

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

FEBRUARY 1999

SPECIFICATION FOR  
WIRING KITS FOR AIDS TO NAVIGATION  
LIGHTING APPARATUS

SPECIFICATION G-SEC-261C

1. SCOPE.

1.1 General. This specification details the requirements for a wiring kit (WK-681) used to interconnect lighting apparatus (CG-181 flasher and CG-6P lampchanger) in maritime aids to navigation.

1.2 Equipment & Documentation. This specification sets forth the requirements for the following equipment and documentation:

- a. Wiring kit
- b. Instruction sheet

1.3 Precedence. Any ambiguity or conflict between the specification and applicable documents shall be resolved by utilizing the following documents in the precedence shown:

- a. This specification
- b. Applicable documents

2. APPLICABLE DOCUMENTS

2.1 Military Handbooks.

MIL-HDBK-454

Standard General Requirements for Electronic Equipment

3. REQUIREMENTS.

3.1 Environmental. The materials selected for fabricating the wiring kits shall be impervious to sea water penetration and shall withstand continuous exposure to an atmosphere of salt air. The materials must withstand temperatures of -25 to 140 degrees F and relative humidities 0 to 100 percent.

3.2 Wire. The wire shall be kinkless test lead wire, 16 AWG, single conductor, stranded, tinned copper. The insulation around the wire shall be polyvinylchloride acetate (PVC) utilizing soft formulation vinyl for maximum flexibility with a 600 volt insulation rating. The insulated wire shall carry an operating load of 12 volts, 9.17 amps within the ambient temperature range from -25 to 140 degrees F without deformation, cracking or substantial stiffening.

3.2.1 Color. The colors required in the kit are red, white and blue. Continuous exposure to sunlight shall not affect the color identification of the wire.

3.3 Lugs. Lugs shall be either insulated or noninsulated spring spade type (also called locking spade; see Figure 1), for a number 8 stud and 14 to 16 AWG wire. The width of the lug shall not exceed 11/32". The lugs shall be made of copper and shall have an electroplated tin coating. If noninsulated lugs are used, each connection shall contain a length of black or color-coded heat shrink tubing over both the crimp connection and approximately 1/8" of wire. The tubing shall be installed such that it will not slide off the lug when the lug is pulled from a loosened number 8 screw.

Spring or Locking Spade Lug

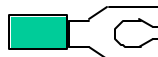


Figure 1

3.4 Wiring Kit. The kit shall consist of three wires, as described in paragraph 3.2, one red, one white and one blue with a lug described in paragraph 3.3 attached to each end. Each wire shall be 6-1/2" +/- 1/4" long between centers.

3.5 Attachment of Lugs. Lugs shall be crimped and soldered to fluxed wires with tin-lead solder so that solder is drawn into crimped connection with emphasis on elimination of cold solder joints (MIL-HDBK-454).

3.6 Installation Diagram. One copy of the installation diagram, shown in Figure 2, shall be packaged with each wiring kit. Before copies are made, pertinent information shall be filled in the appropriate spaces.

#### 4.0 QUALITY ASSURANCE PROVISIONS.

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

#### 5.0 PREPARATION FOR DELIVERY.

5.1 Packaging. Packaging shall be in accordance with section D of the Solicitation/Contract. In addition, each wiring kit (including instruction sheet) shall be individually packaged in a hermetically sealed clear plastic bag.

5.2 Packing. The wiring kits shall be packaged, in quantities of ten (10), in a cardboard box in accordance with standard commercial practice.

5.3 Marking. Marking shall be in accordance with section D of the Solicitation/Contract. The National Stock Number (NSN) is CG6230-01-040-6848.

# INSTALLATION DIAGRAM WK-681

NSN 6230-01-040-6848

Contract No: DTCG\_\_\_\_\_

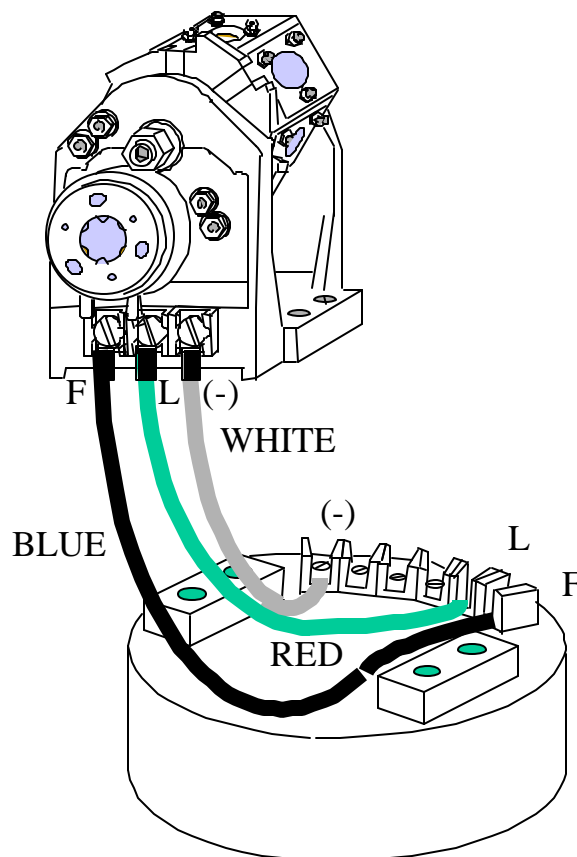
Manufacturer's Name & Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Manufacture:\_\_\_\_\_

Lampchanger

Wires pass under  
lampchanger when  
installed on flasher.



Flasher

Figure 2

Specification G-SEC-261C  
Wiring Kits for Aids to Navigation Lighting Apparatus

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