

R/700 Firing Pin Evaluation

Test of R/700 firing pin assembly with round seat & dry firing

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This test was made on #139613 R/700 to determine damages to the firing pin (breakage) and durability of the P.M. ground seat. The gun was loaded and fired at a rate of one cycle every two seconds with inspection of the firing pin and seat every 5000 cycles.

BEGINNING OF TEST

1. Five trigger pulls taken at start of test. (The fire control was cleaned and deburred before test.)

6.25

6.25

6.25

6.50

6.25

Average: 6.30 lbs.

2. The seat stuck down at 4,750 cycles (cleaned and oiled fire control).
3. 5000 cycles: Seat shows light wear but no deformation. On examination of the firing pin the shoulder shows an uneven seat in the front of the bolt body. The firing pin tip shows heavy chaffing against the firing pin hole.
4. 5,370 cycles: Cocking cam had to be lubricated because of excessive force required to cock the action. (dry cycle machine jammed)
5. Shoulder of bolt has picked up small pieces of metal and seats unevenly in bolt body. Firing pin tip shows increased rubbing around the tip.
6. 11,680 cycles: Action failed to cock due to excessive wear on cocking cam; replaced bolt body and took trigger pulls.

5.25

5.25

5.00

5.50

5.25

Average: 5.25 lbs.

7. 15,000 - The firing pin assembly seats more evenly in the bolt body. The area around the tip shows little additional wear. No change in condition of the rear.
8. 20,000 - The hammer process shows no cracks. Visual inspection the same. The hammer shows little change over 15,000 cycles.
9. 25,000 - Visual inspection shows no cracks. Visual inspection indicates a very small place in the tip of the firing pin which looks ready to chip. Trigger pulls at 25,000 cycles.

4.25

4.50

4.75

4.75

4.75

Average 4.60 lbs.

SUMMARY

The N/700 firing pin assembly under test showed no other faults than already mentioned and no cracks or breakage could be located by the hammer process or by visual inspection under the low power microscope. The worst area of wear seemed to be on the last .150 of the firing pin tip. One other change occurred when the new bolt made a difference on the firing pin shoulder. The second bolt was a sore even seat.

Other than light raking, the rear seems in good condition. However, the trigger pull decreased 1.70 lbs. in the 25,000 cycles.

WNC:G

6/20/66