REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington (COMPANY) DEPT. (DEPT.)

Distribution: C.B. Workman
C.E. Ritchie
J.W. Brooks

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT - Report No. 831091

M/700 - DESIGN CHANGE EVALUATION - INTERNAL CHAMFER
MODIFICATION TO RECEIVER - As shown on Broach Drawing D-45913

Prepared by: R. WILLIAMS

Date Prepared: 8-24-83

Proofread and Cleared By:

J.H. Hennings, Foreman-Test Lab / R.E. Nightingale, Foreman-Measurement Lab

Signature 8/31/83 Date

C.E. Ritchie, Sr. Supervisor - Testing, Meas. & Mech. Analysis Lab

Signature 5/27/83 Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 831091

REPORT TITLE: M/700 DESIGN CHANGE EVALUATION - INTERNAL CHAMFER MODIFICATION TO RECEIVER - As Shown on Broach Drawing D-45913

MODEL(S): 700

GAUGE OR CALIBER: .308, 6 mm and .243

DATE: 8-24-83

WORK ORDER NO.: C-1803-000

PART NAME: RECEIVER

DESIGNER/ENGINEER: J.W. BROOKS

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 12
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: 40

   TOTAL ROUNDS FIRED IN TEST: 480

   AMMO TYPE: MAGS _____; TARGET: _____

   RIM FIRE _____ CENTER FIRE X

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Firearms Research Division Page 1

August 24, 1983

TO: R. NIGHTINGALE

FROM: R. WILLIAMS

REPORT TITLE: DESIGN CHANGE EVALUATION - INTERNAL CHAMFER MODIFICATION TO RECEIVER - As shown on Broach Drawing D-45913

ABSTRACT

A total of twelve (12) M/700 Rifles four (4) each in Cal. .308, 6mm and .243 with receivers modified with a chamfer on the right hand bolt lug opening were received in the Test Lab from J.W. Brooks, Current Firearms Design, for a function test.

SCOPE OF TEST

To determine if the New Design Change with the chamfer cut in the receiver will have any effect on extracted shell hanging up or being marked by receiver during ejecting cycle.

TEST RESULTS

There was no hang up at cartridge cases during ejection cycle in any of the rifles during the test.

The rifles in Cal. .308 left no marks on the cartridge case in the Live Fire Test.

The rifles in Cal. 6mm and .243 left a small mark or scratch on the shell body near the shoulder angle in the Live Fire Test.

In the Live Round Load and Unload Cycle Test all rifles in all calibers left a scratch mark the length of the shell body on all shells fed from the magazine.

It was determined the mark was caused by the bolt where the extractor is riveted.

REPORT TEXT

1. Live Round Load and Unload Cycle Test

Cal. .308, 6mm, .243 Total Rounds Per Rifle - 30 Rds.

All rifles left scratch mark the length of shell body on all shells fed from the magazine.
No malfunctions were recorded.

2. Life Round Load and Fire Cycle Test

Cal. .308 Total Rounds Per Rifle - 40 Rds.

No marks on fired shells from any rifle.

Rifle No. B6296529	17 Total	Don't Extract
Rifle No. B6296555	1 Total	Don't Extract

Cal. .243 Total Rounds Per Rifle - 40 Rds.

Small mark or scratch on the shell body near the shoulder angle on all fired cases.

Rifle No. B6296549	1 Total	Don't Extract

Cal. 6mm Total Rounds Per Rifle - 40 Rds.

Small mark or scratch on the shell body near the shoulder angle on all fired cases.

Rifle No. B6296583	5 Total	Don't Extract
Rifle No. B6296559	10 Total	Don't Extract

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 Life Load and Fire Test

Both tests were conducted in the Shooting Jacks in the Test Lab using the smallest and largest bullet weights for each caliber of Remington ammunition.

Each rifle was cycled 5 rounds of Slow, Medium and Fast cycle of each bullet weight for a total of 30 cycles.

In Live Fire Test all rifles were fired 5 rounds of slow, medium, fast and alternating of each bullet weight for a total of 40 rounds.

Rifle was allowed to cool between each 20 rounds.

C. Ammunition

Cal. .308	Rem.	150 Gr.	P.S.P.	Index	R-308W1
	Rem.	180 Gr.	P.S.P.	Index	R-30W3
Cal. .243	Rem.	80 Gr.	P.S.P.	Index	R-243W1
	Rem.	100 Gr.	P.S.P.	Index	R-243W3
Cal. 6mm	Rem.	80 Gr.	P.S.P.	Index	R-6mm1
	Rem.	100 Gr.	P.S.P.	Index	R-6mm4

Report No. 831091

"APPENDIX A"

Design Change Evaluation - Internal Chamfer
Modification - As shown on Broach Drawing D-45913

M/700	Headspace After Proof	
Cal. .308	No. B6296529	Min. + .002
	B6296573	Min. + .005
	B6296555	Min. + .003
	B6296557	Min. + .005
Cal. .243	B6296549	Min. + .003
	B6296586	Min. + .002
	B6296533	Min. + .003
	B6296535	Min. + .004
Cal. 6mm	B6296546	Min. + .002
	B6296570	Min. + .002
	B6296583	Min. + .004
	B6296559	Min. + .006