

Ilion, New York
May 2, 1977

TO: C. B. WORKMAN

FROM: J. P. LINDE

SUBJECT: M/700 FIRE CONTROL
RETURNED BY FIELD SERVICE REPRESENTATIVES

The Fire Control was returned from Mac's Gun Shop by F. W. Woodrick. Fred tried to duplicate the condition with the customer's rifle and could not duplicate the fire off safe condition. He replaced the Fire Control returning the questionable Fire Control to Ilion.

The Fire Control was inspected by the writer and F. E. Martin. The Fire Control was assembled to a M/700 action. The Fire Control performed perfectly in all testing. All different sequences of operation and methods of operation were tried. In every case the Fire Control could not be made to malfunction.

We have inspected the questionable Fire Control and made the following observations:

1. Trigger pull - 5 3/4 pounds; trigger returns to initial position when partially pulled and released.
2. Adequate clearance between connector and sear in "on safe" position.
3. Adjusting screws not tampered with - all three sealed.
4. Connector- Sear engagement ok.

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5. No deformation on top of side plates which could hang up sear.
6. The safety detents very positive.
7. Trigger Assembly clean.
8. Trigger housing cross pins tight to receiver.
9. Sear engagement surface sharp.
10. No wear or binding marks on sear.
11. The engagement surface on sear has been polished by customer (note No. 9).
12. The firing pin head was bearing at the top of the sear surface. This would have no effect on given problem.
13. There were two tiny burrs around the trigger pin holes.
14. The connector is tight to trigger; pulls away hard.
15. Rust on trigger and connector. No rust on trigger pin.
16. Burr on trigger pull weight spring hole. Seems to have no effect on fire control operation.
17. Rust in housing.

The only abnormal condition noted in this Fire Control was the pronounced rust on the connector, trigger and inside housing surface. The only feasible explanation of malfunction as described would require the following conditions. If the customer stored the rifle in the fired condition (firing pin forward, sear rotated down, and connector forward) for a period of time and rust formed between the connector and trigger and connector and fire control housing, this would tend to hold the connector forward. If the customer loaded the rifle, and closed the bolt with the safety in the

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"on safe" position, the cam on the safety lever would hold the sear, disconnecting the trigger from the firing pin assembly. When the customer released the safety, the firing pin would fall as the cam on the safety lever was retaining the sear.

This is a possible explanation and not necessarily what happened. The explanation would only apply if the shooter loaded his rifle without functioning it first to make sure everything worked. It would also only apply if the shooter put the rifle in the "on safe" position before closing the bolt; if he closed the bolt with the safety in the fire position he would get a follow down malfunction.

The rust explanation has one attribute; once the connector breaks loose the fire control will work perfectly and the condition will not be able to be duplicated.

J. P. Linde/nl
Ilion Research Division