Remington
Model 710, .270 Win. Caliber
Trial and Pilot #1
Test Plan

Test Category	Work Product or Label Number	Sub	Activity	Test Required	Test Completed	Samples	No. of Rifles	Rounds / Rifle	Total Rounds per Test	Cum. Rounds	Performance Criteria
TAPA ANALYSIS & REPORTING											
	TLWG407	-	Develop Detailed Write Up / Report		Y	A1 - A30	30				
VISUAL, BARE & PACKAGING AUDIT											
Visual Examination											
	TLWG407	A	Check the following items & use "Warehouse Customer Focus Quality Audit" Checklist								
			Do Marks Be Uniform / Not Smeared / Not Faded		Y	A1-A30	30				Many of these characteristics are not defined, without - meaningful use of subjective data
			Metal to Stock Fit to be uniform		Y	A1-A30	30				
			Front Recoil Pad Fit Proper		Y	A1-A30	30				
			Check Fouling		Y	A1-A30	30				
			Check for presence of Oil, Lint, Grease, Oil		Y	A1 - A30	30				
			Check metal finish		Y	A1 - A30	30				
Packaging Audit											
	TLWG407	A	Use Packaging Audit Checklist specified and check following items:			A1 - A30	30				Many of these characteristics are not precisely defined - imply use of subjective data
			Serial Number on Rifle, Box Label and Paperwork must all match	Y		A1 - A30	30				
			Check Packing List for presence of all items	Y		A1 - A30	30				
			Box, exterior - no stains, not crushed, all required boards present and unbroken		Y	A1 - A30	30				
Packaging Test											
	TLWG407	C	Use Packaging Test Processes to be Determined (Select 2 Rifles from Group A31 to A50 after completion of the Regular Tests)	Y							
MEASUREMENTS & INSPECTIONS											
Proof & Headspace											
	TLWG407	E	Minimum Rifles for headspace should have been done by Remington	Y		A1 - A30	30		0	0	Min = 0.005
	TLWG407	F	Proof Test (Should have been done by Remington)	Y		A1 - A30	30		30	30	1 standard proof round per rifle
	TLWG407	G	Headspace Check for Headspace (Go/ Not Go) Gauge (Headspace by R&D)	Y		A1 - A30	30		30	30	Go/ - Go, gauge can chip - no hard/close shave than Min + 0.01" at the proof
Frame & Replacements											
	TLWG407	H	Measure Frame Pin Indent	Y		A1 - A30	30		0	30	Accept at 2 1/2 Hole + or - 0.02"
	TLWG407	I	Seat Travel Measurement & Seat Lift	Y		A1 - A30	30		0	30	Engagement to be .020" to .022" measured with the bolt closed. Seat lift to be between .010" and .012"
	TLWG407	J	Measure Trigger Pull Force			A1 - A30	30		0	30	4.0 lb, 3.0, 2.0 lb - Control to nominal of trigger pull set. Since nominal depends on type of trigger adjustment
	TLWG407	K	Safe Cycle Forces	Y		A1 - A30	30		0	30	Strength 1 lb screw & action
	TLWG407	L	Measure Bolt Lift and Bolt Closure Forces		Y	A11 - A30	13		0	30	No specification only - no specification indicated
	TLWG407	M	Manipulate Safety Force		Y	A11 - A30	13		0	30	No specification only - no specification indicated
	TLWG407	N	Safety (no Hang / Lower Engagement)	Y		A1 - A30	30		0	30	Must be lower than Cycle
	TLWG407	O	Pull Bolt Function Check	Y		A1 - A30	30		0	30	Bolt broken, cracked or distorted parts, no change in trigger/lever engagement, no change in "trigger pull, no change in trigger stops a lower
	TLWG407	P	Function Check of Bolt System	Y		A11 - A30	20		0	30	
	TLWG407	Q	Manipulate Bar Yield Strength Test	Y					30	30	
	TLWG407	AU	Fire Control Inspection Procedures	Y		A1 - A30	30		0	30	
Bolt Inspections									0	30	
	TLWG407	R	Safe Use Point "Hammer" (includes the Sear and insert rate)		Y	A11 - A30	20		0	30	No specification only - used used for Sear Drop, Sear-Off and Sear/Bolt Lifting
	TLWG407	S	Bolt Hot Point - Rifle Only (Without Scope, Bolts and Pins Stress		Y	A11 - A30	10		0	30	No specification only - used used for Sear Drop, Sear-Off and Sear/Bolt Lifting
Firearm Measurements									0	30	
	TLWG407	T	Chamber Cast	Y		A11 - A30	10		0	30	270 Chamber Drawing LB-175, .3700 .4705, .4420/.4440, 3a avg .32 min, .3400/.3434, .3000/.1304
	TLWG407	U	Bore Diameter	Y		A11 - A30	10		0	30	[illegible]
	TLWG407	V	Groove Diameter	Y		A11 - A30	10		0	30	[illegible]
	TLWG407	W	Twist Rate (Shots)	Y		A19 - A30	20		0	30	[illegible]
	TLWG407	X	Magazine Capacity Test	Y		A11 - A30	10		0	30	No .270 - 7 rounds in magazine - must be able to insert rds inserts with the bolt closed
FUNCTION & DURABILITY TESTING											
			Ten (10) Round Safety Function Test with Lanyard - (After Test Safety Function Test, A1-A30 to go to Basic Jack Function Test(TLWG407Z), A21-A30 to go to Accuracy Testing (TLWG407AT)								Use Blow Up room. Use Standard Load Rounds, not Proof rounds.
	TLWG407	Y		Y		A1 - A30	30	10	300	330	
	TLWG407	Z	Basic Jack Function Test (no rounds)	Y		A1 - A30	30	100	3,000	3,330	30 rounds each of the Remington .270 ammunition types - total of 180 rds.). Average malfunction rate for all rifles tested to be < 0.0%
											10 rifles in A31 go into - Remington ammunition with a mix of competitors ammunition. 60 rounds each of the Remington .270 ammunition types(~300 rds.). The remainder (200 rds.) to be composed of major competitors .270 ammo. Overall average malfunction rate to be less than or equal to 2%
	TLWG407	AA	Extended Durability & Endurance Test (1000 Rounds) - Jack shooting	Y		A1 - A10	10	400	4,000	7,330	Clean as specified, 200 round test, and after another 200 round test. Inspect for wear, cracked or broken components, metal deformed/distorted items.
	TLWG407	AB	Clean, Wipe and Inspect	Y		A1 - A10	10		0	7,330	Inspection/visual failures, which forms to remain worse 1 to / type checklist
ACCURACY TESTING									0	7,330	
	TLWG407	AT	Perform Bore Inspection Borescope Scope	Y		A21 - A30	10	15	150	7,480	
	TLWG407	AC	HCI & GROUP Size - Initial Test with High Quality Air Stops	Y		A21 - A30	10	20	200	7,730	Shoot using high quality Scope (ISR) at 100 yd. To establish rifle accuracy only. Fire three, 5-shot groups per rifle with each of two ammo types. Record max. center to center spread of each group, record average of all groups per ammo type. Average group size must be below 3.0" at 100 yards.
	TLWG407	AD	Group Size (100 yards) - System Stability Test, w/ Bushnell Scope @ "zero" rounds	Y		A21 - A30	10	20	200	7,730	Shoot using the supplied Bushnell Scope at 100 yd. To establish rifle accuracy only. Fire three, 5-shot groups per rifle with each of two ammo types. Record max. center to center spread of each group, record average of all groups per ammo type. Average group size must be below 3.0" at 100 yards.
	TLWG407	AE	Group Size (100 yards) - System Stability Test, w/ Bushnell Scope @ "20" rounds	Y		A21 - A30	10	20	200	7,930	Shoot using the supplied Bushnell Scope at 100 yd. To establish rifle accuracy only. Fire three, 5-shot groups per rifle with each of two ammo types. Record max. center to center spread of each group, record average of all groups per ammo type. Average group size must be below 3.0" at 100 yards.
	TLWG407	AF	Group Size (100 yards) - System Stability Test, w/ Bushnell Scope @ "40" rounds (After Groups Sep "40" round test Apt to AW) to go back to cell (min 180 round Basic Jack Function Test (TLWG407Z)	Y		A21 - A30	10	20	200	8,130	Shoot using the supplied Bushnell Scope at 100 yd. To establish rifle accuracy only. Fire three, 5-shot groups per rifle with each of two ammo types. Record max. center to center spread of each group, record average of all groups per ammo type. Average group size must be below 3.0" at 100 yards.
ENVIRONMENTAL TESTING									0	8,130	
Temperature & Humidity	TLWG407	AG	Hot Function Test	Y		A11	1	100	100	8,230	Condition rifle in hot box for minimum of six hours at + 150 deg F. No safety related failure.
	TLWG407	AH	Cold Function Test	Y		A11	1	100	100	8,330	Condition rifle in cold box for minimum of six hours at - 20 deg F. No safety related failure.
	TLWG407	AI	HOT & CLIMATIC Function Test	Y		A11	1	100	100	8,430	Condition rifle in Climatic Chamber (minimum of six hours at + 120 deg F, 90-95% R.H. No safety related failure.
ABUSIVE TESTING									0	8,430	
Impact									0	8,430	
	TLWG407	AJ	Sear Test	Y		A12 - A17	6		0	8,530	Use Functional Sear or dummy bolt, close and lock bolt, remove / - No Follow Ones, Max/Allowed - Add to 5 times for each sample rifle
	TLWG407	AK	SAAMI Drop Test - "System" (includes the Scope and insert rate)			A12 - A17	6		0	8,630	Perform standard SAAMI drop test
	TLWG407	AL	SAAMI NF 5.56 Test - "System" (includes the Scope and insert rate)			A12 - A17	6		0	8,730	Perform standard SAAMI NF 5.56 test
	TLWG407	AM	SAAMI Rotation Test - "System" (includes the Scope and insert rate)			A12 - A17	6		0	8,830	Perform standard SAAMI Rotation test
	TLWG407	AN	SAAMI Cross Test - Rifle Only (Without Scope, Bolts and Pins Stress)	Y		A12 - A17	6		0	8,930	Perform standard SAAMI Cross test
	TLWG407	AO	SAAMI Sear-Off Test - Rifle Only (Without Scope, Bolts and Pins Stress)	Y		A12 - A17	6		0	9,030	Perform standard SAAMI Sear-Off test
	TLWG407	AP	SAAMI Sear-Off Test - Rifle Only (Without Scope, Bolts and Pins Stress)	Y		A12 - A17	6		0	9,130	Perform standard SAAMI Sear-Off test
Intentional Abuse											
	TLWG407	AQ	Percussion Primer Test	Y		A12	1	1	1	9,131	Setup remote to intentionally strike the primer with a blank round - No mechanical failure of the bolt assembly or bolt assembly is permitted. No other safety related malfunctions are permitted.
	TLWG407	AR	Hard Primer Test	Y		A12	1	1	1	9,132	Use hardened primer provided by Hans loading a cartridge - No external mechanical failure of the bolt assembly or bolt assembly. The action may remained locked in the after fired condition.
	TLWG407	AS	Chambered Dummy Test	Y		A12	1	1	1	9,133	Load a dummy immediately behind the chamber, fire a standard round - No external mechanical failure of the bolt assembly or bolt assembly. The action may remained locked in the after fired condition.

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Williams v. Remington