

Remington Arms Confidential

**Remington.**

**REMINGTON ARMS COMPANY, INC.**

**RESEARCH & DEVELOPMENT TECHNOLOGY CENTER**

**315 W. RING ROAD**

**ELIZABETHTOWN, KENTUCKY 42701-9318**

**(270) 769-7600 FAX (270) 737-9576**

Remington Arms Company, Inc.  
John C. Trull  
Post Office Box 700  
Madison, NC 27025

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**VIA EMAIL: JOHN.TRULL@REMINGTON.COM**

The Test and Measurement organization within the Elizabethtown Research and Development facility formally supports exit from both Design Acceptance and Trial and Pilot testing of the M/710 Magnum Bolt Action Rifle (configured in .300 Win. Mag. only) subject to the following issues and conditions:

1. A Design Transmittal must occur to formally establish component dimensional parameters reflective of T&P product. All shipped .300 Win. Mag. product must conform to these parameters or a written deviation from design must be obtained from the Design team.
2. The 7MM Rem. Mag. caliber addition will be included in the partslist and initial transmittal package. Although included in the initial transmittal, a formal combined DAT/T&P test must be run on the 7MM Rem. Mag variant and pass prior to any shipment of 7MM Rem. Mag. product.
3. Trigger pull specification for the Magnum is now 4.5 lbs. – 6.0 lbs.
4. Trigger to sear engagement for the Magnum is now .025" - .030".

Several issues exist which Test reasonably believes may result in customer dissatisfaction. These issues have no absolute test objective criteria associated with them at this time so Test has no basis to withhold ship approval. Consequently, Test supports ship contingent on Marketing approval of these issues:

- Action Binds Caused by Incorrectly Loaded Magazine Boxes – This only occurs when cycling the action to the rear with the magazine box loaded to capacity. If the box is loaded incorrectly, the resulting stagger of the rounds takes up all the available vertical space in the box. If the action is closed and the box is installed into the rifle, opening and cycling the bolt results in the bottom lug at the 6 o'clock position catching the belt on the magnum case of the top round in the magazine. Since there is no room for the round to travel downward the bolt movement is stopped at this point. The only way to clear this condition is to remove the magazine box. It is relatively easy to load the magazine box and result in an incorrect round stagger. Based on initial customer

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feedback of this product Marketing may want to consider various ways to educate the user to avoid this situation or consider a design change to the magazine box.

- Front Take Down Screws Loosening – Initial testing confirmed that the front take down screw loosened during live firing by as much as ¼ turn of the screw after firing 100-200 rounds. This increased to about ½ turn in 500 rounds. On one test gun the front take down screw actually fell out. Increasing the front take down assembly screw torque to 70 to 75 lb-inches significantly reduces this tendency. Subsequent testing on five .300 Win. Mag. rifles resulted in slight (no more than 1/8 turn) screw rotation after 500 rounds. Screw torque after firing did reduce to about the 50 lb-inch level but no screws were loose. There is concern that the higher screw torque specification will result in some stripped threads in the barrel due to the low thread engagement. If this becomes a significant issue down the road Design may want to evaluate a finer pitch thread or possibly moving the front take down screw location further down the barrel which may allow a deeper hole and more threads.
- Magazine Box Deformation During Live Firing – This deformation is caused by the rounds moving in the box during recoil, which hammers the front and rear surfaces out of shape. This lengthens the box and eventually (depending on starting box length and stock box opening dimensions) will result in magazine boxes that are difficult to insert or remove from the rifle. This deformation visually starts in as little as 60 rounds and becomes a box fit issue at around the 100 round levels. The user will have to straighten the box to remove the deformation or obtain a new box. This deformation is not new to the Magnum, but the round level required to cause deformation is lower due to the higher recoil. This may result in a higher frequency of complaints on the Magnum and higher warranty costs.
- High Pressure and Obstructed Bore Test Results – Changes have been made to the heat treatment of the bolt head and barrel to minimize gun damage that occurred during these tests. Significant strength increases have been made, although a level of gun damage does occur. Design, Management and Marketing have been fully informed of the results of this testing.

Test recommends that these issues be resolved through design/process changes if Marketing finds any of these conditions unacceptable.

Elizabethtown stands ready to assist should you determine that additional audits of the product are required.

With Kind Regard,

Scott R. Franz  
Manager of Research and Technology  
Remington Arms Company, Inc.

cc: R.H. Bristol II  
J.M. Bunting  
D.D. Diaz  
M.R. Golemboski

T.L. Millner  
M.D. Keeney  
P.K. Reesor  
J.R. Snedeker

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