTL. RDS. FIRED: 90

TTL. MALFUNCTIONS: 15

MALFUNCTION RATE: 16.7%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 50gr PSJ																												
Slow	JB	5												2														
Medium	JB	5												1														
Fast	JB													1	1													
R 50gr HP																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5											1															
R 55gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5																		1								
Fast	JB	5																		2								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: [illegible] PAGE NO. _____

DATE: 11-30-82 MODEL: 7 Lock GAUGE: 222- SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-50Gr SP																												
Slow	JB	5												1														
Medium	JB	5												1														
Fast	JB	5															1											
F 55Gr Metal Cas. Bi																												
Slow	JB	5												1														
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50Gr PSP																												
Slow	JB	5												1														
Medium	JB	OK																										
Fast	JB	OK																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82521 PAGE NO. ____

DATE: 11-30-82 MODEL: 721 ADL GAUGE: 222 SERIAL NO. B6364421

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed #5

No Bind Follower + Exp 2# Load Mag Spring Design #1

TTL. RDS. FIRED: 90

TTL. MALFUNCTIONS: 17

MALFUNCTION RATE: 18.9 %

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50gr PSJ																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R-50gr HP																												
Slow	5	OK																										
Medium	5														1													
Fast	5																1											
R-55gr metal cpt																												
Slow	5															1												
Medium	5														1													
Fast	5													1														
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 5 2 1 1 PAGE NO.

PREVIOUS ROUNDS

DATE: 11-30-82 MODEL: 7 Lwt GAUGE: 222- SERIAL NO.

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow	JB	5															1											
Medium	JB	5															1											
Fast	JB	5																										
F 55Gr Mfgr Gr. Bi																												
Slow	JB	5															1											
Medium	JB	5	OK																									
Fast	JB	5															1											
W-50Gr PSP																												
Slow	JB	5												2			1											
Medium														2						1								
Fast														2														
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 825211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-15-82 MODEL: 700 GAUGE: 222 SERIAL NO. B6364423

TEST TITLE: Function Test Live Round Feed #1
600 Follower M-600 Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 22
MALFUNCTION RATE: 24.4 %

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50cr PSP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5											1							1								
R-50cr HP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
R 55cr Mem Cpt																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5											1							1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 5 2 1 1 PAGE NO.

PREVIOUS ROUNDS

DATE: ~~11-30-52~~ MODEL: 7 Lock GAUGE: 7.22 SERIAL NO.

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-50Gr SP																												
Slow	JB	5																		2								
Medium	JB	5																		1								
Fast	JB	5																		1								
F 55Gr Metal Case Bi																												
Slow	JB	5																		2								
Medium	JB	5																		1								
Fast	JB	5																		1								
W-50Gr PSP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CONTINUED

REPORT NO.: 0 2 5 2 1 1 PAGE NO. ____

REVIOUS ROUNDS ____

DATE: 12-15 82 MODEL: 700 GAUGE: 222 SERIAL NO. B636441V

TEST TITLE: Function Test Live Round Feed #3
600 Follower M-600 Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 21
MALFUNCTION RATE: 23.30/0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50gr PSP																												
Slow	JB	5																		1								
Medium	JB	5											1							1								
Fast	JB	5																		1								
R 50gr HP																												
Slow	JB	5																		1								
Medium	JB	5												1						1								
Fast	JB	5												1						1								
R 55gr Metal Case																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 5 2 1 1 PAGE NO. ____

DATE: ~~[illegible]~~ MODEL: 7 Lock GAUGE: 222 SERIAL NO. ____

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
F 55Gr Metal Gas. Bi																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
W-50Gr PSP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82 5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-75 82 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. B6364422-

TEST TITLE: Induction Test Live Round Feed #4
600 Follower M-600 Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 5
MALFUNCTION RATE: 5.6 %

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50gr PSJ																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R-50gr HP																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5	OK																									
R-55gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529730

JACK ENDURANCE CENTERFIRE

REPORT NO.: 0 2 5 2 7 1 PAGE NO. ____

DATE: ~~[illegible]~~ MODEL: 7 Lwt GAUGE: 222- SERIAL NO. ____

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
F 55Gr Metal Case BT																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50Gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5												1		1												
Fast	JB	5											2															
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0x5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-15-82 MODEL: 722 GAUGE: 222 SERIAL NO. B636442

TEST TITLE: Function Test Live Round Feed #5
600 Follower M-600 MAG Springs

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 7
MALFUNCTION RATE: 7.8%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5	OK																									
R-50 gr HP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5												1														
R-55 gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 3 2 1 1 PAGE NO.

DATE: ~~11-30-72~~ MODEL: 7 Lwt GAUGE: 222 SERIAL NO.

PREVIOUS ROUNDS

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-50GR SP																												
Slow	JB	5																		1								
Medium	JB	5	OK																									
Fast	JB	5	OK																									
F 55GR MATCH GAS BI																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5	OK																									
W-50GR PSP																												
Slow	JB	5																		1								
Medium	JB	5												1														
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 8 2 5 2 1 1 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-14-52 MODEL: 721 ADL GAUGE: 222 SERIAL NO. B6364423

TEST TITLE: Function Test Live Round Feed #1
600 Follower + Exp #2# Load Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 3.3 0/0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
R-50gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R-50gr HP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R-55gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 5 2 1 1 PAGE NO.

PREVIOUS ROUNDS

DATE: ~~4-30-82~~ MODEL: 7 Lock GAUGE: 7.22- SERIAL NO.

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK YES	REMARKS (ON BACK NO
F 50gr SP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
F 55gr Metal Case Bi																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5	OK										3															
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 8x5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-24-82 MODEL: 721 ADL GAUGE: 222 SERIAL NO. B6364418

TEST TITLE: Function Test Live Round Feed #3
600 Follower + Exp 2# Load Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 8
MALFUNCTION RATE: 8.9%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5											1															
Fast	JB	5											1															
R-50gr HP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5											1															
R-55gr Metal Case																												
Slow	JB	5												1														
Medium	JB	5											1	1														
Fast	JB	5											1															
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 0 2 5 2 1 1 PAGE NO.

PREVIOUS ROUNDS

DATE: ~~11-30-82~~ MODEL: 7 Lwt GAUGE: 222- SERIAL NO.

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
F 55Gr MGM Grs BT																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50Gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5											1															
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82-5211 PAGE NO. ____

DATE: 12-14 82 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. B636422

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed #4
600 Follower + Exp 2# Long Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 35
MALFUNCTION RATE: 38.9

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VACCILLITES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50Gr PSP																												
Slow	JB	5												3														
Medium	JB	5												2														
Fast	JB	5											2															
R-50Gr HP																												
Slow	JB	5											2	3														
Medium	JB	5											1	2														
Fast	JB	5											2	2														
R 55Gr Metal Cpk																												
Slow	JB	5												3														
Medium	JB	5												3														
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE ~~CENTERFIRE~~

REPROT NO.: 0 2 5 2 7 1

PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: ~~11-30-83~~

MODEL: 7 Lwt

GAUGE: 222

SERIAL NO. ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____

TTL. MALFUNCTIONS: ____

MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F. 50Gr SP																												
Slow	JB	5														1												
Medium	JB	5											1															
Fast	JB	5											1															
F 55Gr Metal Case Bi																												
Slow	JB	OK																										
Medium	JB												1															
Fast	JB	OK																										
W. 50Gr PSP																												
Slow	JB												1															
Medium	JB												3															
Fast	JB												2															
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 82-521 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-14-82 MODEL: 700 ADL GAUGE: 222 SERIAL NO. B636442

TEST TITLE: Function Test Live Round Feed #5

600 Follower + Exp 2# Load Mag Spring

TTL. RDS. FIRED: 90

TTL. MALFUNCTIONS: 4

MALFUNCTION RATE: 4.4%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R-50gr HP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
R 55gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 0 2 3 2 1 1 PAGE NO. _____

DATE: ~~11-30-82~~ MODEL: 7 Lock GAUGE: 222- SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50gr SP																												
Slow	JB	5												1														
Medium	JB	5	ok																									
Fast	JB	5	ok																									
F 55gr MetalGuard																												
Slow	JB	5	ok																									
Medium	JB	5	ok																									
Fast	JB	5	ok																									
W-50gr PSP																												
Slow	JB	5	ok																									
Medium	JB	5												1														
Fast	JB	5											1	1														
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82 5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-15 82 MODEL: 722 cal GAUGE: 222 SERIAL NO. B6364423

TEST TITLE: Function Test Live Round Feed #1

No. Bind Follower Design #1

M-600 Mag Spring

TTL. RDS. FIRED: 90

TTL. MALFUNCTIONS: 22

MALFUNCTION RATE: 24.4%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 gr PSJ																												
Slow	JB	5																		2								
Medium	JB	5																		1								
Fast	JB	5																		2								
R-50 gr HP																												
Slow	JB	5																		2								
Medium	JB	5																		1								
Fast	JB	5																		1								
R-55 gr Metal Cpt																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5																		1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CONFIDENTIAL

REPORT NO.: 0 2 3 2 7 1 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: ~~[illegible]~~ 82 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50gr SP																												
Slow	JB	5												1						1								
Medium	JB	5																		1								
Fast	JB	5	OK																									
F 55gr Metal Case BT																												
Slow	JB	5	OK																									
Medium	JB	5																		1								
Fast	JB	5																		1								
WW-50gr PSP																												
Slow	JB	5												1						1								
Medium	JB	5																		1								
Fast	JB	5												1						1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82-3211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 10-25-82 MODEL: 721 GAUGE: 222 SERIAL NO. B636418

TEST TITLE: Function Test Live Round Feed #3
No-Bind Follower Design #1
M-600 Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 26
MALFUNCTION RATE: 28.9%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 gr PSP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5	OK																									
R 50 gr HP																												
Slow	JB	5											1							1								
Medium	JB	5												1						1								
Fast	JB	5											2							1								
R 55 gr Metal Cpt																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5														1				1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CONTROLLED

REPORT NO.: 0 2 5 2 1 1 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: ~~[illegible]~~ MODEL: 7 Lwt GAUGE: 222 SERIAL NO. ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50Gr SP																												
Slow	JB	5																		1								
Medium	JB	5																		1								
Fast	JB	5											1							1								
F 55Gr Metal Case BT																												
Slow	JB	5																		1								
Medium	JB	5											1							1								
Fast	JB	5	OK																									
W-50Gr PSP																												
Slow	JB	5														1				1								
Medium	JB	5														1				1								
Fast	JB	5													1					1								
TOTAL (PER MAL.)																												

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529745

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82-5211 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-15 82 MODEL: 722 GAUGE: 222. SERIAL NO. B6364422

TEST TITLE: Function Test Live Round Feed #4
No Bind Follower Design #1
M-600 MAG Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 7
MALFUNCTION RATE: 7.8%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50Gr PSS																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5														1												
R-50Gr HP																												
Slow	JB	5	OK																									
Medium	JB	5														1												
Fast	JB	5	OK																									
R 55Gr Metal Case																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5								1																		
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 82521 PAGE NO. ____

DATE: ~~[illegible]~~ MODEL: 7 Lwt GAUGE: 222 SERIAL NO. ____

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50gr SP																												
Slow	JB	5												1														
Medium	JB	5														1												
Fast	JB	5	OK																									
F 55gr metal case BT																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5											1															
W-50gr PSP																												
Slow	JB	5	OK																									
Medium	JB	5												1														
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE

REPROT NO.: [illegible] PAGE NO. ____

DATE: [illegible] MODEL: 7 Lock GAUGE: 222- SERIAL NO. ____

PREVIOUS ROUNDS ____

TEST TITLE: Function Test Live Round Feed

TTL. RDS. FIRED: ____
TTL. MALFUNCTIONS: ____
MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F 50gr SP																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5																		1								
F 55gr Metal Case Bi																												
Slow	JB	5	OK																									
Medium	JB	5	OK																									
Fast	JB	5	OK																									
W-50gr PSP																												
Slow	JB	5												2														
Medium	JB	5	OK																									
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE REPORT NO. 10R5277 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 12-15 52 MODEL: 721 ADL GAUGE: 222 SERIAL NO. B6364421

TEST TITLE: Function Test Live Round Feed #5
No-Bind Follower Design #1
M-600 Mag Spring

TTL. RDS. FIRED: 90
TTL. MALFUNCTIONS: 11
MALFUNCTION RATE: 12.2%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 Gr PSP																												
Slow	JB	5												1						1								
Medium	JB	5												1														
Fast	JB	5												1														
R-50 Gr HP																												
Slow	JB	5												1														
Medium	JB	5												1														
Fast	JB	5	OK											1														
R 55 Gr Metal Cpt																												
Slow	JB	5												1														
Medium	JB	5												1														
Fast	JB	5	OK																									
TOTAL (PER MAL.)																												

M-7 Cwt .222 1-21.83

Test Followup #4

Report #830211

WO C-1856-000

Report No. 83031

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	✓ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT	FORMAL ✓	DATE REQUESTED: 1-31-83
CAL or GAGE: 222		DATE NEEDED BY: A.S.A.P.
BARREL TYPE: ____	TEST RESULTS ONLY ____	REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ____		WORK ORDER NO: C-1256-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

FEED & EJECT LIVE & FIRED ROUNDS USING TEST FOLLOWERS #4. (WITH M7LWT MAG. SPRING) (LANGES)

GUNS REQUIRED:

FOUR TEST GUNS B 6364423
B 6364418
B 6364422
B 6364421

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 1-31-83
TEST COMPLETED BY: Joe Bangotti
REPORT DATE: 1-31-83

RO-40-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT — PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
D. Bullis

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830211

M/SEVEN LWT. .222 CALIBER STAMPED NO-BIND FOLLOWER DESIGN NO. 4,FUNCTION TEST.

Prepared by: J. Baggetta

Date Prepared: 1 - 31 - 83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date 2-1-83

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date 2/1/83

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830211

REPORT TITLE: M/SEVEN LWT. .222 CALIBER STAMPED NO-BIND FOLLOWER DESIGN NO. 4,FUNCTION TEST.

MODEL(S): Seven LWT.

GAUGE OR CALIBER: .222

DATE: 1-23-83

WORK ORDER NO.: C-1856-000

PART NAME: Follower

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 4
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. NO. OF GUNS TESTED: 4

   NO. OF ROUNDS PER GUN: 126

   TOTAL ROUNDS FIRED IN TEST: 504

   AMMO TYPE: MAGS. _____; TARGET: X

   RIM FIRE _____ CENTER FIRE ____

January 31, 1983

TO: R. NIGHTINGALE

FROM: J. BAGGETTA

REPORT TITLE: M/SEVEN LWT. .222 CALIBER STAMPED NO-BIND FOLLOWER DESIGN NO. 4 FUNCTION TEST

ABSTRACT

A work request was received from D. Bullis, Current Firearms Design, to evaluate the M/Seven LWT. .222 caliber Stamped No-Bind Follower Design No. 4.

SCOPE OF TEST

To evaluate the feeding and ejection of the M/Seven LWT. .222 Caliber Follower.

TEST RESULTS

A. Jack Live Round Unload Function Test

- Four M/Seven LWT. .222 caliber were live round unload tested a total of 504 rounds (126 rounds each) experiencing 14 malfunctions for an overall malfunction rate of 2.8%.

B. Field Function Test

- Four (4) M/Seven LWT. .222 caliber were fired a total of 504 rounds (126 rounds each) experiencing 10 malfunctions for an overall malfunction rate of 2.0%.

REPORT TEXT

A. The following rifles experienced malfunctions during the Jack Live Round Unload Test in the R & D shooting room:

1.) B6364423 – Two stem chamber high
2.) B6364421 – Eight stem chamber left – one stem chamber low.
3.) B6364418 – Two stem chamber right – one stem chamber left
4.) B6364422 – One stem chamber right

B. The following rifles experienced malfunctions during the Field Function Test at the Ilion Fish & Game Club rifle range:

1.) B6364423 – One stem chamber left – one stem chamber right
2.) B6364421 – One stem chamber right – one stem chamber left – three stem chamber high
3.) B6364418 – One stem chamber right – one stem chamber high
4.) B6364422 – One stem chamber left

TEST PROCEDURE

A. Measurements
- No measurements were taken.

B. Test Conditions

Condition No. 1 – Indoor Jack Live Round Unload
- The test was run using the Test Lab Shooting Room Jacks.
- The rifles were loaded with 5 rounds in the magazine and one in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.
- The rifles were live round unload tested only. No live firing was done in the jacks.

Condition No. 2 – Ilion Fish & Game Club Outdoor Range
- The test was run using the Ilion Fish & Game Club rifle range.
- The rifles were loaded with 5 rounds in the magazine and 1 round in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.
- Four shooters were used incorporating the round robin system.
- The weather was overcast, 32° and windy.

C. Ammunition

Ammunition used in Jack Live Round Unload and Field Function Test:

Remington 50 gr. Soft Point
Remington 50 gr. Hollow Point
Remington 55 gr. Metal Case
Federal 50 gr. Soft Point
Federal 55 gr. Metal Case Boat Tail
Winchester 50 gr. Soft Point
Winchester 55 gr. Metal Case

(Refer to Appendix "A" Data Sheet No. 1 for malfunction breakdown)

D. Rifles used in Field Function Test:

M/Seven LWT. .222 Caliber
B6364423
B6364421
B6364418
B6364422

"APPENDIX "A"

Data Sheets

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: [illegible] PAGE NO. _____

DATE: [illegible] MODEL: 7[illegible] GAUGE: 222 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - ~~RIFLE~~ - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	MISFEED SEEN	DON'T ENTER	DON'T ECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STICKS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER Follower Related	MALF. RATE PER OVERALL
R 50 gr. SP		72														1											1.4	1.4
R 50 gr. HP		72														1											1.4	1.4
R 55 gr. MC		72													1												1.4	1.4
F 50 gr. SP		72													1												1.4	1.4
I 55 gr. MCBT		72																									0	0
[illegible]		72											3		1	1											6.9	6.9
[illegible] 55 gr. MC		72											1														1.4	1.4
TOTAL (PER MAL.)																												

Report No. 830211

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	✓ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT	FORMAL ✓	DATE REQUESTED: 1-21-83
CAL. or GAGE: 222	TEST RESULTS ONLY ____	DATE NEEDED BY: A.S.A.P.
BARREL TYPE: ____		REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ____		WORK ORDER NO: C-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

FEED & EJECT LIVE & FIRED ROUNDS USING TEST FOLLOWERS F4. (WITH M7LWT MAG. SPRING) (CANCED)

GUNS REQUIRED:

FOUR TEST GUNS B 6364423
B 6364418
B 6364422
B 6364421

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830811 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: [illegible] MODEL: 7 GAUGE: 222 SERIAL NO. B6364423

TEST TITLE: [illegible] (1)

WEATHER: ____

TTL. RDS. FIRED: 126

TTL. MALFUNCTIONS: 2

MALFUNCTION RATE: 1.6 %

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem [illegible]		18	OK																									
Rem R2[illegible]		18											1														✓	
Rem [illegible]		18	OK																									
Rem X22[illegible]		18											1														✓	
Rem X22[illegible]		18	OK																									
[illegible]		18	OK																									
Fed [illegible]		18	OK																									
TOTAL (PER MAL.)																												

AL 0020426

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: [illegible]

PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: [illegible]

MODEL: 7

GAUGE: 222

SERIAL NO. K636[illegible]1

TEST TITLE: Live Load & Unload (2)

WEATHER: _____

TTL. RDS. FIRED: 126

TTL. MALFUNCTIONS: 8

MALFUNCTION RATE: 6.3 %

"MALFUNCTIONS"

AMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem. R222R4	CS	18														11											✓	
Rem. R222R1		18												1														
Rem. R222R3		18														1												
Win. X222R		18														1												
Win. X222R1		18	OK																									
F. 222A		18														11												
Fed. 222B		18	OK																									
TOTAL (PER MAL.)																												

AL 0020428

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 850311 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 26 Jun 85 MODEL: 7 GAUGE: 222 SERIAL NO. B6364418

TEST TITLE: Live Load & Unload (3)

WEATHER: ____

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.4%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem R222R4	CS	18	OK																									
Rem R222R1		18														1											✓	
Rem R222R3		18	OK																									
Win X222R		18													1												✓	
Win X222R1		18													1												✓	
Fed 222A		18	OK																									
Fed 222B		18	OK																									
TOTAL (PER MAL.)																												

AL 0020430

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: [illegible] PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: [illegible] MODEL: 7 GAUGE: [illegible] SERIAL NO. R636422

TEST TITLE: [illegible] (4)

WEATHER: ____

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 0.8 %

"MALFUNCTIONS"

MUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem. R222R4	GS	18	OK																									
Rem. R222R1		18	OK																									
Rem. R222R3		18													1												✓	
Wm. X222R		18	OK																									
Wm. X222R1		18	OK																									
G [illegible]		18	OK																									
Fed. [illegible]	✓	18	OK																									
TOTAL (PER MAL.)																												

AL 0020432

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211

PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 Cut GAUGE: 222 SERIAL NO. B636 4423

TEST TITLE: Field Function (Feeding)

WEATHER: Overcast 32° windy

(1)

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 1.60/0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 SB S	1	6	OK																									
M		6	OK																									
F		6	OK																									
R-50 HP S	2	6	OK																									
M		6	OK																									
F		6	OK																									
R-55 MC S	3	6	OK																									
M		6	OK																									
F		6	OK																									
F-50 SB S	4	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

---------- DIAGRAMS (IF NEEDED) ----------

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

DATE: 1-31-83 MODEL: 7Lwt GAUGE: 222 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Field Function (Feeding)

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-55 MC BT S	1	6	OK																									
M		6	OK																									
F		6	OK																									
W-50 SB S	2	6	OK																									
M		6													13													
F		6														14												
W-55 MC S	3	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 830211 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. B6364421

TEST TITLE: Field Function (Feeding) (2)

WEATHER: _____

TTL. RDS. FIRED: 126

TTL. MALFUNCTIONS: 5

MALFUNCTION RATE: 4.0 o/o

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 SB S	2	6	OK																									
M		6	OK																									
F		6	OK																									
R-50 HP S	3	6	OK																									
M		6	OK																									
F		6														15												
R-55 MC S	4	6	OK																									
M		6													12													
F		6	OK																									
F-50 SB S	1	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 LWT GAUGE: 222 SERIAL NO. _____

TEST TITLE: Field Function (Feeding)

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-55 MC BT S	2	6	OK																									
M		6	OK																									
F		6	OK																									
W-50 SB S	3	6											1'															
M		6	OK																									
F		6											2½															
W-55 MC S	4	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 Lwt GAUGE: 222 SERIAL NO. B6364418

TEST TITLE: Field Function (Feeding) (3)

WEATHER: _____

TTL. RDS. FIRED: 126

TTL. MALFUNCTIONS: 2

MALFUNCTION RATE: 1.6%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 SB S	3	6	OK																									
M		6	OK																									
F		6	OK																									
R-50 HP S	4	6	OK																									
M		6	OK																									
F		6	OK																									
R-55 MC S	1	6	OK																									
M		6	OK																									
F		6	OK																									
F-50 SB S	2	6	OK																									
M		6													1 2													
F		6	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

DATE: 1-31-83 MODEL: 700 GAUGE: 222 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Field Function (Feeding)

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-55 MC BT S	3	6	OK																									
M		6	OK																									
F		6	OK																									
W-50 SB S	4	6	OK																									
M		6	OK																									
F		6	OK																									
W-55 MC S	1	6	OK																									
M		6	OK																									
F		6											13															
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 Lwt CAUGE: 222 SERIAL NO. B6364422

TEST TITLE: Field Function (Feeding) (4)

WEATHER: _____

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 0.80/0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50 SB S	4	6	OK																									
M		6	OK																									
F		6														13												
R-50 HB S	1	6	OK																									
M		6	OK																									
F		6	OK																									
R-55 MC S	2	6	OK																									
M		6	OK																									
F		6	OK																									
F-50 SB S	3	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830211 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7600 GAUGE: 222 SERIAL NO. _____

TEST TITLE: Field Function (Feeding)

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-55 MC BT S	4	6	OK																									
M		6	OK																									
F		6	OK																									
W-50 SB S	1	6	OK																									
M		6	OK																									
F		6	OK																									
W-55 MC S	2	6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

M/7LWT CAL.223 REPORT No. 830322

Function WO# 1856-000

Accuracy D. BULLIS

Report No. [illegible]

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STATS.	REPORT REQ'D.	
MODEL: [illegible]	FORMAL ____	DATE REQUESTED: [illegible]
CAL or GAGE: 223	TEST RESULTS ONLY ✓	DATE NEEDED BY: ____
BARREL TYPE: CARBINE		REQUESTED BY: [illegible]
PROOFED: YES ✓ NO ✓		WORK ORDER NO: [illegible]-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
✓ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST: New Product Acceptance

THIS IS THE INTRODUCTION OF A NEW CALIBER (223) TO THE M/7 LWT LINE. WE SHOULD TEST FOR FUNCTION & ACCURACY.

- FEEDING & UNLOADING LIVE RDS.
- FEEDING, FIRING & EJECTION OF FIRED RDS.
- JACK & SHOULDER SHOOTING
- ACCURACY
- ACTIONS CONTAIN #4 MAG FOLLOWER

GUNS REQUIRED: NEED PROOFING

7600149
7600150
7600151
7600153
7600154
7600156
7600157

PROOFED: 7600152, 7600155, 7600158

All guns are with D. Bollis

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 2-11-83
TEST COMPLETED BY: R. Williams
REPORT DATE: ____

RD-46-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

Distribution:

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830322

M/ 7LWT CAL. 223 FUNCTION + ACCURACY EVALUATION

"TEST RESULTS ONLY"

Prepared by: R. Williams

Date Prepared: 2-11-'83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830322

REPORT TITLE: M/7LWT CAL.223 FUNCTION & ACCURACY EVALUATION

MODEL(S): SEVEN LWT

GAUGE OR CALIBER: 223

DATE: 2-11-'83

WORK ORDER NO.: C-1856-000

PART NAME:

DESIGNER/ENGINEER: D. BULLIS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 10
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: STATIC
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: 0

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

FEB. 11, 1983 REPORT No. 830322

"TEST RESULTS ONLY"

TO: D. BULLIS

FROM: R. WILLIAMS

REPORT TITLE: M/7LWT CAL. 223 FUNCTION & ACCURACY EVALUATION

REASON FOR TEST

To evaluate the performance of the M/7LWT introduced in the new CAL. 223.

TEST PROCEDURE

Load and Unload Cycle test was conducted in the Shooting Jacks in the Test Lab. Seven (7) types of ammo were used with Slow, Medium and Fast action cycle.

AMMUNITION

REM. 55 Gr. P.S.P
REM. 55 Gr. H.P.
REM 55 Gr. M.CASE
FED. 55 Gr. S.P.
FED. 55 Gr. M.CASE
WIN. 55 Gr. S.P.
WIN. 55 Gr. M.CASE

TEST RESULTS

Two (2) rifles had no malfunctions. The other eight (8) rifles had a malfunction rate of the following percent. 40%, 8.5%, 10.4%, 1.9%, 13.3%, 20%, 19% and 28.5%

Due to the high malfunction Rate of Live Round Cycle Load & Unload Test, Further testing was stopped.

Report No. 830322

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
✓ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 2-1-83
CAL. or GAGE: 223		DATE NEEDED BY:
BARREL TYPE: CARBINE	TEST RESULTS ONLY ___	REQUESTED BY: D. BULLIS
PROOFED: YES ✓ NO ✓		WORK ORDER NO: C-1356-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
✓ Function Test	___ Environmental Test	___ Measurements	___ Other ___
✓ Accuracy Test	___ Customer Complaint	___ Endurance Test	

EXPLAIN IN DETAIL THE REASON FOR THIS TEST: New Product Acceptance

THIS IS THE INTRODUCTION OF A NEW CALIBER (223) TO THE M/7 LWT LINE. WE SHOULD TEST FOR FUNCTION & ACCURACY.

- FEEDING & UNLOADING LIVE RDS.
- FEEDING, FIRING & EJECTION OF FIRED RDS.
- JACK & SHOULDER SHOOTING
- ACCURACY
- ACTIONS CONTAIN #4 MAG FOLLOWER

GUNS REQUIRED: NEED PROOFING

7600149
7600150
7600151
7600153
7600154
7600156
7600157

PROOFED: 7600152, 7600155, 7600158

All guns are with D. Bullis

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830322 PAGE NO.__

DATE: 2-9-'83 MODEL: SEVEN GAUGE: 223 SERIAL NO. 7600152

PREVIOUS ROUNDS ____

TEST TITLE: M-7LWT FUNCTION + ACCURACY GUN (1)

LOAD + UNLOAD TEST "MALFUNCTIONS" OK

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
REM-55 P.S.P.	CD	15	OK																									
REM-55 H.P.		15	OK																									
REM-55 M.CASE		15	OK																									
			C																									
WIN-55 P.S.P.		15	OK																									
WIN-55-M.CASE		15	OK																									
FED. 55 - S.P.		15	OK																									
FED. 55 - M.CASE		15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830342 PAGE NO. ___

DATE: 2-9-83 MODEL: SEVEN GAUGE: 223 SERIAL NO. 7600158

PREVIOUS ROUNDS ___

TEST TITLE: M7 LWT. Function + accuracy Gun (2)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 42
MALFUNCTION RATE: 40%

Load + Unload Test

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem 55 P.S.P.	C.D.	15												F1			S1			S-4 M-1 E-1								
Rem 55 HP		15															M1			S-2 M-2 E-1								
Rem 55 M case		15															S-1 E-1			S-2 M-2 E-2								
Win. 55 P.S.P		15															S-1			S-3 M-1 E-1								
Win-55-M case		15														F1	M-1			S-1 M-1 E-1								
Fed 55 SP		15													M-1		S1			S-1 M-1 E-1								
Fed 55 M case		15															S-1			S-1 M-1 E-1								
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830322 PAGE NO. ___

DATE: 2-9-83 MODEL: SEVEN GAUGE: 223 SERIAL NO. 2600155

PREVIOUS ROUNDS ___

TEST TITLE: M-7LWT Function + ACCURACY

GUN (3)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 9
MALFUNCTION RATE: 8.5%

Load + unload Test

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem-55-PSP	C.D.	15														M-1	S-1											
Rem 55-HP		15	OK																									
Rem-55 M-case		15												F-1			M-1			F-1								
Win 55-P.S.P.		15															F-1											
Win 55-MCASE		15	OK																									
Fed 55 SP		15															S-1											
Fed 55 MCASE		15												S-1 M-1														
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830 322 PAGE NO.___

DATE: 2-9-83 MODEL: SEVEN GAUGE: 223 SERIAL NO. 7600150

PREVIOUS ROUNDS ___

TEST TITLE: M-7 LWT Function + ACCURACY GUN (4)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

Load + UNLOAD

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem 55 PSP	CD	15	OK																									
Rem 55 HP		15	OK																									
Rem 55 M case		15	OK																									
Win 55 PSD		15	OK																									
Win 55 M case		15	OK																									
Fed 55 SP		15	OK																									
Fed 55 M case		15	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

RETROI NO.: 830222 PAGE NO. _

PREVIOUS ROUNDS _____

DATE: 2-9-83 MODEL: SEVEN GAUGE: 223 CAL. SERIAL NO. 7600151

TEST TITLE: M700T Function + ACCURACY

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 11
MALFUNCTION RATE: 10.4%

Load + Unload "MALFUNCTIONS" Gun (5)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FEEDING	TRAPPED SHELL	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
R-~~150-PSP~~ REM 55 PSP	CD	15																		S1								
R-~~150-PSP~~ REM 55 HP		15																		S1 M-1 F-1								
~~W-110-PSP~~ REM 55 M CASE		15																		S-1 M-1								
~~W-110-PP~~																												
W-~~150-S. TIP~~ 55 PSP		15																		S-1 M-2								
W-~~150-PP~~ 55 M CASE		15	OK																									
~~W-180-S. TIP~~ F 55 SP																												
~~W-200-S. TIP~~ F 55 M CASE		15	OK																									
~~F-150-PSP~~		15																		M-1 F-1								
F-180-PSP																												
~~F-165-PREM.~~ B.T.																												
TOTAL (~~WEB MAL.~~)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 830322 PAGE NO.

PREVIOUS ROUNDS

DATE: 2-9-83 MODEL: SEVEN GAUGE: ~~308~~ CAL. SERIAL NO. 7600157

TEST TITLE: M 721 WT Function + ACCURACY GUN (6)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 1.9%

LOAD + Unload

"MALFUNCTIONS"

AMMUNITION Load Size	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	HALFCOCKED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	REBARGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
R-~~150-PSP~~ REM 55 PSP	CD.	15																		S1								
R-~~180-PSP~~ REM 55 HP		15														S-1												
~~W-150-PSP~~ R 55 M CASE		15	OK																									
~~W-125-TP~~																												
55 PSP W-~~150-S. TIP~~		15	OK																									
55 M CASE W-~~150-PP~~		15	OK																									
~~W-180-S. TIP~~																												
F 55 SP ~~W-200-S. TIP~~		15	OK																									
F 55 M CASE ~~F-150-PSP~~		15	OK																									
~~F-180-PSP~~																												
~~N-165-FMJ~~ B.T.																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830322 PAGE NO. ___

DATE: 2-9-83 MODEL: SEVEN GAUGE: 223 CAL. SERIAL NO. 7600119

PREVIOUS ROUNDS ___

TEST TITLE: M76WT Function + ACCURACY

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 21
MALFUNCTION RATE: 20%

"MALFUNCTIONS" GUN (8)

Load + UnLoad

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL JUMPS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-~~80-PSP~~ 55 PSP	CD	15																		S-1 M-1 E-1								
R-~~80-MP~~ 55 HD		15																		S-1								
R-~~100 PBP~~ 55 MCASE		15								F-1										S-1 M-1 E-1								
~~F-80-SP~~																												
W 55 PSP ~~F-100-SP~~		15								S-1 M-2										F-1								
W 55 MCASE ~~W-80-PSP~~		15								S-1																		
~~F-100 Power Pt.~~																												
F 55 SP ~~F-85 PREM.~~		15								M-1										S-1 M-1								
F 55 MCASE		15								S-1 M-1 F-1										S-1 M-1								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830322 PAGE NO. ____

DATE: 2-9-83 MODEL: 5CVCN GAUGE: 22 CAL. SERIAL NO. 7600156

PREVIOUS ROUNDS ____

TEST TITLE: M7LWT FUNCTION + ACCURACY

GUN (7)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 14
MALFUNCTION RATE: 13.3%

Load + Unload

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
REM 55 PSP R-~~50 PSP~~	CD	15																		S-1 M-1								
REM 55 HP R-~~50 HP~~		15																		S-1 F2								
REM R-55-M. CASE		15											F-1							F-1								
~~R-50-SP~~																												
WIN 55 PSP W-~~50-PSP~~		15																		S-1 F-1								
W 55M case		15	OK																									
~~R-50-PSP~~																												
F 55 SP ~~R-50-HP~~		15																		S-1 M-1								
F 55 M case ~~R-55-M. CASE~~		15																		S-1 M-2								
~~F-50-SP~~																												
~~W-50-PSP~~																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 830322 PAGE NO. ___

PREVIOUS ROUNDS ___

DATE: 2-11-83 MODEL: SEVEN GAUGE: 223 CAL. SERIAL NO. 7600153

TEST TITLE: M7LWT Function + Accuracy Gun (9)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 20
MALFUNCTION RATE: 19%

Load + Unload

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T EJECT	DON'T SLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL JUMPS MAG. Bullets jam in spindle	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T CHAMBER	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-~~150-PSP~~ 55 PSP	CD	15																		S-2 M-3 F-3								
R-~~180-PSP~~ 55 HP		15																		S-1 M-1 F-1								
~~W-110-PSP~~ R 55 MCASE		15																		S-1 M-1								
~~W-125-PP~~																												
W-~~150-S. TIP~~ 55 PSP		15																		S-1 M-1 F-1								
W-~~150-PP~~ 55 MCASE		15								M-1				M-1														
W-180 S. TIP																												
F 55 SP ~~W-200-S. TIP~~		15												M-1														
F 55 MCASE ~~F-150-PSP~~		15												S-1														
F-180-PSP																												
F-165-PREM. B.T.																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 830922 PAGE NO.

PREVIOUS ROUNDS

DATE: 2-11-83 MODEL: SEVEN GAUGE: ~~308~~ 223 CAL. SERIAL NO. 7600154

TEST TITLE: M 7LWT Function + ACCURACY GUN (10)

TTL. RDS. FIRED: 105
TTL. MALFUNCTIONS: 30
MALFUNCTION RATE: 28.5%

"MALFUNCTIONS"

Load + Unload

AMMUNITION Load Size	SECURE	NO. OF ROUNDS FIRED	FIRING	FAILED SHELL	DON'T EJECT	DON'T SLOT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
R-~~150-PSP~~ 55 PSP	CD	15																		S-1 M-2 E-2								
R-~~180-PSP~~ 55 HP		15																		S-2 M-1 E-2								
R 55 M case ~~W-110-PSP~~		15																		S-1 M-1 E-2								
~~W-125-TP~~																												
W 55 PSP ~~W-150-S. TIP~~		15																		S-1 M-2 E-1								
55 Mcase W-~~150-PP~~		15																		S-1 M-2 E-1								
~~W-180-S. TIP~~																												
F 55 SP ~~W-200-S. TIP~~		15													M-1					S-1 M-1 E-1								
F 55 Mcase ~~F-150-PSP~~		15																		S-1 M-1 E-1								
F-180-PSP																												
F-165-PREM. B.T.																												
TOTAL (PER MAL.)																												

Report No. 830322

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
✓ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 2-1-83
CAL or GAGE: 223		DATE NEEDED BY: ____
BARREL TYPE: CARBINE	TEST RESULTS ONLY ____	REQUESTED BY: D. BULLIS
PROOFED: YES ✓ NO ✓		WORK ORDER NO: C-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
✓ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST: New Product Acceptance

THIS IS THE INTRODUCTION OF A NEW CALIBER (223) TO THE M/7LWT LINE. WE SHOULD TEST FOR FUNCTION & ACCURACY.

- FEEDING & UNLOADING LIVE RDS.
- FEEDING, FIRING & EJECTION OF FIRED RDS.
- JACK & SHOULDER SHOOTING
- ACCURACY
- ACTIONS CONTAIN #4 MAG FOLLOWER

GUNS REQUIRED: NEED PROOFING

7600149
7600150
7600151
7600153
7600154
7600156
7600157

PROOFED: 7600152, 7600155, 7600158

All guns are with D. Bullis

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

CHRONOLOGICAL RECORD OF TESTING

REPORT #830322

MODEL & DESCRIPTION M-7LWT CAL. 223 W/O # C-1856-000

CALIBER OR GAUGE FUNCTION + ACCURACY TEST D. BULLIS

DATE	TEST	TESTER	PAGE NO.
2-8-83	Seven of the 10 rifles were Proofed in the Test Lab by Scott Franz. Preliminary measurements taken by R. Williams on all 10 rifles		
2-11-83	TEST was stopped because of high malfunction Rate of Live Round Load + Unload Test Cycle		

SHOTGUNS, VENTILATORS, RIFLES (PUMPS & AUTOLOADERS)

CAL. 223

REPORT No. 830322

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600152

GUN (1)

Headspace as Received: _____

Proof: YES

Headspace after Proof: MIN. +.002

Safe - "ON" - 1. _____ "OFF" - 1. _____

2. _____ 2. _____

3. _____ 3. _____

Firing Pin Indent (in.)

1. .021

2. .0225

3. .0215

Bolt Open Force (lbs.)

Cocked: 1. _____ Dry Fired: 1. _____

2. _____ 2. _____

3. _____ 3. _____

Trigger Pull (lbs.)

1. 3.75

2. 3.75

3. 3.75

Bolt Release Force (lbs.)

1. _____

2. _____

3. _____

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: R. Williams 2-8-83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600158

GUN (2)

Headspace as Received: _____

Proof: YES

Headspace after Proof: Min.+.004

Safe - "ON" - 1. _____ "OFF" - 1. _____

2. _____ 2. _____

3. _____ 3. _____

Firing Pin Indent(in.)

1. .022

2. .022

3. .022

Bolt Open Force(lbs.)

Cocked: 1. _____ Dry Fired: 1. _____

2. _____ 2. _____

3. _____ 3. _____

Trigger Pull(lbs.)

1. 2.75

2. 2.75

3. 2.75

Bolt Release Force(lbs.)

1. _____

2. _____

3. _____

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: R. Williams 2-8-'83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN Gun (3)

Serial No. 7600155

Headspace as Received: _____

Proof: YES

Headspace after Proof: Min. + .001

Safe - "ON" - 1. _____ "OFF" - 1. _____
2. _____ 2. _____
3. _____ 3. _____

Firing Pin Indent (in.)

1. .0195
2. .0195
3. .0205

Bolt Open Force (lbs.)

Cocked: 1. _____ Dry Fired: 1. _____
2. _____ 2. _____
3. _____ 3. _____

Trigger Pull (lbs.)

1. 3.75
2. 4.0
3. 3.75

Bolt Release Force (lbs.)

1. _____
2. _____
3. _____

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: R Williams 2-8-83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600150

Gun (4)

Headspace as Received: Min. +.001

Proof: Yes

Headspace after Proof: Min +.001

Safe - "ON" - 1.____ "OFF" - 1.____

2.____ 2.____

3.____ 3.____

Firing Pin Indent(in.)

1. .022

2. .022

3. .022

Bolt Open Force(lbs.)

Cocked: 1.____ Dry Fired: 1.____

2.____ 2.____

3.____ 3.____

Trigger Pull(lbs.)

1. 3.0

2. 3.0

3. 3.0

Bolt Release Force(lbs.)

1.____

2.____

3.____

Gun Length:____

Gun Weight:____

Center of Gravity:____

Bore:____

Choke:____

Orifice Size:____

Bolt Closing Velocity:____

Magazine Spring Force:____

Disconnector Check:____

Primer Marking:____

Safety Check:____

Firing Pin Protrusion:____

Pattern Test (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____

Accuracy (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____ P.O.I.:__

• Tester and Date:____

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600151

GUN (5)

Headspace as Received: MIN. + .001

Proof: YES

Headspace after Proof: MIN. + .002

Safe - "ON" - 1. ____ "OFF" - 1. ____

2. ____ 2. ____

3. ____ 3. ____

Firing Pin Indent(in.)

1. .021

2. .021

3. .021

Bolt Open Force(lbs.)

Cocked: 1. ____ Dry Fired: 1. ____

2. ____ 2. ____

3. ____ 3. ____

Trigger Pull(lbs.)

1. 3.25

2. 3.25

3. 3.75

Bolt Release Force(lbs.)

1. ____

2. ____

3. ____

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____

Accuracy (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____ P.O.I.: ____

• Tester and Date: R. Williams 2-8-83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN Gun (6)

Serial No. 7600157

Headspace as Received: Min. + .001

Proof: Yes

Headspace after Proof: Min + .002

Safe - "ON" - 1.____ "OFF" - 1.____
2.____ 2.____
3.____ 3.____

Firing Pin Indent(in.)

1. .021
2. .021
3. .0215

Bolt Open Force(lbs.)

Cocked: 1.____ Dry Fired: 1.____
2.____ 2.____
3.____ 3.____

Trigger Pull(lbs.)

1. 4.0
2. 4.25
3. 4.0

Bolt Release Force(lbs.)

1.____
2.____
3.____

Gun Length:____

Gun Weight:____

Center of Gravity:____

Bore:____

Choke:____

Orifice Size:____

Bolt Closing Velocity:____

Magazine Spring Force:____

Disconnector Check:____

Primer Marking:____

Safety Check:____

Firing Pin Protrusion:____

Pattern Test (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____

Accuracy (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____ P.O.I.:__

• Tester and Date: R. Williams 2-8-93

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600156

GUN (7)

Headspace as Received: Min. +.001

Proof: Yes

Headspace after Proof: Min. +.002

Safe - "ON" - 1. ____ "OFF" - 1. ____

2. ____ 2. ____

3. ____ 3. ____

Firing Pin Indent (in.)

1. .022

2. .022

3. .0215

Bolt Open Force (lbs.)

Cocked: 1. ____ Dry Fired: 1. ____

2. ____ 2. ____

3. ____ 3. ____

Trigger Pull (lbs.)

1. 4.25

2. 4.5

3. 4.5

Bolt Release Force (lbs.)

1. ____

2. ____

3. ____

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____

Accuracy (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____ P.O.I.: ____

• Tester and Date: R. Williams 2-8-83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN GUN (8)

Serial No. 7600149

Headspace as Received: Min. +.001

Proof: yes

Headspace after Proof: Min. +.001

Safe - "ON" - 1._____ 2._____ 3._____

"OFF" - 1._____ 2._____ 3._____

Firing Pin Indent(in.)

1. .022
2. .0215
3. .022

Bolt Open Force(lbs.)

Cocked: 1._____ 2._____ 3._____

Dry Fired: 1._____ 2._____ 3._____

Trigger Pull(lbs.)

1. 3.5
2. 3.5
3. 3.25

Bolt Release Force(lbs.)

1._____
2._____
3._____

Gun Length:_____

Gun Weight:_____

Center of Gravity:_____

Bore:_____

Choke:_____

Orifice Size:_____

Bolt Closing Velocity:_____

Magazine Spring Force:_____

Disconnector Check:_____

Primer Marking:_____

Safety Check:_____

Firing Pin Protrusion:_____

Pattern Test (Avg. of 5)

Group Size:_____

Horz.:_____

Vert.:_____

Accuracy (Avg. of 5)

Group Size:_____

Horz.:_____

Vert.:_____ P.O.I.:__

CJS
I-12-82

• Tester and Date: R. Williams 2-8-'83

SHOTGUNS, DERINGERS, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN

Serial No. 7600153

GUN (9)

Headspace as Received: Min.+.001

Proof: Yes

Headspace after Proof: Min.+.002

Safe - "ON" - 1.____ "OFF" - 1.____

2.____ 2.____

3.____ 3.____

Firing Pin Indent(in.)

1. .0225

2. .022

3. .023

Bolt Open Force(lbs.)

Cocked: 1.____ Dry Fired: 1.____

2.____ 2.____

3.____ 3.____

Trigger Pull(lbs.)

1. 3.5

2. 3.5

3. 3.75

Bolt Release Force(lbs.)

1.____

2.____

3.____

Gun Length:____

Gun Weight:____

Center of Gravity:____

Bore:____

Choke:____

Orifice Size:____

Bolt Closing Velocity:____

Magazine Spring Force:____

Disconnector Check:____

Primer Marking:____

Safety Check:____

Firing Pin Protrusion:____

Pattern Test (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____

Accuracy (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____ P.O.I.:__

• Tester and Date: R. Williams 2-8-'83

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model SEVEN Gun (10)

Serial No. 7600154

Headspace as Received: Min. +.001

Proof: YES

Headspace after Proof: Min. +.002

Safe - "ON" - 1.____ 2.____ 3.____ "OFF" - 1.____ 2.____ 3.____

Firing Pin Indent(in.)

1. .0215
2. .0215
3. .022

Bolt Open Force(lbs.)

Cocked: 1.____ 2.____ 3.____ Dry Fired: 1.____ 2.____ 3.____

Trigger Pull(lbs.)

1. 3.5
2. 3.5
3. 3.75

Bolt Release Force(lbs.)

1.____
2.____
3.____

Gun Length:____

Gun Weight:____

Center of Gravity:____

Bore:____

Choke:____

Orifice Size:____

Bolt Closing Velocity:____

Magazine Spring Force:____

Disconnector Check:____

Primer Marking:____

Safety Check:____

Firing Pin Protrusion:____

Pattern Test (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____

Accuracy (Avg. of 5)

Group Size:____

Horz.:____

Vert.:____ P.O.I.:__

• Tester and Date: R. Williams 2-8-'83

CJS
I-12-82

M-7 308
6061 ALUMINUM FLOOR PLATE
8 30841

REMINGTON ARMS COMPANY, INC.

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C. E. Ritchie
T. J. Plunkett

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830041

M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE DESIGN EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

Prepared by: J. Baccetta

Date Prepared: 2-1-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date 2-21-83

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830241

REPORT TITLE: M/Seven LWT. .308 Caliber – New Machined 6061 Aluminum Floor Plate Des: Evaluation (Spring Loaded Ball Type Latch Design)

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .308

DATE: 1-24-83

WORK ORDER NO.: C-1856-000

PART NAME: Latch

DESIGNER/ENGINEER: T. J. Plunkett

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 3
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Headspace
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 3

NO. OF ROUNDS PER GUN: 30

TOTAL ROUNDS FIRED IN TEST: 90

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

February 1, 1983

TO: R. NIGHTINGALE

FROM: J. BAGGETTA

REPORT TITLE: M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

ABSTRACT

A request was received from T. Plunkett, Current Firearms Design, to evaluate the M/Seven LWT., redesigned Floor Plate Latching System. (Spring Loaded Ball Type Design.)

SCOPE OF TEST

To evaluate the performance of the redesigned M/Seven LWT. - .308 Caliber Floor Plate Latching System checking the floor plate latch opening on recoil.

TEST RESULTS

A. Jack Live Round Fire Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 45 rounds (15 rounds each) experiencing no malfunctions.

B. Field Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

REPORT TEXT

Three (3) M/Seven LWT. .308 caliber rifles with the redesign latch (spring loaded ball-type design) were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

TEST PROCEDURE

A. Measurements

- Headspace – (Refer to Appendix "A" Data Sheet No. 1.

B. Test Conditions

Condition No. 1 – Indoor Jack Shooting

- The test was run using the Test Lab shooting room jacks.
- The rifles were loaded with 4 rounds in the magazine and one in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.

Condition No. 2 – Ilion Fish & Game Club Outdoor Range

- The test was run using the Ilion Fish & Game Club Rifle Range.
- The weather was overcast, 32° and windy.
- The rifles were loaded with 4 rounds in the magazine and 1 in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.
- Four shooters were used incorporating the round robin system.

C. Ammunition

Indoor Jack Shooting

- Winchester - 200 gr. Silver Tip

Field Function Test

- Remington - 180 gr. Soft Point
- Winchester - 200 gr. Silver Tip

D. Rifles Used In Test

M/Seven LWT. .308 Caliber

7600139
B6226256
7600050

REPORT TEXT - cont'd.

E. Hi-Speed Movies

- Hi-Speed movies were previously taken of this design showing latch motion by Test Lab personnel in the Photo Lab Room.

- Hi-Speed movies can be reviewed in the Photo Lab Room.

F. Photos

- Pictures were taken of the redesigned M/Seven LWT. .308 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

- Pictures were taken of the old style latch M/Seven LWT. .222 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

A P P E N D I X " A "

DATA SHEETS

Report No. 830241

M-7 Lwt .308 Caliber Redesign Latch

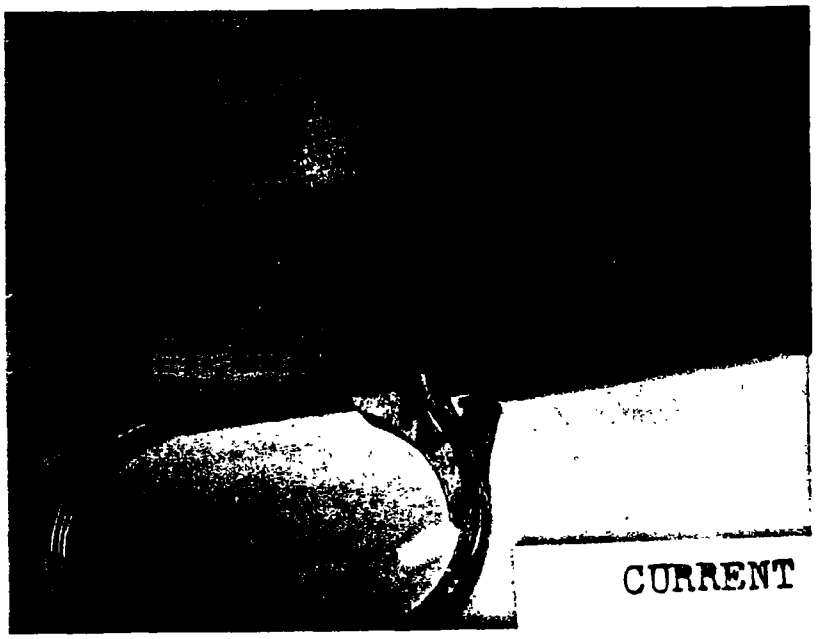
2-1-83

J.A.B

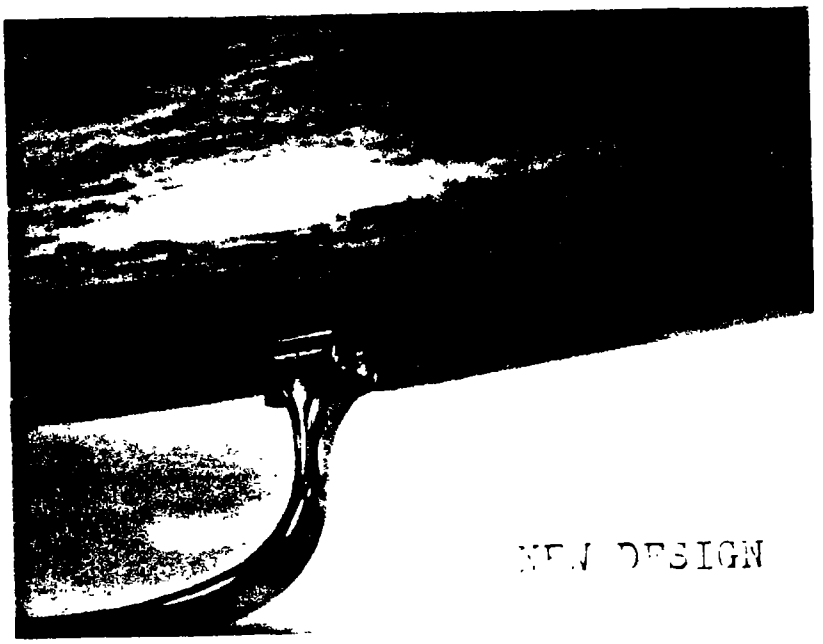
Measurements / Gun #	Head Space Min +	1	2	3	4	5	6
B6226256	.003"						
B7600139	.004"						
7600050	.004"						
* Remington	Standard			Min +	to .010"		

Data Sheet #2

M-7 Lwt .222 caliber



M-7 Lwt 308 caliber



REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington Peters

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie
T. J. Plunkett

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830041

M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE DESIGN EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

Prepared by: J. Baggetta

Date Prepared: 2-1-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date 2-21-83

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830241

REPORT TITLE: M/Seven LWT. .308 Caliber – New Machined 6061 Aluminum Floor Plate Desi Evaluation (Spring Loaded Ball Type Latch Design)

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .308

DATE: 1-24-83

WORK ORDER NO.: C-1856-000

PART NAME: Latch

DESIGNER/ENGINEER: T. J. Plunkett

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 3
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Headspace
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 3

NO. OF ROUNDS PER GUN: 30

TOTAL ROUNDS FIRED IN TEST: 90

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

February 1, 1983

TO: R. NIGHTINGALE

FROM: J. BAGGETTA

REPORT TITLE: M/SEVEN LWT. .308 CALIBER – NEW MACHINED 6061 ALUMINUM FLOOR PLATE EVALUATION (SPRING LOADED BALL TYPE LATCH DESIGN)

ABSTRACT

A request was received from T. Plunkett, Current Firearms Design, to evaluate the M/Seven LWT., redesigned Floor Plate Latching System. (Spring Loaded Ball Type Design.)

SCOPE OF TEST

To evaluate the performance of the redesigned M/Seven LWT. - .308 Caliber Floor Plate Latching System checking the floor plate latch opening on recoil.

TEST RESULTS

A. Jack Live Round Fire Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 45 rounds (15 rounds each) experiencing no malfunctions.

B. Field Function Test

- Three M/Seven LWT. .308 caliber rifles were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

REPORT TEXT

Three (3) M/Seven LWT. .308 caliber rifles with the redesign latch (spring loaded ball-type design) were fired a total of 90 rounds (30 rounds each) experiencing no malfunctions.

TEST PROCEDURE

A. Measurements

- Headspace – (Refer to Appendix "A" Data Sheet No. 1.

B. Test Conditions

Condition No. 1 – Indoor Jack Shooting

- The test was run using the Test Lab shooting room jacks.
- The rifles were loaded with 4 rounds in the magazine and one in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.

Condition No. 2 – Ilion Fish & Game Club Outdoor Range

- The test was run using the Ilion Fish & Game Club Rifle Range.
- The weather was overcast, 32° and windy.
- The rifles were loaded with 4 rounds in the magazine and 1 in the chamber.
- Various speed feeds were used such as: Slow, Medium and Fast.
- Four shooters were used incorporating the round robin system.

C. Ammunition

Indoor Jack Shooting

- Winchester - 200 gr. Silver Tip

Field Function Test

- Remington - 180 gr. Soft Point
- Winchester - 200 gr. Silver Tip

D. Rifles Used In Test

M/Seven LWT. .308 Caliber

7600139
B6226256
7600050

REPORT TEXT - cont'd.

E. Hi-Speed Movies

- Hi-Speed movies were previously taken of this design showing latch motion by Test Lab personnel in the Photo Lab Room.

- Hi-Speed movies can be reviewed in the Photo Lab Room.

F. Photos

- Pictures were taken of the redesigned M/Seven LWT. .308 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

- Pictures were taken of the old style latch M/Seven LWT. .222 caliber rifle. (Refer to Appendix "A" Data Sheet No. 2.)

A P P E N D I X " A "

DATA SHEETS

Report No. 830241

M-7 Lwt .308 Caliber Redesign Latch

2-1-83

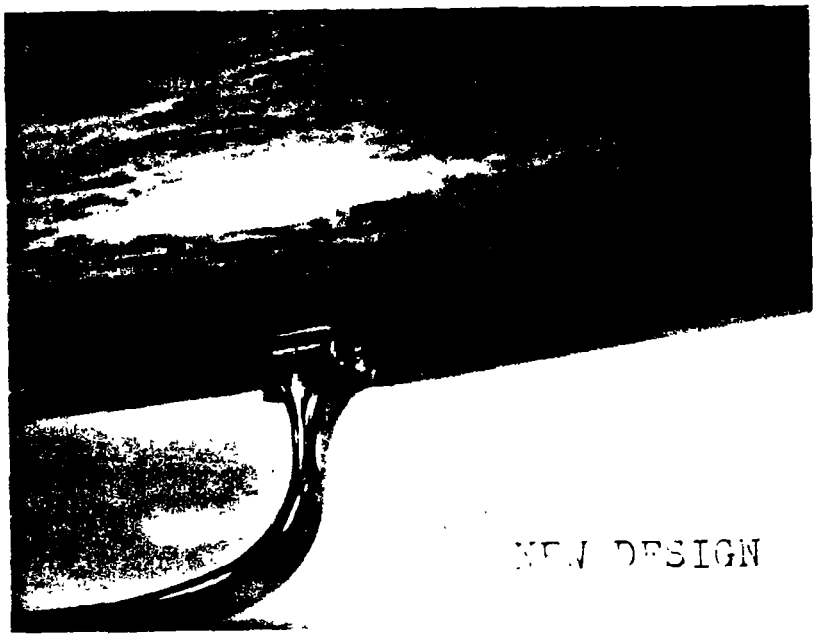
J.A.B

	Measurements / Gun #	Head Space Min +	1	2	3	4	5	6
	B6226256	.003"						
	B7600139	.004"						
	7600050	.004"						
	* Remington	Standard			Min +	to .010"		

DATA Sheet #2

M-7 Cut .222 caliber

M-7 Cut 308 caliber



A P P E N D I X " A "

DATA SHEETS

45-606 EYE EASE
45-706 20/20 BUFF

Report No. 830241

M-7 Lwt .308 Caliber Redesign Latch

2-1-83 J.A.B

Measurements / Gun #	Head Space Min +	1	2	3	4	5	6
B6226256	.003"						
B7600139	.004"						
7600050	.004"						
* Remington	Standard			Min +	to .010"		

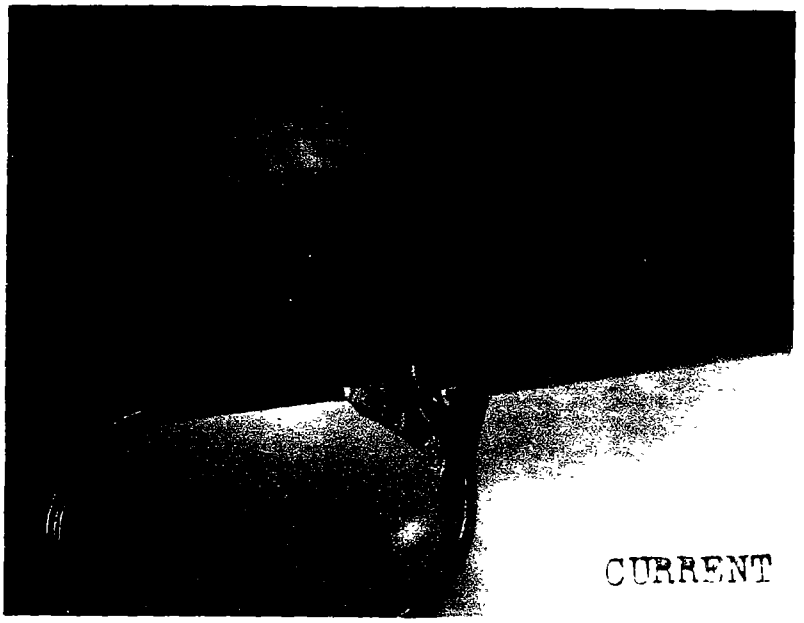
CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

R2529823

Report # 850241

2-1-85
Data Sheet #2

M-7 Cut .222 caliber



CURRENT

M-7 Cut 308 caliber

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. B 6226256

Headspace as Received: _____

Proof: _____

Headspace after Proof: two?

Safe - "ON" - 1. _____ "OFF" - 1. _____

2. _____ 2. _____

3. _____ 3. _____

Firing Pin Indent(in.)

1. _____

2. _____

3. _____

Bolt Open Force(lbs.)

Cocked: 1. _____ Dry Fired: 1. _____

2. _____ 2. _____

3. _____ 3. _____

Trigger Pull(lbs.)

1. _____

2. _____

3. _____

Bolt Release Force(lbs.)

1. _____

2. _____

3. _____

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

CJS
I-12-82

• Tester and Date: _____

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. B 7600139

Headspace as Received: _____

Proof: _____

Headspace after Proof: +.004

Safe - "ON" - 1. _____ "OFF" - 1. _____

2. _____ 2. _____

3. _____ 3. _____

Firing Pin Indent(in.)

1. _____

2. _____

3. _____

Bolt Open Force(lbs.)

Cocked: 1. _____ Dry Fired: 1. _____

2. _____ 2. _____

3. _____ 3. _____

Trigger Pull(lbs.)

1. _____

2. _____

3. _____

Bolt Release Force(lbs.)

1. _____

2. _____

3. _____

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: _____

CJS
I-12-82

SHOTGUNS, SEMI-AUTOS, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7600050

Headspace as Received: _____

Proof: _____

Headspace after Proof: 1.004

Safe - "ON" - 1._____ "OFF" - 1._____

2._____ 2._____

3._____ 3._____

Firing Pin Indent(in.)

1._____

2._____

3._____

Bolt Open Force(lbs.)

Cocked: 1._____ Dry Fired: 1._____

2._____ 2._____

3._____ 3._____

Trigger Pull(lbs.)

1._____

2._____

3._____

Bolt Release Force(lbs.)

1._____

2._____

3._____

Gun Length:_____

Gun Weight:_____

Center of Gravity:_____

Bore:_____

Choke:_____

Orifice Size:_____

Bolt Closing Velocity:_____

Magazine Spring Force:_____

Disconnector Check:_____

Primer Marking:_____

Safety Check:_____

Firing Pin Protrusion:_____

Pattern Test (Avg. of 5)

Group Size:_____

Horz.:_____

Vert.:_____

Accuracy (Avg. of 5)

Group Size:_____

Horz.:_____

Vert.:_____ P.O.I.:__

• Tester and Date:_____

CJS
1-12-82

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830241 PAGE NO. _____

DATE: 1-31-83 MODEL: 7 Seven GAUGE: 308 SERIAL NO. 7600139

PREVIOUS ROUNDS _____

TEST TITLE: Field Function (Feeding) (1) TTL. RDS. FIRED: 30

WEATHER: overcast 32° windy TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0

"MALFUNCTIONS"

B-1
R-2
T-3
S-4

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-180gr SP S	1	5	OK																									
M		5	OK																									
F		5	OK																									
N-220 ST S	2	5	OK																									
M		5	OK																									
F		5	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 83024/ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: 7 Seven GAUGE: 308 SERIAL NO. B6226256

TEST TITLE: Field Function (Feeding) (2)

WEATHER: _____

TTL. RDS. FIRED: 30
TTL. MALFUNCTIONS: 00
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-180 SB S	2	5	OK																									
M		5	OK																									
F		5	OK																									
W-220 ST S	3	5	OK																									
M		5	OK																									
F		5	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830241 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 1-31-83 MODEL: Seven GAUGE: 308 SERIAL NO. 7600050

TEST TITLE: Field Function (Feeding) (3)

WEATHER: _____

TTL. RDS. FIRED: 30
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-180 SB S	3	5	OK																									
M		5	OK																									
F		5	OK																									
W.220 ST S	4	5	OK																									
M		5	OK																									
F		5	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

DIAGRAMS (IF NEEDED)

JACK ENDURANCE - SHOTGUNS

REPROT NO.: _____ PAGE NO. 1

PREVIOUS ROUNDS

DATE: 1-25-83 MODEL: 7 GAUGE: 308 Win. SERIAL NO. B7600139

TEST TITLE: Jack Function Test

TTL. RDS. FIRED: 15
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	DOUBLE FEED FROM MAG.	DROPPED SHELL	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	FAIL TO TRIP CARRIER LATCH	STEM CARRIER	LOADING	EXT. STEMS SHELL	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
308 Win. 200 GR. S	TD	5	OK																									
m	TD	5	OK																									
F	TD	5	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

JACK ENDURANCE - SHOTGUNS

REPROT NO.: _____ PAGE NO. 1

PREVIOUS ROUNDS

DATE: 1-25-83 MODEL: 7 GAUGE: 308 Win. SERIAL NO. B6226256

TEST TITLE: Jack Function Test

TTL. RDS. FIRED: 15
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	DOUBLE FEED FROM MAG.	DROPPED SHELL	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	FAIL TO TRIP CARRIER LATCH	STEM CARRIER	LOADING	EXT. STEMS SHELL	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
308 Win. 200 GR. S	TD	5	OK																									
M	TD	5	OK																									
F	TD	5	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

JACK ENDURANCE - SHOTGUNS

REPROT NO.: _____ PAGE NO. 1

PREVIOUS ROUNDS

DATE: 1-25-83 MODEL: 7 , GAUGE: 308 WIN. SERIAL NO. 7600050

TEST TITLE: JACK FUNCTION TEST

TTL. RDS. FIRED: 15
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	DOUBLE FEED FROM MAG.	DROPPED SHELL	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	FAIL TO TRIP CARRIER LATCH	STEM CARRIER	LOADING	EXT. STEMS SHELL	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
308 WIN. 200 GR. S	TD	5	OK																									
M	TD	5	OK																									
F	TD	5	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

Report No. 830241

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
X Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	___ New Design	___ Cost Reduction
___ Pilot	X Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT.	FORMAL X	DATE REQUESTED: 1/24/83
CAL. or GAUGE: .308		DATE NEEDED BY: ASAP
BARREL TYPE:	TEST RESULTS ONLY ___	REQUESTED BY: T.J. PLUNKETT
*** PROOFED: YES X NO ___		WORK ORDER NO: [redacted]
CHECK HEADSPACE.		C-1856-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	X Photo/Video-HI-SPEED
X Function Test	___ Environmental Test	___ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

DETERMINE BY: ① HI SPEED MOVIES, ② JACK SHOOTING ③ FIELD FUNCTION TESTING, IF REDESIGN OF LATCHING SYSTEM FOR FLOOR PLATE IS SATISFACTORY.

A- AMMO WHICH CAUSED UNLATCHING IN PRIOR TESTING TO BE USED PLUS ANY OTHER WHICH WILL GIVE US TEST INFORMATION.

B- BEFORE FIELD TEST AND AFTER HI SPEED MOVIES, FIRE 40 ROUNDS IN JACK TO JUSTIFY FURTHER TESTING

C- LOAD MAGAZINE SAME AS IN PRIOR TESTS.

GUNS REQUIRED: - 3 TOTAL - FURNISHED

#B6226256
#7600139
#7600050
} ALL 308 WIN.

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

M-Seven CWT 7MM08 2-21-83
Function Test (Floor Plate
Report No. 830521
WO C-1852

RO-49-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Distribution: T. Plunkett

Remington — PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" "Test Results ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830521

M-Seven Lwt 7MM08 Function Test-(Floor Plate)

Prepared by: J. Baggetta

Date Prepared: 2-22-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830521

REPORT TITLE: M-Seven Lwt 7MM08 Function Test-(Floor Plate)

MODEL(S): Seven

GAUGE OR CALIBER: 7MM08

DATE: 2-21-83

WORK ORDER NO.: C-1852-000

PART NAME: Floor Plate

DESIGNER/ENGINEER: T. Plunkett

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 2
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ~~ENDURANCE~~ - NO. OF GUNS TESTED: 2

   NO. OF ROUNDS PER GUN: _____

   TOTAL ROUNDS FIRED IN TEST: 60

   AMMO TYPE: MAGS: _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE X

Rer rt No. 830521 2-22-83

To T. Plunkett

From J. Baggetta

Test Title

M-Seven Lwt 7MM 08 Function Test-(Floor Plate)

Test Results

Field Function Test

- Gun No. 7600118 – Fired 40 rounds at various speed rate (slow, medium, fast) experienced no malfunctions. Note-magazine would only take three rounds instead of four rounds.

- Gun No. 7600122 – Fired 20 rounds at various speed rate (slow, medium, fast) experienced 12 bolt override for and overall malfunction rate of 60.0%. Note magazine would only take three rounds instead of four rounds. Stopped test after 20 rounds due to excessive malfunctions.

..eport No. 830521

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
X Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	X Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ____	DATE REQUESTED: 2/21/83
CAL. or GAGE: 7MM 08	TEST RESULTS ONLY X	DATE NEEDED BY: A.S.A.P.
BARREL TYPE: ____		REQUESTED BY: T.J. PLUNKETT
PROOFED: YES X NO ____		WORK ORDER NO: C-1852-000-Y

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
X Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

DETERMINE IF FLOOR PLATE WILL REMAIN CLOSED WHEN SHOOTING FROM SHOULDER.

AMMO: 40 RDS TOTAL.
SLOW FEED
MED "
FAST "

RANGE: 100 YARDS (200 IF NECESSARY) F.G. CLUB.

NOTE: WRITERS SAMPLE. DO NOT MARK. SIGHTED IN FOR 100 YARDS ON 2/19/83

GUNS REQUIRED:

ONE FURNISHED = M/7 LWT. 7MM 08 - #7600118. GUN TO BE CONSIGNED TO COL. CHARLES ASKINS.

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830521 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 2-22-83 MODEL: Seven GAUGE: 7MM08 SERIAL NO. 7600122

TEST TITLE: Function Test (2)

WEATHER: ____

TTL. RDS. FIRED: 20
TTL. MALFUNCTIONS: 12
MALFUNCTION RATE: 60.00%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-140PSP S	2	5																		3 1/3								
M		5																		3 1/3								
F		5																		3 1/3								
R-140PSP S	1	5																		3 1/3								
M																												
F																												
R-140PSP S																												
M																												
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830521 PAGE NO. ____

DATE: 2-22-83 MODEL: Seven GAUGE: 7MM OV SERIAL NO. 7600118

PREVIOUS ROUNDS ____

TEST TITLE: Function Test (1)

WEATHER: ____

TTL. RDS. FIRED: 40
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

1. Joe
2. Ralph

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-140 PSP S	1	5	ok																									
M		5	ok																									
F		5	ok																									
R-140 PSP S	2	5	ok																									
M		5	ok																									
F		5	ok																									
R-140 PSP S	1	5	ok																									
M		5	ok																									
TOTAL (PER MAL.)																												

11 7 LUT 2 4 3
T3 Roach RECEIVED
8 30411

RO-49-6

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington SUPERIOR / PETERS SUPERIOR

Distribution: C. B. Workman
C. E. Ritchie
J. W. Brooks
D.E. Bullis

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830411

M/SEVEN LWT. - CAL. .243 - EVALUATION OF RECEIVERS MODIFIED WITH INTERNAL BROACH CUTS

Prepared by: R. Williams

Date Prepared: 2-28-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — R.E. Nightingale — Signature — 4-8-83 — Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — C.E. Ritchie — Signature — 4/8/83 — Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830411

REPORT TITLE: M/Seven LWT. - Cal. .243 - Evaluation of Receivers Modified With Internal Broach Cuts

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .243

DATE: 2/28/83

WORK ORDER NO.: C-1856-000

PART NAME: Receiver

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 16
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Static
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: 135

TOTAL ROUNDS FIRED IN TEST: 2,160

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

February 28, 1983

TO: R. E. NIGHTINGALE

FROM: R. WILLIAMS

REPORT TITLE: M/SEVEN LWT. - CAL. .243 - EVALUATION OF RECEIVERS MODIFIED WITH INTERNAL BROACH CUTS

ABSTRACT

A total of sixteen (16) M/Seven LWT. Cal. .243 rifles with modified receivers which have a broach cut at the right lug area and Plant altered magazine boxes (right feed lip) were received in the Test Lab from D. G. Bullis, Current Firearms Design, for a Function Test.

SCOPE OF TEST

To determine if the New Design Change with the broach cut in the receiver will have any effect on extracted shell hanging up or being marked by receiver during ejecting cycle.

TEST RESULTS

There were no problems of shell casings being marked or hanging up during the ejection cycle.

There were other malfunctions during the test and they can be found in Report Text.

Two rifles left rings on fired brass, photos in Appendix "A".

REPORT TEXT

1. Load and Unload Cycle Test
   Cal. .243 Total Rounds Per Rifle – 135 Rds.

Rifle No. 7601300
Rifle No. 7601301
Rifle No. 7601296
Rifle No. 7601287
Rifle No. 7601288

No Malfunction

Rifle No. 7601291 – 24 Malfunctions for a 17.7% rate

1 Stem High	Rem. 80 Gr. P.S.P.	3rd out of mag.	Medium Cycle
1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Fast Cycle
1 Stem Low	Ren, 80 Gr. P.S.P.	2nd out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	3rd out of mag.	Slow cycle
1 Stem Left	Rem. 80 Gr. H. P.	2nd out of mag.	Slow cycle
1 Stem Left	Rem. 80 Gr. H.P.	2nd out of mag.	Medium cycle
1 Stem Low	Rem. 80 Gr. H. P.	2nd out of mag.	Fast cycle
1 Hard Under Rail	Rem. 80 Gr. H.P.	3rd out of mag.	Medium cycle
1 Hard Under Rail	Rem. 100 Gr. P.S.P.	3rd out of mag.	Slow cycle
1 Stem High	Fed. 80 Gr. S.P.	4th out of mag.	Fast cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	3rd out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Fast cycle
1 Hard Under Rail	Fed. 85 Gr. B.T.H.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 100 Gr. B.T. S.P.	2nd out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 B.T.S.P.	3rd out of mag.	Slow cycle
1 Stem High	Win. 80 Gr. P.S.P.	4th out of mag.	Slow Cycle
1 Stem High	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Bolt Stem Shell in Mag.	Win. 100 Gr. S.P.	4th out of mag.	Fast cycle
1 Stem High	Win. 100 Gr. S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	4th out of mag.	Slow Cycle

REPORT TEXT - cont'd.

1. Load and Unload Cycle Test
   Cal. .243 Total Rounds Per Rifle – 135 Rds. - cont'd.

Rifle No. 7601290 – 17 Malfunctions For a 12.5% Rate

1 Hard Under Rail	Rem. 80 Gr. P.S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr.P.S.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Rem. 80 Gr. H.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. H.P.	3rd out of mag.	Medium cycle
1 Hard Under Rail	Rem. 100 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	2nd out of mag.	Medium cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. S.P.	2nd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 100 Gr. S.P.	4th out of mag.	Medium cycle
1 Hard Uner Rail	Fed. 85 Gr. B.T.H.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	2nd out of mag.	Slow cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	3rd out of mag.	Slow cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	4th out of mag.	Medium cycle

REPORT TEXT - cont'd.

1. Load and Unload Cycle Test
Cal. .243 Total Rounds Per Rifle – 135 Rds. - cont'd.

Rifle No. 7601293 – 18 Malfunctions for a 13.3% rate

1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stems Incline	Rem. 100 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stems Incline	Rem. 100 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Stems Incline	Rem. 100 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stem High	Fed. 80 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 100 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 100 Gr. S.P.	4th out of mag.	Fast cycle
1 Stem High	Fed. 100 Gr. B.T.S.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 100 Gr. B.T.S.P.	4th out of mag.	Fast cycle
1 Stems Incline	Win. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem High	Win. 80 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stems Incline	Win. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem High	Win. 100 Gr. S.P.	4th out of mag.	Medium cycle

Rifle No. 7601286 – 1 Malfunction for a .7% rate

1 Hard Under Rail	Rem. 80 Gr. P.S.P.	3rd out of mag.	Slow cycle

Rifle No. 7601294 – 1 Malfunction for a .7% rate

1 Stem Right	Rem. 100 Gr. P.S.P.	1st out of mag.	Slow cycle

Rifle No. 7601289 – 2 Malfunctions for a 1.4% rate

1 Drops Shell	Rem. 80 Gr. P.S.P.	2nd out of mag.	Slow cycle
1 Drops Shell	Rem. 80 Gr. P.S.P.	3rd out of mag.	Slow cycle

Rifle No. 7601297 – 13 Malfunctions for a 9.6% rate

1 Mag Loads Hard	Rem. 80 Gr. P.S.P.	4th in the mag.	Slow Cycle
1 Mag. Loads Hard	Rem. 80 Gr. P.S.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Rem. 80 Gr. P.S.P.	4th in the mag.	Fast cycle
1 Mag. Loads Hard	Rem. 80 Gr. H.P.	4th in the mag.	Slow cycle
1 Mag Loads Hard	Rem. 80 Gr. H.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Rem. 100 Gr. P.S.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Rem. 100 Gr. P.S.P.	4th in the mag.	Fast cycle
1 Mag. Loads Hard	Fed. 80 Gr. S.P.	4th in the mag.	Slow cycle
1 Mag. Loads Hard	Fed. 80 Gr. S.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Fed. 80 Gr. S.P.	4th in the mag.	Fast cycle
1 Mag. Loads Hard	Fed. 100 Gr. S.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Win. 85 Gr. P.S.P.	4th in the mag.	Fast cycle
1 Mag. Loads Hard	Win. 80 Gr. P.S.P.	4th in the mag.	Medium cycle

REPORT TEXT - cont'd.

1. Load and Unload Cycle Test
   Cal. .243 Total Rounds Per Rifle – 135 Rds. - cont'd.

Rifle No. 7601285	– 3 Malfunctions for a 2.2% rate		
1 Bolt Override	Fed. 80 Gr. S.P.	1st out of the mag.	Medium cycle
1 Bolt Override	Fed. 85 Gr. B.T.H.P.	1st out of the mag.	Fast cycle
1 Bolt Override	Win. 100 Gr. S.P.	1st out of the mag.	Medium cycle
Rifle No. 7601292	– 7 Malfunctions for a 5.1% rate		
1 Shell Stems Mag.	Rem. 100 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Shell Stems Mag.	Rem. 100 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stem Left	Fed. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem Left	Fed. 100 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem Left	Fed. 100 Gr. S.P.	4th out of mag.	Fast cycle
1 Stem Left	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Medium cycle
1 Stem Left	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Fast cycle
Rifle No. 7600921	– 4 Malfunctions for a 2.9% rate		
1 Stem Low	Rem. 80 Gr. H.P.	4th out of mag.	Slow cycle
1 Stem Low	Rem. 80 Gr. H.P.	4th out of mag.	Fast cycle
1 Stem High	Fed. 100 Gr. S.P.	2nd out of mag.	Slow cycle
1 Stem High	Win. 80 Gr. P.S.P.	3rd out of mag.	Medium cycle
Rifle No. 7600614	– 9 Malfunctions for a 6.6% rate		
1 Stem Low	Rem. 100 Gr. P.S.P.	1st out of mag.	Medium cycle
1 Stem Low	Rem. 100 Gr. P.S.P.	1st out of mag.	Fast cycle
1 Stem Right	Fed. 100 Gr. S.P.	1st out of mag.	Slow cycle
1 Stem Low	Fed. 85 Gr. B.T.S.P.	1st out of mag.	Slow cycle
1 Stem Low	Win. 80 Gr. P.S.P.	1st out of mag.	Slow cycle
1 Stem Low	Win. 80 Gr. P.S.P.	1st out of mag.	Medium cycle
1 Bolt Override	Win. 80 Gr. P.S.P.	2nd out of mag.	Medium cycle
1 Stem Low	Win. 100 Gr. S.P.	1st out of mag.	Slow cycle
1 Stem Right	Win. 100 Gr. S.P.	3rd out of mag.	Slow cycle

2. Live Load & Fire Cycle Test
   Cal. .243 Total Rounds Per Rifle – 135 Rds.

   Rifle No. 7601286
   Rifle No. 7601300
   Rifle No. 7601296
   Rifle No. 7601287
   Rifle No. 7601288
   No Malfunction

REPORT TEXT- cont'd.

2. Live Load & Fire Cycle Test - cont'd.
Cal. .243 Total Rounds Per Rifle — 135 Rds.

Rifle No. 7601291 — 17 Malfunctions for a 12.5% rate

1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Stem High	Rem. 80 Gr. H.P.	4th out of mag.	Slow cycle
1 Stem High	Rem. 80 Gr. H.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 80 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 80 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 80 Gr. S.P.	4th out of mag.	Fast cycle
1 Stem High	Fed. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 100 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 100 Gr. S.P.	4th out of mag.	Fast cycle
1 Stem High	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 85 Gr. B.T.H.P.	4th out of mag.	Medium cycle
1 Stem High	Fed. 100 Gr. B.T.S.P.	4th out of mag.	Slow cycle
1 Stem High	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Stem High	Win. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem High	Win. 100 Gr. S.P.	4th out of mag.	Medium cycle
1 Stem High	Win. 100 Gr. S.P.	4th out of mag.	Fast cycle

Rifle No. 7601290 — 23 Malfunctions for a 17.% rate

1 Stem High	Rem. 80 Gr. P.S.P.	3rd out of mag.	Fast cycle
1 Hard Under Rail	Rem. 100 Gr. P.S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Rem. 100 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	2nd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	1st out of mag.	Medium cycle
1 Hard Under Rail	Fed. 80 Gr. S.P.	2nd out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Fed. 85 Gr. B.T.H.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Fed. 85 Gr. BT.H.P.	1st out of mag.	Medium cycle
1 Hard Under Rail	Fed. 85 Gr. B.T.H.P.	1st out of mag.	Fast cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.H.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.H.P.	2nd out of mag.	Slow cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.H.P.	1st out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.H.P.	2nd out of mag.	Medium cycle
1 Hard Under Rail	Fed. 100 Gr. B.T.H.P.	1st out of mag.	Fast cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	1st out of mag.	Medium cycle
1 Hard Under Rail	Win. 80 Gr. P.S.P.	1st out of mag.	Fast cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	1st out of mag.	Medium cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	2nd out of mag.	Medium cycle
1 Hard Under Rail	Win. 100 Gr. S.P.	1st out of mag.	Fast cycle

REPORT TEXT - cont'd.

2. Live Load & Fire Cycle Test - cont'd.
Cal. .243 Total Rounds Per Rifle – 135 Rds.

Rifle No. 7601293 – 10 Malfunctions for a 7.4% rate

1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Medium Cycle
1 Stem High	Rem. 80 Gr. P.S.P.	4th out of mag.	Fast Cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	1st out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Hard Under Rail	Rem. 80 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stems Incline	Rem. 100 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem High	Fed. 100 Gr. B.T.S.P.	4th out of mag.	Fast cycle
1 Stem High	Win. 80 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stem High	Win. 100 Gr. S.P.	4th out of mag.	Slow cycle

Rifle No. 7601300 – 10 Malfunctions for a 7.4% rate

1 Mag Loads Hard	Rem. 80 Gr. P.S.P.	4th in the mag.	Slow cycle
1 Mag Loads Hard	Rem. 80 Gr. P.S.P.	4th in the mag.	Medium cycle
1 Mag Loads Hard	Rem. 80 Gr. H.P.	4th in the mag.	Medium cycle
1 Mag Loads Hard	Rem. 80 Gr. H.P.	4th in the mag.	Fast cycle
1 Mag. Loads Hard	Rem. 100 Gr. P.S.P.	4th in the mag.	Slow cycle
1 Mag Loads Hard	Rem. 100 Gr. P.S.P.	4th in the mag.	Medium cycle
1 Mag. Loads Hard	Fed. 80 Gr. S.P.	4th in the mag.	Medium cycle
1 Mag Loads Hard	Fed. 80 Gr. S.P.	4th in the mag.	Fast cycle
1 Mag Loads Hard	Fed. 100 Gr. S.P.	4th in the mag.	Fast cycle
1 Mag Loads Hard	Win. 100 Gr. S.P.	4th in the mag.	Fast cycle

Rifle No. 7601301 – 3 Malfunctions for a 2.2% rate

1 Bolt Stems Shell	Win. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Bolt Stems Shell	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
1 Bolt Stems Shell	Win. 80 Gr. P.S.P.	4th out of mag.	Fast cycle

Rifle No. 7601294 – 7 Malfunctions for a 5.1% rate

1 Don't Extract	Rem. 100 Gr. P.S.P.	2nd out of mag.	Slow Cycle
1 Don't Extract	Rem. 100 Gr. P.S.P.	3rd out of mag.	Medium Cycle
1 Don't Extract	Rem. 100 Gr. P.S.P.	4th out of mag.	Medium Cycle
1 Don't Extract	Rem. 100 Gr P.S.P.	1st out of mag.	Fast Cycle
1 Don't Extract	Rem. 100 Gr. P.S.P.	3rd out of mag.	Fast Cycle
1 Don't Extract	Rem. 100 Gr. P.S.P.	5th out of mag.	Fast Cycle

Replaced Extractor at 45 Rounds

1 Stem High	Fed. 100 Gr. S.P.	1st out of mag.	Fast Cycle

REPORT TEST - cont'd.

2. Live Load & Fire Cycle Test - cont'd.
Cal. .243 Total Rounds Per Rifle – 135 Rds.

Rifle No. 7601289	–	2 Malfunctions for a 1.4% rate	
1 Drops Shell	Rem. 80 Gr. H.P.	3rd out of mag.	Medium cycle
1 Stem Left	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
Rifle No. 7601285	–	2 Malfunctions for a 1.4% rate	
1 Bolt Override	Fed. 85 Gr. B.T.H.P.	1st out of mag.	Slow cycle
1 Bolt Override	Fed. 85 Gr. B.T.H.P.	1st out of mag.	Medium cycle
Rifle No. 7601292	–	5 Malfunctions for a 3.7% rate	
1 Shell Stems Mag.	Rem. 100 Gr. P.S.P.	4th out of mag.	Fast cycle
1 Stem Left	Rem. 100 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem Left	Fed. 100 Gr. S.P.	4th out of mag.	Slow cycle
1 Stem Left	Win. 80 Gr. P.S.P.	4th out of mag.	Slow cycle
1 Stem Left	Win. 80 Gr. P.S.P.	4th out of mag.	Medium cycle
Rifle No. 7600921	–	1 Malfunction for a .7% rate	
1 Stem Low	Rem. 80 Gr. H.P.	4th out of mag.	Fast cycle
Rifle No. 7600614	–	2 Malfunctions for 1.4% rate	
1 Stem Low	Rem. 100 Gr. P.S.P.	1st out of mag.	Slow cycle
1 Stem Low	Win. 100 Gr. S.P.	1st out of mag.	Slow cycle

3. Two Rifles Serial No. 7601294 and Serial No. 7600614 left deep rings on the fired brass. Also the base of the case is deformed due to the chamber.

Photographs of the fired cases will be found in Appendix "A".

TEST PROCEDURE

A. Measurements

Measurements taken in the Test Lab are Headspace after Proof and can be found in Appendix "A".

B. Load and Unload Cycle Test and Live Load and Fire Cycle Test

Both tests were conducted in the Shooting Jacks in the Test Lab. Each rifle was cycled and fired a total of 135 rounds with nine (9) types of ammunition. Each rifle was fired 15 rds. with 5 rds. of Slow, Medium and Fast Cycle and rifle allowed to cool between each 15 rounds.

1. Ammunition Cal. .243

Rem. 80 Gr. Ptd. S.P.	Index	R243W1
Rem. 80 Gr. Power-Lokt H.P.	"	R243W2
Rem. 100 Gr. Core-Lokt Ptd. S.P.	"	R243W3
Fed. 80 Gr. S.P.	"	243A
Fed. 100 Gr. Hi-Shok S.P.	"	243B
Fed. 85 Gr. Boat-tail H.P.	"	P243D
Fed. 100 Gr. Boat-tail H.P.	"	P243C
Win. 80 Gr. P.S.P.	"	X2431
Win. 100 Gr. P.P.S.P.	"	X2432

M/Seven LWT. Cal. .243

Serial No.	Headspace After Proof
7601291	Min. + .003
7601290	Min. + .002
7601293	Min. + .003
7601286	Min. + .003
7601300	Min. + .002
7601297	Min. + .002
7601301	Min. + .003
7601296	Min. + .002
7601287	Min. + .003
7601294	Min. + .003
7601288	Min. + .004
7601289	Min. + .003
7601285	Min. + .003
7601292	Min. + .003
7600921	Min. + .003
7600614	Min. + .002

"APPENDIX "A"

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830411 PAGE NO. 1

DATE: 2-28-83 MODEL: 7LWT GAUGE: .243 SERIAL NO.

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

"LOAD + UNLOAD CYCLE TEST"

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

SUMMARY SHEET BY Rifle	SHOOTER	NO. OF ROUNDS [redacted]	FIRING	TRAPPED SHELL	DON'T EJECT	[redacted] STEMS ENCLINE	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	DROPS SHELL [redacted]	[redacted] HARD UNDER RAIL	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING Mag. Loads Hard	BOLT OVERRIDE	[redacted] BOLT STEMS SHELL	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
7601291		135										11	8	2		2					1						24	17.7%
7601290		135										17															17	12.5%
7601293		135				5						3	10														18	13.3%
7601286		135										1															1	.7%
7601294		135													1												1	.7%
7601289		135									2																2	1.4%
7601297		135																	13								13	9.6%
7601285		135																		3							3	2.2%
7601292		135								2						5											7	5.1%
7600921		135											2	2													4	2.9%
7600614		135												6	2					1							9	6.6%
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 830411 PAGE NO. 1

DATE: 2-28-'83 MODEL: 7LWT GAUGE: .243 SERIAL NO.

PREVIOUS ROUNDS

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"LIVE LOAD & FIRE CYCLE TEST" "MALFUNCTIONS"

SUMMARY SHEET BY Rifle	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	~~[illegible]~~ STEMS INCLINE	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	PROPS SHELL ~~[illegible]~~	~~[illegible]~~ HARD UNDER RAIL	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING Mag. Loads Hard	BOLT OVERRIDE	~~[illegible]~~ BOLT STEMS SHELL	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	REMARKS or BACK	MALFUNCTIONS PER	MALF. RATE PER
7601291		135											17														17	12.5%
7601290		135										22	1														23	17.%
7601293		135				1						4	5														10	7.4%
7601300		135																	10								10	7.4%
7601301		135																			3						3	2.2%
7601294		135											1									6			X	X	7	5.1%
7601289		135									1					1											2	1.4%
7601285		135																		2							2	1.4%
7601292		135								1						4											5	3.7%
7600921		135												1													1	.7%
7600614		135												2													2	1.4%
TOTAL (PER MAL.)																												

Rifle No. 7601294
Replaced Extractor at 45 Rounds

Report No. 830411

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	___ New Design	___ Cost Reduction
___ Pilot	✓ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT	FORMAL ✓	DATE REQUESTED: 2-10-83
CAL ~~or GAGE~~: 243		DATE NEEDED BY: ASAP
BARREL TYPE: CARB.	TEST RESULTS ONLY ___	REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ___		WORK ORDER NO: C-1856-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
✓ Function Test	___ Environmental Test	___ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

M/7LWT - 243 CAL. BROACHED REC. (RIGHT LUG AREA)
PLANT ALTERED MAGAZINE BOX (RIGHT FEED LIP)

RUN TEST TO INCLUDE FEEDING, EXTRACTING & EJECTION OF LIVE & FIRED SHELLS. (FAST, MED., SLOW)

- LOOK FOR EXTRACTED SHELL HANGING UP OR BEING MARKED BY RECEIVER DURING EJECTING CYCLE.
- BE ALERT TO FEEDING PROBLEMS — ESPECIALLY LAST ROUND IN MAG.

GUNS REQUIRED:

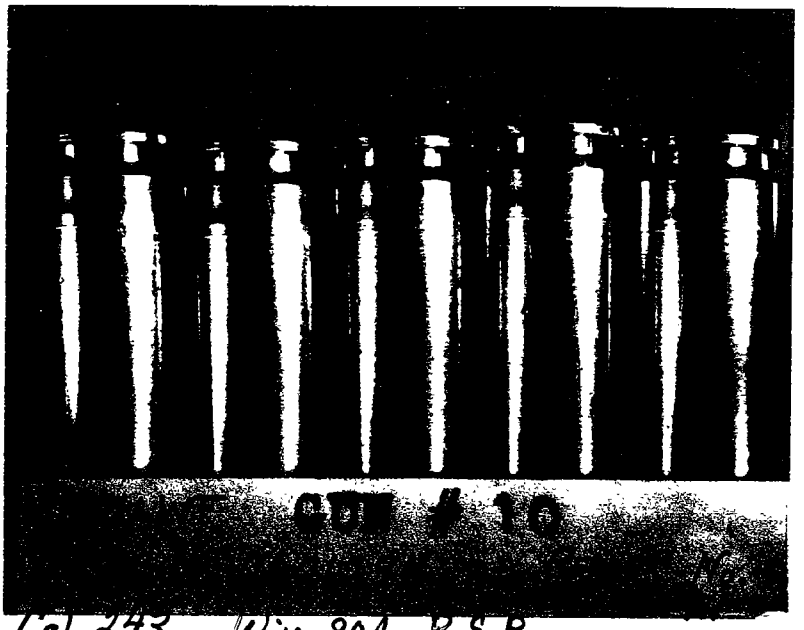
7600921	7601291	7601300	7601287	7601285
7600614	1290	1297	1294	1292
	1293	1301	1288	
	1286	1296	1289	

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

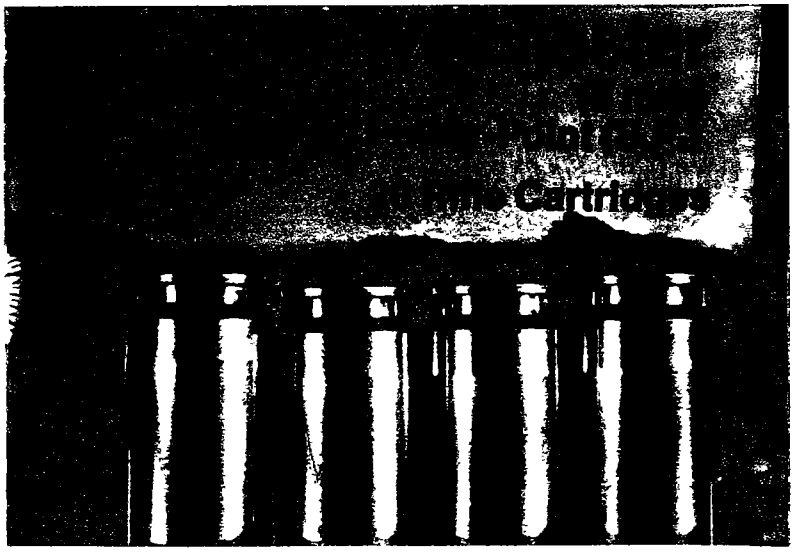
DATE COMPLETED: ___
TEST COMPLETED BY: ___
REPORT DATE: ___

Feb. 1983

REPORT No. 830411
R. Williams



Cal. 243 Win. 80Gr. P.S.P.



GUN # 16

M/72LWT Serial No. 7600614 REPORT No. 830411

JACK ENDURANCE CENTERFIRE

REPROT NO.: 83C411 PAGE NO. _____

DATE: 2-11-83 MODEL: 7 LWT GAUGE: 243 SERIAL NO. 3601291

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

1

Load and unload

"MALFUNCTIONS"

Head space Min +.003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	Bolt stem shell in stem chamber mag. mf	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BENDS HARD under RAIL	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-80 GR PSP	RS	15											M-1 F-1	S-1				S-1										
R 80 GR HP	KS	15												F-1		S-1 M-1		M-2										
R 100 GR PSP	RS	15																S-2										
F-80 GR SP	KS	15											F-1					M-1										
F-100 GR SP	KS	15																S-1										
F-85 GR BT HP	KS	15											M-1					S-1 M-1										
F-100 GR BT SP	KS	15											M-1					S-1										
W-80 GR PSP	KS	15											S-1 M-1					S-1 M-1										
W-100 GR SP	KS	15								F-1			S-1					S-1										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: 700 GAUGE: 243 SERIAL NO. 7601290

PREVIOUS ROUNDS _____

TEST TITLE: Blocked Receiver Test

(2)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

Load + unload

Head space MIN + .002

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BENDS (Trapped under T-01)	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-80GR PSP	KE	15																S-1 M-1	3-4 -4									
R 80GR HP	KE	15																S-1 M-1	-3 -3									
R 100 GR PSP	KE	15																S-1	-4									
F-80 GR SP	KE	15																S-1 M-2	-3 -2-4									
F-100 GR SP	KE	15																S-1 M-1	-2 -4									
F-85GR BT HP	KE	15																S-1 M-1	-3 -4									
F-100 GR BT SP	KE	15																S-1	-3									
W-80GR PSP	KE	15																S-1	-2									
W-100 GR SP	KE	15																S-1 M-1	3 4									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: 7LWT GAUGE: 243 SERIAL NO. 7601293

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver Test

(3)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load and Unload

"MALFUNCTIONS"

AMMUNITION Load Size (Headspace MIN +.003)	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	~~DON'T EJECT BACK~~ SHELL STEMS MAG.	DON'T EJECT OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	~~FOLLOWER SEEDS~~ HARD under RAIL	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
R-80-PSP													S-1 M-1 F-1	4 4 4				S 2 M 2 F 2	1-4 1-4 1-4									
R-80 HP			OK																									
R-100 P-SP						S-1 M-1 F-1	4 4 4																					
F 80-SP													M1	4														
F-100-SP													M-1 F-1	4 4														
F 85-BTHP			OK																									
F 100 BTSP													S-1 F-1	4 4														
W 80 PSP						S-1	4						F-1	4														
W 100 SP						S-1	4						M-1	4														
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601286

TEST TITLE: Broached Receiver Test

5 rds each - 500 mag fast
Load AND unload

(4)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

Head space min +.003

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS, Hard load up 1011	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-80 PSP	RE	15																5-1	3									
R 80 HP	RE	15	ok																									
R 100 PSP	RE	15																									X	
F 80 SP	RE	15	ok																									
F 100 SP	RE	15	ok																									
F 85 BT HP	RE	15	ok																									
F 100 BT SP	RE	15	ok																									
W 80 PSP	DC	15	ok																									
W 100 SP	DE	15	ok																								X	
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M 7 LWT GAUGE: 243 SERIAL NO. 7601300

PREVIOUS ROUNDS _____

TEST TITLE: Brached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + unload

"MALFUNCTIONS"

(5)

Head Space MIN +.002

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP			OK																									
R 80 HP			OK																									
R 100 PSP			OK																									
F 80 SP			OK																									
F 100 SP			OK																									
F 85 BTHP			OK																									
F 100 BTSP			OK																									
W 80 PSP			OK																									
W 100 SP			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRUT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601297

PREVIOUS ROUNDS _____

TEST TITLE: Brached Receiver Test

Load + unload

(6)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

Head speed MIN 4.002

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	~~FOUNDERED BARRS~~	LOADING MAG-Loads Hard	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP	RE																	S 1-4 M 1-4 F 1-4										
R 80 HP																		S 1-4 M 1-4										
R 100 PSP																		M 1-4 F 1-4										
F 80 SP																		S 1-4 M 1-4										
F 100 SP																		M 1-4										
F 85 BTHP																		F 1-4										
F 100 BTSP		ok																										
W 80 PSP																		M 1-4										
W 100 SP		ok																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601301

TEST TITLE: Broached Receiver Test

(7)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Unload

"MALFUNCTIONS"

Head space min +.003

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG. Bolt strikes shell	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP			OK																									
R 80 HP			OK																									
R 100 PSP			OK																									
F 80 SP			OK																									
F 100 SP			OK																									
F 85 BTHP			OK																									
F 100 BTSP			OK																									
W 80 PSP			OK																									
W 100 SP			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601296

PREVIOUS ROUNDS _____

TEST TITLE: Broched Receiver Test

(8)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + unload

"MALFUNCTIONS"

Head Space Min +.002 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP	KG	ok																										
R 80 HP		ok																										
R100 PSP		ok																										
F 80 SP		ok																										
F 100 SP		ok																										
F 85 BT-HP		ok																										
F 100 BT-SP		ok																										
W 80 PSP		ok																										
W 100 SP		ok																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M/7LWT GAUGE: 243 SERIAL NO. 7601287

TEST TITLE: Broached Receiver Test (9)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + unload

"MALFUNCTIONS"

Head space MIN +.003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 GR PSP	CD	15	OK																									
R 80 GR HP	CD	15	OK																									
R 100 GR PSP	CD	15	OK																									
F 80 GR SP	CD	15	OK																									
F 100 GR SP	CD	15	OK																									
F 85 GR BT HP	CD	15	OK																									
F 100 GR BT SP	CD	15	OK																									
W 80 PSP	CD	15	OK																									
W 100 SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-14-83 MODEL: M/7LWT. GAUGE: 243 SERIAL NO. 7601294

PREVIOUS ROUNDS _____

TEST TITLE: BROACHED RECEIVER TEST

(10)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Unload

"MALFUNCTIONS"

Head Space Min + .003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 GR PSP	RE	OK																										
R 80 GR HP	RE	OK																										
R 100 GR PSP	RE														S-1-1													
F 80 GR SP	RE	OK																										
F 100 GR SP	RE	OK																										
F 85 GR BT HP	RE	OK																										
F 100 GR BT SP	RE	OK																										
W 80 GR PSP	RE	OK																										
W 100 GR SP	RE	OK																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-14-83 MODEL: M/LWT GAUGE: 243 SERIAL NO. 2601288

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver test

(11)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + unload

"MALFUNCTIONS"

Headspace Min +.004 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 GR PSP	CD	15	OK																									
R 80 GR HP	CD	15	OK																									
R 100 GR PSP	CD	15	OK																									
F 80 GR SP	CD	15	OK																									
F 100 GR SP	CD	15	OK																									
F 85 GR BT HP	CD	15	OK																									
F 100 GR BT SP	CD	15	OK																									
W 80 GR PSP	CD	15	OK																									
W 100 GR SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M/LWT GAUGE: 243 SERIAL NO. 7601289

TEST TITLE: Rocacher Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

(12)

Load + unload

"MALFUNCTIONS"

Head space min +.003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	~~SHELL~~ EXTRACT DROPS Shell	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 Gr PSP	CD	15																				5-2	23					
R 80 GR HP	CD	15	OK																									
R 100 GR PSP	CD	15	OK																									
F 80 GR SP	CD	15	OK																									
F 100 GR SP	CD	15	OK																									
F 85 GR BT HP	CD	15	OK																									
F 100 GR BT SP	CD	15	OK																									
W 80 GR PSP	CD	15	OK																									
W 100 GR SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: 7/LWT GAUGE: 243 SERIAL NO. 2601285

TEST TITLE: Broached Receiver Test

Load + unLoad

(13)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

Head Space Min + .003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80GR HSP	RS	OK																										
R 80GR HP	RS	OK																										
R 100GR PSP	RS	OK																										
F 80GR SP	RE																			M-1-1								
F 100GR SP	RE	OK																										
F 85GR BT HP	RE																			F-1-1								
F 100GR BT SP	RE	OK																										
W 80GR PSP	RS	OK																										
W 100GR SP																				M-1-1							X	
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M 7LWT GAUGE: 243 SERIAL NO. 7601292

TEST TITLE: BROACHED Receiver test

(14)

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Unload

"MALFUNCTIONS"

Head Space .MIN + .003 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REEF/CONDITIONS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80GR PSP	CD	15	OK																									
R 80GR HP	CD	15	OK																									
R 100GR PSP	CD	15								M-1 4 F-1 4																		
F 80GR SP	CD	15	OK																									
F 100GR SP	CD	15														S-1 4 M-1 4 F-1 4												
F 85GR BTHP	CD	15														M-1 4 F-1 4												
F 100GR BT SP	CD	15	OK																									
W 80GR PSP	CD	15	OK																									
W 100GR SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: 7 LWT GAUGE: 243 SERIAL NO. 2600921

TEST TITLE: BROACHED RECEIVER TEST

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

15

Load + Cull Load

"MALFUNCTIONS"

AMMUNITION Load Size (Head Space Min + .003)	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW (IN LINE)	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 GR PSP	RE	OK																										
R 80 GR HP	RE													S-1-4 F-1-4														
R 100 GR PSP	RE	OK																										
F 80 GR SP	RE	OK																										
F 100 GR SP													S-1-2															
F 85 GR BT HP	RE	OK																										
F 100 GR BT SP	RE	OK																										
W 80 GR PSP	RE												M-1-3															
W 100 GR SP	RE	OK																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTER FIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M 7 LWT GAUGE: .243 SERIAL NO. 7600614

TEST TITLE: BROACHED RECEIVER TEST

LOAD + CHILLOAD

"MALFUNCTIONS"

(16)

TTL. RDS. FIRED: _____

TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

Head Space Min +.002 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80GR PSP	RE	OK																										
R 80GR HP	RE	OK																										
R 100GR PSP	RE													M-1-1 F-1-1														
F 80GR SP	RE	OK																										
F 100GR SP	RE														S-1-1													
F 55GR BT HP	RE													S-1-1														
F 100GR BT SP	RE	OK																										
W 80GR PSP	RE													S-1-1 M-1-1						M-1-2								
W 100GR SP	RE													S-1-1	S-1-3													
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M742WT GAUGE: 243 SERIAL NO. 7601291

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Fire

"MALFUNCTIONS"

Gun (1)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP													S-1 M-1															
R 80 HP													S-1 M-1															
R 100 PSP			OK																									
F 80 SP													S-1 M-1 E-1															
F 100 SP													S-1 M-1 E-1															
F 85 BT-HP													S-1 M-1															
F 100 BT-SP													S1															
W 80 PSP													M1															
W 100 SP													S-1 M-1 E-1															
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: R30411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 1601293

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + fire

"MALFUNCTIONS" Gun (3)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	~~DON'T THROW BACK~~ STRAIGHT LINE	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS Hard under RAIL	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP													M-1 F-1	4 4				S-2 M-1 F-1	1-4 4 4									
R80 HP			OK																									
R100 PSP						S-1	4																					
F 80 SP			OK																									
F 100 SP			OK																									
F 85 BT HP			OK																									
F 100 BTSP													F-1	4														
W 80 PSP													F-1	4														
W 100 SP													S-1	4														
TOTAL (PER MAL.)																												

STOCK EXPERIENCE REPORT NO.: PAGE NO.:

PREVIOUS ROUNDS

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601286

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

Load + Fire

"MALFUNCTIONS"

Gun (4)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP	RE	15	OK																									
R 80 HP	RE	15	OK																									
R100 PSP	RE	15	OK																								X	
F 80 SP	RE	15	OK																									
F 100 SP	RE	15	OK																									
F 85 BTHP	RE	15	OK																									
F 100 BTSP	RE	15	OK																									
W 80 PSP	RE	15	OK																									
W 100 SP	RE	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-11-83 MODEL: M 7LWT GAUGE: 243 SERIAL NO. 7601300

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Fire "MALFUNCTIONS" Gun (5)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP			OK																									
R 80 HP			OK																									
R 100 PST			OK																									
F 80 SP			OK																									
F 100 SP			OK																									
F 85 BTHP			OK																									
F 100 BTSP			OK																									
W 80 PSP			OK																									
W 100 SP			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 760/300

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Fire

"MALFUNCTIONS"

Gun (6)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER FEEDS	LOADING Mag. Loads Hard	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP	RE																	S-1-4 M-1-4										
R80 HP																		M-1-4 E-1-4										
R100 PSP																		S-1-4 M-1-4										
F80 SP																		M-1-4 E-1-4										
F100 SP																		F-1-4										
F85 BTHP		ok																										
F100 BTSP		ok																										
W80 PSP		ok																										
W100 SP																		F-1-4										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601301

TEST TITLE: Broched Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" Load + Fire Gun (79)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG. Bad Stems Shell	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP			OK																									
R 80 HP			OK																									
R 100 PSP			OK																									
F 80 SP			OK																									
F 100 SP			OK																									
F 85 BTHP			OK																									
F 100 BTSP			OK																									
W 80 PSP										S-1 M-1 F-1	4 4 4																	
W 100 SP			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

DATE: 2-11-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601296

PREVIOUS ROUNDS _____

TEST TITLE: Broched Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + fire "MALFUNCTIONS" GUN (8)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP		ok																										
R 80 HP		ok																										
R100 PSP		ok																										
F 80 SP		ok																										
F 100 SP		ok																										
F 85 BT HP		ok																										
F 100 BT SP		ok																										
W 80 PSP		ok																										
W100 SP		ok																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROF NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2/14/83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 2601287

TEST TITLE: BROACHED Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + Fire

"MALFUNCTIONS" Gun (a)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP	CD	15	OK																									
R80 HP	CD	15	OK																									
R100 PST	CD	15	OK																									
F80 SP	CD	15	OK																									
F100 SP	CD	15	OK																									
F85 BT HP	CD	15	OK																									
F100 BTSP	CD	15	OK																									
W80 PSP	CD	15	OK																									
W100 SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601294

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

Load + fire Gun (10)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP	RE	OK																									8 X	
R80 HP	RE	OK																										
R100 PSP	RE	OK																				S-1-2 M-2-F-3	3-4 1-35		X		8 X	
F80 SP	RE	OK																										
F100 SP	RE												F-1-1															
F85 BT HP	RE	OK																										
F100 BT SP	RE	OK																										
W80 PSP	RE																										3 X	
W100 SP	RE																											
																											4 X	
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601288

TEST TITLE: BROACHED RECEIVER TEST

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + fire "MALFUNCTIONS" Gun (11)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP	CD	15	OK																									
R80 HP	CD	15	OK																									
R100 PSP	CD	15	OK																									
F80 SP	CD	15	OK																									
F100 SP	CD	15	OK																									
F85 BTHP	CD	15	OK																									
F100 BTSP	CD	15	OK																									
W80 PSP	CD	15	OK																									
W100 SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRUT NO.: 830411 PAGE NO. _____

DATE: 2-14-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601289

PREVIOUS ROUNDS _____

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + fire

"MALFUNCTIONS"

Gun (12)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	~~POWER~~ EXTRACT Pops Shell	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP	CD	15	OK																									
R 80 HP	CD	15																				M-1	3					
R 100 PSP	CD	15	OK																									
F 80 SP	CD	15	OK																									
F 100 SP	CD	15	OK																									
F 85 BTHP	CD	15	OK																									
F 100 BTSP	CD	15	OK																									
W 80 PSP	CD	15	OK																									
W 100 SP	CD	15														M1	4											
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601285

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

Load + fire

"MALFUNCTIONS"

Gun (13)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R80 PSP	RE	ok																										
R80 HP	RE	ok																										
R100 PSP	RE	ok																										
F80 SP	RE	ok																										
F100 SP	RE	ok																										
F85 BTHP	RE																			S-1-1 M-1-1								
F100 BTSP	RE	ok																										
W80 PSP	RE	ok																										
W100 SP	RE	ok																										
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRUT NO.: 830411 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 2-14-83 MODEL: M7LWT GAUGE: 243 SERIAL NO. 7601292

TEST TITLE: Broached Receiver Test

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

LOAD + FIRE "MALFUNCTIONS" Gun (14)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 PSP	CD	15	OK																									
R 80 HP	CD	15	OK																									
R 100 PSP	CD	15								F-1	4					S-1	4											
F 80 SP	CD	15	OK																									
F 100 SP	CD	15														S-1	4											
F 85 BTHP	CD	15	OK																									
F 100 BTSP	CD	15	OK																									
W 80 PSP	CD	15														S-1 M-1	4 4											
W 100 SP	CD	15	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 2-14-83 MODEL: M 7LWT GAUGE: 243 SERIAL NO. 7600921

PREVIOUS ROUNDS _____

TEST TITLE: BROACHED RECEIVER TEST

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

(15)

"MALFUNCTIONS"

Load - Fire

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BAG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80GR PSP	RE	OK																										
R 80 GR HP	RE													F-1-4														
R 100 GR PSP	RE	OK																										
F 80GR SP	RE	OK																										
F 100GR SP	RE	OK																										
F 55 GR B7 HP	RE	OK																										
F 100GR B7 SP	RE	OK																										
W 80GR PSP	RE	OK																										
W 100GR SP	RE	OK																										
TOTAL (PER MAL.)																												

JACK ENDURANCE ~~CENTERFIRE~~

REPORT NO.: _____ PAGE NO. _____

DATE: 2-14-83 MODEL: 7 LWT GAUGE: 243 SERIAL NO. 7600614

PREVIOUS ROUNDS _____

TEST TITLE: BROWCHER RECEIVER TEST

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

LOAD + FIRE

"MALFUNCTIONS"

16

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R 80 GR PSP	RE	ok																										
R 80 GR HP	RE	ok																										
R 100 GR PSP	RE													S-1-1														
F 80 GR SP	RE	OK																										
F 100 GR SP	RE	OK																										
F 85 GR BTHP	RE	OK																										
F 100 GR BTSP	RE	OK																										
W 80 GR PSP	RE	OK																										
W 100 GR SP	RE													S-1-1													X	
TOTAL (PER MAL.)																												

(1) Recd [illegible] shell determined [illegible]
sample of shells with gun

M 7
ALUMINUM FLOOR PLATE
831311

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
C. E. Ritchie
J. Brooks
T. Plunkett

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831311

MODEL SEVEN – ALUMINUM FLOOR PLATE DESIGN ACCEPTANCE

Prepared by: F. L. Supry

Date Prepared: 6-27-83

Proofread and Cleared By:

J.H. Hemmings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — Signature — Date 7-20-83

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — Signature — Date 7/20/83

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831311

REPORT TITLE: Model Seven – Aluminum Floor Plate Design Acceptance

MODEL(S): Seven

GAUGE OR CALIBER: .308

DATE: 6-27-83

WORK ORDER NO.: C-1856-000

PART NAME: Aluminum Floor Plate Assembly

DESIGNER/ENGINEER: Requested by T. J. Plunkett

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 10
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: Headspace Latch Force
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 10

   NO. OF ROUNDS PER GUN: 8 to 2000 / 2 to 5000

   TOTAL ROUNDS FIRED IN TEST: 26,000

   AMMO TYPE: MAGS. _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE X

July 20, 1983

TO: R. E. NIGHTINGALE

FROM: F. L. SUPRY

REPORT TITLE: MODEL SEVEN – ALUMINUM FLOOR PLATE DESIGN ACCEPTANCE

ABSTRACT

On May 11, 1983, a request was received from T. J. Plunkett to conduct a Design Acceptance Test on ten (10) Model Seven, .308 caliber rifles, assembled with a new design aluminum floor plate assembly.

SCOPE OF WORK

To determine by Field Function Testing and Jack Endurance Testing if the button in front of the trigger guard will retain the floor plate cover in the closed position, while the rifle is being fired, and prevent the dumping of shells.

TEST RESULTS

No floor plate openings occurred during any portion of the testing conducted on these rifles.

NOTE: It was determined that some dimensional changes in the trigger guard bow would be necessary, due to an interference between the inside of the bow and the trigger.

REPORT TEXT

After the assembly of these rifles, an interference between the bow of the trigger guard and the trigger was found. To eliminate the interference, material was ground from the end of the trigger.

The ten rifles were subjected to a Field Function Test, then enduranced to 2000 rounds in a Jack Function Test. Two of the ten rifles were selected and enduranced to 5000 rounds. No floor plate openings occurred during any portion of the testing conducted on these rifles.

A breakdown of the rifles by serial number and finished round level is located in the appendix.

TEST PROCEDURE

Assembly:

The assembly was made by T. J. Plunkett (Research - Current Products).

The triggers were ground by F. L. Supry, (Research - Test Lab).

Measurements:

Headspace measurements were made using graduated headspace gauges.

Latch force measurements were made using a ten pound chattlon push-pull gauge.

An individual measurement sheet is located in the appendix.

Field Function:

165 rounds of Remington and competitive ammunition were fired through each rifle, during a Field Function Test conducted at the Ilion Fish & Game Club.

Slow, medium and fast feed cycle speeds were used. The round robin system was used in this test.

Three feeding malfunctions occurred; resulting in a .2% overall malfunction rate.

Prior to the firing of each ammunition type, the magazine was manually unloaded by pushing the release button.

Jack Endurance:

8 rifles were enduranced to 2000 rounds.
2 rifles were enduranced to 5000 rounds.

Ammunition:

Field Test:

Remington -	R308 W1	Code	L22A	D0364
Remington -	R308 W2	Code	W09F	D8217
Winchester -	X3081	Code	14	PN
Winchester -	X3087	Code	12SH13	80
Federal	P308C	Code	32A	3118
Endurance:	R308W2	Code	W09F	D8217

Appendix Contents:

Serial Numbers of the rifles used and finished round level.

Headspace and Latch Measurement Sheet.

Field Function breakdown.

APPENDIX

Report No. 831311
Data Sheet No. 1

Serial Numbers	Finished Round Level.
7603983	2000
7603866	5000
7604206	2000
7604123	2000
7603941	2000
7604158	2000
7604243	2000
7604175	2000
7604114	2000
7604185	5000

Report No. 831311
Data Sheet No. 2

Serial No. 's	Head Space (In.) Start	Head Space (In.) Finish	Latch Force (Lbs.) Start	Latch Force (Lbs.) Finish	Floor Plate Openings
7603983	.004	.004	2.25	2.25	0
7603866	.003	.004	2.25	2.0	0
7604206	.000	.001	2.5	2.75	0
7604123	.003	.003	2.75	2.75	0
7603941	.004	.004	2.75	3.00	0
7604158	.004	.004	2.75	2.75	0
7604243	.003	.004	2.25	2.25	0
7604175	.004	.004	2.25	2.25	0
7604114	.004	.004	2.75	2.75	0
7604185	.004	.004	2.75	3.75	0

Field Function Breakdown

Serial No.	No. of Malfunctions	Malfunction Description	Malfunction Rate
7603983	0	–	0%
7603866	0	–	0%
7604206	1	Fail to Extract	.6%
7604123	0	–	0%
7603941	0	–	0%
7604158	0	–	0%
7604243	0	–	0%
7604175	2	1 ST.R.*, 1 B.0.**	1.23%
7604114	0	–	0%
7604185	0	–	0%

*ST. R = Stem Right
**B.O. = Bolt Override

AE - J.W. SIEGLING

Report No. 831311

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
X Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	X New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.

MODEL: 7 LWT.

CAL. or GAGE: 308

BARREL TYPE: STD. 7 LWT

PROOFED: YES ___ NO X

REPORT REQ'D.

FORMAL X

TEST RESULTS ONLY ___

DATE REQUESTED: 5/11/83

DATE NEEDED BY: A.S.A.P.

REQUESTED BY: T.J. PLUNKETT

WORK ORDER NO: ___

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	X Photo/Video HI-SPEED OF LATCH
X Function Test	___ Environmental Test	X Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	X Endurance Test	___

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

DETERMINE BY FIELD FUNCTION TESTING AND SHOOTING ACK ENDURANCE TESTING IF BUTTON IN FRONT OF TRIGGER UARD WILL RETAIN FLOOR PLATE COVER IN CLOSED POSITION HILE RIFLE IS BEING FIRED, AND PREVENT DUMPING OF SHELLS.

TEST PROCEDURE:

- PROOF IF NECESSARY - HEADSPACE EACH RIFLE.
- LATCH SPRING OPENING FORCE.
- LOAD FOUR DUMMIES IN MAGAZINE, PUSH COVER RELEASE BUTTON AND DELIBERATELY DUMP SHELLS. CHECK TO BE SURE IT IS OK IN EACH GUN FIELD FUNCTION TEST. ALL AMMO TYPES, ALL GUNS (10 OK)
- TAKE LATCH OPENING FORCE ON ALL GUNS AGAIN.
- ENDURANCE TEST TWO (2) GUNS TO 5000 RDS. SELECT FROM RESULTS IF LATCH OPENING FORCES AND FIELD TEST.

HI-SPEED MOVIES TO VIEW BUTTON (LATCH) MOVEMENT IF ANY.

All 10 Rifles from field test - fire 500 rds each then All ten to 2000 rds

GUNS REQUIRED:

11 TOTAL - FURNISHED

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

M 7
34 Automobile
Alabama

8 32691

10-49-4

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT — PETERS DUPONT

Distribution: J. W. Brooks
FILE

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 832691 REPEAT TEST

M/7LW 3M "AIOACRYLIE" ADHESIVE
ENVIRONMENTAL TEST

Prepared by: R. WILLIAMS

Date Prepared: 3-16-84

Proofread and Cleared By:

Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie,
Sr. Supervisor - Testing,
Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 832691 REPEAT TEST

REPORT TITLE: M/7LW 3M "AIOACRYLIE" ADHESIVE ENVIRONMENTAL TEST

MODEL(S): 7LW

GAUGE OR CALIBER: ANY

DATE: 3-16-84

WORK ORDER NO.: C-1856-000

PART NAME: STOCK

DESIGNER/ENGINEER: J. W. BROOKS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST X
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS: _____; TARGET: _____

RIM FIRE _____ CENTER FIRE ____

MARCH 16, 1984

REPORT No. 832691
REPEAT TEST

TO: J. W. BROOKS

FROM: R. WILLIAMS

TEST TITLE: M/7LW 3M "AIOACRYLIE" ADHESIVE ENVIRONMENTAL TEST

REASON FOR TEST

To evaluate what effect various solvents have on a 3M Product "Aioacrylic" adhesive.

TEST PROCEDURE

The Test Lab received from J.W. Brooks a flat Stock with M/7 Finish and with sample spacers put on with various adhesive thicknesses.

Inhibisol was sprayed on the stock and spacers and allowed to set for two days. Than Hoppe's #9 Oil, Hoppe's #9 Solvent, CRC and Rem. Oil were used and allowed to stay on the stock two days each. The lubricants were liberally applyed and the stock was cleaned with inhibisol before applying each lubricant.

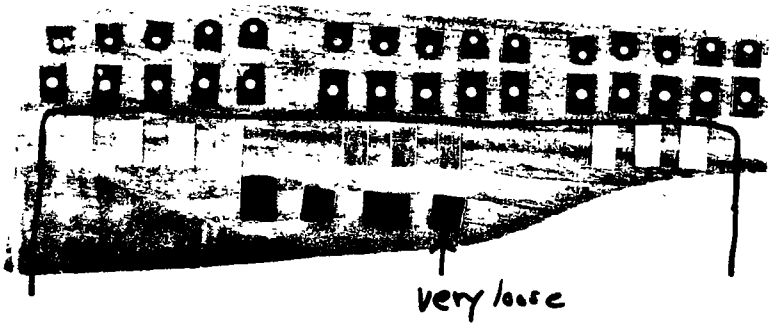
TEST RESULTS

Some spacers became loose after applying Hopp's #9 Solvent but did-not come off.

Photo on next page.

MARCH 16, 1984

REPORT No. 832691
REPEAT TEST



These spacers became loose
None came off

Report No. _____

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	State ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7	FORMAL ___	DATE REQUESTED: 2-17-84
CAL or GAGE: –	TEST RESULTS ONLY ✓	DATE NEEDED BY: 3-5-84
BARREL TYPE: –		REQUESTED BY: J W Brooks
PROOFED: YES ___ NO ___		WORK ORDER NO: C1856-004

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
___ Function Test	✓ Environmental Test	___ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

XPLAIN IN DETAIL THE REASON FOR THIS TEST:

THIS TEST IS TO SEE WHAT EFFECT VARIOUS SOLVENTS HAVE ON a 3M PRODUCT "A10 ACRYLIC" ADHESIVE FAMILY. REPEAT TEST 832691.

- apply lubricants or solvents liberally. allow to set for a day. check to see if parts are loose and moto.
- Start with Inhibisol.
- Then use Hoppe's oil, Hoppes solvent, CRC & Ram oil cleaning inbetween with Inhibisol.

UNS REQUIRED: FURNISHED

- FLAT STOCK WITH M7 FINISH WITH SAMPLE SPACERS AND VARIOUS ADHESIVE THICKNESSES.

OTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: _____

TEST COMPLETED BY: _____

REPORT DATE: ___

RO-49-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT — PETERS DUPONT

Distribution: J. W. BROOKS
FILE

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. ~~832691~~ 840594 REPEAT TEST

M/7LW 3M "AIOACRYLIE" ADHESIVE
ENVIRONMENTAL TEST

Prepared by: R. WILLIAMS

Date Prepared: 3-16-84

Proofread and Cleared By:

Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie,
Sr. Supervisor - Testing,
Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 832691 REPEAT TEST

REPORT TITLE: M/7LW 3M "AIOACRYLIE" ADHESIVE ENVIRONMENTAL TEST

MODEL(S): 7LW

GAUGE OR CALIBER: ANY

DATE: 3-16-84

WORK ORDER NO.: C-1856-000

PART NAME: STOCK

DESIGNER/ENGINEER: J. W. BROOKS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST X
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS: _____; TARGET: _____

RIM FIRE _____ CENTER FIRE ____

MARCH 16, 1984 REPORT No. 832691

REPEAT TEST

TO: J. W. BROOKS

FROM: R. WILLIAMS

TEST TITLE: M/7LW 3M "AIOACRYLIE" ADHESIVE ENVIRONMENTAL TEST

REASON FOR TEST

To evaluate what effect various solvents have on a 3M Product "Aioacrylic" adhesive.

TEST PROCEDURE

The Test Lab received from J. W. Brooks a flat Stock with M/7 Finish and with sample spacers put on with various adhesive thicknesses.

Inhibisol was sprayed on the stock and spacers and allowed to set for two days. Than Hoppe's #9 Oil, Hoppe's #9 Solvent, CRC and Rem. Oil were used and allowed to stay on the stock two days each. The lubricants were liberally applyed and the stock was cleaned with inhibisol before applying each lubricant.

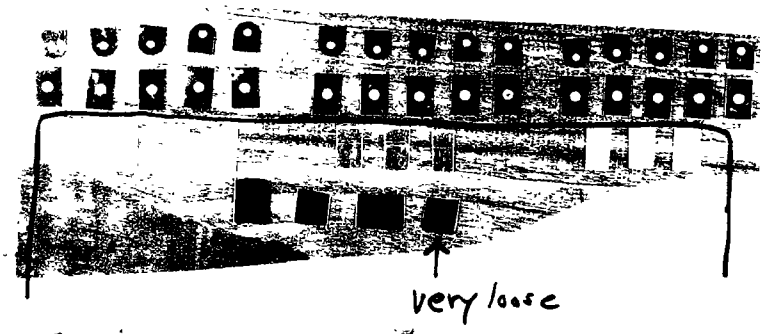
TEST RESULTS

Some spacers became loose after applying Hoppe's #9 Solvent but did-not come off.

Photo on next page.

MARCH 16, 1984

REPORT No. 832691
REPEAT TEST



These spacers became loose
None came off

Report No. _____

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	State: _____
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7	FORMAL ___	DATE REQUESTED: 2-17-84
CAL. or GAGE: –	TEST RESULTS ONLY ✓	DATE NEEDED BY: 3-5-84
BARREL TYPE: –		REQUESTED BY: J W Brooks
PROOFED: YES ___ NO ___		WORK ORDER NO: C1856-000Y

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
___ Function Test	✓ Environmental Test	___ Measurements	___ Other _____
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	_____

XPLAIN IN DETAIL THE REASON FOR THIS TEST:

THIS TEST IS TO SEE WHAT EFFECT VARIOUS SOLVENTS HAVE ON A 3M PRODUCT "AIO ACRYLIC" ADHESIVE FAMILY. REPEAT TEST 832691.

- apply lubricants or solvents liberally. allow to set for a day. check to see if parts are loose and nuts.
- Start with Inhibisol.
- Then use Hoppe's oil, Hoppes solvent, CRC & Ram oil cleaning inbetween with Inhibisol.

UNS REQUIRED: FURNISHED

- FLAT STOCK WITH M7 FINISH WITH SAMPLE SPACERS AND VARIOUS ADHESIVE THICKNESSES.

OTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: _____

TEST COMPLETED BY: _____

REPORT DATE: _____

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington / PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
C. E. Ritchie
J. W. Brooks

RESEARCH TEST and MEASUREMENT REPORT – Report No. 830941

M/SEVEN LWT. PENDULUM DROP TEST TO EVALUATE NEW TRIGGER DESIGN.

Prepared by: R. Howe

Date Prepared: 4-6-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 830941

REPORT TITLE: M/Seven LWT. Pendulum Drop Test To Evaluate New Trigger Design

MODEL(S): M/Seven LWT.

GAUGE OR CALIBER: .243

DATE: 4 - 6- 83

WORK ORDER NO.: C-1809-000

PART NAME: Trigger

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 4

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE ___

April 6, 1983

TO: C. E. RITCHIE

FROM: R. W. HOWE

REPORT TITLE: M/SEVEN LWT PENDULUM DROP TEST TO EVALUATE NEW DESIGN TRIGGER

ABSTRACT

On April 4, 1983, a request was received to test three (3) M/Seven LWT. rifles. Two with New Style Trigger, one with the Old Style Trigger, and also one M/700 with old style trigger. D. Bullis, Current Firearms Design, requested the Test Lab to do a Pendulum Drop Test on these four rifles. To evaluate the Jar-Off resistance of the Fire Control Assembly.

SCOPE OF TEST

To evaluate and compare the Jar Off resistance of the Fire Control Assembly at a 3' drop height against a hardwood back stop.

TEST RESULTS

Some Jar -Offs did occur in the top and bottom side modes at various heights as described in Result Sheet Appendix "A".

REPORT TEXT

1. Trigger Pull and Sear Engagement was preset at minimum present Remington Specs.

   Present Remington Specs. are:

Trigger Pull Lbs.	3.0	to	5.0 lbs.
Trigger Sear Eng.	.015	to	.020

2. The four rifles were drop tested at the 3' drop height against a hardwood backstop in the following modes:

   Muzzle First W/Safe in "On" & "Off" positions
   Butt First W/Safe in "On" & "Off" positions
   Right Side W/Safe in "On" & "Off" positions
   Left Side W/Safe in "On" & "Off" positions
   Top Side W/Safe in "On" & "Off" positions
   Bottom Side W/Safe in "On" & "Off" positions

   Results in Appendix "A".

   Note: During drop test, some Jar-Off did occur in the top and bottom side modes so it was decided to drop these guns at various other levels to determine what height the Jar-Off would occur. Other drop levels and results are recorded in Appendix "A".

3. After the first drop test was completed, all four (4) rifles were set at the minimum (3.0lb.) trigger pull and re-dropped in all test modes.

   Also, one M/700 rifle from Test Report No. 820391 was added to this test. This rifle contained a new design trigger spring and screw as per Drawing Nos.:

   Trigger Spring Dwg. No. SK A-3687
   Trigger Screw Dwg. No. SK B-3688

   Results in Appendix "A".

TEST PROCEDURE

A. Measurements

Trigger Pull was taken at the start of each test.

Sear Engagement was taken at the start of each test.

Test Conditions

1. Trigger pull forces were taken on all test guns using a Chatillon Model IN-10 Spring Pull Scale (See Appendix "A".)
2. Sear Engagement was set on productions Optical Comparator in M/700 final assembly area. (See Appendix "A".)
3. The Pendulum Drop Test was conducted on all test rifles at the 3' and the various other drop levels against a hardwood backstop from the muzzle, butt, both sides, top and bottom. (See Appendix "A".

Rifles Used in Test

M/Seven - Serial No. 7601285, Serial No. 7601292, Serial No. 7601289

M/700 - Serial No. A6351001, Serial No. B6341922

APPENDIX "A"

M/7 NEW STYLE TRIGGER EVALUATION

4/5/83
#830941

DROP/JAR-OFF TEST ON HARDWOOD SURFACE FROM 3' DROP EVALUATION		TEST #1								TEST #2							
		M/7 New Style Trigger		M/7 New Style Trigger		M/7 Old Style Trigger		M/700 Old Style Trigger		M/7		M/7		M/7		M/700	
Serial #		#7601285		#7601292		#7601289		#A6351001		#7601285		#7601292		#7601289		#16351001	
SAFE POSITION		On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off
TRIGGER PULL (Lbs.) Avg.		3.5 lbs.		316.		4.75lb.		5.75lb.		3.01b.		3.01b.		3.01b.		3.01b.	
SEAR ENGAGEMENT		.015"		.015"		.015"		.015"		.015"		.015"		.015"		.015"	
MUZZLE FIRST		Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
BUTT FIRST		Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
RIGHT SIDE		Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
LEFT SIDE		Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
BOTTOM SIDE	12"	-	Ok	-	Ok	-	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
	18"	-	3 J/04	-	1 J/04	-	Ok	Ok	Ok	Ok	1 J/04	Ok	3 J/04	Ok	2 J/04	Ok	4 J/04
	24"	-	4 J/04	-	2 J/04	-	1 J/04	Ok	Ok	Ok	2 J/04	Ok	4 J/04	Ok	4 J/04	Ok	4 J/04
	36"	Ok	4 J/04	Ok	4 J/04	Ok	2 J/04	Ok	Ok	Ok	J/0	Ok	J/0	Ok	J/0	Ok	J/0
TOP SIDE	12"															Ok	Ok
	18"															Ok	Ok
	24"															Ok	Ok
	36"	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	J/0

NOTE: J/O means – Jar-Off (i.e. 3 J/O 4 means 3 Jar-Offs out of 4 tries.)

CERitchie:js
4/10/83

Report No. 830941

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
✓ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STATS.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 4-4-83
CAL. or ~~GAGE~~: 243		DATE NEEDED BY: A.S.A.P.
BARREL TYPE: ___	TEST RESULTS ONLY ___	REQUESTED BY: Bullis
PROOFED: YES ✓ NO ___		WORK ORDER NO: C-1809-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
___ Function Test	___ Environmental Test	___ Measurements	✓ Other DROP.
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

DROP TEST 2 M/7LWT 243 CAL. RIFLES.

- DROP 3 FEET
- DROP BUTT, MUZZLE, BOTH SIDES.

NEW STYLE TRIGGER - RELIVED BOTH SIDES.

GUNS REQUIRED:

#1 7601285 - Pull 3# engagement .015"

#1 7601292 - " 3# " .015"

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

(~~1ST~~ SECOND TEST [redacted] CONTROL GUNS) (4-5-83)

M/7 LWT DROP TEST SAFE "OFF" ONLY. (HARD WOOD STOP)

(FOUR DROPS AT EACH LEVEL)

M/7 LWT GUN #13 - JARRED OFF 2 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 1 " " 4 " " 18"
0 " " 4 " " 12"

M/7 LWT GUN #14 - JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 3 " " 4 " " 18"
0 " " 4 " " 12"

(CONTROL GUN)
M/7 LWT GUN #12 JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 2 " " 4 " " 18"
0 " " 4 " " 12"

M/700 (CONTROL GUN) JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 4 " " 4 " " 18"
0 " " 4 " " 12"

NOTE:
M/700 CONTROL ALSO ~~[illegible]~~ DROPPED ON TOP AT
12"-18" & 24" LEVELS 4 TIMES AT EACH LEVEL
RESULTS 24" OK ALL 4 TIMES
18" OK " " "
12" OK " " "

M/72LWT - NEW STYLE TRIGGER - 3' DROP TEST (HARD WOOD STOP ONLY)

4-5-83

	NEW STYLE TRIG.		NEW STYLE TRIG.		CONTROL GUN.		CONTROL GUN.	
GUN + SER#	13 SER# 7601285		14 SER# 7601292		12 SER# 7601289		M/700 SER# A635 1001	
SAFE POSITION	ON	OFF	ON	OFF	ON	OFF	ON	OFF
MUZZLE FIRST	OK	OK	OK	OK	OK	OK	OK	OK
BUTT FIRST	OK	OK	OK	OK	OK	OK	OK	OK
RIGHT SIDE	OK	OK	OK	OK	OK	OK	OK	OK
LEFT SIDE	OK	OK	OK	OK	OK	OK	OK	OK
TOP SIDE	OK	OK	OK	OK	OK	OK	OK	JARRED OFF
BOTTOM SIDE	OK	JARRED OFF	OK	JARRED OFF	OK	JARRED OFF	OK	JARRED OFF

NOTE: ALL FOUR GUNS HAVE BEEN SET AT 3LB. TRIG PULL AND .015" ENGAGEMENT (SEAR)

M/700 LWT - NEW STYLE TRIGGER - 5' DROP TEST (HARD WOOD STOP ONLY)

4-5-83

	NEW STYLE TRIG.		NEW STYLE TRIG.		CONTROL GUN.		CONTROL GUN.	
GUN + SER#	13 SER# 7601285		14 SER# 7601292		12 SER# 7601289		M/700 SER# A635 1001	
SAFE POSITION	ON	OFF	ON	OFF	ON	OFF	ON	OFF
MUZZLE FIRST	OK	OK	OK	OK	OK	OK	OK	OK
BUTT FIRST	OK	OK	OK	OK	OK	OK	OK	OK
RIGHT SIDE	OK	OK	OK	OK	OK	OK	OK	OK
LEFT SIDE	OK	OK	OK	OK	OK	OK	OK	OK
TOP SIDE	OK	OK	OK	OK	OK	OK	OK	JARRED OFF
BOTTOM SIDE	OK	JARRED OFF	OK	JARRED OFF	OK	JARRED OFF	OK	JARRED OFF

NOTE: ALL FOUR GUNS HAVE BEEN SET AT 3LB. TRIG PULL AND .015" ENGAGEMENT (SEAR)

4-5-83

M/7 LWT DROP TEST SAFE "OFF" ONLY. (HARD WOOD STOP)

(FOUR DROPS AT EACH LEVEL)

M/7 LWT GUN #13 - JARRED OFF 2 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 1 " " 4 " " 18"
0 " " 4 " " 12"

M/7 LWT GUN #14 - JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 3 " " 4 " " 18"
0 " " 4 " " 12"

(CONTROL GUN)
M/7 LWT GUN #12 JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 2 " " 4 " " 18"
0 " " 4 " " 12"

M/700 (CONTROL GUN) JARRED OFF 4 TIMES IN 4 DROPS AT 24"
(BOTTOM DROP ONLY) 4 " " 4 " " 18"
0 " " 4 " " 12"

NOTE:
M/700 CONTROL ALSO DROPPED ON TOP AT
12"-18" & 24" LEVELS 4 TIMES AT EACH LEVEL
RESULTS 24" OK ALL 4 TIMES
18" OK " " "
12" OK " " "

(NEW STYLE TRIGGER) FIRST TEST 4/4/83

M/7 LWT 3' DROP TEST (HARD WOOD STOP ONLY)

GUN #	13 SER# 7601285		14 SER# 7601292	
	SAFE ON	SAFE OFF	SAFE ON	SAFE OFF
MUZZLE FIRST	OK	OK	OK	OK
BUTT FIRST	OK	OK	OK	OK
RIGHT SIDE	OK	OK	OK	OK
LEFT SIDE	OK	OK	OK	OK
TOP	OK	OK	OK	OK
BOTTOM	OK	*J.O.	OK	* J.O.

J.O. = JARRED OFF (FIRING PIN FELL)

#13 TRIG PULL 3.25 3.75 3.50 AVG 3.5 LBS.

#14 " " 3-3-3 AVG. 3 LBS

CONTROL " " 450-475-500 AVG 4.75 LBS <

M/700 " " 550 600 575 AVG 5.75 LBS. <

4-4-83

HARD WOOD STOP

A-SAFE OFF ONLY

M/7 LWT DROP TEST, B-BOTTOM ONLY

(4 DROPS AT EACH LEVEL BELOW)

#14

M/7 LWT GUN #14 JARRED OFF 2 TIMES IN 4 AT 24"
" " " " " 1 " " 4 AT 18"
" " " OK — 4 " " 4 AT 12"

#14 TRIG PULL AVG OF THREE = 3 LBS

#13

M/7 LWT GUN #13 JARRED OFF 4 TIMES IN 4 AT 24"
" " " " " " 3 " " 4 AT 18"
" " " " OK — 4 " " 4 AT 12"

#13 TRIG PULL AVG OF THREE 3.5 LBS

M/7 CONTROL

M/7 LWT CONTROL GUN JARRED OFF 2 TIMES IN 4 AT 36"
" " " " 1 " " 4 AT 24"
" " " " OK — 4 " " 4 AT 18"
" " " " OK — 4 " " 4 AT 12"

CONTROL TRIG PULL AVG OF THREE 4.75 LBS

M/700

REG M/700 DID NOT JAR OFF UNTIL 4' DROP.

M/700 TRIG PULL AVG OF THREE 5.75 LBS.

THESE RESULTS BELONG W/ 4/5/83 TEST
(NEW CONTROL GUNS)

#12	BOTTOM ONLY	SAFE "OFF"	12"	OK
		2 IN 4	18"	~~OK~~
		4 IN 4	24"	JARRED OFF
M/700	TOP + BOTTOM	SAFE OFF	12" TOP OK	BOTTOM OK
		(BOTTOM — 4 IN 4)	18" OK	JARRED OFF
		(BOTTOM 4 IN 4)	24" OK	JARRED OFF

4-4-83

(NEW STYLE TRIGGER)

M/7 LWT 3' DROP TEST (HARD WOOD STOP ONLY)

GUN #	13 SER# 7601285		14 SER# 7601292	
	SAFE ON	SAFE OFF	SAFE ON	SAFE OFF
MUZZLE FIRST	OK	OK	OK	OK
BUTT FIRST	OK	OK	OK	OK
RIGHT SIDE	OK	OK	OK	OK
LEFT SIDE	OK	OK	OK	OK
TOP	OK	OK	OK	OK
BOTTOM	OK	*J.O.	OK	* J.O.

J.O. = JARRED OFF (FIRING PIN FELL)

#13 TRIG PULL 3.25 3.25 3.50 AVG 3.5 LBS. ~~3 3 3 AVG 3 LBS~~

#14 " " 3-3-3 AVG. 3 LBS

* CONTROL " " 450-475-500 AVG 4.75 LBS <

M/700 " " 550 600 575 AVG 5.75 LBS <

4-4-83

HARD WOOD STOP

A - SAFE OFF ONLY

M/7 LWT DROP TEST, B - BOTTOM ONLY

(4 DROPS AT EACH LEVEL BELOW)

#14

M/7 LWT GUN #14 JARRED OFF 2 TIMES IN 4 AT 24'
" " " " " 1 " " 4 AT 18"
" " " OK —— 4 " " 4 AT 12"

#14 TRIG PULL AVG OF THREE = 3 LBS

#13

M/7 LWT GUN #13 JARRED OFF 4 TIMES IN 4 AT 24"
" " " " " " 3 " " 4 AT 18"
" " " " OK —— 4 " " 4 AT 12"

#13 TRIG PULL AVG OF THREE 3.5 LBS

M/7 CONTROL

M/7 LWT CONTROL GUN JARRED OFF 2 TIMES IN 4 AT 36"
" " " " 1 " " 4 AT 24"
" " " " OK — 4 " " 4 AT 18"
" " " " OK — 4 " " 4 AT 12"

CONTROL TRIG PULL AVG OF THREE 4.75 LBS

M/700

REG M/700 DID NOT JAR OFF UNTIL 4' DROP.

M/700 TRIG PULL AVG OF THREE 5.75 LBS.

M. 7-222
Fairly Pilot Evaluation
831961

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington / Peters

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. P. Linde
G. Hill
J. Brooks
C. E. Ritchie

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831361

MODEL SEVEN – .222 CALIBER TRIAL & PILOT EVALUATION

Prepared by: C. E. Ritchie

Date Prepared: 5-18-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

C. Evan Ritchie 5/23/83

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831361

REPORT TITLE: Model Seven – .222 Caliber Trial & Pilot Evaluation

MODEL(S): Seven

GAUGE OR CALIBER: .222

DATE: 5-16-83

WORK ORDER NO.: 81343-904

PART NAME:

DESIGNER/ENGINEER: G. Hill/J. W. Brooks

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - 8 OUT OF 40 GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE ___

May 18, 1983

TO: C. B. WORKMAN

FROM: C. E. RITCHIE

REPORT TITLE: MODEL SEVEN – .222 CALIBER TRIAL & PILOT EVALUATION

ABSTRACT

A request was received from G. Hill, Supervisor, Process Engineering, to perform a Trial & Pilot evaluation of the Model Seven .222 Caliber production firearm.

SCOPE OF WORK

Perform a Trial & Pilot evaluation on an 8 gun sample from a 40 gun production run.

TEST RESULTS

Only a Visual Inspection was performed. The sample lot was rejected due to the following:

1.) 3 of the 8 guns had been assembled using old style unheat treated trigger guards with the tab bent in the old position (upwards).

2.) 1 stock was cracked.

REPORT TEXT

Of the 8 firearms inspected, the following major objections were pointed out:

1.) 3 of the 8 guns had been assembled using old style unheat treated trigger guards with tabs bent in the old position (upwards).

2.) 1 stock was cracked (beginning at the floor plate tab and running about ¾" towards the muzzle of the gun).

These objections were the basis for rejection of this sample lot. No other physical testing was performed on the sample.

TEST PROCEDURE

An eight gun sample was selected by Charles Stephens, Research Test Lab, from a 40 gun production run.

A visual inspection was conducted in the Test Lab on 5-17-83 at 1:00 p.m. by Z. Kowalski, Process Engineering, D. Bullis, Current Firearms Design, R. Nightingale and E. Ritchie, Test Lab. Guns were wiped down with a clean cloth and inspected by each member of the committee and comments were recorded. Comments on individual guns can be found in the Appendix.

A P P E N D I X

Visual Inspection – T & P Evaluation
M/Seven .222 Cal.

7602556

- rear swivel screw hole not properly aligned.
- floor plate cover exceeds .026" gap.
- grip cap over polished to mis-shape the cap.

7602642

- front swivel screw - bright mark on dome and hole not properly aligned.
- dent in top of stock

7602629

- 2 pin holes and 1 dent in stock.
- light checkering on pistol grip - both sides.
- trigger guard used has tab bent in the old direction (appears not to be heat-treated).

7602508

- excess space between floor plate pad and inlet cut in stock.

7602651

- comb cut (left side) is mis-shaped.
- wood inlet - rear of trigger guard - impression of trigger guard in wood - screw hole probably mis-aligned.
- 2 pin holes in the bottom of the fore-end area.
- light checkering - pistol grip area both sides.

7602631

- 2 dents in pistol grip.
- dent on left top rail of stock.
- bottom of comb is mis-shaped - 3 flats.
- trigger guard used has tab bent in the old direction (appears not to be heat-treated).

7602637

- cracked stock - starts at floor plate pad.

7602605

- sight screw hole marred on rear sight.
- rear trigger guard screw marred.
- dent in floor plate pad.
- scratch on the floor plate cover.
- dent in top of the stock.
- trigger guard used has tab bent in the old direction (appears not to be heat-treated.)

General Note – 1.) Barrel bracket on all guns were dull finished.

2.) Ejection port radius on the stock are all 3/16" radius drawing calls for 3/8" radius.

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington / PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
C. E. Ritchie
J. W. Brooks
J. P. Linde
G. J. Hill

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831361 Supplement

M/SEVEN - .222 TRIAL & PILOT EVALUATION

Prepared by: F. L. Supry

Date Prepared: 6-24-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — R. E. Nightingale — Signature — 7-19-83 Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — C. Evan Ritchie — Signature — 7/19/83 Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831361 Supplement

REPORT TITLE: Model Seven .222 Caliber Trial & Pilot Evaluation

MODEL(S): Seven

GAUGE OR CALIBER: .222 Caliber

DATE: 6-24-83

WORK ORDER NO.: 81343-904

PART NAME: Rifle

DESIGNER/ENGINEER: Requested by G. Hill

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED _____
4. ACCURACY TEST - NO. OF GUNS TESTED 8
5. MEASUREMENTS - TYPE: 4
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - 8 OUT OF 40 GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE 50 gr

June 24, 1983

TO: R. E. NIGHTINGALE

FROM: F. L. SUPRY

REPORT TITLE: MODEL SEVEN - .222 CALIBER TRIAL & PILOT EVALUATION

ABSTRACT

A request was received from G. Hill, Supervisor, Process Engineering, to perform a Trial & Pilot evaluation of the Model Seven .222 caliber production firearm.

The first Trial & Pilot sample of this firearm was rejected by a visual inspection committee on May 17, 1983. (Refer to Report No. 831361, dated 5-18-83.)

SCOPE OF WORK

Perform a Trial & Pilot evaluation consisting of Visual Inspection, Field Function, and Accuracy Testing on an eight gun sample from a forty gun production run.

TEST RESULTS

The eight gun sample was accepted in each phase of the Trial & Pilot evaluation. Individual results and comments on each phase of the evaluation are located in the Report Text section of this report.

REPORT TEXT

1. Visual – It was the consensus of the visual inspection committee that there were no major deterrents in the appearance of the (8) rifles inspected. However, the following observations were made on the rifles:

Serial No. 7613006 -Poor latch color
Barrel pad uneven from side to side
Over-runs on checkering.

Serial No. 7613454 - Poor latch color
Front of bolt handle marred
Over-runs on checkering.

Serial No. 7613278 - Poor latch color.
Poor location of bolt marks on lugs
Finish on recoil pad body.

Serial No. 7612795 -Poor latch color
Trigger guard marred left side.

Serial No. 7613306 - Poor latch color
Latch unhooked from trigger guard.

Serial No. 7612969 - Poor latch color
Butt pad dirty.
Pitt marks in finish.

Serial No. 7613510 - Poor latch color
Barrel inletting uneven
Rear trigger guard screw marred.

Serial No. 7613513 - Poor latch color
Dirt under finish - rear of trigger guard
Finish on left side appears to be two different colors.

2. Field Function – 100 rounds were fired through each rifle in a field function test. The following results were obtained:

3 rifles had no malfunctions
1 rifle had 1 malfunction
3 rifles had 2 malfunctions
1 rifle had 10 malfunctions

The rifle with 10 malfunctions (Gun No. 3, Serial No. 7613306) was examined by Process Engineers. It was determined that the magazine spring had been altered, resulting in a loose fit. A spring from another rifle was assembled into Gun No. 3 and the rifle functioned without any further malfunctions.

The overall malfunction rate, not including Gun No. 3, was 1%, which compared favorably to the Model 700 ADL Restyle .222 Caliber, accepted May 1983 and reported on in Report No. 831292.

Data sheets located in Appendix "A" contain individual results by rifle, shooter and ammo type.

REPORT TEXT - cont'd.

3. Accuracy – The Remington standard for .222 caliber is 2.2" center to center in a 5 shot group.

   Three (3) five shot groups were fired with four of the Trial & Pilot rifles.

   Each rifle was within Remington standards.

   Data Sheets located in Appendix "B" contain the individual results.

TEST PROCEDURE

1. Visual

   A.) The Visual Inspection Committee consisted of T. Plunkett, R. Murphy, R. Nightingale, F. Supry (Research); W. Warren (Quality Control), and Z. Kowalski (Engineering).

   B.) Each rifle was wiped down with a clean cloth and inspected by each member of the committee.

   C.) Rifles used for the visual inspection.:

Serial No.	7613513	7613454
	7613006	7612795
	7613306	7612969
	7613278	7613510

2. Field Function

   Each rifle was subjected to a Field Function Test, conducted at the Ilion Fish & Game Club, consisting of 100 rounds of Remington and competitive ammunition cycling the action slow, medium and fast. The round robin system was used in this test. The weather was warm, sunny with temperatures around 80°F.

3, Accuracy

   One-hundred yard accuracy was shot on four of the rifles by R. Williams and C. Stephens (Research Test Lab). Three, five shot groups were shot utilizing .222 Remington 50 gr. "Power Lokt" hollow point ammunition, Code No. S22 ND 4072.

   Before shooting the rifles for accuracy, each bore was wire brushed with Hoppe's No. 9 Solvent and patched dry.

   The rifles were cooled and cleaned between groups, and one "warmer" was fired prior to each group.

   The following rifles were used for the 100 yard accuracy test: 7613454 7612795 7612969 7613510

4. Ammunition

Function Test -	Remington	R 222R1	Code	U10A	D0780
	Remington	R 222R3	Code	S22	ND4072
	Remington	R 222R4	Code	T15U	D2458
	Federal	222A	Code	3B	1268
	Winchester	X222R	Code	24SL21	24
Accuracy Test -	Remington	R 222R3	Code	S22	ND4072

APPENDIX "A"

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831361 SUPPLEMENT

PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 6-22-83 MODEL: SEVEN GAUGE: .222 SERIAL NO. ALL

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY RIFLE	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
1) 7613513													2															
2) 7613006													1															
3) 7613306													5	1	1		3											
4) 7613278																												
5) 7613454																												
6) 7612795													1			1												
7) 7612969																												
8) 7613510													1			1												
TOTAL (PER MAL.)													10	1	1	2	3											

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831361 SUPPLEMENT

PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 6-22-83 MODEL: SEVEN GAUGE: .222 SERIAL NO. ALL

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED:	800	700
TTL. MALFUNCTIONS:	17	7
MALFUNCTION RATE:	2.125%	1%

"MALFUNCTIONS"

SUMMARY SHEET BY SHOOTER	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
J. BAGGETTA													3				1											
R. HOWE													2															
C. STEPHENS													4	1			2											
R. WILLIAMS													1		1	2												
TOTAL (PER MAL.)													10	1	1	2	3											

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831361 SUPPLEMENT

PAGE NO. _____

DATE: 6-22-83 MODEL: SEVEN GAUGE: .222 SERIAL NO. ALL

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

SUMMARY SHEET BY Ammo	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
R-50-PSP													3				1											
R-50-HP															1													
R-55-MC													1			1	1											
F-50-SP																												
W-50-PSP													6	1		1	1											
TOTAL (PER MAL.)													10	1	1	2	3											

APPENDIX "B"

REPORT No. 831361

Page_____

M/7

GUN # 5

SER. 7613454

ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used KEM. CAL. 222
50 GR. POWER-LOKT H.P.

~~Previous Rounds~~ INDEX R222R3
CODE S22 ND4072

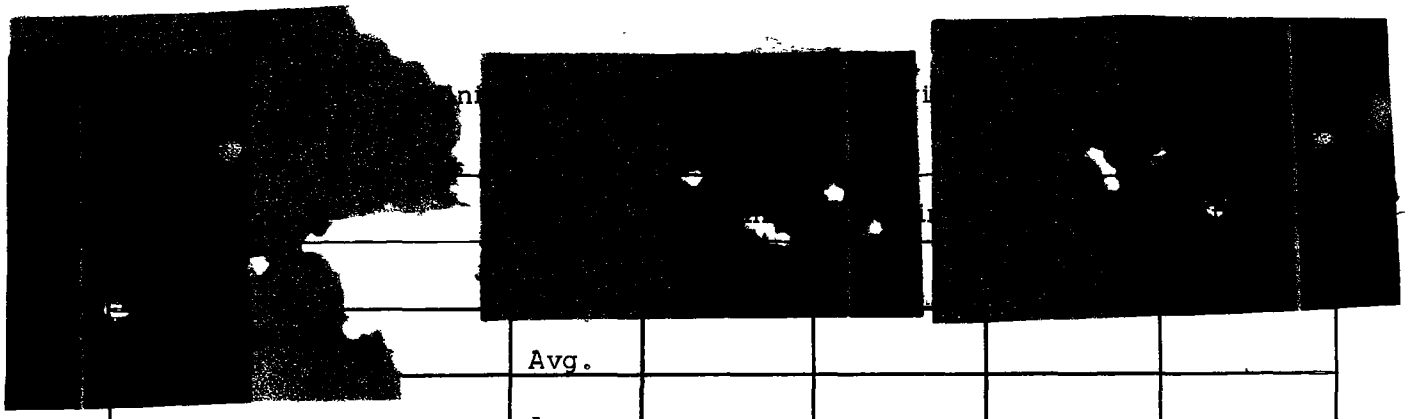
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.4	1.0	1.3
2	1.1	.3	1.0
3	1.3	.4	1.3
4			
5			

Avg. 1.26 .56 1.2

REM. STDS. 2.2"-5 SHOT

Tester R. WILLIAMS

Date 6-16-83



	Avg.				
	Avg.				
	Avg.				
	Avg.				
	Avg.				

Tester _____

Date _____

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REPORT No. 831361 Page_____

M/7

GUN #6

SER. 7612795

ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used REM. CAL. 222
50 GR. POWER-LOKT H.P.
~~Previous Rounds~~ INDEX R222R3
CODE S22 ND4072

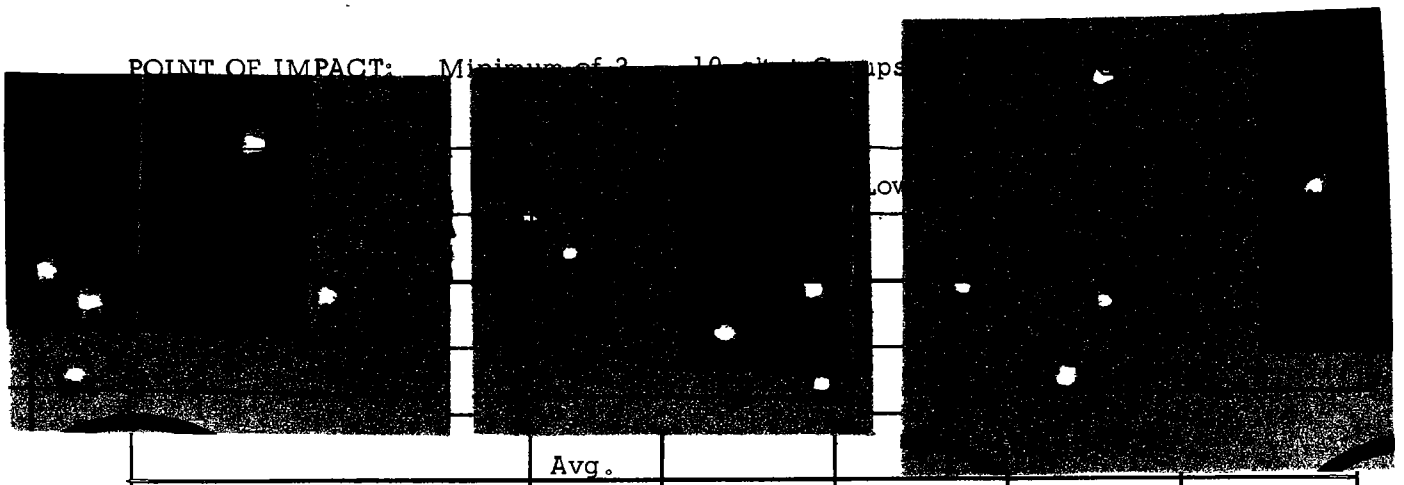
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.7	1.3	1.6
2	1.9	.9	1.7
3	2.1	1.7	2.0
4			
5			
Avg.	1.9	1.3	1.76

REM. STDS. 2.2" - 5 SHOT

Tester R. WILLIAMS

Date 6-16-83

POINT OF IMPACT: Minimum of 2 - 10-shot Groups



	Avg.				
	Avg.				
	Avg.				

Tester _____

Date _____

465

REPORT No. 831361 Page_____

M/7

ACCURACY: Minimum of 3 - 5-shot Groups

GUN # 7
SER. 7612969

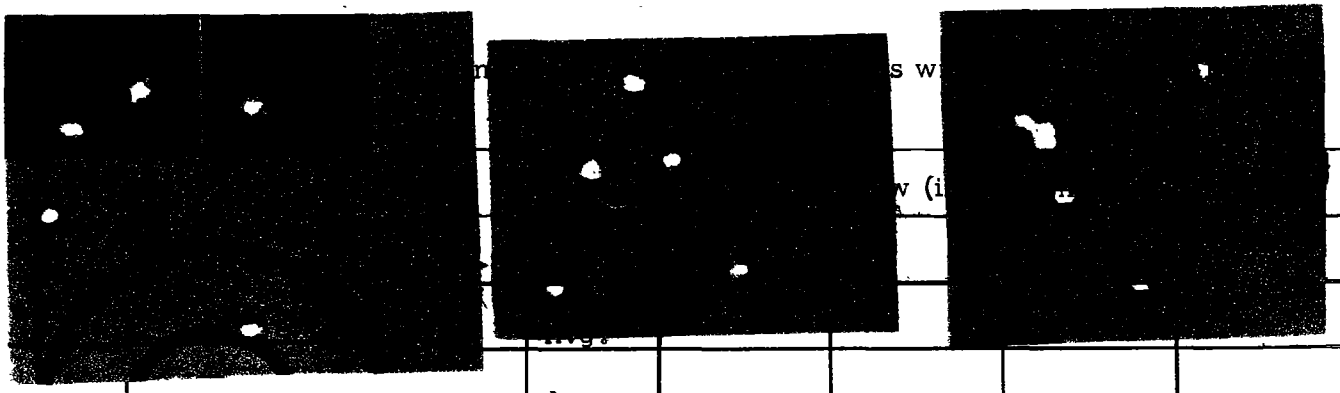
Ammunition Used REM. CAL. 222
50 Gr. POWER-LOKT H.P.
~~Previous Rounds~~ INDEX R222R3
CODE S22 ND4072

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.5	1.3	1.1
2	1.2	1.1	1.0
3	1.3	1.2	1.0
4			
5			
Avg.	1.3	1.2	1.0

REM. STDS. 2.2" - 5 SHOT

Tester R. WILLIAMS

Date 6-16-83



	Avg.				
	Avg.				
	Avg.				
	Avg.				

Tester _____

Date _____

465

REPORT No. 831361 Page_____

M/7

ACCURACY: Minimum of 3 - 5-shot Groups

GUN # 8
SER. 7613510

Ammunition Used REM. CAL. 222
50 GR. POWER-LOKT H.P.
~~Previous Rounds~~ INDEX R222R3
CODE S22ND4072

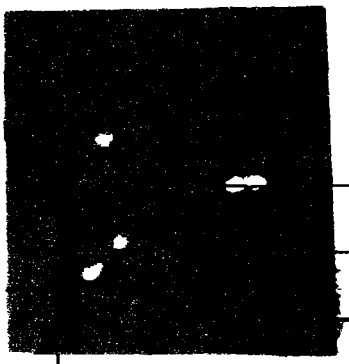
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.0	.8	.9
2	2.0	1.1	1.7
3	1.3	1.3	.7
4			
5			

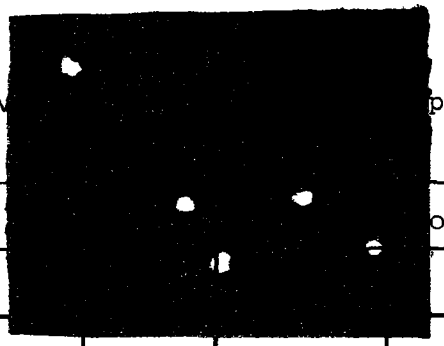
Avg. 1.4 1.0 1.1

REM. STDS. 2.2"-5 SHOT

Tester R. WILLIAMS

Date 6-16-83





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ow (

	Avg.				
	Avg.				
	Avg.				
	Avg.				
	Avg.				

Tester _____

Date _____

465

REPORT. No. 831361

M/7 CAL. 222
AMMO REM. 222 50 Gr. POWER-LOKT HOLLOW PT.
INDEX R222P5
CODE 222 VD40R2

MOUNT - LEUPOLD RINGS - LEUPOLD
SCOPE - LEUPOLD VARI-X-III 1.5 X 5

GUN #5 SER-7613454

GUN #6 SER-7612795

GUN #7 SER-7612969 2nd Group [illegible]

GUN #8 SER-7613510

The accuracy test was shot at the R.&D. 100yd. range by R. Williams and C. Stephens.

A total of three (3) five (5) shot groups were fired with each of 4 rifles and the barrel cooled [illegible] group and 1 fouling shot fired after [illegible].

Before shooting rifles for accuracy each bore was wire brushed with Hoppe's No.9 Solvent and patched dry.

FIELD CYCLE TEST - CENTERFIRE

(1)

REPROT NO.: 831361 PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613513

PREVIOUS ROUNDS _____

TEST TITLE: T & P .222 cal rifles

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 2%

"MALFUNCTIONS"

Joe Bob Chuck Ron AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	1 10	15	OK		222K				UOA			D	07	80														
R-50-HP	2 10	15	OK		222 3				S2			RDH	07															
R-55-M. CASE	3 10	15	OK	14	T	15	U	D	24	58																		
F-50-SP	4 10	15	OK		222A			30	12	68																		
W-50-PSP	1	15			X222	R		24	SC21	24			2SA															
R-50-PSP	1	5	OK																									
R-50-HP	2	5	OK																									
R-55-M. CASE	3	5	OK																									
F-50-SP	4	5	OK																									
W-50-PSP	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE (2) REPROT NO.: 83134 PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613006

PREVIOUS ROUNDS _____

TEST TITLE: T&P .222 Cal.

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 1%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	2	15	ok																									
R-50-HP	3	15	OK																									
R-55-M. CASE	4	15	OK																									
F-50-SP	1	15	ok																									
W-50-PSP	2	15	—										1st															
R-50-PSP	2	5	ok																									
R-50-HP	3	5	OK																									
R-55-M. CASE	4	5	OK																									
F-50-SP	1	5	ok																									
W-50-PSP	2	5	OK																									
TOTAL (PER MAL.)																												

(3)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831361 PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613306

PREVIOUS ROUNDS _____

TEST TITLE: T & P .222 cal

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 10
MALFUNCTION RATE: 10%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	3	15	—										3				1											
R-50-HP	4	15	—												1 2nd													
R-55-M. CASE	1	15	—										1 3rd				1											
F-50-SP	2	15	OK																									
W-50-PSP	3	15	—										1 3rd	1 4th			1											
R-50-PSP	3	2	✓																									
R-50-HP	4	5	✓																									
R-55-M. CASE	1	5	✓																									
F-50-SP	2	5	OK																									
W-50-PSP	3	5	—																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

(4)

REPROT NO.: 831361 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613278

TEST TITLE: T & P .222 cal.

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	4	15	ok																									
R-50-HP	1	15	ok																									
R-55-M. CASE	2	15	ok																									
F-50-SP	3	15	ok																									
W-50-PSP	4	15	ok																									
R-50-PSP	4	5	ok																									
R-50-HP	1	5	ok																									
R-55-M. CASE	2	5	ok																									
F-50-SP	3	5	ok																									
W-50-PSP	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

5

REPROT NO.: 831361

PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613454

PREVIOUS ROUNDS _____

TEST TITLE: T&P .222 cal

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	1	15	OK																									
R-50-HP	2	15	OK																									
R-55-M. CASE	3	15	OK																									
F-50-SP	4	15	OK																									
W-50-PSP	1	15	OK																									
R-50-PSP	1	5	OK																									
R-50-HP	2	5	OK																									
R-55-M. CASE	3	5	OK																									
F-50-SP	4	5	OK																									
W-50-PSP	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

(6)

REPROT NO.: 831361 PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7612795

PREVIOUS ROUNDS _____

TEST TITLE: T&P .222 cal

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 2%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	2	15	OK																									
R-50-HP	3	15	OK																									
R-55-M. CASE	4	15														1												
F-50-SP	1	15	OK																									
W-50-PSP	2	15	✓										1															
R-50-PSP	2	5	OK																									
R-50-HP	3	5	OK																									
R-55-M. CASE	4	5	OK																									
F-50-SP	1	5	OK																									
W-50-PSP	2	5																										
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

(7)

REPROT NO.: 831361 PAGE NO. _____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 761 2969

PREVIOUS ROUNDS _____

TEST TITLE: T & P .222 CAL.

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 6
MALFUNCTION RATE: 0

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	3	15	OK																									
R-50-HP	4	15	OK																									
R-55-M. CASE	1	15	OK																									
F-50-SP	2	15	OK																									
W-50-PSP	3	15	OK																									
R-50-PSP	3	5	OK																									
R-50-HP	4	5	OK																									
R-55-M. CASE	1	5	OK																									
F-50-SP	2	5	OK																									
W-50-PSP	3	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE (8) REPROT NO.: 831361 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 6-15-83 MODEL: 7 GAUGE: 222CAL. SERIAL NO. 7613510

TEST TITLE: T & P .222 cal

TTL. RDS. FIRED: 100
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 2%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-50-PSP	4	15	OK																									
R-50-HP	1	15	OK																									
R-55-M. CASE	2	15	OK																									
F-50-SP	3	15	OK																									
W-50-PSP	4	15											1	1st 2nd		1	1st											
		+																										
R-50-PSP	4	15	OK																									
R-50-HP	1	15	OK																									
R-55-M. CASE	2	15	OK																									
F-50-SP	3	15	OK																									
W-50-PSP	4	15	✓																									
TOTAL (PER MAL.)																												

(12)

SHOTGUNS, RIFLES, PISTOLS (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7613006

Headspace as Received: —

Proof: —

Headspace after Proof: +.003

Safe - "ON" - 1. 8 "OFF" - 1. 8
2. 8 2. 8
3. 8 3. 8

Bolt Open Force(lbs.)

Cocked: 1. 5.5 Dry Fired: 1. 8.5
2. 4 2. 4
3. 4 3. 4

Firing Pin Indent(in.)

1. ____
2. ____
3. ____

Trigger Pull(lbs.)

1. 4 1/2
2. 4 1/2
3. 4 1/2

~~Bolt~~ latch Release Force(lbs.)

1. 5.5
2. 5.5
3. 5.5

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____

Accuracy (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____ P.O.I.: ____

• Tester and Date: ____

CJS
I-12-82

(1)

SHOTGUNS, [illegible], RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 763513

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.003

Safe - "ON" - 1. 14½ 9½ "OFF" - 1. 15 10
2. 14½ 9½ 2. 15 10
3. 14½ 9½ 3. 15 10

Firing Pin Indent (in.)
1. ____
2. ____
3. ____

Bolt Open Force (lbs.)
Cocked: 1. 7 Dry Fired: 1. 9
2. 7 2. 9
3. 7 3. 9

Trigger Pull (lbs.)
1. 4½
2. 4½
3. 4½

LARGE FL. PLATE
~~Bolt~~ Release Force (lbs.)
1. 5.5
2. 5.5
3. 5.5

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)
Group Size: ____
Horz.: ____
Vert.: ____

Accuracy (Avg. of 5)
Group Size: ____
Horz.: ____
Vert.: ____ P.O.I.: ____

• Tester and Date: ____

CJS
I-12-82

(3)

SHOTGUNS, [illegible], RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7613306

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.003

Safe - "ON" - 1. 10 "OFF" - 1. 15
2. 10 2. 15
3. 10 3. 15

Firing Pin Indent(in.)
1. ____
2. ____
3. ____

Bolt Open Force(lbs.)
Cocked: 1. 3.5 Dry Fired: 1. 7.5
2. 3.5 2. 7.5
3. 3.5 3. 7.5

Trigger Pull(lbs.)
1. 3.75
2. 3.75
3. 3.75

~~Bolt~~ latch Release Force(lbs.)
1. 5
2. 5
3. 5

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)
Group Size: ____
Horz.: ____
Vert.: ____

Accuracy (Avg. of 5)
Group Size: ____
Horz.: ____
Vert.: ____ P.O.I.: ____

• Tester and Date: ____

CJS
I-12-82

SHOTGUNS, CENTERFIRES, RIMFIRES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

(4)

Model 7

Serial No. 7613278

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.001

Safe - "ON" - 1. 8.5 "OFF" - 1. 7.5
2. 8.5 2. 7.5
3. 8.5 3. 7.5

Firing Pin Indent(in.)
1. _____
2. _____
3. _____

Bolt Open Force(lbs.)
Cocked: 1. 7 Dry Fired: 1. 9
2. 7 2. 9
3. 7 3. 9

Trigger Pull(lbs.)
1. 4.5
2. 4.5
3. 4.5

~~Bolt~~ latch Release Force(lbs.)
1. 6.5
2. 6.5
3. 6.5

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)
Group Size: _____
Horz.: _____
Vert.: _____

Accuracy (Avg. of 5)
Group Size: _____
Horz.: _____
Vert.: _____ P.O.I.: _____

• Tester and Date: _____

CJS
I-12-82

(5)

SHOTGUNS, SEMI-AUTOS, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7613454

Headspace as Received: —

Proof: —

Headspace after Proof: +.001

Safe - "ON" - 1. 8 2. 8 3. 8

"OFF" - 1. 8 2. 8 3. 8

Firing Pin Indent(in.)

1. ____
2. ____
3. ____

Bolt Open Force(lbs.)

Cocked: 1. 5 2. 5 3. 5

Dry Fired: 1. 9.5 2. 9.5 3. 9.5

Trigger Pull(lbs.)

1. 4.25
2. 4.25
3. 4.25

Lock ~~Bolt~~ Release Force(lbs.)

1. 5.5
2. 5.5
3. 5.5

Gun Length: ____

Gun Weight: ____

Center of Gravity: ____

Bore: ____

Choke: ____

Orifice Size: ____

Bolt Closing Velocity: ____

Magazine Spring Force: ____

Disconnector Check: ____

Primer Marking: ____

Safety Check: ____

Firing Pin Protrusion: ____

Pattern Test (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____

Accuracy (Avg. of 5)

Group Size: ____

Horz.: ____

Vert.: ____ P.O.I.: ____

• Tester and Date: ____

CJS
I-12-82

(6)

SHOTGUNS, SEMI-AUTOS, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7612795

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.001

Safe - "ON" - 1. 9 2. 9 3. 9

"OFF" - 1. 9 2. 9 3. 9

Firing Pin Indent(in.)

1. _____
2. _____
3. _____

Bolt Open Force(lbs.)

Cocked: 1. 5.5 2. 5.5 3. 5.5

Dry Fired: 1. 9.5 2. 9.5 3. 9.5

Trigger Pull(lbs.)

1. 4
2. 4
3. 4

Bolt Release Force(lbs.)

1. 6
2. 6
3. 6

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: _____

CJS
I-12-82

(7)

SHOTGUNS, MILITARY-TYPES, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 7612969

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.002

Safe - "ON" - 1. 8.5 2. 8.5 3. 8.5

"OFF" - 1. 8.5 2. 8.5 3. 8.5

Firing Pin Indent (in.)

1. _____
2. _____
3. _____

Bolt Open Force (lbs.)

Cocked: 1. 4 2. 4 3. 4

Dry Fired: 1. 7.5 2. 7.5 3. 7.5

Trigger Pull (lbs.)

1. 4.5
2. 4.5
3. 4.5

LATCH ~~Bolt~~ Release Force (lbs.)

1. 4.5
2. 4.5
3. 4.5

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: _____

CJS
I-12-82

(8)

SHOTGUNS, SEMI-AUTOS, RIFLES (PUMPS & AUTOLOADERS)

TEST PROCEDURE SHEET

Model 7

Serial No. 761350

Headspace as Received: ✓

Proof: ✓

Headspace after Proof: +.003

Safe - "ON" - 1. 8.5 2. 8.5 3. 8.5

"OFF" - 1. 8.5 2. 8.5 3. 8.5

Firing Pin Indent(in.)

1. _____
2. _____
3. _____

Bolt Open Force(lbs.)

Cocked: 1. 5.5 2. 5.5 3. 5.5

Dry Fired: 1. 9 2. 9 3. 9

Trigger Pull(lbs.)

1. 4.25
2. 4.25
3. 4.25

Bolt Release Force(lbs.)

1. 6
2. 6
3. 6

Gun Length: _____

Gun Weight: _____

Center of Gravity: _____

Bore: _____

Choke: _____

Orifice Size: _____

Bolt Closing Velocity: _____

Magazine Spring Force: _____

Disconnector Check: _____

Primer Marking: _____

Safety Check: _____

Firing Pin Protrusion: _____

Pattern Test (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____

Accuracy (Avg. of 5)

Group Size: _____

Horz.: _____

Vert.: _____ P.O.I.: _____

• Tester and Date: _____

CJS
I-12-82

6-13-83

222 T&P VISUAL INSPECTION

1. Tom Plunkett
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]

7613006 —

latch color

Barrel pad uneven from [illegible]

cracking [illegible]

7613454 -

[illegible]

[illegible] stock

[illegible]

- [illegible] loose

- [illegible] checkering at forearend [illegible]

- [illegible]

7613278

- [illegible]

- color marks top front [illegible]

- [illegible]

- [illegible]

7612565

- [illegible]

- white [illegible]

7613306 –

[illegible]

7612969 –

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

7613510 -

- [illegible]
- [illegible]
- [illegible]
- [illegible]

poor fill

7613[illegible] -

[illegible]

[illegible]

[illegible]

M7
Aluminum Yellow Plate
Sandblasted
832691

Sensitivity Analysis ALUM. Floor Plate

30° ANGLE	20° ANGLE
# 7604243	7603866
# 7603983	7604158
# 7604175	7604206
# 7604114	7604123
# 7604185	7603941

7-8-83 - Floor plates assembled into Actions and marked.

7-11-83 - Latch Force and Coverage measurements taken.

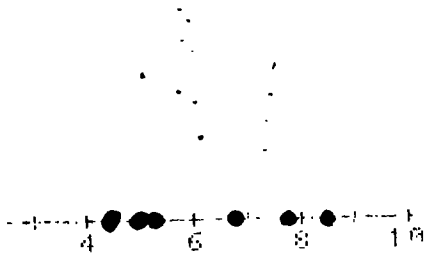
	Serial #	Latch Force	Coverage
30°	4243	2.00	.041
	3983	2.00	.042
	4175	2.00	.045
	4114	2.50	.046
	4185	2.75	.033
20°	3866	2.00	.035
	4158	2.25	.046
	4206	2.50	.044
	4123	2.25	.028
	3941	2.25	.029

7-20-83

SPRINGS WERE CUT TO .5"

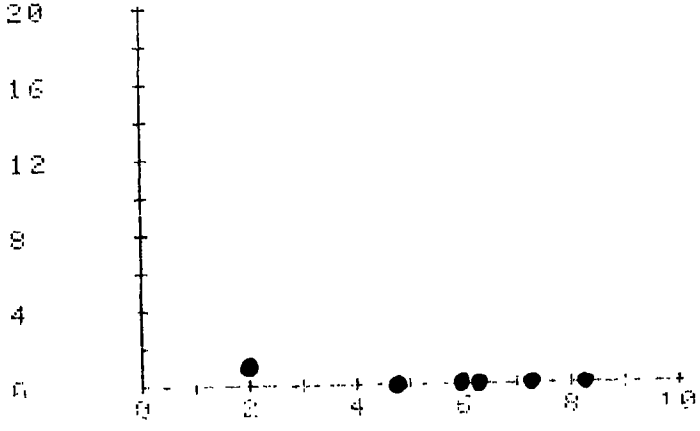
	GUN #	Latch Force (lbs)
20°	3941	1.25
	4123	1.25
	4206	1.50
	—	
	—	
30°	4185	1.50
	4114	1.25
	4175	1.25
	3983	1.00
	4243	1.00

GUN # 9

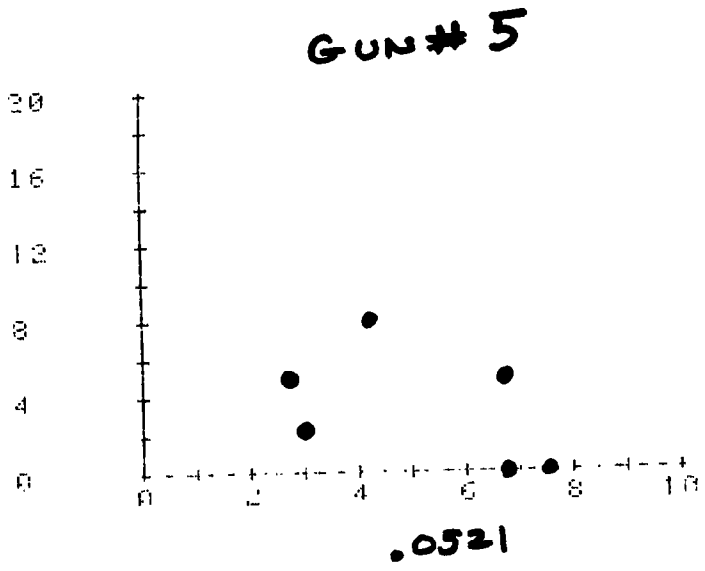


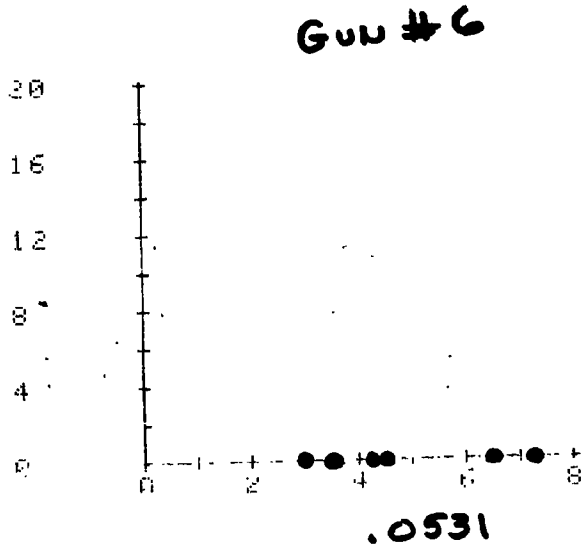
.0562

GUN # 10

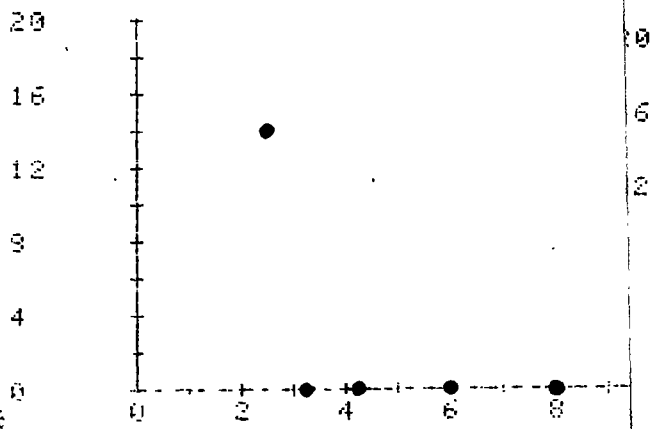


.0462



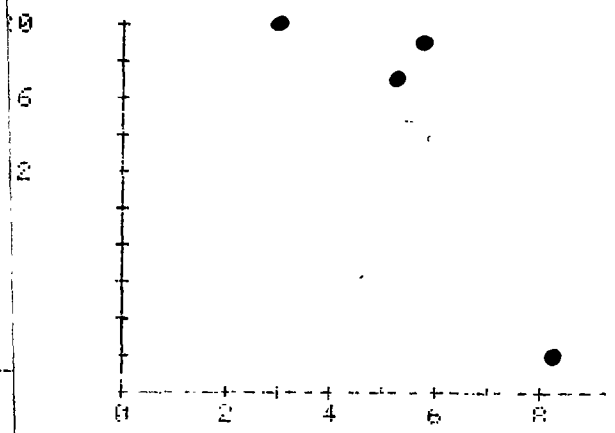


GUN # 1



.0547

GUN # 4

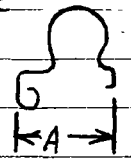


.0434

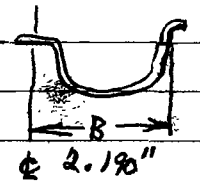
Test 1 – Latch Opening Force

Parts Used:

1. Std. Latch
2. Thick Assembly
   - .060" thick Base
   - .080" " Trigger Plate
3. Std. Latch Spring
   Dimension "A" modified to get desired Opening Force.
   Started test with "A" = .060"



4. Trigger Guards – Tab ground to fit thicker Assemblies. Not Ht. Treated (soft). Rear tab bent to 0°. Over-all trigger guard length the same initially for all t.g.'s. (2.190").



5. Stock – inlet for thicker assemblies. Inlet surfaces cleaned out (scraped) to allow for good fit between stock & f.p. assembly. Bottom surface filed as needed to allow for adequate latch coverage (50% at least desired).

Actions used

Ser. No.	Assembly No.
760 3440	1
4061	2
3958	3
4095	4
4168	5
4252	6
4041	7
3977	8
3879	9
4068	10

Report No. 831871

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S	REPORT REQ'D.	
MODEL: 7 Lightweight	FORMAL ✓	DATE REQUESTED: 7-6-83
CAL. or GAGE: ALL CAL		DATE NEEDED BY: ASAP
BARREL TYPE: -	TEST RESULTS ONLY ___	REQUESTED BY: J.W.B.
PROOFED: YES ✓ NO ___		WORK ORDER NO: C18560

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
✓ Function Test	___ Environmental Test	✓ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

XPLAIN IN DETAIL THE REASON FOR THIS TEST:

Sensitivity test – Compare 20° vs 30° Latches

1. amount of latch engagement.
2. Latch release force (empty magazine).
3. Trigger guard adjusted with spacers so cover does not ton on wood.
4. cover touching wood
5. High speed movies or may record. Heavy wind fan
6. Guard screws snug but not tight.

UNS REQUIRED: Latch at 20°

7604206
7603941
7604158
7603866
7604123

Latch at 30°

7604143
7603983
7604163
7604111
7604175

OTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

NUMBER	REMINGTON ARMS CO. INC.	
A-EXP. 1169	RESEARCH & DEV. DEPT.	
	SCALE	SUPERSEDES-REFERENCE
	~	

TITLE
SPRING, FLOOR PLATE LATCH

DES. BY DATE	DRN. BY DATE	CHK. BY DATE	APP. BY DATE
T.T. Plunkett 2/1/83	T.T. PLUNKETT 2-2-83		

FOR DETAILS, SEE PROCESS RECORD

MODEL	PART USE	QUAN.	SEE
7LWT	FLOOR PLATE LATCH	1	

RECOMMENDED MATL. & HEAT TREAT
Material MUSIC. WIRE - ASTM. A228
Heat Treat STRESS. RELIEVE.
Approval (By Date) .....

INSPECTION

1. To work freely in .235 dia. hole
2. To work freely on ~ dia. pin
3. Load 1.46 to 1.68 lb. at .300 length (~~with set removed~~)
4. Solid Height .258 max.
5. Free Length .595 min.
6. Ends SQUARED & NOT GROUND
7. Wind EITHER H
8. Remove set ([redacted]s (No [except for inspection]

MANUFACTURE

9. Wire dia. .012
10. Outside dia. .082
11. Free Length .625 (with set removed)
12. Coils 20 Active 18 Total

DESIGN DATA

13. Rate 4.83 lb./in.
14. Solid Stress 234,000 lb./sq. in.
15. Solid Load 1.80 lb.
16. Spring Index 5.83
17. Torsional Mod. G = 11.5 X 10^6 lb./sq. in.
18. Concentric Corr. 1.26 (WAHL)

This Spring must meet the requirements in the "Inspection" section.
Figures given in the "Manufacture" section indicate the preferred Spring, but the Manufacturer may deviate from these at his own discretion.
Figures in the "Design Data" section are based on those in the "Manufacture" section.

ALT.	WAS	REFERENCE	BY	DATE

ALTERATIONS

TFA-3 REV. 2

H.H.S 19 1153•

TEST 1

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 7 17 83 MODEL: 7 GAUGE: 308 SERIAL NO. ALL

PREVIOUS ROUNDS _____

TEST TITLE: ALUM FR SENSITIVITY AMMO

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

TORQUE @ 25"lbs / 0"lbs

"MALFUNCTIONS"

1-5 20
6 10 20

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
1	SF	20	OK				1	EJ	20	OK																		
2	FS	20	OK				2	SF	20	OK																		
3	EJ	20	OK				3	FS	20	OK																		
4	FS	20	OK				4	FS	20	OK																		
5	SF	20	OK				5	SF	20	OK																		
6	EJ	20	OK				6	EJ	20	OK																		
7	FS	20	OK				7	FS	20	OK																		
8	SF	20	OK				8	FS	20	OK																		
9	FS	20	OK				9	SF	20	OK																		
10	EJ	20	OK				10	EJ	20	OK																		
TOTAL (PER MAL.)																												

REMARKS

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.

DIAGRAMS (IF NEEDED)

TEST 2

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 7-17 8? MODEL: 7 GAUGE: 308 SERIAL NO. ALL

PREVIOUS ROUNDS

TEST TITLE: ALUM. F.P. SENSITIVITY ANALYSIS

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

(NO LATCH SPRING)

"MALFUNCTIONS"

1-5 20°
6-10 30°

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL OVER	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
1	FY	20	—	2																							X	
2	FS	20	—	1																								
3	FS	20	OK																									
4	FS	20	OK																									
5	—																										X	
6	FY	20	OK																									
7	FS	20	OK																									
8	FS	20	—	2																								
9	FS	20	—	4																								
10	FS	20	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. #1 [illegible]
2. #5 LATCH BINDING (CAUSED [illegible])
3. "
4.
5.
6.
7.
8.
9.
10.
11.
12.

DIAGRAMS (IF NEEDED)

TR 3

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 7 2 [illegible] MODEL: 7 GAUGE: 308 SERIAL NO. ALL

TEST TITLE: ALUM FP SENSITIVITY ANALYSIS

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

LATCH SPRING CUT TO .5"

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
1	FS	20	OK																									
2	FS	20	OK																									
3	FS	20	OK																									
4																	OUT OF TEST											
5																												
6	FS	20	OK																									
7	FS	20	OK																									
8	FS	20	OK																									
9	FS	20	OK																									
10	FS	20	OK																									
TOTAL (PER MAL.)																												

REMARKS

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

DIAGRAMS (IF NEEDED)

R(--89-8

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C.B. Workman
C.E. Ritchie
J.W. Brooks
R.S. Murphy
File

RESEARCH TEST and MEASUREMENT REPORT - Report No. 832691

MODEL SEVEN LWT - PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

Prepared by: S.R. FRANZ

Date Prepared: 11/30/83

Proofread and Cleared by:

R.E. Nightingale,
Foreman - Test, Measurement Lab

R.E. Nightingale 12-2-83
Signature Date

C.E. Ritchie, Sr. Supervisor
Testing, Measurement & Mech. Analysis Lab

Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 832691

REPORT TITLE: PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

MODEL(S): MODEL SEVEN LWT

GAUGE OR CALIBER: .308

DATE: 11/30/83

WORK ORDER NO.: C-1856-000

PART NAME: FLOOR PLATE ASSEMBLY

DESIGNER/ENGINEER: J.W. BROOKS/D.E. BULLIS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST-NO. OF GUNS TESTED _____
3. FUNCTION TEST-NO. OF GUNS TESTED 10
4. ACCURACY TEST-NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE Acceleration, Coverage, Opening Force, Screw Torque, Headspace
6. ENVIRONMENTAL TEST COLD
7. AMMUNITION TESTING & EVALUATION-TYPE _____
8. VISUAL EVALUATION _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE-NO. OF GUNS TESTED: 2

   NO. OF ROUNDS PER GUN 2,000

   TOTAL ROUNDS FIRED IN TEST 4,000

   AMMO TYPE: MAGS. _____ TARGET: _____

   RIM FIRE _____ CENTERFIRE .308 180 gr.

November 30, 1983

TO: R. NIGHTINGALE

FROM: S.R. FRANZ

REPORT TITLE: MODEL SEVEN LWT PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

ABSTRACT

A previous sensitivity analysis on the steel floor plate assembly showed that this design was sensitive to a number of variables and dimensions. In order to assure no floor plate openings with this design it would require 100% inspection of all floor plate assembly parts; a very costly and time consuming process. Because of this a new aluminum floor plate assembly was designed that would be cheaper to make and be less sensitive to manufacturing tolerances. (See Appendix for the Floor Plate Assembly Parts List) Prototypes were made and initial testing confirmed that the design was better from a functional standpoint. Production reviewed this design and recommended that some changes be made to allow for their manufacturing process. These design changes were made and 10 prototypes were built and assembled on .308 cal. actions. The Test and Measurement Lab received a work request from D.E. Bullis, Current Firearms Design, to run a sensitivity analysis on these prototype rifles.

SCOPE OF TEST

To determine the sensitivity of the new aluminum floor plate assembly to floor plate openings during live fire.

TEST RESULTS

Testing has proven that the new aluminum floor plate assembly is not as sensitive to floor plate openings as the steel assembly. The Report Text section contains a detailed explanation of the tests that were run as well as their results. Testing did show, however, that a condition exists that could adversely effect the functioning and appearance of the rifle. This condition is discussed below.

TEST RESULTS - Contd.

Initial observations showed that the front trigger guard screw on all 10 rifles interfered with the floor plate when the floor plate was closed. This interference caused the floor plate to bow out. Not only does this detract from the appearance of the rifle but it also increases the load on the floor plate latch. This condition could also increase the sensitivity of the floor plate latch to floor plate openings because of this additional load. J.W. Brooks and D.E. Bullis were made aware of this condition so that corrective action could be taken. After this condition was found the front screw heads were filed down to eliminate this interference. The remainder of testing was completed with the filed down screw heads.

Although this testing has proven that the aluminum assembly is a good design we must remember that these were prototype parts machined in the Research N/C area and the Model Shop, not vendor parts handled by production. As soon as vendor parts are received another sensitivity analysis similar to this one will be run to increase our confidence level before production begins with this assembly.

REPORT TEXT

A total of ten newly designed aluminum floor plate assemblies were tested for sensitivity to floor plate openings. Sensitivity to the following parameters were considered:

1. Part Wear (endurance)
2. Guard Screw Torque
3. Fit to Stock (washers)
4. Latch Coverage
5. Opening Force
6. Lubrication
7. Temperature (cold)

In addition, measurements, high speed movies and accelerometer measurements were taken to compare the aluminum to the steel assembly. An explanation of each test and the results follow.

Note: See last page in Appendix for prototype Floor Plate Assembly Parts List.

TEST PROCEDURE

A. Measurements

Before any testing was done some preliminary measurements were taken on all the rifles. A listing of the measurements made and the range of values measured are listed below. (See Appendix for the complete data listing).

Opening Force: 2.25 --- 3.50 lbs.
Latch Coverage: 0.065 -- 0.085
Headspace; min + .004 -- min. +.005 in.
Screw Torque: pre-set at 25 lb-in
Stock to Floor Plate Cover Gap: 0.008--0.031 in.

B. Initial Shooting

After initial measurements all ten rifles had five rounds of Rem. 180 gr. .308 cal. ammo shot through them in the Test Lab jacks. No floor plate openings occurred.

C. Field Cycle Test

After the initial jack shooting all ten rifles were brought up to the Ilion Fish and Game Club for a full field function test. Each rifle was shot a total of 150 rds. of Rem. and Competitive ammo. All ten rifles shot malfunction free.

D. Measurements

The initial measurements were repeated after the Field Test to determine if any changes had occurred. A summary of the results are listed below. (See Appendix for complete data listing.)

Opening Force 2.25 -- 3.25 lbs.
Latch Coverage 0.064 -- 0.084
Headspace: min + .004 -- min. + .005 in.
Screw Torque: front 10 -- 25 lb. - in.
Rear 20 -- 25 lb - in.
Stock to Floor Plate Cover Gap 0.010 -- 0.031 in.

This data shows that the assembly screws did loosen slightly and that the front screw loosened more than the rear. This is explained under the Screw Torque Test.

TEST PROCEDURE - Contd.

E. Part Wear (endurance), High Speed Movies, Accelerometer Measurements

Two rifles were selected from the ten guns supplied for endurance testing. The rifles selected were:

Ser. No. 7603854
Ser. No. 7603221

Both of these rifles were shot 2000 rds. each using Rem. 180 gr. .308 cal. ammo. The floor plates on both rifles were opened and closed every 20 rounds throughout this test. Rifle No. 7603854 had high speed movies taken both before and after endurance. High speeds were taken to determine if the aluminum assembly moves during live firing and to determine if this movement increases as rounds are put on the rifle.

No rifle experienced floor plate openings during shooting. In addition, the high speed movies indicated that the assembly does move slightly downward (out of stock) but that it is considerably less that the steel assembly. There was also no noticeable increase in this movement in the second high speed taken after the 2000 rounds were fired. No floor plate latch movement was detected in either of the high speeds. This indicates that the slight movement of the floor plate housing is not enough to initiate latch movement during live firing. (These high speed movies are available for viewing in the Research Photo Lab.)

Accelerometer measurements were also made to confirm the movement of the floor plate assembly in the stock during live shooting. These measurements were taken with a PCB miniature accelerometer, Model No. 303A02, powered by a PCB power supply, Model No. 482A04. The accelerometer was mounted on the bottom of the floor plate housing to measure vertical acceleration. Similar measurements were also made on a rifle with a steel assembly for comparison. These measurements showed that the aluminum assembly had one-half of the downward acceleration of the steel assembly. This can be seen in the two graphs in the Appendix. These graphs show the Power Spectrum of the acceleration curves in the range of 0-2000 HZ taken with a WaveTek/Rockland Model 5830A Spectrum Analyzer. The graph for the steel assembly shows that the resonant frequency of the floor plate base is 335 HZ and the peak acceleration is 348 g's at this frequency. The second graph shows that the aluminum assembly resonates at approximately the same frequency but the acceleration is approximately half that of the steel assembly.

TEST PROCEDURE - Contd.

F. Guard Screw Torque

The eight remaining rifles were used for this test. Screw Torque was set at seven different values and 20 rds. of Rem. 180 gr. ammo was fired per setting. After every 20 rds. screw torque was checked to determine if the screws had loosened up. The following torque settings were used: 1, 5, 10, 15, 20, 25 and 30 lb-in. No floor plate openings occurred at any of these values. Loosening of the assembly screws occurred at torques up to and including 15 lb.-in. No loosening occurred over the 15 lb-in level. This seems to contradict an earlier condition where the screws loosened after the field cycle test when they were pre-set at 25 lb-in. The difference between the two is that 150 rds. were fired on the field test and only 20 at the individual settings for this test. It should be stated here that the two endurance guns were fired 2000 rds. each without re-tightening the screws and no floor plate openings occurred. Although it seems that floor plate openings are not sensitive to screw torque, a torque of at least 30 lb-in is recommended.

G. Fit to Stock (Washers)

Production has stated that they cannot control the inletting depth for the floor plate assembly in the stock. This is true for all M/700 and Model Seven Lwt Calibers. To compensate for this lack of control they purposely inlet too deep and use spacers between the stock and the floor plate assembly to ensure a good looking fit to the stock. Using spacers in this way changes the interaction between the floor plate assembly and stock because support to the assembly is decreased. This test was designed to determine if this effects the performance of the floor plate assembly. Eight rifles were tested with no spacers and four spacers between the floor plate assembly and the stock. Each spacer was 0.015 in. thick. Twenty rds. of Rem. 180 gr. .308 cal. ammo was fired per condition and no floor plate openings occurred.

H. Latch Coverage

Initial measurements showed that latch coverage for this ten rifle sample was in a range of 0.065 to 0.085 in. Latch coverage was decreased in four steps by filing away the floor plate edge on five rifles until each rifle had 0.005 in. coverage. At each increment 20 rds. of Rem. 180 gr. .308 Cal. ammo was fired. No floor plate openings occurred at any of the latch coverage increments. See data in Appendix.

TEST PROCEDURE - Contd.

I. Opening Force

The same five rifles used for the latch coverage test were used here. Two conditions were tested. 20 rounds of Rem. 180 gr. .308 cal. ammo was shot with the floor plate latch springs at full length and then reshot with the springs cut to 3/4 length. The latch spring could not be cut any shorter than this and still exert a force on the floor plate latch. We considered that a 3/4 length spring would be the worst possible condition that could occur with this design and still allow proper functioning. Latch opening forces were measured for the full length and 3/4 length springs with the cover opened and closed for comparison. These numbers can be seen in the Appendix. No floor plate openings occurred on any of the five rifles with the full or 3/4 length spring. To go one step farther two of the five rifles had their latch springs completely removed and 20 rounds of ammo was shot through each. In this way the only force on the floor plate latch was the force due to the floor plate cover and friction. One rifle opened 1 out of 20 rds. and the other opened 2 out of 20 rds.

J. Lubrication

All firearms should be cleaned and oiled periodically to ensure proper functioning. However the frequency and extent of cleaning depends on the individual. This lubrication test was designed to test the extremes of lubrication on the rifle in the floor plate and latch area. The two conditions tested were with no lubrication at all on the assembly (dry) and with the assembly saturated with Du Pont Teflon wet lubrication. Two Model Seven's were selected for this testing. In addition three competitor's rifles were also tested for controls. These rifles were: Win. M/70 in. .30-06 cal. Browning BBR in .30-06 cal. S&W M/1500 in .30-06 cal.

20 rds. of Rem. 180 gr. .308 cal. ammo was fired per condition in the Model Seven's and Rem. 180 gr. 30-06 cal. ammo was fired in the competitor's rifles. None of the rifles, Model Seven's or competitor's, experienced any malfunctions during this test. Latch opening forces were measured with and without lubrication on all the rifles tested. These measurements show little if any difference in opening forces between the two conditions. This data can be found in the Appendix.

TEST PROCEDURE - Contd.

K. Temperature (Cold)

Firearms are used in all types of climates and temperature extremes. They, therefore, have to operate properly in these conditions. The cold test determines if firearms will operate properly in extremely low temperatures. The same two Model Seven's used in the lubrication test along with the three competitors listed above were stored overnight in the lab's freezer at -30 Deg. F. The following day they were removed and floor plate latch opening forces were measured. Following these measurements 20 rounds of ammo was shot through each rifle. After shooting latch opening forces were measured again. No floor plate openings occurred on any of the rifles. See Appendix for opening force data.

M/ 7 SENS. ANAL.

TESTING SEQUENCE

- o MEASUREMENTS
- o FIELD TEST ALL 10
- o MEASUREMENTS
- o PICK TWO FOR ENDURANCE
- o H.S. ONE ENDUR. GUN
- o ENDUR. 2 TO 2000 RDS.
- o H.S. AFTER ENDURANCE
- o GUARD SCREW TORQUE TEST
- o FIT TO STOCK (WASHERS)
- o OPENING FORCE
- o LATCH COVERAGE
- o 2 GUNS FOR:
  - TEMPERATURE TEST
  - LUBRICATION TEST

APPENDIX

- Measurements
- Field Cycle Sheets
- Endurance Sheets
- Acceleration Data
- Screw Torque Data
- Fit to Stock Data
- Latch Coverage Data
- Opening Force Data
- Lubrication Data
- Cold Test Data
- Floor Plate Assembly Parts List

BEFORE TEST-0 RDS

GUN NUMBER	OPENING FORCE (lb)	COVERAGE (in.)	WOOD/COVER GAP (in)	HEADSPACE MIN+	SCREW TORQ. FRONT.REAR
7604086	4.5	.075	.018	.004	25,25
7604091	2.75	.077	.01	.005	25,25
7603907	3	.066	.018	.004	25,25
7603854	2.5	.073	.008	.004	25,25
7603187	2.75	.068	.016	0	25,25
7604201	3.5	.081	.02	.004	25,25
7604244	3	.065	.016	.005	25,25
7603221	2.75	.068	.03	.004	25,25
7603910	2.25	.085	.031	.004	25,25
7603821	2.5	.075	.016	.005	25,25

AFTER FIELD TEST- 155 RDS

GUN NUMBER	OPENING FORCE (lb)	COVERAGE (in.)	WOOD/COVER GAP (in)	HEADSPACE MIN+	SCREW TORQ. FRONT.REAR
7604086	3.25	.075	.018	.005	20,20
7604091	2.75	.075	.01	.005	10,20
7603907	2.5	.065	.018	.004	18,22
7603854	2.25	.07	.015	.005	16,20
7603187	2.5	.065	.016	.005	20,20
7604201	3.25	.079	.02	.004	20,20
7604244	2.5	.065	.016	.005	15,20
7603221	2.25	.064	.03	.004	25,25
7603910	2.25	.084	.031	.004	19,22
7603821	2.5	.072	.016	.005	18,20

FIELD CYCLE TEST - CENTERFIRE

#1

REPROT NO.: 832691

PAGE NO. 1

(No Ft. sight)

PREVIOUS ROUNDS

DATE: 9-28-83

MODEL: 7

GAUGE: 308

SERIAL NO. 7604086

TEST TITLE: 7

WEATHER:

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0%

(1)

"MALFUNCTIONS"

WEAVER - #1 BAGGETTA #2 JENNINGS #3 STEPHENS #4 WILLIAMS #5 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
R-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-110-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
~~W-150-S.T.~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP	~~8~~																											
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
W-200-S.TIP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
F-150-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. ____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: 150

WEATHER: _____ TTL. MALFUNCTIONS: 2

MALFUNCTION RATE: 1.33%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	~~4~~	5	OK																									
M	~~4~~	5	OK																									
F	~~4~~	5	OK																									
F-165-PROM.BT																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 832691 PAGE NO. _

PREVIOUS ROUNDS _____

DATE: 9.28 MODEL: 7 ~~GAUGE~~: 308 2 SERIAL NO. 7604091

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 2 stems

MALFUNCTION RATE: 1.33%

(2)

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
R-180-PSP																												
S	3	5													1 1st time													
M	3	5													1 1st time													
F	3	5	ok																									
W-110-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
~~W-150-S.PP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP	1																											
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPRT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITY	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP	2																											
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-200-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
F-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
F-165-PREM.BT																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 832691 PAGE NO.

DATE: 9-28-85 MODEL: 7 GAUGE: 308 #3 SERIAL NO. 7603907

PREVIOUS ROUNDS

TEST TITLE:

WEATHER:

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 1 stem

MALFUNCTION RATE: 0.67

3

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
R-180-PSP																												
S	4	5	ok																									
M	4	5											1	2 ok														
F	4	5	ok																									
W-110-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
~~W-150 S.TIP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
W-200-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP	1																											
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-165-PROM.BT																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO. 832691 #4

PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83

MODEL: 7

GAUGE: 308

SERIAL NO. 7603854

TEST TITLE: ____

WEATHER: ____

(4)

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
R-180-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
W-110-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
~~W-150-S~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
W-200-S.TIP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
F-150-PSP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP	2																											
S	2	5	OK																									
M	2	5	OK																									
F	2	5	OK																									
F-165-REM.BT																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 532891 5 PAGE NO.

PREVIOUS ROUNDS

DATE: 9-28-93 MODEL: 7 GAUGE: 308 SERIAL NO. 7603187

TEST TITLE:

WEATHER:

5

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 3 feeding

MALFUNCTION RATE: 1.3%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
R-180-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
W-110-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER SPEEDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP	~~3~~	~~5~~																										
S	3	5	ok																									
M	3	5																14		13								
F	3	5																										
~~W-150-SHIP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180 - S.TIP																												
S	S	5	ok																									
M	S	5	ok																									
F	S	5	ok																									
W-200 - S.TIP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
F - 150 - PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
F-165-PREM.BT																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 232691 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 6 SERIAL NO. 7604201

TEST TITLE: ____

WEATHER: ____

6

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
R-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-110-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
~~W-150-SHP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP	1																											
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
W-200-S.TIP																												
S	2	5	OK																									
M	2	5	OK																									
F	2	5	OK																									
F-150-PSP																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	4	5	ok																									
M	4	5	OK																									
F	4	5	OK																									
F-165-PROM.BT																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822691 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 7 SERIAL NO. 7604244

TEST TITLE: ____

WEATHER: ____

7

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
R-180-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
W-110-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
~~W-150-SP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-200-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
F-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	S	5	ok																									
M	S	5	ok																									
F	S	5	OK																									
F-165-PROM.BT																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 832691 8 PAGE NO. 1

PREVIOUS ROUNDS _____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 7603221

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0%

8

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
R-180-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
W-110-PSP	~~5~~																											
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
~~W-150-SMP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	3	5	ok																								X	
M	3	5	ok																									
F	3	5	ok																									
W-200-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
F-165-PREM.BT																												
S	2	5	OK																									
M	2	5	ok																									
F	2	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO. 832691 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 2-28-83 MODEL: ____ GAUGE: 308 #9 SERIAL NO. 7603910

TEST TITLE: ____

WEATHER: ____

(9)

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 0.67%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
R-180-PSP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
W-110-PSP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
~~W-150-S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
W-200-S.TIP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5											1	3 1														
F-150-PSP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
F-165-PREM.BT																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE (No Pr Sides) REPROT NO. 832691 PAGE NO. _____

#10

PREVIOUS ROUNDS _____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 7603821

TEST TITLE: _____

WEATHER: _____

(10)

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.33%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	5	5	Ok																									
M	5	5	Ok																									
F	5	5	OK																									
R-180-PSP																												
S	1	5											1	5														
M	1	5	ok																									
F	1	5	ok																									
W-110-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
~~W-150-SHP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
W-200-S.TIP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
F-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	3	5	ok																	1								
M	3	5																		3								
F	3	5	ok																									
F-165-REM.BT																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 832691 PAGE NO. 1

W.O. # C-1856-000

DATE: 9-29-83 MODEL: 7 LWT Caliber ~~GAUGE~~: .308 SERIAL NO. 7603221

HEAD SPACE +.004

PREVIOUS ROUNDS 153

TEST TITLE: ENDURANCE (2000 RDS) m/7 LWT SEMI. ANALYSIS (GUN #8)

TTL. RDS. FIRED:

TTL. MALFUNCTIONS:

MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size R308 W2 150GR. S.P.	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
	RH	200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
	RS	200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
	DB.	200	OK																									
TOTAL (PER MAL.)																												

NOTE: MAG. OPENED & CLOSED EVERY 20 RDS. DURING TEST

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

JACK ENDURANCE CENTERFIRE

REPROT NO.: ____ PAGE NO. 1

DATE: 12/6/83 MODEL: 7 , Caliber ~~GAUGE~~: 308 SERIAL NO. 7603854

PREVIOUS ROUNDS 155

TEST TITLE: SENSITIVITY ANALYSIS - 2000 RD AFTER HIGHSPEED

TTL. RDS. FIRED:
TTL. MALFUNCTIONS:
MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	D.B. SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG.		SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER				SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK)	
								1st LATCH	2nd LATCH				HIGH	LOW	RIGHT	LEFT											YES	NO
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
TOTAL (PER MAL.)																												

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

JACK ENDURANCE CENTERFIRE

REPROT NO.:

PAGE NO. 2

DATE: 10/7/83

MODEL: 7

~~GAUGE~~ CAliber: 308

SERIAL NO. 7603854

PREVIOUS ROUNDS 1155

TEST TITLE: Sensitivity Analysis -2000RD after Highspeed

TTL. RDS. FIRED:

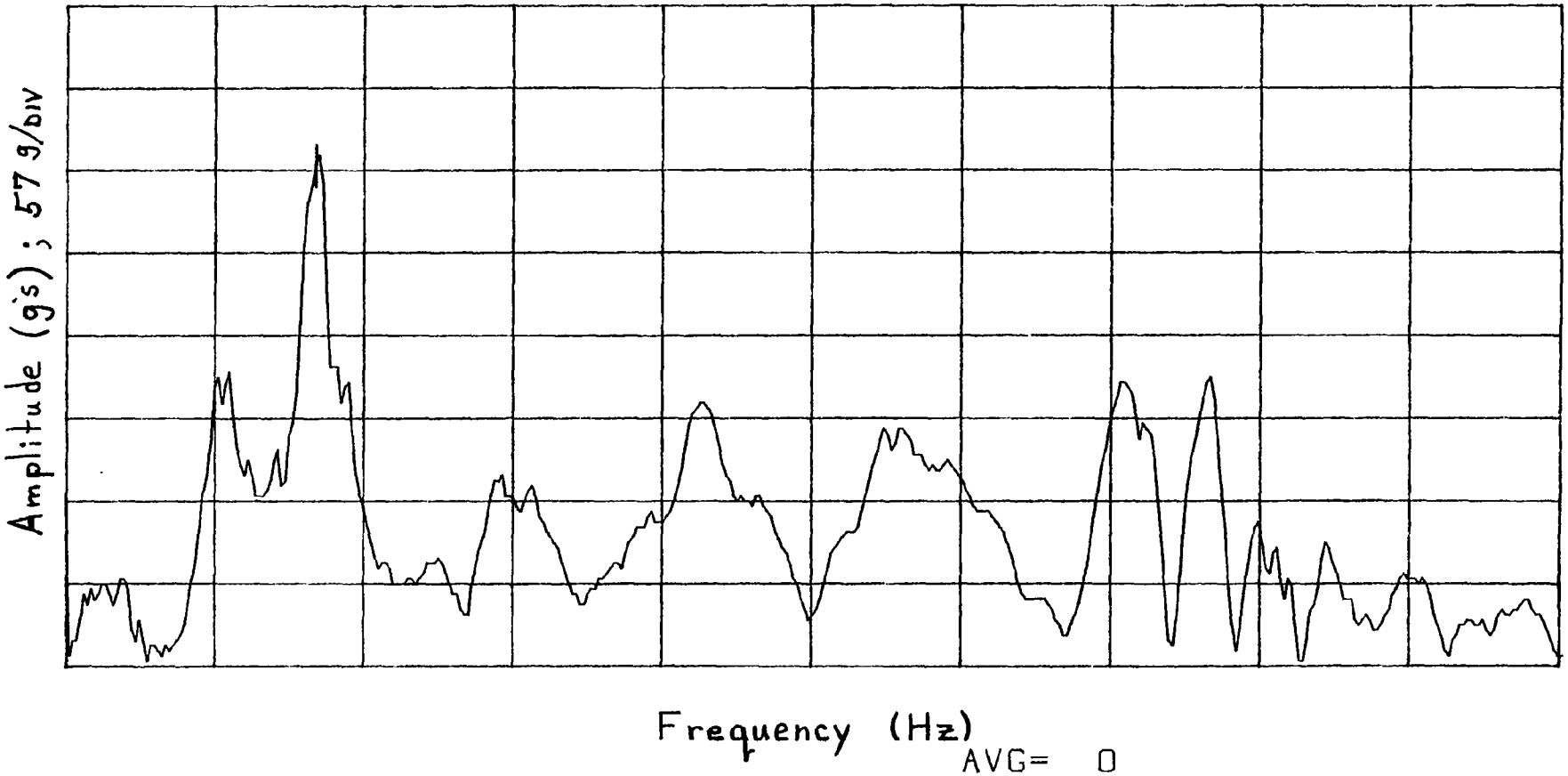
TTL. MALFUNCTIONS:

MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size	D R SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
TOTAL (PER MAL.)																												

STEEL ASSEMBLY

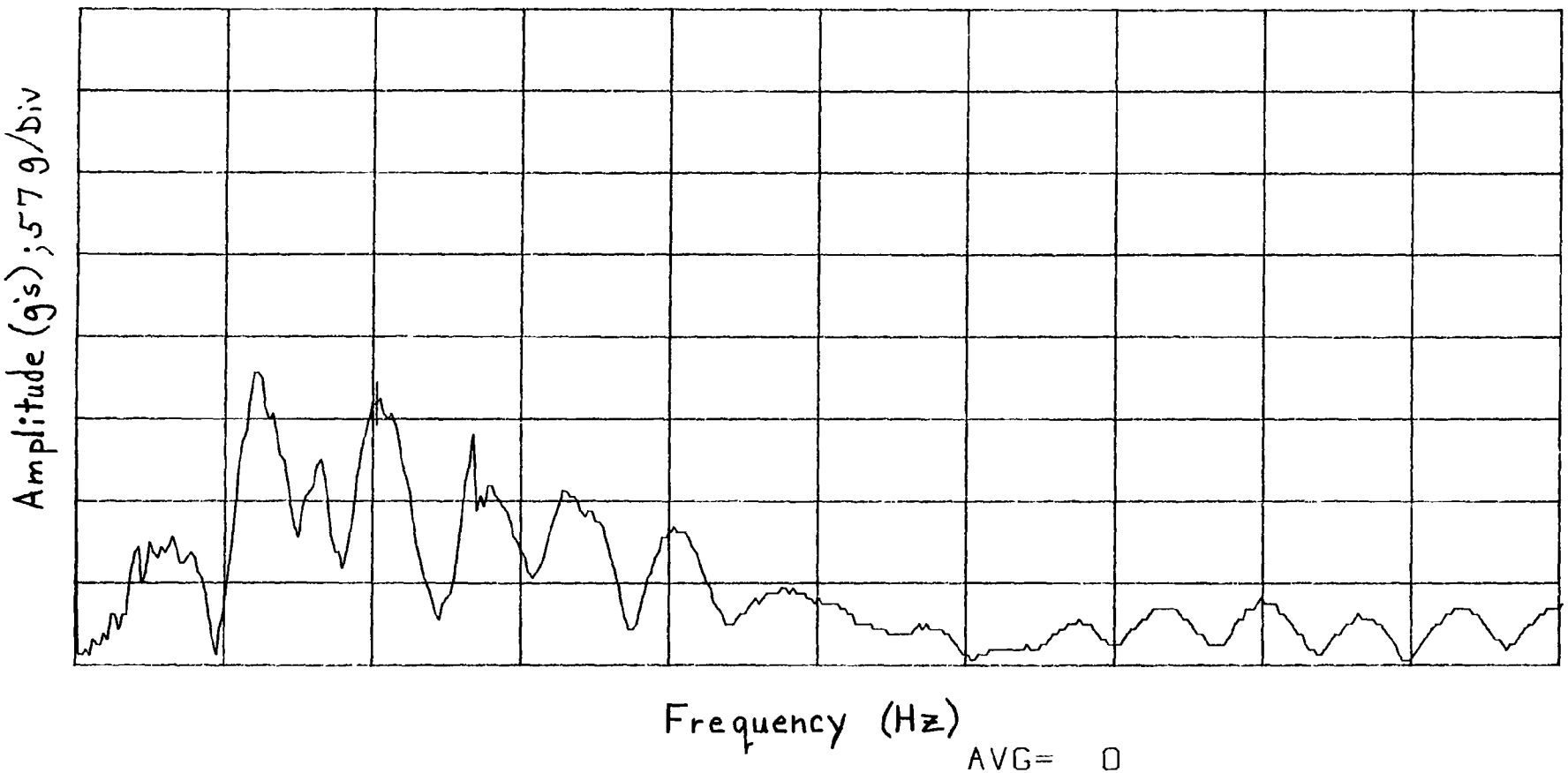


AVG= 0

PWR SPECT A : 3.48E+00R *100 g's 335. HZ N: NONE P: 5HZ

SPAN: 0.000000HZ-2.00000KHZ SN: 7.9-01V FS: 4.6+00R *100 5.7-01R/DIV *100

ALUMINUM ASSEMBLY



AVG= 0

PWR SPECT A : 1.84E+00R *100 g's 405. HZ N: NONE P: 5HZ

SPAN: 0.000000HZ-2.00000KHZ SN: 7.9-01V FS: 4.6+00R*100 5.7-01R/DIV*100

SCREW TORQUE TEST

ERIAL NO	1 in-lb	5 in-lb	10 in-lb	15 in-lb	20 in-lb	25 in-lb	30 in-lb
4086	OK	OK	OK	OK	OK	OK	OK
4091	OK	OK	OK	OK	OK	OK	OK
3907	OK	OK	OK	OK	OK	OK	OK
3187	OK	OK	OK	OK	OK	OK	OK
4201	OK	OK	OK	OK	OK	OK	OK
4244	OK	OK	OK	OK	OK	OK	OK
3910	OK	OK	OK	OK	OK	OK	OK
3821	OK	OK	OK	OK	OK	OK	OK

20 rounds were fired per condition.

FIT TO STOCK (WASHERS)

SERIAL NO	NO SPACERS (0.0")	4 SPACERS (.060")
4086	OK	OK
4091	OK	OK
3907	OK	OK
3187	OK	OK
4201	OK	OK
4244	OK	OK
3910	OK	OK
3821	OK	OK

20 rds fired per condition.

LATCH COVERAGE TEST

SERIAL NO	4086	4091	3907	3187	4244
COVERAGE	.075-OK	.050-OK	.050-OK	.060-OK	.055-OK
	.065-OK	.030-OK	.030-OK	.040-OK	.035-OK
	.055-OK	.010-OK	.010-OK	.020-OK	.015-OK
	.045-OK	.005-OK	.005-OK	.010-OK	.005-OK
	.035-OK			.005-OK	
	.025-OK				
	.015-OK				
	.005-OK				

20 rounds fired per condition.

OPENING FORCE TEST

SERIAL NO	3/4 LENGTH	FULL LENGTH
4244	OK	OK
3187	OK	OK
3907	OK	OK
4091	OK	OK
4086	OK	OK

20 rds fired per condition

OPENING FORCES

SERIAL NO	3/4 LENGTH		FULL LENGTH	
	OPEN	CLOSED	OPEN	CLOSED
4244	.75	1.25	1.25	2
3187	.75	1.25	1.25	1.75
3907	.75	1.75	1.5	2.25
4091	.75	2.75	1.5	3
4086	.75	1.75	1.25	3

LUBRICATION TEST

MODEL	SERIAL NO.	LUBRICATION FIRING	LUBRICATION OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	2.50
WINCHESTER M/70	G1486933A	OK	6.00
BROWNING BBR	01185RP117	OK	4.00
S&W 1500	PN00862	OK	5.25

		NO LUBRICATION FIRING	NO LUBRICATION OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	3.50
WINCHESTER M/70	G1486933A	OK	6.75
BROWNING BBR	01185RP117	OK	4.00
S&W 1500	PN00862	OK	5.25

20 rds fired per condition

COLD TEST (-30 F)

MODEL	SERIAL NO.	FIRING	BEFORE FIRING OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	3.25
WINCHESTER M/70	G1486933A	OK	4.00
BROWNING BBR	01185RP117	OK	3.75
S&W 1500	PN00862	OK	4.00

		AFTER FIRING OPENING FORCE
REM M/7	7603910	2.25
REM M/7	7603821	3.25
WINCHESTER M/70	G1486933A	5.00
BROWNING BBR	01185RP117	4.00
S&W 1500	PN00862	5.00

20 rds fired per condition

Prototype Aluminum
Floor Plate Assembly
Parts List

A-92909	TRIGGER Guard	92909			92909		
[redacted]	[redacted] ASSEMBLY	92822			92822		
B-92848	Floor Plate Latch	92848			92848		
→	Floor Plate Latch Blank	92885			92885		
A-92847	Floor Plate Latch Spring	92847			92847		
A-92846	Floor Plate Latch Pin	92846			92846		
D-92889	[redacted] Sub-Assembly	92889			92889		
A-16453	Floor Plate Pivot Pin	16453			16453		
D-92839	Floor Plate Cover	92839			92839		
D-92838	Floor Plate Cover Blank	92838			92838		
D-92837	Trigger Guard	92837			92837		
D-92836	Trigger Guard Blank	92836			92836		
B-92849	Front Guard Screw Spacer	92849			92849		
	Front Guard Screw Spacer Blank 92883	[redacted]			92883		
B-92850	Rear Guard Screw Spacer	92850			92850		
	Rear Guard Screw Spacer Blank	92884			92884		

Report No. 832691

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	✓ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 9/26/83
CAL or GAGE: 308		DATE NEEDED BY:
BARREL TYPE: CARBINE	TEST RESULTS ONLY ___	REQUESTED BY: D. BULLIS
PROOFED: YES ✓ NO ___		WORK ORDER NO: C-1856-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	✓ Photo/Video
✓ Function Test	___ Environmental Test	✓ Measurements	✓ Other SENSITIVITY TE
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

SENSITIVITY TEST: +HEAVY LOAD

1. AMOUNT OF LATCH ENGAGEMENT / 5 guns
2. ~~LATCH RELEASE PARTS~~
3. ~~TRIG. GUARD ADJUSTED w/ SPACERS TO COVER DOES NOT TOUCH WOOD~~
4. ~~COVER TOUCHING WOOD~~
5. ~~+16. MOVES OF MAX. RECOIL. HEAVY LOAD & LACK.~~
6. ~~GUARD SCREWS GOOD BUT NOT TIGHT.~~
7. Lubrication
8. Environment Test: Cold ~~+Hot~~
9. Endurance life of parts + effect on operation
10. ~~Trigger Assembly~~

—GUNS REQUIRED:

11. Corrosion

—Setup

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: C. B. Workman
J. W. Brooks
C. E. Ritchie

831291
830632
831791

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831791

MODEL SEVEN – .223 CALIBER – DESIGN ACCEPTANCE EVALUATION

Prepared by: C. Stephens

Date Prepared: July 11, 1983

Proofread and Cleared By:

J.H. Hemmings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab — R.E. Nightingale 7-21-83 (Signature / Date)

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab — C. Evan Ritchie 7/21/83 (Signature / Date)

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831791

REPORT TITLE: Model Seven .223 Cal. - Design Acceptance Evaluation

MODEL(S): Model Seven

GAUGE OR CALIBER: .223

DATE: 7-11-83

WORK ORDER NO.: C-1861-000

PART NAME:

DESIGNER/ENGINEER: J. W. Brooks

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 9
4. ACCURACY TEST - NO. OF GUNS TESTED 5
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: _____

NO. OF ROUNDS PER GUN: _____

TOTAL ROUNDS FIRED IN TEST: _____

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE ____

July 11, 1983

TO: R. E. NIGHTINGALE

FROM: C. STEPHENS

REPORT TITLE: MODEL SEVEN .223 CAL. - DESIGN ACCEPTANCE EVALUATION

ABSTRACT

On 6-28-83, a request was received from J. W. Brooks, Supervisor, Current Products Design, to function test nine rifles from the shoulder and test five for accuracy.

SCOPE

To evaluate the acceptability of the Model Seven .223 caliber into the Model Seven rifle line.

TEST RESULTS

The results show a malfunction rate of 1.8 with three malfunctions out of 162 rds. shot. The five rifles shot for accuracy were all within Remington Specs. which is 2.2 ins.

The nine rifles were previously used in two function tests and had feeding malfunctions (Report No.'s 831291 and 830632).

REPORT TEXT

Nine Model Seven rifles used in a previous function test (Report No. 831291) were used in the test. Each rifle was shot a total of 18 rounds using slow, medium and fast rates of feed. The magazine box from Rifle No. 7600150 was used in all the rifles. Each magazine spring was checked to make sure it was forward in the follower and latch cover. A total of 162 rounds were shot with 3 malfunctions. Appendix"'A" Data Sheets 1 - 10 contains the summary and individual information for each rifle.

After the function test, five rifles were tested for accuracy. Each rifle was shot for three five shot groups with each group and then one fouling shot fired after cooling. Each rifle bore was wire brushed with Hoppe's No. 9 solvent and patched dry. Each rifle was shot using a 10X Lyman Scope with a Tasco mount, Weaver Scope Rings and Remington 55 gr. pointed soft point ammunition.

The average group size was within Remington specifications for all five rifles. Data Sheets 11 - 15 contain the individual information for each rifle.

TEST PROCEDURE

A. Measurements

No measurements were taken.

B. Test Condition

1. Same code of ammunition to be used.

C. Test

The function test was conducted in the R & D 50 yd. range by C. Stephens and F. Supry. Eighteen rounds shot per gun using slow, medium and fast feeding. The same magazine box was used for all rifles and each magazine spring checked to make sure it was all the way forward in the follower and latch cover.

The accuracy test was shot in the R & D 100 yd. range by R. Williams and C. Stephens. Three five shot groups were fired per rifle.

D. Ammunition

1. Remington 55 gr. Pointed Soft Point (Code D3633).

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 8[illegible]191

PREVIOUS ROUNDS _____

DATE: 6-28-83 MODEL: 7 GAUGE: 223 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 162
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 1.8

"MALFUNCTIONS"

SUMMARY SHEET BY Rifle	SHOOTER	NO. OF ROUNDS FIRED	FIRING	MAFEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ALTUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER Rifle	MALF. RATE PER Rifle
7600149		18											1														1	5.5
7600150		18																									0	0
7600152		18											1														1	5.5
7600153		18																									0	0
7600154		18																									0	0
7600155		18																									0	0
7600156		18											1														1	5.5
7600157		18																									0	0
7600158		18																									0	0
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 83/791 PAGE NO. 10

DATE: 6-16-83 MODEL: 7 GAUGE: 223 SERIAL NO. 760015B

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
	FS	6	OK																									
	FS	6	OK																									
	FS	6	OK																									
TOTAL (PER MAL.)																												

DIVIDUAL (IF NEEDED)

DELIVERY

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 2

DATE: [illegible] 83 MODEL: 7 GAUGE: .223 SERIAL NO. 7600149

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 5.5

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
	FS	6	OK																									
	FS	6	OK																									
	FS	6											N6															
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 3

DATE: 6-23-83 MODEL: 7 GAUGE: .223 SERIAL NO. 7600150

PREVIOUS ROUNDS 126

TEST TITLE: [illegible]

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

Ken SSgt SP	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
S	CS	6	OK																									
M	CS	6	OK																									
F	CS	6	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 4

DATE: 6-28-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600152

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 5.5

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
S	FS	6	OK																									
M	FS	6	OK																									
F	FS	6											15															
TOTAL (PER MAL.)																												

DEPARTMENT

DISCIPLINARY (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 83/791 PAGE NO. 5

DATE: 4 28 83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600153

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BLNG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
	FS	6	OK																									
	FS	6	OK																									
	FS	6	OK																									
TOTAL (PER MAL.)																												

DIAGRAM (IF NEEDED)

INTERVENER

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 6

DATE: 6-28-85 MODEL: 7 GAUGE: 223 SERIAL NO. 7600154

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
S	LS	6	OK																									
M	FS	6	OK																									
F	FS	6	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 7

PREVIOUS ROUNDS 126

DATE: 6-28-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600155

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ENGAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
S	FS	6	OK																									
M	FS	6	OK																									
F	FS	6	OK																									
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 83/191 PAGE NO. 8

DATE: 6-28-83 MODEL: 7 GAUGE: .223 SERIAL NO. 400156

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 5.5

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
	ES	6	OK																									
	ES	6	OK																									
	ES	6											1/4															
TOTAL (PER MAL.)																												

REMARKS

DIAGRAMS (IF NEEDED)

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831791 PAGE NO. 9

DATE: 2-28-83 MODEL: 7 GAUGE: .223 SERIAL NO. 7600157

PREVIOUS ROUNDS 126

TEST TITLE: Function

TTL. RDS. FIRED: 18
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS"

	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
	FS	6	OK																									
	FS	6	OK																									
	FS	6	OK																									
TOTAL (PER MAL.)																												

REMARKS

DISPOSITION (IF NEEDED)

GUN # 4
7600150

ACCURACY: Minimum of 3 - 5-shot Groups

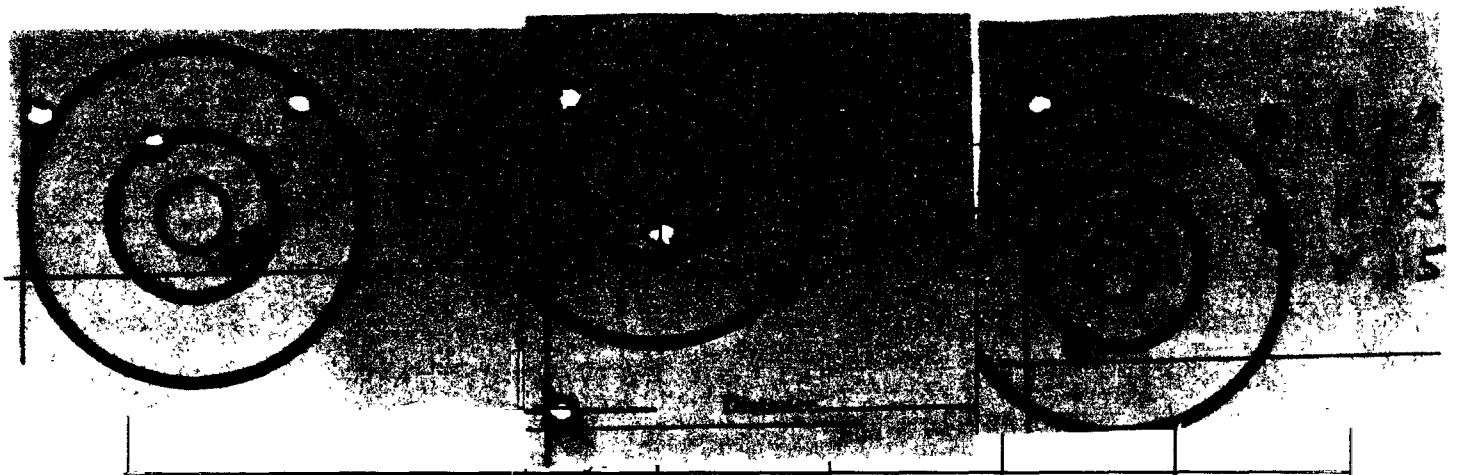
Ammunition Used REM. CAL. 223
55 Gr. Ptd. SOFT PT.

Previous Rounds INDEX R223 R1
CODE D3633

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.5	.9	1.5
2	1.8	1.8	1.2
3	1.7	1.5	1.3
4			
5			
Avg.	1.6	1.4	1.3

Tester R. Williams

Date 7-8-'83



	Avg.				
	Avg.				

Tester _____

Date _____

465

GUN #6
7600157

ACCURACY: Minimum of 3 - 5-shot Groups

Ammunition Used REM. CAL. 223
55 Gr. Ptd. SOFT PT.

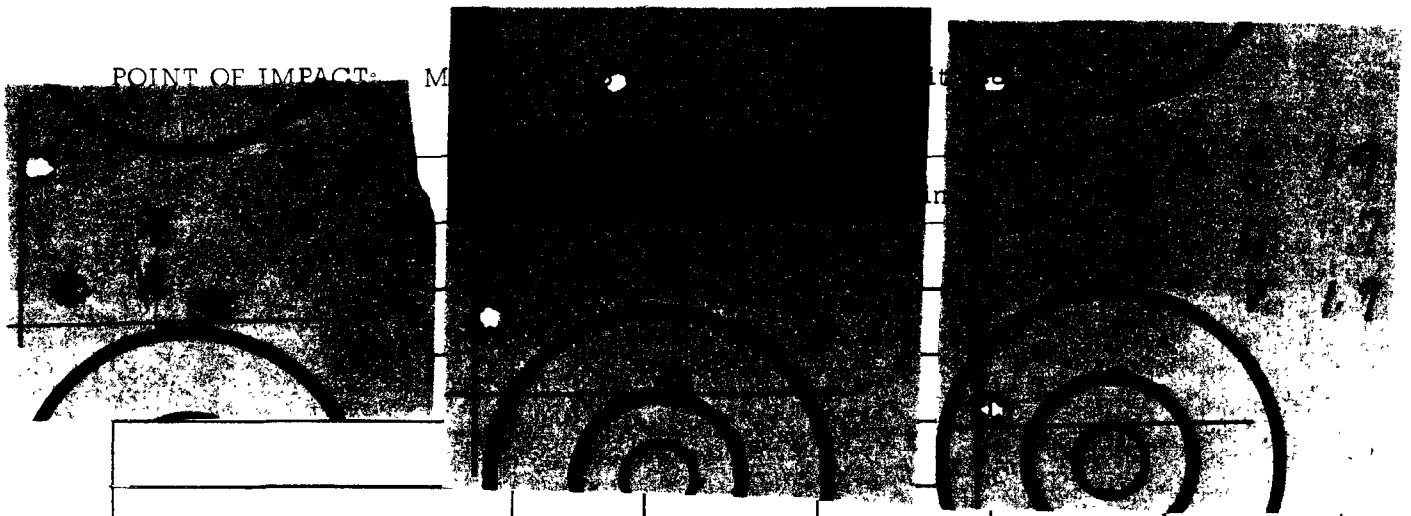
Previous Rounds INDEX R223R1
CODE D3633

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.3	.8	1.0
2	1.7	1.7	1.0
3	1.9	1.9	.7
4			
5			
Avg.	1.6	1.4	.9

Tester R. Williams

Date 7-8-83

POINT OF IMPACT: M



	Avg.				
	Avg.				

Tester

Date

465

ACCURACY: Minimum of 3 - 5-shot Groups

GUN # 7
7600156

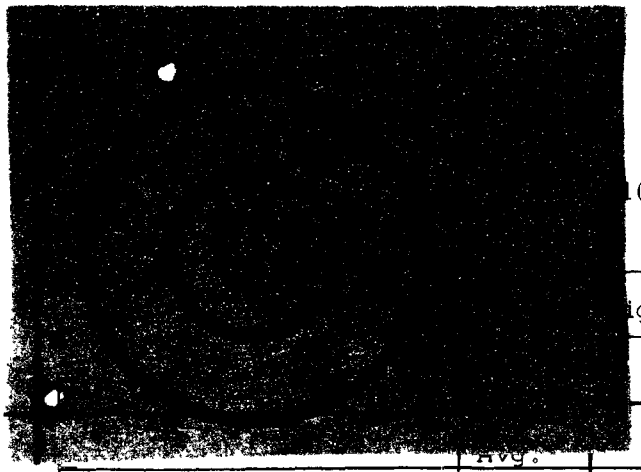
Ammunition Used REM. CAL. 223
55 Gr. Ptd. SOFT PT.

Previous Rounds INDEX R223 R1
CODE D3633

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	2.5	1.9	2.2
2	1.1	.9	1.0
3	.9	.8	.7
4			
5			
Avg.	1.5	1.2	1.3

Tester R. Williams

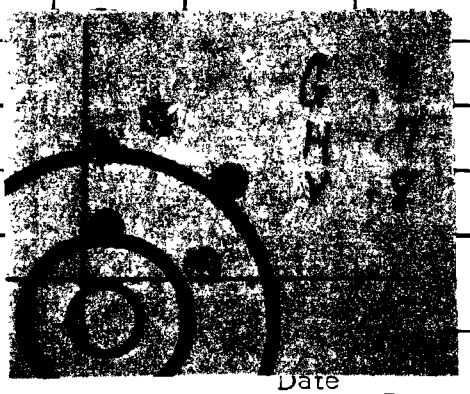
Date 7-8-'83



10-shot G

igh (in.)

Avg.



Date

465

ACCURACY: Minimum of 3 - 5-shot Groups

Gun # 8

7600149

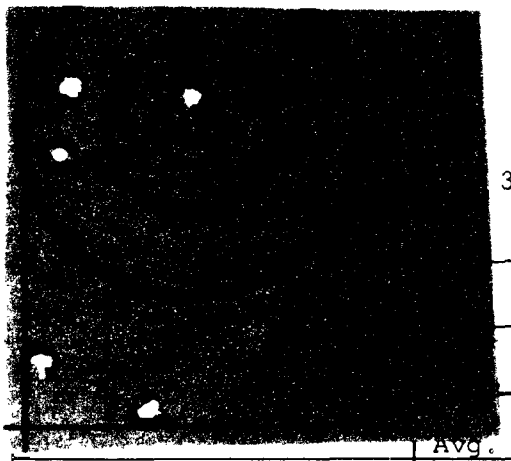
Ammunition Used REM. CAL. 223
55 Gr. Ptd. SoFT PT.

Previous Rounds INDEX R223R1
CODE D3633

	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.9	1.8	.9
2	1.6	1.1	1.1
3	1.7	.8	1.7
4			
5			
Avg.	1.7	1.2	1.2

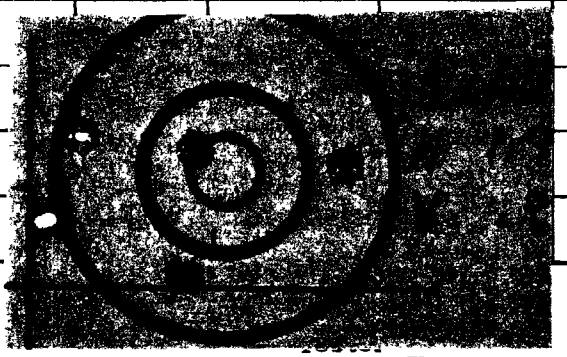
Tester R. Williams

Date 7-8-83



3 - 10-shot

	High (in			n.)
Avg.				



Tester

Date

465

ACCURACY: Minimum of 3 - 5-shot Groups

Gun # 10
7600154

Ammunition Used REM. CAL. 223
55 Gr. Ptd. SOFT PT.

Previous Rounds INDEX R223 R1
CODE D3633

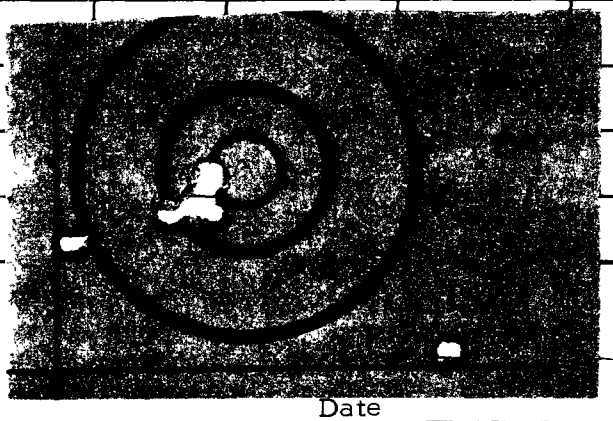
	Group Size (in.)	Vertical Spread	Horizontal Spread
1	1.1	.9	.9
2	1.2	.9	1.1
3	2.2	1.1	1.1
4			
5			
Avg.	1.5	.96	1.0

Tester R. Williams

Date 7-8-'83

P 3 - 10-sho

	High (in .)
Avg.	



Date

465

Report No. 831791

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
✓ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake: ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S	REPORT REQ'D.	
MODEL: M 7	FORMAL ✓	DATE REQUESTED: 6-28-83
CAL or GAGE: 223	TEST RESULTS ONLY ___	DATE NEEDED BY: 6-30-83
BARREL TYPE: ___		REQUESTED BY: J. W. Brooks
PROOFED: YES ✓ NO ___		WORK ORDER NO: C1861-0004

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
✓ Function Test	___ Environmental Test	___ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	

XPLAIN IN DETAIL THE REASON FOR THIS TEST:

Function test 9 rifle from the shoulder. Feeding tests to determine shell jumps magazine + stems. Fast, medium + slow feed.

- Shoot gun no 7600150
- use magazine from gun 7600150 in all other guns and shoot 20 rounds per gun.
- Magazine spring should be forward in follower + cover it assembly.

UNS REQUIRED:

7600152	7600157	7600154
158	156	
155	149	
150	153	

OTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___

M 7 - 223
Design #607
-831291

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Distribution: C B Workman
J W Brooks
C E Ritchie

Remington DUPONT — PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" "Test Results Only"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 831291

~~Model M77 - .223 cal Magazine Follower (Current Vendor) Evaluation~~

Model Seven - .223 cal - Design No. 7 Magazine Follower Evaluation

Prepared by: C. Stephens

Date Prepared: _____

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature _____ Date _____

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature _____ Date _____

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831291

REPORT TITLE: Same as [illegible]

MODEL(S): 7

GAUGE OR CALIBER: .223 cal

DATE:

WORK ORDER NO.: C-1861-000

PART NAME: Magazine Follower

DESIGNER/ENGINEER: D. Bullis

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 10
4. ACCURACY TEST - NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE: _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION - TYPE: _____
8. VISUAL EVALUATION - _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE - NO. OF GUNS TESTED: 10

NO. OF ROUNDS PER GUN: 126

TOTAL ROUNDS FIRED IN TEST: 1260

AMMO TYPE: MAGS: _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X

Remington Arms Co. Inc. Report # 831291
Arms Research Division
1 June 1983

To: D. Bullis
From: C Stephens
(Test Results Only)

Test Title:
M/7 .223 Magazine Follower (Current Vendor)

Reason For Test:
To function test new M/7 magazine follower currently being vendor produced

Test Procedure.
The ten rifles were live round feed function tested in R&D lab, in slow, medium, and fast modes using seven available types of ammunition.
All ten rifles were also field function tested at the Ilion Fish & Game Club using the seven available types of ammunition.

Test Results:
The results from the live feed and field function test indicate that the malfunction rate is above acceptable limits. Most malfunctions occured on the first round out of the magazine and was a stem or shell jumps magazine.

831291

Test Results: (Con't)

The percentage on the live feed test of malfunctions on the first round out of the magazine was 77.5 and for the field function test 55.2

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831291 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 1260
TTL. MALFUNCTIONS: 67
MALFUNCTION RATE: 5.3

"MALFUNCTIONS"

SUMMARY SHEET BY Gun	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	AUTOMATICS	REFACTORIES	Doesn't Eject	MALFUNCTIONS PER Gun	MALF. RATE PER Gun
7600152		126															III										3	2.3
7600158		126												IIII			IIII										8	6.3
7600155		126											I				IIII										13	10.3
7600150		126											I	I													2	1.5
7600151		126											I														1	.7
7600157		126												I	IIII	I	I					IIII				III	15	11.9
7600156		126											I	I			II										3	2.3
7600149		126											IIII				IIII										10	7.9
7600153		126											II	III	I	I	II										9	7.1
7600154		126												I			II										3	2.3
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 831291 PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 1260
TTL. MALFUNCTIONS: 67
MALFUNCTION RATE: 3.3

"MALFUNCTIONS"

SUMMARY SHEET BY Ammo Type	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENT	Doesn't Feed	MALFUNCTIONS PER Ammo Type	MALF. RATE PER Ammo Type
Rem 55 PSP		180											IIII II	I	I	I	I					I					12	6.6
Rem 55 HP		180											I	IIII I			II					II					11	6.1
Rem 55 MC		180															IIII II										7	3.8
Win 55 MC		180											I	I	IIII		III										9	5
Win 55 PSP		180														I	IIII IIII I										11	6.1
Fed 55 SP		180												I			IIII I					I				I	9	5
Fed. 55 MC		180											I	II			III									II	8	4.4
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 831291 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: ____ MODEL: 7 GAUGE: .223 SERIAL NO. ____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 1260
TTL. MALFUNCTIONS: 67
MALFUNCTION RATE: 5.3

"MALFUNCTIONS"

SUMMARY SHEET BY Shooter	SHOOTER	NO. OF ROUNDS FIRED	FIRING	HALFFEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER Shooter	MALF. RATE PER Shooter
	1	252												II		I	III					II				I	9	3.5
	2	252												III		I	I					II				II	9	3.5
	3	252											IIII	IIII			IIII										15	5.9
	4	252											IIII		I		IIII					I					20	7.9
	5	252											I	I	IIII		IIII										14	5.5
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600152

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS" (1)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FAILURE	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem 55 PSP s		6	OK																									
M		6	OK																									
F		6	OK																									
Rem 55 HP s		6	OK																									
M		6	OK																									
F		6	OK																									
Rem 55 MC s		6	OK																									
M		6	OK																									
P		6	OK																									
Win 55 PSP s		6	OK																									
M		6	OK																									
F		6	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPRT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 CALIBER: .223 SERIAL NO. _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (1)

AMMUNITION Load Size		SELECTOR	NO. OF ROUNDS FIRED	FIRING	FAILFEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Win 55 MC	S		6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S			OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S			OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600158

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 5
MALFUNCTION RATE: 3.9

"MALFUNCTIONS" (2)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGHER	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT MALFUNCTIONS	REMARKS (ON BACK) YES	NO
Rem 55 PSP S		6												1/2														
M			OK																									
F			OK																									
Rem 55 HP S														1/2														
M			OK																									
F			OK																									
Rem 55 MC S			OK																									
M			OK																									
F			OK																									
Win 55 PSP S			OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (2)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
WIN 55 MC S		6													1/2													
M			OK																									
F			OK																									
Fed 55 SP S													1/2															
M			OK																									
F			OK																									
Fed 55 MC S													1/2															
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600155

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 7
MALFUNCTION RATE: 5.5

"MALFUNCTIONS" (3)

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	WALLOWED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Rem 55 PSP	S		6	OK																									
	M			OK																									
	F													1/2															
Rem 55 HP	S			OK																									
	M			OK																									
	F			OK																									
Rem 55 MC	S			OK																									
	M			OK																									
	P			OK																									
Win 55 PSP	S														1/2														
	M														1/2														
	F														1/2														
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: Live Load + Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (3)

AMMUNITION Load Size		SEDCHER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VISCOSITY	REMARKS (ON BACK) YES	NO
Win 55 MC	S		6	OK																									
	M														1/2														
	F			OK																									
Fed 55 SP	S														1/2														
	M			OK																									
	F			OK																									
Fed 55 MC	S														1/2														
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600150

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.3

"MALFUNCTIONS" (4)

AMMUNITION Load Size	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	SEALED SHELL	DON'T FIRE	DON'T ROT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st 2nd LATER	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	SHORTAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Rem 55 PSP s		6	1					1/5																			
M								1/5																			
F			OK																								
Rem 55 HP s			OK																								
M			OK																								
F			OK																								
Rem 55 MC s			OK																								
M			OK																								
P			OK																								
Win 55 PSP s			OK																								
M			OK																								
F			OK																								
TOTAL (PER MAL.)																											

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (4)

AMMUNITION Load Size		SEDCOMP	NO. OF ROUNDS FIRED	FIRING	TRACERS SEEN	DON'T FIRE	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Win 55 MC	S		6	OK																										
	M			OK																										
	F														14															
Fed 55 SP	S			OK																										
	M			OK																										
	F			OK																										
Fed 55 MC	S			OK																										
	M			OK																										
	F			OK																										
TOTAL (PER MAL.)																														

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600151

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0

"MALFUNCTIONS" (5)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FEEDING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Rem 55 PSP s		6	OK																									
M			OK																									
F			OK																									
Rem 55 HP s			OK																									
M			OK																									
F			OK																									
Rem 55 MC s			OK																									
M			OK																									
P			OK																									
Win 55 PSP s			OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (5)

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EMBRACE	BREAKAGES	ALTERATIONS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Win 55 MC	S		6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S			OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S			OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

JACK ENDURANCE ~~CENTERFIRE~~

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600157

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.3

"MALFUNCTIONS" (6)

AMMUNITION Load Size	SECONDS	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T ZERO BACK	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem 55 PSP s		6	OK																									
N			OK																									
F			OK																									
Rem 55 HP s			OK																									
M			OK																									
F			OK																									
Rem 55 MC s			OK																									
M			OK																									
P			OK																									
Win 55 PSP s			OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" 6

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	WRAPPED SHELL	DON'T EJECT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	SHOULDER WELDS	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Win 55 MC	S		6	OK																									
	M														12														
	F																15												
Fed 55 SP	S			OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S														12														
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600156

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: .79

"MALFUNCTIONS" 7

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI.	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITY	REMARKS (ON BACK) YES	NO
Rem 55 PSP s		6	OK																									
M			OK																									
F			OK																									
Rem 55 HP s			OK																									
M			OK																									
F			OK																									
Rem 55 MC s			OK																									
M			OK																									
P			OK																									
Win 55 PSP s			OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" 7

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRACERS SEEN	DON'T EJECT	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T FIREAGAIN	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Win 55 MC	S		6													13													
	M			OK																									
	F			OK																									
Fed 55 SP	S			OK																									
	M			OK																									
	F			OK																									
Fed. 55 MC	S			OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600149

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 5
MALFUNCTION RATE: 3.9

"MALFUNCTIONS" (8)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FEEDING	CASED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Rem 55 PSP s		6	OK																									
M														1/2														
F			OK																									
Rem 55 HP s														1/2														
M			OK																									
F			OK																									
Rem 55 MC s			OK																									
M														1/2														
F			OK																									
Win 55 PSP s			OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: Live Load + Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (8)

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITY	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Win 55 MC	S		6												1/2															
	M			OK																										
	F			OK																										
Fed 55 SP	S														1/2															
	M			OK																										
	F			OK																										
Fed 55 MC	S			OK																										
	M			OK																										
	F			OK																										
TOTAL (PER MAL.)																														

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600153

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 7
MALFUNCTION RATE: 5.5

"MALFUNCTIONS" 9

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
Rem 55 PSP s		6	OK																									
N																1/2												
F			OK																									
Rem 55 HP s																1/2												
M			OK																									
F			OK																									
Rem 55 MC s			OK																									
M																1/2												
P			OK																									
Win 55 PSP s														1/2														
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: Live Load + Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (9)

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	SEMI-AUTO TIME	REMARKS (ON BACK) YES	NO
WIN 55 MC	S		6												12														
	M														14														
	F													15															
Fed 55 SP	S	OK																											
	M	OK																											
	F	OK																											
Fed 55 MC	S	OK																											
	M	OK																											
	F	OK																											
TOTAL (PER MAL.)																													

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: 5-24-83 MODEL: 7 GAUGE: 223 SERIAL NO. 7600154

PREVIOUS ROUNDS _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 9
MALFUNCTION RATE: 7.1

"MALFUNCTIONS" (10)

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
Rem 55 PSP s		6	OK																									
M			OK																									
F			OK																									
Rem 55 HP s														1	2													
M														1	2													
F			OK																									
Rem 55 MC s														1	2													
M			OK																									
F			OK																									
Win 55 PSP s			OK																									
M															1	5												
F			OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: 5-24-83 MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: Live Load & Unload

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (10)

AMMUNITION Load Size		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT MALFUNCTIONS	REMARKS (ON BACK) YES	NO
Win 55 MC	S		6												1/2														
	M			OK																									
	F															1/5													
Fed 55 SP	S			OK																									
	M														1/2														
	F			OK																									
Fed 55 MC	S														1/2														
	M			OK																									
	F														1/2														
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600152

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.3

"MALFUNCTIONS" (1)

	SECTION	NO. OF ROUNDS FIRED	FIRING	FAILED SEAR	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BEVELGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP s	1	6	OK																									
M		6	OK																									
F		6	OK																									
Rem. 55 HP s	2	6	OK																									
M		6	OK																									
F		6	OK																									
Rem 55 MC s	3	6	OK																									
M		6															1Q											
F		6	OK																									
Win 55 PSP s	4	6															1S											
M		6															1S											
F		6	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____ TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (1)

		SEQUENCE	NO. OF ROUNDS FIRED	FIRING	TRAINED SEARS	DON'T EJECT	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIM	STEM CHAMBER LIP	STEM CHAMBER ANGLE	STEM CHAMBER LENGTH	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	5	6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S	1		OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S	2		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 760158

PREVIOUS ROUNDS _____

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 8
MALFUNCTION RATE: 6.3

"MALFUNCTIONS" (2)

		SECONDS	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP	S	2	6	OK																									
	M			OK																									
	F			OK																									
Rem. 55 HP	S	3		OK																									
	M														1														
	F														1														
Rem 55 MC	S	4		OK																									
	M																	1											
	F																	1											
Win 55 PSP	S	5																1											
	M			OK																									
	F																	1											
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (2)

		SHOOTER	NO. OF ROUNDS FIRED	TIMING	WRONG SHELL	DON'T FIRE	DON'T EJECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BNG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	1	6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S	2		OK																									
	M			OK																									
	F													1 2															
Fed 55 MC	S	3		OK																									
	M													1 2															
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600155

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 13
MALFUNCTION RATE: 10.3

"MALFUNCTIONS" (3)

		SECONDS	NO. OF ROUNDS FIRED	FIRING	FAILED SEARS	DON'T ENGAGE	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BNG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP	S	3	6	OK																									
	M													12															
	F			OK																									
Rem. 55 HP	S	4																12											
	M																	12											
	F			OK																									
Rem 55 MC	S	5																12											
	M																	12											
	F			OK																									
Win 55 PSP	S	1																12											
	M																	12											
	F																	12											
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (3)

		SEECOND	NO. OF ROUNDS FIRED	FIRING	WAS FIRED SHELL	DON'T EXTRACT	DON'T EJECT BACK	DON'T EJECT OUT	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	2	6	OK																									
	M																	1 2											
	F			OK																									
Fed 55 SP	S	3																1 3											
	M																	1 3											
	F																	1 5											
Fed 55 MC	S	4		OK																									
	M																	1 2											
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600150

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 2
MALFUNCTION RATE: 1.5

"MALFUNCTIONS" (4)

		SECONDS	NO. OF ROUNDS FIRED	FIRING	SEALED SEAR	DON'T ROTATE	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS		
Rem. 55 PSP	s	4	6	OK																								
	M													N6														
	F			OK																								
Rem. 55 HP	s	5		OK																								
	M			OK																								
	F			OK																								
Rem 55 MC	s	1		OK																								
	M			OK																								
	F			OK																								
Win 55 PSP	s	2		OK																								
	M			OK																								
	F			OK																								
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (4)

		SECONDS	NO. OF ROUNDS FIRED	FIRING	FAILED SERIAL	DON'T FIRE	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BLNG UP	DON'T EXTRACT	BROKEN PARTS	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	3	6	OK																									
	M			OK																									
	F														14														
Fed 55 SP	S	4		OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S	5		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600151

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: .7

"MALFUNCTIONS" (5)

	SECTION	NO. OF ROUNDS FIRED	FIRING	FAILED STEPS	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP s	5	6	OK																									
M			OK																									
F			OK																									
Rem. 55 HP s	1		OK																									
M			OK																									
F			OK																									
Rem 55 MC s	2		OK																									
M			OK																									
F			OK																									
Win 55 PSP s	3		OK																									
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 CAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (5)

		SHOCKS	NO. OF ROUNDS FIRED	FIRING	WEAPON SEMI	DON'T ZERO	DON'T HOLD BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SEMI STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER FIRE	STEM CHAMBER EJT	STEM CHAMBER FIRE	STEM CHAMBER EJT	SEMI JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	4	6											16															
	M			OK																									
	F			OK																									
Fed 55 SP	S	5		OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	S	1		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600157

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 15
MALFUNCTION RATE: 11.9

"MALFUNCTIONS" (6)

	SECTION	NO. OF ROUNDS FIRED	FIRING	FAILED SEEM	DON'T FEED	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SEEM STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER FIRE	STEM CHAMBER LOCK	STEM CHAMBER EXTRACT	STEM CHAMBER EJECT	SEEM JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REBALANCE	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP s	1	6	OK																									
M																						1/5						
F														1/3		1/5												
Rem. 55 HP s	2		OK																									
M																						2/3,4						
F			OK																									
Rem 55 MC s	3		OK																									
M			OK																									
F			OK																									
Win 55 PSP s	4																					1/6						
M			OK																									
F			OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE. _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (6)

	SHOOTER	NO. OF ROUNDS FIRED	FILING	CRACKED SHELL	DON'T EXTRACT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	Don't Eject		
WIN 55 MC S	5	6															1/2											
M															3/5 3/6													
F															1/2													
Fed 55 SP S	1																					1/6				1/5		
M			OK																									
F			OK																									
Fed 55 MC S	2																									1/2		
M			OK																									
F																										1/2		
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600156

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.3

"MALFUNCTIONS" (7)

		SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SERIAL	DON'T ROTATE	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER RIGHT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP	S	2	6	OK																									
	M			OK																									
	F			OK																									
Rem 55 HP	S	3		OK																									
	M														1/3														
	F			OK																									
Rem 55 MC	S	4		OK																									
	M			OK																									
	F			OK																									
Win 55 PSP	S	5																1/2											
	M			OK																									
	F																	1/2											
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" 7

		SECONDS	NO. OF ROUNDS FIRED	FIRING	TRIGGER SEARS	DON'T ENGAGE	DON'T ECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BNG UP	DON'T EXTRACT	REPLACEMENTS	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	s	1	6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	s	2		OK																									
	M			OK																									
	F			OK																									
Fed 55 MC	s	3		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600149

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 10
MALFUNCTION RATE: 7.9

"MALFUNCTIONS" (8)

		SEC/COMP	NO. OF ROUNDS FIRED	FIRING	FAILED SEMI	DON'T ENTER	DON'T ELEV BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem 55 PSP	S	3	6	OK																									
	M													16															
	F													2/4 3/6															
Rem 55 HP	S	4																2											
	M																	2											
	F			OK																									
Rem 55 MC	S	5		OK																									
	M			OK																									
	F			OK																									
Win 55 PSP	S	1		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (8)

		SEQUENCE	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T FEED	DON'T EJECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
WIN 55 MC	S	2	6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S	3		OK																									
	M																	1/4											
	F			OK																									
Fed 55 MC	S	4												1/6				1/2											
	M			OK																									
	F																	1/2											
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600153

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 9
MALFUNCTION RATE: 7.1

"MALFUNCTIONS" (9)

		SEMI-AUTO	NO. OF ROUNDS FIRED	FIRING	MAL-FEED SEMI	DON'T FEED	DON'T SLIDE BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER HIGH	STEM CHAMBER LOW	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T INTERRUPT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP	S	4	6											1/2															
	M																	1/2											
	F															1/3													
Rem. 55 HP	S	5													1/0														
	M			OK																									
	F													1/5															
Rem 55 MC	S	1		OK																									
	M			OK																									
	F			OK																									
Win 55 PSP	S	2													1/2														
	M														1/2														
	F																1/3												
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" 9

		SHOOTER	NO. OF ROUNDS FIRED	FIRING	MATERIAL SPILL	DON'T FIRE	DON'T ECT BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BNG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	3	6	OK																									
	M			OK																									
	F			OK																									
Fed 55 SP	S	4		OK																									
	M			OK																									
	F																	N2											
Fed 55 MC	S	5		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. 7600154

TEST TITLE: Function

TTL. RDS. FIRED: 126
TTL. MALFUNCTIONS: 3
MALFUNCTION RATE: 2.3

"MALFUNCTIONS" (10)

		SEQUENCE	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Rem. 55 PSP	S	5	6	OK																									
	M			OK																									
	F			OK																									
Rem 55 HP	S	1		OK																									
	M			OK																									
	F			OK																									
Rem 55 MC	S	2		OK																									
	M			OK																									
	F			OK																									
Win 55 PSP	S	3		OK																									
	M			OK																									
	F			OK																									
TOTAL (PER MAL.)																													

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

TEST TITLE: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS" (10)

		SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RECHAGE	BREAKAGES	ADJUSTMENTS	REPLACEMENTS			
Win 55 MC	S	4	6															12											
	M			OK																									
	F			OK																									
Fed 55 SP	S	5																12											
	M			OK																									
	F			OK																									
Fed 55 MC	S	1		OK																									
	M														12														
	F			OK																									
TOTAL (PER MAL.)																													

Report No. 831291

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
___ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	Stake ___
___ Production Acceptance	___ Plant Assistance	___ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ___	DATE REQUESTED: 5-9-83
CAL. or GAGE: 223		DATE NEEDED BY: ASAP
BARREL TYPE: ___	TEST RESULTS ONLY ✓	REQUESTED BY: BULLIS
PROOFED: YES ✓ NO ___		WORK ORDER NO: C-1861-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	___ Photo/Video
✓ Function Test	___ Environmental Test	___ Measurements	___ Other ___
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	___

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

FUNCTION TEST NEW #7 MAGAZINE FOLLOWER. (CURRENT VENDOR PRODUCED.) & LATEST SPRING.

field work completed
no report yet.

GUNS REQUIRED:

7600149	7600154
150	155
151	156
152	157
153	158

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 5-24-83
TEST COMPLETED BY: C. Stephens
REPORT DATE: 6/1/83 TRG

Report No. 830632

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
____ Pilot	____ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT	FORMAL ____	DATE REQUESTED: 3-4-83
CAL. or GAGE: 223		DATE NEEDED BY: A.S.A.P. (3-14-83)
BARREL TYPE: Cut	TEST RESULTS ONLY ✓	REQUESTED BY: D. BUCKS
PROOFED: YES ✓ NO ____		WORK ORDER NO: C-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	____ Measurements	____ Other ____
✓ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST: NEW PRODUCT ACCEPTANCE

NEW CALIBER INTRODUCTION TO M/7LWT LINE.

TEST FOR FUNCTION & ACCURACY.

MAGAZINE FOLLOWER #6.

GUNS REQUIRED:

7600149	7600156
150	157
151	152
153	155
154	158

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 820632 PAGE NO. _____

DATE: _____ MODEL: 7 GAUGE: .223 SERIAL NO. _____

PREVIOUS ROUNDS _____

TEST TITLE: SUMMARY SHEETS PER - RIFLE - AMMO TYPE - SHOOTER

TTL. RDS. FIRED: 180
TTL. MALFUNCTIONS: 29
MALFUNCTION RATE: 16.1

"MALFUNCTIONS"

SUMMARY SHEET BY	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS		MALFUNCTIONS PER	MALF. RATE PER
RSle																												
7600149		18																		~~||||~~ I							6	33.3
7600150		18																									0	0
7600151		18																		~~||||~~							5	27.7
7600152		18														I											0	0
7600153		18																									1	5.5
7600154		18																		~~||||~~							5	27.7
7600155		18																		||							2	11.1
7600156		18																		~~||||~~ I							6	33.3
7600157		18																									0	0
7600158		18																		||||						4	22.2
TOTAL (PER MAL.)																												

Report # - 841401 MODEL 7
841021

FILE

PD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

cc: W.H. Coleman, II
J.R. Snedeker
J.P. Linde
J.W. Bower
R.S. Murphy
D.J. Anderson
L.B. Bosquet
Z.J. Kowalski

REPORT# 841021
WORK ORDER# 81343-929

TO: R.E. NIGHTINGALE

FROM: F.L. SUPRY

TITLE: TRIAL AND PILOT EVALUATION; MODEL 7 LWT. 308 CALIBER WITH ALUMINUM TRIGGER GUARD ASSEMBLY.

ABSTRACT:

On April 10, 1984 a request was received to conduct a Trial and Pilot Evaluation on the Model 7 Lwt. 308 caliber rifle, assembled with the new design aluminum trigger guard assembly. The Trial and Pilot Evaluation consists of Visual Inspection, Accuracy, Field Function, and Endurance. All 35 rifles, from a sample lot of 35 rifles, will be utilized within the spectrum of the evaluation.

SCOPE OF TEST:

To determine if the production run samples meet the Remington Specifications set by the Research Design Section.

TEST RESULTS:

The 35 rifle Trial and Pilot Evaluation was found to be unacceptable, due to the following:

A. During the Preliminary Measurements, a burr was found on the tip of the firing pin on two of the rifles, serial# 7603193 and serial# 7604383.

B. During the Field Function Test of the first ten rifles, one rifle, serial# 7603423 was leaving deep rings on the throat area of the fired brass.

COMMENTS:

The rifle, serial# 7603423 was returned to P.E. & C. The two firing pins were replaced with firing pins from from two of the rifles used in the visual inspection.

To obtain a good data base on the aluminum trigger guard, the testing that was scheduled on the remaining rifles will continue. A formal report, will be issued at the completion of the testing.

Report No. 841021

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	✓ New Design	____ Cost Reduction
✓ Pilot	✓ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7LWT.	FORMAL ✓	DATE REQUESTED: 4-10-84
CAL. or GAGE: 308	TEST RESULTS ONLY ____	DATE NEEDED BY: 4-17-84
BARREL TYPE: ____		REQUESTED BY: JW Brooks
PROOFED: YES ✓ NO ____		WORK ORDER NO: 81343-926

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
✓ Function Test	____ Environmental Test	✓ Measurements	____ Other ____
✓ Accuracy Test	____ Customer Complaint	✓ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Trial + Pilot Model 7 Swt 308 calibre with new aluminum trigger guard assembly.

- accuracy.
- Function

4050
3000
4950
3000
14950

GUNS REQUIRED:

35 rifles - See R. Kowalczyk

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

PD-89-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST AND MEASUREMENT REPORT
REPORT# 841401

MODEL SEVEN LWT. .308 CALIBER TRIAL AND PILOT EVALUATION

MODEL SEVEN LWT. .308 CALIBER TRIAL AND PILOT EVALUATION

ABSTRACT:

Research and Developement finds the Trial and Pilot Evaluation of the Model Seven Lwt. .308 caliber, assembled with the aluminum floor plate assembly, to be acceptable. However, eventhough there were no malfunctions related to the new design floor plate assembly, the following should be investigated:

1. During a Field Function Test on thirty (30) of the first Trial and Pilot rifles, ninety-nine (99) malfunctions occurred, for an overall malfunction rate of 2.4%. Seventy-two (72) malfunctions or 72.2% of the malfunctions, were "Don't Eject" malfunctions.

2. During a Field Function Test conducted on eight (8) of the second Trial and Pilot rifles, thirty-five (35) "Don't Eject" malfunctions occurred, for an overall malfunction rate of 3.2%. The "Don't Eject" malfunction accounted for 100% of the malfunctions occurring in the Field Test. Two (2) of the rifles, serial# 7603137 and serial# 7604294, had fifteen (15) and thirteen (13) malfunctions respectively. These two (2) rifles were turned over to PE & C. A note of explaination from PE & C is included in the appendix of this report.

Since the "Don't Eject" malfunction was so predominate during the evaluation, either greater care must be taken in production, to follow the established procedures or a change in the current procedures may be needed.

Prepared by: F.L. SUPRY
Date Prepared: 5/30/84

proofread and cleared by:

R.E. NIGHTINGALE, Foreman
Test, Measurement & Mech. Analysis Lab _____

J.R. SNEDEKER, Research Supervisor
Test, Measurement & Mech. Analysis Lab _____

W.H. COLEMAN, II
New Products Research Lab Director _____

REP.#841401 W.O.#81343-926

MODEL SEVEN LWT 308 CALIBER TRIAL AND PILOT EVALUATION

TO: R.E. NIGHTINGALE
FROM: F.L. SUPRY

INTRODUCTION:

On May 16, 1984 a request to conduct a Trial and Pilot evaluation on the Model 7 Lwt. 308 caliber rifle, assembled with the new design aluminum trigger guard assembly, was recieved by the Research Test Lab. A forty (40) rifle, production run sample will be used.

Due to the favorable results of an extensive endurance, accuracy, preliminary measurements, and visual inspection completed on the last production run samples of the rifle this Trial and Pilot will be limited to Jack Function and Field Function.

The results of the testing done on Previous sample will be included in this report.

SCOPE OF TEST:

To determine if the production run samples meet Remington Specfications set by the Research Design Section.

TEST RESULTS: (Previous sample)

Thirty (30) rifles were subjected to a 135 round Field Function Test. Ninty-nine (99) malfunctions occurred, for an overall malfunction rate of 2.4%.

Fifteen (15) rifles were fired to 335 rounds, seven (7) rifles were fired to 1005 rounds, and three (3) rifles were fired to 2035 rounds. No breakages occurred. No floor plate openings occurred.

TEST RESULTS: (New sample)

The forty (40) rifle sample was found to meet the Remington Specifications set by the Research Design Section.

All forty (40) rifles were subjected to twenty (20) rounds of Remington ammunition, in a Jack Function test. No malfunctions occurred.

Eight of the rifles were subjected to a 135 round Field Function test. Thirty-five (35) "don't eject malfunctions" occurred, for an overall malfunction rate of 3.2%.

REPORT TEXT:

1. VISUAL INSPECTION: (5 rifles) (Previous sample)

A. The visual inspection committee found no major deterrent in the appearance of the rifles inspected.

B. The following general comments were made in overall reference to the rifles:

a. Several of the rifles had a dent on the top, rear of the stock, where the stock hit against the stop board of the gun truck.

b. The checkering over-runs were primarily located at the rear of the fore end pattern.

c. The rifles used in the visual inspection were as follows:

7603926	7603156	7603161
7603441	7603126	

d. Comments recorded for each individual rifle are located in the appendix of this report.

2. PRELIMINARY MEASUREMENTS: (30 rifles)(Previous sample)

A. During the Preliminary Measurements, a burr was found on the tip of the firing pin of two of the rifles. The firing pins were replaced with firing pins from two of the rifles used in the visual inspection.

B. The following averages were established for the 30 rifles:

a. Floor Plate opening force:	3.0	pounds
b. Trigger Pull:	3.75	pounds
c. Firing Pin Indent:	.024	inches
d. Headspace:	.003	inches

C. Preliminary Measurement results per individual rifle are located in the appendix of this report.

REPORT TEXT: (continued)

3. ACCURACY: (Previous sample)

A. Nineteen (19) rifles were tested for 100 yard accuracy and the following averages were established:

a. Group Size:	2.37 inches
b. Horizontal Spread:	2.24 inches
c. Vertical Spread:	1.69 inches

B. Accuracy results per individual rifle are located in the appendix of this report.

4. FIELD FUNCTION: (Previous sample)

A. Thirty (30) rifles were subjected to a 135 round per rifle, Field Function Test and the following results were obtained:

a. Twenty (20) rifles experienced no malfunctions.

b. Ninety-nine malfunctions occurred, for an overall malfunction rate was 2.4%.

c. Seventy-two (72) of the malfunctions were "Don't Eject" malfunctions.

d. One rifle had a rough chamber. (Refer to report# 841021)

5. FIELD FUNCTION: (New sample)

A. All forty (40) rifles were subjected to the loading and firing of twenty (20) rounds of Remington, 180 grain soft point, ammunition, prior to the Field Function Test. There were no malfunctions on any of the rifles.

B. Eight of the 40 rifles were subjected to a 135 round per rifle, Field Function Test, and the following results were obtained:

a. Two (2) of the rifles had no malfunctions.

b. The overall malfunction rate was 3.2%.

c. The malfunctions were all "don't eject" malfunctions. At each occurance the plunger was found to be stuck down.

d. Two (2) rifles, serial# 7603137 and serial# 7604294, accounted for twenty-eight (28) of the malfunctions. These two (2) rifles were turned over to J.B. Willoughby for examination. A note of explaination is included in the appendix of this report.

REPORT TEXT: (continued)

6. ENDURANCE: (Previous sample)

A. Fifteen (15) rifles were subjected to an additional 200 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.76%.

c. Twelve (12) of the rifles experienced no malfunctions.

d. The three rifles that experienced malfunctions, experienced them as follows:

i. 7604807 - 5 stem low - (2.5% malfunction rate)

ii. 7603207 - 12 don't eject - (6.0% malfunction rate)
At each occurence, the ejector was stuck down due to shaved brass.

iii. 7603389 - 2 stem high
- 4 follower tip down - (3.0% malfunction rate)

B. Seven (7) of the fifteen (15) rifles were subjected to an additional 700 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.8%.

c. Five (5) of the rifles had no malfunctions.

d. The two (2) rifles that experienced the malfunctions, experienced them as follows:

i. 7604098 - 4 stem high
2 stem right
1 bolt override - (1.0% malfunction rate)

ii. 7603389 - 8 don't eject
2 stem high
7 stem low
1 stem right
16 follower tip down - (4.8% malfunction rate)

TEST RESULTS: (continued)

C. Three (3) of the seven (7) rifles were subjected to an additional 1000 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.2%.

c. Two (2) of the rifles had no malfunctions.

d. The rifle that experienced the malfunctions, experieced them as follows:

i. 7603153 - 2 stem high
2 stem right
1 follower tip down
1 bolt override - (0.6% malfunction rate)

7. JACK FUNCTION: (New sample)

A. Each of the forty rifles were subjected to twenty rounds of Remington ammunition, and no malfunctions occurred.

B. There were no rough chambers in any of the sample rifles.

TEST PROCEDURE:

1. VISUAL INSPECTION: (Previous sample)

A. The Visual Inspection Committee consisted of Z. Kowalski, B. Bosquet, (P.E. & C.); J. Snedeker, F. Supry, (Research); and J. Brooks, (consultant).

B. Five (5) rifles were selected for the visual inspection, using random number tables, from a sample lot of 35 rifles.

C. Each rifle was wiped down with a clean white Coyne towel, and examined by each member of the Visual Inspection Committee. All comments were recorded.

2. PRELIMINARY MEASUREMENTS: (Previous sample)

A. Each rifle was checked for magnaflux and proof stamps.

B. The headspace was checked on each rifle, using graduated headspace gauges.

TEST PROCEDURE: (continued)

2. PRELIMINARY MEASUREMENTS: (continued)

C. The floor plate opening force was checked, using a ten (10) pound push - pull gauge. Three readings were taken on each rifle and an average calculated.

D. Trigger pull force measurements were taken, using a ten (10) pound spring scale. Three readings were taken on each rifle and an average calculated.

E. Firing Pin Indent measurements were taken, using annealed copper crushers and a calibrated dial indicator. Three measurements were taken on each rifle and an average calculated.

3. ACCURACY: (Previous sample)

A. The following nineteen (19) rifles were used in the 100 yard accuracy test:

7602999	7603374	7603110	7604374	7604807
7603362	7603323	7603340	7603609	7603482
7603389	7603003	7603153	7604098	7603155
7603357	7603342	7603326	7603430	

B. The accuracy was shot by R. Williams, Research - Test Lab, at the R & D 100 yard range.

C. Weaver mounts and rings were used in conjunction with a Lyman All American 20X 1/8 inch dot scope.

D. Remington ammunition, index R308W2; code W09F D4501, 180 grain soft point, was used for the 100 yard accuracy test.

E. Before shooting the 100 yard accuracy test, the bores on each rifle were brushed with Hoppe's No. 9 solvent and patched dry.

F. A total of two (2), five (5) shot groups were shot with each rifle. The rifles were cooled between each group, and one (1) "warmer" shot was fired before the next group was shot.

G. The patterns were analyzed for group size, horizontal spread, and vertical spread. The averages were calculated for each rifle.

4. FIELD FUNCTION: (Previous sample)

A. Thirty (30) of the rifles were subjected to the loading and firing of 135 rounds of Remington and competitive ammunition. The round robin method of firing the rifles was used. Fifteen (15) rounds were fired; five (5) at a slow feeding cycle speed, five (5) at a medium feeding cycle speed, and five (5) at a fast feeding cycle speed. The rifles were then cooled before the firing of the next ammunition type.

B. The following ammunition was used in the field test:

a. Remington:	R308W1 150-psp	code# S22K D7069
	R308W3 180-psp	code# W17F D7743
b. Winchester:	X3081 110-psp	code# 79SE12 5Q
	X3085 150-sp	code# 24UE81
	X3086 180-sp	code# 68TC90 83
	X3084 200-st	code# 52TF80
c. Federal:	308A 150-psp	code# 5A 1245
	308B 180-psp	code# 5B 1104
	P308C 165-bt	code# 32A 3118

C. All malfunctions were recorded; per rifle, per ammunition type, per feeding cycle speed, and per shooter. Individual and overall malfunction rates were calculated.

5. FIELD FUNCTION: (New sample)

A. The same procedure, that was used on the Previous sample, was followed to conduct a field function test on eight (8) rifles from the New sample.

6. APPENDIX:

A. Contents:

a. Visual Inspection comments per individual rifle.

b. Preliminary Measurement results per individual rifle.

c. Accuracy results per individual rifle.

d. A copy of the Lab Work Request.

e. A copy of the note explaining the findings of the examination of the two rifles, serial# 7603137 and serial# 7604294.

f. A copy of Report# 841021

APPENDIX
MODEL 7 LWT. 308 CALIBER WITH ALUMINUM TRIGGER GUARD ASSEMBLY

VISUAL INSPECTION:

GENERAL:

1. A slight mar was noticed on the top rear of the stocks, on each of the rifles, from the rifles hitting on the stop board of the gun truck.

2. The checkering over runs were primarily located at the rear of the patterns.

COMMENTS PER INDIVIDUAL RIFLE:

1. 7603926 - Some checkering over runs on all four points, at the rear of the fore end pattern.

2. 7603441 - Dent in the stock, about an inch in front of the rear swivel screw.

   The checkering in the grip area has slight over and under runs.

   Bright spot on the rear of the trigger guard, from the head of the screw hitting the trigger guard.

   The repaired crown appears rough.

3. 7603156 - Polish scratches on the floor plate cover.

4. 7603161 - White marks on the inside of the floor plate, on the side of the trigger bow.

   Two dents on the left side of the stock, below the rear sight.

   The repaired crown appears rough.

5. 7603126 - Dust in the finish.

   Dent in the right side of the floor plate.

PRELIMINARY MEASUREMENTS:

SERIAL#	HD SPACE (in)	FP INDENT (in)	TRIGGER PULL (lbs)	F PLATE OPENING (lbs)
7603160	.002	.023	4.00	3.00
7603374	.005	.0235	3.00	3.00
7603423	.005	.0235	3.50	3.00
7603323	.004	.0215	4.00	3.00
7603340	.001	.0235	4.00	3.00
7603207	.005	.024	3.25	3.25
7603110	.004	.024	3.50	3.00
7603616	.002	.0245	3.25	3.00
7603153	.001	.025	4.50	3.00
7603389	.004	.023	3.00	3.25
7604264	.006	.0225	3.25	2.75
7603882	.005	.021	3.75	3.00
7603326	.003	.0245	3.75	2.75
7603774	.003	.0225	3.25	2.75
7603342	.004	.024	4.00	3.00
7603003	.003	.023	3.25	3.00
7603357	.002	.025	3.50	3.00
7603155	.004	.023	3.75	3.25
7603453	.002	.023	3.75	3.25
7604374	.005	.024	4.25	3.00
7604098	.005	.0245	4.00	3.00
7604807	.001	.024	3.50	2.75
7603482	.004	.023	3.75	3.00
7603430	.005	.0255	4.25	3.00
7603609	.002	.024	4.50	3.00
7603362	.004	.025	4.75	2.75
7603262	.002	.023	3.00	3.00
7602999	.002	.0255	4.50	4.00
7604283	.005	.024	3.75	3.00
7603193	.002	.024	4.00	3.00
AVERAGE =	.003	.024	3.75	3.00

ACCURACY PER INDIVIDUAL RIFLE:

SERIAL#		GROUP SIZE (in.)	HORIZONTAL (in.)	VERTICAL (in.)
7603155		1.2	1.1	0.5
		1.5	1.2	1.3
average	=	1.35	1.15	0.9
7604098		1.3	1.0	1.0
		2.5	1.9	2.4
average	=	1.9	1.45	1.7
7603357		1.9	1.7	0.8
		2.5	2.4	1.6
average	=	2.2	2.05	1.2
7603326		2.1	1.0	1.9
		3.1	2.8	2.1
average	=	2.6	1.9	2.0
7603430		2.8	1.9	2.0
		2.3	2.0	2.3
average	=	2.55	1.95	2.25
7603342		2.6	2.1	1.9
		2.6	1.6	2.2
average	=	2.6	1.85	2.05
7603482		2.3	1.8	1.7
		3.3	3.1	1.5
average	=	2.8	2.45	1.6
7603482		1.7	1.4	1.1
		2.0	1.4	1.9
average	=	1.85	1.4	1.5
7603389		2.0	1.1	1.7
		3.2	3.2	2.3
average	=	2.6	2.15	2.0

ACCURACY PER INDIVIDUAL RIFLE: (continued)

SERIAL#		GROUP SIZE	HORIZONTAL	VERTICAL
7603003		2.1	2.0	1.2
		3.2	3.1	1.5
average	=	2.65	2.55	1.35
7603153		2.3	2.1	1.1
		3.0	3.0	1.3
average	=	2.65	2.55	1.2
7903323		2.2	1.9	1.9
		2.0	1.1	1.9
average	=	2.1	2.0	1.9
7603362		2.9	2.8	1.4
		2.5	1.8	1.9
average	=	2.7	2.3	1.65
7603340		2.8	2.6	1.1
		2.2	1.0	2.0
average	=	2.5	1.8	1.55
7603110		2.3	2.3	1.1
		2.9	1.4	2.6
average	=	2.6	1.85	1.85
7604374		1.6	1.4	1.3
		2.7	0.6	2.6
average	=	2.15	1.0	1.95
7603374		2.3	1.6	2.1
		2.3	2.3	1.3
average	=	2.3	1.95	1.7
7604807		1.9	1.7	1.0
		2.9	2.5	1.8
average	=	2.4	2.1	1.4
7602999		2.8	1.9	2.4
		2.3	0.9	2.3
average	=	2.55	1.4	2.35

xc - J.W. Bower

G-88

DON'T SAY IT—*WRITE IT*

To L.B. Bosquet

Date 5-31-84

From L.B. Willoughby

Re: M/7 E.S.B.

Both bolts have a noticeable burr around the ejector hole that shaves brass from the shell head & deposits it in the hole binding the ejector. Also Ser.# 3137 has the wrong ejector spring in it, M/D calls for a min. free length of 1.100 in. This spring is Ap.920. The spring had been cut off. I had it re assembled with a full length spring & it worked fine. The hole from Ser.# 3137 was not scraped at the heading-job, & the other one was done improperly. Both hole diameters were o.k.

LBW 5-31-84

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

Report No. 841401

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	* Design Change	Stake ____
* Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: Spirem	FORMAL *	DATE REQUESTED: 5-16-84
CAL or GAGE: 308		DATE NEEDED BY: ASAP
BARREL TYPE: ____	TEST RESULTS ONLY ____	REQUESTED BY: R.S. MURPHY
PROOFED: YES ____ NO ____		WORK ORDER NO: C-1856-000

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
* Function Test	____ Environmental Test	* Measurements	____ Other ____
* Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Please perform a full Trial and Pilot test on the sample of guns supplied by Production

GUNS REQUIRED: Supplied

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 5/25/84

TEST COMPLETED BY: RW, FS

REPORT DATE: ____

REPORT# 841021
WORK ORDER# 81343-929

TO: R.E. NIGHTINGALE

FROM: F.L. SUPRY

TITLE: TRIAL AND PILOT EVALUATION; MODEL 7 LWT. 308 CALIBER WITH ALUMINUM TRIGGER GUARD ASSEMBLY.

ABSTRACT:

On April 10, 1984 a request was received to conduct a Trial and Pilot Evaluation on the Model 7 Lwt. 308 caliber rifle, assembled with the new design aluminum trigger guard assembly. The Trial and Pilot Evaluation consists of Visual Inspection, Accuracy, Field Function, and Endurance. All 35 rifles, from a sample lot of 35 rifles, will be utilized within the spectrum of the evaluation.

SCOPE OF TEST:

To determine if the production run samples meet the Remington Specifications set by the Research Design Section.

TEST RESULTS:

The 35 rifle Trial and Pilot Evaluation was found to be unacceptable, due to the following:

A. During the Preliminary Measurements, a burr was found on the tip of the firing pin on two of the rifles, serial# 7603193 and serial# 7604383.

B. During the Field Function Test of the first ten rifles, one rifle, serial# 7603423, was leaving deep rings on the throat area of the fired brass.

COMMENTS:

The rifle, serial# 7603423, was returned to P.E. & C. The two firing pins were replaced with firing pins from from two of the rifles used in the visual inspection.

To obtain a good data base on the aluminum trigger guard, the testing that was scheduled on the remaining rifles will continue. A formal report, will be issued at the completion of the testing.

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 841401

REPORT TITLE: MODEL SEVEN LWT. .308 CALIBER TRIAL & PILOT

MODEL(S): SEVEN LWT.

GAUGE OR CALIBER: .308

DATE: 5/30/84

WORK ORDER NO.: 81343-926

PART NAME: RIFLE

DESIGNER/ENGINEER: Requested by R.S. MURPHY

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST-NO. OF GUNS TESTED _____
3. FUNCTION TEST-NO. OF GUNS TESTED 40
4. ACCURACY TEST-NO. OF GUNS TESTED 19
5. MEASUREMENTS - TYPE Preliminary
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION-TYPE _____
8. VISUAL EVALUATION 5 OUT OF 40 GUN SAMPLE
9. ENDURANCE-NO. OF GUNS TESTED: 30,15,7,3

   NO. OF ROUNDS PER GUN 135,300,1000,2000

   TOTAL ROUNDS FIRED IN TEST 15,000

   AMMO TYPE: MAGS. _____ TARGET: _____

   RIM FIRE _____ CENTERFIRE X

Model Seven Design

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

cc: W.H. Coleman, II
K.W. Soucy
D.J. Anderson
R.S. Murphy
J.W. Bower
J.R. Snedeker

Fede
M17

RESEARCH TEST AND MEASUREMENT REPORT
REPORT# 841401

MODEL SEVEN LWT. .308 CALIBER TRIAL AND PILOT EVALUATION

MODEL SEVEN LWT. .308 CALIBER TRIAL AND PILOT EVALUATION

ABSTRACT:

Research and Developement finds the Trial and Pilot Evaluation of the Model Seven Lwt. .308 caliber, assembled with the aluminum floor plate assembly, to be acceptable. However, although there were no malfunctions related to the new design floor plate assembly, the following should be investigated, by production:

1. During a Field Function Test on thirty (30) of the first Trial and Pilot rifles, ninety-nine (99) malfunctions occurred, for an overall malfunction rate of 2.4%. Seventy-two (72) malfunctions or 72.2% of the malfunctions, were "Don't Eject" malfunctions.

2. During a Field Function Test conducted on eight (8) of the second Trial and Pilot rifles, thirty-five (35) "Don't Eject" malfunctions occurred, for an overall malfunction rate of 3.2%. The "Don't Eject" malfunction accounted for 100% of the malfunctions occurring in the Field Test. Two (2) of the rifles, serial# 7603137 and serial# 7604294, had fifteen (15) and thirteen (13) malfunctions respectively. These two (2) rifles were turned over to PE & C. A note of explaination from PE & C is included in the appendix of this report.

Since the "Don't Eject" malfunction was so predominate during the evaluation, either greater care must be taken in production, to follow the established procedures or a change in the current procedures may be needed.

Prepared by: F.L. SUPRY
Date Prepared: 5/30/84

proofread and cleared by:

R.E. NIGHTINGALE, Foreman
Test, Measurement & Mech. Analysis Lab

J.R. SNEDEKER, Research Supervisor
Test, Measurement & Mech. Analysis Lab

W.H. COLEMAN, II
New Products Research Lab Director

REP.#841401 W.O.#81343-926

MODEL SEVEN LWT 308 CALIBER TRIAL AND PILOT EVALUATION

TO: R.E. NIGHTINGALE
FROM: F.L. SUPRY

INTRODUCTION:

On May 16, 1984 a request to conduct a Trial and Pilot evaluation on the Model 7 Lwt. 308 caliber rifle, assembled with the new design aluminum trigger guard assembly, was recieved by the Research Test Lab. A forty (40) rifle, production run sample was used.

Due to the favorable results of an extensive endurance, accuracy, preliminary measurements, and visual inspection completed on the last production run samples of the rifle this Trial and Pilot will be limited to Jack Function and Field Function.

The results of the testing done on Previous sample will be included in this report.

SCOPE OF TEST:

To determine if the production run samples meet Remington Specfications set by the Research Design Section.

TEST RESULTS: (Previous sample)

Thirty (30) rifles were subjected to a 135 round Field Function Test. Ninty-nine (99) malfunctions occurred, for an overall malfunction rate of 2.4%.

Fifteen (15) rifles were fired to 335 rounds, seven (7) rifles were fired to 1005 rounds, and three (3) rifles were fired to 2035 rounds. No breakages occurred. No floor plate openings occurred.

TEST RESULTS: (New sample)

The forty (40) rifle sample was found to meet the Remington Specifications set by the Research Design Section.

All forty (40) rifles were subjected to twenty (20) rounds of Remington ammunition, in a Jack Function test. No malfunctions occurred.

Eight of the rifles were subjected to a 135 round Field Function test. Thirty-five (35) "don't eject" malfunctions occurred, for an overall malfunction rate of 3.2%.

REPORT TEXT:

1. VISUAL INSPECTION: (5 rifles) (Previous sample)

A. The visual inspection committee found no major items in the appearance of the rifles inspected.

B. The following general comments were made in overall reference to the rifles:

a. Several of the rifles had a dent on the top, rear of the stock, where the stock hit against the stop board of the gun truck.

b. The checkering over-runs were primarily located at the rear of the fore end pattern.

c. The rifles used in the visual inspection were:

7603926	7603156	7603161
7603441	7603126	

d. Comments recorded for each individual rifle are located in the appendix of this report.

2. PRELIMINARY MEASUREMENTS: (30 rifles)(Previous sample)

A. During the Preliminary Measurements, a burr was found on the tip of the firing pin of two of the rifles. The firing pins were replaced with firing pins from two of the rifles used in the visual inspection.

B. The following averages were established for the 30 rifles:

a. Floor Plate opening force:	3.0	pounds
b. Trigger Pull:	3.75	pounds
c. Firing Pin Indent:	.024	inches
d. Headspace:	.003	inches

C. Preliminary Measurement results per individual rifle are located in the appendix of this report.

REPORT TEXT: (continued)

3. ACCURACY: (Previous sample)

A. Nineteen (19) rifles were tested for 100 yard accuracy and the following averages were established:

a. Group Size:	2.37 inches
b. Horizontal Spread:	2.24 inches
c. Vertical Spread:	1.69 inches

B. Accuracy results per individual rifle are located in the appendix of this report.

4. FIELD FUNCTION: (Previous sample)

A. Thirty (30) rifles were subjected to a 135 round per rifle, Field Function Test and the following results were obtained:

a. Twenty (20) rifles experienced no malfunctions.

b. Ninety-nine malfunctions occurred, for an overall malfunction rate of 2.4%.

c. Seventy-two (72) of the malfunctions were "Don't Eject" malfunctions.

d. One rifle had a rough chamber. (Refer to report# 841021)

5. FIELD FUNCTION: (New sample)

A. All forty (40) rifles were subjected to the loading and firing of twenty (20) rounds of Remington, 180 grain soft point, ammunition, prior to the Field Function Test. There were no malfunctions on any of the rifles.

B. Eight of the 40 rifles were subjected to a 135 round per rifle, Field Function Test, and the following results were obtained:

a. Two (2) of the rifles had no malfunctions.

b. The overall malfunction rate was 3.2%.

c. The malfunctions were all "don't eject" malfunctions. At each occurance the plunger was found to be stuck down.

d. Two (2) rifles, serial# 7603137 and serial# 7604294, accounted for twenty-eight (28) of the malfunctions. These two (2) rifles were turned over to J.B. Willoughby for examination. A note of explaination is included in the appendix of this report.

REPORT TEXT: (continued)

6. ENDURANCE: (Previous sample)

A. Fifteen (15) rifles were subjected to an additional 200 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.76%.

c. Twelve (12) of the rifles experienced no malfunctions.

d. The three rifles that experienced malfunctions, experienced them as follows:

i. 7604807 - 5 stem low - (2.5% malfunction rate)

ii. 7603207 - 12 don't eject - (6.0% malfunction rate)
At each occurence, the ejector was stuck down due to shaved brass.

iii. 7603389 - 2 stem high
- 4 follower tip down - (3.0% malfunction rate)

B. Seven (7) of the fifteen (15) rifles were subjected to an additional 700 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.8%.

c. Five (5) of the rifles had no malfunctions.

d. The two (2) rifles that experienced the malfunctions, experienced them as follows:

i. 7604098 - 4 stem high
2 stem right
1 bolt override - (1.0% malfunction rate)

ii. 7603389 - 8 don't eject
2 stem high
7 stem low
1 stem right
16 follower tip down - (4.8% malfunction rate)

TEST RESULTS: (continued)

C. Three (3) of the seven (7) rifles were subjected to an additional 1000 round endurance test, and the following results were obtained:

a. There were no floor plate openings.

b. The overall malfunction rate for this portion of the endurance test was 0.2%.

c. Two (2) of the rifles had no malfunctions.

d. The rifle that experienced the malfunctions, experieced them as follows:

i. 7603153 - 2 stem high
2 stem right
1 follower tip down
1 bolt override - (0.6% malfunction rate)

7. JACK FUNCTION: (New sample)

A. Each of the forty rifles were subjected to twenty rounds of Remington ammunition, and no malfunctions occurred.

B. There were no rough chambers in any of the sample rifles.

TEST PROCEDURE:

1. VISUAL INSPECTION: (Previous sample)

A. The Visual Inspection Committee consisted of Z. Kowalski, B. Bosquet, (P.E. & C.); J. Snedeker, F. Supry, (Research); and J. Brooks, (consultant).

B. Five (5) rifles were selected for the visual inspection, using random number tables, from a sample lot of 35 rifles.

C. Each rifle was wiped down with a clean white Coyne towel, and examined by each member of the Visual Inspection Committee. All comments were recorded.

2. PRELIMINARY MEASUREMENTS: (Previous sample)

A. Each rifle was checked for magnaflux and proof stamps.

B. The headspace was checked on each rifle, using graduated headspace gauges.

TEST PROCEDURE: (continued)

2. PRELIMINARY MEASUREMENTS: (continued)

C. The floor plate opening force was checked, using a ten (10) pound push - pull gauge. Three readings were taken on each rifle and an average calculated.

D. Trigger pull force measurements were taken, using a ten (10) pound spring scale. Three readings were taken on each rifle and an average calculated.

E. Firing Pin Indent measurements were taken, using annealed copper crushers and a calibrated dial indicator. Three measurements were taken on each rifle and an average calculated.

3. ACCURACY: (Previous sample)

A. The following nineteen (19) rifles were used in the 100 yard accuracy test:

7602999	7603374	7603110	7604374	7604807
7603362	7603323	7603340	7603609	7603482
7603389	7603003	7603153	7604098	7603155
7603357	7603342	7603326	7603430	

B. The accuracy was shot by R. Williams, Research - Test Lab, at the R & D 100 yard range.

C. Weaver mounts and rings were used in conjunction with a Lyman All American 20X 1/8 inch dot scope.

D. Remington ammunition, index R308W2; code W09F D4501, 180 grain soft point, was used for the 100 yard accuracy test.

E. Before shooting the 100 yard accuracy test, the bores on each rifle were brushed with Hoppe's No. 9 solvent and patched dry.

F. A total of two (2), five (5) shot groups were shot with each rifle. The rifles were cooled between each group, and one (1) "warmer" shot was fired before the next group was shot.

G. The patterns were analyzed for group size, horizontal spread, and vertical spread. The averages were calculated for each rifle.

4. FIELD FUNCTION: (Previous sample)

A. Thirty (30) of the rifles were subjected to the loading and firing of 135 rounds of Remington and competitive ammunition. The round robin method of firing the rifles was used. Fifteen (15) rounds were fired; five (5) at a slow feeding cycle speed, five (5) at a medium feeding cycle speed, and five (5) at a fast feeding cycle speed. The rifles were then cooled before the firing of the next ammunition type.

B. The following ammunition was used in the field test:

a. Remington:	R308W1 150-psp	code# S22K D7069
	R308W3 180-psp	code# W17F D7743
b. Winchester:	X3081 110-psp	code# 79SE12 5Q
	X3085 150-sp	code# 24UE81
	X3086 180-sp	code# 68TC90 83
	X3084 200-st	code# 52TF80
c. Federal:	308A 150-psp	code# 5A 1245
	308B 180-psp	code# 5B 1104
	P308C 165-bt	code# 32A 3118

C. All malfunctions were recorded; per rifle, per ammunition type, per feeding cycle speed, and per shooter. Individual and overall malfunction rates were calculated.

5. FIELD FUNCTION: (New sample)

A. The same procedure, that was used on the Previous sample, was followed to conduct a field function test on eight (8) rifles from the New sample.

6. APPENDIX:

A. Contents:

a. Visual Inspection comments per individual rifle.

b. Preliminary Measurement results per individual rifle.

c. Accuracy results per individual rifle.

d. A copy of the Lab Work Request.

e. A copy of the note explaining the findings of the examination of the two rifles, serial# 7603137 and serial# 7604294.

f. A copy of Report# 841021

APPENDIX
MODEL 7 LWT. 308 CALIBER WITH ALUMINUM TRIGGER GUARD ASSEMBLY

VISUAL INSPECTION:

GENERAL:

1. A slight mar was noticed on the top rear of the stocks, on each of the rifles, from the rifles hitting on the stop board of the gun truck.

2. The checkering over runs were primarily located at the rear of the patterns.

COMMENTS PER INDIVIDUAL RIFLE:

1. 7603926 - Some checkering over runs on all four points, at the rear of the fore end pattern.

2. 7603441 - Dent in the stock, about an inch in front of the rear swivel screw.

   The checkering in the grip area has slight over and under runs.

   Bright spot on the rear of the trigger guard, from the head of the screw hitting the trigger guard.

   The repaired crown appears rough.

3. 7603156 - Polish scratches on the floor plate cover.

4. 7603161 - White marks on the inside of the floor plate, on the side of the trigger bow.

   Two dents on the left side of the stock, below the rear sight.

   The repaired crown appears rough.

5. 7603126 - Dust in the finish.

   Dent in the right side of the floor plate.

PRELIMINARY MEASUREMENTS:

SERIAL#	HD SPACE (in)	FP INDENT (in)	TRIGGER PULL (lbs)	F PLATE OPENING (lbs)
7603160	.002	.023	4.00	3.00
7603374	.005	.0235	3.00	3.00
7603423	.005	.0235	3.50	3.00
7603323	.004	.0215	4.00	3.00
7603340	.001	.0235	4.00	3.00
7603207	.005	.024	3.25	3.25
7603110	.004	.024	3.50	3.00
7603616	.002	.0245	3.25	3.00
7603153	.001	.025	4.50	3.00
7603389	.004	.023	3.00	3.25
7604264	.006	.0225	3.25	2.75
7603882	.005	.021	3.75	3.00
7603326	.003	.0245	3.75	2.75
7603774	.003	.0225	3.25	2.75
7603342	.004	.024	4.00	3.00
7603003	.003	.023	3.25	3.00
7603357	.002	.025	3.50	3.00
7603155	.004	.023	3.75	3.25
7603453	.002	.023	3.75	3.25
7604374	.005	.024	4.25	3.00
7604098	.005	.0245	4.00	3.00
7604807	.001	.024	3.50	2.75
7603482	.004	.023	3.75	3.00
7603430	.005	.0255	4.25	3.00
7603609	.002	.024	4.50	3.00
7603362	.004	.025	4.75	2.75
7603262	.002	.023	3.00	3.00
7602999	.002	.0255	4.50	4.00
7604283	.005	.024	3.75	3.00
7603193	.002	.024	4.00	3.00
AVERAGE =	.003	.024	3.75	3.00

ACCURACY PER INDIVIDUAL RIFLE:

SERIAL#		GROUP SIZE (in.)	HORIZONTAL (in.)	VERTICAL (in.)
7603155		1.2	1.1	0.5
		1.5	1.2	1.3
average	=	1.35	1.15	0.9
7604098		1.3	1.0	1.0
		2.5	1.9	2.4
average	=	1.9	1.45	1.7
7603357		1.9	1.7	0.8
		2.5	2.4	1.6
average	=	2.2	2.05	1.2
7603326		2.1	1.0	1.9
		3.1	2.8	2.1
average	=	2.6	1.9	2.0
7603430		2.8	1.9	2.0
		2.3	2.0	2.3
average	=	2.55	1.95	2.25
7603342		2.6	2.1	1.9
		2.6	1.6	2.2
average	=	2.6	1.85	2.05
7603482		2.3	1.8	1.7
		3.3	3.1	1.5
average	=	2.8	2.45	1.6
7603482		1.7	1.4	1.1
		2.0	1.4	1.9
average	=	1.85	1.4	1.5
7603389		2.0	1.1	1.7
		3.2	3.2	2.3
average	=	2.6	2.15	2.0

ACCURACY PER INDIVIDUAL RIFLE: (continued)

SERIAL#		GROUP SIZE	HORIZONTAL	VERTICAL
7603003		2.1	2.0	1.2
		3.2	3.1	1.5
average	=	2.65	2.55	1.35
7603153		2.3	2.1	1.1
		3.0	3.0	1.3
average	=	2.65	2.55	1.2
7903323		2.2	1.9	1.9
		2.0	1.1	1.9
average	=	2.1	2.0	1.9
7603362		2.9	2.8	1.4
		2.5	1.8	1.9
average	=	2.7	2.3	1.65
7603340		2.8	2.6	1.1
		2.2	1.0	2.0
average	=	2.5	1.8	1.55
7603110		2.3	2.3	1.1
		2.9	1.4	2.6
average	=	2.6	1.85	1.85
7604374		1.6	1.4	1.3
		2.7	0.6	2.6
average	=	2.15	1.0	1.95
7603374		2.3	1.6	2.1
		2.3	2.3	1.3
average	=	2.3	1.95	1.7
7604807		1.9	1.7	1.0
		2.9	2.5	1.8
average	=	2.4	2.1	1.4
7602999		2.8	1.9	2.4
		2.3	0.9	2.3
average	=	2.55	1.4	2.35

REPORT# 841021
WORK ORDER# 81343-929

TO: R.E. NIGHTINGALE

FROM: F.L. SUPRY

TITLE: TRIAL AND PILOT EVALUATION; MODEL 7 LWT. 308 CALIBER WITH ALUMINUM TRIGGER GUARD ASSEMBLY.

ABSTRACT:

On April 10, 1984 a request was received to conduct a Trial and Pilot Evaluation on the Model 7 Lwt. 308 caliber rifle, assembled with the new design aluminum trigger guard assembly. The Trial and Pilot Evaluation consists of Visual Inspection, Accuracy, Field Function, and Endurance. All 35 rifles, from a sample lot of 35 rifles, will be utilized within the spectrum of the evaluation.

SCOPE OF TEST:

To determine if the production run samples meet the Remington Specifications set by the Research Design Section.

TEST RESULTS:

The 35 rifle Trial and Pilot Evaluation was found to be unacceptable, due to the following:

A. During the Preliminary Measurements, a burr was found on the tip of the firing pin on two of the rifles, serial# 7603193 and serial# 7604383.

B. During the Field Function Test of the first ten rifles, one rifle, serial# 7603423, was leaving deep rings on the throat area of the fired brass.

COMMENTS:

The rifle, serial# 7603423, was returned to P.E. & C. The two firing pins were replaced with firing pins from from two of the rifles used in the visual inspection.

To obtain a good data base on the aluminum trigger guard, the testing that was scheduled on the remaining rifles will continue. A formal report, will be issued at the completion of the testing.

XC - J.W. DOWDER

G-88

DON'T SAY IT—*WRITE IT*

To L.B. BESSIET

Date 5-31-84

From L.B. WILLOUGHBY

RE: M/7 E.S.B.

BOTH BOLTS HAVE A NOTICEABLE BURR AROUND THE EJECTOR HOLE THAT SHAVES BRASS FROM THE SHELL HEAD & DEPOSITS IT IN THE HOLE BINDING THE EJECTOR. ALSO SER.# 3137 HAS THE WRONG EJECTOR SPRING IN IT, M/O CALLS FOR A MIN. FREE LENGTH OF 1.100 IN. THIS SPRING IS AP. .920. THE SPRING HAD BEEN CUT OFF. I HAD IT RE ASSEMBLED WITH A FULL LENGTH SPRING & IT WORKED FINE. THE HOLE FROM SER.# 3137 WAS NOT SCRAPED AT THE HEADING-JOB, & THE OTHER ONE WAS DONE IMPROPERLY. BOTH HOLE DIAMETERS WERE O.K.

LBW 5-31-84

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

Report No. 5717

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
____ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	* Design Change	Stake ____
* Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: Seven	FORMAL *	DATE REQUESTED: 5-1-81
CAL or GAGE: 308		DATE NEEDED BY: ASAP
BARREL TYPE: ____	TEST RESULTS ONLY ____	REQUESTED BY: [illegible]
PROOFED: YES ____ NO ____		WORK ORDER NO: C-1856-00

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
* Function Test	____ Environmental Test	* Measurements	____ Other ____
* Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Please perform a full [redacted] Trial and Pilot [illegible] on the sample of guns supplied by Production

GUNS REQUIRED: Supplied

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: 5/25/84

TEST COMPLETED BY: RW FS

REPORT DATE: ____

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 841401

REPORT TITLE: MODEL SEVEN LWT. .308 CALIBER TRIAL & PILOT

MODEL(S): SEVEN LWT.

GAUGE OR CALIBER: .308

DATE: 5/30/84

WORK ORDER NO.: 81343-926

PART NAME: RIFLE

DESIGNER/ENGINEER: Requested by R.S. MURPHY

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST-NO. OF GUNS TESTED _____
3. FUNCTION TEST-NO. OF GUNS TESTED 40
4. ACCURACY TEST-NO. OF GUNS TESTED 19
5. MEASUREMENTS - TYPE Preliminary
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION-TYPE _____
8. VISUAL EVALUATION 5 OUT OF 40 GUN SAMPLE
9. ENDURANCE-NO. OF GUNS TESTED: 30,15,7,3

   NO. OF ROUNDS PER GUN 135,300,1000,2000

   TOTAL ROUNDS FIRED IN TEST 15,000

   AMMO TYPE: MAGS. _____ TARGET: ____

   RIM FIRE _____ CENTERFIRE X

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Distribution: W.H. Coleman, II
J.W. Bower
J.R. Snedeker
R.S. Murphy
File

files - Model Seven

RESEARCH TEST AND MEASUREMENT REPORT - Report No. 840971

MODEL SEVEN .308 CALIBER PRE-PILOT EVALUATION

Prepared by: J. BAGGETTA

Date Prepared: 4/6/84

Proofread and Cleared by:

R.E. Nightingale,
Foreman - Test, Measurement Lab

R.E. Nightingale 4-10-84
Signature Date

J.R. Snedeker, Research Supervisor
Testing, Measurement & Mech. Analysis Lab

J.R. Snedeker 4-10-84
Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 840971

REPORT TITLE: MODEL SEVEN .308 CALIBER PRE-PILOT EVALUATION

MODEL(S): SEVEN

GAUGE OR CALIBER: .308

DATE: 4/6/84

WORK ORDER NO.: C-1809

PART NAME: MODEL SEVEN .308 CALIBER PRE-PILOT

DESIGNER/ENGINEER: J.W. BOWER

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST-NO. OF GUNS TESTED _____
3. FUNCTION TEST-NO. OF GUNS TESTED 6
4. ACCURACY TEST-NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE _____
6. ENVIRONMENTAL TEST
7. AMMUNITION TESTING & EVALUATION-TYPE _____
8. VISUAL EVALUATION _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE-NO. OF GUNS TESTED: _____

   NO. OF ROUNDS PER GUN 105

   TOTAL ROUNDS FIRED IN TEST 630

   AMMO TYPE: MAGS. _____ TARGET: _____

   RIM FIRE _____ CENTERFIRE X

TO: J.W. BOWER

FROM: J.A. BAGGETTA

REPORT TITLE: MODEL SEVEN .308 CALIBER PRE-PILOT EVALUATION

ABSTRACT

On April 6, 1984 a request was received from J.W. Bower, R&D Firearms Research Manager to evaluate Model Seven .308 Caliber pre-pilot samples.

SCOPE OF TEST

To field function six (6) Model Seven .308 caliber rifles, checking for floor plate latch openings and other malfunctions.

TEST RESULTS

A. Field Function

Six (6) Model Seven .308 Caliber rifles were fired a total of 630 rounds. No malfunctions or opening of the floor plate latch occurred while firing.

REPORT TEXT

Six (6) Model Seven .308 Caliber rifles were fired a total of 630 rounds (105) rounds each experiencing no malfunction or opening of the floor latch while firing.

TEST PROCEDURE

A. Test Conditions

- The field test was conducted at the Ilion Fish & Game Club 100 yard rifle range.
- Four men were used, incorporating the "round-robin" system.
- The men would take fifteen rounds (15) to the line and load one in the chamber and four (4) in the magazine, firing slow, medium and fast.
- Three (3) ammunition brands were used, Remington, Winchester and Federal. All ammunition was shot from the shoulder.

The rifles used in the Field Function Test were Model Seven, .308 Caliber. Serial Numbers are listed below:

7603349	7603287
7603818	7603386
7603104	7604048

B. Ammunition Types

Remington - 150 Grain Pointed Soft Point
Remington - 180 Grain Pointed Soft Point

Winchester - 150 Grain Soft Point
Winchester - 180 Grain Soft Point
Winchester - 200 Grain Silver Tip

Federal - 150 Grain Pointed Soft Point
Federal - 180 Grain Pointed Soft Point

Report No. 840411

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
____ Developmental	____ Safety Related	____ Litigation
____ Design Acceptance	____ Competitive Evaluation	____ Warehouse Audit
✓ Pre-Pilot	____ New Design	____ Cost Reduction
____ Pilot	✓ Design Change	Stake ____
____ Production Acceptance	____ Plant Assistance	____ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: SEVEN	FORMAL ____	DATE REQUESTED: 4/6/84
CAL. or GAGE: 308	TEST RESULTS ONLY ✓	DATE NEEDED BY: ASAP
BARREL TYPE: STD		REQUESTED BY: JWBower
PROOFED: YES ✓ NO ____		WORK ORDER NO: C-1809

TEST TYPE

____ Strength Test	____ Ammunition Test	____ Dry Cycle Test	____ Photo/Video
____ Function Test	____ Environmental Test	____ Measurements	____ Other ____
____ Accuracy Test	____ Customer Complaint	____ Endurance Test	____

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

Field function test of pre-pilot sample.
No misuals
Check for any obvious functional problems, in particular, floor plate latching.

GUNS REQUIRED:

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ____

TEST COMPLETED BY: ____

REPORT DATE: ____

G-88

DON'T SAY IT—*WRITE IT*

To Bill Coleman

Date 4/13/89

From Jim Bowen

Re: Trial & Pilot Acceptance Testing
Model Seven - .308 Caliber

The trial and pilot acceptance of the M/Seven - 308 caliber has been rejected. One gun had a defective chamber which caused fire-forming of the chamber. No cartridge separations occurred. In addition, two guns had poorly pointed firing pins. Met with Process Eng this morning - they will supply another sample.

We will continue to test guns from the first sample to at least verify the floor plate latch design.

"DON'T TAKE A CHANCE, THINK SAFETY IN ADVANCE"

The Lightest Of T

Ranging from six to 7¼ pounds in weight, these featherweight production hunting rifles carry more than a little weight with hunters due to qualities like speed of handling and excellent accuracy.

By Clair Rees

ONLY A FEW years ago, buying a production bolt-action hunting rifle weighing less than 7½ pounds was almost impossible. Most models nudged the eight-pound mark from one side or the other. To get a really lightweight deer or sheep rifle, you had to take a standard model to a custom gunsmith and let him whittle away to achieve the desired shape and weight.

I'm one shooter who's glad this is no longer the case. The concept of a lightweight, easy-carrying hunting rifle has become so popular that the major gun manufacturers are finally producing a fine selection of such firearms. Browning, Smith & Wesson, and Winchester offer lightweight bolt models ranging from just under to just over seven pounds, while Ruger and Remington have introduced a pair of new ultralight rifles in the six-pound range.

All these rifles represent a significant reduction in weight compared to what was available, they are available in a variety of chamberings suitable for deer-sized and larger game, and in spite of their weight, they are capable of excellent accuracy.

Ruger's new Model 77 Ultra Light is the lightest of the new breed. To get a lighter hunting rifle, you'd have to go the full custom route or at least add a fiberglass stock. The Ultra Light sells for $455. This six-pound rifle is available in both short and long action lengths to chamber seven popular cartridges: .22-250, .243, .250-3000, .308, .257 Roberts, .270, and .30-06. Ruger's other lightweight offering is the Model 77 International, which is four ounces heavier than the Ultra Light and features a wood-to-muzzle stock. Other than the stock configuration, the rifles are identical.

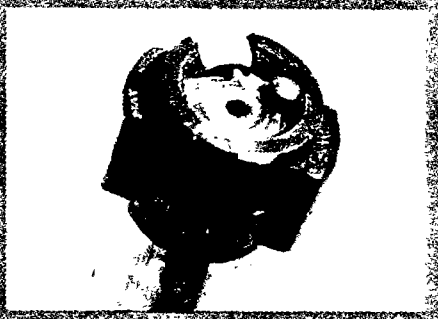
The test gun I had was chambered for the .243 Winchester round and tipped the scales exactly at the advertised six pounds. Overall length was 39¾ inches with the 20-inch barrel. In addition to shortening the Model 77 barrel a couple of inches, Ruger has drastically tapered it. The barrel of my test rifle measures barely a half-inch across at the muzzle.

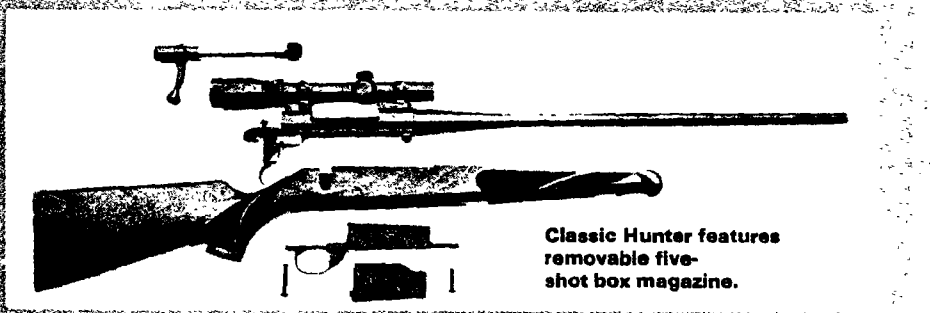
The lighter and shorter Ultra Light also differs from other Model 77s by featuring a black forend tip. The buttstock is of the classic design, with a straight comb dropping only ¼ inch along its length. The stock also sports a ⅜-inch-thick rubber recoil pad.

The Model 77's Mauser-inspired bolt retains the large extractor claw with its external spring arm. This time-proven system provides excellent reliability and extracts even stubborn cases with authority. The ejector is a spring-powered plunger.

Another Model 77 feature shared by the new Ultra Light is the front mounting screw which angles forward. Tightening this screw pulls the barreled action back and down into the stock to provide positive bedding. I've found this system can be temperamental at times, but most Model 77s are capable of excellent accuracy when the tension is properly adjusted.

My .243 Winchester test rifle proved finicky, but it delivered minute-of-angle accuracy when fed the right loads. With factory loads, group size varied between 1⅛ and more than two inches

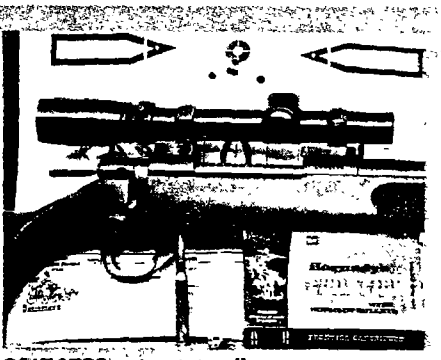




Classic Hunter features removable five-shot box magazine.

▲ S&W's boltface is recessed with plunger ejector and extractor.

S&W's lightest entry is available in three calibers.



S&W 1700 got outstandi[illegible] accuracy.

he Lightweights

GUN TEST

SPECIFICATIONS
Smith & Wesson Model 1700LS Classic Hunter .270 Bolt-Action Rifle

Manufacturer	Howa Machinery Co. Japan
Model	1700LS Classic Hunter
Type	Bolt-action repeater
Operation	Manual
Caliber	.270 Winchester
Barrel length	22 inches
Overall length	42½ inches
Stock	American walnut
Drop at comb	¾ inch
Drop at heel	1½ inches
Length of pull	13¾ inches
Weight, empty	7 pounds
Safety	Rocking thumb safety
Sights	None provided; 1¾-5X Burris mounted
Rifling	4 grooves, 1:10 RH twist
Magazine capacity	5
Finish	Blued
Variations	Available in .30-06 and .243 Win.
Distributor	Smith & Wesson 2100 Roosevelt Ave. Springfield, MA 01101
Price	$479.95

across. Frontier's 100-grain loads gave the best results. Handloading shrank the groups to one inch at 100 yards.

The next lightest mass-produced rifle on the market is Remington's new Model Seven. This short-action beauty is offered in .222, .243, 7mm-08, 6mm Remington, and .308 Winchester calibers and is advertised as weighing 6¼ pounds. Individual rifles will vary in weight, primarily because of differences in wood density, and the test rifle I received tipped the scales at 6½ pounds – four ounces over the specified weight.

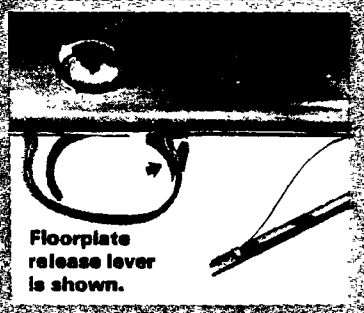
Several years ago, Remington offered another short-action carbine called the Model 600. When this rifle was discontinued, the action brought howls of protest from those sportsmen who appreciated its fine handling qualities. When Remington announced its intentions to introduce a new bolt-action carbine, some people were betting it would be a facelift of the old Model 600. But when the Model Seven was finally unveiled, shooters saw a brand-new rifle. The jeweled, highly polished bolt features twin front-locking lugs and a completely recessed face to enclose the cartridge case head. The extractor claw assembly is completely contained within the inside rim of the boltface. A plunger ejector is used.

The bolt knob is smoothly elliptical, and the stubby length of the bolt provides a very short throw. The floorplate and trigger guard are blued steel – not lightweight alloy. The release for the hinged floorplate is located in the forward part of the trigger guard and projects inside the guard to allow the catch

SPECIFICATIONS
Remington Model Seven
7mm-08 Bolt-Action Rifle

Manufacturer	Remington Arms Co. Inc. Bridgeport, CT 06601
Model	Seven
Type	Bolt action
Operation	Manual
Caliber	7mm-08 Remington
Barrel length	18½ inches
Overall length	37¾ inches
Stock	Checkered walnut
Drop at comb	⅜ inch (from center line of bore)
Drop at heel	1 inch
Length of pull	13½ inches
Weight, empty	6¼ pounds
Safety	Two-position, rocking
Sights	Rear sight adjustable for windage and elevation; bead-on-post ramp front sight; 1½-4½X Bushnell ScopeChief VI mounted
Rifling	6 grooves, 1:9.25 RH twist
Magazine capacity	4
Finish	Blued
Variations	Available in .222 Rem., .243 Win., 6mm Rem., and .308 Win.
Distributor	Remington Arms Co. Inc.
Price	$449.95

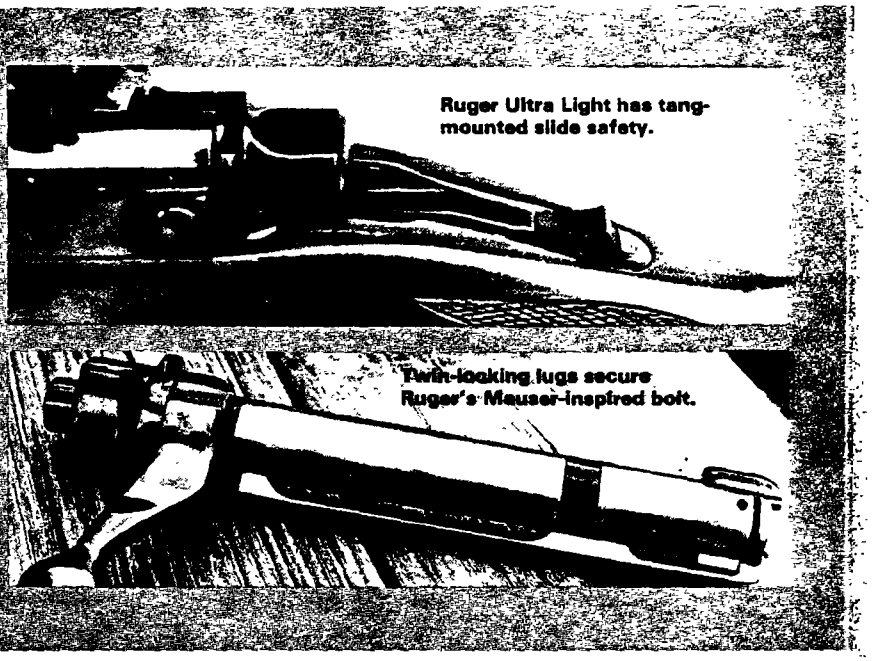
Model Seven's floorplate is opened in order to reach takedown screws.



Floorplate release lever is shown.

These are the lightest of the lightweights at six (L) and 6¼ pounds.

Ruger bolt features externally mounted Mauser-style extractor claw.



Ruger Ultra Light has tang-mounted slide safety.

Twin-locking lugs secure Ruger's Mauser-inspired bolt.

to be pushed fully into position for positive lockup. The front takedown screw is located under the hinged floorplate.

This rifle was designed from scratch for lightweight portability without sacrificing strength. The 18½-inch barrel is free floated except for a single pressure point near the forend tip. The entire rifle is just 37⅝ inches long, and it balances very well in the hands.

Like most new rifles, the Model Seven sports a straight, classic-style stock which drops ⅜ inch from comb to heel. A rubber recoil pad is standard, as are quick-release sling swivel studs. The forend and pistol grip carry a generous amount of cut checkering, while the forend tip sports a schnabel profile.

The trigger was set for a five-pound release as it came from the box. It featured a crisp, single-stage letoff. The two-position rocking safety locks the trigger—but not the bolt—when engaged, allowing the chamber to be loaded without first placing the rifle in firing condition.

Chambered for the 7mm-08 Remington round, my test rifle proved to be a pleasure to fire, with recoil being no problem. Accuracy was very good with factory loads, with groups averaging 1⅜ inches across at 100 yards.

The rifle carries a recommended price of $449.95.

U.S. Repeating Arms' Winchester Model 70 XTR Featherweight is a modern revival of the long-discontinued Model 70 Featherweight first introduced in 1952. At 6¾ pounds, this rifle is a true lightweight in spite of its standard 21¾-inch barrel and relatively conventional design.

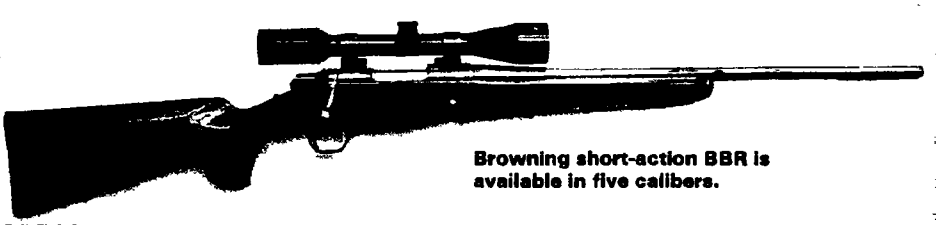
Retailing at a nickel under $500 with iron sights or $469.95 without, the Winchester Featherweight is at the top of the Model 70 lineup. Appropriately enough, it sports a highly distinctive stock, complete with the schnabel forend. The checkering has the pattern of cut diamonds interrupted by a gracefully curving inset of smooth wood. A red rubber buttpad and quick-release sling swivels are standard equipment. Overall length is 42⅝ inches.

The Featherweight is available in six excellent hunting calibers: .243 Winchester, .257 Roberts, .270 Winchester,

SPECIFICATIONS
Ruger Model 77 Ultra Light .243 Bolt-Action Rifle

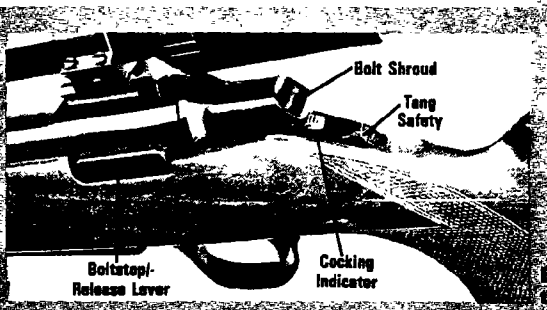
Manufacturer	Sturm, Ruger & Co. Inc. Southport, CT 06490
Model	77RL Ultra Light
Type	Bolt-action repeater
Operation	Manual
Caliber	.243 Winchester
Barrel length	20 inches
Overall length	39¾ inches
Stock	Walnut
Drop at comb	⅜ inch (from center line of bore)
Drop at heel	⅞ inch
Length of pull	13½ inches
Weight, empty	6 pounds
Safety	Two-position tang
Sights	None supplied; Leupold 16X scope mounted
Rifling	6 grooves, 1:10 RH twist
Magazine capacity	5
Finish	Blued
Variations	Available in .257 Roberts, .270, .30-06, .22-250, .250-3000, .308 Win.; Mannlicher-styled Model 77 RSI weighs 6¼ pounds
Distributor	Sturm, Ruger & Co. Inc.
Price	$455

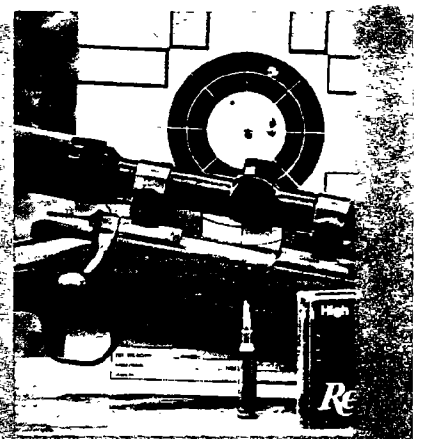
Schnabel forend highlights Model 70 Winchester Featherweight.



Browning short-action BBR is available in five calibers.

Four-shot magazine attaches to the hinged floorplate.





With Remington ammo, BBR printed 1⅞-inch groups.

BBR has cocking indicator and two-position safety on the tang.

7x57mm Mauser, .308 Winchester, and .30-06 Springfield.

The Model 70 bolt is jeweled and features a fully recessed face. The ejector is a spring-loaded plunger; the extractor claw is inset into the face of one of the twin locking lugs. The three-position, wing-type safety keeps the trigger locked but allows the bolt to be opened in the intermediate position. This type of safety is relatively expensive to manufacture, but it's a longtime favorite of experienced riflemen.

While the Model 70's trigger guard is made of alloy, the hinged floorplate is blued steel. The action is bedded in a thermoplastic material for greater accuracy, and the stock carries an attractive satin finish.

I had the chance to put a 7x57mm Featherweight through its paces, and the rifle performed admirably. With Federal 140-grain factory loads, the streamlined Winchester delivered 1½-inch groups at 100 yards. A Redfield 4X Tracker scope was mounted, and it made a fine match for the rifle.

Smith & Wesson's entry into the lightweight rifle market is the Classic Hunter, which is made in Japan to S&W specifications. While the Standard and Deluxe model S&W bolt rifles average between 7½ pounds and seven pounds, 10 ounces in weight, the Classic Hunter weighs seven pounds in .270 and .30-06 chamberings. The model chambered in .243 Winchester is listed in the specifications at six pounds, 15 ounces. My test rifle digested .270 Winchester loads and was right on the money at seven pounds. It was fitted with a 1¾-5X Burris; no factory sights are supplied.

The Classic Hunter sports a classic stock and has a schnabel forend. The cut checkering is also interrupted, giving the S&W stock an appearance very similar to the Model 70 Winchester Featherweight's. It has a red rubber buttpad. The stock is fitted with sling swivels from Michaels of Oregon, and these are flush mounted to avoid spoiling the smooth lines.

Unlike other S&W bolt rifles, the Classic Hunter has a removable five-

(Continued on Page 95)

SPECIFICATIONS

U.S.R.A. Winchester Model 70 XTR Featherweight 7x57mm Bolt-Action Rifle

Manufacturer	U.S. Repeating Arms Co. 275 Winchester Ave. New Haven, CT 06511
Model	Winchester 70 XTR Featherweight
Type	Bolt action
Operation	Manual
Caliber	7x57mm Mauser
Barrel length	21¾ inches
Overall length	42⅝ inches
Stock	Checkered walnut
Drop at comb	9/16 inch (from center line of bore)
Drop at heel	⅞ inch
Length of pull	13⅝ inches
Weight, empty	6¾ pounds
Safety	Three-position wing
Sights	None supplied; Redfield 4X Tracker mounted
Rifling	4 grooves, 1:8.25 RH twist
Magazine capacity	5
Finish	Blued
Variations	Available in .243 Win., .257 Roberts, .270 Win., .30-06, and .308 Win.; iron sights available
Distributor	U.S. Repeating Arms Co.
Price	$469.95

M70's boltface is fully recessed.

Featherweight has three-position wing safety.

Fancy checkering, jeweled bolt highlight M70.

Trigger is simple and reliable.

The Lightest Of The Lightweights

(Continued from Page 65)

shot clip in place of the integral magazine with hinged floorplate. The magazine release lever is located in the trigger guard, just like the floorplate release found on the other models. The trigger guard is alloy, while the magazine is blued steel.

The bolt is jeweled and features a blued cocking piece shroud. The bolt-

Author found all the lightweight rifles pleasant to shoot.

face is recessed with a generously proportioned plunger ejector. The handle of the bolt is knurled and blued. The two-position rocking safety alongside the receiver leaves the bolt fully operable when engaged.

Like the Model 70 Featherweight, the

Manufacturer	Miroku Firearms Mfg. Inc. Kochi, Japan
Model	BBR
Type	Bolt-action repeater
Operation	Manual
Caliber	7mm-08 Remington
Barrel length	22 inches
Overall length	41½ inches
Stock	American walnut
Drop at comb	1⅛ inches
Drop at heel	1⅝ inches
Length of pull	13¾ inches
Weight, empty	7 pounds, 4 ounces
Safety	Two-position tang
Sights	None supplied; Bausch & Lomb 4X scope mounted
Rifling	6 grooves, RH twist
Magazine capacity	4
Finish	Blued
Variations	Available in .308 Win., .257 Roberts, .243, and .22-250 Rem.
Distributor	Browning Rte. 1 Morgan, UT 84050
Price	$469.95

Manufacturer	Sturm, Ruger & Co. Inc. Southport, CT 06490
Model	International Model 77
Type	Bolt-action rifle
Operation	Manual
Caliber	.308 Winchester
Barrel length	18½ inches
Overall length	38½ inches
Stock	Handcheckered American walnut
Drop at comb	1 inch
Drop at heel	1⅝ inches
Length of pull	13½ inches
Weight, empty	6¼ pounds
Safety	Sliding tang locks both trigger and bolt
Sights	Folding rear leaf adjustable for elevation and drift; adjustable for windage; ramped base on post front sight; Leupold M8-4X Compact scope mounted
Sight Radius	13½ inches
Rifling	6 grooves, 1:10 RH twist
Magazine capacity	5 rounds
Finish	Blued
Variations	Also available in .243 Winchester
Distributor	Sturm, Ruger & Co. Inc.
Price	$480

S&W Classic Hunter is a full-sized rifle. Sporting a 22-inch barrel, it runs 42½ inches from muzzle to butt. At $479.95, the Classic Hunter is the most expensive bolt rifle offered by S&W. I think it's also the most attractive.

Accuracy was exceptional, with Hornady-loaded 140-grain Frontier factory ammo yielding sub-minute-of-angle groups measuring ¾ inch across.

At 7¼ pounds, Browning's Japanese-made BBR bolt rifle is the heaviest of the new lightweight rifles evaluated. This is still a very light sporter by any standard, and when introduced in 1978, it ranked among the lightest production rifles then on the market.

The BBR I've been using is one of the short-action models chambering the 7mm-08 Remington cartridge. Other calibers offered include the .243 Winchester, .22-250 Remington, .257 Roberts, and .308 Winchester. The short-action BBR has a 22-inch barrel, two inches shorter than barrels on the longer Browning bolt rifles. The short BBR is also six ounces lighter and features a classic, straight-combed stock; the standard model has a Monte Carlo comb with a raised cheekpiece.

The BBR rifle is also known as the "Lightning Bolt," as the bolt handle travels through a short, 60-degree arc to lock or unlock the action. The Browning centerfire also features an antiwarp forend with an eight-inch-long section of ½-inch-thick aluminum channel material inletted below the barrel channel. Its purpose is to stiffen the forend and prevent warpage.

Releasing the hinged floorplate lowers a detachable box magazine that clips to the swing-down floorplate. The magazine can be loaded in place or removed to make loading easier.

Nine forward locking lugs are arranged in triple rows for a very strong design. The boltface is deeply recessed. The magazine is cleverly designed to make sure each cartridge is properly seated all the way to the rear as the magazine is loaded. The same tapered feeding lip that nudges each round rearward during the loading process ensures positive feeding when it's time to chamber a round.

The bolt action is very smooth and slick, and very little effort is required to cycle the bolt. The trigger sported a clean, 3½-pound letoff, but it can be adjusted between three and six pounds.

The BBR Browning comes without sights. I mounted a new Bausch & Lomb 4X scope on mine. The rifle delivered 1¼-inch, three-shot groups with Remington's 140-grain PSP factory loads. The short-action BBR lists at $469.95.

I am very favorably impressed with the lineup of lightweight factory rifles being offered. I've toted my share of overweight firearms afield, and now that I'm older and wiser, I'm glad there are finally some slimmed-down production hunting rifles available across the counter.

These new rifles will be my first choice on future hunts. I'm betting a lot of other sportsmen will feel the same way.

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Xc: C.B. Workman
T.L. Capeletti
J.W. Brooks

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
March 10, 1981

TO: J. S. MARTIN

FROM: F. E. MARTIN - S. A. FANELLI

SUBJECT: M-7 SCHEDULING

The program for M-7 Bolt Action Development, with the rifle as shown with no or minor alterations, can be as follows:

6-81	Design Verification	(Drawing Completion)
8-81	Hi-Spot Cost Review	
1-82	Product Acceptance	(Models for Acceptance)
1-82	Design Transmittal	

Future dates dependent on Marketing decision.

FEM:SAF:T
Firearms Research Division

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

September 2, 1981

To: J. S. Martin

From: F. E. Martin

Subject: M/7 Design Specification

The M/7 proto-type was conceived with these specifications:

- Octagonal Receiver
- Hammer Forged Barrel (not turned or polished)
- Light Weight Firing Pin (reduced lock-time) — Good Idea for 1/2 [illegible]
- Fully Enclosed Bolt Plug with Cocking Indicator — Enclosed plug not required.
- No Bolt Lock — Need bolt lock.
- Blocked Trigger and Sear — Need "safe action"!
- New "No Drag" Follower (to enhance action smoothness) — Non-stamped. Favored.
- A Truly "Classic" Stock — No Monte Carlo, Cheekpiece, model [illegible]
- A Functional Checkering Pattern
- No Sights
- Classic Calibers i.e., .257, 7 x 57, .35 Whelen, etc.
- Limited Production of Calibers 3,000 - 4,000

+ Scope Mounts — must look good!
+ Option of Floorplate or detachable Magazine Box
+ New Extractor

FEM:ws

Development required

9/11/81
R

M/7 DESIGN SPECIFICATION

This is a composite listing of features provided on the M/7 proto-type and those desired by Research:

- Octagonal Receiver
  - Investigate the use of octagonal stock
  - Heavier barrel lug

- Walnut Stock
  - True Classic
  - No Monte Carlo
  - Cheekpiece
  - Cut - functional checkering
  - Sling swivel studs

- Hammer Forged Barrel
  - No turn or polish
  - Program to determine possible benefits i.e., accuracy vs. finish
  - Lightweight - slimmer contour
  - Clean no sights

- Fire Control
  - Blocked trigger and sear
  - Bolt lock
  - New safety configuration or location
  - With safe adjustments

- Improved (Reduced) Locktime
  - Lightweight firing pin
  - Investigate pierced primer gas flow around firing pin and head

- Additional Desired Features
  - Scope mounts
  - New bolt handle
  - Jeweled
    - follower
    - bolt body

- New Extractor

- New Feeding System
  - To be smoother
  - To be functionally superior
  - To be detachable with integral magazine box

- Classic Calibers
- Limited Production 3,000 - 4,000 per year

F. E. Martin:ws
September 11, 1981

T Capiette

File #53

February 25, 1982

Mr. Paul Holmberg
Marketing Mgr. Firearms
Remington Arms Co., Inc.
Bridgeport, Conn. 06602

Dear Paul:

For what its worth, I'd like to say that I was absolutely flabbergasted and smitten with your Model 7. Its in very good taste aesthetically by a gun connoiseur's standards; deviating from what might be considered conventional, or normal, just enough to be highly interesting. Its approaching, if not indeed, trend setting and some comments I guess I made relative to Winchester and Ruger squirming weren't merely rhetoric but heartfelt and sincere.

I suppose I have to be a bit presumptious to say so but my advice would be to take the ball and run.

I enjoyed my stay and tour of the plant immensely. Very educational in so many ways. I was glad to see you and Tom again and will look forward to seeing you both at Philadelphia.

Best wishes,

Bob Emmons
238 Robson Road
Grafton, Ohio 44044

RD-89-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

F-82

Xc: T. L. Capeletti

February 23, 1983

TO: J. S. MARTIN

FROM: F. E. MARTIN

SUBJECT: M/7 LWT TRIGGER GUARD ASSEMBLY

This item has been turned over to the Current Firearms Design Group for follow up and testing. Present status with this group is unknown. Advantages for implementation would be its:

- Lightweight
- Stronger Assembly
- Rust Resistance

Disadvantages:

- Not Steel
- Coloring Problem
- Cannot be Recolored Easily

FEM:ws

SALES DEPARTMENT

Remington Rem-O-Gram

Quick Facts About REMINGTON PRODUCTS

TO: T. J. CAMPELLETTI
ILION

cc: House Force

Bridgeport, Connecticut
March 24, 1983

TO THE FIELD FORCE:

You have already received a request to contact your jobber customers, instructing them to hold further delivery of any Model Seven rifles on hand and to supply you with a list of dealers who have received delivery of Model Seven rifles.

Our ultimate intention is to update all Model Seven rifles shipped to date by means of a return to the nearest Remington warranty gunsmith service location or to Arms Service in Ilion.

We have discovered that if a Model Seven rifle is disassembled after it leaves the factory, it is possible for the rifle to be reassembled incorrectly, producing off-center trigger alignment that might cause subsequent malfunction of the trigger and accidental firing of the rifle. The updating service on the rifle will eliminate the possibility of such incorrect reassembly.

To accomplish this, you are requested to obtain:

1. A list of all Model Seven rifles and matching serial numbers still in an individual jobber's inventory.

2. A list from the jobber of the names and addresses of dealers to whom Model Seven rifles have been shipped, including serial numbers.

Both jobbers and dealers will then be contacted by Product Service with instructions on how to have the rifles updated. Consumer purchasers of Model Seven rifles will also be contacted by Product Service with a request and instructions to have the rifles updated.

REMINGTON ARMS COMPANY, INC., BRIDGEPORT 2, CONN.

Form No. RD 451

Printed In U.S.A.

In all contact with jobbers, dealers, and retail customers on this subject, it is important to emphasize that the potential malfunction is remote, can occur only on a Model Seven rifle that has been disassembled and subsequently reassembled outside the factory, and that the update applies only to Model Seven rifles and not to any other Remington models.

This update is being incorporated into all Model Seven rifles to be shipped in the future.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr

E-82

Remington
DUPONT

REMINGTON ARMS COMPANY, INC.

TELEX
964-201
STRATFORD CT

SPORTING ARMS-AMMUNITION-TARGETS-TRAPS
939 BARNUM AVENUE
P.O. BOX 1939
BRIDGEPORT, CONNECTICUT 06601

TELEPHONE
203-333-1112

March 31, 1983

TO OUR DISTRIBUTORS:

Remington Arms Company has discovered a problem that may develop with the Model Seven rifle and is requesting you hold further delivery of the Model Seven that remain in your inventory until notified. This letter provides you with the necessary details regarding this request.

We have discovered that if a Model Seven rifle is disassembled after it leaves the factory, it is possible for the rifle to be reassembled incorrectly, producing off-center trigger alignment that might cause subsequent malfunction of the trigger and accidental firing of the rifle.

Since a rifle may be disassembled at any time in the future for one of several reasons, we wish to update all Model Seven rifles with a preventative modification that eliminates the possibility of such incorrect reassembly. As a result, if you have not already done so, we are requesting your assistance with the following actions:

1. Please hold any Model Seven rifles still in your inventory.

2. Please send to us (c/o Remington Arms Co., Inc., 939 Barnum Avenue, P. O. Box 1939, Bridgeport, CT 06601, Attention J. D. Glenn) or provide your Remington Field Representative with a list of the names and addresses of dealers to whom you have shipped Model Seven rifles with matching serial numbers for those rifles. We will then contact those dealers with instructions for the updating modification.

3. Please return any Model Seven rifles still in your possession to the Remington warranty gunsmith service location nearest you for the updating modification. A list of such locations is enclosed. If it is inconvenient or difficult for you to return Model Seven rifles to a warranty service location, you may also ship them to:

   Remington Arms Co., Inc.
   Arms Service Division
   Ilion, NY 13357

   To expedite, shipments should be made prepaid. Upon receipt of a copy of your freight bill, Remington will issue a check for same. Your receipt should also be referred to J. D. Glenn (c/o Remington Arms Co., Inc., 939 Barnum Avenue, P. O. Box 1939, Bridgeport, CT 06601) for handling.

In returning Model Seven rifles to either location, please include your company name and return mailing address inside each box. The updating of your rifles and return to you will be accomplished as quickly as possible. While the possibility of the described malfunction is remote and it can occur only if the rifles are disassembled after they leave the factory, we believe it is in the best interests of the eventual owner to have this preventative modification performed.

We apologize for whatever inconvenience this may cause you. This update applies only to Remington Model Seven rifles shipped prior to this date and not to any other Remington models. The corrective action will be incorporated into all Model Seven rifles to be shipped in the future.

If you have any further questions, or if any of your dealers have questions concerning this request, please feel free to call us on the following toll free number, 800-243-2953 (operational after April 8, 1983), between 8:00 a.m. and 4:30 p.m. Eastern Standard Time.

Sincerely,

E. J. Conroy

E. J. Conroy
Director of Sales

EJC/dr
Enc.

PRODUCTS SCHEDULED FOR 1984 INTRODUCTION

Copies mdg 6/17/83

file M/Seven

MODEL SEVEN .223 REM.

Marketing Comments

The domestic market for rifles in .223 Rem. has increased as a result of the availability of low cost ammunition. Since the Model Seven was introduced, we have had numerous requests from distributors and dealers to add this caliber. We believe the addition of the .223 offers the potential for increased Model Seven sales and will help improve dealer relations. The short, light weight of the Model Seven is appropriate for the .223 Rem. caliber.

High spot economics will now be presented to the Committee (Exhibit 1).

Research Comments

Design test of no bind follower in progress. If satisfactory, transmit June 10.

Production Comments

Trial and pilot operations have commenced on the barrel. Assembled guns should be ready for Research acceptance testing in August. Production will start in September with guns going to the warehouse in November.

Addendum G

NEW PRODUCT DEVELOPMENT REQUEST

DATE May 24, 1983

SECTION A

I. Description of New Product

Add the .223 caliber to the Model Seven

EXHIBIT 1

II. How Fit Strategic Plan/Business Mission

- o New caliber offering intended to take advantage of increasing popularity of 223 Rem.
- o Market share restoration.

III. Economic Estimates (Outset)

Price - $449.95

	YEARS 1	2	3	4	5
A. Forecast Sales Volume (M Units)	2.5		3.0		
Total					
Incremental					
B. Pretax Earnings ($M)					
Full Book	39.0		94.0		
Incremental	168.0		255.0		
C. Program Investment ($M) (Incremental Costs to Implement)					
Research Expense	17.0				
Production Expense	1.5				
Permanent Investment	--	(Add-use of existing tooling)			
Increase in Working Capital	280.0				
D. Net Return on Program Investment (Years 1 & 3 Only)	31%		35%		

E. Payback (# of Years) 3.5 Years

F. Manpower (Man Years of Effort) Mktg. .02 Prod. .10 Res. .392

G. Probability of Success (Check One) X High ____ Medium ____ Low

IV. Development Responsibility (Check One) X Research ____ Production

V. Marketing Approval

Director Finance _____

Director Legal _____

Director Marketing _____

Director Production _____

Director R & D _____

Opens Mtg
#7 6/17/83

IMPROVEMENTS TO EXISTING PRODUCTS

MODEL SEVEN

Research Comments

The short-term modification of this design includes the items shown on Exhibit I.

The material thickness in the floor plate cover and the floor plate base has been increased from .050" to .062" to increase rigidity and facilitate production assembly operations. The material thickness of the trigger guard plate has been increased from .050" to .080" and the width has been increased from .625" to .750" for the same reason.

The latch spring may require modification to optimize latch opening force. This remains to be determined. The modifications should be limited to a material thickness change and/or a slight change in shape.

It has been demonstrated that brazing the trigger guard to the trigger guard plate plays a major role in preventing floor plate opening. This operation would be difficult to perform in production so an alternative method of maintaining a tight joint is being pursued. This involves an interference fit that can be easily monitored by the final assembler.

Finally, a sensitivity analysis is in process that addresses each of the factors that has at one time or other appeared to contribute to the problem. These factors are shown on Exhibit II.

- Opening Force: The opening force required to disengage the latch should be in the neighborhood of 7 lb. minimum. This requires additional verification.

- Latch Coverage: A minimum of 50% latch coverage on the floor plate cover must be maintained.

- Bedding of Assembly to Stock: The amount of contact between the assembly and the stock has proven to be an insignificant factor. This fact may allow for a more positive method of maintaining latch coverage at final assembly with the use of spacers.

- Tightness of Trigger Guard: Tests so far indicate that this may be one of the most important factors. The joint between the front of the trigger guard and the trigger guard plate must be tight.

- Angle at the Rear of the Guard Bow: Variations in this angle within a wide tolerance band have proven to be insignificant.

- Clearance Between Floor Plate and Stock: This is still in test.

- Soft vs. Heat Treated Bow: The trigger guard must be heat treated to prevent the interference fit from becoming loose during customer use and to prevent distortion if the gun is dropped or bumped. Soft trigger guards are easily distorted with rough handling.

- Floor Plate and Latch Design: It has also been demonstrated that bending the assembly to establish latch coverage at final assembly is an unsatisfactory procedure since the bent part does not maintain its shape or location.

  At the conclusion of the sensitivity analysis, a sample of 25 guns will be assembled by Research and tested to verify the findings. Pending satisfactory results and no complications, our earliest transmittal date for the revised design is June 10.

Production Comments

Production is continuing on the Model Seven in the .222, .243, and 6mm calibers. At the current rate of production, 1983 demand requirements for these calibers will be completed by about September 1. Production for the remainder of the year will build 1984 inventory.

The best case situation to resolve the floor plate opening malfunction would be a design change allowing production to start assembly of the 7mm-08 and .308 by September 1. This would permit continuous production against 1983 requirements. To accomplish this, design release would be required no later than mid-June 1983.

The worst case would be a major design revision entailing the use of die cast or investment cast components. This would require six to nine months to complete after release of the design. The casting schedules are based on a best effort basis by the vendors.

Based on the latest information from Research, Production will follow these steps to institute the design changes to the Model Seven LWT rifle.

One hundred to two hundred rifles will be assembled utilizing trigger plate assemblies fabricated from heavier stock. These trial and pilot parts will be made on temporary vendor tooling. All of the critical dimensions and performance characteristics will be checked on vendor and production parts to verify vendor and process controllability.

The rifles will be assembled and the critical factors from Research's sensitivity analysis will be checked. The rifles

will be tested in the Gallery and turned over to Research for product verification testing.

With positive test results, the vendors will develop permanent tooling and start running production quantities of parts. Initial production of rifles would start in September.

Marketing Comments

When the Model Seven was announced, we provided estimated availability dates by caliber to the trade through the field force. The full line catalog also contained these dates to advise retail customers when the various calibers would be available. The .308 and 7mm-08 were originally scheduled for January and March respectively. With the production delay on these calibers, it will be necessary to notify our customers of the revised availability dates.

Should the delay be three months, the field and our distributors will be contacted and advised of the new delivery date. Under these conditions no significant increase in distributor orders for 7mm-08 and .308 can be expected prior to initial delivery. A forecast reduction will be necessary.

A comparison of orders and shipments indicates that 45% of total orders are 7mm-08 and .308. A three month delay would place initial shipments of these calibers in September. There would be approximately 30 days available to ship the 8,000-9,000 current orders prior to the start of fall hunting seasons. Production planning estimates this quantity represents in excess of two months' production. Beyond September, distributors will not take in sizeable firearms shipments and some cancellations are expected. We estimate lost sales at 5,000-6,000.

In the event of a delay in excess of three months, product would not be available to the trade in advance of the hunting season. In this case, 45% of the Model Seven forecast would be lost for 1983. We would make every effort to write additional business for the three calibers in production. If we were successful in selling 3,000-4,000 additional rifles, the reduction in forecast would be approximately 10,000 guns. If there is an extended delay, it will be necessary to advise the field force and our distributors. In addition, a public relations release would be required to update the status of the Model Seven. (See Chart III.)

EXHIBIT I

MODEL SEVEN

SHORT TERM MODIFICATION

- HEAVIER MATERIAL
- WIDER TRIGGER GUARD BASE
- MODIFIED LATCH SPRING
- INTERFERENCE FIT
- SENSITIVITY ANALYSIS

SCHEDULE

- DESIGN TESTING - JUNE 8
- TRANSMIT DESIGN REVISION - JUNE 10

EXHIBIT II

MODEL SEVEN

SENSITIVITY
ANALYSIS

1)	OPENING FORCE	Min. 7 lb.
2)	LATCH COVERAGE	Min. 50%
3)	BEDDING - ASSY. TO STOCK	Insignificant
4)	TIGHTNESS OF TRIGGER GUARD	Must be tight
5)	ANGLE AT REAR OF GUARD BOW	Insignificant
6)	CLEARANCE BETWEEN FLOOR PLATE & STOCK	?
7)	SOFT vs. HEAT TREATED BOW	Heat Treated

Cannot bend to adjust for coverage

EXHIBIT III

MODEL SEVEN ORDERS & SHIPMENTS
(Total Company 5/9/83)

	Orders	% of Total	Shipments	% of Orders	Balance to be Shipped
222	2,213	11.3	--	--	2,213
243	6,529	33.2	3,069	47.0	3,460
6mm	2,048	10.4	1,257	61.4	791
7mm-08	2,875	14.6	--	--	2,875
308	5,973	30.4	--	--	5,973
TOTAL	19,638	100.0	4,326	22.0	15,312

- Total orders (19,597) are 68.5% of Forecast (28,605).
- 45% of orders are 7mm-08 and 308 (8,833).
- Total Forecast for 7mm-08 and 308 = 12,925
- Probable loss of 5,000-6,000.

Opens Mtg
10/27/83

MODEL 7 CAL. .308 AND 7MM-08

Production Comments

Designs have been transmitted and the casting supplier has started die fabrication.

Samples are expected the week of February 3 and Trial and Pilot machining operations will begin immediately upon receipt. Tool delivery will be a key factor in timely completion of the Trial and Pilot phase. Each tool will be individually prioritized by need date before submitting to Purchasing for handling.

If the design is confirmed by Research, production to the warehouse will commence in July, 1984.

Addendum L

Comments:

- Both designs are successful thus far and cost nearly the same.
- Production estimates trial and pilot for either design can be completed by January 1984.

  Action: Committee requests the Model 1100 12 Gauge Special Field not appear in the 1984 firearms catalog.

Reference: Research and Production comments and exhibits in Addendum G.

Item: Model Seven Calibers .308 and 7mm-08

Problem: Premature opening of floor plate in heavy calibers.

Impact: Delay shipment of these products until second quarter, 1984.

Solution: Aluminum floor plate and trigger guard assembly.

Status:

- Sensitivity tests of new design commenced on caliber .308.
- First steps of design review started by Production.
- Casting dies and sample parts ordered for trial and pilot.
- Production to warehouse targeted for second quarter, 1984.

  Action: Committee requests the Model Seven in caliber .308 and 7mm-08 not appear in the 1984 catalog.

Reference: Research and Production comments in Addendum H.

GENERAL

Item: Cut Checker Capacity

Objective: Determine cut checkering capcity needs relative to the No. 1-1984 Sales Forecast and planned new product programs.

Status: Production is pursuing equipment manufacturers' quotes expected by 10/15/83.

Opens Mtg
9/14/83

KEY ISSUES

#2 - ACHIEVE 30% RETAIL MARKET SHARE

MODEL SEVEN CALIBERS .308 and 7mm-08

Production Comments

Advance prints of the new aluminum trigger guard components were received in early July. Proposed processing techniques were developed and reviewed with Research to refine both the design and the process. the casting supplier was also consulted to assure that the design was producible on a continuing basis, and that gauging characteristics and quality criteria were realistic. This is the first step of the design review to insure the parts will perform as intended. A purchase order has been placed for casting dies and sufficient sample parts to support trial and pilot operations.

Tooling lead times have extended since mid-summer, creating a tight schedule for second quarter warehouse date. Trial and pilot completion is contingent on timely tool deliveries and acceptable die castings on the first attempt by the vendor.

Production quantities to the warehouse could start approximately 8-10 weeks after completion of design confirmation testing by Research (Exhibit 1).

Research Comments

Ten prototype aluminum trigger guards and covers will be completed the week of September 19 for assembly. Complete .308 caliber rifles with the prototype trigger guard assemblies will be furnished to the test lab for sensitivity the following week.

Drawings of this trigger guard and cover were transmitted to the plant on September 1. The stock drawing and other component required for this change will be transmitted to the plant the last week of September.

MODEL SEVEN LIGHTWEIGHT ALTERATIONS
IMPLEMENTATION SCHEDULE

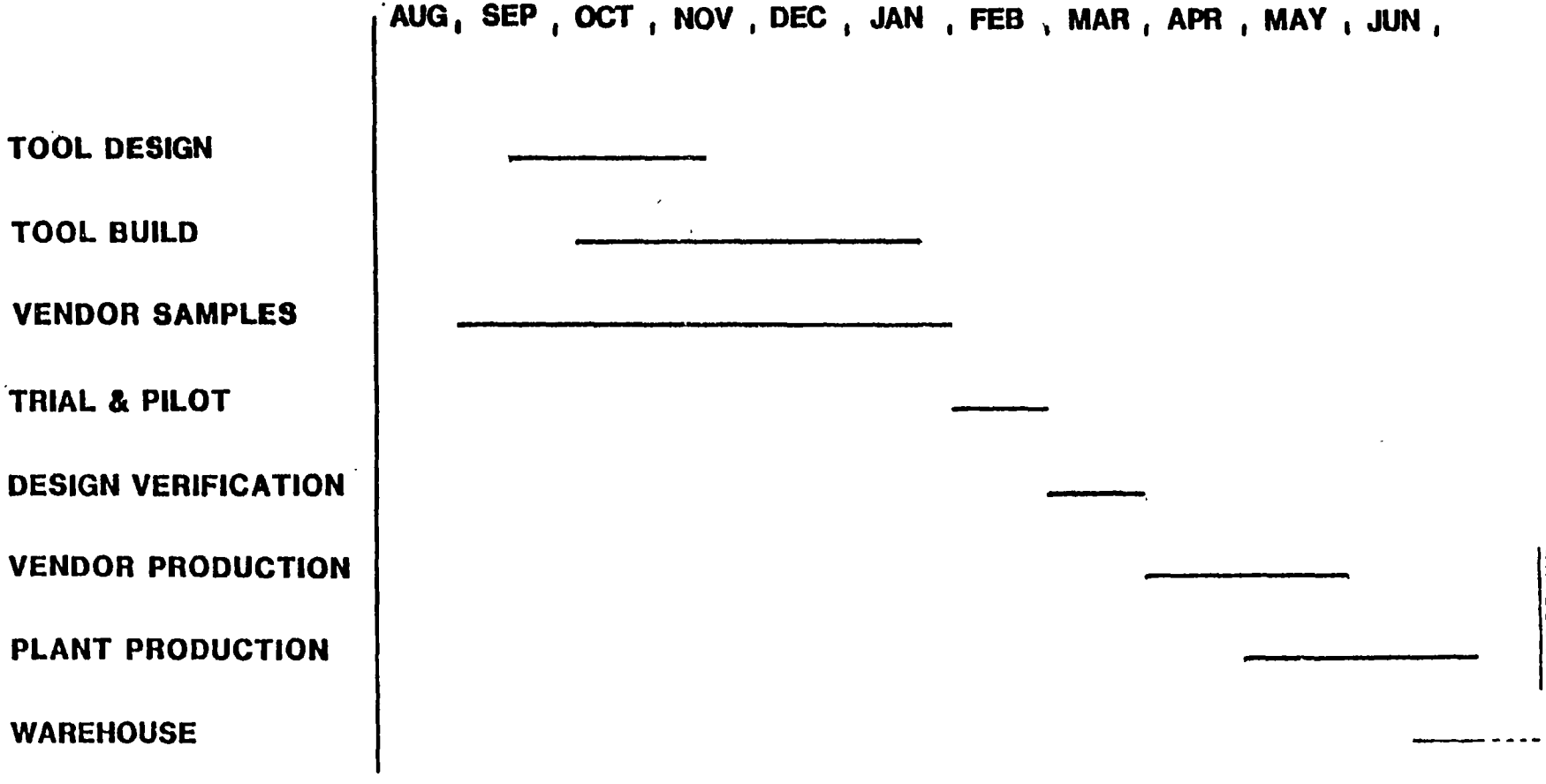


EXHIBIT 1

File
M1 Seven

8-19-83
J.W. BROOKS

MODEL SEVEN LIGHTWEIGHT

(Decision of Operations Committee to use
Aluminum Trigger Guard - 6-83)

ITEMS TO COMPLETE	COMPLETED BY
o Casting Drawing Dimensioning decisions	8-25
o Drawings completed and send to vendor	9-1
o 12 model prototypes complete -(trigger guards)	8-31
o Stocks complete (M. Monteau for program - Parker for complete Stock)	
o Trigger Guard screws (if needed)	
o Sensitivity test (Use .308 Cal.) (10 Models) (Design verification)	
o Design verification - 7mm-08 (5 models)	
o Pre-transmittal Field review 5 - .308 Cal. and 5 - 7mm-08 Cal.	
o Transmittal drawings and parts list	
o Post transmittal Field review (Same rifles used in pre-transmittal review)	

8-19-83
J.W. BROOKS

MODEL 870 LOW COST

ITEMS TO COMPLETE	COMPLETED BY
o Receive report on ejection testing of 2 3/4 shells from 3" chambers	8-24
o Larger test sample on ejection testing of 2 3/4 shells from 3" chamber (Std. 2 3/4 control Extractor clearance)	9-15
o Decision on ejection tests	9-22
o Rollmarking required on Receiver and Barrel. (Marketing)	8-25
o Build 10 models	
o Pre-transmittal field review	
o Transmittal of drawings and parts list	

8-19-83
J.W. BROOKS

MODEL 700 LOW COST

ITEMS TO COMPLETE	COMPLETED BY
o Receive report on 10 gun function test on .243 caliber	8-18
o Redesign and retest magazine, follower, spring and spacer (or other options)	
o Rollmarking of Barrel and Receiver (Marketing)	8-25
o Complete drawings and parts list (preliminary drawings and parts list to Process)	9-2
o Test rifles with M/788 Rem. sight and M/700 front sight (100 Gr. Bullets) P.O. I. - 243 ready for test 8-26	9-16
o Build models 5-270 5-30-06	
o Design verification (270, 30-06)	
o Design verification (.243)	
o Pre-transmittal Field Review	
o Transmittal drawings and parts list	

8-19-83
J.W. BROOKS

MODEL 870/1100 WATERFOWL

ITEMS TO COMPLETE	COMPLETE BY
MODEL 870	
o Model requirement agreement (Marketing)	8-15
o Design verification (5 Models)	
o Build 10 models	
o Pre-transmittal Field Review	
o Transmittal of drawings and parts list	
MODEL 1100	
o Model requirement agreement (Marketing)	8-25
o Test 5 models (does parkerize effect function)	
o Build 25 models	
o Design verification (25 models)	
o Pre-transmittal (10 models) (Use 10 from above)	
o Transmittal of drawings and parts list	

8-19-83
J.W. BROOKS

MODEL 700 CLASSIC .338 MAG.

ITEMS TO BE COMPLETED	COMPLETED BY
o Build 5 models (Need new Mandrel and Chamber reamer)	
o Design verification	
o Transmit drawings and parts list	

8-18-83
J.W. BROOKS

MODEL 870 COMPETITION TRAP SET

ITEMS TO COMPLETE	COMPLETED BY
o New Stock	
o Field test of 16 yd. Barrels (Marketing)	
o Packaging	
o Transmittal of drawing and parts list	

8-19-83

J.W. BROOKS

MODEL 1100 LOW COST

ITEMS TO COMPLETE	COMPLETED BY
o Define model requirements	
o Build 5 models (each gauge)	
o Design verification (5 models)	
o Pre-transmittal Field Review (10 models - any mix)	
o Transmit drawings and parts list	
o Post transmittal Field Review (10 models - any mix)	

Copy to Evan Ritchie -
Please include in a
future warehouse audit.
File - M/Seven.
xc: R.A. Murphy

RD-69-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DU PONT PETERS DU PONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
December 8, 1983

TO: J.W. BOWER

FROM: J.A. LAWRENCE JL

SUBJECT: MODEL SEVEN SAFETY BUTTON,
BOLT PLUG CONTACT

This morning Bill Warren informed me that the safety button is contacting the bolt plug on the Model Seven rifle in approximately 60% of the guns inspected in a Warehouse Audit, comprised of all of October production and all .223 cal. Model Sevens.

Testing in P E & C has indicated that this situation does not pose a problem with the proper operation of the safety. However, it does create unsightly lines on the bolt plug that are astatically unacceptable. aesthetically

Bill feels the contact is a result of using the Model 700 projection welding fixture (used to weld the safety button to the safety lever) instead of the Model Seven fixture. This cants the safety button allowing it to contact the bolt plug. Bill's opinion is, there is no reason to believe the correct fixture was ever used, indicating all Model Sevens may be affected by this contact.

Bill assured me that the correct fixture will be used for all Model Seven safeties manufactured in the future. All Model Sevens previously manufactured will be screened for contact before shipments are made, pending a decision on what to do with the contact situation on the existing rifles.

JAL:js

File
M/Seven

RD-49-B

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Xc: J. W. Bower
J. A. Lawrence

Remington DUPONT PETERS DUPONT

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

December 12, 1983

TO: W. A. WARREN

FROM: R. S. MURPHY RSM

SUBJECT: MODEL SEVEN BOLT PLUG/SAFETY BUTTON CLEARANCE

Based on Fred Martin's layout of the Model Seven, the clearance between the bolt plug and the safety button can range from +.037" to -.008". This represents a .045" range with a mean figure of +.0145.

RSM:ws
Ilion Research Division

Loading For Th

BY CLAY HARVEY

The current craze in rifles is the trend toward the lightweights. Clay Harvey secured a batch of them and worked up 41 handloads in five calibers in an effort to expose some of the more popular misconceptions.

e Lightweights

(Turn Page For Story)

SPECIAL RELOADING REPORT

LIGHTWEIGHT hunting rifles are making a strong comeback. It's a good thing. Within given and easily established parameters, the lighter the hunting gun the better. The current crop of airweight rifles includes notables like the Remington Model Seven, the Winchester Model 70 Featherweight, the Ruger Model 77 International and Ultra Light, the Smith & Wesson Classic Hunter, and the new Browning BBR short action.

Actually, some of the rifles in this group are not as lacking in heft as you might think. The two Rugers and the Remington Model 7 are the only true lightweight models, although the others are lighter than the standard rifles offered by the same firms. In addition, the Winchester, Browning, and Smith & Wesson carry normal-length barrels of 22 inches, although barrel *contours* are slimmer than usual. The Ruger International and the Remington Seven both sport 18.5-inch barrels; the Ruger Ultra Light has a 20-inch tube.

Various misconceptions have slipped into the public's mind over the years, many of them concerning the handloading and accuracy aspects of light, short-barreled rifles. Here's a sampling: short-barreled rifles are less accurate than their standard-length counterparts; light, "whippy" barrels do not shoot well, regardless of length; Mannlicher-style or full-stocked rifles will not shoot well; short-tubed rifles lose so much velocity that the resulting ballistics are inadequate for hunting; if you must use a short-barreled rifle, you should burn a fast-burning rifle powder in an effort to salvage as much velocity as possible.

In order to demonstrate the fallacies of each of these "truisms," I secured a representative batch of test rifles from several manufacturers. All had trim, whippy barrels, and one was full-stocked. The guns and calibers were: Remington's Model Seven in 6mm Remington, Ruger's International in .250-3000, U.S.R.A.'s Winchester Model 70 Featherweight in 7x57 Mauser, Smith & Wesson's Classic Hunter in .243 Winchester, and Browning's BBR in 7mm-08.

Let's expose some myths . . . .

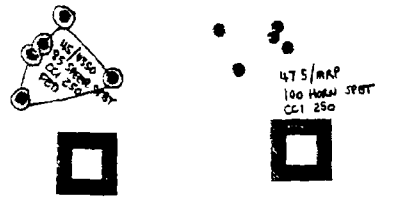
Inaccurate Short Barrels

You can decide for yourself whether my short-barreled test rifles were inaccurate, but let me point out a few facts. Competitive benchrest shooters have proven short tubes are accurate – *more* accurate than longer, less-rigid barrels. Remington's 40X-BR bench rifles are sold with 20-inch barrels and used to win the NBRSA's Light Varmint classes regularly. (Remington also makes a 24-inch 40X-BR, but it is designed for the Heavy Varmint class and is no more accurate than the 20-incher.)

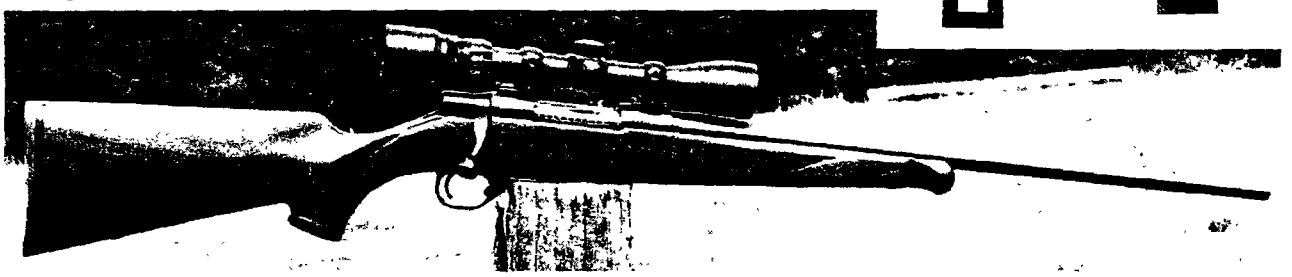
Remington's short-tubed Models 600 and 660 of nearly 20 years ago were noted for their accuracy, particularly in .222 Remington. That same firm markets a handgun (the XP-100) based on the identical action which has a 10.5-inch barrel and will group five shots inside one inch with good loads and a practiced hand. That's better than 99 out of 100 sporter-weight rifles – regardless of barrel length or configuration.

My Remington Model Seven in 6mm was tested with five handloads and two factory loads. Of the seven loads, only three would not group under two inches for five-shot strings at 100 yards; those three averaged around 2¼ inches. The best load in my 6mm consisted of the Hornady 75-grain hollowpoint varmint bullet and 46.0 grains of Winchester W760 powder. The average for three five-shot groups was 1.55 inches. Next best was a mild load of 36.0 grains of IMR-3031 and the Speer 80-grain soft-point. Groups ran 1.70 inches, although the velocity was low. Bumping the charge level to 39.5 grains kicked the muzzle speed up to 3060 feet per second (fps), turning it into an acceptable load for varmints.

The overall average of all the loads tried, good as well as mediocre, was a tidy 1.95 inches. No groups were dis-



These groups are typical of accuracy achieved with S&W 1700LS. Group on left: 1.59 inches; one on right: 1.20 inches.



S&W Model 1700LS
.243 Winchester

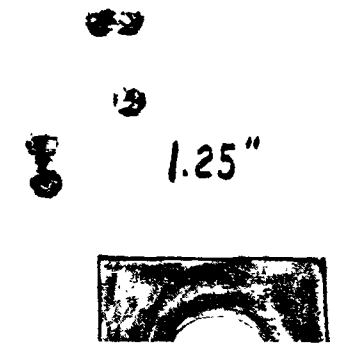
Bullet	Powder (Type)	Powder (Grs.)	Primer	Case	Muzzle Velocity (fps)	Muzzle Energy (ft./lbs.)	Extreme Spread	Standard Deviation	Group Average* (Inches)	Remarks
Hornady 75-gr. HP	MRP	50.2	8½-120	Fed.	3290	1800	47	20	1.96	Fastest load tested
Hornady 75-gr. HP	H380	40.0	8½-120	Fed.	2957	1455	94	44	1.92	Mild load
Speer 85-gr. SPBT	IMR-4350	45.0	CCI 250	Fed.	3110	1822	61	24	1.34	Most accurate load tested
Sierra 100-gr. SPBT	IMR-3031	35.5	CCI 200	Fed.	2779	1715	36	14	1.76	Consistent velocity
Sierra 100-gr. SPBT	IMR-4350	42.0	CCI 250	Fed.	2837	1787	97	38	1.62	
Hornady 100-gr. SPBT	MRP	46.0	8½-120	Fed.	2935	1912	42	17	2.21	
Hornady 100-gr. SPBT	MRP	47.5	CCI 250	Fed.	2960	1945	55	24	1.59	Fine deer load; accurate
Federal 80-gr. PSP		Factory Load			3200	1815	67	27	1.42	Very accurate
Hornady 100-gr. SPBT		Factory Load			2700	1619	25	10	1.74	Accurate and consistent

NOTES: Loads were chronographed with an Oehler Model 33 Chronotach/Skyscreen system. The rifle has a 22-inch barrel.
*This is the average for two or three five-shot groups, benchrest, 100 yards. Overall average for all loads tested was 1.73 inches.

Remington Model Seven
6mm Remington

Bullet	Powder (Type)	Powder (Grs.)	Primer	Case	Muzzle Velocity (fps)	Muzzle Energy (ft./lbs.)	Extreme Spread	Standard Deviation	Group Average* (Inches)	Remarks
Hornady 75-gr. HP	W760	46.0	Rem. 9½	Fed.	3200	1702	94	37	1.55	Most accurate load tested
Speer 80-gr. SP	IMR-3031	36.0	Fed. 210	Fed.	2880	1474	102	46	1.70	Second most accurate; mild
Speer 80-gr. SP	IMR-3031	39.5	CCI 200	Fed.	3060	1663	81	33	2.27	Do not increase
Sierra 85-gr. HPBT	H205	47.0	CCI 250	Rem.	3135	1851	62	23	2.24	Good velocity
Speer 85-gr. SPBT	IMR-4350	45.7	8½-120	Fed.	3125	1839	82	34	2.29	
Federal 80-gr. SP		Factory Load			3213	1830	82	32	1.73	Most accurate factory load
Remington 80-gr. SP		Factory Load			3320	1954	74	32	1.87	Fine varmint load; very fast

NOTES: Loads were chronographed with an Oehler Model 33 Chronotach/Skyscreen system. The rifle has an 18.5-inch barrel.
*This is the average for three five-shot groups, benchrest, 100 yards. Overall average for all loads tested was 1.95 inches.



Model Seven 6mm produced this group. The load: 46.0 grains of W760, Hornady 75-grain HP, Rem. 9½ primer, Federal case.

counted due to flyers, conditions, or phase of the moon. The most accurate rifle tested had a longer barrel, but it averaged only a couple of tenths better than the Remington.

The short Model Seven will shoot.

Inaccurate Mannlicher-Style Rifles

I saved my other shorty, the Ruger International, for this section. Certainly the stubby 18½-inch barrel didn't affect accuracy. The Ruger was as accurate as the Remington with its best load. More importantly, the wood-to-muzzle mode didn't appear to hurt it much.

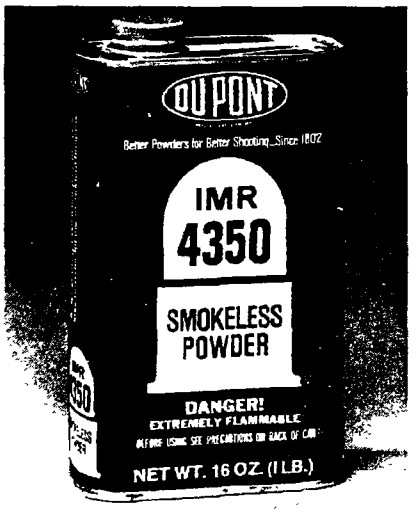
My first experience with a full-stocked rifle came in the mid-1970s, when I used a Harrington & Richardson Model 301 fabricated by H&R on a Sako action with a 20-inch Douglas barrel and put up in a Fajen Mannlicher stock. Chambered for the .308 Winchester, it would group five shots under 1½ inches all day with four different loads in three bullet weights from four manufacturers. Its worst performance was a 2.11-inch average with one factory load.

Not quite as accurate as the H&R, my test International in .250 Savage clustered three five-shot groups into 1.55 inches with the Remington 100-grain factory softpoint. Its pet handload, 40.0 grains of Hodgdon's H205 under the Speer 100-grain hollowpoint, would not group any better, but it was 155 fps faster. The runnerup handload was the same charge of H205 pushing the Nosler 100-grain solidbase (with groups running 1.75 inches).

A fine varmint load for the International was 41.5 grains of Winchester W760 and the Sierra 87-grain softpoint. Velocity was over 2900 fps, despite the abbreviated barrel, and accuracy was 1.87 inches. A real fine load.

The petite Ruger showed a 2.40-inch overall average for all loads tried (nearly 30 five-shot strings).

Inaccurate? Hardly.



IMR-4350 was the propellant author used most frequently in his testing.

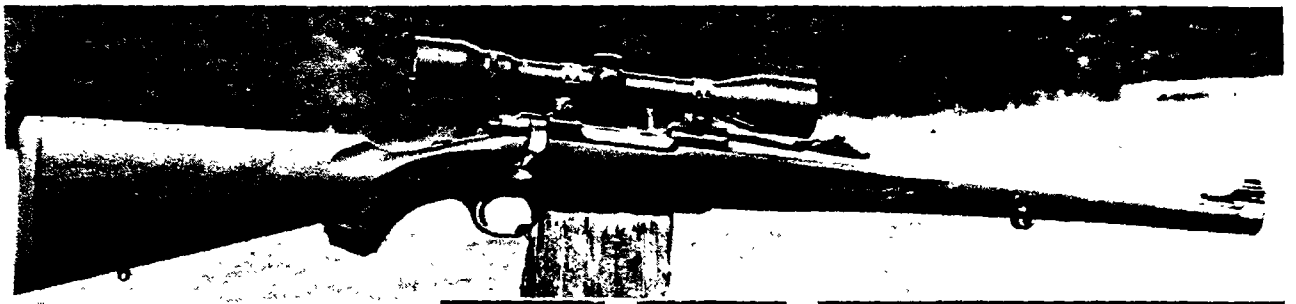
Inaccuracy Of "Whippy" Barrels

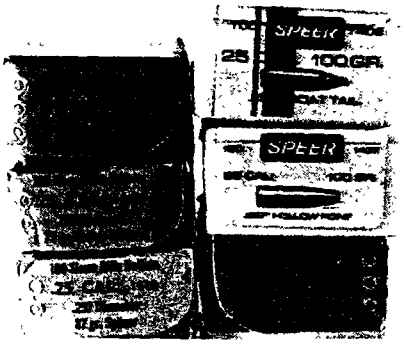
All five test guns had thin, whippy barrels. Naturally, the longer the barrel, the more whip it has, given a basic tube profile. Following this logic, none of my long-barreled test guns should have grouped well or consistently. I miked the muzzle diameters of all five guns, and none exceeded .56 inch. If a barrel can be described as whippy, my rifles certainly met the criteria. Were they inaccurate? Not so you'd notice.

The Smith & Wesson Classic Hunter, designated the Model 1700LS, was the most accurate of the batch when best loads are considered, but only by a very small margin over the Model 70 Featherweight. The Smith favored the Speer 85-grain softpoint boattail pushed by 45.0 grains of DuPont IMR-4350 and sparked by a CCI 250 primer. Groups ran 1.34 inches, and the muzzle velocity exceeded 3100 fps. The next best handload was 47.5 grains of Norma MRP and the Hornady 100-grain softpoint boattail for a 1.59-inch average. The reliable Federal 80-grain softpoint factory load averaged 1.42 inches for three five-round strings.

The Classic Hunter's overall average from its *lightweight, whippy, inaccurate* barrel was only 1.73 inches. Best of the batch. I have fired a bunch of heavy, stiff, "accurate" barrels into averages much larger than this figure.

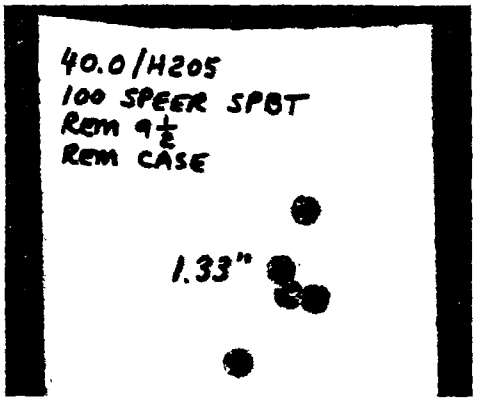
The Model 70 Featherweight was al-





These .25-caliber bullets were tested in Ruger M77 International.

Author uses lightweight CF rifles for varmint hunting.



This group is typical of accuracy Model 77 International is capable of producing.

Ruger Model 77 International
.250-3000 Savage

Bullet	Powder (Type)	Powder (Grs.)	Primer	Case	Muzzle Velocity (fps)	Muzzle Energy (ft-lbs)	Extreme Spread	Standard Deviation	Group Average (inches)	Remarks
Sierra 75-gr. HP	H380	40.3	Rem. 9½M	Win.	3055	1555	114	42	3.71	Fastest load tested
Speer 87-gr. SP	IMR-3031	34.5	CCI 200	Win.	2812	1528	92	33	2.35	
Sierra 87-gr. SP	W760	41.5	Fed. 210	Win.	2902	1627	42	17	1.87	Very accurate and fast
Sierra 90-gr. HPBT	IMR-4350	41.0	Fed. 210	Win.	2875	1652	44	17	2.55	
Sierra 90-gr. HPBT	W760	41.4	Rem. 9½M	Win.	2990	1787	63	23	3.29	Very high velocity
Sierra 90-gr. HPBT	H205	42.0	CCI 200	Win.	2920	1704	19	7	2.02	Extremely consistant
Speer 100-gr. SPBT	W760	40.0	Fed. 210	Win.	2875	1835	31	13	2.88	Very high muzzle energy
Speer 100-gr. HP	W760	40.0	Rem. 9½	Win.	2838	1788	29	10	3.81	Consistent velocity
Speer 100-gr. SPBT	H205	40.0	Rem. 9½	Rem.	2715	1639	91	38	1.96	Accurate
Sierra 100-gr. SP	H205	40.0	Rem. 9½	Rem.	2717	1640	70	26	1.90	Accurate
Speer 100-gr. HP	H205	40.0	Rem. 9½	Rem.	2745	1673	89	37	1.55	Most accurate handload
Nosler 100-gr. SB	H205	40.0	Rem. 9½	Rem.	2733	1659	39	18	1.75	Very accurate
Remington 100-gr. PSP		Factory Load			2590	1489	65	25	1.55	Extremely accurate

most as good with its favored load, printing a tight 1.38-inch average when fed Hodgdon's H4831 in a 51.0-grain dose and plugged by the streamlined Sierra 160-grain softpoint boattail. Speeds ran 2608 fps on my Oehler Model 33 Chronotach. Bridesmaid was the same charge and powder pushing the Nosler 162-grain solidbase, with groups running 1.72 inches for the average.

Both the Remington and Federal 140-grain factory loads grouped around 1⅝ inches (five shots) which is very good. Muzzle speeds with the factory ammo were in the 2600 range. Overall average for the Featherweight was 2.21 inches.

The new BBR 7mm-08 dumped group after group under two inches, its best going 1.63 for the average. The load: Speer 115-grain hollowpoint, 46.0 grains of IMR-4064, CCI 200, and a Remington case. (I've used the same load in my Model Seven 7mm-08, and it is also this gun's preferred load.) Muzzle speed is 3100 fps in the Browning, making it a crackerjack varmint load.

The second-place load in the BBR was 43.3 grains of Hodgdon H380 and the Nosler 140-grain Partition. It printed just under 1¾ inches. The overall average for the Browning was 2.33 inches.

These five rifles, waspish barrels and all, averaged 1⅝ inches *or less* with their favorite loads. Two of the five printed just over 1½ inches, and two of them would go approximately 1⅜ inches.

Short-Barrel Velocity Loss

Many sage and otherwise knowledgeable shooters think the velocity loss necessitated by abridging a rifle barrel renders the gun useless as a hunting tool. Let's examine this view and see if it will hold up.

My short-tubed Remington Model Seven clocked 3320 fps with the Remington 80-grain softpoint factory load. A Remington Model 700 Varmint Special I tested averaged 3346 fps from the 80-grain Power-Lokt. I realize this is a

Winchester Model 70 Featherweight 7x57 Mauser

Bullet	Powder (Type)	Powder (Grs.)	Primer	Case	Muzzle Velocity (fps)	Muzzle Energy (ft./lbs.)	Extreme Spread	Standard Deviation	Group Average* (Inches)	Remarks
Hornady 139-gr. SPBT	IMR-4320	45.0	Rem. 9½	Rem.	2920	2631	39	15	2.29	Best deer/antelope load
Nosler 140-gr. SB	IMR-4064	41.8	Rem. 9½	Rem.	2705	2274	52	18	3.31	
Speer 145-gr. HPBT-M	H414	48.4	CCI 200	Win.	2795	2515	27	11	2.86	Excellent velocity
Sierra 150-gr. HPBT-M	IMR-4350	46.0	Rem. 9½	Rem.	2595	2243	61	23	2.10	
Nosler 150-gr. Partition	H4831	52.3	Rem. 9½	Rem.	2677	2386	55	22	2.98	Good velocity
Sierra 160-gr. SPBT	H4831	51.0	CCI 200	Win.	2608	2416	65	24	1.38	Most accurate load tested
Nosler 162-gr. SB	H4831	51.0	CCI 200	Win.	2510	2266	61	21	1.72	Accurate
Remington 140-gr. PSP		Factory Load			2595	2093	68	27	1.65	Very accurate
Federal 140-gr. PSP		Factory Load			2613	2122	63	22	1.62	Most accurate factory load

NOTES: Loads were chronographed with an Oehler Model 33 Chronotach/Skyscreen system. The rifle has a 22-inch barrel.
*These are the average for two to four five-shot groups, benchrest, 100 yards. Overall group average for all loads tested was 2.21 inches.

different load fired in a different gun, but consider this: my Model Seven is only 26 fps slower with a load comparable to one fired in a gun sporting a barrel 5½ inches longer!

In a Savage Model 111 .250-3000 with a 22-inch barrel, I clocked 40.0 grains of H205 under the Nosler 100-grain solidbase at 3010 fps. The same load (different lots of components, of course) chronographed 2733 fps in my Ruger International. This represents a loss of 79 fps per inch of barrel. Forty grains of Winchester W760 pushes the Speer 100-grain softpoint boattail to 2875 fps in the International. The same charge behind a Sierra 100-grain softpoint yields 3020 in a 22-inch Ruger Model 77. That figures the loss per inch to 41 fps. An old batch of Winchester 87-grain softpoints reaches only 2830 fps in the 22-inch Ruger; the identical load (from the same box) clocks 2712 in the International for a 34 foot-per-second/per-inch deficit.

While these numbers aren't exactly insignificant, they certainly aren't alarming. In a rifle to be used primarily for whitetail or black bear hunting, walking after varmints, or scaling precipitous peaks in search of sheep or goats, I'll gladly trade 35 to 50 fps of velocity per inch of barrel for the added convenience (less weight).

And how much trajectory disadvantage will you be acquiring? Well, a Nosler 140-grain Partition starting at 2800 fps shows a 23.1-inch drop at 400 yards from a 200-yard zero. The same bullet drops 27.3 inches when kicked off at 2600 fps. This is only 4.2 inches more drop at *400 yards!* Disastrous? No way.

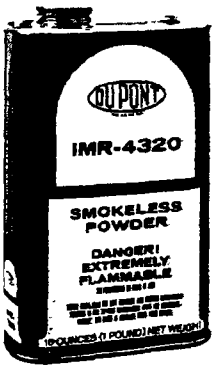
Short Tubes And Fast Powders

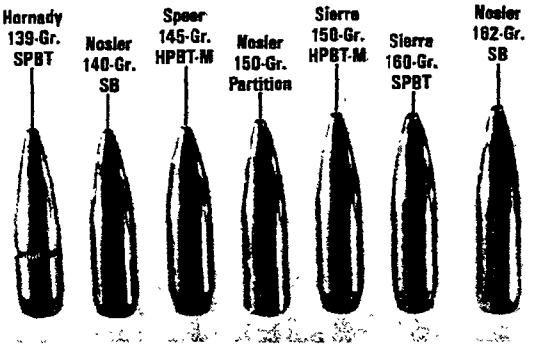
If you must have a short barrel, the savants say, handload it with a fast powder and retain as much of that elusive velocity as possible. Unfortunately, this advice is incorrect. Despite the fact you do realize a more serious velocity loss with a slow propellant than a faster one, the slow burner still provides higher muzzle speeds.

I eased up to maximum in my Model Seven 6mm, starting below and moving up slowly and cautiously with IMR-3031. My top load was 39.5 grains be-

Fastest load in 7x57 Featherweight utilized 45.0 grains of IMR-4320.

Featherweight turned in this group.





Seven bullets were employed in 7x57 Featherweight loads.

Chambered for the 7x57 Mauser, the Winchester Model 70 Featherweight averaged 1.38 inches with its best deer/antelope load.

Browning BBR
7mm-08 Remington

Bullet	Powder Type	Powder (Grs.)	Primer	Case	Muzzle Velocity (fps)	Muzzle Energy (ft./lbs.)	Extreme Spread	Standard Deviation	Group Average* (Inches)	Remarks
Speer 115-gr. HP	IMR-4064	46.0	CCI 200	Rem.	3100	2448	34	15	1.63	Most accurate load; fast
Nosler 120-gr. SB	IMR-4064	44.0	CCI 200	Rem.	2964	2340	45	18	1.91	Okay for varmints
Nosler 120-gr. SB	H380	46.2	Rem. 9½M	Rem.	2820	2119	43	18	1.89	
Sierra 140-gr. SPBT	IMR-4064	42.0	CCI 200	Rem.	2739	2331	73	30	3.31	
Nosler 140-gr. Partition	IMR-4064	42.0	CCI 200	Rem.	2735	2325	78	28	1.98	
Nosler 140-gr. Partition	H380	43.3	Rem. 9½M	Rem.	2580	2069	52	20	1.73	Second most accurate load
Nosler 140-gr. Partition	W760	47.0	Fed. 215	Rem.	2783	2408	31	12	1.79	LOA 2.80; accurate
Nosler 140-gr. Partition	W760	47.0	Fed. 215	Rem.	2809	2452	59	25	3.19	LOA 2.75; note differences
Sierra 170-gr. RN	IMR-4350	42.0	CCI 200	Rem.	2335	2058	93	38	3.29	
Sierra 170-gr. RN	IMR-4831	45.6	CCI 200	Rem.	2453	2273	35	13	2.03	Fine heavy-game load
Remington 140-gr. PSP	Factory Load				2807	2449	62	24	2.89	

NOTES: Loads were chronographed with an Oehler Model 33 Chronotach/Skyscreen system. The rifle has a 22-inch barrel.
*This is the average for two, five-shot groups, benchrest, 100 yards. Overall group average for all loads tested was 2.33 inches.

Speer 115-grain HP and 46.0 grains of IMR-4064 produced Browning BBR's most accurate 7mm-08 load.

hind the Speer 80-grain softpoint. The velocity? A mediocre 3060 fps. The factory-loaded Remington 80-grainer, which uses a powder much slower than 3031, clocked 3320 fps, a full 260 fps more. Burning the slow Hodgdon H205 under the Sierra 85-grain hollowpoint boattail produced 3135 fps, 75 fps higher than the 3031 load and with a bullet five grains heavier.

In the limited-capacity .250-3000, where the quicker propellants look better due to the small case size, a top load of 3031 was 34.5 grains when coupled with the Sierra 87-grain softpoint. Velocity was 2812. Loading the same bullet over 41.5 grains of slow-burning Winchester W760 produced 2902 fps.

The moral of all these figures? If you want high muzzle speeds in cartridges of compatible capacity, use medium/slow to slow-burning powders. Save the quicker propellants for other purposes.

Advantage Of The Fast Burners

Quicker propellants like IMR-3031 and either DuPont or Hodgdon 4895 do have an advantage over the slower stuff for use in a lightweight: they kick less. There are two reasons. First, velocities are not up to those produced by the slower propellants with bullets of the same weight loaded to top pressures; lower velocity yields lower recoil energy, all else being equal. Secondly, from a recoil standpoint, the less powder you use the better.

If you take a rifle and load it to a given velocity and pressure with a certain bullet using two powders of different burning rates, the *faster* propellant will always yield less felt recoil. When figuring the recoil energy of a load, part of the mathematical formula includes the "weight of ejecta." The "ejecta" includes everything coming out of the barrel, including the powder charge. The heavier the charge, the heavier the ejecta. In addition, the powder charge is multiplied by 1.75 to give it greater significance due to the phenomenon known as the "jet effect." This "jet effect" is what happens when the bullet, upon exiting the muzzle, is passed by the hot powder gases it had been preceding down the bore. The gases accelerate so violently the effect is exactly like that of a jet engine and causes the gun to come back into your shoulder with more authority.

So there *is* a viable use for the faster powders after all, particularly in a lightweight rifle, where recoil is more noticeable.

Light rifles can be fired rapidly and comfortably.

Reduced-Load Accuracy

One other "truism" I explored briefly during my firing tests was this old bromide: many propellants do not perform well at reduced levels, most specifically – the ball types. I'm not speaking of loads reduced to the level of small-game application but loads about 10 percent below the maximum working level to make shooting easier on barrel steel and the shooter's shoulder.

The second most accurate load in the Model Seven 6mm utilized such a load (36.0/IMR-3031 Speer 80-grain combination). The load was accurate, pleasant to shoot, and relatively quiet; I wouldn't hesitate to use it as a 200-yard chuck or crow load.

In the Smith & Wesson .243, I tried 40.0 grains of Hodgdon H380, which is a spherical propellant. Hodgdon's manual goes to 43.0 grains with this bullet; the Speer book goes to 44.0 grains with its bullet of the same weight. The Smith grouped it into 1.92 inches. A very pleasant and accurate load, this one would also make a nice 200-yard varmint load.

Lightweights are built for field work.

Light Rifles Are Fussy

One overlooked facet of lightweight rifles is worthy of mention. They are fussy. They respond well to some loads and poorly to others. Only the Smith & Wesson was atypical, shooting nearly everything well. The Smith was not an especially light rifle as .243s go, however, so don't let it cloud your objectivity.

The Model Seven did not shoot drastically large groups, but it did display a distinct preference for certain recipes. Note the 2.29-inch average with the Speer 85-grain boattail, a bullet it didn't seem to like.

The Ruger .250-3000 was a classic case. With the load it favored least, this rifle averaged nearly four inches. Another group went 3.71. Its favored loads cut those group averages by more than half! The Browning was another example. It shot into 1.63 inches with its choice load and 3.31 with its least suitable. Two other loads grouped well over three inches.

Even the Featherweight, which was the heaviest gun of the clutch (despite its extremely slender barrel contour), was fussy, stoutly refusing to shoot well with any handload using a bullet weighing less than 160 grains. I doubt whether its extremely fast twist of 1:8¼ inches was the reason. It shot well with both of the 140-grain factory loads while refusing to group less than 2.06 inches with any of the three heavy-bullet factory loads tried.

* * *

In closing, let me separate the grain from the chaff. When loading for light rifles, choose a fairly fast powder only if you wish to reduce recoil or barrel wear. If you want optimum ballistics from your short tube, forget the fast burners and load the same slow propellants you would choose for a long-barreled rifle.

Don't worry about the accuracy of your short, light, whippy little rifle. If the bedding is okay, it will shoot just fine. You might have to work a tad harder at finding a pet handload, but that's part of the charm. It's worth not lugging a heavyweight around in the deer woods.

NOTE: All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the highest loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and components manufacturers assume any responsibility for the use of this data.

Downrange Ballistics Of Top Loads

Bullet (Caliber)	Velocity (fps) Muzzle	100	200	300	400	Energy (ft/lbs) Muzzle	100	200	300	400	Drop (inches)* 100	300	400	Purpose
Hornady 75-gr. HP (.243)	3300	2960	2639	2342	2069	1814	1459	1160	914	713	+1.3	– 6.3	–19.2	Varmints
Speer 85-gr. SPBT (.243)	3100	2854	2622	2400	2190	1813	1537	1297	1087	905	+1.4	– 6.5	–19.0	Varmints, antelope
Sierra 85-gr. HPBT (.243)	3100	2795	2475	2178	1901	1813	1474	1156	895	682	+1.5	– 7.2	–21.7	Varmints
Hornady 100-gr. SPBT (.243)	2950	2710	2480	2266	2064	1934	1631	1367	1141	947	+1.7	– 7.4	–21.7	Deer, antelope
Sierra 87-gr. SP (.257)	2900	2582	2277	1993	1727	1624	1288	1001	767	576	+1.9	– 8.6	–26.0	Varmints, antelope
Sierra 90-gr. HPBT (.257)	3000	2640	2286	1960	1638	1798	1393	1044	768	536	+1.8	– 8.5	–26.0	Varmints
Speer 100-gr. HP (.257)	2800	2438	2103	1797	1525	1741	1320	982	717	516	+2.2	–10.1	–31.1	Varmints
Speer 115-gr. HP (.284)	3100	2727	2384	2066	1774	2453	1899	1451	1090	804	+1.6	– 7.8	–23.7	Varmints
Nosler 140-gr. Partition (.284)	2800	2586	2383	2192	2011	2438	2079	1766	1494	1258	+1.8	– 7.9	–23.1	Medium big game
Speer 145-gr. HPBT (.284)	2800	2615	2438	2267	2103	2524	2201	1914	1654	1424	+1.8	– 7.7	–22.1	Target, silhouette
Sierra 160-gr. SPBT (.284)	2600	2432	2271	2116	1967	2401	2102	1832	1590	1374	+2.2	– 8.9	–25.6	Big game
Sierra 170-gr. RN (.284)	2450	2173	1915	1691	NL	2267	1783	1385	1079	NL	+2.9	–12.5	NL	Big game in timber

NOTES: Velocities were rounded off for purposes of comparison. See tables for loads. NL: Not Listed.
*Drop was figured for a 200-yard zero and scope 1.5 inches above bore line.

J. Bauer

Murphy
R.S.

REMINGTON ARMS COMPANY, INC.

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RESEARCH TEST and MEASUREMENT REPORT - Report No. 832691

MODEL SEVEN LWT - PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

Prepared by: S.R. FRANZ

Date Prepared: 11/30/83

Proofread and Cleared by:

R.E. Nightingale,
Foreman - Test, Measurement Lab

R.E. Nightingale 12-28-83
Signature Date

C.E. Ritchie, Sr. Supervisor
Testing, Measurement & Mech. Analysis Lab

C.E. Ritchie 12/28/83
Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 832691

REPORT TITLE: PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

MODEL(S): MODEL SEVEN LWT

GAUGE OR CALIBER: .308

DATE: 11/30/83

WORK ORDER NO.: C-1856-000

PART NAME: FLOOR PLATE ASSEMBLY

DESIGNER/ENGINEER: J.W. BROOKS/D.E. BULLIS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST-NO. OF GUNS TESTED _____
3. FUNCTION TEST-NO. OF GUNS TESTED 10
4. ACCURACY TEST-NO. OF GUNS TESTED _____
5. MEASUREMENTS - TYPE Acceleration, Coverage, Opening Force, Screw Torque, Headspace
6. ENVIRONMENTAL TEST COLD
7. AMMUNITION TESTING & EVALUATION-TYPE _____
8. VISUAL EVALUATION _____ OUT OF _____ GUN SAMPLE
9. ENDURANCE-NO. OF GUNS TESTED: 2

NO. OF ROUNDS PER GUN 2,000

TOTAL ROUNDS FIRED IN TEST 4,000

AMMO TYPE: MAGS. _____ TARGET: _____

RIM FIRE _____ CENTERFIRE .308 180 gr.

November 30, 1983

TO: R. NIGHTINGALE

FROM: S.R. FRANZ

REPORT TITLE: MODEL SEVEN LWT PROTOTYPE ALUMINUM FLOOR PLATE SENSITIVITY ANALYSIS

ABSTRACT

A previous sensitivity analysis on the steel floor plate assembly showed that this design was sensitive to a number of variables and dimensions. In order to assure no floor plate openings with this design it would require 100% inspection of all floor plate assembly parts; a very costly and time consuming process. Because of this a new aluminum floor plate assembly was designed that would be cheaper to make and be less sensitive to manufacturing tolerances. (See Appendix for the Floor Plate Assembly Parts List) Prototypes were made and initial testing confirmed that the design was better from a functional standpoint. Production reviewed this design and recommended that some changes be made to allow for their manufacturing process. These design changes were made and 10 prototypes were built and assembled on .308 cal. actions. The Test and Measurement Lab received a work request from D.E. Bullis, Current Firearms Design, to run a sensitivity analysis on these prototype rifles.

SCOPE OF TEST

To determine the sensitivity of the new aluminum floor plate assembly to floor plate openings during live fire.

TEST RESULTS

Testing has proven that the new aluminum floor plate assembly is not as sensitive to floor plate openings as the steel assembly. The Report Text section contains a detailed explanation of the tests that were run as well as their results. Testing did show, however, that a condition exists that could adversely effect the functioning and appearance of the rifle. This condition is discussed below.

TEST RESULTS - Contd.

Initial observations showed that the front trigger guard screw on all 10 rifles interfered with the floor plate when the floor plate was closed. This interference caused the floor plate to bow out. Not only does this detract from the appearance of the floor plate but it also increases the load on the floor plate latch [illegible] which could also increase the sensitivity of the floor [illegible] to floor plate openings because of this additional load. J.W. Brooks and D.E. Bullis were made aware of this condition so that corrective action could be taken. After this condition was found [illegible] heads were filed down to eliminate this interference. The remainder of testing was completed with the filed down screw heads.

Although this testing has proven that the aluminum assembly is a good design we must remember that these were prototype parts machined in the Research N/C area and the Model Shop, not vendor parts handled by production. As soon as vendor parts are received another sensitivity analysis similar to this one will be run to increase our confidence level before production begins with this assembly.

REPORT TEXT

A total of ten newly designed aluminum floor plate assemblies were tested for sensitivity to floor plate openings. Sensitivity to the following parameters were considered:

1. Part Wear (endurance)
2. Guard Screw Torque
3. Fit to Stock (washers)
4. Latch Coverage
5. Opening Force
6. Lubrication
7. Temperature (cold)

In addition, measurements, high speed movies and accelerometer measurements were taken to compare the aluminum to the steel assembly. An explanation of each test and the results follow.

Note: See last page in Appendix for prototype Floor Plate Assembly Parts List.

TEST PROCEDURE

A. Measurements

Before any testing was done some preliminary measurements were taken on all the rifles. A listing of the measurements made and the range of values measured are listed below. (See Appendix for the complete data listing).

Opening Force: 2.25 --- 3.50 lbs.
Latch Coverage: 0.065 -- 0.085
Headspace; min + .004 -- min. +.005 in.
Screw Torque: pre-set at 25 lb-in
Stock to Floor Plate Cover Gap: 0.008--0.031 in.

B. Initial Shooting

After initial measurements all ten rifles had five rounds of Rem. 180 gr. .308 cal. ammo shot through them in the Test Lab jacks. [redacted]

C. Field Cycle Test

After the initial jack shooting all ten rifles were brought up to the Ilion Fish and Game Club for a full field function test. Each rifle was shot a total of 150 rds. of Rem. and Competitive ammo. [redacted]

D. Measurements

The initial measurements were repeated after the Field Test to determine if any changes had occurred. A summary of the results are listed below. (See Appendix for complete data listing.)

Opening Force 2.25 -- 3.25 lbs.
Latch Coverage 0.064 -- 0.084
Headspace: min + .004 -- min. + .005 in.
Screw Torque: front 10 -- 25 lb. - in.
Rear 20 -- 25 lb - in.
Stock to Floor Plate Cover Gap 0.010 -- 0.031 in.

This data shows that the assembly screws did loosen slightly and that the front screw loosened more than the rear. This is explained under the Screw Torque Test.

TEST PROCEDURE - Contd.

E. Part Wear (endurance), High Speed Movies, Accelerometer Measurements

Two rifles were selected from the ten guns supplied for endurance testing. The rifles selected were:

Ser. No. 7603854
Ser. No. 7603221

Both of these rifles were shot 2000 rds. each using Rem. 180 gr. .308 cal. ammo. The floor plates on both rifles were opened and closed every 20 rounds throughout this test. Rifle No. 7603854 had high speed movies taken both before and after endurance. High speeds were taken to determine if the aluminum assembly moves during live firing and to determine if this movement increases as rounds are put on the rifle.

No rifle experienced floor plate openings during shooting. In addition, the high speed movies indicated that the assembly does move slightly downward (out of stock) but that it is considerably less that the steel assembly. There was also no noticeable increase in this movement in the second high speed taken after the 2000 rounds were fired. No floor plate latch movement was detected in either of the high speeds. This indicates that the slight movement of the floor plate housing is not enough to initiate latch movement during live firing. (These high speed movies are available for viewing in the Research Photo Lab.)

Accelerometer measurements were also made to confirm the movement of the floor plate assembly in the stock during live shooting. These measurements were taken with a PCB miniature accelerometer, Model No. 303A02, powered by a PCB power supply, Model No. 482A04. The accelerometer was mounted on the bottom of the floor plate housing to measure vertical acceleration. Similar measurements were also made on a rifle with a steel assembly for comparison. These measurements showed that the aluminum assembly had one-half of the downward acceleration of the steel assembly. This can be seen in the two graphs in the Appendix. These graphs show the Power Spectrum of the acceleration curves in the range of 0-2000 HZ taken with a WaveTek/Rockland Model 5830A Spectrum Analyzer. The graph for the steel assembly shows that the resonant frequency of the floor plate base is 335 HZ and the peak acceleration is 348 g's at this frequency. The second graph shows that the aluminum assembly resonates at approximately the same frequency but the acceleration is approximately half that of the steel assembly.

TEST PROCEDURE - Contd.

F. Guard Screw Torque

The eight remaining rifles were used for this test. Screw Torque was set at seven different values and 20 rds. of Rem. 180 gr. ammo was fired per setting. After every 20 rds. screw torque was checked to determine if the screws had loosened up. [redacted] This seems to contradict an earlier condition where the screws loosened after the field cycle test when they were pre-set at 25 lb-in. The difference between the two is that 150 rds. were fired on the field test and only 20 at the individual settings for this test. It should be stated here that the two endurance guns were fired 2000 rds. each without re-tightening the screws and no floor plate openings occurred. Although it seems that floor plate openings are not sensitive to screw torque, [redacted]

G. Fit to Stock (Washers)

Production has stated that they cannot control the inletting depth for the floor plate assembly in the stock. This is true for all M/700 and Model Seven Lwt Calibers. To compensate for this lack of control they purposely inlet too deep and use spacers between the stock and the floor plate assembly to ensure a good looking fit to the stock. Using spacers in this way changes the interaction between the floor plate assembly and stock because support to the assembly is decreased. This test was designed to determine if this effects the performance of the floor plate assembly. Eight rifles were tested with no spacers and four spacers between the floor plate assembly and the stock. Each spacer was 0.015 in. thick. Twenty rds. of Rem. 180 gr. .308 cal. ammo was fired per condition and no floor plate openings occurred.

H. Latch Coverage

Initial measurements showed that latch coverage for this ten rifle sample was in a range of 0.065 to 0.085 in. Latch coverage was decreased in four steps by filing away the floor plate edge on five rifles until each rifle had 0.005 in. coverage. At each increment 20 rds. of Rem. 180 gr. .308 Cal. ammo was fired. No floor plate openings occurred at any of the latch coverage increments. See data in Appendix.

TEST PROCEDURE - Contd.

I. Opening Force

The same five rifles used for the latch coverage test were used here. Two conditions were tested. 20 rounds of Rem. 180 gr. .308 cal. ammo was shot with the floor plate latch springs at full length and then reshot with the springs cut to 3/4 length. The latch spring could not be cut any shorter than this and still exert a force on the floor plate latch. We considered that a 3/4 length spring would be the worst possible condition that could occur with this design and still allow proper functioning. Latch opening forces were measured for the full length and 3/4 length springs with the cover opened and closed for comparison. These numbers can be seen in the Appendix. No floor plate openings occurred on any of the five rifles with the full or 3/4 length spring. To go one step farther two of the five rifles had their latch springs completely removed and 20 rounds of ammo was shot through each. In this way the only force on the floor plate latch was the force due to the floor plate cover and friction. One rifle opened 1 out of 20 rds. and the other opened 2 out of 20 rds.

J. Lubrication

All firearms should be cleaned and oiled periodically to ensure proper functioning. However the frequency and extent of cleaning depends on the individual. This lubrication test was designed to test the extremes of lubrication on the rifle in the floor plate and latch area. The two conditions tested were with no lubrication at all on the assembly (dry) and with the assembly saturated with Du Pont Teflon wet lubrication. Two Model Seven's were selected for this testing. In addition three competitor's rifles were also tested for controls. These rifles were: Win. M/70 in. .30-06 cal. Browning BBR in .30-06 cal. S&W M/1500 in .30-06 cal.

20 rds. of Rem. 180 gr. .308 cal. ammo was fired per condition in the Model Seven's and Rem. 180 gr. 30-06 cal. ammo was fired in the competitor's rifles. None of the rifles, Model Seven's or competitor's, experienced any malfunctions during this test. Latch opening forces were measured with and without lubrication on all the rifles tested. These measurements show little if any difference in opening forces between the two conditions. This data can be found in the Appendix.

TEST PROCEDURE - Contd.

K. Temperature (Cold)

Firearms are used in all types of climates and temperature extremes. They, therefore, have to operate properly in these conditions. The cold test determines if firearms will operate properly in extremely low temperatures. The same two Model Seven's used in the lubrication test along with the three competitors listed above were stored overnight in the lab's freezer at -30 Deg. F. The following day they were removed and floor plate latch opening forces were measured. Following these measurements 20 rounds of ammo was shot through each rifle. After shooting latch opening forces were measured again. No floor plate openings occurred on any of the rifles. See Appendix for opening force data.

M/ 7 SENS. ANAL.

TESTING SEQUENCE

- o MEASUREMENTS
- o FIELD TEST ALL 10
- o MEASUREMENTS
- o PICK TWO FOR ENDURANCE
- o H.S. ONE ENDUR. GUN
- o ENDUR. 2 TO 2000 RDS.
- o H.S. AFTER ENDURANCE
- o GUARD SCREW TORQUE TEST
- o FIT TO STOCK (WASHERS)
- o OPENING FORCE
- o LATCH COVERAGE
- o 2 GUNS FOR:
  - TEMPERATURE TEST
  - LUBRICATION TEST

APPENDIX

- Measurements
- Field Cycle Sheets
- Endurance Sheets
- Acceleration Data
- Screw Torque Data
- Fit to Stock Data
- Latch Coverage Data
- Opening Force Data
- Lubrication Data
- Cold Test Data
- Floor Plate Assembly Parts List

BEFORE TEST-0 RDS

GUN NUMBER	OPENING FORCE (lb)	COVERAGE (in.)	WOOD/COVER GAP (in)	HEADSPACE MIN+	SCREW TORQ. FRONT.REAR
7604086	4.5	.075	.018	.004	25,25
7604091	2.75	.077	.01	.005	25,25
7603907	3	.066	.018	.004	25,25
7603854	2.5	.073	.008	.004	25,25
7603187	2.75	.068	.016	0	25,25
7604201	3.5	.081	.02	.004	25,25
7604244	3	.065	.016	.005	25,25
7603221	2.75	.068	.03	.004	25,25
7603910	2.25	.085	.031	.004	25,25
7603821	2.5	.075	.016	.005	25,25

AFTER FIELD TEST- 155 RDS

GUN NUMBER	OPENING FORCE (lb)	COVERAGE (in.)	WOOD/COVER GAP (in)	HEADSPACE MIN+	SCREW TORQ. FRONT.REAR
7604086	3.25	.075	.018	.005	20,20
7604091	2.75	.075	.01	.005	10,20
7603907	2.5	.065	.018	.004	18,22
7603854	2.25	.07	.015	.005	16,20
7603187	2.5	.065	.016	.005	20,20
7604201	3.25	.079	.02	.004	20,20
7604244	2.5	.065	.016	.005	15,20
7603221	2.25	.064	.03	.004	25,25
7603910	2.25	.084	.031	.004	19,22
7603821	2.5	.072	.016	.005	18,20

FIELD CYCLE TEST - CENTERFIRE #1 REPROT NO.: 832691 PAGE NO. ____

(No Ft. sight)

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 7604086

TEST TITLE: 7

WEATHER: ____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0%

(1)

"MALFUNCTIONS"

WEAVER - #1 BAGGETTA #2 JENNINGS #3 STEPHENS #4 WILLIAMS #5 AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REDAGGS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
R-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-110-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

"MALFUNCTIONS" MALFUNCTION RATE: _____

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
~~W-150-S.T.~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP	~~8~~	1																										
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180 - S.TIP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
W-200 - S.TIP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
F - 150 - PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 2

MALFUNCTION RATE: 1.33%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
F-165-PROM.BT																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 832 691 PAGE NO. 1

PREVIOUS ROUNDS _____

DATE: 9.28 MODEL: 7 GAUGE: 308 2 SERIAL NO. 7604091

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 2 stems

MALFUNCTION RATE: 1.33%

(2)

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAFFED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
R-180-PSP																												
S	3	5													1 stem													
M	3	5													1 stem													
F	3	5	ok																									
W-110-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BUG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
~~W-150-S.TP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP	X																											
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	HEELAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP	2																											
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-200-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
F-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
F-165-PROM.BT																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 832691 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 #3 SERIAL NO. 7603907

TEST TITLE: ____

WEATHER: ____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 1 stem

MALFUNCTION RATE: 0.67

3

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
R-180-PSP																												
S	4	5	ok																									
M	4	5											1 (2nd)															
F	4	5	ok																									
W-110-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
~~W-150 P.TIP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT TEMPORARILY	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
W-200-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP	1																											
S	~~4~~	5	ok																									
M	~~4~~	5	ok																									
F	~~4~~	5	ok																									
F-165-PROM.BT																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO. 832691 #4 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 760 3854

TEST TITLE: ____

WEATHER: ____

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 0

MALFUNCTION RATE: 0 %

4

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	RELEASES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
R-180-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
W-110-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
~~W-150 S~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
W-200-S.TIP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
F-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

R2530256

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER
KINZER V. REMINGTON

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	HEELAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP	2																											
S	2	5	ok																									
M	2	5	ok																									
F	2	6	ok																									
F-165-PROM.BT																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: 532891 5 PAGE NO.

PREVIOUS ROUNDS

DATE: 9-28-93 MODEL: 7 GAUGE: 308 SERIAL NO. 7603187

TEST TITLE:

WEATHER:

5

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 3 Feeding

MALFUNCTION RATE: 1.3%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ALTERATIONS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
R-180-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
W-110-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BEEBS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP	~~2~~	~~5~~																										
S	3	5	ok																									
M	3	5																14		13								
F	3	5																										
~~W-150-SHIP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
W-200-S.TIP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
F-150-PSP																												
S	2	5	OK																									
M	2	5	OK																									
F	2	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
F-165-REM.BT																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 232691 PAGE NO.

PREVIOUS ROUNDS

DATE: 9-28-83 MODEL: 7 GAUGE: 308 6 SERIAL NO. 7604201

TEST TITLE:

WEATHER:

6

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T KICK BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
R-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-110-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
~~W-150-SMP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP	1																											
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
W-200-S.TIP																												
S	2	5	OK																									
M	2	5	OK																									
F	2	5	OK																									
F-150-PSP																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
TOTAL (PER MAL.)																												

JACK ENDURANCE CENTERFIRE

REPROT NO.: 832691 PAGE NO. 1

W.O. #C-1836-000

DATE: 9-29-83 MODEL: 7 LWT. Caliber ~~CHAMB~~: .308

SERIAL NO. 7603221

HEAD SPACE +.004

PREVIOUS ROUNDS 153

TEST TITLE: ENDURANCE (2000 RDS) m/7 LWT SENS. ANALYSIS (GUN #8)

TTL. RDS. FIRED:

TTL. MALFUNCTIONS:

MALFUNCTION RATE:

"MALFUNCTIONS"

AMMUNITION Load Size R308 W2 150GR. S.P.	SHOOTER	NO. OF ROUNDS FIRED	FIRING	FAILED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	NO
	RH	200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
	RE	200	OK																									
		200	OK																									
		200	OK																									
		200	OK																									
	DB.	200	OK																									
TOTAL (PER MAL.)																												

NOTE: MAG. OPENED & CLOSED EVERY 20 RDS. DURING TEST

JACK ENDURANCE CENTERFIRE

REPROT NO.: ____

PAGE NO. 1

PREVIOUS ROUNDS 155

DATE: 12/6/83

MODEL: 7

Caliber ~~GAUGE~~: 308

SERIAL NO. 7603854

TEST TITLE: Sensitivity Analysis - 2000 RD after Highspeed

TTL. RDS. FIRED: ____

TTL. MALFUNCTIONS: ____

MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	D. B. SHOOTER	NO. OF ROUNDS FIRED	FIRING	MISFEED SHELL	DON'T FIRE	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG.		SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER				SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK)	
								1st LATCH	2nd LATCH				HIGH	LOW	RIGHT	LEFT											YES	NO
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
TOTAL (PER MAL.)																												

JACK ENDURANCE **CENTERFIRE**

REPROT NO.: ____ PAGE NO. 2

PREVIOUS ROUNDS 1155

DATE: 10/7/83 MODEL: 7 CAliber ~~GAUGE~~: 308 SERIAL NO. 7603854

TEST TITLE: Sensitivity Analysis-2000RD after Highspeed

TTL. RDS. FIRED: ____

TTL. MALFUNCTIONS: ____

MALFUNCTION RATE: ____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG.		SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER				SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK)	
								1st LATCH	2nd LATCH				HIGH	LOW	RIGHT	LEFT											YES	NO
	PR	100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
		100																										
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	MISFIRES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-165-PROM.BT																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: 822491 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 7 SERIAL NO. 7604244

TEST TITLE: ____

WEATHER: ____

7

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
R-180-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
W-110-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T SLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
~~W-150-SPP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SEQUENCE	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
W-200-S.TIP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
F-150-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	S	5	ok																									
M	S	5	ok																									
F	S	5	OK																									
F-165-PREM.BT																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REFROT NO.: 832691 8 PAGE NO. 1

PREVIOUS ROUNDS _____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 7603221

TEST TITLE:

WEATHER:

8

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 0
MALFUNCTION RATE: 0%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T FLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st	FEED FROM MAG. 2nd	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
R-180-PSP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
W-110-PSP	5																											
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. ____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
~~W-150-SPP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPORT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	3	5	ok																									
M	3	5	ok																								X	
F	3	5	ok																									
W-200-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
F-150-PSP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ CALIBER: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
F-165-REM.BT																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPRIOT NO. 832691 PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 2-28-83 MODEL: ____ GAUGE: 308 #9 SERIAL NO. 7603910

TEST TITLE: ____

WEATHER: ____

(9)

TTL. RDS. FIRED: 150
TTL. MALFUNCTIONS: 1
MALFUNCTION RATE: 0.67%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
R-180-PSP																												
S	5	5	OK																									
M	5	5	OK																									
F	5	5	OK																									
W-110-PSP																												
S	1	5	OK																									
M	1	5	OK																									
F	1	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
~~W-150-S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	REPAIRS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
W-200-S.TIP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5											1	3														
F-150-PSP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BANG UP	DON'T RETRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
F-165-REM.BT																												
S	3	5	ok																									
M	3	5	ok																									
F	3	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

(No Fr Sight)

REPROT NO. 832691 #10

PAGE NO. ____

PREVIOUS ROUNDS ____

DATE: 9-28-83 MODEL: 7 GAUGE: 308 SERIAL NO. 7603821

TEST TITLE: ____

WEATHER: ____

(10)

TTL. RDS. FIRED: 150

TTL. MALFUNCTIONS: 3

MALFUNCTION RATE: 2.33%

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION BING UP	DON'T EXTRACT	REPLACEMENTS	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
R-150-PSP																												
S	5	5	Ok																									
M	5	5	Ok																									
F	5	5	Ok																									
R-180-PSP																												
S	1	5											1	(5)														
M	1	5	ok																									
F	1	5	ok																									
W-110-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRA-FEED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ADJUSTMENTS	REPLACEMENTS	BOLT VELOCITIES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-125-PP																												
S	3	5	OK																									
M	3	5	OK																									
F	3	5	OK																									
~~W-150-SHIP~~																												
~~S~~																												
~~M~~																												
~~F~~																												
W-150-PP																												
S	4	5	OK																									
M	4	5	OK																									
F	4	5	OK																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____ TTL. RDS. FIRED: _____

WEATHER: _____ TTL. MALFUNCTIONS: _____

MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T RETRACT	REPLACEMENTS	ADJUSTMENTS	REPLACEMENTS	BOLT TEST COUNTS	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
W-180-S.TIP																												
S	5	5	ok																									
M	5	5	ok																									
F	5	5	ok																									
W-200-S.TIP																												
S	1	5	ok																									
M	1	5	ok																									
F	1	5	ok																									
F-150-PSP																												
S	2	5	ok																									
M	2	5	ok																									
F	2	5	ok																									
TOTAL (PER MAL.)																												

FIELD CYCLE TEST - CENTERFIRE

REPROT NO.: _____ PAGE NO. _____

PREVIOUS ROUNDS _____

DATE: _____ MODEL: _____ GAUGE: 308 SERIAL NO. _____

TEST TITLE: _____

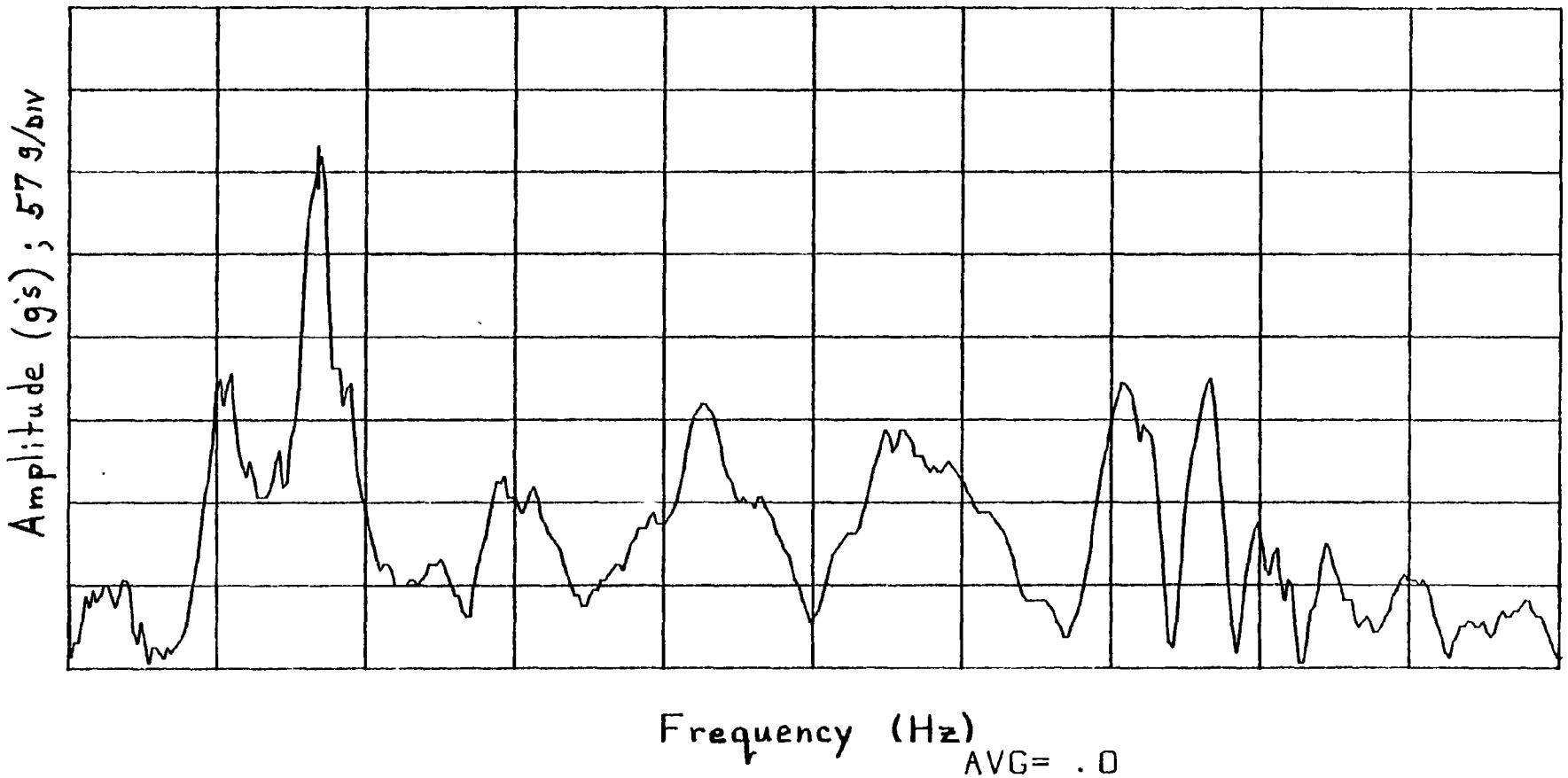
WEATHER: _____

TTL. RDS. FIRED: _____
TTL. MALFUNCTIONS: _____
MALFUNCTION RATE: _____

"MALFUNCTIONS"

AMMUNITION Load Size	SHOOTER	NO. OF ROUNDS FIRED	FIRING	TRAPPED SHELL	DON'T EJECT	DON'T BLOW BACK	DON'T LOCK OPEN	FEED FROM MAG. 1st LATCH	FEED FROM MAG. 2nd LATCH	SHELL STEMS MAG.	POWER OVERRIDE	DON'T LOCK UP	STEM CHAMBER HIGH	STEM CHAMBER LOW	STEM CHAMBER RIGHT	STEM CHAMBER LEFT	SHELL JUMPS MAG.	FOLLOWER BINDS	LOADING	BOLT OVERRIDE	ACTION HANG UP	DON'T EXTRACT	BREAKAGES	ALTERATIONS	REPLACEMENTS	BOLT TOUCHES	REMARKS (ON BACK) YES	REMARKS (ON BACK) NO
F-180-PSP																												
S	3	5	ok																	1/3	1							
M	3	5																										
F	3	5	ok																									
F-165-PREM.BT																												
S	4	5	ok																									
M	4	5	ok																									
F	4	5	ok																									
TOTAL (PER MAL.)																												

STEEL ASSEMBLY

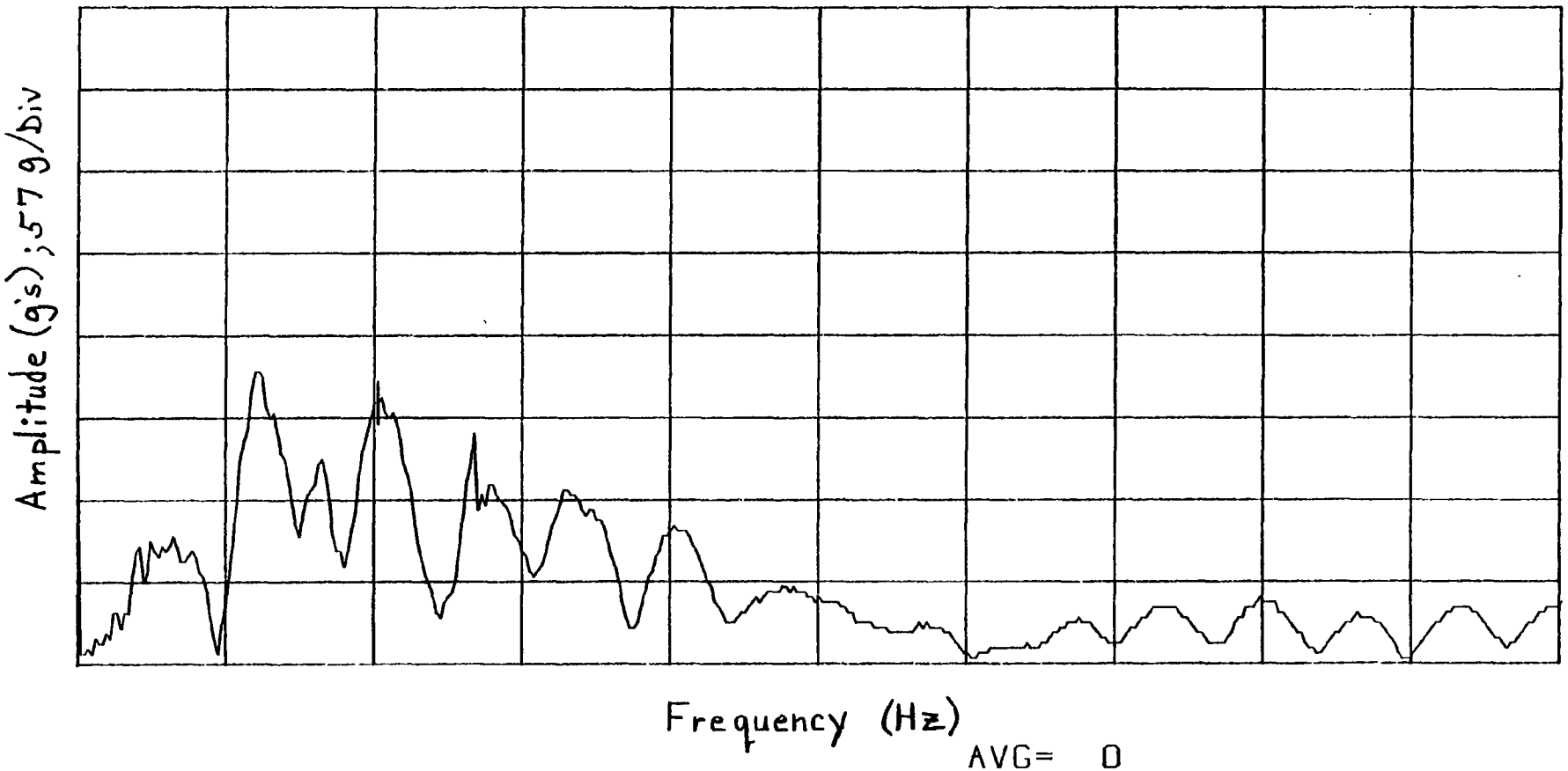


AVG= .0

PWR SPECT A : 3.48E+00R *100 g's 335. HZ N: NONE P: 5HZ

SPAN: 0.000000HZ-2.00000KHZ SN: 7.9-01V FS: 4.6+00R *100 5.7-01R/DIV *100

ALUMINUM ASSEMBLY



AVG= 0

PWR SPECT A : 1.84E+00R *100 g's 405. HZ N: NONE F: 5HZ

SPAN: 0.000000HZ-2.00000KHZ SN: 7.9-01V FS: 4.6+00R*100 5.7-01R/DIV*100

SCREW TORQUE TEST

SERIAL NO	1 in-lb	5 in-lb	10 in-lb	15 in-lb	20 in-lb	25 in-lb	30 in-lb
4086	OK	OK	OK	OK	OK	OK	OK
4091	OK	OK	OK	OK	OK	OK	OK
3907	OK	OK	OK	OK	OK	OK	OK
3187	OK	OK	OK	OK	OK	OK	OK
4201	OK	OK	OK	OK	OK	OK	OK
4244	OK	OK	OK	OK	OK	OK	OK
3910	OK	OK	OK	OK	OK	OK	OK
3821	OK	OK	OK	OK	OK	OK	OK

20 rounds were fired per condition.

FIT TO STOCK (WASHERS)

SERIAL NO	NO SPACERS (0.0")	4 SPACERS (.060")
4086	OK	OK
4091	OK	OK
3907	OK	OK
3187	OK	OK
4201	OK	OK
4244	OK	OK
3910	OK	OK
3821	OK	OK

20 rds fired per condition.

LATCH COVERAGE TEST

SERIAL NO	4086	4091	3907	3187	4244
COVERAGE	.075-OK	.050-OK	.050-OK	.060-OK	.055-OK
	.065-OK	.030-OK	.030-OK	.040-OK	.035-OK
	.055-OK	.010-OK	.010-OK	.020-OK	.015-OK
	.045-OK	.005-OK	.005-OK	.010-OK	.005-OK
	.035-OK			.005-OK	
	.025-OK				
	.015-OK				
	.005-OK				

20 rounds fired per condition.

OPENING FORCE TEST

SERIAL NO	3/4 LENGTH	FULL LENGTH
4244	OK	OK
3187	OK	OK
3907	OK	OK
4091	OK	OK
4086	OK	OK

20 rds fired per condition

OPENING FORCES

SERIAL NO	3/4 LENGTH		FULL LENGTH	
	OPEN	CLOSED	OPEN	CLOSED
4244	.75	1.25	1.25	2
3187	.75	1.25	1.25	1.75
3907	.75	1.75	1.5	2.25
4091	.75	2.75	1.5	3
4086	.75	1.75	1.25	3

LUBRICATION TEST

MODEL	SERIAL NO.	LUBRICATION FIRING	LUBRICATION OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	2.50
WINCHESTER M/70	G1486933A	OK	6.00
BROWNING BBR	01185RP117	OK	4.00
S&W 1500	PN00862	OK	5.25

		NO LUBRICATION FIRING	NO LUBRICATION OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	3.50
WINCHESTER M/70	G1486933A	OK	6.75
BROWNING BBR	01185RP117	OK	4.00
S&W 1500	PN00862	OK	5.25

20 rds fired per condition

COLD TEST (-30 F)

MODEL	SERIAL NO.	FIRING	BEFORE FIRING OPENING FORCE
REM M/7	7603910	OK	2.25
REM M/7	7603821	OK	3.25
WINCHESTER M/70	G1486933A	OK	4.00
BROWNING BBR	01185RP117	OK	3.75
S&W 1500	PN00862	OK	4.00

		AFTER FIRING OPENING FORCE
REM M/7	7603910	2.25
REM M/7	7603821	3.25
WINCHESTER M/70	G1486933A	5.00
BROWNING BBR	01185RP117	4.00
S&W 1500	PN00862	5.00

20 rds fired per condition

Prototype Aluminum
Floor Plate Assembly
Parts List

A-92909	TRIGGER Guard	92909			92909	
[redacted]	[redacted] ASSEMBLY	92822			92822	
B-92848	Floor Plate Latch	92848			92848	
	Floor Plate Latch Blank	92885			92885	
A-92847	Floor Plate Latch Spring	92847			92847	
A-92846	Floor Plate Latch Pin	92846			92846	
D-92889	[redacted] Sub-Assembly	92889			92889	
A-16453	Floor Plate Pivot Pin	16453			16453	
D-92839	Floor Plate Cover	92839			92839	
D-92838	Floor Plate Cover Blank	92838			92838	
D-92837	Trigger Guard	92837			92837	
D-92836	Trigger Guard Blank	92836			92836	
B-92849	Front Guard Screw Spacer	92849			92849	
	Front Guard Screw Spacer Blank 92883 [redacted]				92883	
B-92850	Rear Guard Screw Spacer	92850			92850	
	Rear Guard Screw Spacer Blank	92884			92884	

Report No. 832691

RESEARCH TEST & MEASUREMENT LAB WORK REQUEST

	AREA OF TESTING	
✓ Developmental	___ Safety Related	___ Litigation
___ Design Acceptance	___ Competitive Evaluation	___ Warehouse Audit
___ Pre-Pilot	✓ New Design	___ Cost Reduction
___ Pilot	___ Design Change	State ___
___ Production Acceptance	___ Plant Assistance	✓ Other

FIREARM STAT'S.	REPORT REQ'D.	
MODEL: 7 LWT	FORMAL ✓	DATE REQUESTED: 9/26/83
CAL. or GAGE: 308		DATE NEEDED BY:
BARREL TYPE: CARBINE	TEST RESULTS ONLY ___	REQUESTED BY: D. BULLIS
PROOFED: YES ✓ NO ___		WORK ORDER NO: C-1856-000

TEST TYPE

___ Strength Test	___ Ammunition Test	___ Dry Cycle Test	✓ Photo/Video
✓ Function Test	___ Environmental Test	✓ Measurements	✓ Other SENSITIVITY TE
___ Accuracy Test	___ Customer Complaint	___ Endurance Test	

EXPLAIN IN DETAIL THE REASON FOR THIS TEST:

SENSITIVITY TEST: HEAVY LOAD

1. AMOUNT OF LATCH ENGAGEMENT / 5 guns
2. ~~LATCH RELEASE PRESS~~
3. ~~TRIG. GUARD ADJUSTED w/ SPACERS TO COVER DOES NOT TOUCH WHEN LOAD~~ / ~~LOAD MOVING~~
4. ~~COVER TOUCHING WOOD~~
5. ~~#6. MOVIES OF MAX. RECOIL. HEAVY LOAD & LACK.~~
6. ~~GUARD SCREWS GOOD BUT NOT TIGHT.~~
7. Lubrication
8. Environment Test: Cold ~~Fahr~~
9. Endurance life of parts & effect on operation
10. ~~Trigger Assembly~~

GUNS REQUIRED:

11. Corrosion

Est 10

NOTE: NO firearms or parts will be tested in the Labs unless they are accompanied by a Work Request, and both are delivered to the Labs by the designer or engineer. All Work Requests are to be filled out in detail. No Exceptions.

DATE COMPLETED: ___

TEST COMPLETED BY: ___

REPORT DATE: ___