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RESEARCH TEST and MEASUREMENT REPORT - Report No. 823121

M/700 BDL L.H. - .243 & 22-250 CALIBER FUNCTION & ACCURACY TEST

Prepared by: R. Williams

Date Prepared: 1-25-83

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1-26-83
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TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 823121
REPORT TITLE: M/700 BDL L.H. - .243 & .22-250 Caliber Function & Accuracy Test
MODEL(S): 700 BDL L. H.
GAUGE OR CALIBER: .243 Win. 22 - 250 Rem.
DATE: Jan. 25, 1983
WORK ORDER NO.: C-5019-000
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 12
4. ACCURACY TEST - NO. OF GUNS TESTED 6
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: _____
3 Guns 120 Rds. 243 Win.
NO. OF ROUNDS PER GUN: 3 Guns 90 Rds. 22-250 Rem

Cal. .243 780 Rds. TOTAL ROUNDS FIRED IN TEST: 1,380
Cal. 22-250 600 Rds.

AMMO TYPE: MAGS. _____; TARGET: _____

RIM FIRE _____ CENTER FIRE X
3 Guns Cal. .243 140 Total Rds.
3 Guns Cal. .22 - .250 110 Total Rds.

January 25, 1983

TO: J. H. HENNINGS
FROM: R. WILLIAMS
REPORT TITLE: M/700 BDL L.H. .243 and .22 - .250 CALIBERS
FUNCTION & ACCURACY TEST

ABSTRACT

A total of twelve (12) Short Action M/700 BDL L.H. rifles, six (6) in Cal. .243 and six (6) in Cal. 22-250 were received in the Test Lab from D. G. Bullis, Current Firearms Design, to evaluate development of New Design of Left Hand rifles.

SCOPE OF TEST

To establish whether the New Design Short Action Left Hand M/700 BDL will meet Remington Standards for function and accuracy in these 2 calibers (.243 and .22-250).

TEST RESULTS

All twelve (12) rifles meet Remington Standards for preliminary measurements and group size.

At the Field Function Test there were no malfunctions. During Load and Unload Live Round Test in the shooting jacks, some malfunctions did occur. These results can be found in Report Text.

REPORT TEXT1. Load & Unload Cycle Test

Cal. .243 Total Rounds Per Rifle - 120 Rds.

Rifle No. B6403973Rifle No. B6403991Rifle No. B6403926Rifle No. B6403900

No Malfunctions

<u>Rifle No. B6403972</u>	- 1 malfunction	.8%	
1 Stem Low	Rem. 80 Gr. P.S.P.	3rd out of Mag.	Slow Cycle

<u>Rifle No. B6403922</u>	3 malfunctions	2.5%	
1 Does not eject	Rem. 100 Gr. P.S.P.	4th out of Mag.	Fast Cycle
1 Bolt Override	Rem. 80 Gr. H.P.	3rd out of Mag.	Medium Cycle
1 Stem High	Fed. 85 Gr. H.P.	2nd out of Mag.	Medium Cycle

Cal. .22-250 Total Rounds Per Rifle - 45 Rds.

Rifle No. B6403936

No Malfunctions

<u>Rifle No. B6403909</u>	4 malfunctions	8.8%	
1 Bolt Override	Rem. 55 Gr. P.S.P.	3rd out of Mag.	Slow Cycle
1 Bolt Override	Rem. 55 Gr. P.S.P.	4th out of Mag.	Fast Cycle
1 Stem High	Rem. 55 Gr. H.P.	2nd out of Mag.	Slow Cycle
1 Stem High	Win. 55 Gr. P.S.P.	3rd out of Mag.	Medium Cycle

<u>Rifle No. 6403908</u>	1 malfunction	2.2%	
1 Bolt Override	Win. 55 Gr. P.S.P.	3rd out of Mag.	Slow Cycle

<u>Rifle No. B6403907</u>	1 malfunction	2.2%	
1 Bolt Override	Rem. .55 Gr. P.S.P.	2nd out of Mag.	Slow Cycle

<u>Rifle No. B6403904</u>	2 malfunctions	4.4%	
1 Stem High	Rem. 55 Gr. P.S.P.	5th out of Mag.	Slow Cycle
1 Stem High	Win. 55 Gr. P.S.P.	2nd out of Mag.	Medium Cycle

<u>Rifle No. B6403962</u>	5 malfunctions	11.1%	
1 Stem High	Rem. 55 Gr. P.S.P.	2nd out of Mag.	Medium Cycle
1 Doesn't Extract	Rem. 55 Gr. H.P.	3rd out of Mag.	Slow Cycle
3 Don't Eject	Rem. 55 Gr. P.S.P.	2nd, 3rd, 5th out of Mag.	Slow Cycle

Bolt was cleaned and oiled. This may have solved the problem as there were no more
"Don't Eject" problems.

REPORT TEXT - cont'd.

2. Field Function Test

No malfunctions occurred in Cal. .243 or Cal. .22-250 during Field Function Test. See Test Procedure for all information.

3. Accuracy Test

All results can be found in Appendix "A".

TEST PROCEDURE

1. Measurements

Measurements taken are Headspace, Firing Pin Indent and Trigger Pull.

2. Load and Unload Cycle Test

Load and Unload Cycle Test was conducted in the Shooting Jacks in the Test Lab. In Cal. .22-250 three (3) types of Ammo were used - Rem. 55 Gr. P.S.P., Rem. 55 Gr. H.P. and Win. 55 Gr. P.S.P.

In Cal. .243, eight (8) types of Ammo were used - Rem. 80 Gr. P.S.P., Rem. 80 Gr. H.P., Rem. 100 Gr. P.S.P., Fed. 80 Gr. S.P., Fed. 100 Gr. S.P., Win. 80 Gr. P.S.P., Win. 100 Gr. Power Pt. and Fed. 85 Prem. H.P.

3. Field Function Test

Field Function Test was run on the Rifle Range at the Ilion Fish and Game Club. The weather was 22° F. and snow. The six (6) rifles in Cal. .243 were fired a total of 120 rds. each using eight (8) types of ammo. The six (6) rifles in Cal. .22-250 were fired a total of 90 rds. each using three (3) types of ammo. The action was functioned Slow, Medium and Fast cycle and the round robin system was used.

4. Ammunition

Cal. .243

Rem. 80 Gr. Ptd. S.P.	Index R243W1
Rem. 80 Gr. Power Lokt H.P.	Index R243W2
Rem. 100 Gr. Core-Lokt Ptd. S.P.	Index R243W3
Fed. 80 Gr. S.P.	Index 243A
Fed. 100 Gr. Hi-Shok S.P.	Index 243B
Fed. 85 Gr. H.P.	Index P243D
Win. 80 Gr. P.S.P.	Index X2431
Win. 100 Gr. P.P.SP.	Index X2432

Cal. 22-250

Rem. 55 Gr. Ptd. S.P.	Index R22501
Rem. 55 Gr. H.P.	Index R22502
Win. 55 Gr. P.S.P.	Index X222501

REPORT TEXT - cont'd.

5, Accuracy Test

The Accuracy Test was shot at the R & D 100 yd. range by R. Williams. Ammunition used in the test for Cal. .243 was Remington 100 Gr. Core-Lokt P.S.P. Index R243W3, Code J08RD1433. Ammunition used in the test for Cal. .22-250 was Remington 55 Gr. Power-Lokt H.P., Index R22502, Code T23H04277.

A total of three (3) five (5) shot groups were fired with each of the six (6) rifles and the barrel cooled between each group and one (1) fouling shot fired after cooling.

Weaver mounts and bases were used with a Lyman 10X Std. Crosswire All-American Scope for the test of each rifle.

Before shooting rifles for accuracy, each bore was wire brushed with Hoppe's No. 9 Solvent and patched dry.