

REMINGTON ARMS COMPANY, INC.
Firearms Research Division

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MODEL 700 - 7mm Mauser
SECOND TRIAL & PILOT EVALUATION

Completion of Test Summary

Date Started: 4-21-81
Date Completed: 4-24-81
Work Order: G-0460

INTRODUCTION

The first Trial & Pilot evaluation on the M700 - 7mm Mauser rifles was rejected in the categories of visual inspection, measurements and field function.

P.E. & C. requested that the Research Measurements & Test Lab conduct another Trial & Pilot evaluation on eight (8) M700 Classic 7mm Mauser rifles. These rifles were to be selected from a new sample, when a group size of forty rifles was produced.

Since the original sample was accepted in the accuracy category, the second Trial & Pilot evaluation consisted of the following three categories:

1. **Visual Inspection**
All rifles were reviewed for visual appearance as received from P.E. & C.
2. **Measurements**
Headspace, trigger pull, firing pin indent, bolt operating force, safe on and off force, gun length, gun weight, and center of gravity measurements were taken on all eight rifles. Firing pin protrusion was taken on four of the eight rifles.
3. **Field Function**
A field cycle test consisting of varied bullet weights in Remington and competitive ammunition was conducted on all eight rifles.

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From: F.L.Supry
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OBJECTIVE

To evaluate the 7mm Mauser (7x57) caliber in the M700 Classic rifle.

TEST FINDINGS

The 2nd eight rifle pilot line test on the M700 Classic 7mm Mauser (7x57) was accepted by the Research Measurements & Test Lab.

The remainder of this section will be separated into the three categories that were evaluated (visual, measurements and function).

1. Visual Inspection

The M700 Classic 7mm Mauser (7x57) was accepted by the visual inspection committee. However, there were some minor discrepancies noted:

- o The checkering on the pistol grip, on the right side, was incomplete on two of the rifle.
- o There were marks on the stocks of two of the rifles caused by opening the floor plate.
- o One rifle had a different butt pad.
- o For a visual inspection breakdown per rifle, refer to Data Sheet #1.

2. Measurements

The preliminary measurements for headspace, trigger pull, firing pin indent, bolt opening force, safe on and off force, gun length, gun weight, center of gravity, and firing pin protrusion were all found to be acceptable.

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

Headspace: There were only go and no-go gages available in the 7mm Mauser (7x57) caliber. 100% of the rifles tested were acceptable.

Trigger Pull: The Remington standard for the trigger pull is 3 to 5 pounds. The overall average for the eight rifles evaluated in the Trial & Pilot was 4.8 lbs.

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2. Measurements Continued

Firing Pin Indent: The Remington standard for the firing pin indent is .018 to .026 inches. The overall average for the eight rifles evaluated was .0258 inches.

Bolt Open Forces: There are no Remington standards set for bolt open forces. The overall average on the eight rifles tested was 9.9 pounds (dry fired) and 4.1 pounds (cocked).

Safe On & Off Forces: There are no Remington standards set for the safe on and off forces. The overall average for the eight rifles evaluated was 8.3 pounds (on) and 6.0 pounds (off).

Gun Length: The Remington standard for the gun length is 42 $\frac{1}{2}$ inches with a 22 inch barrel. The overall average for the eight rifles evaluated was 42 $\frac{3}{8}$ inches.

Gun Weight: The Remington standard for the gun weight is 7 pounds. The overall average for the eight rifles evaluated was 7 pounds 4 ounces.

Center of Gravity: There are no Remington standards for the center of gravity measurements. The measurements were based on the receiver line (receiver to barrel). A plus sign indicates to the right of the receiver line (toward the butt). A minus sign indicates to the left of the receiver line (toward the muzzle). The average center of gravity measurement for the eight rifles evaluated was +2.0 inches.

Firing Pin Protrusion: The Remington standard for firing pin protrusion is .045 to .075 inches. The overall average for the eight rifles evaluated was .051 inches.

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

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3. Field Function

A total of 100 rounds of Remington and competitive ammunition was fired thru each rifle in a field cycle test conducted at the Ilion Fish & Game Club.

The results of the field cycle test on the eight M700 Classic 7mm Mauser (7x57) rifles were found to be acceptable by the Test & Measurements Lab.

There were eleven (11) Stem Chamber malfunctions; an overall malfunction rate of 1.4%.

Three of the eight rifles experienced no malfunctions during the field cycle test.

For malfunction breakdowns (malfunctions per rifle, malfunctions per ammunition, and malfunctions per shooter) refer to Data Sheets #3 thru #5.

PROCEDURE

1. Conduct and record preliminary measurements on all eight M700 Classic 7mm Mauser (7x57) rifles received for the second Trial & Pilot evaluation. The rifles were as follow:

- | | |
|------------|------------|
| 1) 6307242 | 5) 6305608 |
| 2) 6305993 | 6) 6310550 |
| 3) 6305715 | 7) 6305895 |
| 4) 6305582 | 8) 6305605 |

2. A visual inspection committee consisting of A.Long, R.Murphy, H.Stagg, F.Supry and F.Martin inspected the eight rifles and recorded their opinions. A follow-up inspection was conducted by J.Hennings and J.Snedeker.

3. The eight rifles were subjected to a field cycle test consisting of the following ammo types:

<u>Ammo.</u>	<u>Code</u>
R-140 PSP	J24H B3532
R-175 PSP	J09E D0008
W-175 PSP	14 RD 52
F-139 PSP	A 9030
F-175 PSP	A 9038

4. The eight rifles used in the Trial & Pilot evaluation will be returned to P.E. & C.

FLS:T
Test & Measurements Lab