#3

Report: 12-28-81

Re: M/700 NEW DESIGN SAFETY, NO BOLT LOCK ARM

TEST OBJECTIVE: To determine if the new safety will function satisfactorily without the bolt lock arm.

Tests performed: Dry cycle
Live fire
Drop test

See marked item

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington (1816) / Remington (1911)

Distribution: C.B. Workman
C.E. Ritchie
J.W. Brooks
D.E. Bullis

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

RESEARCH TEST and MEASUREMENT REPORT – Report No. 812391

[redacted] 700 NEW DESIGN SAFETY, NO BOLT LOCK ARM

Prepared by: A. Long / F. Supry

Date Prepared: 12-28-81

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Signature 1-20-82 Date

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Signature 1/20/82 Date

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington (1816) Parker (1867)

cc: C.B. Workman
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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
December 28, 1981

TO: J.E. Hennings

FROM: A.J. Long/F.L. Supry

M/700 NEW DESIGN SAFETY, NO BOLT LOCK ARM

Date Started: 9/4/81
Date Completed: 10/6/81
Work Order No.: C-1803

INTRODUCTION

Six M/700 new design safety switches were received from design for evaluation. The evaluation will include dry cycle function, drop test function and live fire function.

TEST OBJECTIVE

To determine if the new safety will function satisfactorily without the bolt lock arm.

TEST OBSERVATION

Five samples were dry cycled 10,000 cycles each, four of the five samples experienced no malfunctions. At 4,000 cycles, sample no. 4 was found to be difficult to operate. It was then disassembled, cleaned, lubricated and reassembled. There were no malfunctions during the remainder of the test.

There were no malfunctions during the live fire tests on the same five samples.

There were no failures during the drop testing, which was conducted on two of the five samples and on the sample that had no dry cycles or live fire rounds. One standard production M/700 was included as a control rifle.

A photograph comparing the current design to the new design is included in this report.

DRY CYCLE

Five of the six samples were assembled into Model 700 actions, after the sear lift and engagement were determined to be satisfactory by assembly. Ten thousand (10,000) cycles were conducted on each sample on a safe on-off dry cycle machine.

The trigger pull and safe on-off forces were measured at the start of the dry cycle and at 1,000 round intervals during the test. The sear engagement and sear lift were also measured at the completion of the dry cycle testing.

TEST RESULTS (For individual test results refer to Data Sheet No. 1).

After 10,000 Dry Cycles:

- Sear engagement showed no change.
- Sear lift showed an average decrease of .0004" FULL, and an average INCREASE of .001" NULL.
- Trigger pull showed an overall increase of 0.25 lbs.
- Safe "on" forces showed an overall decrease of 2.0 lbs.
- Safe "off" forces showed an overall decrease of 2.25 lbs.
- There were no failures or breakages.

LIVE FIRE

The five samples with 10,000 dry cycles were assembled in M/700 30.06 caliber actions; and 500 rounds of R30065 (180 gr. pointed soft point core-lokt) were fired thru each action.

TEST RESULTS

There were no breakage or failures.

DROP TEST

Three of the M/700 design change fire controls (2 with 10,000 dry cycles and 500 live rounds, one as received from design) and one current production M/700 fire control were assembled in M/700 30,06 cal. actions; and a drop test was conducted.

Each of the rifles were dropped from 4 feet onto a solid neoprene rubber mat, and from 2 feet onto a solid maple plank.

- At each distance the rifles were dropped in four different positions:
  a) muzzle first
  b) butt first
  c) top first
  d) bottom first

- The actions were closed on a copper crusher placed in a holder in the chamber.

- The safety was in the "on" position in the 4 foot drops, and in the "off" position in the two foot drops.

TEST RESULTS

- The position of the safety was not affected by the drops.

- The rifle did not fire during the test.

- The copper crusher was not indented during the test.

- There was no difference noticed in the results of this test between the new design and the current design fire controls.

Firearms Research Division
AL/FS:m
Attachments