REMINGTON ARMS COMPANY, INC.
Firearms Research Division

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Xc: C.B. Workman
T.L. Capeletti
J.P. Linde
G.J. Hill
J.W. Brooks
J.R. Snedeker
S.R. Franz

File

TO: J. H. HENNINGS

FROM: F. L. SUPRY F.L.S.

M700 - 7mm-08 CAL.
TRIAL & PILOT EVALUATION
COMPLETION OF TEST SUMMARY

Date Started: 4- 6-81
Date Completed: 4-13-81
Work Order: G 0460

INTRODUCTION

The Research Test and Measurement Lab was requested by P.E.& C to conduct a Trial & Pilot evaluation on eight (8) M700 BDL 7mm-08 rifles. These eight rifles were randomly selected from a sample group size of 42 rifles.

An additional four (4) rifles were randomly selected, measured, and delivered to the Custom Shop for 100 yard accuracy testing. This is not normal procedure, but was done to expedite the accuracy testing and still have eight (8) rifles for visual inspection.

The four main categories in the Trial & Pilot evaluation were as follows:

1. Visual Inspection
   Eight rifles were reviewed for visual appearance as received from P.E.& C.
2. Measurements
   Headspace, trigger pull, firing pin indent, bolt opening force, safe on and off force, gun length, gun weight and center of gravity measurements were taken on eight rifles. Firing pin protrusion was taken on four of the eight rifles.
3. Accuracy
   Four rifles were randomly selected to be tested for 100 yard accuracy.
4. Field Function
   A field cycle test consisting of varied bullet weight in Remington and competitive ammunition was conducted on the eight rifles.

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From: F.L.Supry
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OBJECTIVE

To evaluate the 7mm-08 Caliber in the M700 BDL rifle.

TEST FINDINGS

The eight rifle Trial & Pilot evaluation of the M700 BDL 7mm-08 rifles was found to be acceptable by the Research Test and Measurement Lab.

The remainder of this section will be separated into four main categories (Visual, Measurements, Accuracy and Function).

Visual Inspection

The overall visual appearance of the eight rifles evaluated was found to be acceptable by the visual inspection committee; however, some minor discrepancies were noticed.

- The floor plate gap was considered excessive on four of the rifles evaluated.
- One rifle had a wood repair patch that did not match the grain of the stock.
- One rifle had machining marks on the top of the receiver.
- One rifle had hammer marks on the barrel.
- The action was binding on one rifle.
  a) The action was binding on opening.
  b) The problem was in the striker-connector area.
- For visual inspection breakdown per rifle refer to Data Sheet #1.

Measurements

The preliminary measurements for headspace, firing pin indent, bolt opening force, safe on and off force, firing pin protrusion, gun length, gun weight, and center of gravity were found to be acceptable by the Research Test and Measurement Lab.

The pilot line rifles evaluated showed the following averages for the preliminary measurements.

- Headspace - There were only go and no-go gauges available in the 7mm-08 caliber. One hundred per cent of the pilot line rifles were found to be acceptable.

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Measurements Continued

- Firing Pin Indent - The overall average of the depth of the firing pin indent for the eight rifles evaluated was .0244 inches.

- Bolt Opening Force - The bolt opening force was measured in both the dry fired and the cocked positions. The overall average for the bolt opening force for the eight rifles evaluated was 9.1 pounds (dry fired) and 4.0 pounds (cocked).

- Safe On and Off Force - The overall average of the safe on and off force for the eight rifles evaluated was 7.8 pounds (on) and 5.5 pounds (off).

- Firing Pin Protrusion - The firing pin protrusion was measured on four of the eight pilot line rifles. The overall average for the four rifles evaluated was .049 inches.

- Gun Length - Each of the eight pilot line rifles was measured for overall length (from the tip of the muzzle to the rear of the butt pad). The average length for the eight rifles evaluated was 41 3/8 inches.

- Gun Weight - The overall average gun weight for the eight rifles evaluated was 7 pounds 4 ounces.

- Center of Gravity - The center of gravity measurements were taken in relationship to the receiver line (the line where the receiver and barrel connect). A plus sign indicates the center of gravity being toward the butt of the rifle; a minus sign indicates the center of gravity being toward the muzzle of the rifle. The average center of gravity measurement for the eight rifles evaluated was +1.3 inches.

- For preliminary measurements breakdown per rifle refer to Data Sheet #2.

Accuracy

The four rifles that were randomly selected and sent to the Custom Shop for 100 yard accuracy evaluation were found to be acceptable by the Test and Measurement Lab.

- The average five shot group size for the four rifles evaluated was 2.04 inches.

- For accuracy breakdown per rifle refer to Data Sheet #3.

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Field Function

Since Remington is the only manufacturer currently producing 7mm-08 ammunition, R-140-PSP was the only bullet weight available for the field cycle test. A total of 800 rounds (100 rounds per rifle) was fired thru the rifles at the Ilion Fish & Game Club.

The field cycle evaluation of the eight M700 BDL 7mm-08 Cal. pilot line rifles was found to be acceptable by the Research Test and Measurement Lab.

- o There were only two malfunctions out of the 800 rounds fired, and overall malfunction rate of 0.25%.
- o Six out of the eight rifles evaluated experienced no malfunctions.
- o For malfunction breakdown (malfunctions per rifle, malfunctions per shooter and malfunctions by ammunition) refer to Data Sheets #4 thru #6.

PROCEDURE

1. Randomly select twelve M700 BDL 7mm-08 rifles from a sample size of 42 rifles.

2. Select four rifles out of the twelve rifle sample to be used for 100 yard accuracy evaluation.

   a) Conduct and record preliminary measurements on the four rifles selected. These rifles were as follow:

6265608	6253393
6253689	6250940

   b) The 100 yard accuracy evaluation was conducted by Jerry Selan of the Custom Shop.

   c) The ammo type and code used for accuracy was R-140-PSP R29H-08052.

3. A visual inspection committee consisting of A.Long, R.Murphy, H.Stagg, F.Supry and F.Martin inspected the remaining eight rifles and recorded their opinions. The eight rifles used in the visual inspection were as follows:

6212006	6252813
6211867	6265536
6265280	6253097
6871904	6267644

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PROCEDURE Continued

4. Preliminary measurements were conducted and recorded on four additional rifles, selected from the rifles used in the visual inspection. The rifles selected were as follows:

6252813	6253097
6265536	6267644

5. The eight rifles selected for preliminary measurements were utilized in a field cycle test conducted at the Ilion Fish and Game Club.

a) Ammo type and code used was:

R-140-PSP R29H-08052

FLS:T
Research Test & Measurement Lab