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- Test each firearm within the chamber as follows:
- Fire 20 rounds of ammunition. Wait 2 hours and repeat until all 100 rounds have been fired.
- Do not perform maintenance during the 100 round cycle.
- Cycle the safety from fire to safe every 5 rounds.
- After 100 rounds have been fired through the firearm, remove the firearm from the conditioning chamber, disassemble, thoroughly inspect, clean and lubricate.

## Data Required:

- Record temperature and exposure times
- Record all malfunctions.
- Record damage noted during inspection
- Record all necessary maintenance actions performed

## 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.

## Method:

- Shoot sample rifle in test sack 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.

Page 38 of 55

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