

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

AS85049/96

FEDERAL SUPPLY CLASS
5935

NOTICE

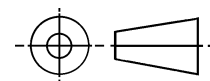
THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MIL-C-85049/96 AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MIL-C-85049/96. 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 SAE TECHNICAL DOCUMENT.

SAENORM.COM : Click to view the full PDF of as85049 - 96

THIRD ANGLE PROJECTION



ISSUED 2001-07

PREPARED BY SAE SUBCOMMITTEE AE-8C1

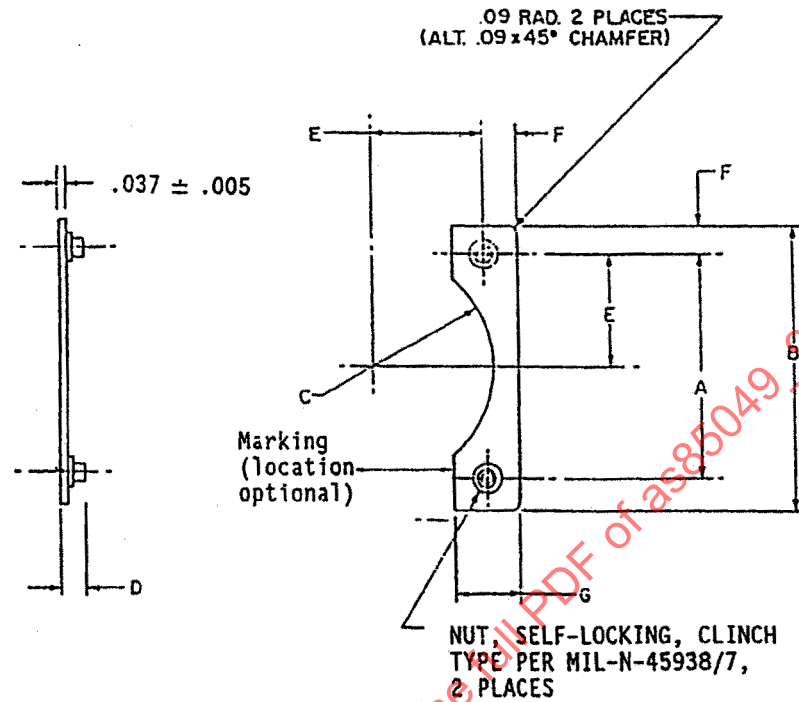
SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

CONNECTOR ACCESSORIES, ELECTRICAL,
MOUNTING DEVICE FLANGE TYPE, 1/4 MOUNTING
PERIMETER DEVICE, TYPE III (LIGHT DUTY)

AS85049/96
SHEET 1 OF 9

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION: MIL-C-85049.



Notes:

1. Dimensions are inches.
2. Unless otherwise specified, tolerance is $\pm$.010.
3. Classes represent shell size variations (see Table I).
4. For mounting flange cross reference information see Table III.

FIGURE 1. MOUNTING FLANGE, TYPE III.

TABLE I. MOUNTING FLANGES.

M85049/ 96-	SHELL SIZE	THRD UNJC -3B	A± .003	B± .015	C +.015 -.000	D	E± .001	F +.005 -.000	G +.010 -.000
3	3	4-40	.625	.925	.320	.106/ .166	.312	.150	.300
7	7	4-40	.719	1.016	.359	.106/ .166	.359	.149	.298
8	8	4-40	.594	.891	.277	.106/ .166	.297	.148	.296
10	10	4-40	.719	1.016	.359	.106/ .166	.359	.149	.298
12	12	4-40	.812	1.109	.425	.106/ .166	.406	.148	.296
14	14	4-40	.906	1.203	.492	.106/ .166	.453	.148	.296
16	16	4-40	.969	1.266	.547	.106/ .166	.484	.149	.298
18	18	4-40	1.062	1.390	.610	.106/ .166	.531	.164	.328
19	19	4-40	.906	1.203	.492	.106/ .166	.453	.148	.296
20	20	4-40	1.156	1.510	.672	.106/ .166	.578	.177	.354
22	22	4-40	1.250	1.640	.739	.106/ .166	.625	.195	.390
24	24	6-32	1.375	1.760	.797	.123/ .183	.687	.193	.386
25	25	6-32	1.500	1.859	.845	.123/ .183	.750	.179	.358
27	27	4-40	.969	1.266	.547	.106/ .166	.484	.149	.298
28	28	6-32	1.562	2.000	.920	.123/ .183	.781	.219	.438
32	32	6-32	1.750	2.312	1.058	.123/ .183	.875	.281	.562
36	36	6-32	1.938	2.500	1.170	.123/ .183	.969	.281	.562

TABLE I. MOUNTING FLANGES - (CONTINUED).

M85049/ 96-	SHELL SIZE	THRD UNJC -3B	A± .003	B± .015	C + .015 - .000	D	E± .001	F+.005 -.000	G+.010 -.000
37	37	4-40	1.187	1.500	.670	.106/ .166	.593	.157	.314
61	61	4-40	1.437	1.812	.812	.106/ .166	.718	.188	.376

TABLE II. QUALIFICATION.

Inspection	Requirement paragraph	Test paragraph
Examination of product	3.1, 3.2, 3.3, 3.4, 3.7	4.6.1
Protective coating	MIL-C-85049/96	MIL-C-85049/96
Marking	MIL-T-85049/96	4.6.1
Installation	MIL-T-85049/96	MIL-T-85049/96
Vibration	3.5.4	MIL-T-85049/96
Shock	3.5.5	4.6.6
Coupling thread strength	3.5.9	4.6.10
Salt spray	MIL-T-85049/96	MIL-T-85049/96
External bending moment	MIL-T-85049/96	4.6.11
Locking torque	MIL-T-85049/96	MIL-T-85049/96
Torque out	MIL-T-85049/96	MIL-T-85049/96
Push out	MIL-T-85049/96	MIL-T-85049/96

Requirements:

Material. Mounting flanges shall be of a construction with predrilled or punched holes in aluminum alloy 2024-T3 per QQ-A-250/4 or 6061-T6 per QQ-A-250/11; and incorporating self locking nuts, clinch type, per MIL-N-45938/7 (See protective coating paragraph).

Protective coating: Alodine per MIL-C-5541, Class IA. When required, epoxy polyamide primer, 2 coats per MIL-P-23377, Type 1, shall be applied either before or after nut installation provided the performance characteristics of the nut are not degraded and all other requirements of the specification sheet are met. Clinch nuts shall be cleaned and descaled in accordance with ASTM A380 and passivated in accordance with QQ-P-35, followed by a solid film lubricant coating per MIL-L-46010.

Dimensions. Dimensions and tolerances shall be as stated herein and shall apply after plating and prior to supplemental lubrication.

Marking. Mounting flanges shall have the military part number and manufacturer's identification legibly and permanently marked as specified in MIL-C-85049. Military part number marking is optional on shell size 10 and smaller because of limited space (see example of military part number).

Military part number:

Example:

M85049/96-3-A

letter designation "A" indicates
primer coat is required

shell size

slash sheet

military designator

Installation. When tested as specified herein, evidence of cocking, looseness, splits or cracks shall be cause for rejection.

Salt spray. When tested as specified herein, there shall be no damage detrimental to the operation or function of the mounting flange.

External bending moment. After tested as specified herein, there shall be no shall not have any damage detrimental to the normal operation or function of the mounting flange.

Locking Torque. When tested as specified herein, samples shall meet the locking torque requirements specified in MIL-N-25027.

Torque out. The clinch nuts shall meet the torque out requirement of 15 in-lbs minimum for 4-40 threaded nuts and 20 in-lbs minimum for 6-32 threaded nuts, when tested as specified herein.

Push out. The clinch nuts shall meet the push out requirement of 100 lbs minimum for 4-40 threaded nuts and 110 lbs minimum for 6-32 threaded nuts, when tested as specified herein.

Qualification: See table II.

Tests:

Test panels. With the connector and mounting flange installed as shown in figure 2, the test panel shall show no evidence of bending or cracking or other damage when subject to the external bending moment test of this specification.

Protective coating. Examination and test of protective coating shall be in accordance with the applicable specification sheet. The protective coating shall be examined to insure compliance with the applicable finish requirements.

Installation. The mounting flange shall be installed as shown in figure 2. Installation forces shall be exerted so that the mounting flange will interface with the panel-flange type electrical connector. Properly installed samples shall be visually inspected under 10 diameters magnification. When applicable, the depth of embedment shall be measured using standard inspection equipment.

Vibration. Mounting flanges shall be subjected to the random vibration tests of MIL-STD-1344, method 2005, test condition VI, letter J, except the sample and fixture shall be as shown in the figure 2 herein.

Salt Spray. Samples taken as specified in MIL-C-85049 shall be subjected to the salt spray environment (Test condition C, 500 hours duration) as specified in method 1001 of MIL-STD-1344.

External bending moment. The sample shall be tested in accordance with MIL-C-85049, using the test configuration of figure 2 in lieu of figure 1 of MIL-C-85049.

Locking torque. Mounting flanges shall be subjected to the locking torque tests specified in MIL-N-25027.

Torque out. Mounting flanges shall be subjected to the torque out tests specified in MIL-N-45938.

Push out. Mounting flanges shall be subjected to the push out tests specified in MIL-N-45938.

Preparation for delivery:

Preservation and packaging. Preservation and packaging shall be level A or C in accordance with PPP-H-1581.

Packing. Packing shall be level A, B or C, as specified in PPP-H-1581.

Marking. Marking of unit packages and shipping containers shall be in accordance with PPP-H-1581.

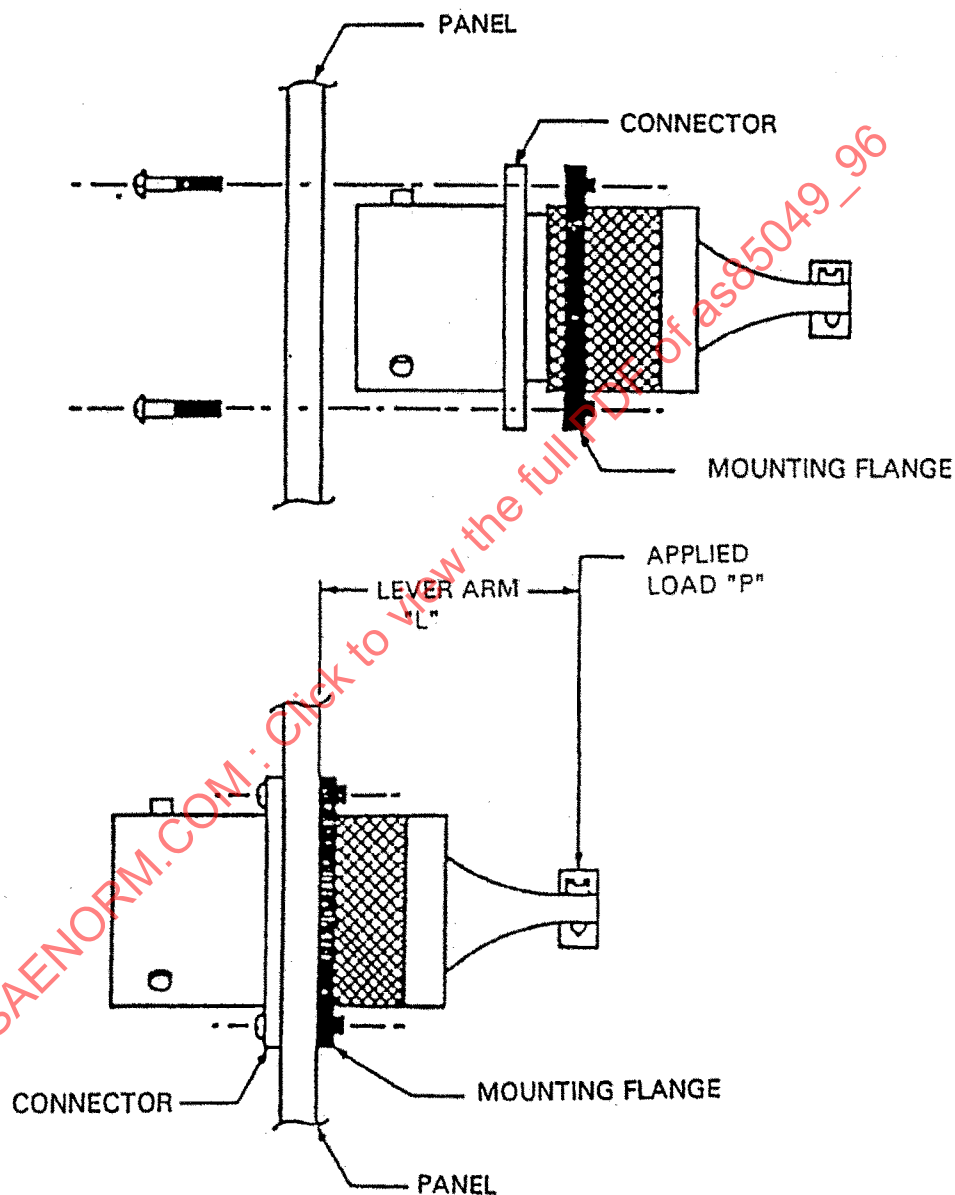


FIGURE 2. INSTALLATION - EXTERNAL BENDING MOMENT TEST SET-UP.

TABLE III. MOUNTING FLANGE CROSS REFERENCE TYPE III.

CONNECTOR	SHELL SIZES											
	M85049/96	8	10	12	14	16	18	20	22	24	25	
MIL-C-5015	MS3100	8S	10	12S	14S	16S	18	20	22	24	--	
" "	MS3102	--	--	12	14	16						
" "	MS3400	8S	10	12S	14S	16S	18	20	22	24	--	
" "	MS3402	--	--	12	14	16						
" "	MS3450	8S	10	12S	14S	16S	18	20	22	24	--	
" "	MS3452	--	--	12	14	16						
MIL-C-22992	MS17343	--	--	12	14	16	18	20	22	--	--	
MIL-C-26482	MS3110	8	10	12	14	16	18	20	22	24	--	
" "	MS3112	8	10	12	14	16	18	20	22	24	--	
" "	MS3120	8	10	12	14	16	18	20	22	24	--	
" "	MS3122	8	10	12	14	16	18	20	22	24	--	
" "	MS3470	8	10	12	14	16	18	20	22	24	--	
" "	MS3472	8	10	12	14	16	18	20	22	24	--	
MIL-C-27599	MS20026	9	11	13	15	17	19	21	23	25	--	
" "	MS27334	8	10	12	14	16	18	20	22	24	--	
" "	MS27335	8	10	12	14	16	18	20	22	24	--	
MIL-C-38999	MS27466	--	9	11	13	15	17	19	21	23	25	
" "	MS27469	--	9	11	13	15	17	19	21	23	25	
" "	MS27472	8	10	12	14	16	18	20	22	24	--	
" "	MS27475	8	10	12	14	16	18	20	22	24	--	