FEDERAL SUPPLY CLASS
5935

RATIONALE

THIS REVISION IS REQUIRED TO INCORPORATE THE OUTSTANDING AMENDMENT, REVIEW FOR KNOWN TECHNICAL ISSUES AND UPDATE TO MEET SAE FORMAT GUIDELINES.

NOTICE

THE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS85049.

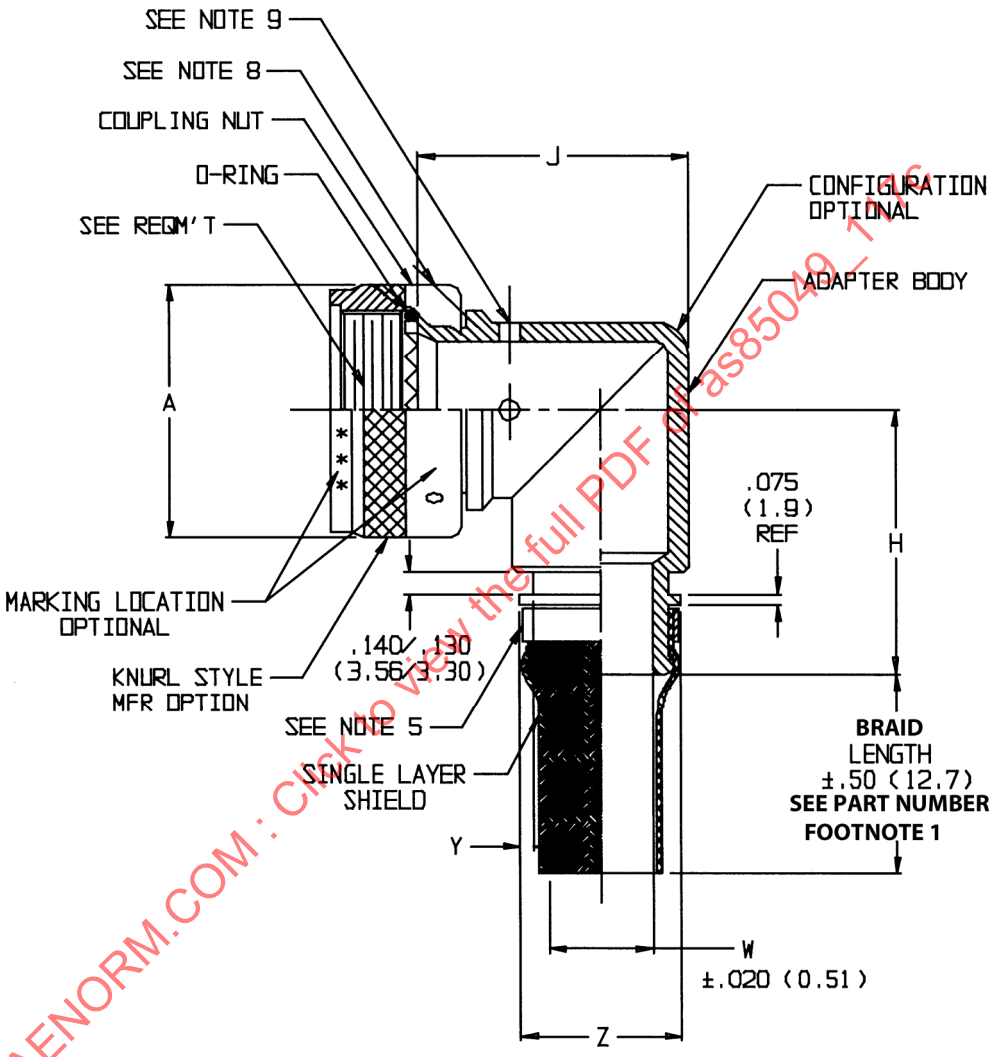
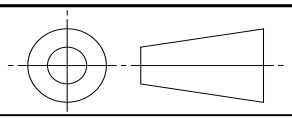


FIGURE 1 - CONFIGURATION AND DIMENSIONS

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS85049/117C

THIRD ANGLE PROJECTION



ISSUED 2002-05 REVISED 2011-03

CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS85049

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

(R) CONNECTOR ACCESSORIES, ELECTRICAL BACKSHELL, 90 DEGREE, SELF LOCKING AND NON-SELF LOCKING, PRE-ATTACHED SHIELD TERMINATION (RFI/EMI), BOOT ACCOMODATION, CATEGORY 3B FOR MIL-DTL-38999 SERIES III AND IV CONNECTORS

INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.044	1.12	.562	14.27	.829	21.06	1.157	29.39
.130	3.30	.583	14.81	.858	21.79	1.279	32.49
.140	3.56	.625	15.88	.895	22.73	1.350	34.29
.250	6.35	.684	17.37	.938	23.83	1.406	35.71
.312	7.92	.707	17.96	.957	24.30	1.516	38.51
.395	10.03	.730	18.54	.984	24.99	1.642	41.71
.438	11.13	.750	19.05	1.000	25.40	1.768	44.91
.457	11.61	.770	19.56	1.083	27.51	1.889	47.98
.500	12.70	.812	20.62	1.145	29.08	1.919	48.74

NOTES:

1. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED UPON 1.000 IN (25.40 MM).

2. DIMENSIONS ARE IN INCHES, AND APPLY AFTER PLATING. ACCESSORY CONFIGURATION IS OPTIONAL WITHIN THE DIMENSION ENVELOPE SPECIFIED IN FIGURE 1.

3. ADAPTER LENGTH IS MEASURED FROM THE BOTTOM OF THE ACCESSORY TEETH TO THE END OF THE ELBOW. THE ADAPTER SURFACE UNDER THE BRAID SHALL BE RIBBED, KNURLED, OR HAVE A SURFACE ROUGHNESS OF 125 R MINIMUM IN ACCORDANCE WITH ANSI B46.1.

4. PIG TAIL TERMINATED BRAID MATERIAL SHALL BE IN ACCORDANCE WITH TABLE 3. BRAID LENGTH IS DEFINED BY FOOTNOTE 1 AS SHOWN IN THE PART NUMBER.

5. TERMINATION BAND CONFIGURATION IS NOT CONTROLLED. BAND WITH BUCKLE MAY EXCEED THE “Z” DIMENSION (SEE TABLE 2) PROVIDED THE BAND DOES NOT INTERFERE WITH BOOT ATTACHMENT. BAND MATERIAL SHALL BE AS SPECIFIED IN TABLE 3.

6. CONNECTOR ACCESSORIES SPECIFIED HEREIN MAY BE USED WITH SHRINK BOOTS IN ACCORDANCE WITH SAE AS5258.

7. TERMINATION OF THE ACCESSORY SHIELD WITH HARNESS SHIELD MAY BE PERFORMED WITH AN SAE AS85049/93 SHIELD SUPPORT RING OR SIMILAR SPLIT RING ACCESSORY TYPES.

8. THREE (3) HOLES EQUALLY SPACED SHALL BE PROVIDED AND ACCOMMODATE .020 MAXIMUM SAFETY WIRE FOR THE NON-SELF-LOCKING COUPLING CONFIGURATION.

9. DRAIN HOLES WILL BE PROVIDED WITH A .125 (3.2 mm) DIAMETER, 4 PLACES EQUALLY SPACED (OPTIONAL, SEE PART NUMBER DEVELOPMENT). O-RING NOT REQUIRED WHEN DRAIN HOLE OPTION IS SPECIFIED.

TABLE 1 - SHELL SIZE AND DIMENSION

ACCESSORY SHELL SIZE CODE	SERIES III SHELL SIZE (REF)	SERIES IV SHELL SIZE (REF)	ALLOWABLE CABLE ENTRY SIZE TABLE 2	A MAX DIAMETER	H MAX	J MAX
09	A	-	01	.858 (21.79)	1.730 (43.94)	0.875 (22.23)
11	B	B	01-03	.984 (24.99)	1.850 (46.99)	1.000 (25.40)
13	C	C	01-05	1.157 (29.39)	1.870 (47.50)	1.125 (28.58)
15	D	D	03-07	1.279 (32.49)	1.940 (49.28)	1.312 (33.32)
17	E	E	05-09	1.406 (35.71)	2.030 (51.56)	1.500 (38.10)
19	F	F	06-10	1.516 (38.51)	2.200 (55.88)	1.750 (44.45)
21	G	G	08-12	1.642 (41.71)	2.200 (55.88)	1.750 (44.45)
23	H	H	09-13	1.768 (44.91)	2.310 (58.67)	2.000 (50.80)
25	J	J	10-14	1.889 (47.98)	2.310 (58.67)	2.000 (50.80)

TABLE 2 - CABLE ENTRY DIMENSIONS

ENTRY SIZE	W ±.020	Y +.008 -.000	Z MAX
01	.250 (6.35)	.044 (1.12)	.560 (14.22)
02	.312 (7.92)	.044 (1.12)	.630 (16.00)
03	.375 (9.53)	.044 (1.12)	.690 (17.53)
04	.438 (11.13)	.044 (1.12)	.750 (19.05)
05	.500 (12.70)	.044 (1.12)	.820 (20.83)
06	.562 (14.27)	.044 (1.12)	.890 (22.61)
07	.625 (15.88)	.044 (1.12)	.950 (24.13)
08	.688 (17.48)	.044 (1.12)	1.020 (25.91)
09	.750 (19.05)	.069 (1.75)	1.070 (27.18)
10	.812 (20.62)	.069 (1.75)	1.130 (28.70)
11	.875 (22.23)	.069 (1.75)	1.190 (30.23)
12	.938 (23.83)	.069 (1.75)	1.260 (32.00)
13	1.000 (25.40)	.069 (1.75)	1.320 (33.53)
14	1.125 (28.58)	.069 (1.75)	1.470 (37.34)

TABLE 3 - MATERIAL AND FINISH

FIGURE 1	FINISH DESCRIPTION	BASE MATERIAL	FINISH CODE
ADAPTER AND COUPLING NUT	ELECTROLESS NICKEL	ALUMINUM ALLOY	N 1/ 3/
	CADMIUM OLIVE DRAB OVER ELECTROLESS NICKEL		W 4/
	NICKEL FLUOROCARBON POLYMER		X
	ZINC NICKEL		Z 4/
BAND 5/	TIN	COPPER	
BAND 5/	PASSIVATED	STAINLESS STEEL	
SHIELD 2/	NICKEL	COPPER	K 6/ 3/
SHIELD 2/	TIN	COPPER	T 6/ 3/

1/ N FINISH NOT FOR NAVY USE.

2/ BRAID SIMILAR TO A-A-59569. WIRE GAGE, NUMBER OF ENDS AND CARRIERS MAY VARY TO OBTAIN 90 PERCENT COVERAGE.

3/ N, K & T FINISH NOT FOR USE IN SPACE APPLICATIONS (SEE APPLICATION NOTE)

4/ W AND Z FINISH ARE NOT FOR USE IN SPACE APPLICATIONS. ALSO SEE SPECIFICATION NOTES.

5/ CHOICE OF BAND IS OPTIONAL.

6/ BRAID WIRE SHALL CONFORM TO ASTM B33 FOR FINISH “T, AND ASTM B355 CLASS 4 FOR FINISH “K”.

REQUIREMENTS:

1. CONNECTOR ACCESSORY DESIGN & CONSTRUCTION: CONSIST OF A COUPLING NUT, ADAPTER BODY, BRAIDED SHIELD, AND TERMINATION BAND. THE COUPLING NUT SHALL BE CAPTIVATED TO THE ADAPTER, AND ROTATABLE.

2. QUALIFICATION: IN ACCORDANCE WITH SAE AS85049 CATEGORY 3B AND HEREIN.

3. DIMENSION AND CONFIGURATION: SEE FIGURE 1, TABLE 1, AND TABLE 2.

4. INTERFACE DIMENSIONS: SEE SAE AS85049 FIGURE 3.

5. COUPLING NUT: CAPTIVATED TO ADAPTER BODY, FREE TO ROTATE, AND SELF LOCKING OR NON-SELF LOCKING

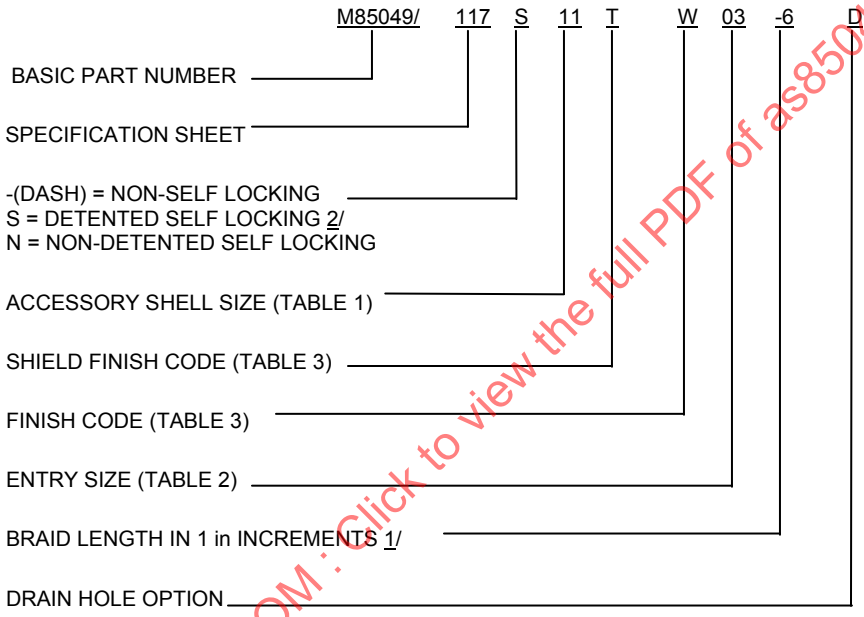
6. ADDITIONAL QUALIFICATION TESTS: THE FOLLOWING TESTS SHALL BE PERFORMED ON AN UNTESTED SMALL, MEDIUM, AND LARGE ACCESSORY:

   A. BRAID COVERAGE: THE BRAID COVERAGE SHALL BE 90 PERCENT MINIMUM. TEST DATA RECEIVED FROM THE BRAID MANUFACTURER MAY BE USED FOR QUALIFICATION DATA.

   B. BRAID RETENTION: WITH ACCESSORY CLAMPED, PULL THE BRAID AT A RATE OF 1 in PER MINUTE TO A MINIMUM FORCE OF 100 LBS FOR BRAID DIAMETERS .50 IN AND UNDER AND 150 LBS FOR BRAID OVER .50 IN. THE BRAID SHALL NOT PULL OUT. BAND SLIPPAGE SHALL NOT EXCEED .025 IN WHEN MEASURED FROM A FIX POINT ON THE ADAPTER. BRAID BREAKAGE DUE TO TENSILE LOAD WILL NOT BE VIEWED AS A FAILURE.

   C. THERMAL AGING: THERMALLY EXPOSE THE ACCESSORY TO 150 DEGREES CENTIGRADE FOR 168 HOURS FOLLOWED BY ELECTRICAL RESISTANCE AT ROOM TEMPERATURE. MEASURE THE ELECTRICAL RESISTANCE OF THE ACCESSORY AT ROOM TEMPERATURE. THE APPLIED CURRENT SHALL BE 0.100 AMPS ± 0.010 AMPS AT A MAXIMUM OF 1.50 DC VOLTS. THE MEASUREMENT SHALL BE TAKEN FROM A POINT ON THE BRAID, WITHIN 1.0 IN ± 0.50 IN BEYOND THE END OF THE ADAPTER AND A POINT ON THE ADAPTER AT THE OPPOSITE SIDE OF THE BAND. THE ELECTRICAL RESISTANCE SHALL NOT EXCEED 1 MΩ.

7. PART OR IDENTIFYING NUMBER (PIN): SEE EXAMPLE BELOW:



1/ BRAID LENGTH SHALL BE A MINIMUM OF 6 IN THEN INCREASE IN 1 IN INCREMENTS. (7 = 7 IN, 8 = 8 IN, ETC.) UP TO A MAXIMUM OF 18 IN.

2/ "DETENTED SELF LOCKING" COUPLING NUTS PROVIDE A POSITIVE AUDIBLE DETENT.

8. SUBSTITUTION INFORMATION: