FEDERAL SUPPLY CLASS

RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

FOR GOVERNMENT PROCUREMENT 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: AS85049.

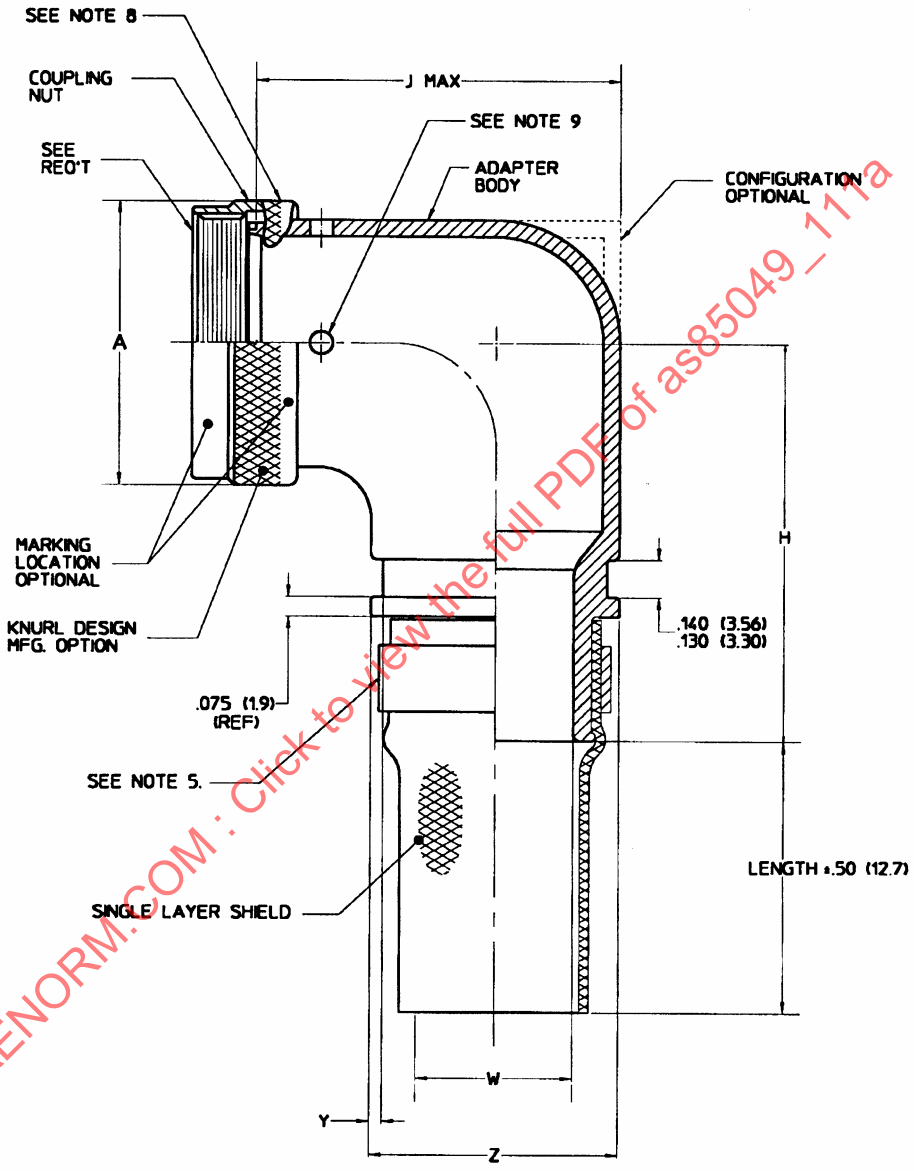
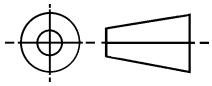


FIGURE 1 - CONFIGURATION AND DIMENSIONS

THIRD ANGLE PROJECTION



ISSUED 2002-05 REVISED 2004-10 REAFFIRMED 2006-06

CUSTODIAN: SAE AE-8/AE-8C1

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

CONNECTOR ACCESSORIES, ELECTRICAL BACKSHELL, 90 DEGREE, SELF LOCKING AND NON-SELF LOCKING, PRE-ATTACHED SHIELD TERMINATION (RFI/EMI), BOOT ACCOMMODATION, CATEGORY 3B (FOR MIL-DTL-83723 SERIES III, MIL-DTL-5015 (SERIES I & II), AS81703 SERIES III, AND MIL-DTL-26482 SERIES II 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 INCH (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 NOTE 1 AS SHOWN IN THE PART OR IDENTIFYING NUMBER (PIN).

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. SHRINK BOOT (WHEN REQUIRED) SHALL BE AS SPECIFIED IN AS5258.

7. TERMINATION OF THE ACCESSORY SHIELD WITH HARNESS SHIELD MAY BE PERFORMED WITH A 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 (32 MM) DIAMETER, 4 PLACES EQUALLY SPACED (OPTIONAL, SEE PART NUMBER DEVELOPMENT).

TABLE 1 - SHELL SIZE AND DIMENSION

ACCESSORY SHELL SIZE CODE	ALLOWABLE CABLE ENTRY SIZE	AS81703 SERIES III SHELL SIZE (REF)	MIL-DTL-26482 SERIES II & MIL-DTL-83723 SERIES III SHELL SIZE (REF)	MIL-DTL-5015 SERIES I & II SHELL SIZE (REF)	A MAX DIAMETER	H MAX	J MAX
03	01	3	-	-	0.885	1.730	1.120
08	01	-	8	8S	0.885	1.730	1.120
10	01-03	-	10	10S & 10SL	1.010	1.850	1.250
12	01-05	7	12	12S & 12	1.135	1.870	1.380
14	02-06	12	14	14S & 14	1.260	1.940	1.440
16	04-08	19	16	16S & 16	1.385	2.030	1.560
18	05-09	27	18	18	1.510	2.200	1.750
20	07-11	37	20	20	1.635	2.200	1.750

TABLE 1 - SHELL SIZE AND DIMENSION (CONTINUED)

ACCESSORY SHELL SIZE CODE	ALLOWABLE CABLE ENTRY SIZE	AS81703 SERIES III SHELL SIZE (REF)	MIL-DTL-26482 SERIES II & MIL-DTL-83723 SERIES III SHELL SIZE (REF)	MIL-DTL-5015 SERIES I & II SHELL SIZE (REF)	A MAX DIAMETER	H MAX	J MAX
22	09-13	-	22	22	1.760	2.310	2.000
24	11-14	-	24	24	1.885	2.310	2.000
28	14-16	-	-	28	2.135	2.480	2.250
32	16-17	-	-	32	2.395	2.730	2.750
36	17-19	-	-	36	2.635	2.730	3.125
40	19-21	-	-	40	2.885	2.880	4.125
44	21-23	-	-	44	3.135	3.000	4.125
48	23-25	-	-	48	3.385	3.120	4.125
61	12-14	61	-	-	1.885	2.380	2.250

TABLE 2 - CABLE ENTRY DIMENSIONS

ENTRY SIZE	W ±.020	Y +.008 -.000	Z MAX
01	.250	.044	.560
02	.312	.044	.630
03	.375	.044	.690
04	.438	.044	.750
05	.500	.044	.820
06	.562	.044	.890
07	.625	.044	.950
08	.688	.044	1.020
09	.750	.069	1.120
10	.812	.069	1.200
11	.875	.069	1.270
12	.938	.069	1.260
13	1.000	.069	1.370
14	1.125	.069	1.470

ENTRY SIZE	W ±.020	Y +.008 -.000	Z MAX
15	1.250	.069	1.600
16	1.375	.069	1.710
17	1.500	.086	1.840
18	1.625	.086	2.000
19	1.750	.086	2.120
20	1.875	.086	2.270
21	2.000	.086	2.440
22	2.125	.086	2.600
23	2.250	.086	2.750
24	2.375	.086	2.900
25	2.500	.086	3.060

TABLE 3 - MATERIAL AND FINISH

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

1/ LIMITED TO SPACE APPLICATIONS FOR MILITARY.
2/ BRAID SIMILAR TO A-A-59569. WIRE GAGE, NUMBER OF ENDS AND CARRIERS MAY VARY TO OBTAIN 90% COVERAGE.
3/ MILITARY PREFERRED FINISH FOR GENERAL APPLICATIONS EXCEPT SPACE.
4/ CHOICE OF BAND IS OPTIONAL.
5/ BRAID WIRE SHALL CONFORM TO ASTM B 33-66 FOR FINISH 'T' AND ASTM B 33-55 CL-4 OF HC 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: AS85049 CATEGORY 2C AND HERE-IN.

   a. PRIOR TO BEGINNING CATEGORY 2C TESTING THE COUPLING RING WITH THE SELF LOCKER ENGAGED SHALL BE ROTATED 50 FULL TURNS IN A CLOCKWISE DIRECTION, AND 50 FULL TURNS IN A COUNTERCLOCKWISE DIRECTION.

3. LIFE CYCLE (SELF-LOCKING ONLY): SEE AS85049

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

5. INTERFACE DIMENSIONS: SEE AS85049 FIGURE 3.

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

7. VIBRATION: SEE AS85049. PRIOR TO THE VIBRATION TEST, THE ACCESSORY SHALL BE COUPLED WITH PADDED CUSHION CONNECTOR PLIERS TO 80% OF THE MAXIMUM THREAD STRENGTH OF THE "MEDIUM AND LIGHT DUTY" COUPLING THREAD STRENGTH SPECIFIED IN AS85049. WHEN THE COUPLING STRENGTH IS NOT SPECIFIED (N/A), THE VALUE(S) SHALL BE 80% OF THE COUPLING STRENGTH VALUES SPECIFIED IN THE APPLICABLE CONNECTOR SPECIFICATION. THE MINIMUM TORQUE REQUIRED TO UNCOUPLE THE ACCESSORY SHALL THEN BE MEASURED AND RECORDED. THE ACCESSORY SHALL THEN BE COUPLED TO 80% OF THE THREAD STRENGTH FOR THE VIBRATION TEST. AFTER THE VIBRATION TEST, THE TORQUE REQUIRED TO UNCOUPLE THE ACCESSORY SHALL BE MEASURED AND RECORDED. THE TORQUE REQUIRED UNCOUPLING THE ACCESSORY AFTER VIBRATION SHALL BE WITHIN +20, -10 INCH-POUNDS OF THE INITIAL VALUE. MONITORING FOR ELECTRICAL CONDUCTIVITY NOT REQUIRED.

8. ADDITIONAL QUALIFICATION TESTS: THE FOLLOWING TESTS SHALL BE PERFORMED ON A 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 SUITABLY CLAMPED, PULL THE BRAID AT A RATE OF ONE INCH PER MINUTE TO A MAXIMUM FORCE OF 150 POUNDS. THE BRAID SHALL NOT PULL OUT. BAND SLIPPAGE SHALL NOT EXCEED 0.025 INCHES 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 ± 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 ± 0.50 INCHES 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 ONE MILLI-OHM.