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 # B6226251

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 forend + dot checkering

2. What do you dislike about this new gun?

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

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 accidentally be hit when gun recoils

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 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?

Emphasis 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 caliber as well. I believe the impact will be minimal

Respondent's Name: D.C. Callahan

BOLT ACTION RIFLE QUESTIONNAIRE

7mm-08 Cal. Serial # B6226228

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

Carbon concept

2. What do you dislike about this new gun?

Black stock, High-gloss finish, Barrel contour too heavy

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

Walnut contrast stock, satin finish, Medium weight sporter barrel

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?

$325.00

.....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! Can't be carried light with small caliber load.

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 rifle will appeal?

To the person who have demanded the accuracy of the 700/600

.....Continued

15. How should we advertise the rifle you tested?

The improved [illegible] (?)

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

A short barreled, 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 probably cut into sales of the M 788

Respondent's Name: Jim Stekl

Bill,

I personally don't feel that the .22/250 and 7mm-08 calibers should go into a carbine type rifle, as they are basically, long range calibers.

Jim

EXHIBIT 34

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington PETERS

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

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

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 6¼ 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

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
1								
2	Muzzle	.537	.537	.537	.537	.537	.537	.537
3	1"	.537	.537	.537	.537	.537	.537	.537
4	2"	.537	.537	.537	.537	.537	.537	.537
5	3"	.537	.537	.537	.537	.537	.537	.537
6	4"	.537	.537	.537	.537	.537	.537	.537
7	5"	.537	.537	.537	.537	.537	.537	.537
8	6"	.540	.540	.541	.540	.540	.541	.540
9	7"	.551	.551	.551	.551	.551	.551	.552
10	8"	.568	.568	.568	.568	.568	.568	.568
11	9"	.598	.597	.598	.598	.598	.598	.598
12	10"	.625	.626	.625	.625	.625	.626	.625
13	11"	.655	.655	.655	.655	.655	.655	.655
14	12"	.685	.685	.685	.685	.685	.685	.685
15	13"	.718	.718	.718	.718	.718	.717	.718
16	14"	.776	.775	.775	.777	.776	.777	.777
17	15"	.885	.885	.885	.885	.885	.885	.886
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CHAMBER STRAIN TO P.S.I.

MODEL: 700 Carbine SERIAL No.: B6251940

CALIBER: 30-06 DATE: 12-11-80

GAUGE: 24-06-125BT

DISTANCE FROM BOLT FACE: 2.3"

INSIDE DIA.: .341

OUTSIDE DIA.: 1.029

PRESSURE = Strain x $\left(\frac{E}{2} \times \left(\frac{Ro^2}{Ri^2} - 1 \right) \right)$ = Strain x (121.58) PSI/(Uin/in)

REFERENCE AMMO:

	Uin / in	P.S.I.
Rem 180gr		52,000
Saami WX14		60,000
Saam WX14		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.: B6261719

CALIBER: 30-06 DATE: 12-11-80

GAUGE: EA-06-125BT

DISTANCE FROM BOLT FACE: 2.3"

INSIDE DIA.: .341

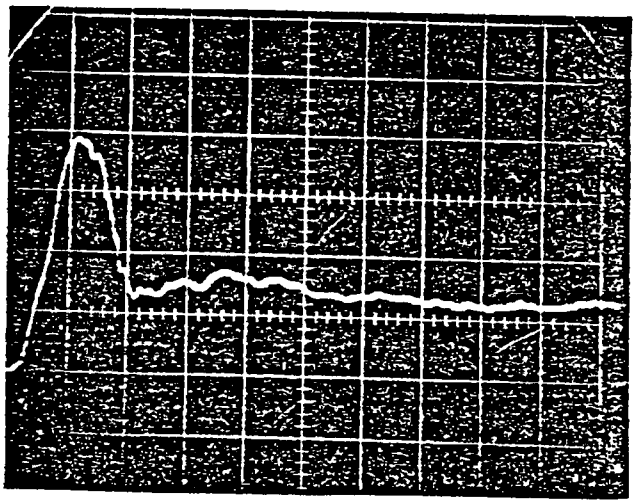
OUTSIDE DIA.: 1.030

PRESSURE = Strain x ($\frac{E}{2}$ x ($\frac{Ro^2}{Ri^2}$ - 1)) = Strain x (121,35) 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 Ind 4198 - 22 gr H4198
50,000 PSI-Strain/Div
.2msec/Div.



Model 700 Carbine

12-31-80

B626145

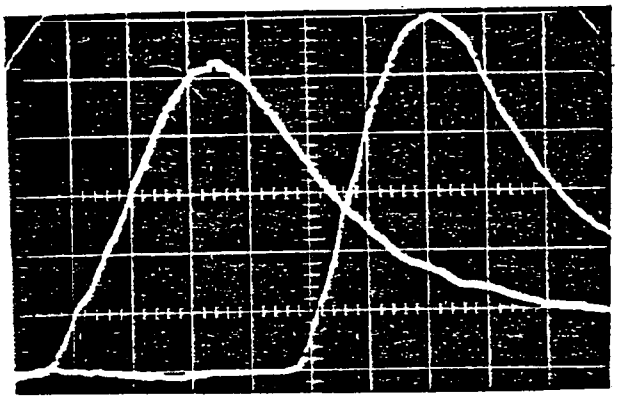
Chamber Pressure

PSI - STRAIN

Rem 180gr

Saami 180gr

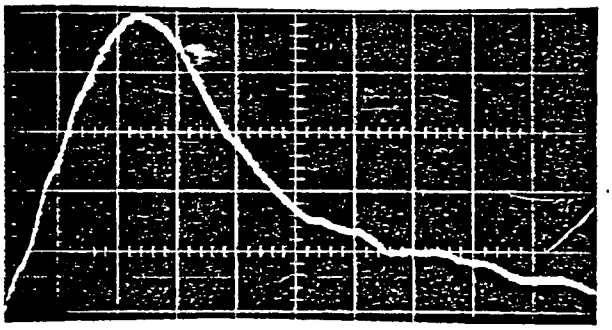
10,000PSI-STRAIN/Div.



.2 msec/Div.

Saami 180gr

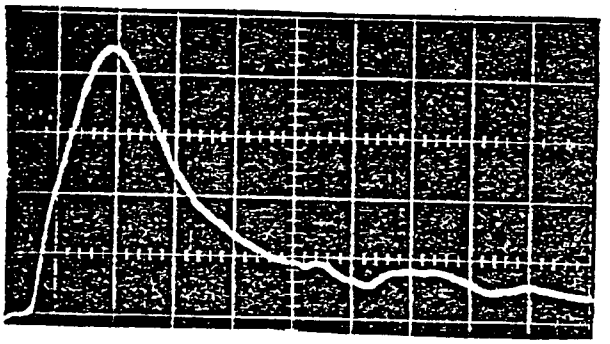
10,000 PSI-STRAIN/Div



.2 msec/Div.

Rem Proof

20,000PSI-STRAIN/Div.

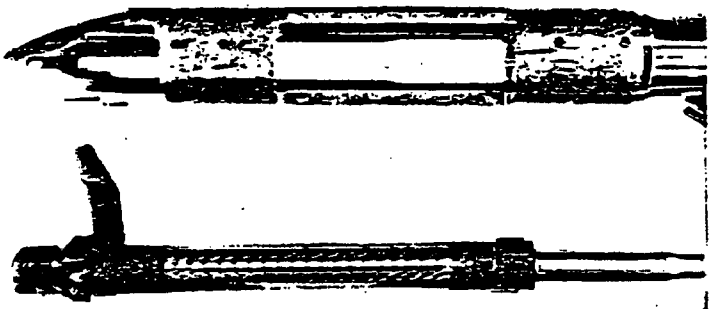


.2 msec/Div.

Model 700 Carbine

B6261719

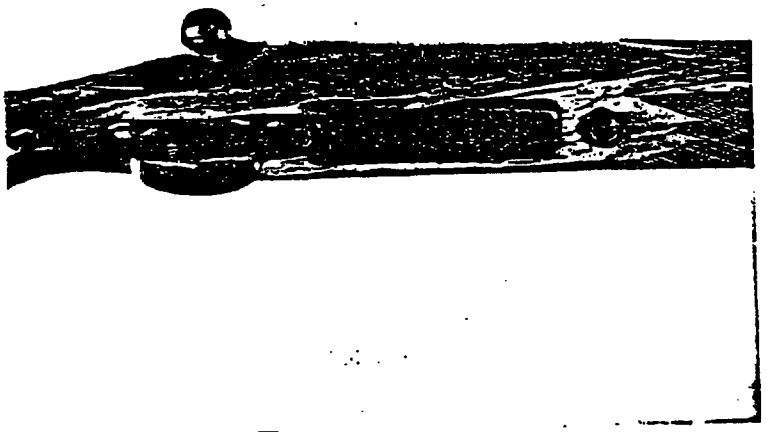
Super Proof

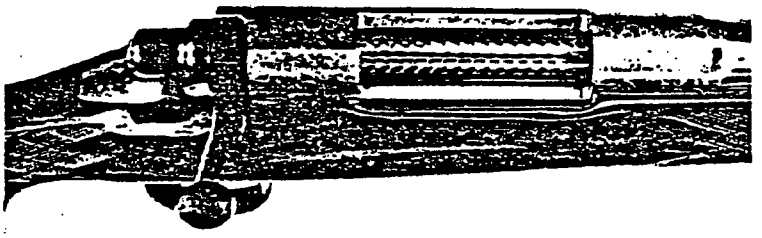


Model 700 Carbine

B52519TD

Super Proof + 4 x 22 per Bullets





REMINGTON ARMS COMPANY, INC.
Ilion Research Division

SUMMARY OF INTENTIONAL GUN ABUSE TEST

DATA

By RENFROW

Date 12-11-80

FIREARM: Make REMINGTON CARBINE Model 700

Grade _____ Gauge 30/06 Serial Number B6241940

Origin USA

Test Number Assigned C1856

Comments SMALL PROJECTILE BOUNCED (-.120.)

HISTORY: Condition NEW

Previous Rounds Fired 1 PHOTO - 1 PROOF

Headspace at Test MIN - .064

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 P.C. N

Date 12-1-80

FIREARM: Make REM. CARBINE 18" BBL Model 700

Grade _____ Gauge 30/06 Serial Number B6261719

Origin E.R.P.

Test Number Assigned C1856

Comments _____

HISTORY: Condition NEW

Previous Rounds Fired 2 FACTORY - SP200F

Headspace at Test MIN+.002

Test Date 12-81-80

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 SPORTER

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

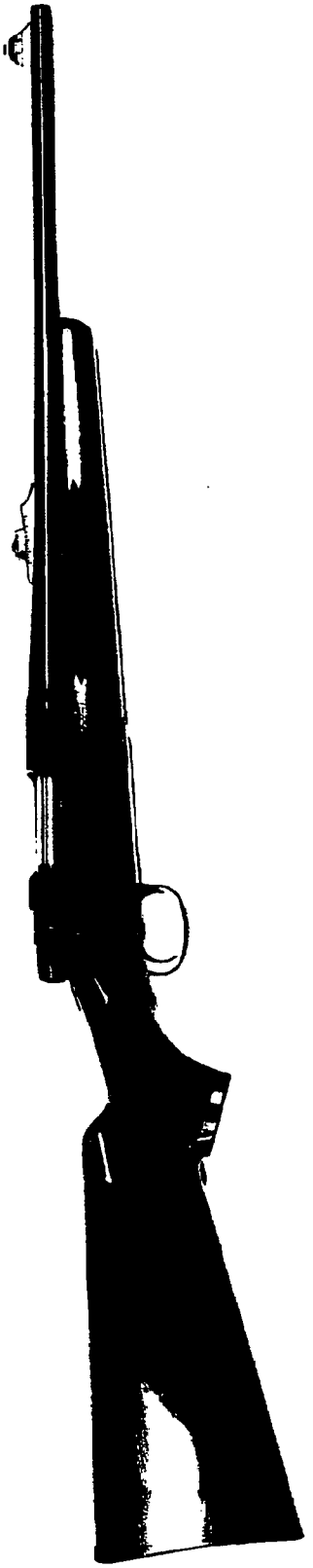
GUNS REQUIRED

B6262583 — } .100 UNDER
B6262650 — }

B6261719 — } .120 UNDER
B6261940 — }

TEST COMPLETION DATE _____ SIGNED _____

S 1270



A

EXHIBIT 38

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

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

EV 3

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

B