

Test Lab Work Request Form

Engineer: James Urbon

Project #: 241230

Date Submitted: 8/29/2007

Test Description:

T&P follow up
testing on 270
Win and 7mm
Rem Mag
M/770 Stainless
Steel Rifles.

Test Procedure:

- Any questions should be directed to James Urbon. If any clarification required, please ask don't assume.
- Record all test progress and data on a Daily Log Sheet and in this
- Label rifles (All)
 - Label with the standard information, serial number, model number, TLW number, and Test ID number
 - Label the 7mm Rem Mag rifles with ID #'s D1, D2, etc.
 - Label the 270 Win. rifles with ID #'s E1, E2, etc.
- Initial Measurement and Inspection. (All)
 - Generally visually inspect the overall condition of all of the rifles. Note and photograph any anomalies.
 - Measure the trigger pull on all of the rifles using the Spring Scale.
 - Perform a safety function test on all of the rifles.
- Head Space / Proof / Head Space (All)
 - Measure and record headspace using chamber shoulder headspace gauges.
 - Fire one standard proof cartridge per rifle in controlled environment via lanyard.
 - Measure and record headspace using chamber shoulder headspace gauges following proof test.
- Accuracy (D1-5, E1-5)
 - Clean and inspect each rifle prior to testing.
 - Shoot at a minimum five shots to sight in and foul the rifle. additional shots if required to sight in the rifle. Record the number of rounds fired.
 - Fire 3 five shot groups for each rifle at 100 yards.
 - Keep track of and mark the placement of each shot in each group. Number the shots in each group 1 – 5 in the order in which they were fired.
 - Measure and record the three shot group size in each group (shots 1 – 3).
 - Measure and record the five shot group size in each group (all five shots fired).
 - All groups are to be measured (order by order)

TLW Form

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Test Lab Work Request Form

TLW #: 2359

Requested Completion Date: 9/21/2007

ins should be directed to James Urban. If any clarification is
ease ask don't assume.
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(All)
el with the standard information; serial number, model
ber, TLW number, and Test ID number
el the 7mm Rem Mag rifles with ID #'s D1, D2, etc.
el the 270 Win. rifles with ID #'s E1, E2, etc.
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Test Lab Work Request Form

- Clean and inspect each rifle prior to testing.
- Shoot at a minimum five shot to sight in and foul the rifle. additional shots if required to sight in the rifle. Record the number of rounds fired.
- Fire 3 five shot groups for each rifle at 100 yards.
- Keep track of and mark the placement of each shot in each group. Number the shots in each group 1 – 5 in the order in which they were fired.
- Measure and record the three shot group size in each group shots 1 – 3.
- Measure and record the five shot group size in each group with all five shots fired.
- All groups are to be measured center to center.
- Clean and inspect each rifle after completion of testing.

Test Lab Work Request Form

sight in and inspect each rifle prior to testing.
Shoot at a minimum five shots to sight in and foul the rifle. Fire
additional shots if required to sight in the rifle. Record the exact
number of rounds fired.
3 five shot groups for each rifle at 100 yards.
Keep track of and mark the placement of each shot in each group.
Number the shots in each group 1 – 5 in the order in which they
were fired.
Measure and record the three shot group size in each group using
shots 1 – 3.
Measure and record the five shot group size in each group using
five shots fired.
Groups are to be measured center to center.
Sight in and inspect each rifle after completion of testing.

Test Lab Work Request Form	
Special Requirements:	- o Shoot at a minimum five shots to sight in and zero the rifle. Record the number of rounds fired. - o Fire 3 five shot groups for each rifle at 100 yards. - o Keep track of and mark the placement of each shot in each group. Number the shots in each group 1 – 5 in the order in which they were fired. - o Measure and record the three shot group size in each group shots 1 – 3. - o Measure and record the five shot group size in each group and all five shots fired. - o All groups are to be measured center to center. - o Clean and inspect each rifle after completion of testing.
Supplies Availability:	
Results Required:	Formal Report
*****This section to be completed by Test Lab Manager*****	
Assigned To:	Lee, Bob
Assigned Date:	8/30/2007
Comments:	
Start Date:	
Completion Date:	

Test Lab Work Request Form

Set up a minimum of 3 shot groups to sight in this rifle. Take additional shots if required to sight in the rifle. Record the exact number of rounds fired.	
3 five shot groups for each rifle at 100 yards.	
Keep track of and mark the placement of each shot in each group. Number the shots in each group 1 – 5 in the order in which they are fired.	
Measure and record the three shot group size in each group using calipers 1 – 3.	
Measure and record the five shot group size in each group using calipers 1 – 5.	
Groups are to be measured center to center.	
Measure and inspect each rifle after completion of testing.	

	Data Only
	Formal Report
9/4/2007	
9/10/2007	

Test Lab Work Request Form

- Endurance (D1-5, E1-5)
 - In each series, the guns are to be fired to the following round levels.
 - Gun 1 to 1000 RL.
 - Gun 2 to 500 RL.
 - Guns 3, 4, & 5 to 100 RL.
 - All guns are to be cooled to the touch every 20 rounds via shop air.
 - All guns are to be cleaned and inspected every 500 rounds.
- Metallurgical Evaluation
 - A sample of the endurance guns will be disassembled and have there barrels sectioned and mounted to check for possible barrel cracking and locking lug hardness.

Cont'd Procedure

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Request Form

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Cont'd Procedure

Model 770 Stainless Steel T&P Follow up Testing Summary														
Caliber			7mm Rem Mag					270 Win						
Serial #														
Test Discription \ Gun ID #			D1	D2	D3	D4	D5	E1	E2	E3	E4	E5		
Visual Inspection			●	●	●	●	●	●	●	●	●	●	●	●
Trigger Pull			●	●	●	●	●	●	●	●	●	●	●	●
Safety Function			●	●	●	●	●	●	●	●	●	●	●	●
HS - Proof - HS			●	●	●	●	●	●	●	●	●	●	●	●
Accuracy			●	●	●	●	●	●	●	●	●	●	●	●
Endurance to 100 RL			●	●	●	●	●	●	●	●	●	●	●	●
Endurance to 500 RL			●	●				●	●					
Endurance to 1300 RL			●					●						
Metallurgical Evaluation of Barrel			●					●						
Final Round Level														

LEGEND

○ = Planned

◐ = In-Progress

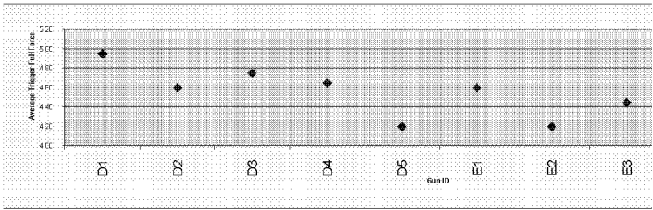
● = Completed & Passed

● = Completed Failed

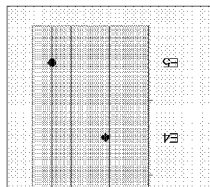
✕ = Cancelled

◐ = Not Planned

Gun ID	Serial #	Cal	Visual Inspection	Safety Fcn Check
D1	71380501	7mm Rem Mag	GOOD	GOOD
D2	71384687	7mm Rem Mag	GOOD	GOOD
D3	71384729	7mm Rem Mag	GOOD	GOOD
D4	71385284	7mm Rem Mag	GOOD	GOOD
D5	71385225	7mm Rem Mag	GOOD	GOOD
E1	71390508	270 Win	GOOD	GOOD
E2	71384790	270 Win	GOOD	GOOD
E3	71384941	270 Win	GOOD	GOOD
E4	71385409	270 Win	GOOD	GOOD
E5	71386441	270 Win	GOOD	GOOD



Gun ID	Trigger Pull					Avg
	#1	#2	#3	#4	#5	
D1	5	5	5	4.75	5	4.95
D2	4.5	4.5	4.75	4.5	4.75	4.60
D3	4.75	4.75	4.5	5	4.75	4.75
D4	4.5	4.75	4.75	4.75	4.5	4.65
D5	4	4.25	4	4.5	4.25	4.20
E1	4.75	4.75	4.5	4.5	4.5	4.60
E2	4.25	4.25	4.25	4.25	4	4.20
E3	4.25	4.5	4.25	4.5	4.75	4.45
E4	4	4.75	4.25	4.5	4.75	4.45
E5	5	5	5	5	5	5.00
						4.59



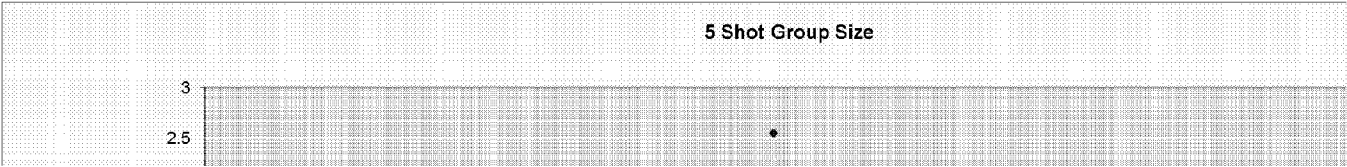
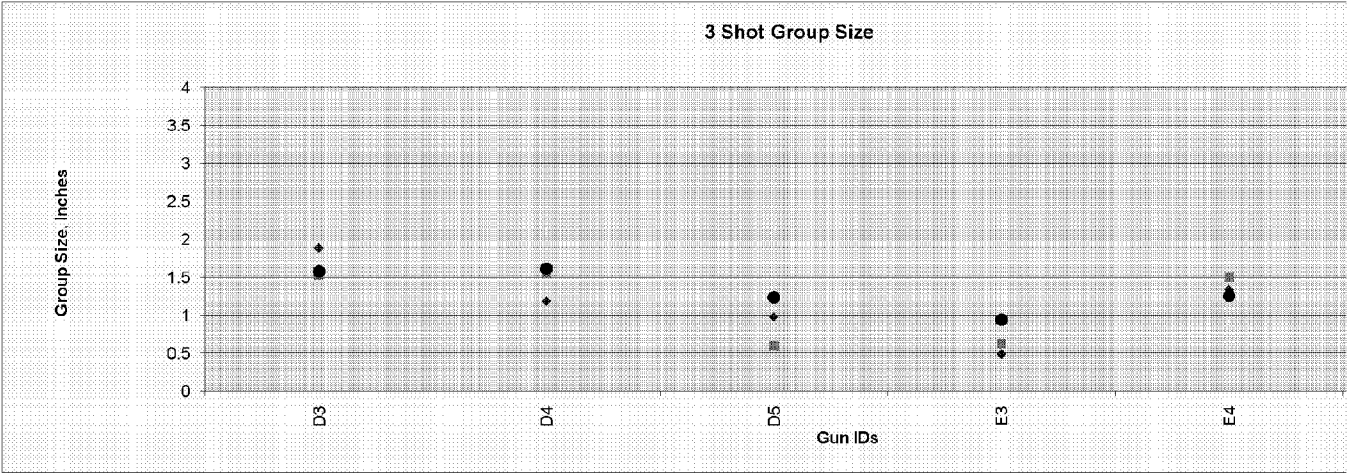
Gun ID	Cal	Head Space before Proof	Head Space after Proof	Head Space Growth	Condition of Proof Case
D1	7mm Rem Mag	0.002	0.002	0	GOOD
D2	7mm Rem Mag	0.002	0.003	0.001	GOOD
D3	7mm Rem Mag	0.003	0.004	0.001	GOOD
D4	7mm Rem Mag	0.002	0.002	0	GOOD
D5	7mm Rem Mag	0.002	0.003	0.001	GOOD
E1	270 Win	0.002	0.002	0	GOOD
E2	270 Win	0.001	0.002	0.001	GOOD
E3	270 Win	0.003	0.003	0	GOOD
E4	270 Win	0.002	0.004	0.002	GOOD
E5	270 Win	0.003	0.003	0	GOOD

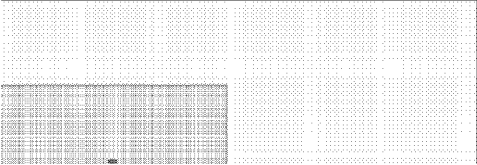
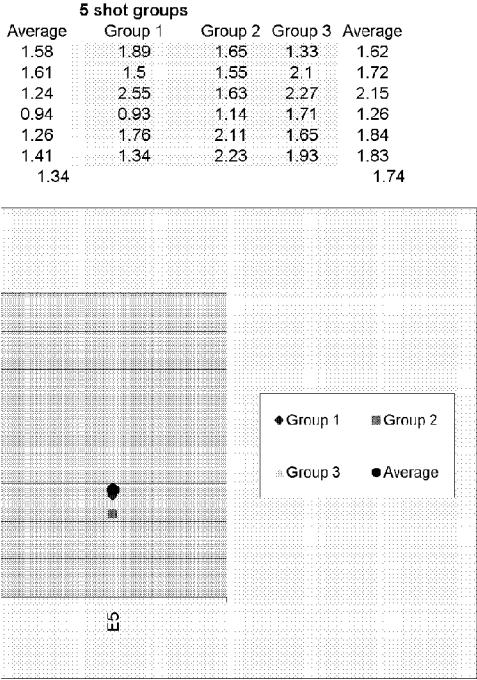
hard closing with rd in chamber

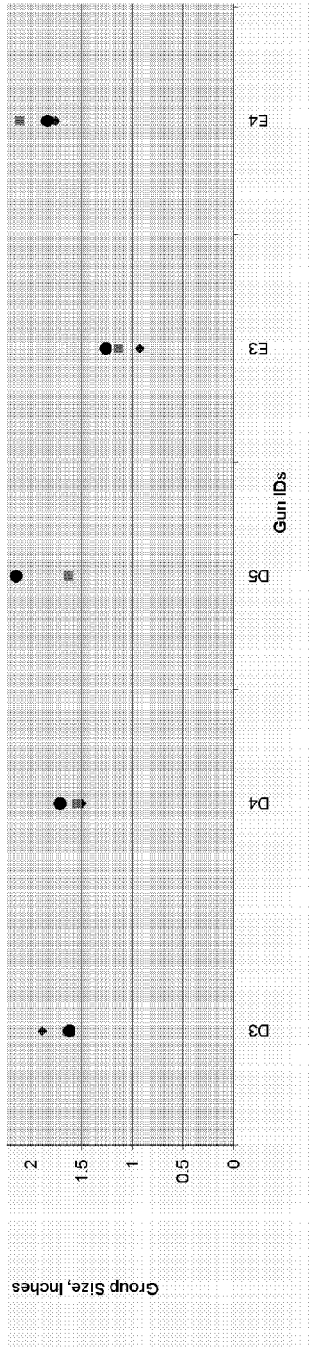
Shooter:
Note: Shoot accuracy at 100yds. From bench, utilizing standard 3 X 9 Bushnell scope provided with firearm.
Ammo type:

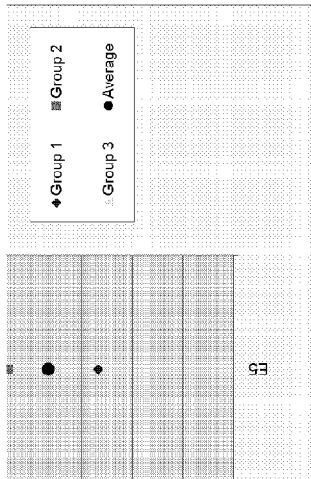
270 Win 130 PSP CL R270W2 C20-VAI
7mm Rem Mag 150 PSP CL R7mm2 C13-VB1

	3 shot groups		
	Group 1	Group 2	Group 3
D3	1.89	1.52	1.33
D4	1.19	1.55	2.1
D5	0.98	0.6	2.13
E3	0.49	0.63	1.71
E4	1.34	1.5	0.93
E5	1.34	1.1	1.8









Clean and Inspect Summary										
	D1	D2	D3	D4	D5	E1	E2	E3	E4	E5
Before Test										
100 RL										
500 RL										
1000 RO										

Malfunction Summary										
	D1	D2	D3	D4	D5	E1	E2	E3	E4	E5
100 RL	0	0	0	0	0	0	0	0	0	0
500 RL	0	0				0	0			
1000 RO	0					0				

bolt locking lug was hitting front of follower
made chamfer on followers - D1,D2, E1,E2
corrected the problem

PROJECT: 241230				M/770 STAINLESS STEEL									
TLW: 2359													
7MM REM MAG		Test Gun ID		.270 Win									
Round		D1		D2	D3	D4	D5	E1		E2	E3	E4	E5
Level													
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Round Level	7MM R M Test Gun ID		.270 WIN	
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7MM RM .270 WIN		
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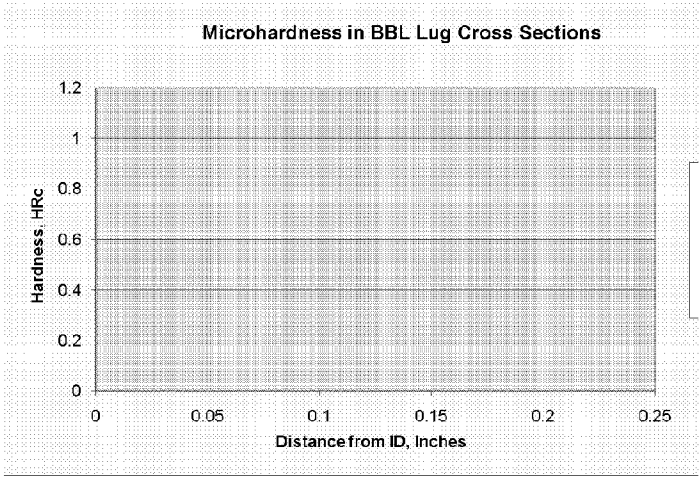
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Microhardness

	D1					
	D1 - Lug 1		D1 - Lug 2		D1 - Lug 3	
	HRc	HV	HRc	HV	HRc	HV
0.01						
0.045						
0.085						
0.125						
0.165						
0.205						
0.24						

	E1					
	E1 - Lug 1		E1 - Lug 2		E1 - Lug 3	
	HRc	HV	HRc	HV	HRc	HV
0.01						
0.045						
0.085						
0.125						
0.165						
0.205						
0.24						

