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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____

RESEARCH TEST and MEASUREMENT REPORT - Report No. 832841

Prepared by: F.L. Supry

Date Prepared: 10-20-83

M/7 LWT .223 cal. Trial & Pilot

Reviewed and Cleared By:

J.E. Hanning, / R.E. Nipponia,
Foreman-Test Lab / Foreman-Measurement Lab

Signature

Date

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

Signature

Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER: 832841

REPORT TITLE: M7 LWT .223 Caliber Trial & Pilot

MODEL(S): SEVEN

GAUGE OR CALIBER: .223

DATE: 10-20-83

WORK ORDER NO.: 62287-000

PART NAME: LWT. RIFLE

DESIGNER/ENGINEER: REQUESTED BY BULLIS/HILL

TEST TYPE:

1. PHOTO LAB
2. STRENGTH TEST - NO. OF GUNS TESTED _____
3. FUNCTION TEST - NO. OF GUNS TESTED 8
4. ACCURACY TEST - NO. OF GUNS TESTED 4
5. MEASUREMENTS - TYPE: Preliminary
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 —

TO: R.E. NIGHTINGALE
From: F.L. SUPRY

TEST TITLE M/7 LWT .223 caliber Trial & Pilot

ABSTRACT

Eight M/7 LWT .223 caliber rifles were selected randomly, for the Trial & Pilot evaluation, from a sample lot of forty rifles. The test schedule consisted of:

- VISUAL INSPECTION
- PRELIMINARY MEASUREMENTS
- FIELD FUNCTION
- 100 yard Accuracy

SCOPE OF TEST

To determine if the production run samples meet all Remington Specifications set by the Research Design Section.

TEST RESULTS

The production run samples met all the Remington Specifications.

REPORT # 932841

REPORT TEXT

A. VISUAL INSPECTION:

It was the consensus of the visual inspection committee, that the overall appearance of the rifles inspected was excellent. However, there are two items, that the committee felt could be checked.

- 1.) SPACE BETWEEN BOTTOM OF REC AND STOCK UNDER THE BOLT HANDLE SLOT
- 2.) SAFETY SWITCH TIPPED TOWARD BOLT PLUG.

B. PRELIMINARY MEASUREMENTS:

Remington Specifications established for Firing Pin Indent are .018" to .026"

Remington Specifications established for Trigger Pull are 3 lbs. to 5 lbs.

The sample guns were all within Remington Specifications with an average Firing Pin Indent of .024" and an average Trigger Pull of 4 lbs.

A preliminary measurement summary is included in the appendix of this report.

REPORT TEXT - cont'd

C) FIELD FUNCTION :

The field function test was shot at the Lion Fish & Game club. The weather was sunny and 55° F.

Six of the eight rifles tested had no malfunctions.

Rifle # 7621765, experienced two bolt override, and two stem right malfunctions.

Rifle # 7621825, experienced two STEM HIGH malfunctions.

The overall malfunction rate was 0.7%.

Summary sheets, malfunctions by ammo, shooter, and rifle are included in the appendix of this report.

D) ACCURACY :

There is no current Remington specification for group size accuracy for the M/700 in the 223 cal. However, the M/700 variant has a specification of 1.5" center to center, which can be used as a comparison.

The sample rifles used in the accuracy test were all within the M/700 specifications with an overall average of 1.3" center to center.

A copy of each accuracy sheet is included in the appendix of this report.

TEST PROCEDURE

A) VISUAL:

The visual inspection committee consisted of R.S. Murphy, R. Howe, E.L. Soper, M. Topolski, (Research); J.B. Willoughby, W.A. Warren, (Quality Control); and R.L. Joy (Production).

Each rifle was wiped down with a clean white cotton towel and examined by each member of the visual inspection committee. All comments were recorded.

B) Preliminary measurements:

Each rifle was checked for a proof stamp and the headspace as received was taken using graduated headspace gauges.

Trigger pull was taken using a ten lb. spring pull gauge. Three measurements were taken and an average established for each rifle.

Firing Pin Indent was taken using a copper crusher & crusher holder and a dial gauge. Three measurements were taken and an average established, for each rifle.

~~A preliminary measurement summary is included in the appendix of this report.~~

Report # 3771

E.) FIELD FUNCTION:

All Eight rifles were subject to 105 rounds of Remington and competitive ammunition. The round robin method of firing the rifles was utilized. 15 rounds were fired at a slow feeding cycle speed, 5 at a medium feeding cycle speed, and 5 at a fast feeding cycle speed then the rifles were cooled before firing the next ammunition type.

AMMUNITION USED IN FIELD TEST

REMINGTON 55-PSP

CODE # 4054 - D3633

55-HP

CODE = TCS - LD0358

55-MC

CODE # 507K - D1853

WINCHESTER 55-MC

CODE = A 55M60

55-PSP

CODE = 52TK31

FEDERAL 55-SP

CODE # 3A - 2322

55-MC

CODE # 3A - 2312

Report No. 832841

D) ACCURACY:

Arms Rem. 55 Gr. Power-Lox Hollow Pt.

M/7 Cal. 223 INDEX 122542
CODE T05 LD0358

Gun #4 7621742 S.S.

Gun #6 7621759 L.S.

Gun #7 7621740 D.W.

Gun #8 7621766 C.S.

A total of (3) (5) shot groups were fired with each of (4) rifles and the barrel cooled between each group and (1) fouling shot fired after cooling.

Redfield mount and rings were used with a Lyman 20X Scope with a $\frac{1}{4}$ " dot.

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

Accuracy Test was shot at the F&D 1000 yd. range by R Williams and C. Stephens.

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APPENDIX

CONTENTS:

SUMMARY SHEETS

PRELIMINARY MEASUREMENTS

Field Function - malfunctions by Ammo

Field Function - malfunctions by Shooter

Field Function - malfunctions by Rifle

ACCURACY RESULTS - RIFLE # 7621759

ACCURACY RESULTS - RIFLE # 7621766

ACCURACY RESULTS - RIFLE # 7621742

ACCURACY RESULTS - RIFLE # 7621740

LAB WORK REQUEST COPY