

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE



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RESEARCH TEST AND MEASUREMENT REPORT

REPORT# 851412
SEPT. 3, 1985

MODEL 700 MOUNTAIN RIFLE 280 CALIBER TRIAL AND PILOT EVALUATION

MODEL 700 280 CALIBER MOUNTAIN RIFLE TRIAL AND PILOT EVALUATION

ABSTRACT:

Research and Development finds the Trial and Pilot Evaluation of the Model 700 280 Caliber Mountain Rifle, to be acceptable; upon the condition that the Plant investigates and corrects the glue failures that occurred on the adhesion of the fore end tip. The Trial and Pilot Evaluation consisted of Field Function, Accuracy, and an Endurance Test. The forty one (41) rifle sample was found to be within Remington Specifications for each phase of the Trial and Pilot Evaluation.

Prepared by: F.L. SUPRY
Date Prepared: 9/03/85

proofread and cleared by:

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Test, Measurement & Mech. Analysis Lab

W.E. COLEMAN, II
New Products Research Lab Director

REPORT# 851412

WORK ORDER# 81389-911
DATE: SEPT. 3, 1985

TO: J.R. SNEDEKER
FROM: F.L. SUPRY

TITLE:

TRIAL AND PILOT EVALUATION: MODEL 700 280 CALIBER MOUNTAIN RIFLE

ABSTRACT:

On May 21, 1985 a request was received from R.S. Murphy to conduct a Trial and Pilot Evaluation of the Model 700 280 caliber Mountain Rifle. The evaluation was to consist of Field Function, 100 yard Accuracy, and Endurance. A sample run of forty one rifles was provided by production in August of 1985. No visual inspection was to be done on the sample rifles.

SCOPE OF TEST:

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

TEST RESULTS:

1. Forty one (41) rifles were subjected to a 20 round Field Function Test. The following malfunctions occurred:
 - A. During the test the fore end tip came loose on four of the rifles.
 - B. Three (3) operating malfunctions occurred, for an overall malfunction rate of 0.2%.
2. Ten rifles were tested for 100 yard accuracy and all ten were within the specified 3.5 inch group size.
3. Ten rifles were subjected to a 2000 round endurance. The following results occurred:
 - A. Four rifles experienced no malfunctions. A total of six malfunctions occurred, an overall malfunction rate of 0.03%.
 - B. One fore end tip came off, at 820 rounds.

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REPORT TEXT:

1. FIELD FUNCTION:

A. All forty one of the rifles were subjected to the loading and firing of twenty (20) rounds of Remington ammunition, in a Field Function Test at the Ilion Fish and Game Club. The following results were obtained:

- a. Thirty four (34) of the rifles experienced no malfunctions.
- b. The rifles that experienced malfunctions, experienced them as follows:

- i. B6691073 - safe hard to take off
B6710288 - 1 follower tip down
B6710665 - 1 stem chamber left

c. The fore end tip came off the following rifles:

- i. B6710588 - (after 10 rounds)
B6691052 - (after 5 rounds)
B6690266 - (after 5 rounds)
B6690579 - (after 5 rounds)

2. ACCURACY:

A. Ten rifles were tested for 100 yard accuracy. The groups were averaged for all ten rifles by three shot group, five shot group, and shooter. The following results were obtained:

- a. Shooter #1 - 3 shot group -- 2.098 inches
5 shot group -- 2.827 inches
- b. Shooter #2 - 3 shot group -- 2.479 inches
5 shot group -- 3.119 inches

B. Individual results are included in the appendix of this report, in a summary prepared by Paul Conant.

3. ENDURANCE:

A. Ten rifles were tested for 2000 round endurance. The following results were obtained:

- a. Four rifles experienced no malfunctions.
 - i. B6688899 B6691097
B6690272 B6690512

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REPORT TEXT: (continued)

3. ENDURANCE: (continued)

b. The rifles that experienced the malfunctions, experienced them as follows:

1. Rifle# B6691063 - the fore end tip came off at 820 rounds.
- Rifle# B6710712 - trigger was hard to pull at 220 rounds.
- Rifle# B6690555 - heavy bolt lift at 860 rounds.
- Rifle# B6690491 - heavy bolt lift at 200 rounds.
- Rifle# B6690514 - follower tip down at 620 rounds.
- Rifle# B6710782 - heavy bolt lift at 1216 rounds.

TEST PROCEDURE:

1. FIELD FUNCTION:

A. All forty one rifles were subjected to the loading and firing of twenty rounds of Remington ammunition. The round robin method of firing the rifles was used, firing the rifles in both the medium and fast modes. The test was conducted at the Ilion Fish and Game Club.

B. The following ammunition was used:

- a. 280 Caliber 150 grain.
- 280 Caliber 165 grain.

2. ACCURACY:

A. Refer to Appendix.

3. ENDURANCE:

A. The rifles used in the Endurance test were selected using random numbers.

B. Two thousand (2000) rounds were fired through each of ten rifles, one thousand each of 280 caliber 150 grain, and 280 caliber 165 grain Remington ammunition.

C. All shooting was done in the Research shooting room, with the rifles mounted in a shooting jack. All malfunctions were recorded.

4. APPENDIX:

A. Contents:

- a. The Test Result report of the Accuracy test, written by Paul Conant

APPENDIX

MEASUREMENT LAB TEST RESULTS

REQUESTER: PLANT TESTER: P. Conant DATE: 08/30/85
REPORT NO.: 851412 WORK ORDER NO.: 81389-911
TEST TYPE: New design acceptance

FIREARM STAT'S : MODEL: Mountain Rifle CAL or GAUGE: 280 (7MM EXPRESS)
BARREL TYPE: _____ PROOFED: YES * NO _____

REASON FOR TEST : This test was conducted to determine if the Mountain Rifles met the accuracy specifications of 3.5 in. for a 5 shot group, and to see what the spread difference was between the 3 and 5 shot groups.

EQUIPMENT REQUIRED : Ten Mountain Rifles in 7MM express caliber, 12 power scope, 150 grain psp Remington ammo, lot # D6721.

TEST PROCEDURE : The guns were fired at 100 yards with three groups of five shots each. This procedure was accomplished with two technicians, one firing a set of groups from each gun while the other technician spotted and recorded where each bullet hit. This test procedure was used to later find the difference between the spread distance of three and five shot groups.

TEST RESULTS : The three group spread distances of five shots and three shots were averaged together for each gun and each shooter and then recorded. Then the spread distances for all the guns at three and five shot groups were averaged together. The results were as follows:

Shooter #1: 3 shot -- 2.098 in.
5 shot -- 2.827 in.

Shooter #2: 3 shot -- 2.479 in.
5 shot -- 3.119 in.

The tabulated results and the digitized pattern information accompany this report.