REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington DUPONT — PETERS DUPONT

Distribution:

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 820391

TEST TITLE:
M/700 NEW DESIGN TRIGGER SCREW & SPRING EVALUATION

Prepared by: R. W. HOWE

Date Prepared: 4-8-83

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

"CONFIDENTIAL by Stipulation and order entered in Isachalis v. Remington Arms, Inc., et al., Supreme Court of the State of New York, County of Westchester, Index No. 9344/95"

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 820391

REPORT TITLE: M/700 New Design Trigger Screw + Spring Evaluation.

MODEL(S): 700

GAUGE OR CALIBER:

DATE: 4-8-83

WORK ORDER NO.: C-1802-000

PART NAME: Trigger Screw + Spring

DESIGNER/ENGINEER: T. J. Plunkett

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. ENDURANCE - NO. OF GUNS TESTED: 4
   Dry Cycle
   NO. OF ROUNDS PER GUN: 15,000
   Dry Cycle
   TOTAL ROUNDS [redacted] IN TEST: 60,000

   AMMO TYPE: MAGS: _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE _____

REMINGTON ARMS CO. INC.
FIREARMS RESEARCH DIVISION

REPORT #820391

APRIL 8 1983

TO C.E. RITCHIE
FROM R.W. HOWE

TEST TITLE: M/700 NEW DESIGN TRIGGER SCREW & SPRING EVALUATION.

ABSTRACT:
RECENTLY R+D TEST LAB RECEIVED FOUR M/700 TRIGGER HOUSING ASSEMBLIES. CONTAINING NEW DESIGN TRIGGER SCREWS (AS PER. DRAWING # SK-B-3688) AND TRIGGER SPRINGS (AS PER. DRAWING # SK-A-3687). PROCESS ENGINEERING THROUGH T. J. PLUNKETT, ENGINEER CURRENT PRODUCTS DESIGN, REQUESTED THE TEST LAB EVALUATE ..IE ABOVE NEW DESIGN PARTS BY DRY-CYCLE AND PENDULUM DROP TESTING.

SCOPE OF TEST:
TO DETERMINE BY DRY-CYCLE AND PENDULUM DROP TESTING IF THE ABOVE NEW PARTS WILL CAUSE TRIGGER PULL CHANGES AND IF REDESIGNED TRIGGER SCREW AND SPRING WILL SET DURING TEST.

TEST RESULTS:
1. TRIGGER PULL POUND FORCES DID RAISE DURING DRY-CYCLE TEST BUT RETURNED TO ACCEPTABLE LEVELS WHEN LUBRICATED WITH TEFLON WET LUBE.
. DURING THE PENDULUM DROP TEST SOME JAR-OFF DID OCCUR IN THE "TOP" AND "BOTTOM" DROP MODES.
INDIVIDUAL RESULTS IN APPENDIX "A"

REPORT #820391

REPORT TEXT:

1. TRIGGER PULL, SEAR ENGAGEMENT AND OVER TRAVEL WERE SET TO PRESENT REMINGTON SPECS,
PRESENT REMINGTON SPECS ARE:
TRIGGER PULL - 3.0 TO 5.0 LBS.
ENGAGEMENT - .015" TO .020"
OVER TRAVEL -

2. ALL FOUR TEST VEHICLES WERE PLACED IN R+D TEST LAB. M/700 RIFLES.

3. TRIGGER PULL LB. FORCES WERE TAKEN AND RECORDED ON ALL FOUR RIFLES. PRESENT REMINGTON SPECS. IN ITEM ONE ABOVE.

4. THE FOUR RIFLES WERE DRY-CYCLED TO 15,000 CYCLES EACH WITH TRIGGER PULL FORCES RECORDED AT - 0 - 300 - 600 - 1,000 CYCLES AND EVERY 1,000 CYCLES THERE AFTER.

NOTE: ALTHOUGH THE WORK REQUEST CALLED FOR NO ADJUSTMENTS OR LUBRICATION DURING THIS TEST IT WAS DECIDED BY J. W. BROOKS, SUPERVISOR CURRENT PRODUCTS DESIGN, THAT "TEFLON WET" SHOULD BE APPLIED WHEN IT BECAME APPARENT THAT TRIGGER PULL FORCES WERE RAISING TO UNACCEPTABLE LEVELS, DURING DRY-CYCLE TEST, DUE TO LACK OF LUBRICATION.

5. THE FOUR RIFLES WERE THEN PENDULUM DROP TESTED AGAINST BOTH A NEOPRENE AND A HARD-WOOD BACK STOP. AT THE 2' - 4' AND 6' LEVELS IN THE FOLLOWING MODES.

REPORT # 820391

REPORT TEXT, CONT. PAGE #3

MUZZLE FIRST WITH SAFE "ON" AND WITH SAFE "OFF"
BUTT " " " " " " " " "
LEFT SIDE " " " " " " " "
RIGHT " " " " " " " " "
TOP " " " " " " " " "
BOTTOM " " " " " " " " "

NOTE: AFTER COMPLETION OF THE ABOVE DROP TEST IT WAS DECIDED TO SET RIFLE #6 TO THE MIN. TRIGGER PULL (3.0 LBS) AND SEAR ENGAGEMENT (.015") SPECS. AND REDROP AT ALL LEVELS & MODES TO DETERMINE IF THESE MIN. CONDITIONS ARE DIRECTLY RELATED TO JAR-OFF SITUATIONS.

ALL INDIVIDUAL RESULTS IN APPENDIX "A" DATA SHEETS.

TEST PROCEDURE:

A. MEASUREMENTS

1. TRIGGER PULL LB. MEASUREMENTS WERE TAKEN AT START OF TEST AND AT 300 - 600 - 1,000 AND EVERY 1,000 CYCLES THEREAFTER.

2. SEAR ENGAGEMENT, TRIGGER PULL AND OVER TRAVEL WERE SET TO REMINGTON SPECS AT START OF TEST ON PRODUCTIONS OPTICAL COMPARATOR.

B. TEST CONDITIONS:

1. TRIGGER PULL, SEAR ENGAGEMENT AND TRIGGER OVER TRAVEL WERE SET ON ALL FOUR TEST VEHICLES ON PRODUCTIONS OPTICAL COMPARATOR IN M/700 FINAL ASSM. AREA.

2. TRIGGER PULL FORCES WERE MEASURED ON ALL FOUR TEST RIFLES USING A CHATILLON MODEL IN-10 SPRING PULL SCALE.

3. ALL FOUR RIFLES WERE DRY-CYCLE TESTED ON THE FOUR COCK + FIRE DRY-CYCLE MACHINES IN THE R+D TEST LAB DRY CYCLE ROOM. EACH RIFLE WAS LUBRICATED LIBERALLY WITH DUPONT "TEFLON WET" LUBRICANT IN AND AROUND THE BOLT COCKING CAM SURFACE, SEAR SAFETY CAM (TOP) AND TRIGGER HOUSING INSPECTION HOLE AT INTERVAL SHOWN DRY CYCLE DATA SHEET IN APPENDIX "A"

4. A PENDULUM DROP TEST WAS CONDUCTED ON ALL FOUR RIFLES AT THE 2'-4'+6' TEST LEVELS ON BOTH HARDWOOD AND NEOPRENE BACK STOPS FROM THE MUZZLE, BUTT, BOTH SIDES, TOP AND BOTTOM.

C. RIFLES USED IN TEST:

RIFLE AND TRIGGER HOUSING	#6	SERIAL # B 6341922
	#7	# B 6350761
	#8	# A 6338848
	#9	# A 6817650

REPORT #820391

APPENDIX "A"

DATA SHEETS - PAGES #1 AND #2

WR# 820391

WORK REQUEST

DATE REQUESTED 2/6/92 WORK ORDER C-1582-000-"Z"

DESIGNER OR ENGINEER THOMAS J. PLUNKETT

MODEL 700 CAL OR GAUGE — BARREL TYPE —

TYPE OF TEST

NEW DESIGN DWG. # SK-B-36FF V-TRIGGER SCREW DESIGN CHANGE DWG #SK-A-36F7 V-TRIGGER SCREW SPG.

DRY CYCLE V-10,000 PER 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

DETERMINE BY DRY CYCLING IF TRIGGER PULL CHANGES AND REDESIGNED TRIGGER SCREW SPRING WILL SET.

1- FIRE CONTROL #1 — CHECK TRIGGER PULL AT START. DRY CYCLE AND RECHECK EVERY 200 TO 300 CYCLES, OR UNTIL A PATTERN CAN BE SEEN FOR CHECKING OF TRIGGER PULLS.

2- DRY CYCLE ALL FIVE TO 10,000 CYCLES EACH. RECORD TRIGGER PULLS AT EACH PRE-DETERMINED INTERVAL.

3- AFTER COMPLETION OF DRY CYCLE TEST GIVE BACK TRIGGER PLATES TO DESIGNER SO THAT MEASUREMENTS CAN BE TAKEN. DO NOT ADJUST DURING TEST. DO NOT LOOSE.

GUNS REQUIRED

FIVE FIRE CONTROLS FURNISHED. ENGAGEMENT AND TRIGGER PULL SET ON PRODUCTION TO REM. SPEC'S.

TRIGGER PLATES NUMBERS 1-5 ON REAR BOTTOM OF TRIGGER AND ON SAFETY.

SPRING AND SCREW ARE EXPERIMENTAL AND CAN'T BE PURCHASED ON PRODUCTION

TEST COMPLETION DATE SIGNED

9 1270