

MIL-STD-2163 A

3 FEBRUARY 1987

SUPERSEDING  
MIL-STD-2163 (NAVY)  
29 AUGUST 1983

# MILITARY STANDARD

INSERT ARRANGEMENTS  
FOR  
MIL-C-28876  
CONNECTORS, FIBER OPTIC, CIRCULAR,  
PLUG AND RECEPTACLE STYLE,  
MULTIPLE REMOVABLE TERMINI



AMSC N/A

FSC 6060

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MIL-STD-2163A

DEPARTMENT OF DEFENSE  
WASHINGTON, DC 20301

Insert Arrangements For  
MIL-C-28876, Connectors, Fiber Optic,  
Circular, Plug and Receptacle Style,  
Multiple Removable Termini

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Space and Naval Warfare Systems Command, ATTN: SPAWAR, Department of the Navy, Washington, DC 20363, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## 1. SCOPE

1.1 This document covers insert arrangements for use with MIL-C-28876 circular, plug and receptacle style, multiple removable termini, fiber optic connectors.

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications. Unless otherwise specified, the following specifications of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this standard to the extent specified herein.

## SPECIFICATIONS

## MILITARY

|                |  |
|----------------|--|
| MIL-C-28876    | - Connectors, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini, General Specification For. |
| MIL-C-28876/16 | - Connectors, Fiber Optic, Environment Resisting, Pin Terminus.  |
| MIL-C-28876/17 | - Connectors, Fiber Optic, Environment Resisting, Socket Terminus.   |
| MIL-C-28876/18 | - Connectors, Fiber Optic, Environment Resisting, Dummy Terminus.  |

(Copies of the specifications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Other publication. The following document forms a part of this standard to the extent specified herein. Unless otherwise specified, the issue of the document which is DOD adopted shall be that listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issue of the document not listed in the DODISS shall be the issue of the non-Government document which is current on the date of the solicitation.

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Y14.5 M-82 - Dimensioning and Tolerancing.

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.

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## 3. DEFINITIONS

3.1 Terms. The terms used in this document are generally accepted by the fiber optic industry and are commonly used in fiber optic connector engineering practice.

## 4. GENERAL REQUIREMENTS

Not applicable.

## 5. DETAILED REQUIREMENTS

5.1 Dimensions. Dimensions shall be in accordance with the applicable section of this standard and the following dimensional data:

- a.  $\nabla$  indicates the insulator indexing feature position and vertical centerline of insert arrangement.
- b. Dimensioning and tolerancing in accordance with ANSI Y14.5 - M-82. (Dimensions are true position and are in inches.)
- c. Metric equivalents (to the nearest 0.01 mm) are given in parentheses for general information only and are based upon 1.0 inch = 25.4 mm.
- d. Dimensions and markings shown are for engaging face of socket insert (pin insert is opposite, right to left).
- e. The following tolerances apply to insert installed in shell:
  - (1) The center of each hole in insert for epoxy terminus connectors shall be located at true position within .005 diameter  $\oplus \ominus .005$ .
  - (2) The center of engaging end of each terminus shall be located in true position within .010 diameter  $\oplus \ominus .010$ .
- f. Unless otherwise indicated, dimensions are symmetrical about centerlines.
- g. Each insert arrangement is shown in the "normal position" in the shell, with indexing feature at top of vertical centerline.
- h. Shell polarization shall be in accordance with figure 5 of MIL-C-28876.

5.2 Termini. Termini shall be in accordance with MIL-C-28876/16, MIL-C-28876/17, and MIL-C-28876/18.

5.3 Marking. Marking shall be in accordance with MIL-C-28876.

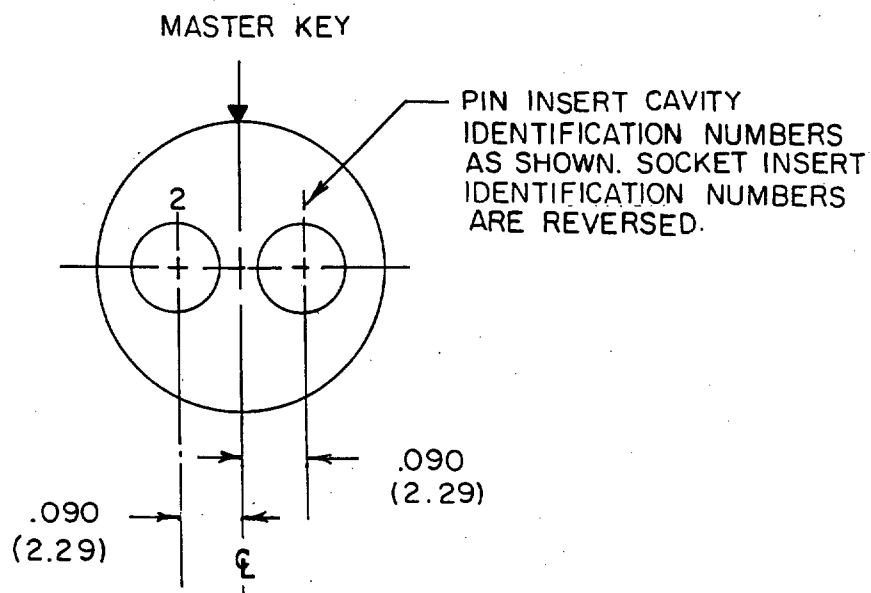
5.4 Drawing note. The following information is applicable to all sections of this document.

5.4.1 Termini locations. All termini locations are given.

## 6. NOTES

6.1 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

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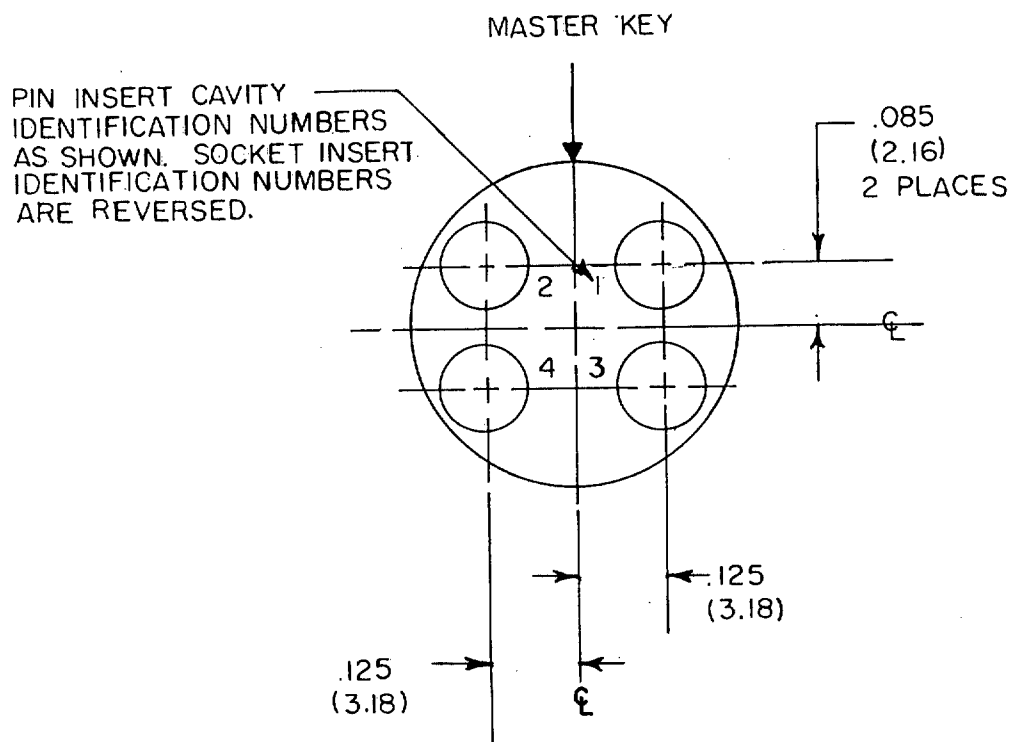
| Shell size | Shell size designator | Arrangement number | Number of termini | Termini size |
|------------|-----------------------|--------------------|-------------------|--------------|
| 11         | A                     | 1                  | 2                 | 16           |

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 1. Two-position termini arrangement for shell size 11.

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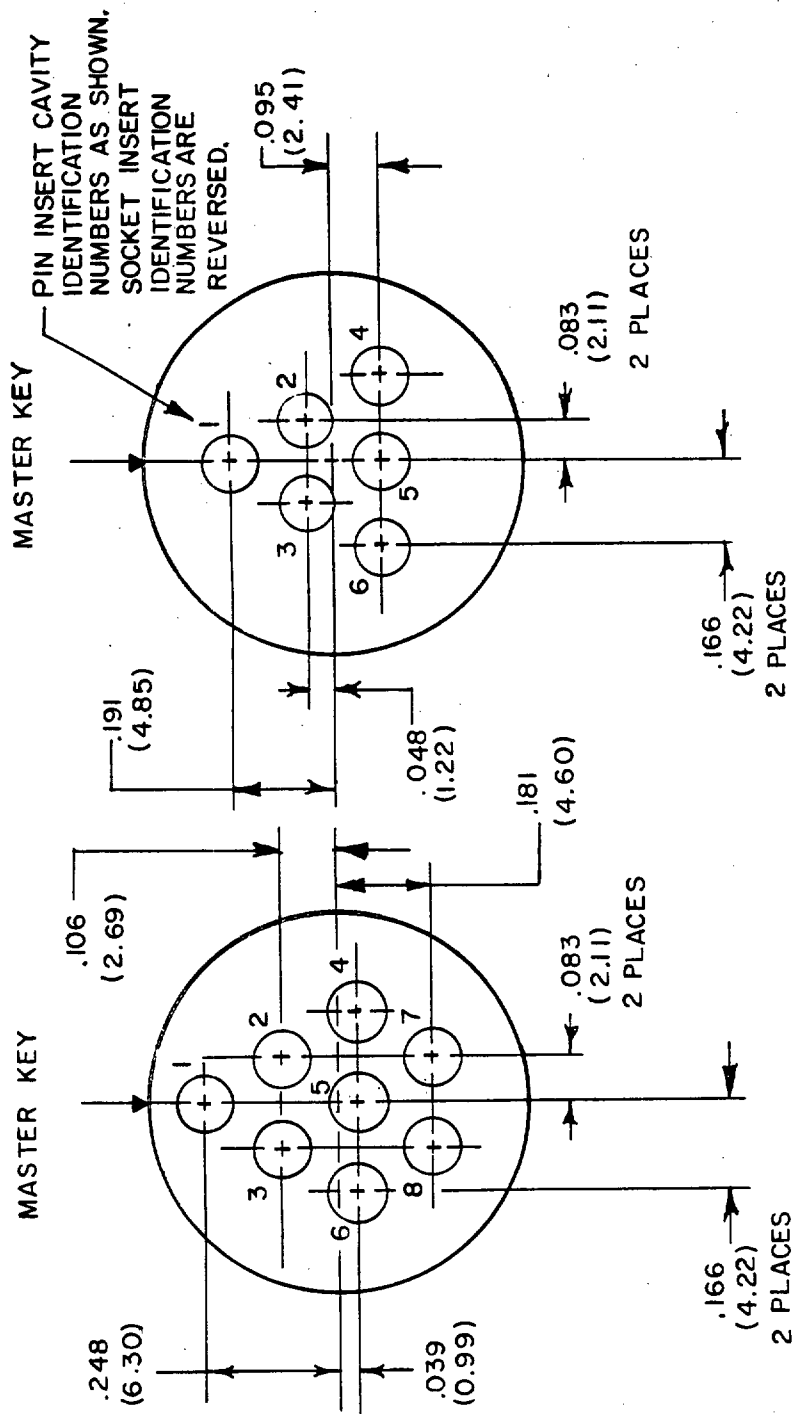
| Shell size | Shell size designator | Arrangement number | Number of termini | Termini size |
|------------|-----------------------|--------------------|-------------------|--------------|
| 13         | B                     | 1                  | 4                 | 16           |

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 2. Four-position termini arrangement for shell size 13.

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| Shell size | Shell size designator | Arrangement number | Number of termini | Termini size |
|------------|-----------------------|--------------------|-------------------|--------------|
| 15         | C                     | 1                  | 8                 | 16           |
|            |                       | 2                  | 6                 |              |

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 3. Six- and eight-position terminus arrangement for shell size 15.



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Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Review activities:

Army - MI  
Navy - AS, MC, SH  
Air Force - 11, 17, 19, 80, 90, 99  
DLA - ES

User activities:

Navy - OS, YD  
Air Force - 13, 14

Preparing activity:

Navy - EC

Agent:

DLA - ES

(Project 6060-0047)

*(See Instructions – Reverse Side)*

DD FORM 1426  
82 MAR

PREVIOUS EDITION IS OBSOLETE.