

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

ET07183

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. **0**
- Record number of rounds fired. **5**
- Record weight of debris found in the gun. **0 LBS.**
- Record any firing of the firearm without the trigger being pulled. **0**
- Record any misfires. **0**

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:9/16/00

Completion Date:9/16/00

**Test Assigned To: Steve Wade AND
Jeff Wade**

ET07184

- STEP # 1- CLEAN AND LUBRICATE TEST FIRE ARM AND TAPE END OF BARREL.
- STEP # 2- LOAD FIREARM WITH PRIMED CASE. CLOSED BOLT AND SET SAFETY IN THE SAFE POSITION.
- STEP # 3- PLACED FIREARM IN CENTER OF DUST AND DEBRIS CHAMBER AND FASTEN THE BOX LID.
- STEP # 4- TURNED ON AIR TO BLOW SAND AND DUST ON GUN FOR 1 MINUTE, TURNED OFF AIR AND TURNED THE FIREARM UPSIDE DOWN IN THE CHAMBER. TURNED ON AIR FOR I MORE MINUTE.
- STEP # 5- TURNED AIR OFF AND REMOVE THE FIREARM FROM THE CHAMBER. WIPED OFF SAND AND DUST WITH CLEAN PAPER TOWEL. USED COMPRESSED AIR TO BLOW SAND AND DUST OFF FIREARM.
- STEP # 6- REMOVE TAPE FROM THE MUZZLE.
- STEP # 7- TOOK THE RIFLE TO THE TEST JACK AND FIRED PRIMED CASE. CYCLED THE BOLT TO EJECT THE FIRED CASE. CYCLE SAFETY TO SAFE POSITION.
- STEP # 8- PLACED 1 ROUND IN THE CHAMBER AND CLOSED BOLT. LOADED 4 ROUNDS IN THE MAGAZINE AND PUT INTO GUN.
- STEP # 9- CYCLED SAFETY FROM THE SAFE POSITION TO THE FIRE POSITION. WENT OUT OF ROOM AND PULLED TRIGGER WITH LANYARD. (GUN FIRED)
- STEP # 10- WENT BACK INTO ROOM EJECTED FIRED CASE. CYCLE SAFETY FROM THE FIRE POSITION TO THE SAFE POSITION. CLOSED BOLT TO LOAD LIVE ROUND FROM THE MAGAZINE. CYCLED SAFETY FROM THE SAFE POSITION TO THE FIRE POSITION. WENT OUT OF ROOM AND PULLED TRIGGER WITH LANYARD. (GUN FIRED)
- STEP # 11- WENT BACK INTO ROOM EJECTED FIRED CASE. CYCLE SAFETY FROM THE FIRE POSITION TO THE SAFE POSITION. CLOSED BOLT TO LOAD LIVE ROUND FROM THE MAGAZINE. CYCLED SAFETY FROM THE SAFE POSITION TO THE FIRE POSITION. WENT OUT OF ROOM AND PULLED TRIGGER WITH LANYARD. (GUN FIRED)
- STEP # 12- WENT BACK INTO ROOM EJECTED FIRED CASE, CYCLE SAFETY FROM THE FIRE POSITION TO THE SAFE POSITION. CLOSED BOLT TO LOAD LIVE ROUND FROM THE MAGAZINE. CYCLED SAFETY FROM THE SAFE POSITION TO THE FIRE POSITION. WENT OUT OF ROOM AND PULLED TRIGGER WITH LANYARD. (GUN FIRED)
- STEP # 13- WENT BACK INTO ROOM EJECTED FIRED CASE, CYCLE SAFETY FROM THE FIRE POSITION TO THE SAFE POSITION. CLOSED BOLT TO LOAD LIVE ROUND FROM THE MAGAZINE. CYCLED SAFETY FROM THE SAFE POSITION TO THE FIRE POSITION. WENT OUT OF ROOM AND PULLED TRIGGER WITH LANYARD. (GUN FIRED)
- STEP # 14- CLOSED BOLT ON GUN AS IF TO FIRE IT AND PUT IN SAFE POSITION. PULLED THE TRIGGER FIRMLY (10 LB. MAXIMUM) - GUN DID NOT FIRE.
- STEP # 15- WITH FINGER OFF THE TRIGGER CYCLED THE SAFETY FROM SAFE POSITION TO FIRE POSITION- GUN DID NOT FIRE.
- STEP # 16- DISASSEMBLED GUN OVER LARGE WHITE PAPER AND WEIGH THE AMOUNT OF DEBRIS PRESENT IN THE MAIN MECHANISM. (VERY LITTLE DEBRIS WAS PRESENT IN MAIN MECHANISM, WOULD NOT WEIGH.)

83

ET07185