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Xc: J. P. Linde
Lab file
BBB
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REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Illion, New York
May 27, 1975

TO: W. E. LEEK
FROM: A. A. HUGICK
DATE: May 27, 1975
SUBJECT: M/580 SAFETY EVALUATION - REPORT #3
WORK ORDER: E 0275
TEST PERIOD: April 18, 1975 thru May 27, 1975

INTRODUCTION:

Design initiated a review of the bolt action rifle safety function. Three (3) M/580 series test rifles with triggers (top) ground off .010 were delivered to the lab area for testing and evaluation. Grinding off .010 from the trigger top results in greater sear lift, at the trigger with the safe on. Test activity of these rifles was confined to wear of the safety and fire control system.

TEST OBJECTIVE:

Test the 580 series rifle safety assemblies for endurance and function.

TEST RESULTS & OBSERVATIONS:

1. M/581 - SN 1199074 - Test Gun #3

- | | |
|---------------|---|
| Test Activity | - 20,000 fire rounds of 22 R. F. |
| | - 4,000 Safe On - Safe Off cycles. |
| | - WD 40 lubrication. |
| Test Results | - Sear lift showed no changes |
| | - Sear lift varied from .0153 to .0164 inch. |
| | - Safe on force remained fairly constant at 7.0 lbs. |
| | - Safe Off force varied from 1.0 lbs. to 6.5 lbs. |
| | - Safe function was normal and could not be tricked. |
| | - Trigger pull remained in specs. |
| | - Roll pin in striker assembly is positioned to extreme right and loads only on right side (for inspection) |

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TEST RESULTS & OBSERVATIONS: (Con't)

2. M/581 - 1199075 - Test Gun #4

- Test Activity - 50,000 cock and dry fire cycles.
- 50,000 Safe On - Safe Off cycles
- WD 40 lubricant.
- Test Results - Safe On sear lift as received was .0123 and .0105 at end of test.
- Safe on sear lift varied from .0144 to .0091 during testing.
- Safe off force remained around 1.0 lbs.
- Safe On force averaged around 7.0 lbs. as received and 5.0 lbs. at end of test.
- Safe function was normal and could not be tricked.
- Safety retaining screw was loose approximately three turns.

3. M/581 - 1200468 - Test Gun #11

- Test Activity - 50,000 Safe On - Safe Off cycles.
- 50,000 cock and dry fire cycles.
- WD 40 lubricant.
- Test Results - Safe On sear lift as received was .0143 and .013 at end of testing.
- Safe On sear lift measurement varied .0185 high to a low of .012.
- Safe Off force was fairly uniform and averaged around 1.0 lbs.
- Safe On force averaged 6.0 lbs.
- Trigger pull remained fairly uniform through out testing.
- Safety Detent hole in trigger casting has slight elongation.
- Safe function was normal and could not be tricked.

AAH:bd
 Measurment/Test Lab
 Attached

M/580 Safety Evaluation - Report #3

580 SAFE EVALUATION

M/581 - 1199074 22 Rim Fire Shooting Test
20,000 FIRED ROUNDS + 4,000 Safe On - Safe Off Cycles

- Rifle disassembled per A. A. Hugick at completion of shooting and manual safe cycling.
- Roll pin in striker assembly is positioned to extreme right and loading only on right side.

Fire control disassembled from rifle for inspection per A. A. Hugick.

- Fire control parts have no wear indications and appearance was excellent.

AAH:bd

M/580 Safety Evaluation - Report #3

M/580 SAFE EVALUATION
581 - 1199075 - Machine Dry Cycle

50,000 COCK AND DRY FIRE CYCLES.
50,000 SAFE ON - SAFE OFF CYCLES.

May 27, 1975

J. Hennings.

Rifle disassembled per A. A. Hugick for inspection at completion of test.

- Extractor spring missing.
- Firing pin tail broken
- Spriker assembly okay.

Fire control assembly disassembled per A. A. Hugick for inspection.

- Safety retaining screw loose.
- Safety pivot pin shows wear action due to pivoting of the safety.
- Fire control parts generally look good.
- Trigger and sear look good.

A. A. Hugick
5/27/75

AAH:bd

M/580 Safety Evaluation - Report #3

M/580 SAFE EVALUATION
M/581 - 1200458 - Machine Dry Cycle

50,000 SAFE ON - SAFE OFF CYCLES
50,000 COCK AND DRY FIRE CYCLES

May 1975

J. Hennings

Rifle disassembled for inspection per A. A. Hugick.

- Extractor spring and firing pin missing.
- Bolt and striker assembly okay.

Fire control disassembled for inspection per A. A. Hugick.

- Trigger and sear has slight chip - this occurred during installation of inspection hole in housing - other than this okay.
- Pivot pin has slight wearing due to pivot action of safety.
- Safety retaining screw was tight.
- Slight elongation of safety detent hole in trigger housing function okay.

General appearance good
Functions okay.

A. A. Hugick
5/27/75

AAH:bd

TEST PROCEDURE

- I. 2 x M/581 Rifles With Ground Triggers at Sear.
 - A. Trigger pull, Headspace, Safe On Force, Safe Off Force Safety Lift of Sear at Trigger, Trigger radius at Sear.
 - B. Fire Magazine Box of 22 Long Rifles.
 - C. Check function of Safe.
 - D. Clean and lubricate Fire Control (WD 40)
 - E. 1,000 Cock and Dry Fire Dry Cycles.
1,000 Safe On and Safe Off Dry Cycles.
 - F. Measure Safe On Force, Safe Off Force, Trigger Pull, Safe Lift of sear at trigger.
 - G. Fire Magazine Box of 22 L. R.
 - H. Clean and lubricate Fire Control (WD 40)
 - I. 2,000 Cock and Dry Fire Cycles
2,000 Safe On/ Safe Off Dry Cycles.
 - J. Measure Safe On Force, Safe Off Force, Trigger Pull Safe lift of sear at Trigger, Trigger radius.
 - K. Fire Magazine Box of 22 L. R.
 - L. Check Function of Safe.
 - M. Clean and lubricate Fire Control (WD 40).
 - N. 2,000 Cock and Dry Fire Cycles.
2,000 Safe On / Safe Off Dry Cycles.
 - O. Repeat J.
 - P. Repeat K.
 - Q. Repeat L.
 - R. Repeat M.
 - S. 2,500 Cock and Dry Fire Cycles.
2,500 Safe On / Safe Off Dry Cycles.

TEST PROCEDURE (Con'td)

I. (Cont'd)

- T. Repeat J.
- U. Repeat K.
- V. Repeat L.
- W. Repeat M.
- X. Repeat S. to a total of 50,00 Cycles.

II. 1 x M/581 Rifles With Ground Trigger at Sear.

- A. Trigger pull, Headspace, Safe On Force, Safe Off Force, Safety Lift of Sear at Trigger, Trigger radius at Sear. (Etc. for Firing endurance test).
- B. Check function of Safe.
- C. Clean and lubricate Fire Control. etc.
- D. Fire 5,000 rounds of 22 Rim Fire.
With each Magazine Box loading place Safe On / Safe Off.
- E. Measure Safe On Force, Safe Off Force, Trigger Pull Safe Lift of Sear At Trigger.
- F. Check function of safe.
- G. Clean and lubricate Fire Control etc.
- H. Fire 5,000 rounds of 22 Rim Fire.
- I. Repeat step E.
- J. Repeat step F.
- K. Repeat step G.
- L. Repeat step H. to a total of 20,000 fired rounds.

AAH:bd
Measurement/Test Lab
Illion Research Division