

Test Lab Work Request Form

Date Submitted: 10 March, 2000

Tracking #: TLW 0010AL

Project #: 241095

Engineer: J.R.SNEDEKER

Test Objective:

TLW0010AL - Dynamic Sand & Dust Test:

This test evaluates the effects of blowing sand and dust on firearm performance, but the test firing is conducted after the firearm is removed from the sand and dust environment. Use the same sand and dust mixture used in the Sand and Dust Test,

(See Table No. 1.)

TABLE No. 1. COMPOSITION OF SAND AND DUST MIXTURE

(by percent particles, by weight, retained in sieves)

| <u>Sieve Size (US gage sieve no.)</u> | <u>Percent of weight retained</u> | <u>Particle Size (microns)</u> |
|---------------------------------------|-----------------------------------|--------------------------------|
| 20 | 3 | 842 to 1000 |
| 30 | 5 | 595 to 841 |
| 45 | 17 | 355 to 595 |
| 60 | 14 | 251 to 354 |
| 100 | 10 | 150 to 250 |
| pass 100 | less than 1 | ----- |
| 140-mesh silica flour | | |
| 140 | 1 | 105 to 149 |
| 200 | 4 | 74 to 105 |
| 325 | 7.5 | 44 to 74 |
| pass 325 | 37.5 | less than 44 |

Test Description:

Method:

- Clean and lubricate one test firearm and close the muzzle with tape.
- Close the bolt. Set the safety in the SAFE position. Load the firearm using one primed case.
- Expose the firearm as follows:
- Place the firearm in the center of the box, and fasten the box lid.
- After 1 minute, stop the blowing air, remove the lid, and turn the firearm upside down in the box. Replace the lid and repeat the sand and dust blast for another minute.
- Remove the gun from the box after first attempting to wipe clean the firearm with gloved

hands. Clean parts as much as possible by blowing the rifle with compressed or shaking the firearm. Carefully remove the tape from the muzzle. REMEMBER THAT THE RIFLE HAS A PRIMED CASE IN THE CHAMBER.

- Take the rifle to a test jack in the short range. (Note: if not shooting from the test box, remove the spent primed case from the chamber and replace with a live round.) Load the magazine with live rounds and fire a full magazine from the firearm while in the test jack.
- If firing is still unsatisfactory, attempt to fire with a clean magazine loaded with clean ammunition. If repeated malfunctions make it impossible to fire all of the ammunition, field strip and clean the firearm in accordance with the applicable operator's manual. Then attempt to fire the remaining ammunition. If repeated malfunctions make it impractical to fire the remaining ammunition, stop the test. Cycle the safety from fire to safe every 5 rounds.
- At every 5 round interval verify the firearm is not loaded.
- Close the firearm as if to fire it and put the safety to the SAFE position
- Pull the trigger firmly (10 lb. maximum) - firearm must not fire.
- With the finger off the trigger, move the safety to the FIRE position - firearm must not fire.
- Disassemble the firearm over a large white paper and weigh the amount of debris present in the main mechanism

Data Required:

- Record malfunctions. *None*
- Record number of rounds fired. *(5)*
- Record weight of debris found in the gun. *164.4 GRAMS GRAINS*
- Record any firing of the firearm without the trigger being pulled. *None*
- Record any misfires. *None*

| | |
|--|---|
| 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: <i>4-27-00</i> Completion Date: <i>4-27-00</i> | Test Assigned To: JESSE ARNOLD & BOB LEE 16 MARCH 2000 |

GUN A-12 XC 1127

DYNAMIC SAND AND DUST TEST

PHASE (1)

PROJECT# 241095

TLW 0010AL

DATE - 4-27-00

MALFUNCTIONS - NONE

ROUNDS FIRED - FIVE

WEIGHT OF DEBRIS FOUND IN GUN - 164.4 GRAINS

FIRING OF THE FIREARM WITHOUT TRIGGER BEING PULLED - NONE

MISFIRES - NONE

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