

 <i>An SAE International Group</i>	AEROSPACE STANDARD	SAE AS16511	REV. A
		Issued 2004-06 Cancelled 2013-01	
		Superseded by MIL-STD-1651	
Insert Arrangements for MIL-C-5015, MIL-C-22992 (Classes C, J, and R), and MIL-C-83723 (Series II) Electrical Connectors			
FSC 5935			

RATIONALE

This document is a duplication of MIL-STD-1651 which is an active standard maintained by DLA. DLA has submitted an official request for cancellation of AS16511 based on the duplication and possible problems with procurements due to the duplication. AE-8C1 concurs with DLA and recommends cancellation of this document.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of January 2013 and has been superseded by MIL-STD-1651. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index noting that it is superseded by MIL-STD-1651.

Cancelled specifications are available from SAE.

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NOTICE

This document has been taken directly from U.S. Military specification MIL-STD-1651A and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE Technical Standards. The initial release of this document is intended to replace MIL-STD-1651A. Any part numbers established by the original specification remain unchanged.

The original military specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DoD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this technical report.

FOREWORD

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: Commanding Officer, Naval Air Warfare Center Aircraft Division Lakehurst, Code SR3, Lakehurst, NJ 08733-5100, by using the 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 Scope:

This standard gives the dimensional requirements for insert arrangements used in MIL-C-5015, MIL-C-22992 (Classes C, J, and R), and MIL-C-83723 (Series II) electrical connectors.

2. APPLICABLE DOCUMENTS:

2.1 Government documents:

2.1.1 Specifications, standards and handbooks:

The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.3).

SPECIFICATIONS

MILITARY

MIL-C-5015	Connectors, Electric, "AN" Type
MIL-C-39029	Contacts, Electrical Connector, General Specification for
MIL-C-22992	Connectors, Plugs and Receptacles, Electrical, Waterproof, Quick Disconnect, Heavy Duty Type, General Specification for
MIL-C-83723	Connectors, Electrical (Circular, Environment Resisting), Receptacles and Plugs, General Specification for

STANDARDS

MILITARY

MS3400	Connector, Receptacle Electric, Wall Mounting, Front Release, Crimp Contact, AN Type
MS3450	Connector, Receptacle Electric, Wall Mounting, Rear Release, Crimp Contact, AN Type
MS14056	Contact, Electric Connector, Shielded Cable Applications, Size 8
MS33695	Contact, Video Coaxial Connector

2.1.1 (Continued):

(Unless otherwise indicated, copies of military specifications and standards are available from the DODSSP, Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications:

The following documents form a part of the document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation (see 6.3).

AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)

ANSI Y14.5M Dimensioning and Tolerancing (DOD Adopted)

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018-3308.)

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

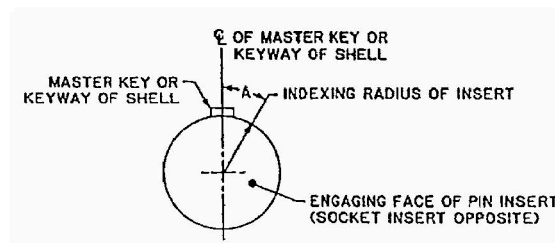
2.3 Order of precedence:

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS:

3.1 Definitions:

The terms used in this standard are generally accepted by the electrical and electronics industries and commonly used in electrical connector engineering practice. An illustration of some of the terms used is shown below:



4. GENERAL REQUIREMENTS:

Not applicable.

5. DETAIL REQUIREMENTS:

5.1 Dimensions:

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

- a. Dimensioning and tolerancing in accordance with ANSI Y14.5-1982. Dimensions are true position and are in inches.
- b. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
- c. Dimensions and markings shown are for engaging face of pin insert. Socket insert is opposite.
- d. The following tolerances apply to insert installed in shell:
 1. The center of each hole in insert for crimp contact connectors shall be located at true position within .014 dia. $\boxed{\oplus \varnothing .014 \text{ dia.}}$
 2. The center of engaging end of each contact shall be located in true position within .024 dia. $\boxed{\oplus \varnothing .024 \text{ dia.}}$
- e. Unless otherwise indicated, dimensions are symmetrical about centerline.

indicates C_L of insert arrangement.
- f. Each insert arrangement is shown in the "normal position" in the shell.

5.2 Marking:

Marking shall be in accordance with MIL-C-5015, MIL-C-22992, or MIL-C-83723, as applicable, and as shown in the applicable section of this military standard.

5.3 Contacts:

Solder contacts shall be in accordance with MIL-C-5015, MIL-C-22992 or MIL-C-83723, as applicable. Crimp contacts shall be in accordance with table I. Contact sizes are designated by the symbols shown in table I.

TABLE I. Contact designation.

Crimp or solder contacts		Crimp contact part numbers	
Size	Symbol	MIL-C-5015 MS3400's Connectors MIL-C-39029 Contacts	MIL-C-5015 and MIL-C-83723 Series II MS3450's Connectors MIL-C-39029 Contacts
0		MIL-C-39029/44	M39029/29-0-0
		MIL-C-39029/45	M39029/30-0-0
4		MIL-C-39029/44	M39029/29-4-4
		MIL-C-39029/45	M39029/30-4-4
8		MIL-C-39029/44	M39029/29-8-8
		MIL-C-39029/45	M39029/30-8-8
12		MIL-C-39029/44	M39029/29-12-12
		MIL-C-39029/45	M39029/30-12-12
16		MIL-C-39029/44	M39029/29-16-16
		MIL-C-39029/45	M39029/30-16-16
16S		NA	M39029/30-16S16
S (shielded)		MS14056 (MIL-C-5015 only)	
Video coax		MS33695 (MIL-C-5015 only)	

6. NOTES:

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use:

This standard contains requirements for insert arrangements to be used in MIL-C-5015, MIL-C-22992 (Classes C, J, R) and MIL-C-83723 (Series II) Electrical Connectors.

6.2 Data requirements:

No data is required by this standard.

6.3 Issue of DODISS:

When this standard is used in acquisition, the applicable issue of the DODISS must be cited in the solicitation (see 2.1.1, 2.2).

6.4 Supersession data:

Table II gives the insert arrangements which have been cancelled by Revision A to MIL-STD-1651. The insert patterns for these insert arrangements are contained in Appendix B. Manufacturers may continue to supply connectors using these insert patterns until 30 April 1994, or deplete their inventories, whichever comes first. Table III gives insert arrangements and their previous status which have been deleted from MIL-STD-1651 with the publication of Revision A.

TABLE II. Insert arrangements cancelled by Revision A to MIL-STD-1651.

Insert Arrangement	Status in MIL-STD-1651	Replacement
12S, 13-1	Inactive for design after 8 March 1945	
12S, 13-2	Inactive for design after 17 April 1945	
14S, 15-10	Inactive for design after 8 December 1945	
14S, 15-11	Inactive for design after 17 April 1945	
14S, 15-12	Inactive for design after 17 April 1945	
14S, 15-13	Inactive for design after 17 April 1945	
16S, 17-14	Inactive for design after 27 April 1945	
16S, 17-15	Inactive for design after 27 April 1945	16S, 17-4
16S, 17-16	Inactive for design after 27 April 1945	16S, 17-4
16S, 17-17	Inactive for design after 27 April 1945	16-14
18-17	Inactive for design after 19 May 1945	18-9

TABLE II. Insert arrangements cancelled by Revision A to MIL-STD-1651 – continued.

Insert Arrangement	Status in MIL-STD-1651	Replacement
18-18	Inactive for design after 19 May 1945	18-9
18-19	Inactive for design after 19 May 1945	
18-23	Inactive for design after 19 May 1945	18-1
18-24	Inactive for design after 19 May 1945	18-1
18-25	Inactive for design after 19 May 1945	18-3
18-26	Inactive for design after 19 May 1945	18-3
18-27	Inactive for design after 19 May 1945	18-5
18-28	Inactive for design after 19 May 1945	18-5
18-30	Inactive for design after 19 May 1945	18-20
18-31	Inactive for design after 19 May 1945	18-20
20-10	Inactive for design after 1 June 1945	
20-25	Inactive for design after 1 June 1945	20-11
20-26	Inactive for design after 26 June 1945	
20-30	Inactive for design after 1 June 1945	20-11
20-32	Inactive for design after 1 June 1945	20-7
22-30	Inactive for design after 26 June 1945	22-14
22-32	Inactive for design after 26 June 1945	22-5
22-35	Inactive for design after 26 June 1945	

TABLE II. Insert arrangements cancelled by Revision A to MIL-STD-1651 – continued.

Insert Arrangement	Status in MIL-STD-1651	Replacement
24-15	Inactive for design after 26 June 1945	24-5
24-18	Inactive for design after 26 June 1945	
24-24	Inactive for design after 26 June 1945	24-5
24-25	Inactive for design after 26 June 1945	24-6
24-26	Inactive for design after 26 June 1945	24-6
28-7	Inactive for design after 13 May 1954	
28-13	Inactive for design after 26 June 1945	28-12
32-16	Inactive for design after 26 June 1945	32-6
32-18	Inactive for design after 26 June 1945	32-4
32-19	Inactive for design after 26 June 1945	32-1
32-20	Inactive for design after 26 June 1945	32-6
36-2	Inactive for design after 28 December 1949	
36-11	Inactive for design after 15 June 1945	36-10
36-12	Inactive for design after 15 June 1945	36-10
36-16	Inactive for design after 15 June 1945	36-7
36-17	Inactive for design after 15 June 1945	36-7
36-18	Inactive for design after 15 June 1945	36-9

TABLE II. Insert arrangements cancelled by Revision A to MIL-STD-1651 – continued.

Insert Arrangement	Status in MIL-STD-1651	Replacement
36-20	Inactive for design after 15 June 1945	
36-21	Inactive for design after 15 June 1945	36-9
40-12	Inactive for design after 30 May 1945	
40-13	Inactive for design after 30 May 1945	40-2
40-14	Inactive for design after 30 May 1945	
44-5	Inactive for design after 26 May 1945	44-1
44-6	Inactive for design after 26 May 1945	44-1
48-5	Inactive for design after 26 May 1945	

TABLE III. Insert arrangements removed from MIL-STD-1651 by Revision A.

Insert Arrangement	Status in MIL-STD-1651
10, 10S-5	Not to be used
10, 10S-6	Cancelled after 17 December 1958
12S, 13-6	Cancelled after 8 March 1945
14S, 15-8	Not to be used
18-2	Cancelled after 19 May 1945
18-21	Cancelled after 25 November 1949
20-1	Cancelled after 1 June 1945
20-28	Cancelled after 1 June 1945
22-26	Not to be used
22-31	Not to be used
22-37	Cancelled after 26 June 1945

TABLE III. Insert arrangements removed from MIL-STD-1651 by Revision A – continued.

Insert Arrangement	Status in MIL-STD-1651
24-8	Cancelled after 26 June 1945
24-13	Cancelled after 26 June 1945
24-19	Cancelled after 26 June 1945
32-11	Cancelled after 26 June 1945
40-8	Not to be used

6.5 International standardization agreements:

Certain provisions of this standard are subject to international standardization agreements ASCC 12/44, NEPR 28 and NEPR 44 as listed below. When change notice, revision, or cancellation of this standard is proposed that will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including Departmental Standardization offices, to change the agreement or make other appropriate accommodations.

INTL INTEREST

**ASCC 12/44

#NEPR 28

/NEPR 44

6.6 This paragraph was deleted as it did not pertain to the converted SAE document.

6.7 Subject term (keyword) listing:

Alternate insert positions

Insert position

Pin contact

Shell size

Socket contact

PREPARED UNDER THE JURISDICTION OF
SAE SUBCOMMITTEE AE-8C1, CONNECTORS OF
COMMITTEE AE-8, AEROSPACE ELECTRICAL/ELECTRONIC DISTRIBUTION SYSTEMS

APPENDIX A

INSERT ARRANGEMENTS FOR MIL-C-5015, MIL-C-22992
AND MIL-C-83723 SERIES II ELECTRICAL CONNECTORS

10. SCOPE:

10.1 Scope:

This appendix gives the data necessary for qualification of insert arrangements used in MIL-C-5015, MIL-C-22992 (Classes C, J, R) and MIL-C-83723 (Series II) Electrical Connectors. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance.

20. APPLICABLE DOCUMENTS:

This section is not applicable to this appendix.

30. DEFINITIONS:

- 30.1 The terms used in this standard are generally accepted by the electrical and electronics industries and commonly used in electrical connector engineering practice.

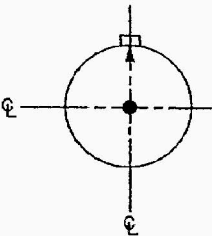
SECTION 100

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZES 8, 8S

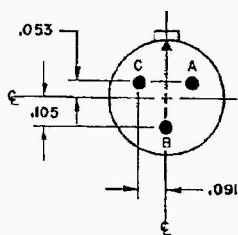
NOTES:

1. Shell size 8 is identical to shell size 8S and applies only to MIL-C-83723, series II.
2. Shell size 8S applies only to MIL-C-5015.
3. Section 10 is not applicable to MIL-C-22992.



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
8, 8S	-1	A	1	16 16S	●	---	MS33680-1



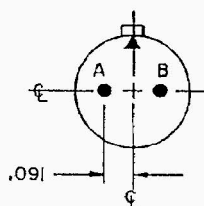
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

**#

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Connector class	Supersedes document
10SL, 11	-3	INST	3	16 16S		A11	K	MS33680-3
		A					A11 others	

INACTIVE FOR NEW DESIGN

AFTER 17 DEC 1958



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
10SL, 11	-4	A	2	16 16S		A11	MS33680-4

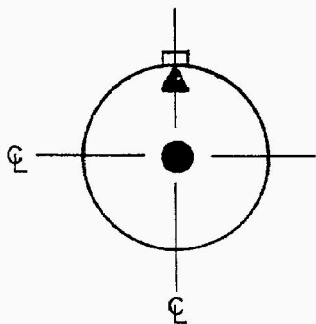
SECTION 200

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZES 10, 10S, 10SL AND 11

NOTES:

1. Shell size 10 is identical to 10S and applies only to MIL-C-83723, series II.
2. Shell size 10S applies only to MIL-C-5015.
3. Shell size 10SL applies only to MIL-C-5015.
4. Shell size 11 is identical to 10SL and applies only to MIL-C-83723 series II.
5. Section 20 is not applicable to MIL-C-22992.



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
10, 10S	-2	A	1	16 16S		--	MS33680-2

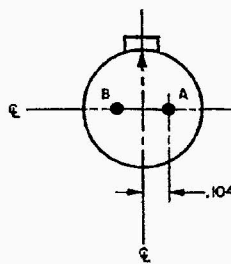
SECTION 300

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZES 12, 12S AND 13

NOTES:

1. Shell size 12 applies to MIL-C-5015, MIL-C-22992 and MIL-C-83723, series II.
2. Shell size 12S applies only to MIL-C-5015.
3. Shell size 13 is identical to 12S and applies only to MIL-C-83723, series II.

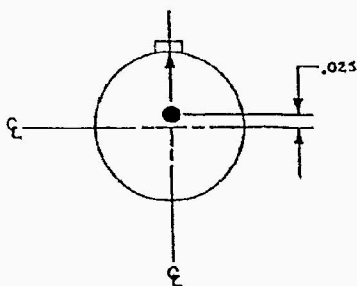


FOR OTHER INSERT POSITIONS SEE 12S-1 AND 12S-2 (APPENDIX A)

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	145	215	290

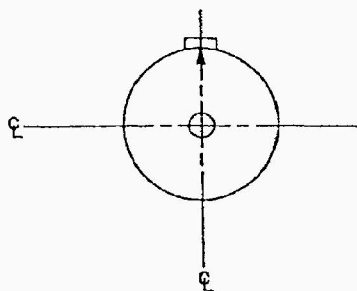
**#

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
12S, 13	-3	A	2	16 16S	●	All	MS33681-3



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
12S, 13	-4	D	1	16 16S	●	--	MS33681-4



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
12	-5	D	1	12	⊕	--	MS33681-5

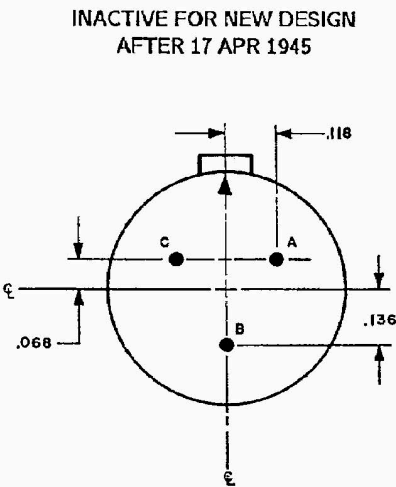
SECTION 400

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZES 14, 14S AND 15

NOTES:

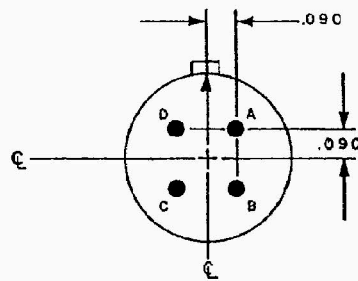
1. Shell size 14 applies to MIL-C-5015, MIL-C-22992 and MIL-C-83723, series II.
2. Shell size 14S applies only to MIL-C-5015.
3. Shell size 15 is identical to 14S and applies only to MIL-C-83723, series II.



FOR OTHER INSERT POSITIONS SEE 14S-12 AND 14S-13.

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-1	A	3	16 16S		A11	MS33682-1

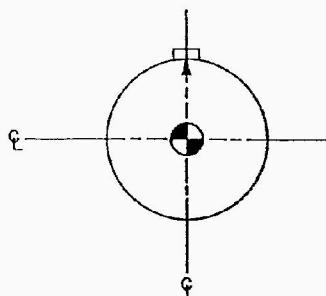


FOR OTHER INSERT POSITIONS SEE 14S-10 14S-11.

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	120	240	---

**#f

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-2	INST	4	16 16S	●	A11	MS33682-2

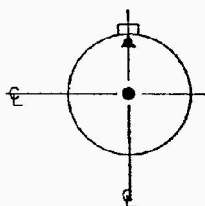


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

/

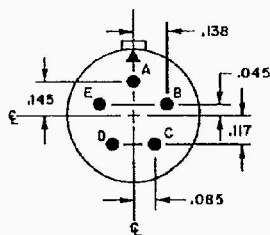
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14	-3	A	1	8		--	MS33682-3

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

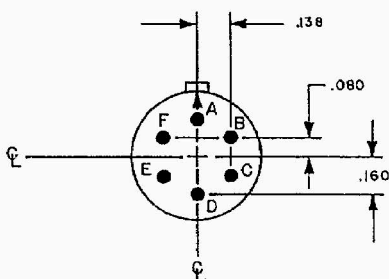
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-4	0	1	16 16S		--	MS33682-4



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	110	---	---

/

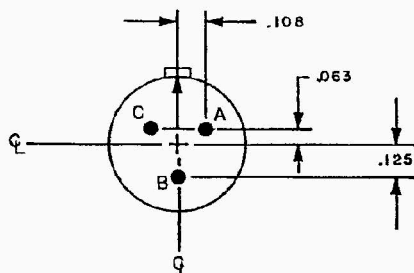
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-5	INST	5	16 16S	●	A11	MS33682-5



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

**#

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-6	INST	6	16 16S	●	A11	MS33682-6

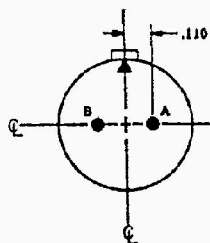


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
90	180	270	---

**#f

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-7	A	3	16 16S	●	A11	MS33682-7

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	145	215	290

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
14S, 15	-9	A	2	16 16S	●	A11	MS33682-9

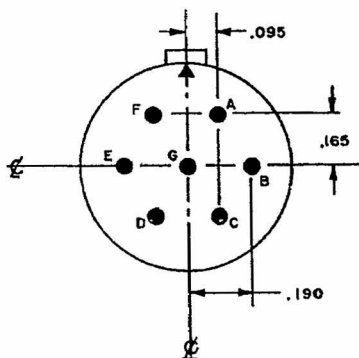
SECTION 500

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZES 16, 16S AND 17

NOTES:

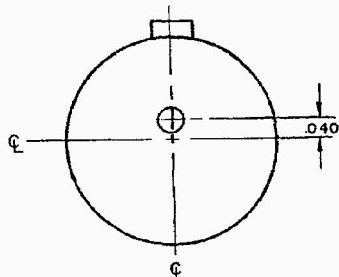
1. Shell size 16 applies to MIL-C-5015, MIL-C-22992 and MIL-C-83723, series II.
2. Shell size 16S applies only to MIL-C-5015.
3. Shell size 17 is identical to 16S and applies only to MIL-C-83723, series II.



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	---	---	280

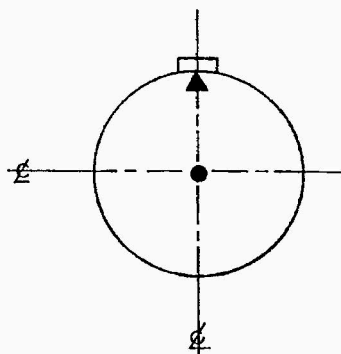
**#

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-1	A	7	16 16S		All	MS33683-1



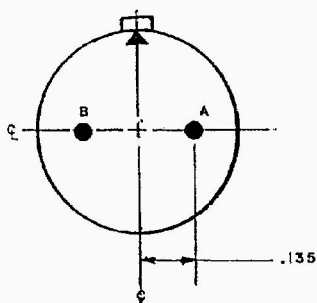
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-2	E	1	12		--	MS33683-2



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-3	B	1	16 16S		--	MS33683-3

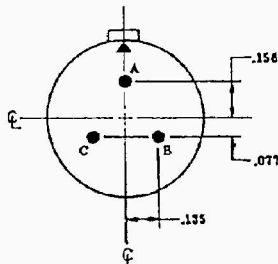


FOR OTHER INSERT POSITIONS SEE 16S-15 AND 16S-16. (SEE APPENDIX B)

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
35	110	250	325

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-4	D	2	16 16S	●	A11	MS33683-4

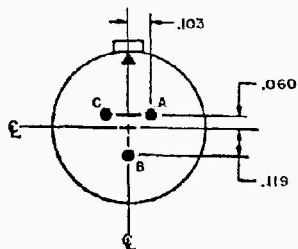
INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	145	215	290

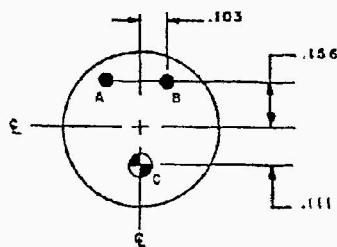
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-5	A	3	16 16S	●	A11	MS33683-5

INACTIVE FOR NEW DESIGN
AFTER 30 JUL 1951



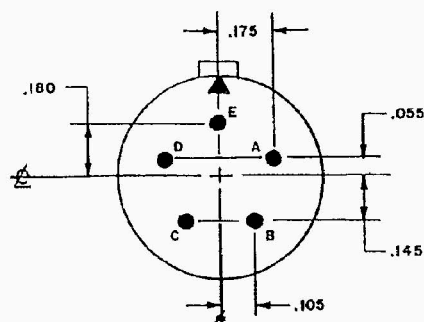
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
90	180	270	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-6	A	3	16 16S	●	All	MS33683-6



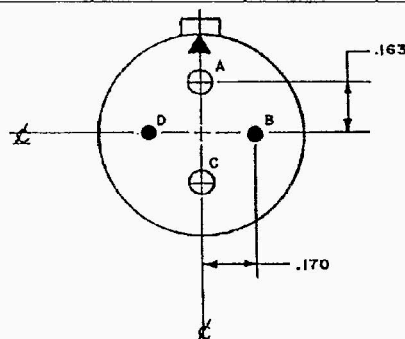
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	110	250	280

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-7	A	2	16	●	All	MS33683-7
			1	8	◐		



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	170	265	---

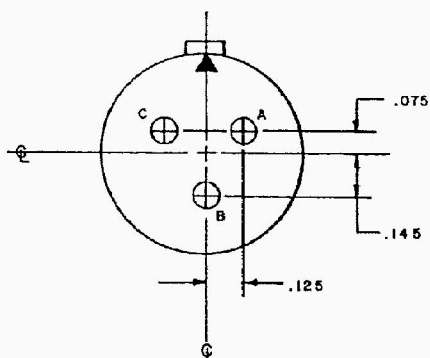
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16S, 17	-8	A	5	16 16S	●	All	MS33683-8



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
35	110	250	325

***#

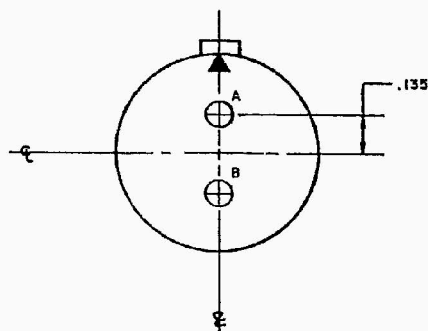
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-9	A	2	16	●	All	MS33683-9
			2	12	⊕		



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
90	180	270	---

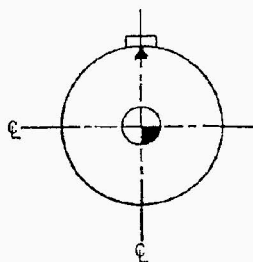
**#4

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-10	A	3	12	⊕	A11	MS33683-10



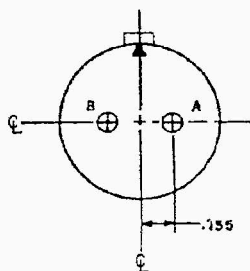
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
35	110	250	325

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-11	A	2	12	⊕	A11	MS33683-11



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-12	A	1	4		--	MS33683-12



CONTACT A - IRON
CONTACT B - CONSTANTAN

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
35	110	250	325

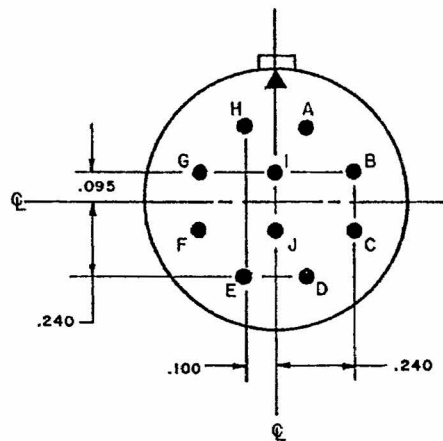
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
16	-13	A	2	12		All	MS33683-13

SECTION 600

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

SHELL SIZE 18

INACTIVE FOR NEW DESIGN OF AIR FORCE
AIRBORNE EQUIPMENT AFTER MAY 1971.



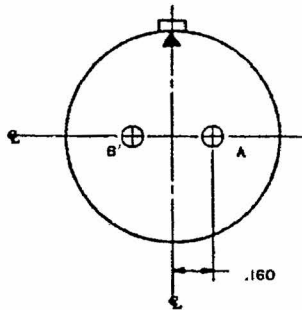
FOR OTHER INSERT POSITIONS SEE 18-23 AND 18-24 (APPENDIX A)

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	145	215	290

***#

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-1	A	4	16		B,C,F,G	MS33684-1
		INST	6			All others	

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



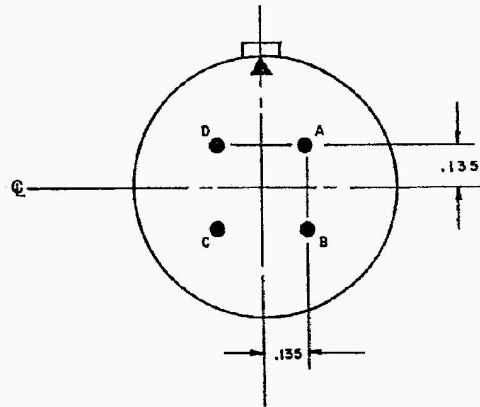
FOR OTHER INSERT POSITIONS SEE 18-25 AND 18-26 (APPENDIX A)

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
35	110	250	325

(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-3	D	2	12	⊕	A11	MS33684-3

INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 28 MAY 1971



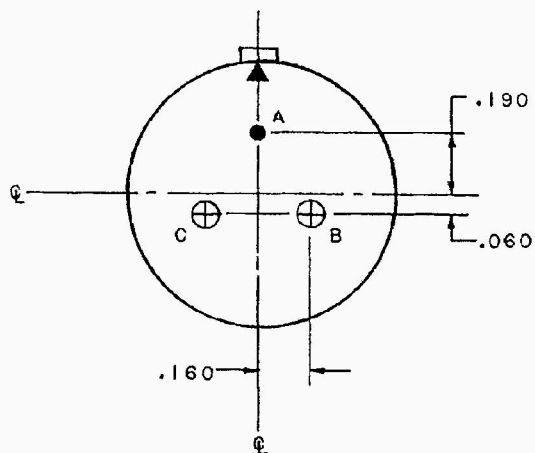
ALTERNATE INSERT POSITIONS

A DEGREES

W	X	Y	Z
35	110	250	325

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-4	D	4	16	●	A11	MS33684-4

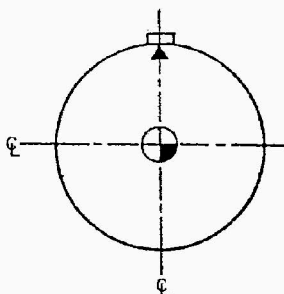
INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 28 MAY 1971



FOR OTHER INSERT POSITIONS SEE 18-27 AND 18-28. (APPENDIX B)

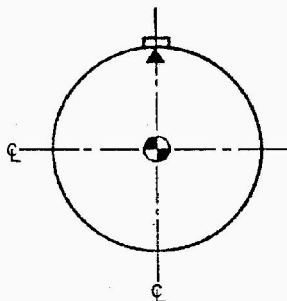
ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	110	250	280

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-5	D	1	16	●	A11	MS33684-5
			2	12	⊕		



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

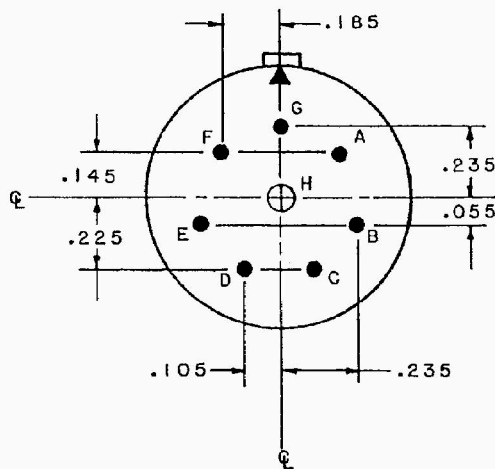
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-6	D	1	4		--	MS33684-6



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

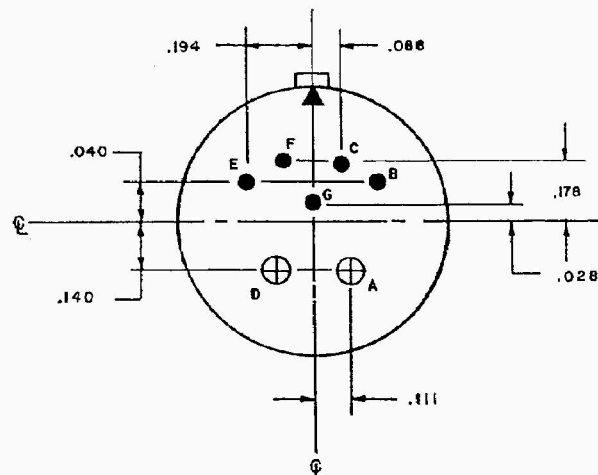
Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-7	B	1	8		--	MS33684-7

INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 28 MAY 1971



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	---	---	290

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-8	A	7	16	●	A11	MS33684-8
			1	12	⊕		

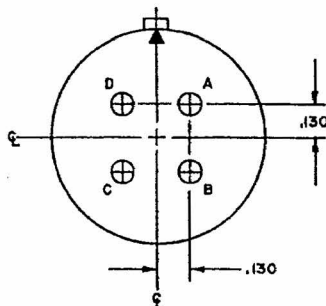


FOR OTHER INSERT POSITIONS SEE 18-17 AND 18-18.

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	110	250	280

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-9	INST	5	16	●	All	MS33684-9
			2	12	⊕		

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954

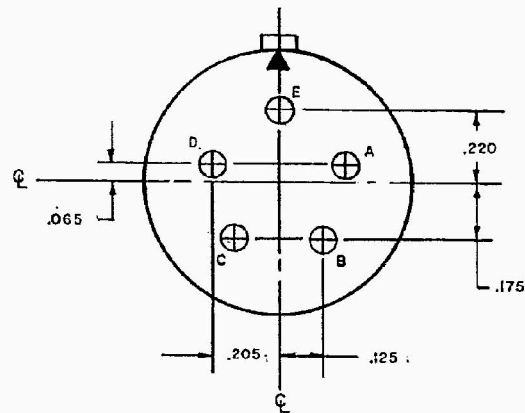


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	120	240	---

(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-10	A	4	12	⊕	A11	MS33684-10

INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 28 MAY 1971.

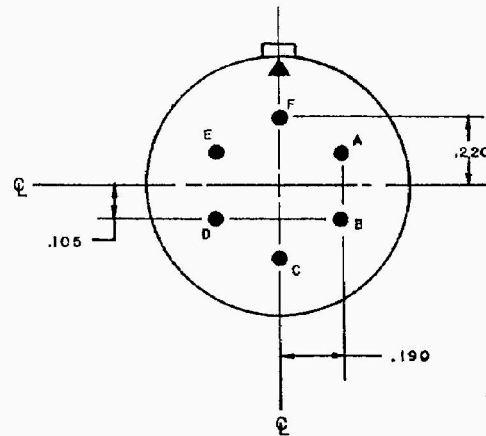


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	170	265	---

***#f

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-11	A	5	12		A11	MS33684-11

INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 13 MAY 1954.

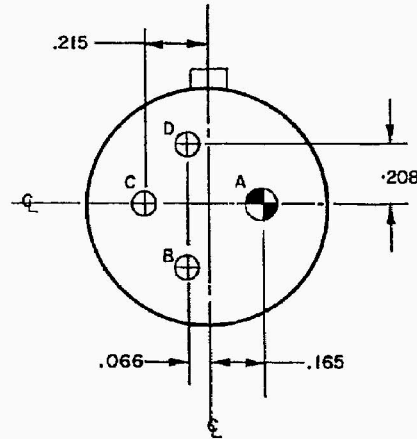


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	---	---	280

(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-12	A	6	16	●	A11	MS33684-12

INACTIVE FOR NEW DESIGN OF AIR FORCE
EQUIPMENT AFTER 28 MAY 1971.

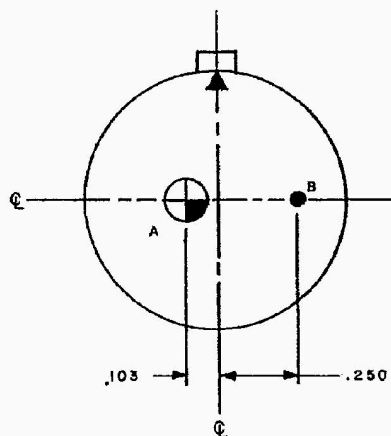


ALTERNATE INSERT POSITIONS

A DEGREES			
W	X	Y	Z
80	110	250	280

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-13	A	3	12		A11	MS33684-13
			1	8			

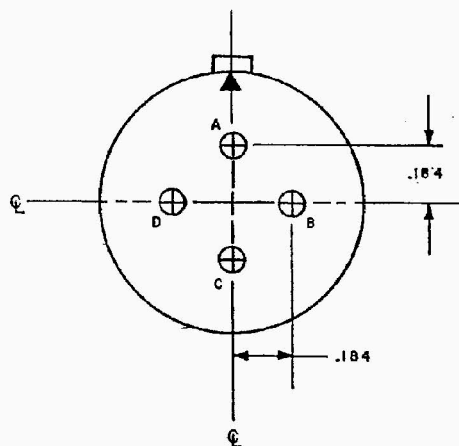
INACTIVE FOR NEW DESIGN OF AIR FORCE AIRBORNE
EQUIPMENT AFTER 28 MAY 1971.



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
80	110	250	280

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-14	A	1	16	●	A11	MS33684-14
			1	4	⊕		

INACTIVE FOR NEW DESIGN OF AIR FORCE
AIRBORNE EQUIPMENT AFTER 28 MAY 1971.

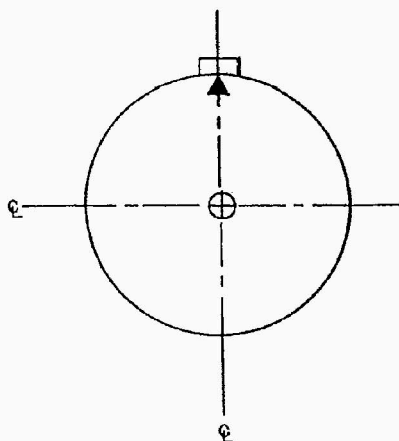


CONTACTS A AND C-IRON
CONTACTS B AND D-CONSTANTAN

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	120	240	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-15	A	4	12	⊕	A11	MS33684-15

INACTIVE FOR NEW DESIGN OF AIR FORCE
AIRBORNE EQUIPMENT AFTER 28 MAY 1971.

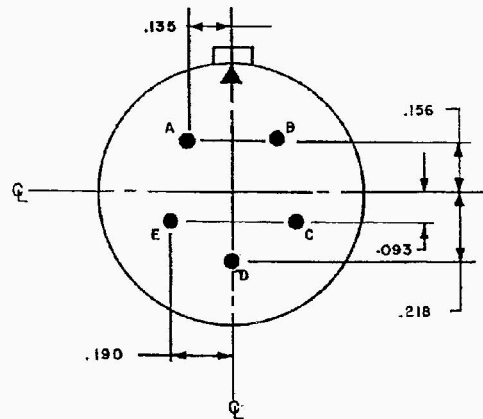


FOR INSERT DESIGN SEE MS33694.

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-16	C	1	12	⊕	---	MS33684-16

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



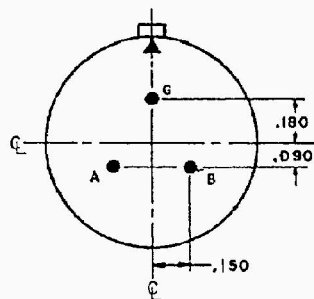
FOR OTHER INSERT POSITIONS SEE 18-30 AND 18-31. (APPENDIX B)

(Not applicable to MIL-C-22992)

ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
90	180	270	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-20	A	5	16	●	All	MS33684-20

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954

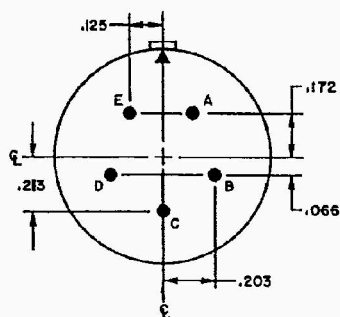


ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
70	145	215	290

(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-22	D	3	16	●	A11	MS33684-22

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
90	180	270	---

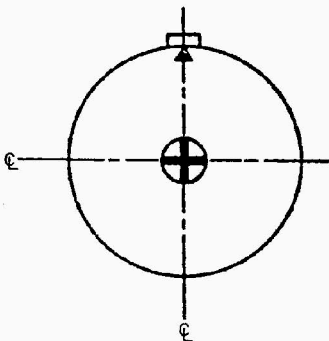
(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
18	-29	A	5	16		All	MS33684-29

SECTION 700

INSERT ARRANGEMENT, ELECTRICAL CONNECTORS

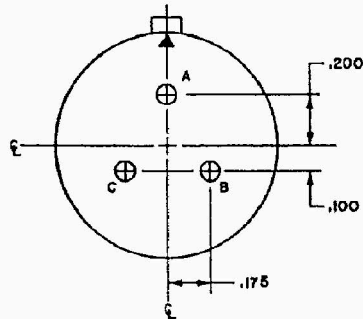
SHELL SIZE 20



ALTERNATE INSERT POSITIONS			
A DEGREES			
W	X	Y	Z
---	---	---	---

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
20	-2	D	1	0	⊕	---	MS33685-2

INACTIVE FOR NEW DESIGN
AFTER 13 MAY 1954



ALTERNATE INSERT POSITIONS

A DEGREES

W	X	Y	Z
70	145	215	290

(Not applicable to MIL-C-22992)

Shell size	Arrangement number	Service rating	Number of contacts	Size contacts	Symbol	Contact location	Supersedes document
20	-3	D	3	12	⊕	A11	MS33685-3