

Franz, Scott

From: Franz, Scott
Sent: Thursday, May 22, 2003 2:10 PM
To: Thweatt, Ed T.; Riley, Gary D.; Keeney, Mike
Cc: Golemboski, Matt R.; Diaz, Danny; Danner, Dale; Urbon, James E
Subject: M/710 Magnum Strain Test

The strain gage test on the two .300 Win Mag M/710's received from Mayfield on May 9th is now complete. Bottom line ---> Results are positive on the heat treated barrels. Results from this testing are summarized in the attached file. Jim Urbon will cut away the chamber area of both guns and run micro-hardness profiles to fully characterize hardness levels. We'll need to discuss our path forward from here. I'm out this Friday and we're closed Monday so anytime after that would be a good time to discuss future plans/DAT/etc..



lw1172-Chamber-S
train-22May03...

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MY E-MAIL HAS CHANGED to
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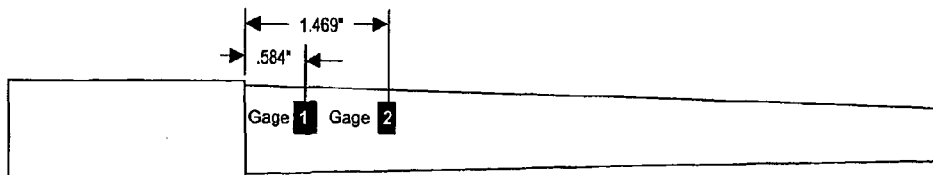
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Test Summary (22 May 2003):

- Two guns received on May 9th, 2003. (.300 Win. Mag. caliber)
- Both guns had tangentially mounted strain gages installed on the exterior of the barrel in the chamber area. (2 gages applied/gun)
- 20 Proof rounds were fired per gun with headspace and chamber strain monitored on every shot.
- Headspace:
 - 1st gun increased .002" over the 20 rd. test (min.+.006 to min.+.008)
 - 2nd gun increased .001" over the 20 rd. test (min.+.007 to min.+.008)
- A strain level shift of 162 micro-in/in was observed on gun #1 while gun #2 increased by 260 micro-in/in from the beginning to end of the 20 rd. proof test. These levels are in line with what was seen with the M/710 .30-06 caliber and M/700 .30-06 caliber products. The strain leveled off at these levels, indicating that the slight shift may be instrumentation or thermal related.
- No increase in barrel diameter was observed during the test.
- Fired cases were consistent and showed no abnormal deformation.
- Bolts had to be tapped slightly with a hammer to extract/free the fired case from the chamber on every shot of proof ammo. Consistent marks on the cases indicate that small radial gouges in the chamber on both guns may be the reason for the hard bolt opening.



Chamber Strain Test with Heat Treated Barrels- M/710 Magnum Bolt Action Rifle
R & D Technical Center Project No. 241314; TLW1172

22 May 2003

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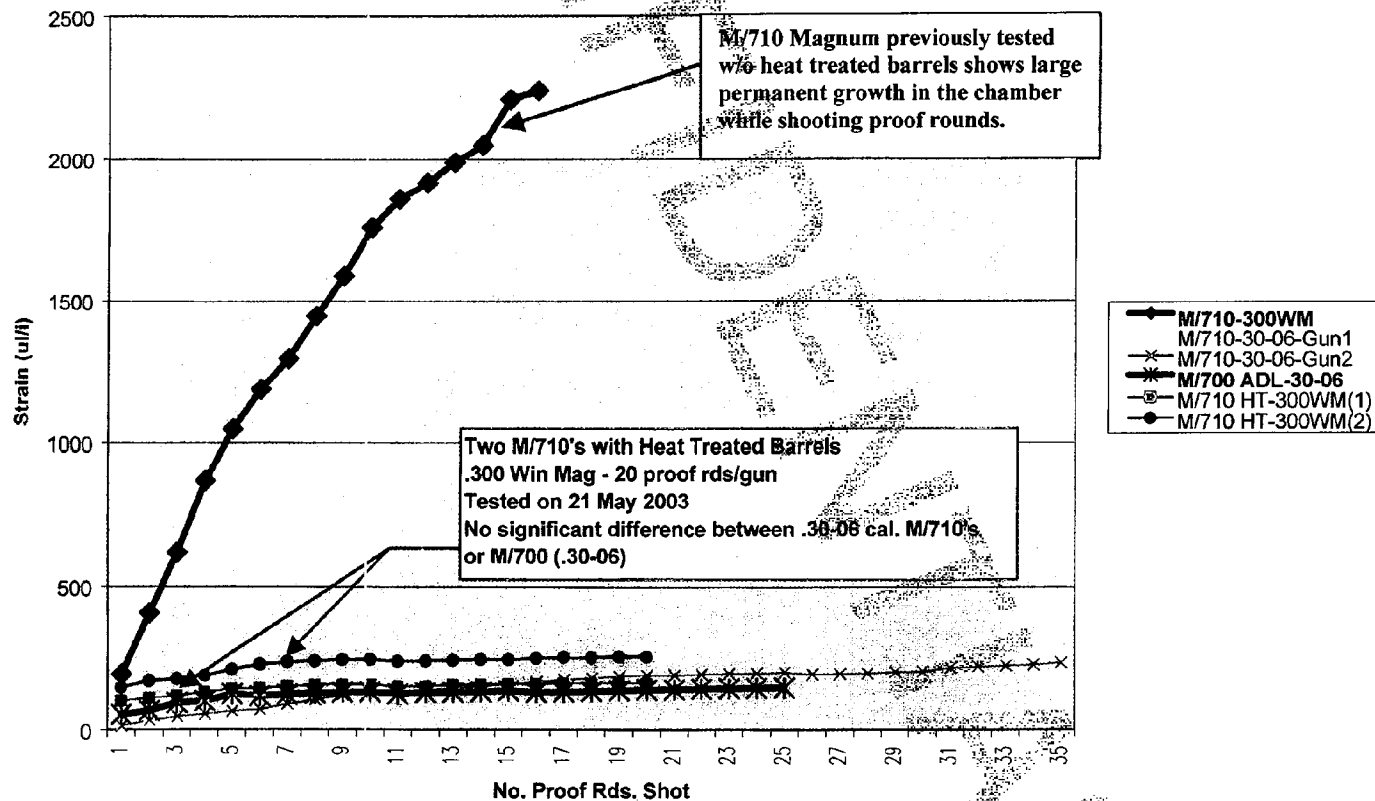
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**Permanent Barrel Strain on OD of Chamber Shooting
Proof Rds.**



Chamber Strain Test with Heat Treated Barrels- M/710 Magnum Bolt Action Rifle
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file: tlw1172-Chamber-Strain-22May03.doc

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