

Sent: Thursday, September 11, 2003 2:16 PM
 To: Golemboski, Matt R.; Keeney, Mike; Thweatt, Ed T.
 Cc: Diaz, Danny; Reesor, Phillip K.; Snedeker, Jim
 Subject: 710 Magnum Update
 Importance: High

Matt,

Thought I'd update everyone at the same time as to 710 Magnum DAT status. To refresh everyone's memory we were not able to test the "B-Series" guns, extruded receiver, due to dimensional issues with the magazine opening in the receiver. These guns were returned to Mayfield. The "A-Series" guns, standard 710 design, have been in DAT for some time. To date the following has been completed on this 15 gun sample.

- 1 Preliminary measurements
- 2 HS/Proof/HS
- 3 100 rd. Proof Test (Combined with strain gage test)
- 4 Initial Jack function
- 5 Initial Shoulder function
- 6 Accuracy
- 7 500 rd. Endurance
- 8 1,000 rd. Endurance
- 9 Cold Test
- 10 Hot Test - will be done today, 9/11
- 11 Thermal Cycle - in process

All Thermal testing and Drop type testing (SAAMI Jar-Off, Drop, Rotation and extended Jar-Off, Drop and Rotation) should be complete by the end of next week. The long pole in the tent will be Endurance, where 1 gun needs to go from 1,000 to 4,000 rounds. Endurance is on hold pending repair of bolt heads with new extractors. These were sent to Mayfield yesterday for repair.

To date the following issues have been found.

- 1 Small hair line cracks in stocks. These have been found in both corners just behind the recoil lug and just behind the front take down screw hole. No crack propagation or deformation of the stock has occurred since initial observance of the crack. We're going to go back and inspect .30-06 and .270 Win. DAT and T&P guns to see if cracks were also present in these guns.
- 2 Scopes have moved during the Scope Endurance Test and significant POI variations have occurred. 5 guns have been tested to date. This is a result of scope rings loosening from live firing. A more robust scope retention system is needed on the Magnum.
- 3 A full Magazine Box can bind the action if the rounds are loaded incorrectly. This is caused by an incorrect stagger in the box. This appears to be a loading/learning issue when loading the box. If the rounds are staggered correctly this does not happen. This was seen to some extent in .30-06/.270 testing.
- 4 Extractors are losing tension which results in extraction/ejection issues at the 1,000 rd. level. This occurred on both guns that were tested to these round levels.
- 5 Magazine box deformation at the top front and bottom front have occurred. This is from impacting of the rounds in the magazine during recoil. Deformation eventually results in magazine boxes that are difficult to insert or remove from the gun. This was seen during .30-06/.270 testing and is no worse than what was seen there.
- 6 Bolt Stop deformation has occurred to a point where consistent bolt stop performance has been effected on some guns. This again has been seen in previous 710 testing.

Let me make a few general comments. No issues have been seen with the heat treated barrels so this appears to be a viable solution. Overall function has also been very good until extractor set occurred. Accuracy also seemed to be more than acceptable. The issues noted above are not show stopper ones. Not that they shouldn't be addressed or improved on if possible. Most of the planned DAT activity should be complete by the end of next week except Extended Endurance. We were not able to test a full compliment of guns for this DAT since "B-Series" guns were not tested. Due to the reduced sample size, 15 versus the usual 30, we ought to discuss a path forward to resolve those issues noted. This may involve a second DAT. Another option could be to accept the risk and head directly to T&P.

Subject to Protective Order - Williams v. Remington