

# Test Lab Work Request Form

Rev.3 -20 April, 2000

Date Submitted: 02/06/04	Tracking #: TLW 1395
Project #: 241314	Engineer: Franz
Test Objective: Test 710 Magnum Firecontrol performance at new settings during Std. SAAMI Jar-off testing	
<p>Test Description: Test 6 new M/710 Magnum rifle for SAAMI Jar-off.</p> <ol style="list-style-type: none"><li>1. Measure breakaway torque of scope ring mounting screws when loosening.</li><li>2. Measure breakaway torque of all take down screws when removing stocks.</li><li>3. Measure Trigger/Sear engagement as set by the factory.</li><li>4. Measure Trigger Pull as set by the factory.</li><li>5. Reset Engagement as needed to .025"</li><li>6. Reset Trigger as needed to 4.5 lb.</li><li>7. Reassemble with stock &amp; scope to using torque specs.</li><li>8. Perform Standard SAAMI Jar-off testing of all guns.</li></ol> <p>Per our normal procedure if a gun fires during testing, leave the gun as it was dropped and contact a member of management or engineering.</p>	
Resource Usage: Manpower Requirements –  Facility Requirements –	Test Results Required: Formal Report:      Data Only:  Requested Completion Date: 02/06/04
Required Materials/Parts/Equipment (include quantities):	
Test Parts Availability Date: 02/06/04	
Start Date: 2/6/04 Completion Date: 2/9/04 Report Date: 2/9/04	Test Assigned To: Steve Wade & Jeff Wade  Assignment Date: 02/06/05

ET33906

PROJECT # 241314

710 OUT OF BOX MEASUREMENTS

TRACKING # TLW1395

<b>SERIAL # 71146753</b>	<b>TORQUE OF SCOPE FRONT</b>	<b>TORQUE OF SCOPE REAR</b>				
	TAKE DOWN SCREW	TAKE DOWN SCREW				
	26 INCH LB.	30 INCH LB.				
	<b>TORQUE OF STOCK FRONT</b>	<b>TORQUE OF STOCK MIDDLE</b>	<b>TORQUE OF STOCK REAR</b>			
	TAKE DOWN SCREW	TAKE DOWN SCREW	TAKE DOWN SCREW			
	35 INCH LB.	22 INCH LB.	17 INCH LB.			
<b>ENGAGEMENT</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>AVG</b>		
	0.0311	0.0312	0.0308	0.03103		
<b>TRIGGER PULL</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>AVG</b>
<b>TRIGGER SCAN</b>	5.998	6.063	6.138	5.559	5.733	5.898
<b>SPRING SCALE</b>	6.0	5.75	6.0	6.0	5.75	5.900
<b>SERIAL # 71147098</b>	<b>TORQUE OF SCOPE FRONT</b>	<b>TORQUE OF SCOPE REAR</b>				
	TAKE DOWN SCREW	TAKE DOWN SCREW				
	30 INCH LB.	35 INCH LB.				
	<b>TORQUE OF STOCK FRONT</b>	<b>TORQUE OF STOCK MIDDLE</b>	<b>TORQUE OF STOCK REAR</b>			
	TAKE DOWN SCREW	TAKE DOWN SCREW	TAKE DOWN SCREW			
	30 INCH LB.	25 INCH LB.	11 INCH LB.			
<b>ENGAGEMENT</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>AVG</b>		
	0.0297	0.0298	0.0300	0.0298		
<b>TRIGGER PULL</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>AVG</b>
<b>TRIGGER SCAN</b>	5.128	5.439	5.154	5.306	5.198	5.245
<b>SPRING SCALE</b>	5.50	5.75	5.50	5.75	5.75	5.650
<b>SERIAL # 71146744</b>	<b>TORQUE OF SCOPE FRONT</b>	<b>TORQUE OF SCOPE REAR</b>				
	TAKE DOWN SCREW	TAKE DOWN SCREW				
	35 INCH LB.	26 INCH LB.				
	<b>TORQUE OF STOCK FRONT</b>	<b>TORQUE OF STOCK MIDDLE</b>	<b>TORQUE OF STOCK REAR</b>			
	TAKE DOWN SCREW	TAKE DOWN SCREW	TAKE DOWN SCREW			
	33 INCH LB.	25 INCH LB.	15 INCH LB.			

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Williams v. Remington

PROJECT # 241314

710 OUT OF BOX MEASUREMENTS

TRACKING # TLW1395

ENGAGEMENT	1	2	3	AVG		
	0.0307	0.0307	0.0308	0.03073		
TRIGGER PULL	1	2	3	4	5	AVG
TRIGGER SCAN	4.844	4.749	4.747	4.963	4.745	4.810
SPRING SCALE	5.25	5.25	5.50	5.25	5.25	5.300
SERIAL # 71147044	TORQUE OF SCOPE FRONT TAKE DOWN SCREW 25 INCH LB.	TORQUE OF SCOPE REAR TAKE DOWN SCREW 20 INCH LB.				
	TORQUE OF STOCK FRONT TAKE DOWN SCREW 30 INCH LB.	TORQUE OF STOCK MIDDLE TAKE DOWN SCREW 25 INCH LB.	TORQUE OF STOCK REAR TAKE DOWN SCREW 12 INCH LB.			
ENGAGEMENT	1	2	3	AVG		
	0.0303	0.0302	0.0304	0.03030		
TRIGGER PULL	1	2	3	4	5	AVG
TRIGGER SCAN	4.755	4.863	4.859	4.755	4.769	4.794
SPRING SCALE	5.0	5.0	5.25	5.25	5.50	5.200
SERIAL # 71147034	TORQUE OF SCOPE FRONT TAKE DOWN SCREW 52 INCH LB.	TORQUE OF SCOPE REAR TAKE DOWN SCREW 25 INCH LB.				
	TORQUE OF STOCK FRONT TAKE DOWN SCREW 34 INCH LB.	TORQUE OF STOCK MIDDLE TAKE DOWN SCREW 17 INCH LB.	TORQUE OF STOCK REAR TAKE DOWN SCREW 18 INCH LB.			
ENGAGEMENT	1	2	3	AVG		
	0.0318	0.0315	0.0318	0.03170		
TRIGGER PULL	1	2	3	4	5	AVG
TRIGGER SCAN	5.434	5.547	5.468	5.586	5.286	5.464
SPRING SCALE	5.25	5.25	5.50	5.50	5.25	5.350

PROJECT # 241314

710 OUT OF BOX MEASUREMENTS

TRACKING # TLW1395

SERIAL # 71147082	TORQUE OF SCOPE FRONT	TORQUE OF SCOPE REAR				
	TAKE DOWN SCREW	TAKE DOWN SCREW				
	30 INCH LB.	40 INCH LB.				
	TORQUE OF STOCK FRONT	TORQUE OF STOCK MIDDLE	TORQUE OF STOCK REAR			
	TAKE DOWN SCREW	TAKE DOWN SCREW	TAKE DOWN SCREW			
	32 INCH LB.	23 INCH LB.	13 INCH LB.			
ENGAGEMENT	1	2	3	AVG		
	0.0304	0.0306	0.0304	0.03046		
TRIGGER PULL	1	2	3	4	5	AVG
TRIGGER SCAN	5.226	5.302	5.220	5.259	5.324	5.266
SPRING SCALE	5.75	5.75	5.25	5.50	5.50	5.550

ET333909

TLW 1395

Project No. 241314

300 Win Mag

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/04Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0251 (2) .0249 (3) .0251 Average .02503Engagement at End (1) .0245 (2) .0245 (3) .0242 Average .02440Model No. 710 Serial No. 71146753Trigger Pull at Start of Test (1) 4.593 (2) 4.518 (3) 4.607 (4) 4.531 (5) 4.579Average Trigger Pull at Start of Test: 4.566 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.506 (2) 4.149 (3) 4.195 (4) 4.210 (5) 4.239Average Trigger Pull at End of Test: 4.260 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW/JW

Additional Notes and Comments

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*For additional details on the proper procedures to be used for this Test Procedure refer to:*ANSI/SAAMI Z299.5-1990**SAAMI Specifications for Standard Jar-Off Test:**

**Jar-Off Test:** 12-inch drop - onto 1" thick 85 Durometer (Shore A) Rubber Matt  
 Firearm ready to fire, Safe in "Fire" position, Fresh Primed Case in  
 Chamber, Magazine loaded to capacity with Dummy Rounds.  
 After each drop, fire Primed Case to verify firearm will still function.

12 inch drop (safety in "Fire" position) - one drop per orientation.

*Note: for Firearms with the ISS system installed - The ISS will be set in the unlocked**position for all six orientations of the Jar-Off Test*

<u>Orientation</u>	<u>ISS Unlocked</u>	<u>Comments</u>
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

Notes: (continue on back of sheet if necessary)

Tester's Initials SW/JW

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ET33910

TLW 1395

Project No. 241314

300 Win Mng

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/04Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0252 (2) .0252 (3) .0251 Average .02516Engagement at End (1) .0252 (2) .0254 (3) .0251 Average .02523Model No. 710 Serial No. 71147098Trigger Pull at Start of Test (1) 4.638 (2) 4.608 (3) 4.458 (4) 4.634 (5) 4.407Average Trigger Pull at Start of Test: 4.549 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.581 (2) 4.410 (3) 4.497 (4) 4.400 (5) 4.602Average Trigger Pull at End of Test: 4.498 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW/JW

Additional Notes and Comments

83

*For additional details on the proper procedures to be used for this Test Procedure refer to:*

ANSI/SAAMI Z299.5-1990

**SAAMI Specifications for Standard Jar-Off Test:**

**Jar-Off Test:** 12-inch drop - onto 1" thick 85 Durometer (Shore A) Rubber Matt  
 Firearm ready to fire, Safe in "Fire" position, Fresh Primed Case in  
 Chamber, Magazine loaded to capacity with Dummy Rounds.  
 After each drop, fire Primed Case to verify firearm will still function.

12 inch drop (safety in "Fire" position) - one drop per orientation.

*Note: for Firearms with the ISS system installed - The ISS will be set in the **unlocked**  
 position for all six orientations of the Jar-Off Test*

<u>Orientation</u>	<u>ISS Unlocked</u>	<u>Comments</u>
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

Notes: (continue on back of sheet if necessary)

Tester's Initials SW/JW
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ET33911

TLW 1295

Project No. 241314

300 Win Mag

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/04Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0249 (2) .0251 (3) .0251 Average .02503Engagement at End (1) .0249 (2) .0249 (3) .0250 Average .02493Model No. 710 Serial No. 71146744Trigger Pull at Start of Test (1) 4.672 (2) 4.467 (3) 4.552 (4) 4.475 (5) 4.552Average Trigger Pull at Start of Test: 4.544 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.582 (2) 4.481 (3) 4.372 (4) 4.409 (5) 4.525Average Trigger Pull at End of Test: 4.474 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW/JW

Additional Notes and Comments

83

*For additional details on the proper procedures to be used for this Test Procedure refer to:*

ANSI/SAAMI Z299.5-1990

**SAAMI Specifications for Standard Jar-Off Test:**

**Jar-Off Test:** 12-inch drop - onto 1" thick 85 Durometer (Shore A) Rubber Matt  
 Firearm ready to fire, Safe in "Fire" position, Fresh Primed Case in  
 Chamber, Magazine loaded to capacity with Dummy Rounds.  
 After each drop, fire Primed Case to verify firearm will still function.

12 inch drop (safety in "Fire" position) - one drop per orientation.

**Note:** for Firearms with the ISS system installed - The ISS will be set in the unlocked  
position for all six orientations of the Jar-Off Test

<u>Orientation</u>	<u>ISS Unlocked</u>	<u>Comments</u>
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

Notes: (continue on back of sheet if necessary)

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ET33912

TLW 1395

Project No. 241314

300 Win Mag

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/04Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0253 (2) .0253 (3) .0252 Average .02526Engagement at End (1) .0252 (2) .0252 (3) .0253 Average .02523Model No. 710 Serial No. 71147044Trigger Pull at Start of Test (1) 4.585 (2) 4.596 (3) 4.412 (4) 4.539 (5) 4.540Average Trigger Pull at Start of Test: 4.534 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.533 (2) 4.542 (3) 4.397 (4) 4.492 (5) 4.480Average Trigger Pull at End of Test: 4.489 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW / SW

Additional Notes and Comments

83

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ANSI / SAAMI Z299.5-1990

**SAAMI Specifications for Standard Jar-Off Test**

**Jar-Off Test:** 12-inch drop - onto 1" thick 85 Durometer (Shore A) Rubber Matt  
 Firearm ready to fire, Safe in "Fire" position, Fresh Primed Case in  
 Chamber, Magazine loaded to capacity with Dummy Rounds.  
 After each drop, fire Primed Case to verify firearm will still function.

12 inch drop (safety in "Fire" position) - one drop per orientation.

*Note: for Firearms with the ISS system installed - The ISS will be set in the **unlocked**  
 position for all six orientations of the Jar-Off Test*

<u>Orientation</u>	<u>ISS Unlocked</u>	<u>Comments</u>
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

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ET33913



TLW 1395

Project No. 241314

300 Win Mag

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/03Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0254 (2) .0255 (3) .0252 Average .02536Engagement at End (1) .0252 (2) .0256 (3) .0253 Average .02536Model No. 710 Serial No. 71147034Trigger Pull at Start of Test (1) 4.449 (2) 4.493 (3) 4.553 (4) 4.595 (5) 4.424Average Trigger Pull at Start of Test: 4.503 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.078 (2) 4.064 (3) 4.061 (4) 4.007 (5) 3.945Average Trigger Pull at End of Test: 4.031 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW/SW

Additional Notes and Comments

83

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**SAAMI Specifications for Standard Jar-Off Test:**

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12 inch drop (safety in "Fire" position) - one drop per orientation.

**Note:** for Firearms with the ISS system installed - The ISS will be set in the unlocked  
position for all six orientations of the Jar-Off Test

Orientation	ISS Unlocked	Comments
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

Notes: (continue on back of sheet if necessary)

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TLW 1395

Project No. 241314

300 Win Mag

**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST****JAR-OFF TEST**Firecontrol No. \_\_\_\_\_ Firecontrol Type: Standard Date: 2/6/04Dry Cycles/Rounds Completed: \_\_\_\_\_ Stock Type SynEngagement at Start (1) .0254 (2) .0254 (3) .0256 Average .02546Engagement at End (1) .0249 (2) .0249 (3) .0249 Average .02490Model No. 710 Serial No. 71147082Trigger Pull at Start of Test (1) 4.524 (2) 4.588 (3) 4.491 (4) 4.455 (5) 4.489Average Trigger Pull at Start of Test: 4.509 Std. Dev. of Trigger Pull at Start of Test: \_\_\_\_\_Trigger Pull at End of Test (1) 4.502 (2) 4.533 (3) 4.585 (4) 4.510 (5) 4.563Average Trigger Pull at End of Test: 4.539 Std. Dev. of Trigger Pull at End of Test: \_\_\_\_\_Tester Initials: SW/SW

Additional Notes and Comments

83

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ANSI / SAAMI Z299.5-1990

**SAAMI Specifications for Standard Jar-Off Test**

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 After each drop, fire Primed Case to verify firearm will still function.

12 inch drop (safety in "Fire" position) - one drop per orientation.

*Note: for Firearms with the ISS system installed - The ISS will be set in the **unlocked**.**position for all six orientations of the Jar-Off Test*

<u>Orientation</u>	<u>ISS Unlocked</u>	<u>Comments</u>
Barrel Vertical, Muzzle Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Vertical, Muzzle Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Left side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Right side of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Up:	Pass <input checked="" type="checkbox"/> Fail _____	_____
Barrel Horizontal, Bottom of Stock Down:	Pass <input checked="" type="checkbox"/> Fail _____	_____

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