

## Test Lab Work Request Form

Date Submitted: 10 March, 2000

Tracking #: TLW 0010AM

Project #: 241095

Engineer: J.R.SNEDEKER

**Test Objective:****TLW0010AM – Static Sand & Dust Test:**

This test is the second of two that evaluates the effect of sand and dust on firearm performance, where the test firing is conducted after the firearm has sand and dust directly placed in the action. Thus, an exposure box is not required. For Sand & Dust composition 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 gun to the procedure supplied by the design team.
- Remove the bolt. Set the safety in the SAFE position and verify that the firearm is unloaded.
- Record the weight of one level tablespoon of debris mixture.
- Expose the firearm as follows:
- Place the firearm in a shooting jack, bottom of rifle up, and apply a tablespoon of sand in

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the firecontrol mechanism from the bottom. Tap the firearm three times, in the middle of the receiver, to jar the rifle and to assist getting sand into the mechanism.

- Turn the firearm to its normal upright horizontal position and apply a tablespoon of sand and dust to the top of the firecontrol mechanism from the top. Tap the firearm three times, in the middle of the receiver, to jar the rifle and aid sand getting into the mechanism.
- Replace the bolt. Wipe away any sand that prevents the bolt from closing.
- Load the magazine. Fire a full magazine from the firearm. If there are repeated malfunctions, attempt to fire with another magazine. If firing is still unsatisfactory, attempt to fire with a clean magazine, container, etc., loaded with clean ammunition. If repeated malfunctions make it impractical to fire the remaining ammunition, stop the test.
- 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.
- Carefully disassemble the firearm over large sheet of white paper and weigh the amount of debris that finds its way into the main mechanism area.

#### Data Required:

- Record malfunctions. *None*
- Record number of rounds fired. *(5)*
- Record weight of debris found in the gun. *181.2 Grams*
- Record any firing of the firearm without the trigger being pulled. *None*
- Record any hang fires. *None*

<b>Resource Usage:</b> <b>Manpower Requirements -</b>  <b>Facility Requirements -</b>	<b>Test Results Required:</b> <b>Formal Report:            Data Only: X</b> <b>REQUESTED Completion Date:</b>
<b>Required Materials/Parts/Equipment (include quantities):</b>	
<b>Test Parts Availability Date:</b>	
<b>Start Date:</b> <i>4-27-00</i> <b>Completion Date:</b> <i>4-27-00</i> <b>Report Date:</b>	<b>Test Assigned To: JESSE ARNOLD &amp; BOB LEE 16 MARCH 2000</b>

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GUN A-12 XC1127

STATIC SAND AND DUST TEST

PROJECT# 241095

TLW 0010AM

DATE - 4-27-00

MALFUNCTIONS - NONE      VERY STIFF AND GRITY OPENING AND CLOSING BOLT.

ROUNDS FIRED - FIVE

WEIGHT OF DEBRIS FOUND IN GUN - 181.2 GRAINS

FIRING OF THE FIREARM WITHOUT TRIGGER BEING PULLED - NONE

HANG FIRES - NONE

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