

MIL-C-24368/1B(NAVY)
25 March 1987

SUPERSEDING
MIL-C-24368/1A(NAVY)
1 March 1972

MILITARY SPECIFICATION SHEET

CONNECTOR ASSEMBLIES; PLUG, POWER TRANSFER,
SHORE TO SHIP AND SHIP TO SHIP, 500 VOLTS,
500 AMPERES, 60 HERTZ, SYMBOL NUMBER 1160

This specification is approved for use within the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the plugs described herein shall consist of this specification and the latest issue of MIL-C-24368(NAVY).



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FIGURE 1. Power transfer plug (side view) typical.

All dimensions in inches.

For tolerances other than specified, see dimensions and tolerances of MIL-C-24368.

AMSC N/A

DISTRIBUTION STATEMENT A

Approved for public release; distribution unlimited

FSC 5935

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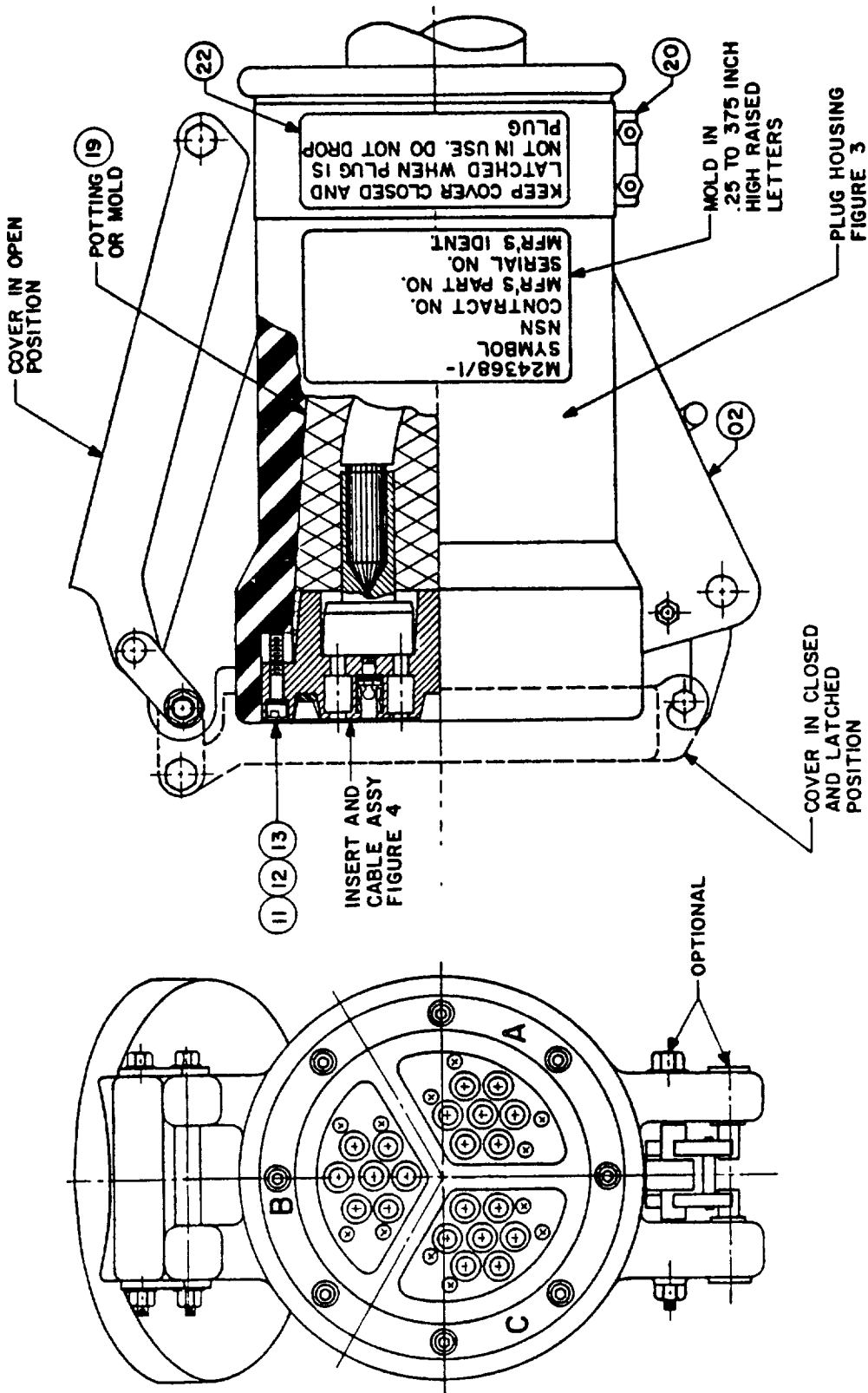


FIGURE 2. Plug, typical.

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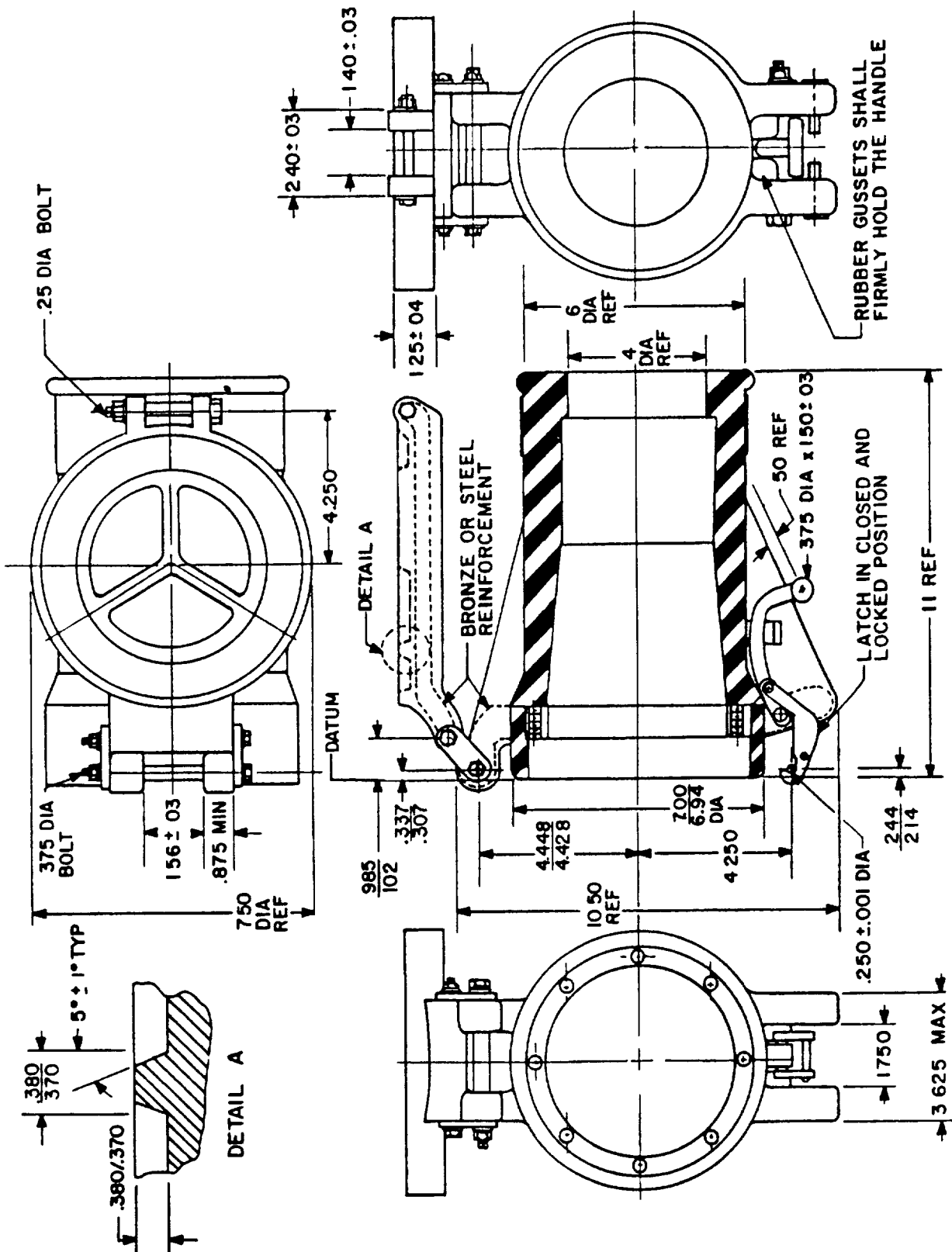
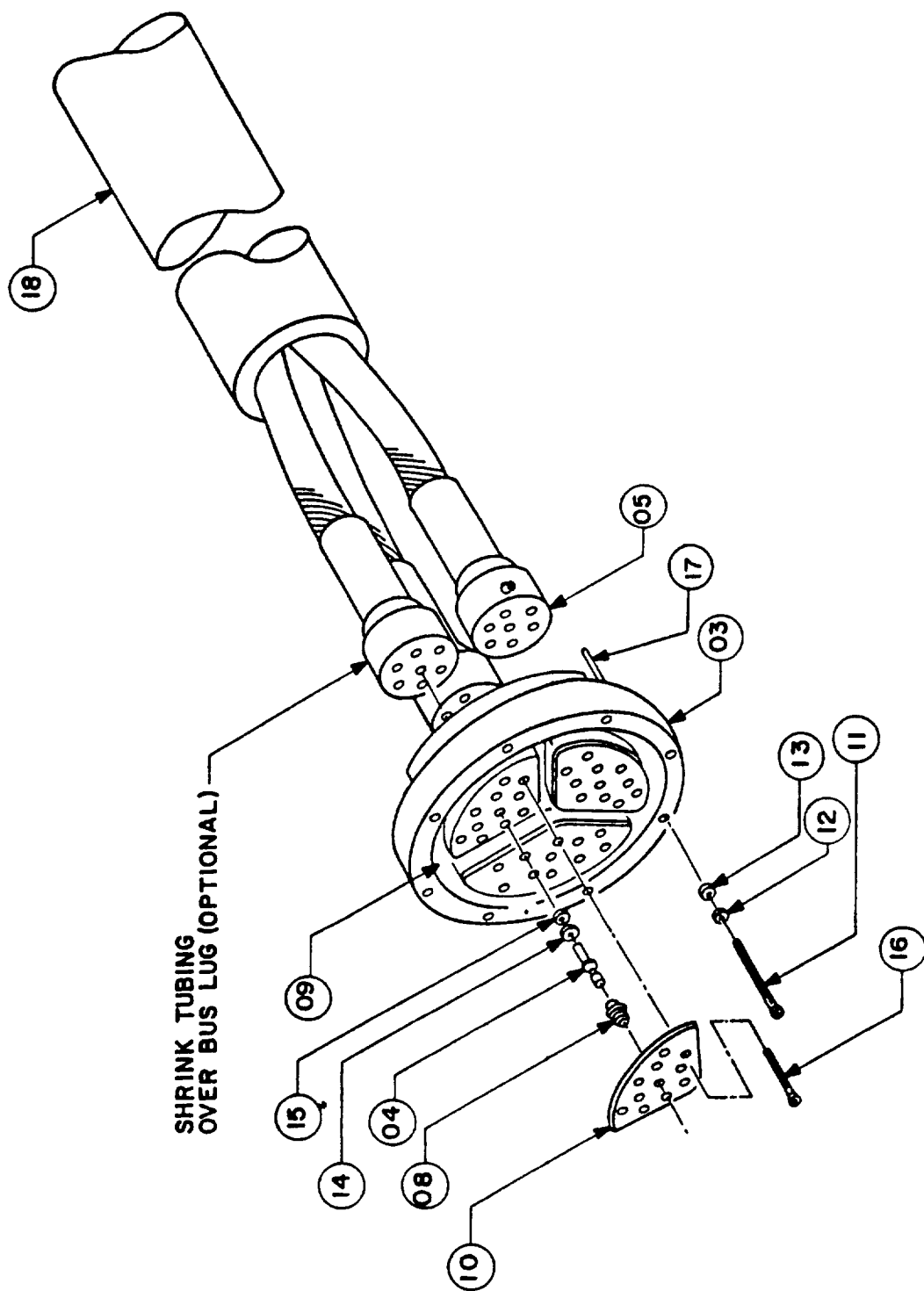


FIGURE 3. Plug housing assembly with cover.

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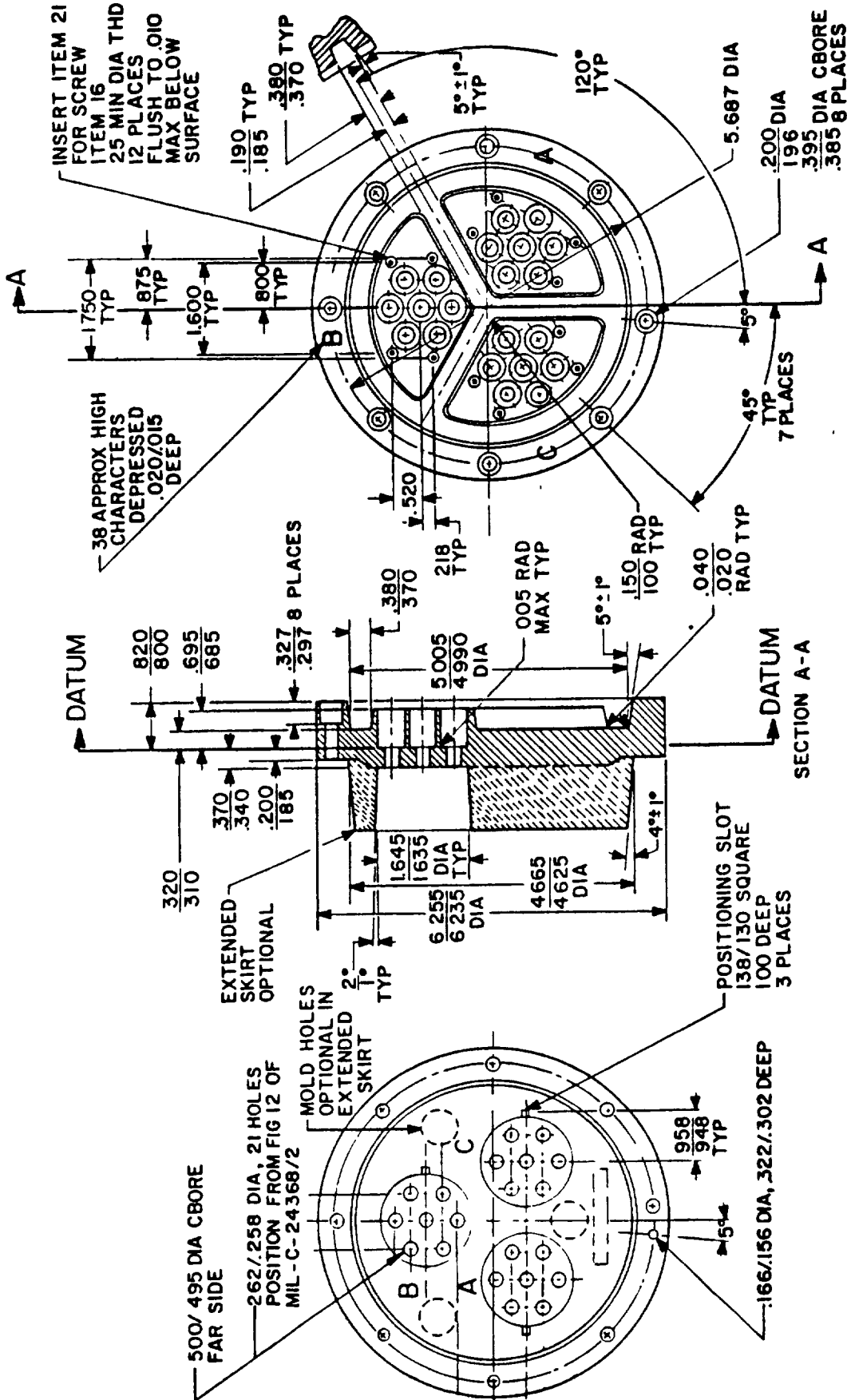


Cable termination procedures shall be in accordance with Drawing 803-5001027.

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FIGURE 4. Insert and cable assembly, typical.

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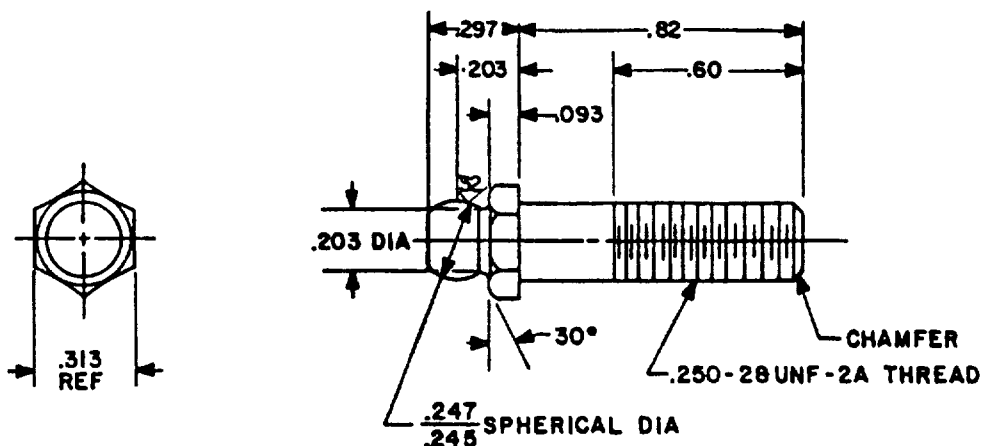


1. Areas in contact with the potting compound and gasket (figure 11) shall be sand blasted using 100 garnet. Maximum removal of material 0.001.
2. Apply enamel, coml grade, to phase letters: A-Black (None), B-White, C-Red

FIGURE 5. Insert, plug. 03

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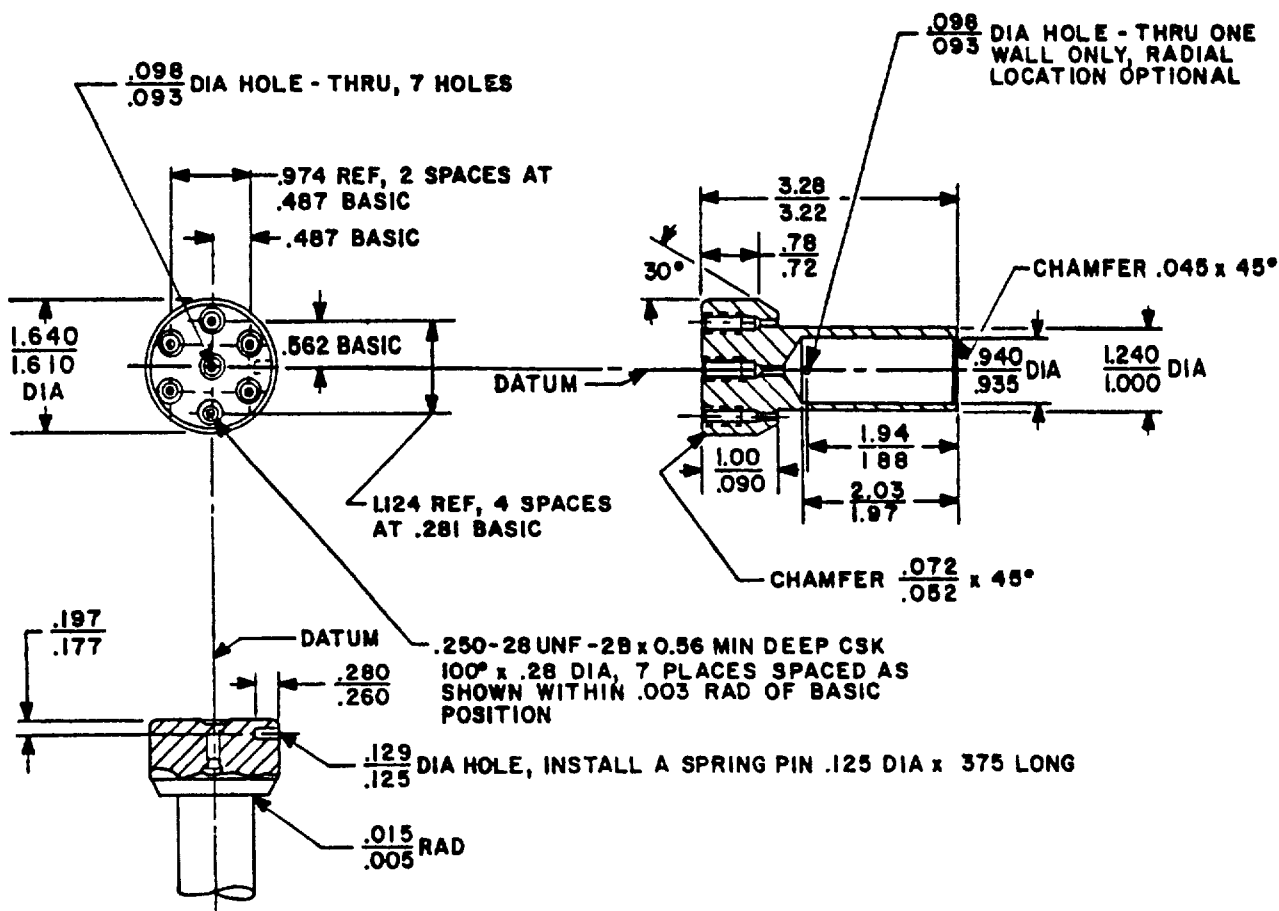
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FIGURE 6. Contact pin. (04)

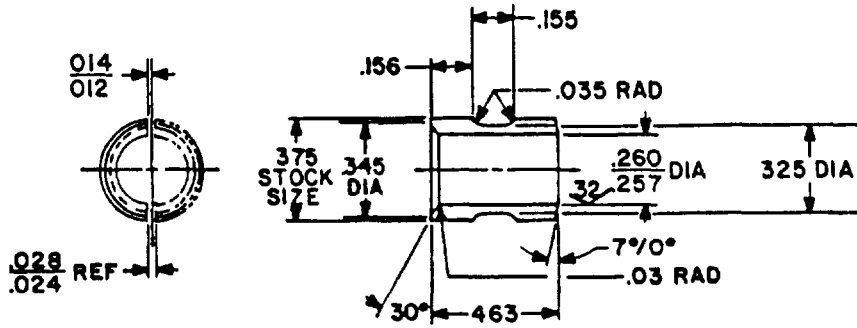
- NOTES: 1. All fillets corner radii 0.005 maximum.
 2. Finish shall be $\sqrt{63}$ on all machined surfaces except as shown.



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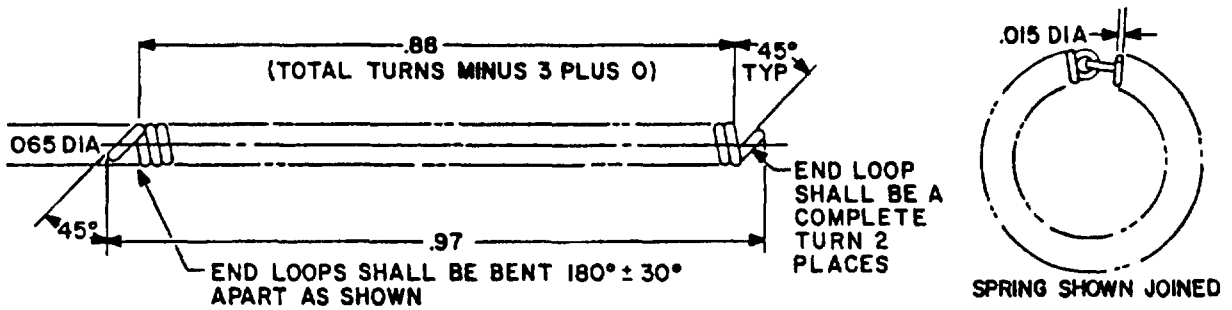
FIGURE 7. Bus lug. (05)

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FIGURE 8. Contact sleeve segment. (06)

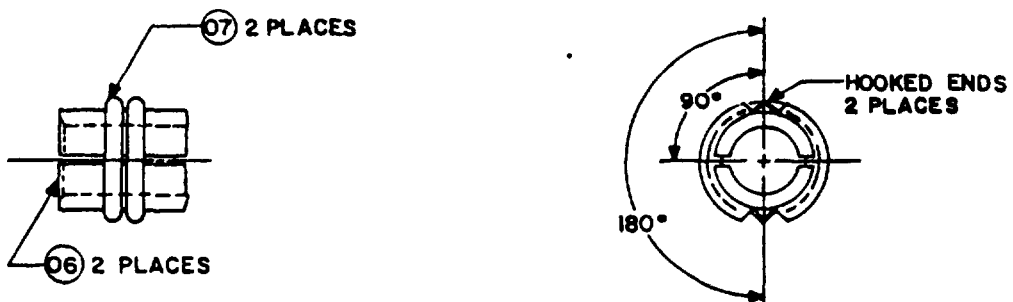


TABULATION

| | | | |
|-------------------------|------|--------------------|-------|
| Total no. of turns | 61 | Coil mean diameter | 0.050 |
| Spring rate (ref) lb/in | 8.50 | Arbor diameter | 0.375 |
| Working length (ref) | 1.23 | | |
| Working load (ref) lb | 2.20 | | |

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FIGURE 9. Spring. (07)

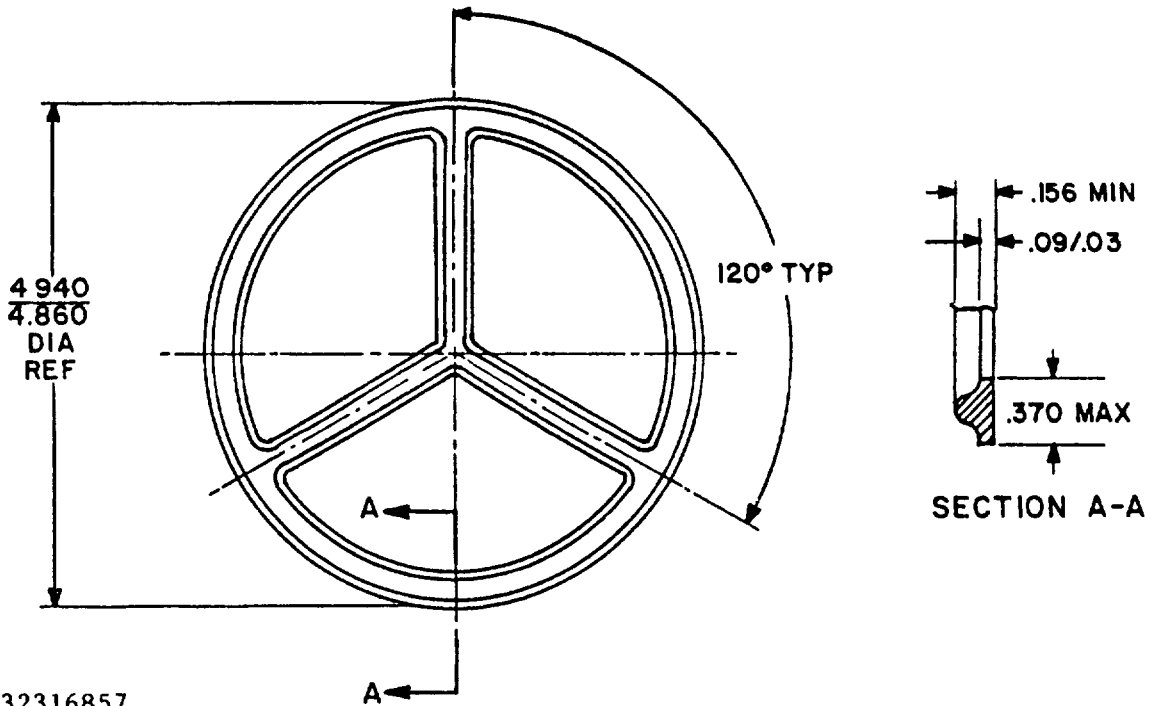


- NOTES:
1. Spring hooks shall be circular in shape after assembly and show no visible evidence (bends, kinks or twists) of an over stressed condition. Hooks shall be securely engaged.
 2. Hooked ends of springs shall be positioned 90 degrees from gap in segment and 180 degrees from each other as shown.

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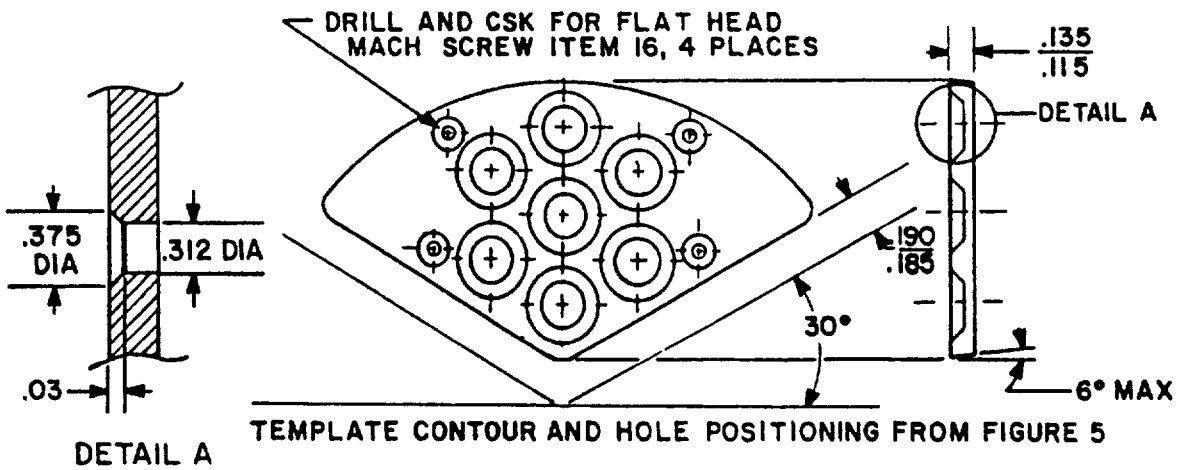
FIGURE 10. Contact sleeve assembly. (08)

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FIGURE 11. Gasket, insert. (09)



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FIGURE 12. Sleeve retaining plate. (10)

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REQUIREMENTS:

CONFIGURATION:

Electrical rating: 500 volts, 500 amperes, 60 hertz.

Dimensions and configuration: See figures 1 through 12.

Housing assembly: The plug housing and cover (see figure 3) shall be rubber conforming to MIL-R-3065. The color shall be black. Metallic reinforcing members shall be used. The housing shall provide a hinge and a mechanical latch for locking the cover to the plug or the plug to a receptacle (MIL-C-24368/2). The final motion of the latch mechanism shall actuate the control switch or switches during lock-up.

Plug inserts: The insert and retaining plate material shall be as shown on figure 5. Inserts shall have provision for sealing between phases and the external environment when plug and receptacle (MIL-C-24368/2) are mated or when cover is closed.

Contacts: Plug contacts shall be sockets and consist of sleeves which are split the entire length and retained together by springs around the periphery. The split sleeves shall be mounted to pins, the tips of which shall be finished to a spherical radius with an allowable flat of 0.123 inch less than the pin diameter. The pin shall be mechanically and rigidly held in the insert. The sleeve to pin mounting shall allow the contact a radial side play of 0.020 inch minimum at room temperature. The springs around the sleeves shall not be part of the electrical circuit. The contacts shall be in multiples per phase and terminate into a common bus bar phase (see figures 5 through 10).

Potting: When plug is to be provided with cable (see table I), the potting shall be accomplished in accordance with Drawing 803-5001027 or the cable may be molded to the plug at the manufacturer's choice.

Standard parts: The standard parts shown in table II shall be used in the construction of the plugs shown herein.

Cable: Unless otherwise specified, cable length shall be 10 feet plus or minus 6 inches as measured from the front of the plug to the end of the cable.

QUALITY ASSURANCE:

Impact: In addition to the requirements of MIL-C-24368, the handle shall not release.

HI shock: N/A

Mechanical vibration: N/A

Physical shock: In addition to the requirements of MIL-C-24368, the handle shall not release.

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GENERAL INFORMATION:

Assignment of military part numbers and general information is as follows and as shown in table I.

- (a) Typical installation of shore power plugs is shown in Drawing 803-5001027.

TABLE I. Assignment of military part numbers.

| Military part no. | Item name |
|-------------------|--|
| M24368/1-001 | Discontinued |
| M24368/1-002 | Connector, plug, shore power |
| M24368/1-003 | Connector, plug, shore power, with 10 feet of THOF-500 cable |

ORDERING DATA:

Length shall be specified when more than 10 feet of cable is required.

TABLE II. Standard parts list.

| Item no ^{1/} | Description | Qty | Material/spec | Remarks |
|-----------------------|----------------------------------|-----|---------------------------------|-----------|
| 01 | Plug | - | -- | Figure 2 |
| 02 | Plug housing assembly with cover | 1 | (See construction req't) | Figure 3 |
| 03 | Insert, plug | 1 | <u>3/</u> | Figure 5 |
| 04 | Pin, contact, elec | 21 | Copper/ASTM B 301 ^{2/} | Figure 6 |
| 05 | Bus lug, 500MCM ^{2/} | 3 | Copper/ASTM B 301 ^{2/} | Figure 7 |
| 06 | Contact sleeve segment | 42 | Copper/ASTM B 301 | Figure 8 |
| 07 | Spring | 42 | ASTM A 313 | Figure 9 |
| 08 | Contact sleeve assembly | 21 | -- | Figure 10 |
| 09 | Gasket insert | 1 | -- | Figure 11 |
| 10 | Plate, sleeve retaining | 3 | <u>3/</u> | Figure 12 |
| 11 | Screw | 8 | MS35267-268 or MS16996-15 | |
| 12 | Washer, lock | 8 | MS35338-138 | |

See footnotes at end of table.

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TABLE II. Standard parts list. - Continued

| Item no. ^{1/} | Description | Qty | Material/spec | Remarks |
|------------------------|-------------------------------|-------|---------------------|---------|
| 13 | Washer, flat | 8 | NAS620C10L | |
| 14 | Washer, lock | 21 | MS35338-139 | |
| 15 | Washer, flat | 21 | NAS620C416L | |
| 16 | Screw | 12 | MS24693C25 | |
| 17 | Guide pin | 1 | MS16556-627 | |
| 18 | Cable, THOF-500 ^{5/} | 10 ft | MIL-C-915/6 | |
| 19 | Potting | 1 gal | (See potting req't) | |
| 20 | Band | 1 | CRES, coml | --- |
| 21 | Insert, screw | 12 | CRES (for item 16) | --- |
| 22 | Instruction plate | 1 | <u>4/</u> | --- |

1/ Item numbers are the same as numbers shown in circles on figures.

2/ Alloy no. C14500 or C18700 shall be used.

3/ Molding material shall be glass roving reinforced phenolic, color black, Fiberite Corp. FM 5064, or equivalent.

4/ Instruction plate shall be CRES with adhesive back and located on the band item 20.

5/ For Military part number M24368/1-003.

Revision letters are not used to denote changes due to the extensiveness of the changes.

Review activity:

Navy - YD

Preparing activity:

Navy - SH

(Project 5935-N193-1)

User activity:

Navy - EC