

Test Lab Work Request Form

Rev.3 -20 April, 2000

Date Submitted: 12-19-02 Tracking # : TLW 1075

Project # : 241359

Engineer: B. Howard

Test Objective: EET test of steel M710 CA DOJ bolt plug.

Test Description:

1. Check headspace.
2. Shoot 200 rounds each on two guns using heaviest grain weight bullet for .270 and .30-06 calibers.
3. Visually inspect bolt plug for signs of excessive wear, cracking, or movement of spring retainer for the first 10 rounds – and every 25 rounds thereafter.
4. Check and record headspace.
5. Magnaflux bolt plugs and report results. Have Metallurgist send short statement of acceptance or rejection to Brad Howard.
6. Check with Brad Howard for confirmation before proceeding to steps 7 & 8.
7. Drop test each gun according to standard SAAMI guidelines starting with the least abusive test and then progressing to the most abusive test.
8. Obstructed Bore test – test 30.06 rifle using all std. safety procedures to determine witness paper penetrations (shooters face) – if any.
9. Return both samples to Brad Howard.

Resource Usage:
Manpower Requirements –

Facility Requirements –

Test Results Required:
Formal Report: n Data Only: yes
Requested Completion Date: 2-7-03

Required Materials/Parts/Equipment (include quantities):

Test Parts Availability Date: 1-30-03

Start Date:

Completion Date: 2/7/03

Report Date:

Test Assigned To: Jesse Arnold

Assignment Date: 01/31/03

ET31450

PROJECT# 241359

2/5/2003

TLW 1075

EET TEST OF STEEL M710 CA DOJ BOLT PLUG.

GUN	HEAD SPACE	AMMO	ROUNDS	COMMENTS	HEAD SPACE
71053511 30-06	0.005	R30062 150GR	200	BOLT PLUG INSPECTED EACH 10 RDS. NO EXCESSIVE WEAR OR CRACKING.	0.005
71026291 0.27	0.004	R270W4 150GR	200	BOLT PLUG INSPECTED EACH 10 RDS. NO EXCESSIVE WEAR OR CRACKING.	0.005

BOLT PLUGS TURNED OVER TO J. URBON TO BE MAGNAFLUXED.
REPORT SENT TO BRAD HOWARD. NO PROBLEMS NOTED.

DROP TESTED EACH GUN ACCORDING TO SAAMI GUIDELINES WITH NO PROBLEMS NOTED.

OBSTRUCTED BORE TEST.

GUN	CAL.	COMMENTS
71053511	30-06	NO WITNESS PAPER PENETRATIONS. HIGH SPEED VIDEO TAKEN. \\etownadc\laptop\bore_obstruct\710-ca-doj-boltplug.cn

NOTE: BOLT PLUGS RETURNED TO BRAD HOWARD.

ET31451

Test Lab Work Request Form

Rev.3 -20 April, 2000

Date Submitted: 12-19-02	Tracking # : TLW 1075
Project # : 241359	Engineer: B. Howard
Test Objective: EET test of steel M710 CA DOJ bolt plug. <i>Trigger Pull 4 LBS</i> <i>Engagement .020</i>	
Test Description: <ol style="list-style-type: none"> 1. Check headspace. 2. Shoot 200 rounds each on two guns using heaviest grain weight bullet for .270 and .30-06 calibers. 3. Visually inspect bolt plug for signs of excessive wear, cracking, or movement of spring retainer for the first 10 rounds –and every 25 rounds thereafter. 4. Check and record headspace. 5. Magnaflux bolt plugs and report results. Have Metallurgist send short statement of acceptance or rejection to Brad Howard. 6. Check with Brad Howard for confirmation before proceeding to steps 7 & 8. 7. Drop test each gun according to standard SAAMI guidelines starting with the least abusive test and then progressing to the most abusive test. 8. Obstructed Bore test – test 30.06 rifle using all std. safety procedures to determine witness paper penetrations (shooters face) –if any. 9. Return both samples to Brad Howard. 	
Resource Usage: Manpower Requirements – Facility Requirements –	Test Results Required: Formal Report: n Data Only: yes Requested Completion Date: 2-7-03
Required Materials/Parts/Equipment (include quantities):	
Test Parts Availability Date: 1-30-03	
Start Date: 1-31-03 Completion Date: Report Date: 2-5-03	Test Assigned To: Jesse Arnold Assignment Date: 01/31/03

3990

ET31452

CONFIDENTIAL

1715
1844
1659
2637
1712
1547
1560
1497
1090
1548
1308
1547

83

ET31453

PROJECT# 241359

2/5/2003

TLW 1075

EET TEST OF STEEL M710 CA DOJ BOLT PLUG.

GUN	HEAD SPACE	AMMO	ROUNDS	COMMENTS	HEAD SPACE
71053511	0.005	R30062	200	BOLT PLUG INSPECTED EACH 10 RDS.	0.005
30-06		150GR		NO EXCESSIVE WEAR OR CRACKING.	
71026291	0.004	R270W4	200	BOLT PLUG INSPECTED EACH 10 RDS.	0.005
0.27		150GR		NO EXCESSIVE WEAR OR CRACKING.	

BOLT PLUGS TURNED OVER TO J. URBON TO BE MAGNAFLUXED.
REPORT SENT TO BRAD HOWARD. NO PROBLEMS NOTED.

DROP TESTED EACH GUN ACCORDING TO SAAMI GUIDELINES WITH NO PROBLEMS NOTED.

OBSTRUCTED BORE TEST.

GUN	CAL.	COMMENTS
71053511	30-06	NO WITNESS PAPER PENETRATIONS. HIGH SPEED VIDEO TAKEN.

83

CONFIDENTIAL

ET31454

GUN - 71053511
DATE - 1-31-03
SHOOTER - JESSE
CAL. - 30-06

HEADSPACE @ RDS .005

200 RDS .005

PROJECT# 241359
TLW 1075

AMMO TYPE - R 30062		150 GR	LOT# -	MALFUNCTIONS	
1	1		51	1	
2	2		52	2	
3	3		53	3	
4	4		54	4	
5	5		55	5	
6	1		56	1	
7	2		57	2	
8	3		58	3	
9	4		59	4	
10	5	ok Inspect	60	5	
11	1		61	1	
12	2		62	2	
13	3		63	3	
14	4		64	4	
15	5		65	5	
16	1		66	1	
17	2		67	2	
18	3		68	3	
19	4		69	4	
20	5		70	5	
21	1		71	1	
22	2		72	2	
23	3		73	3	
24	4		74	4	
25	5	ok Inspect	75	5	ok Inspect
26	1		76	1	
27	2		77	2	
28	3		78	3	
29	4		79	4	
30	5		80	5	
31	1		81	1	
32	2		82	2	
33	3		83	3	
34	4		84	4	
35	5		85	5	
36	1		86	1	
37	2		87	2	
38	3		88	3	
39	4		89	4	
40	5		90	5	
41	1		91	1	
42	2		92	2	
43	3		93	3	
44	4		94	4	
45	5		95	5	
46	1		96	1	
47	2		97	2	
48	3		98	3	
49	4		99	4	
50	5	ok Inspect	100	5	ok Inspect

GUN -71026291
DATE - 1-31-03
SHOOTER - JESSE
CAL. - 270

PROJECT# 241359
TLW 1075

100

AMMO TYPE -				LOT# -	
		MALFUNCTIONS			MALFUNCTIONS
1	1		51	1	
2	2		52	2	
3	3		53	3	
4	4		54	4	
5	5		55	5	
6	1		56	1	
7	2		57	2	
8	3		58	3	
9	4		59	4	
10	5		60	5	
11	1		61	1	
12	2		62	2	
13	3		63	3	
14	4		64	4	
15	5		65	5	
16	1		66	1	
17	2		67	2	
18	3		68	3	
19	4		69	4	
20	5		70	5	
21	1		71	1	
22	2		72	2	
23	3		73	3	
24	4		74	4	
25	5		75	5	
26	1		76	1	
27	2		77	2	
28	3		78	3	
29	4		79	4	
30	5		80	5	
31	1		81	1	
32	2		82	2	
33	3		83	3	
34	4		84	4	
35	5		85	5	
36	1		86	1	
37	2		87	2	
38	3		88	3	
39	4		89	4	
40	5		90	5	
41	1		91	1	
42	2		92	2	
43	3		93	3	
44	4		94	4	
45	5		95	5	
46	1		96	1	
47	2		97	2	
48	3		98	3	
49	4		99	4	
50	5		100	5	

200

GUN -71053511
DATE - 1-31-03
SHOOTER - JESSE
CAL. - 30-06

PROJECT# 241359
TLW 1075

100

AMMO TYPE -			LOT# -	
		MALFUNCTIONS		MALFUNCTIONS
1	1		51	1
2	2		52	2
3	3		53	3
4	4		54	4
5	5		55	5
6	1		56	1
7	2		57	2
8	3		58	3
9	4		59	4
10	5		60	5
11	1		61	1
12	2		62	2
13	3		63	3
14	4		64	4
15	5		65	5
16	1		66	1
17	2		67	2
18	3		68	3
19	4		69	4
20	5		70	5
21	1		71	1
22	2		72	2
23	3		73	3
24	4		74	4
25	5		75	5
26	1		76	1
27	2		77	2
28	3		78	3
29	4		79	4
30	5		80	5
31	1		81	1
32	2		82	2
33	3		83	3
34	4		84	4
35	5		85	5
36	1		86	1
37	2		87	2
38	3		88	3
39	4		89	4
40	5		90	5
41	1		91	1
42	2		92	2
43	3		93	3
44	4		94	4
45	5		95	5
46	1		96	1
47	2		97	2
48	3		98	3
49	4		99	4
50	5		100	5

200

ET31457

GUN - 71026291

DATE - 1-31-03

SHOOTER - JESSE

CAL - 270

200 RDS

.005

PROJECT# 241359

TLW 1075

Q

AMMO TYPE - R270WH		150 G1	LOT# -
MALFUNCTIONS			MALFUNCTIONS
1	1	51	1
2	2	52	2
3	3	53	3
4	4	54	4
5	5	55	5
6	1	56	1
7	2	57	2
8	3	58	3
9	4	59	4
10	5	60	5
11	1	61	1
12	2	62	2
13	3	63	3
14	4	64	4
15	5	65	5
16	1	66	1
17	2	67	2
18	3	68	3
19	4	69	4
20	5	70	5
21	1	71	1
22	2	72	2
23	3	73	3
24	4	74	4
25	5	75	5
26	1	76	1
27	2	77	2
28	3	78	3
29	4	79	4
30	5	80	5
31	1	81	1
32	2	82	2
33	3	83	3
34	4	84	4
35	5	85	5
36	1	86	1
37	2	87	2
38	3	88	3
39	4	89	4
40	5	90	5
41	1	91	1
42	2	92	2
43	3	93	3
44	4	94	4
45	5	95	5
46	1	96	1
47	2	97	2
48	3	98	3
49	4	99	4
50	5	100	5

TLW 1075Project No. 241359**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST**

Firecontrol No. _____ Firecontrol Type: _____ Date: 2-1-03
 Dry Cycles/Rounds Completed: _____ Stock Type _____ Engagement at Start .0129
 Model No. 710 Serial No. 7102629 / (.270) Engagement at End .0202
 Trigger Pull at Start of Test (1) 3.75 (2) 4.25 (3) 4 (4) 4 (5) 3.75 (6) 4
 Average Trigger Pull at Start of Test: _____ Std. Dev. of Trigger Pull at Start of Test: _____
 Trigger Pull at End of Test (1) 4 (2) 4 (3) 4.25 (4) 4 (5) 4 (6) 3.75
 Average Trigger Pull at End of Test: _____ Std. Dev. of Trigger Pull at End of Test: _____

Tester Initials: JA/JW

Additional Notes and Comments

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 diameter (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

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 _____	_____

 Page 1 of 2
 Z101NDROPTTEST_REV3.DOC

ET31459

S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST*SAAMI Specifications for Standard Drop Test:*

Drop Test: 48-inch drop - onto 1" thick 85 durometer (Shore A) Rubber Matt
Firearm not ready to fire, Safe in "Safe" 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.

48 inch drop (safety in "Safe" position) - one drop per orientation.

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

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

SAAMI Specifications for Standard Rotation Test:

Rotation Test: Rest Firearm on the Butt end and allow Firearm to fall
Drop - onto 1" thick 85 durometer (Shore A) Rubber Matt
Firearm not ready to fire, Safe in "Safe" 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.

"Rotation Test" (safety in "Safe" position) - one drop per orientation.

Note: for Firearms with the ISS system installed - The Firearms will be set with the
ISS system in the unlocked position for both orientations of the Rotation Test.

Orientation	ISS Unlocked	Comments
Firearm Vertical, Drop so left side of Stock is Up:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>	
Firearm Vertical, Drop so right side of Stock is Up:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>	

Notes: (continue on back of sheet if necessary)

Tester's Initials

JA / JW

TLW 1075Project No. 241359**S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST**

Firecontrol No. _____ Firecontrol Type: _____ Date: 2-1-03
Dry Cycles/Rounds Completed: _____ Stock Type _____ Engagement at Start .0202
Model No. 710 Serial No. 71053511 (30-06) Engagement at End .0208
Trigger Pull at Start of Test (1) 4.25 (2) 4 (3) 4 (4) 4.25 (5) 4.25 (6) 4
Average Trigger Pull at Start of Test: _____ Std. Dev. of Trigger Pull at Start of Test: _____
Trigger Pull at End of Test (1) 4.25 (2) 4.25 (3) 4 (4) 4.5 (5) 4.25 (6) 4
Average Trigger Pull at End of Test: _____ Std. Dev. of Trigger Pull at End of Test: _____

Tester Initials: JA / JW

Additional Notes and Comments

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**

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 _____	_____

S.A.A.M.I. JAR-OFF, DROP & ROTATION TEST*SAAMI Specifications for Standard Drop Test:*

Drop Test: 48-inch drop - onto 1" thick 85 durometer (Shore A) Rubber Matt
Firearm not ready to fire, Safe in "Safe" 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.

48 inch drop (safety in "Safe" position) - one drop per orientation.

Note: for Firearms with the ISS system installed - The Firearms will be set with the

ISS system in the unlocked position for all six orientations of the Drop Test

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

SAAMI Specifications for Standard Rotation Test:

Rotation Test: Rest Firearm on the Butt end and allow Firearm to fall
Drop - onto 1" thick 85 durometer (Shore A) Rubber Matt
Firearm not ready to fire, Safe in "Safe" 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.

"Rotation Test" (safety in "Safe" position) - one drop per orientation.

Note: for Firearms with the ISS system installed - The Firearms will be set with the

ISS system in the unlocked position for both orientations of the Rotation Test.

Orientation	ISS Unlocked	Comments
Firearm Vertical, Drop so left side of Stock is Up:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>	
Firearm Vertical, Drop so right side of Stock is Up:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>	

Notes: (continue on back of sheet if necessary)

Tester's Initials

JA/JW