

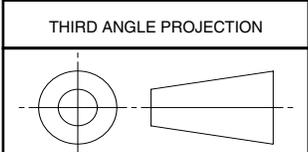
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CUSTODIAN: SAE AE-7

PROCUREMENT SPECIFICATION: MIL-E-81099



**AEROSPACE STANDARD**

RECEPTACLES, ELECTRIC,  
AIRCRAFT STORAGE BATTERY

**AS35091**  
SHEET 1 OF 8

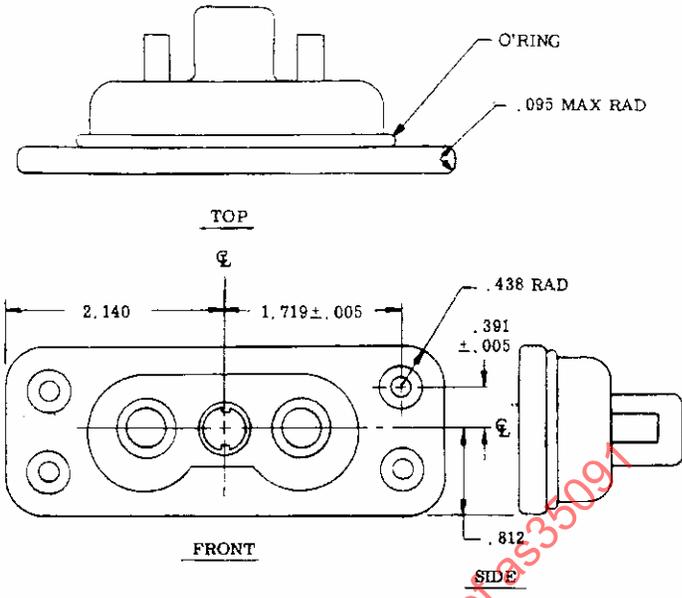
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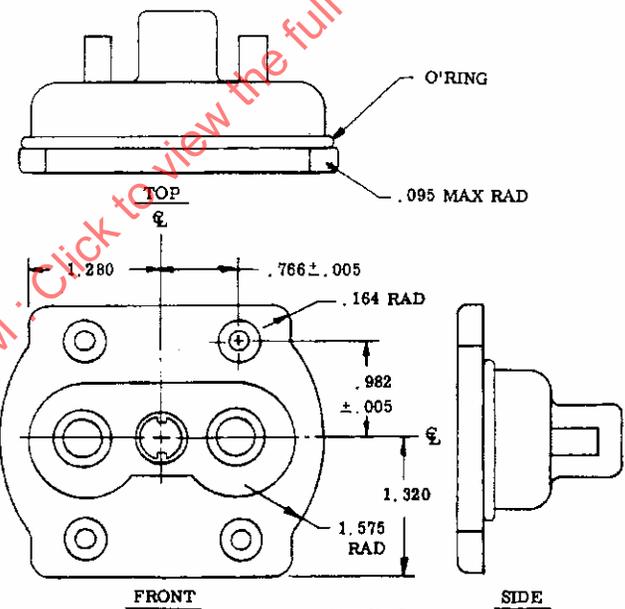
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STYLE 1

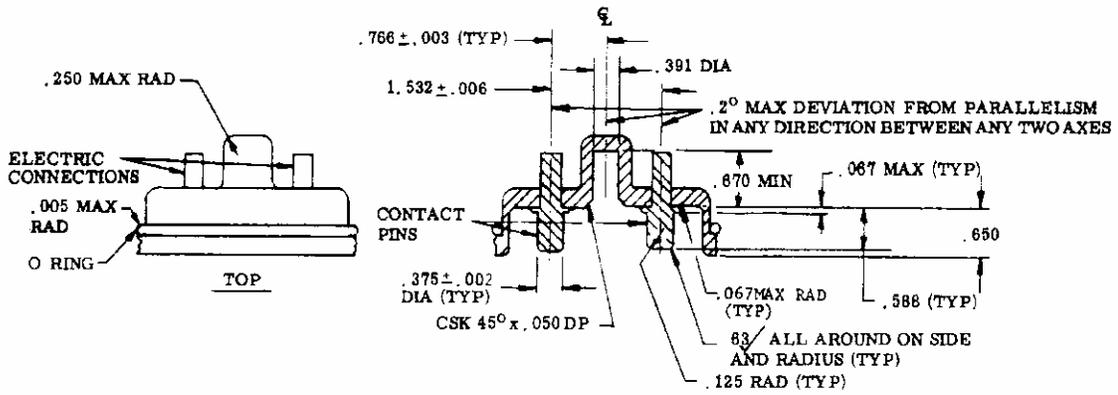


STYLE 2

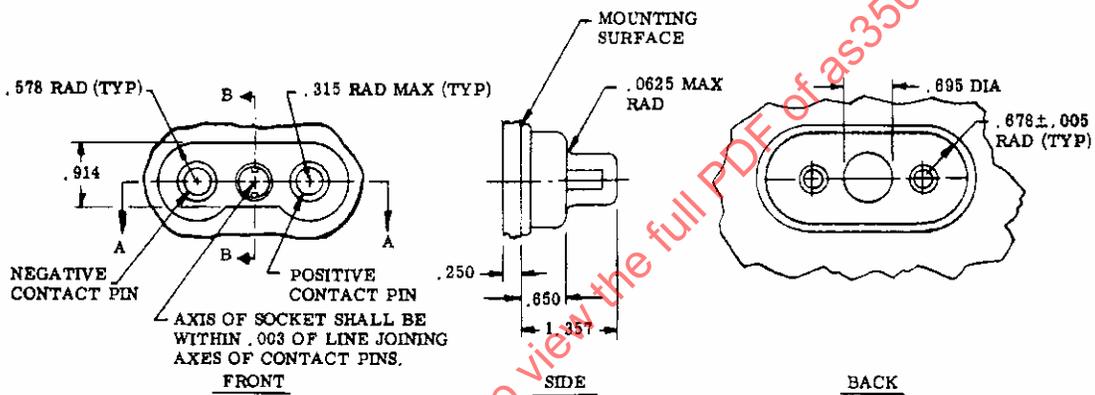
ALL DIMENSIONS ARE TYPICAL. ALL TOLERANCES ARE ± .010 UNLESS OTHERWISE SPECIFIED.

RECEPTACLES

AS35091



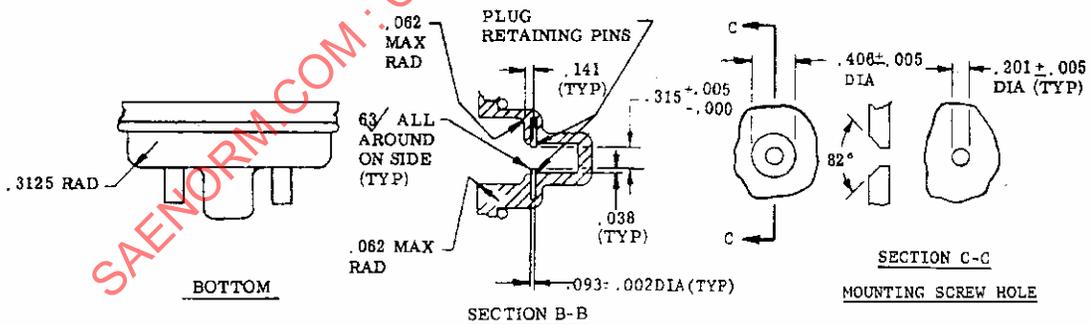
SECTION A-A



FRONT

SIDE

BACK



BOTTOM

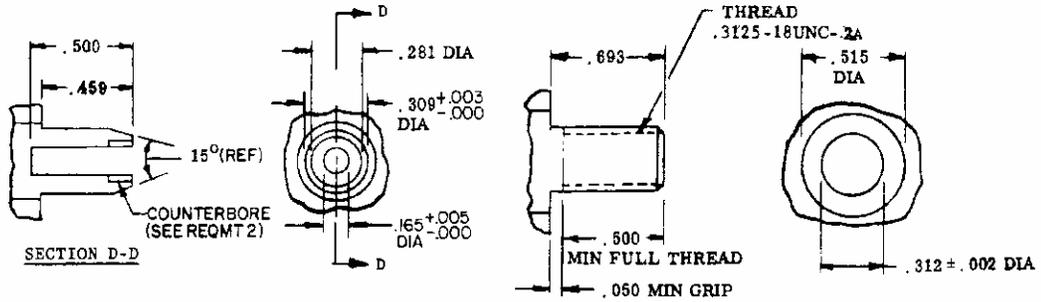
SECTION B-B

SECTION C-C

MOUNTING SCREW HOLE

ALL TOLERANCES ARE  $\pm .005$  UNLESS OTHERWISE SPECIFIED.

STYLES 1 AND 2  
RECEPTACLES



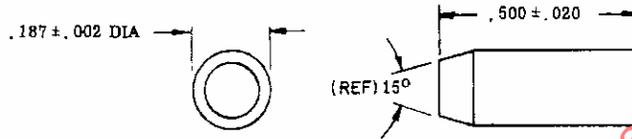
HOLLOW POST (TYP)

THREADED POST (TYP)

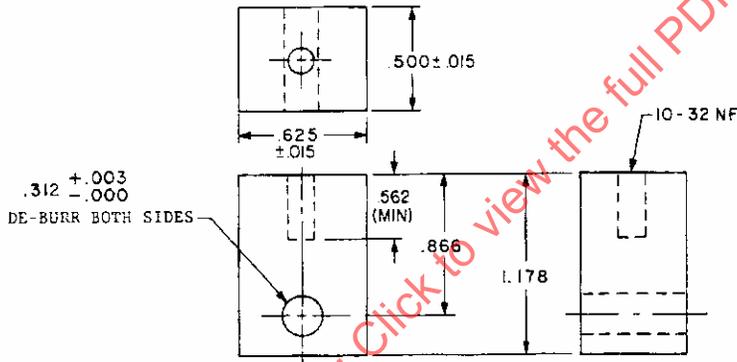
ALL TOLERANCES ARE  $\pm .010$ , UNLESS OTHERWISE SPECIFIED.

ELECTRIC CONNECTIONS

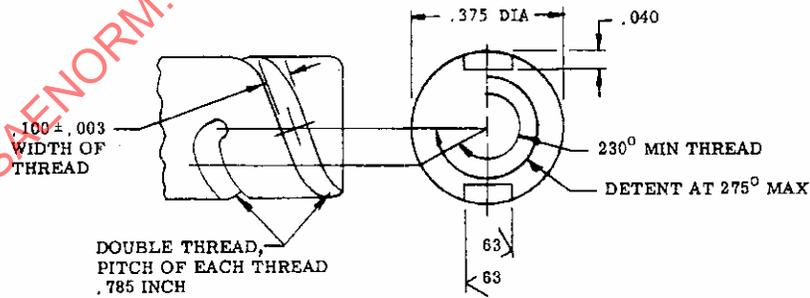
RECEPTACLES



EXPANDER

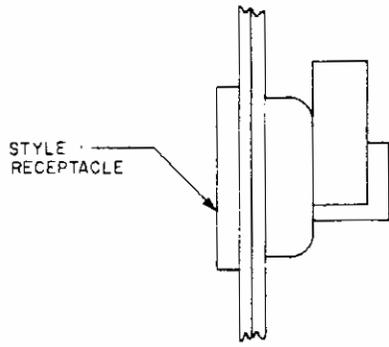


RECEPTACLE TERMINAL BLOCK

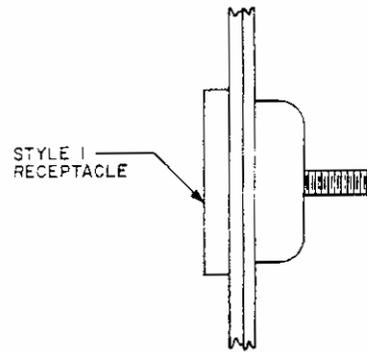


ALL THREAD DIMENSIONS ARE TYPICAL, ALL TOLERANCES ARE  $\pm .005$  UNLESS OTHERWISE SPECIFIED.

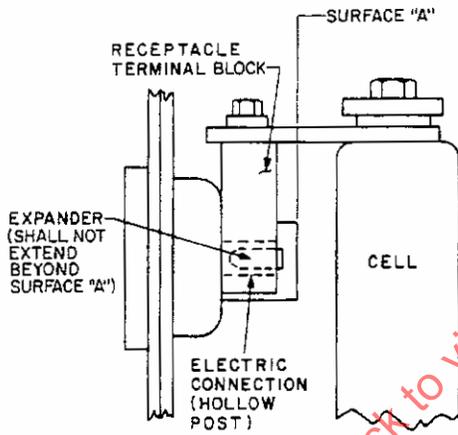
TEST SCREW



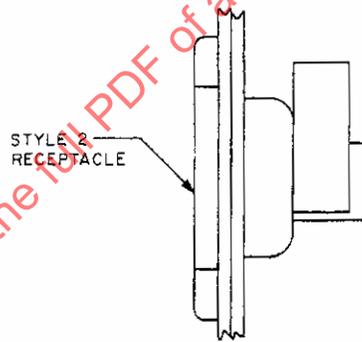
P/N MS3509-28-31



P/N MS3509-30 & -20

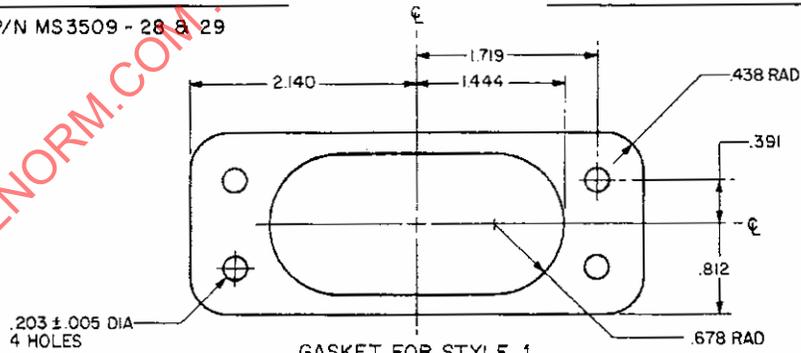


NICKEL-CADMIUM BATTERY  
RECEPTACLE MOUNTING  
P/N MS3509-28 & 29



P/N MS3509-29

RECEPTACLE ASSEMBLIES



GASKET FOR STYLE 1

P/N MS 3509-14

ALL DIMENSIONS ARE TYPICAL. ALL TOLERANCES ARE ± .010 UNLESS OTHERWISE SPECIFIED. THICKNESS .062<sup>+0.010</sup>/<sub>-.000</sub>

AS35091

MS PART NO.	RECEPT ASSY	STYLE	ELECTRIC CONNECTIONS	MAX WT LBS
MS3509-1 THROUGH -27 OBSOLETE (WITH THE EXCEPTION OF -14 AND -20)				
MS3509-20	1/	1 (PINK)	THREADED POST	.46
MS3509-28	WITH TERMINAL BLOCKS INSTALLED	1 (BLUE)	HOLLOW POSTS	.46
MS3509-28-1	WITHOUT TERMINAL BLOCKS INSTALLED	1 (BLUE)	HOLLOW POSTS	.46
MS3509-29	WITH TERMINAL BLOCKS INSTALLED	2 (BLUE)	HOLLOW POSTS	.46
MS3509-29-1	WITHOUT TERMINAL BLOCKS INSTALLED	2 (BLUE)	HOLLOW POSTS	.46
MS3509-30	WITHOUT TERMINAL STRAPS INSTALLED	1 (PINK)	THREADED POSTS	.46
MS3509-31	WITH TERMINAL BLOCKS INSTALLED	1 (BLACK)	HOLLOW POSTS	.46
1/ MS3509-20 CONSISTS OF 1 MS3509-30 LESS "O" RING PLUS 1 MS3509-14 GASKET.				

## REQUIREMENTS:

- RECEPTACLES. THE BODY OF EACH RECEPTACLE SHALL BE MOLDED IN ONE PIECE FROM RIGID INSULATING MATERIAL. METAL REINFORCEMENTS MAY BE PROVIDED FOR THE MOUNTING HOLES AND THE PLUG RETAINING PINS. THE CONTACTS SHALL BE INSULATED FROM EACH OTHER AND FROM THE REINFORCEMENTS.
- ELECTRIC CONNECTIONS. EACH RECEPTACLE SHALL INCLUDE TWO ELECTRIC CONNECTIONS AS SHOWN ON SHEET 3 OF THE TYPE LISTED ABOVE AND SHALL BE INTEGRAL WITH THE CONTACT PINS. EXCEPT FOR THE TYPE MS3509-31 RECEPTACLE, THE CONNECTIONS AND PINS SHALL BE MADE OF COPPER CONFORMING TO THE REQUIREMENTS OF QQ-C-502. THE TYPE MS3509-31 RECEPTACLE CONNECTIONS AND PINS SHALL BE MADE OF COLD FINISHED CARBON STEEL AISI GRADE 1215. THE CONNECTIONS AND PINS SHALL HAVE A CROSS-SECTIONAL AREA OF AT LEAST 0.074 SQUARE INCH AT ALL POINTS BETWEEN THE CONNECTIONS AND THE PINS. THE CONNECTIONS AND PINS SHALL HAVE A METALLIC PROTECTIVE PLATING THAT WILL RESIST RUSTING AND CORROSION. THREADS SHALL CONFORM TO MIL-S-7742. HOLLOW POSTS SHALL BE COUNTERBORED .187 ± .002 INCH DIAMETER TO A DEPTH OF .098 ± .007 INCH.
- EXPANDERS. EACH RECEPTACLE WHICH HAS HOLLOW POSTS FOR ELECTRIC CONNECTIONS SHALL INCLUDE TWO EXPANDERS. EXPANDERS SHALL BE MADE OF STEEL CONFORMING TO REQUIREMENTS OF QQ-S-763, CLASS 304, CONDITION C.
- MARKING. THE RECEPTACLES SHALL BE MARKED FOR IDENTIFICATION IN ACCORDANCE WITH MIL-STD-130.
- "O" RING SEAL MADE BY PARKER SEAL CO. PART NO. 2-228 OR BY PRECISION RUBBER PRODUCTS CO., PART NO. 228 SHALL BE USED. DIMENSIONS ID 2.234 ± 0.010, MEAN OD 2.512, CROSS SECTION 0.139 ± .004
- GASKETS. GASKETS SHALL BE MADE OF RUBBER CONFORMING TO REQUIREMENTS OF MIL-R-6130 FOR TYPE 2, GRADE A, AND FIRM CONDITION.
- RECEPTACLE TERMINAL BLOCKS. RECEPTACLE TERMINAL BLOCKS SHALL BE OF STEEL, FULL HARD FINISHED WITH A MINIMUM OF 0.0005 NICKEL PLATE.