

OCEAN ENGINEERING DIVISION
UNITED STATES COAST GUARD
WASHINGTON D.C.

FEBRUARY 1999

SPECIFICATION FOR
STANDARD BATTERY LOAD TESTER

SPECIFICATION G-SEC-392C

1. SCOPE

1.1 Purpose. This specification establishes the basic requirements for the construction of a U.S. Coast Guard Aids to Navigation Battery Load Tester. The load tester will be used to test 12 volt primary and secondary batteries used to power minor aids to navigation.

1.2 Government Furnished Equipment (GFE). A load tester will be furnished for inspection as listed in section H of the solicitation/contract.

1.3 Precedence. Any ambiguity or conflict between the following documents shall be resolved by utilizing the following precedence:

- a. This specification.
- b. Applicable documents.

2.0 APPLICABLE DOCUMENTS.

2.1 Military Specifications.

MIL-DTL-15024F Plates, Tags and Bands for Identification of Equipment
28 Nov 97

2.2 Military Handbooks.

MIL-HDBK-454 Standard General Requirements for Electronic Equipment
28 Apr 95

3. REQUIREMENTS.

3.1 General. The Contractor shall furnish all parts, materials labor and services necessary to fabricate and deliver a battery load tester in accordance with this specification. Figure 1 is the schematic diagram for the load tester.

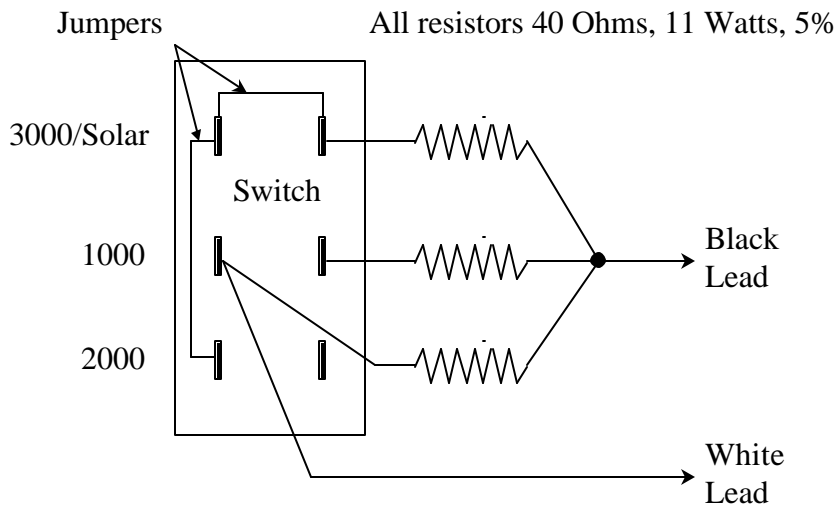


Figure 1

3.2 Case. The case shall be constructed of die-cast aluminum with a removable cover not to exceed 5" x 4" x 3" (L W H). The case shall be painted with gloss gray enamel. The case shall be free of sharp edges or protrusions that

might catch the clothing or lacerate servicing personnel. Stainless steel hardware shall be used, including replacement of plated hardware supplied with the case. The completed tester shall float for a minimum of five minutes.

3.3 Switch. The switch shall be a three position (on/off/on), double pole, sealed toggle switch (MS35059-21 or equal)

3.4 Resistors. All resistors shall be 40 ohm, 5%, 11 watt or greater, vitreous enamel, wireround type and shall be fastened to the case to prevent movement and provide heat dissipation. The completed tester shall meet the following requirements:

3.4.1 Current. When connected to a 20.0 +/- 0.1 volt DC power source, 2 amp minimum, the load tester shall maintain the following currents for 15 seconds:

<u>Switch Setting</u>	<u>Current</u>
1000	0.50 +/- 0.03 amps
2000	1.00 +/- 0.06 amps
3000/Solar	1.50 +/- 0.08 amps

3.4.2 Resistance. The resistance of the completed load tester, measured at the clips shall be:

<u>Switch Setting</u>	<u>Resistance</u>
1000	40 +/- 2 ohms
2000	20 +/- 1 ohm
3000/Solar	13 +/- 1 ohm

3.5 Leads. There shall be two 24 ± 2 inch leads made of 16 AWG stranded copper wire insulated with vinyl or PVC. One lead shall be colored white and the other black.

3.6 Grommet/Strain Relief. There shall be a strain relief or grommet mechanically affixed to the case to protect the leads and prevent pullout. The leads shall be capable of withstanding 10 pounds of tension applied to any direction without damage to the leads or load tester.

3.7 Alligator Clips. Each lead shall have an alligator clip soldered to its end with a jaw opening of at least ½” and tip width of less than 5/16" (ex. Mueller 51-C).

3.7.1 Alligator Clip Boots. Each alligator clip shall be covered by a molded vinyl boot that fully insulates the clip while allowing maximum jaw opening. The boots shall be color coded to match the leads.

3.8 Internal Wiring. Jumpers shall be 18 AWG minimum solid or stranded tinned copper wire.

3.9 Soldering. All soldering shall conform to MIL-HDBK-454.

3.10 Label. Nameplate, switch identification and instructions shall be silkscreened on the cover or printed on an adhesive-backed metal foil label (Type F or Type G) in accordance with MIL-DTL-15024F. Alignment of the switch identification to the switch positions shall be ensured to convey the proper information. The 3000/SOLAR, 1000 and 2000 settings shall correspond to the switch position that yields 13 ohms, 40 ohms and 20 ohms between wire leads, respectively. The label shall contain the following information, as shown in Figure 2.

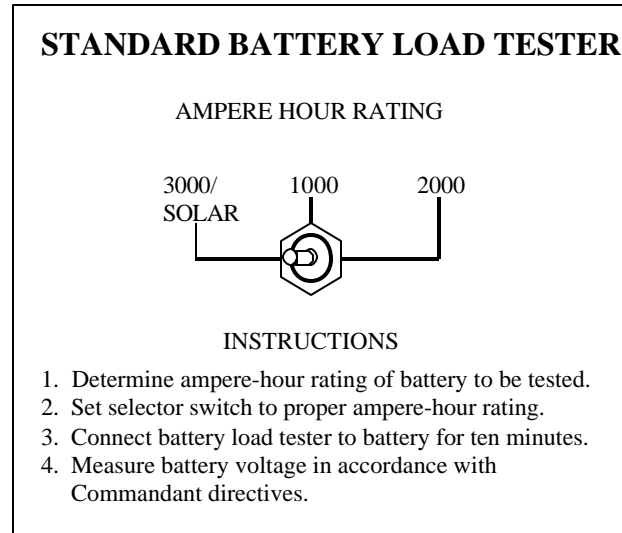


Figure 2

4. **QUALITY ASSURANCE PROVISIONS.**

4.1 **Production Inspection.** The Contractor shall conform to the requirements of section H of the Solicitation/Contract.

5. **PREPARATION FOR DELIVERY**

5.1 **Packaging.** Packaging shall be in accordance with section D of the Solicitation/Contract.

5.2 **Marking.** Marking shall be in accordance with section D of the Solicitation/Contract. The National Stock Number (NSN) is CG6625-01-181-8255.

Specification G-SEC-392C
Standard Battery Load Tester

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