

MIL-STD-705C  
METHOD 771.1a

LOAD BANK TEST

**Task Requirements:**

Experienced MOS 91D personnel and supervised by experienced 91B30/40 for manual compliance and signature of test data sheets.

1. Test must be conducted by 91D20 or 3O level, experienced 91B30, or 91X4O to monitor and sign test data sheet.
2. Testing must follow all major repairs as applicable to the individual generator manual references. Fueling and services on the generators must be conducted prior to load bank test.

**Preparation for test:**

Initial set-up requires the generators to be shut-off, and should not connected to any other equipment.

Load bank tests will be performed in accordance with Army regulations and standards, MIL- STD-705C, Method 771.1a, as a baseline standard.

- a. Connect the load instrumentation in accordance with the applicable figure of MIL-HDBK-705, method 205.1, paragraph 205.1.10 (ref 1) to measure the load applied by the set load bank with the voltage sensing lines connected to the generator set output terminals for a voltage connection and frequency specified in the procurement document.
- b. Connect the generator set integral load bank for the voltage connection used in step a above, and connect the load bank to the set electrically, if necessary.

**Test:**

- a. Start and operate the generator set at rated voltage, rated frequency and no load. Record all instrument readings.
- b. Using the load bank switch, energize the load bank at its minimum percent step. Record all instrument readings and note operation of load bank indicator light.
- c. Repeat step b above for all other steps of the load bank switch.
- d. Repeat step b above for any other load steps available.
- e. Repeat step b for any other voltage connection specified in the procurement document.

Compare the power absorbed by the generator set integral load bank with the requirements specified in the requirements specified in the procurement document.

**Procurement document requirements.**

The following items will be specified in the individual procurement document.

- a. The tolerance band in percent of rated load within which the load bank must operate at each step, if applicable.
- b. The voltage connections at which this test shall be performed.

## NOTE

The generator set can be operated continuously at any load from no load up to and including rated load.

However, at light loads (less than 25% of set rating); an oily residue (unburned fuel oil) may occasionally be noticed in the exhaust system outlet and around connection joints in the exhaust system. This residue is caused by the inability of fuel injection system to consistently meter the small amount of fuel required to operate at these low load levels and is not a defect in the fuel system. The oily residue could affect engine performance and create a cosmetic problem on and around the generator set. Operation at rated load will burn off this oily residue. The length of time required at rated load depends on the amount of residue. The muffler may also need to be removed and cleaned if excessive build up occurs. This oily residue can be prevented by increasing the electrical load on the set.

The generators that in 72nd Signal BN are all fairly new, and have not had chance to wet stack. A 10 to 15 minute load test at 80 to 100% load will be good.