

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE



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File

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____

Ilion, New York
January 3, 1977

TO: A. A. HUGICK
FROM: J. H. HENNINGS
SUBJECT: MODEL 700 - BDL 8mm REM. MAG.
PILOT LINE TEST

INTRODUCTION:

Received a request from Design to conduct a pilot line test on the first production run of the M/700 BDL 8mm Rem. Mag. rifle. Eight (8) rifles were selected from a sample of thirty (30) rifles.

DATE STARTED: NOV. 15, 1976

DATE COMPLETED: DEC. 7, 1976

WORK ORDER: 85145

OBJECTIVE:

To conduct a pilot line test of the eight rifles selected.

OBSERVATIONS:

A. Visual Appearance:

- 1) Over-all appearance of all eight rifles was good. Slight pin holes in the finish were noticed on all eight rifles. On three rifles the pistol grip spacer was fitted poorly.

B. Measurements:

- 1) Five rifles measured for firing pin indent exceeded the standards of .018 to .026" with an average of .027".

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OBSERVATIONS: (Cont'd)

B. Measurements: (Cont'd)

- 2) Trigger pull measurements on four rifles averaged 5.51#. This average is above the standards of 3# to 5# for this rifle.
- 3) Stock dimensions and over-all length measurements were within Remington Standards.
- 4) Weight measurements exceeded the Rem. standards of 7.5# with sling assembly. The average weight of the test rifles was 7.7# less sling.
- 5) The open sight max. adjustments were conducted on the 100 yard range with the following results:
 - a. Elevation from P.O.A. - 17.9" Hi Avg. of 8. This is max. adj. - there is no standard.
 - b. Depression from P.O.A. - 5.4" Low Avg. of 8. This is max. adj. - there is no standard.
- 6) 100 yard accuracy was conducted using 220 Gr. ammo and Rem. 24X scope.
 - a. Seven rifles averaged 2.79" for 2 x 5 shot groups.
 - b. Gun #6 - Serial # 6362986 averaged 4.38" group size. The Rem. Stds. are 3.50" C to C.
 - c. Gun #6 was examined and poor bedding belived to be the cause. The action was rebbed by the custom gun shop and averaged 2.00" for 2 x 5 sho groups when retested.

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OBSERVATIONS: (Cont'd)

B. Measurements: (Cont'd)

- 7) A 40 ^{Rds} Rd. field function test was conducted at the Ilion Fish and Game. 20 rds. of each bullet weight were fired thru each gun with the following results:
 - a) Malfunction rate - 2.5% over-all (320 rds. fired)
Greatest occurring malf. - Bolt over-ride - (7).
 - b) Guns 1, 4, 5 & 6 were jack function tested at the Gallery and test lab after return from the field test with no bolt-over-rides occurring. At this time it was noted by the test lab that the ammo used on field test was not the same prod. "run" as that used during retest. This older "run" of ammo was depleted during the field test.
 - c) All eight guns were retested at the Fish and Game club. One bolt-over-ride occurred for a total of 320 rds. fired.
- 8) A live round ejection test was conducted on gun #4 using both bullet weights with no malfunctions. This test was repeated with a 4X scope mounted on the receiver. No malfunctions occurred during this test also.
- 9) Bore and Groove measurements were taken on four rifles with the following results:
 - a) On all four rifles the bore meas. could not be completed because air gauge could not pass completely thru due to under min. (.3160") dimensions at muzzle. This measurement was also taken by Process Engineering on these same four rifles with simular results.
 - b) The groove measurements were with-in Rem. Stds. on three rifles. Gun #6 was tight at the muzzle and air gauge would not pass thru.

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OBSERVATIONS: (Cont'd)

B. Measurements: (Cont'd)

10) Three rifles were selected for a extended endurance and accuracy test.

- a) A total of 1,000 rds. were fired thru guns # 2, 5, & 7 with no malfunctions.
- b) Gun #2 cracked the stock after firing 500 rds. plus function tests. The crack was located at the floor plate cut. (front screw hole).
- c) Accuracy was conducted at 500 and 1,000 rds. with the following results:

500 rds.	Gun 2	Gun 5	Gun 7
	3.27"	2.88"	2.78"
1,000 rds.	2.38"	2.09"	3.60"

Group size is Avg. of 2 x 5 shot groups 220 Gr. ammo.

TEST PROCEDURE:

1) Visual Inspection:

- a) Conducted by Test lab personnel. All guns had completed gallery test and final inspection.

2) Measurements:

- a) All measurements taken were conducted by or under the supervision of test lab personnel.
- b) All averages stated are an average of 5 samples unless otherwise stated.
- c) Description of ammo used for accuracy and function testing:

- 1) Accuracy:
 220 Gr. 8mm Rem. Mag. sample of 25,000 rd.
 First production run. (Lonoke)

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TEST PROCEDURE: (Cont'd)

2) Measurements: (Cont'd)

c) 2) Function Testing:

- 1st field test - 185 and 220 Gr. 8mm Mag.
used all of the remaining sample of the Pre
Pilot run lot from Lonoke.

- All other function and endurance tests used
185 and 220 Gr. 8mm Mag. ammo from the
25,000 rd. first production run. (Lonoke)

d) Accuracy Testing:

- 1) All rifles tested at 100 yards using R&D range.
- 2) Rem. 24X scope used. All bores cleaned before
start of test.
- 3) Ammo used - described above.
- 4) All groups measured center to center.

e) Function Testing:

- 1) Field tested as received at Illion Fish & Game.
- 2) Fired 20 yds of each bullet wt. (185 & 220)
thru each rifle from the shoulder.
- 3) Chambered one rd. and loaded 3rds. in magazine
when ever possible.
- 4) Jack tested four (4) rifles in gallery and test lab
after return from field test. Repeated field test procedure
to determine cause of bolt over-ride malfunctions.
- 5) Conducted a second field test with four rifles using
the pilot lot run of ammo from Lonoke.

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TEST PROCEDURE: (Cont'd)

2) Measurements: (Cont'd)

f) Endurance - Accuracy Test.

- 1) Total rds fired 1,000 per gun.
50% 185 gr. and 50% 220 gr.
- 2) Cooled rifles every 10 rds. - cleaned bores every
500 rds.
- 3) Accuracy was shot at 500 and 1,000 rds. 2 x 5 shot
groups per gun.
- 4) Ammo used - Pilot lot run from Lonoke.

FUTURE WORK:

- A. Ammunition evaluation conducted by Ilion Research Dept. currently in
progress.
- B. Reports to follow from Design Group on bullet "Mush" tests in lard.

JHH:bd *JH*
Ilion Research Div.
Measurement/Test Lab