

Test Lab Work Request Form

Date Submitted: 10 March, 2000	Tracking #: TLW 0010AJ
Project #: 241095	Engineer: J.R.SNEDEKER

Test Objective:

TLW0010AJ – Thermal Cycle Test:

This test evaluates the effects of large temperature changes due to expansion and contraction differentials of metallic and non-metallic components used in the Model 710. The sample rifle will be alternately cycled between a temperature of 120°F. and -40°F. for at least 3 complete cycles, brought back to ambient temperature and test fired in the test jacks for 200 rounds to evaluate both function and safety related characteristics.

Test Description:

Method:

- Shoot sample rifle in test jack to determine rifles malfunction characteristics and rate.
- Do not clean rifle
- Place rifle in freezer that is pre-set to -40°F and leave undisturbed for at least 24 hours.
- At completion of 24+ hours, remove rifle and immediately place in the pre-heated test chamber at a temperature as close to the +120°F as can be attained by the equipment. Leave rifle undisturbed for at least 24 hours.
- At completion of at least 24 hours, remove rifle and immediately place in the freezer.
- Repeat this cycle for a minimum of three complete hot and three complete cold cycles.
- At the completion of the final cycle (the heat cycle) remove the rifle from the chamber and allow cooling to ambient temperature – a minimum of six hours.
- Return the rifle to the test jack used at the start of the test and fire another 100 rounds recording malfunction types and rates.
- Remove the action from the stock and examine the rifle for any obvious signs that the thermal cycling has affected the parts with special attention directed at the metallic and non-metallic interfaces. Look for cracked parts and for signs of material creep.

Data Required:

- Rifle serial number
- Cycle time for each test condition
- Temperature records throughout each cycle. Use the chart feature on the freezer and a temperature-recording device for the chamber.
- Malfunctions type and rates both pre- and post thermal cycles.

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- Observations made on cracks, creep or other noteworthy items.

Resource Usage:**Manpower Requirements -****Facility Requirements -****Test Results Required:****Formal Report:** **Data Only: X****REQUESTED Completion Date:****Required Materials/Parts/Equipment (include quantities):****Test Parts Availability Date:****Start Date:** 5 - 5 - 00**Completion Date:** 5 - 9 - 00**Report Date:****Test Assigned To:** JESSE ARNOLD &**BOB LEE 16 MARCH 2000**

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MODEL 710 THERMAL CYCLE TEST

DATE- 5-5-00 THRU 5-9-00

GUN	SERIAL#	RDS
A-11	XC 1126	100

COMMENTS
NO PROBLEMS NOTED

GUN CLEANED AND INSPECTED

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