

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE



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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" \_\_\_\_\_

RESEARCH TEST and MEASUREMENT REPORT - Report No. \_\_\_\_\_

M/700 NO BIND FOLLOWERS

Prepared by: F.L. Supry

Date Prepared: 1-18-82

Proofread and Cleared By:

J.H. Hennings, / R.E. Nightingale,  
Foreman-Test Lab / Foreman-Measurement Lab

James Hennings 2-2-82  
Signature Date

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Sr. Supervisor - Testing,  
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C.E. Ritchie 2-5-82  
Signature Date

TEST & MEASUREMENT LAB REPORT

REPORT NUMBER:  
MODEL(S): 700  
GAGE OR CALIBER: All available calibers.  
REPORT TITLE: M/700 No Bind Followers

DATE: 1-18-82  
W.O. NUMBER: C-2054-000  
PART NAME: No Bind Follower  
PART NUMBER:  
DRAWING ALTERATION:  
RAMAC NUMBER:

TEST TYPE: 1. DEPT. 98 OPERATIONS  
2. PHOTO LAB OPERATIONS  
3. STRENGTH TESTS  
4. X FUNCTION TESTS  
5. ACCURACY  
6. MEASUREMENTS  
7. ENDURANCE TESTS  
8. ENVIRONMENTAL TESTS  
9. AMMUNITION TESTING & EVALUATION  
10. VISUAL EVALUATION

PROCESS TYPE: N/C Machining  
MATERIAL(S): B-1112 C.R. - Low Carbon Steel  
DESIGNER OR ENGINEER: F. Martin

REMINGTON ARMS COMPANY, INC.  
Firearms Research Division

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January 18, 1982

TO: J.H. Hennings

FROM: F.L. Supry

REPORT TITLE: M/700 No-Bind Followers

ABSTRACT

The Test Lab was requested to evaluate M/700 no-bind followers, designed by F.E. Martin. The no-bind followers have a different follower rib configuration and are machined from B-1112 C.R. - low carbon steel. The evaluation consisted of:

- Jack Function - feeding and unloading live rounds, with rifle supported in a shooting jack.
- Hand Held Function - feeding and unloading live rounds, while holding rifle.
- Field Function - The actual firing of the rifles in an "in the field" situation.

Long, medium and short no-bind followers were provided.

SCOPE OF TEST

To test the no-bind followers in all M/700 calibers available, checking for follower related malfunctions.

TEST RESULTS

A brief synopsis is given for each phase of the test. Refer to the Report Text for more detailed information.

Jack Function (Remington ammunition cycled at varied speeds.)

Long Followers	10 samples were cycled a total of 1760 times. 1 stem high malfunction occurred.
Controls	30 current production followers were cycled a total of 1760 times. No follower related malfunctions occurred.

TEST RESULTS - continued

Medium Followers	10 samples were cycled a total of 1200 times. No malfunctions occurred.
Controls	25 controls were cycled a total of 1200 times. No follower related malfunctions occurred.
Short Followers	10 samples were cycled a total of 400 times. 38 follower related malfunctions occurred.
Controls	10 controls were cycled a total of 400 times. No follower related malfunctions occurred.

Hand Held (Remington and competitive ammunition)

Long Followers	10 samples were cycled a total of 1000 times. No malfunctions occurred.
Controls	30 controls were cycled a total of 1000 times. No follower related malfunctions occurred.
Medium Followers	10 samples were cycled a total of 775 times. No malfunctions occurred.
Controls	25 controls were cycled a total of 775 times. No follower related malfunctions occurred.
Short Followers	10 samples were cycled a total of 175 times. 9 follower related malfunctions occurred.
Controls	10 controls were cycled a total of 175 times. 2 follower related malfunctions occurred.

Field Function (No-bind followers were assembled in two rifles from each available caliber)

Long Followers	12 samples were functioned a total of 790 rounds. 5 follower related malfunctions occurred.
Medium Followers	10 samples were functioned a total of 880 rounds. No follower related malfunctions occurred.
Short Followers	4 samples were functioned a total of 600 rounds. 40 follower related malfunctions occurred.

The short followers were inspected by D.E. Bullis and the follower spring slot was not made to drawing specifications. (Refer to picture, Appendix B).

REPORT TEXTA. Jack Function

Long Followers – One follower related malfunction occurred (refer to data sheet no. 1).

Medium Followers – No follower related malfunctions occurred (refer to data sheet no. 2).

Short Followers – 38 follower related malfunctions occurred (refer to data sheet no. 3).

B. Hand Held

Long Followers – No follower related malfunctions occurred (refer to data sheet no. 1).

Medium Followers – No follower related malfunctions occurred (refer to data sheet no. 2).

Short Followers – 9 followers related malfunctions occurred (refer to data sheet no. 3).

C. Field Function

Long Followers – 5 followers related malfunctions occurred (refer to data sheet no. 1.).

Medium Followers – No follower related malfunctions occurred (refer to data sheet no. 2).

Short Followers – 40 followers related malfunctions occurred (refer to data sheet no. 2).

- 24 malfunctions occurred during the original field test. At the completion of the field test the follower springs were changed, (replaced with current production springs of like design) and the field test was reshot.
- 16 malfunctions occurred during the second field test.
- The follower spring failed to fit the short followers properly. The slot into which the follower spring is assembled is not long enough.
- A picture comparing the proposed design to the current design followers is included in Appendix B.

TEST PROCEDURE

The no-bind followers were assembled into corresponding M700 actions. Since only 10 samples of each size were provided, some followers had to be utilized in more than one caliber.

A. Jack Function (R&D Test Area)

A rifle was placed in a shooting jack, then loaded. Twenty rounds of every Remington bullet weight available were cycled through the rifle at slow, medium, fast and alternating speeds without firing the rifle. All feeding and/or follower related malfunctions were recorded. The procedure was repeated until all the no-bind followers and control followers were tested.

B. Hand Held (R & D - 50 Yard Range)

A rifle was held and one shell was placed in the chamber and the magazine was loaded. One complete loading of every bullet weight in Remington and competitive ammunition was cycled through the rifle. All feeding and/or follower related malfunctions were recorded. The procedure was repeated until all the no-bind followers and control followers were tested.

C. Field Function (Lion Fish and Game Club)

Two rifles of each caliber, assembled with no-bind followers, were selected for a field function test. The field function test consisted of ten rounds of each Remington and competitive ammunition available per rifle.

## D. Rifles withdrawn from the warehouse with long followers:

<u>30-06</u>	<u>.270</u>	<u>25.06</u>	<u>7mm Rem. Mag.</u>
B6341922	B6341085	B6264256	B6310719
B6350761	B6342519	B6264964	B6312012
B6348313	B6340630	B6312350	B6311964
B6351640	B6347536	B6739246	B6318560
B6350739	B6341133	B6312478	B6309765
B6361549	B6347939	B6308460	B6312057
B6352000	B6334680	B6313521	B6312001
B6351012	B6347887	B6304243	B6311476
B6341960	B6346728	B6312086	B6310781
B6341951	B6342566	B6264863	B6310754
	<u>7mm Exp.</u>		<u>8mm Mag.</u>
A3201194	A6876376	B6261430	B6309465
A3201286	A6875919	B6263565	B6309425
A6879877	A6877406	B6258164	B6309447
A6874759	A6875041	B6260952	B6315432
A6874918	A6876993	B6263886	B6308125

TEST PROCEDURE - continued

## E. Rifles withdrawn from the warehouse with medium followers:

<u>.243</u>	<u>7mm.08</u>	<u>.308</u>	<u>6mm</u>	<u>22.250</u>
B6324901	B6324188	B6354876	B6289251	B6289783
B6323697	B6322417	B6357609	B6322850	B6299290
B6326188	B6324732	B6321246	B6322915	B6299881
B6323223	B6322368	B6354920	B6290561	B6290385
B6325306	B6324237	B6357134	B6289030	B6296367
B6321464	B6289272	B6357141	B6298367	B6290460
B6325619	B6289284	B6357748	B6323423	B6290796
B6324688	B6289204	B6356983	B6291134	B6300262
B6325938	B6299963	B6357709	B6290916	B6289450
B6325914	B6298321	B6357212	B6323791	B6296503

## F. Rifles withdrawn from the warehouse with short followers:

<u>.17</u>			<u>.222</u>
B6293214	B6292240	B6270913	B6271106
B6326398	B6326833	B6271098	B6293903
B6327826	B6294976	B6270227	B6292508
B6294678	B6293495	B6292414	B6293957
B6326448	B6294977	B6292363	B6294381

G. Appendix A - Data Sheets  
Appendix B - Pictures

**A P P E N D I X A**

**( Data Sheets )**



FLS.  
1-18-82

M 700 NO-BIND FOLLOWERS  
LONG FOLLOWERS

JACK FUNCTION		30 OG		250		2506		7mm REM MAG		7mm EXP		8mm		MAG	
SAMPLE		CONTROL		SAMPLE		CONTROL		SAMPLE		CONTROL		SAMPLE		CONTROL	
No. of SAMPLES TESTED		120		60		60		40		40		32		32	
FOLLOWER RELATED MALFUNCTIONS		0000		0000		0000		0000		0000		0000		0000	
SLOW		0		0		0		0		0		0		0	
MED		0		0		0		0		0		0		0	
FAST		0		0		0		0		0		0		0	
ALT		0		0		0		0		0		0		0	
MALFUNCTION - BULLET WEIGHT		11		STERN 1505P		11		11		11		11		11	
FOLLOWER RELATED MALFUNCTIONS		0		0		0		0		0		0		0	
ROUNDS PER RIFLE		85		50		20		25		20		20		20	
No. of SAMPLES TESTED		2		2		0		0		0		2		0	
MALFUNCTIONS		1 STICK W 3005P		0		0		0		0		0		0	
SAMPLE 1		1 STICK W 3005P		0		0		0		0		0		0	
SHOOTER #		1		0		0		0		0		0		0	
SAMPLE 2		1 STICK W 3005P		0		0		0		0		0		0	
SHOOTER #		1		0		0		0		0		0		0	
ROUNDS PER RIFLE		170		100		0		35		20		20		20	
FOLLOWER RELATED MALFUNCTIONS		2		0		0		0		0		0		0	

M700 NO. 812 FOLLOWERS  
MEDIUM FOLLOWERS  
F.L.S.  
1-18-82

JACK FUNCTION		243		7MM.08		308		6 AM		22.050	
		SAMPLE	CONTROL	SAMPLE	CONTROL	SAMPLE	CONTROL	SAMPLE	CONTROL	SAMPLE	CONTROL
No. of RIFLES		15	15	15	15	15	15	15	15	15	15
ROUNDS PER RIFLE		80	80	80	80	80	80	80	80	80	80
FOLLOWER RELATED MALFUNCTIONS		0000	0000	0000	0000	0000	0000	0000	0000	0000	0000
SLOW											
MED											
FAST											
ALT											
FOLLOWER RELATED MALFUNCTIONS		0	0	0	0	0	0	0	0	0	0
ROUNDS PER RIFLE		40	40	5	5	55	55	35	35	20	20
No. of SAMPLES TESTED		2	0	2	0	2	0	2	0	2	0
MALFUNCTIONS											
SAMPLE 1											
AMMO											
SHOOTER #											
SAMPLE 2											
AMMO											
SHOOTER #											
ROUNDS PER RIFLE		80	80	80	80	100	100	70	70	100	100
FOLLOWER RELATED MALFUNCTIONS		0	0	0	0	0	0	0	0	0	0

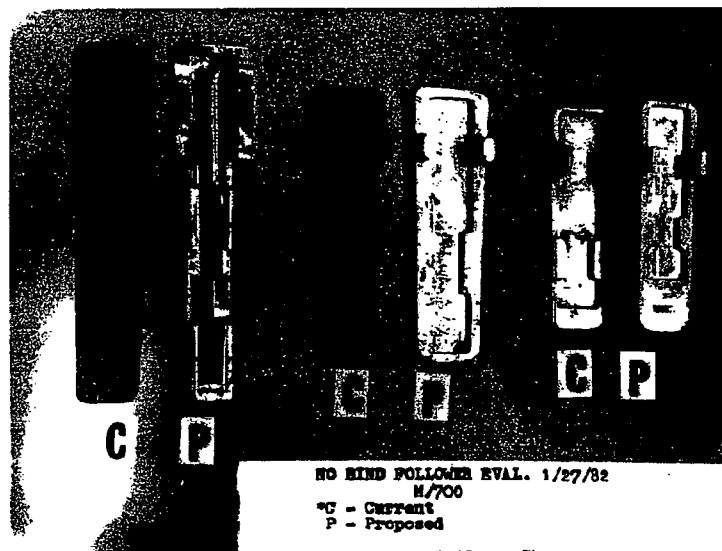
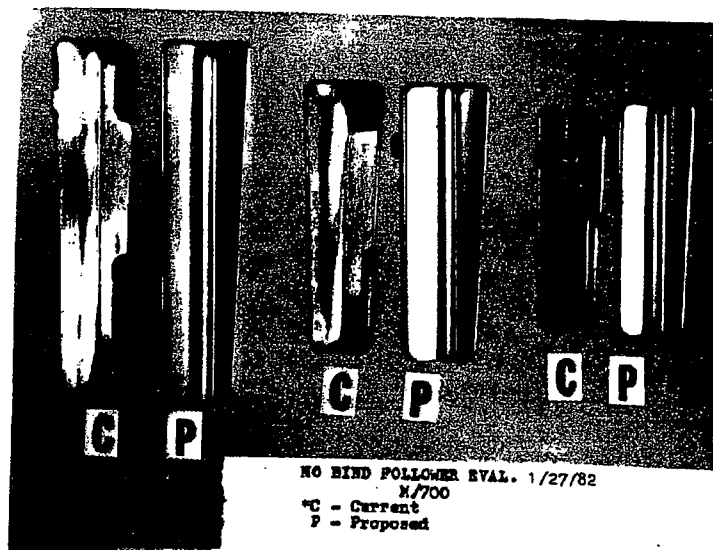
AGITATING DISSECTION  
PERIOD & DISCUSS  
1-2-4-5

M700 NO-BIND FOLLOWERS  
SHORT FOLLOWERS

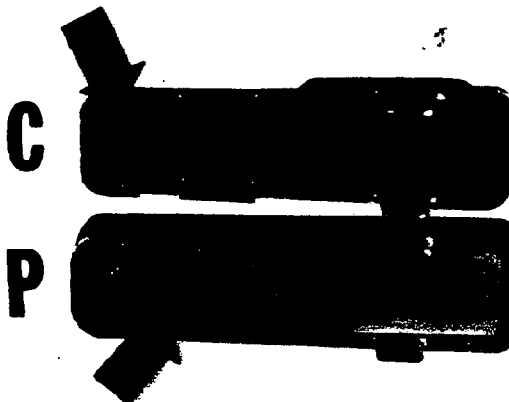
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APPENDIX B

(Pictures)



Short Follower - Spring Slot  
Comparison



NO BIND FOLLOWER EVAL. 1/27/82  
M/700

\*C - Current  
P - Proposed