

(A) User activities: Army ME, SL, WC
Navy
Air Force

Reviewer activities: Army MU, MI, AV, EL, SL,
Navy EC, MC, AS
Air Force 14, 15, 17, 80

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PURPOSE:

The purpose of this drawing is to define the cable preparation and connector assembly instructions for flat conductor cable plugs per MIL-C-55544/7. Following the instructions of this drawing will assure that the completed plug assembly will meet the performance requirements of MIL-C-55544, "CONNECTORS, ELECTRICAL, ENVIRONMENT RESISTANT, FOR USE WITH FLEXIBLE, FLAT CONDUCTOR CABLE."

MATERIALS:

The materials required for assembly of the flat conductor cable plug consist of the following:

Standard cables in accordance with the requirements of MIL-C-55543 or as specified on the applicable cable assembly drawing.

Plug parts in accordance with the requirements of MIL-C-55544/7 consisting of 1 each: window piece, conductor spacer, insulator, body (to be molded), seal, and potting compounds.

These materials shall be processed and assembled in accordance with the following instructions.

PROCESS AND ASSEMBLY INSTRUCTIONS:

1. Cable Preparation:

The flat conductor cable shall be that specified on the applicable cable assembly drawing and shall be prepared as follows:

- A. Prepare the cable ends of the two flat conductor cables by removing the insulation as shown in Figure 1 (Cable Stripping)
- B. Plate the bared copper conductors, if non-plated, with a minimum of 50 microinches of stress-free nickel, then superimpose gold plating in accordance with requirements of MIL-G-45204; type 2, class 1 to 50 microinches minimum thickness. If the bare conductors are already plated, only the gold plating is required.

2. Plug Assembly:

The cable, as prepared above, and the flat conductor cable plug parts defined by MIL-C-55544/7 and furnished as the complete MIL-C-55544/7 part number are assembled as follows:

Note: This is a design standard; not be used as a part number; no materials are to be procured per this drawing.

APPROVED 26 DEC. 1968 REVISED (A) 25 June 1971

P.A. EL Other Cust AS, II	International Interest	TITLE METHOD DRAWING, M55544/7 PLUG ASSEMBLY, MOLDED-ON FLAT CONDUCTOR CABLE	MILITARY STANDARD MS75079
Procurement Specification -C-55544	SUPERSEDES:		SHEET 1 OF 6

DD

FORM 672
10 APR 64

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- A. Thread the uninsulated conductors through beveled side of window piece until the window piece is flush against the insulation. See Figure 2 (Cable Insertion).
- B. Separate conductors of one cable from those of the other and insert the conductor spacer into the window piece. See Figure 3 (Conductor Spacer Installation).
- C. Using a tool to hold the bare conductors in the respective grooves of the conductor spacer, bend the conductor at right angle and then into the insulator groove. See Figure 4 (Conductor Forming). Repeat bending operation for conductors of other cable.
- D. Press insulator into the groove to retain the conductors and trim the insulator flush with the sides of the conductor spacer. See Figure 5 (Insulator Installation).
- E. Mold the plug body around the assembled parts.

SUGGESTED PROCEDURE:

- a. Install proper mold halves into the molding machine and heat the mold halves to 140°C. (284°F).
- b. Load hopper with dry molding material and heat the material to between 310 and 320°C. (590 and 608°F).
- c. Purge machine and charge cylinder with approximately 20% more material than is required for the part.
- d. Insert cable spacer and place the assembled parts properly in the lower mold half.
- e. Close the mold halves and apply 10,000 to 14,000 psi pressure. Hold pressure for 15 to 20 seconds.
- f. Release pressure and recharge cylinder.
- g. Allow 40 seconds cooling time between pressure release and opening mold halves. (Cycle requires approximately 1 minute).
- h. Open mold halves about $\frac{1}{2}$ inch and pull bottom insert out. Open mold halves more to eject the molded part.

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5935

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Procurement Specification MIL-C-55544		SUPERSEDES:	SHEET 2 OF

DD FORM 672
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- F. Remove molded part from machine, cable spacer from between cables, and trim sprues from molded body with a specially prepared tool.
- G. Allow 4 hours to cool, apply potting compound around and between the cables at the rear of the plug. See Figure 6 (Potting and Seal Installation).
- H. Apply adhesive to groove around plug body and carefully seat the seal into the groove. See Figure 7 (Potting and Seal Installation).

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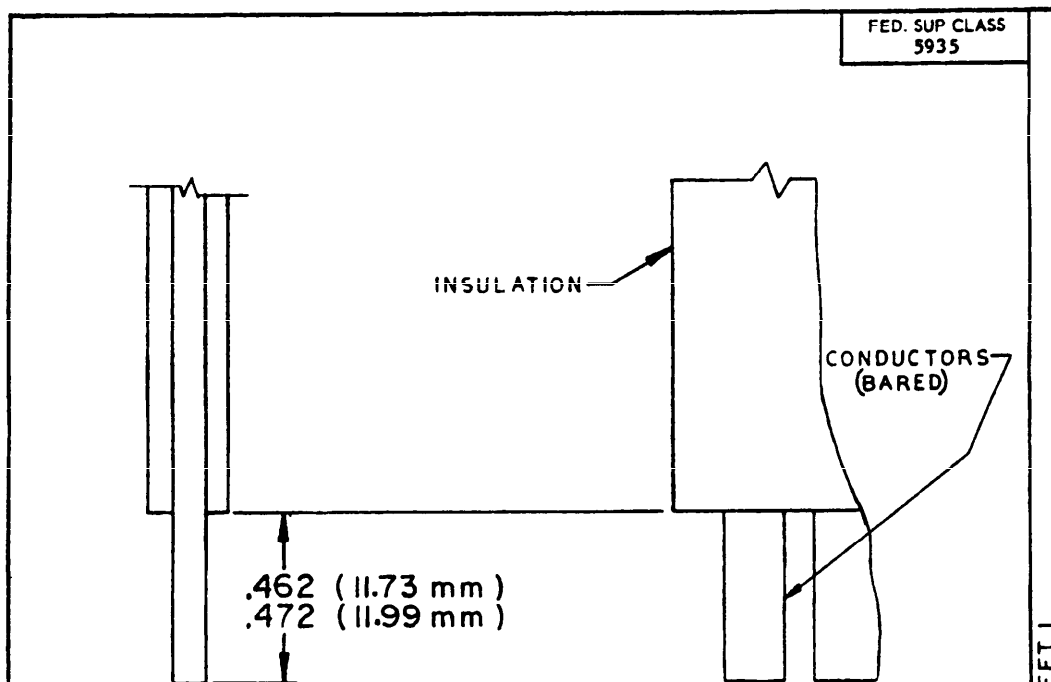


FIGURE 1. Cable stripping.

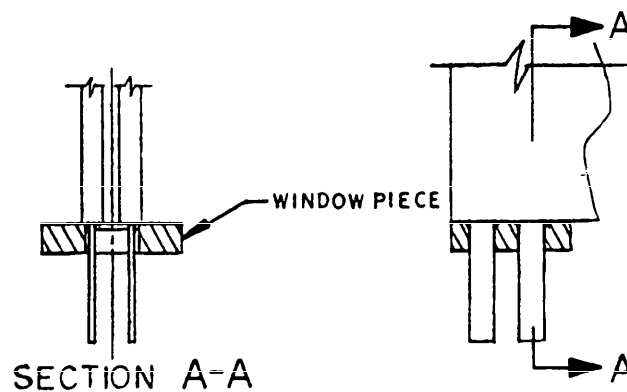


FIGURE 2. Cable insertion.

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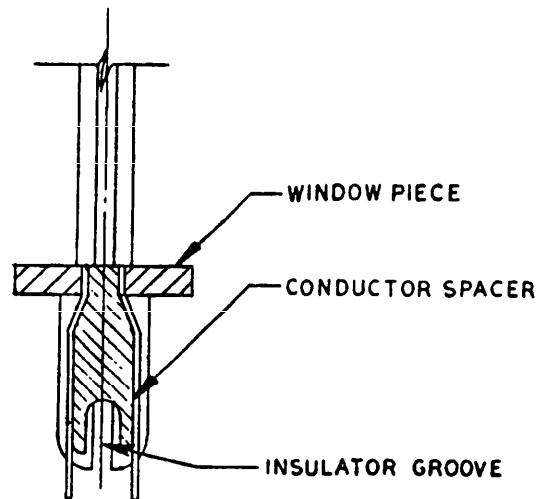
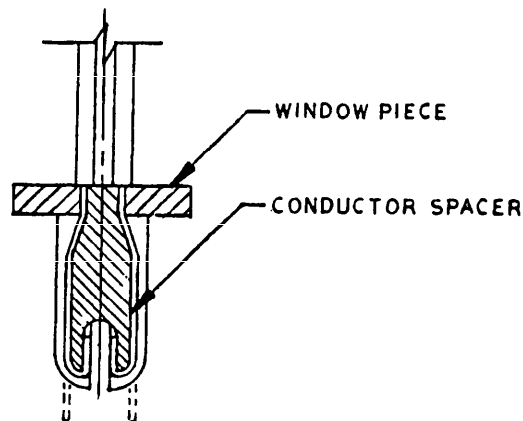
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FIGURE 3- Conductor spacer installation.FIGURE 4. Conductor forming.

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			SHEET 5 OF

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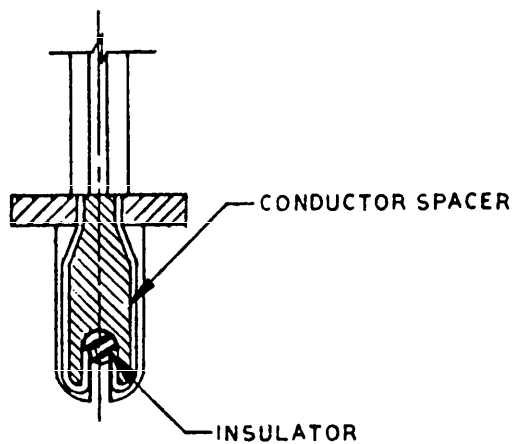


FIGURE 5. Insulator installation.

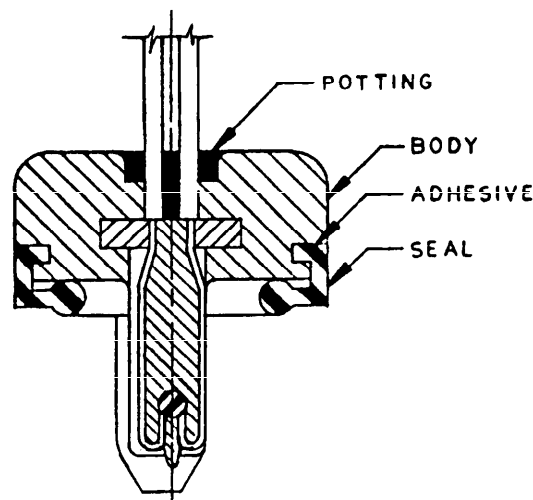


FIGURE 6. Potting and seal installation.

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PROJECT 5935-1703-15

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SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 22-R255
INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.		
SPECIFICATION MS75079 METHOD DRAWING, M55544/7 PLUG ASSEMBLY, MOLDED-ON FIAT CONDUCTOR, CABLE		
ORGANIZATION		
CITY AND STATE	CONTRACT NUMBER	
MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO (If "yes", in what way?)		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity - Optional)		DATE

DD FORM 1426
1 JAN 60

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.

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