

AS85049/109

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.

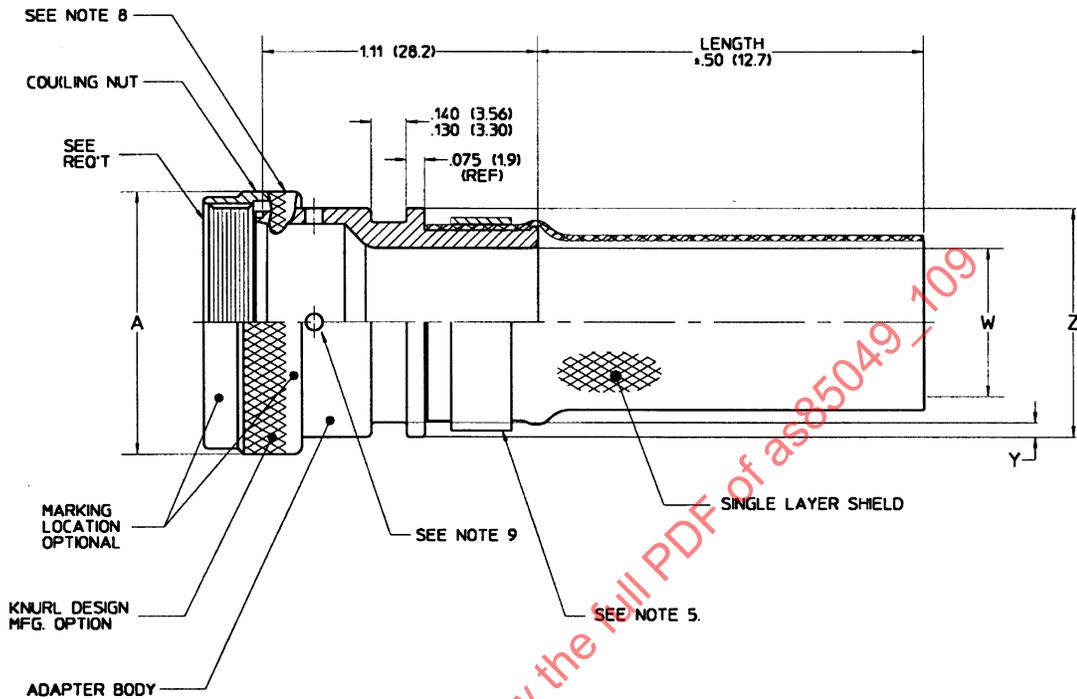
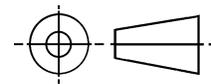


FIGURE 1. CONFIGURATION AND DIMENSIONS.

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THIRD ANGLE PROJECTION



ISSUED 2002-05

PREPARED BY SAE SUBCOMMITTEE AE-8C1



**AEROSPACE STANDARD**

CONNECTOR ACCESSORIES, ELECTRICAL BACKSHELL, STRAIGHT, NON-SELF LOCKING AND SELF LOCKING, PRE-ATTACHED SHIELD TERMINATION (RF/EMI), BOOT ACCOMMODATION, CATEGORY 3B (FOR MIL-DTL-83723 SERIES III, MIL-DTL-5015 (SERIES I & II), AS81703 SERIES III, AND MIL-C-26482 SERIES II CONNECTORS)

**AS85049/109**  
SHEET 1 OF 5

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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:

- METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED UPON 1.000 INCH (25.40 MM).
- DIMENSIONS ARE IN INCHES, AND APPLY AFTER PLATING. ACCESSORY CONFIGURATION IS OPTIONAL WITHIN THE DIMENSION ENVELOPE SPECIFIED IN FIGURE 1.
- ADAPTER LENGTH IS MEASURED FROM THE BOTTOM OF THE ACCESSORY TEETH TO THE END OF THE ADAPTER THAT IS COVERED BY THE BRAID. 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.
- PIG TAIL TERMINATED BRAID MATERIAL SHALL BE IN ACCORDANCE WITH TABLE III. BRAID LENGTH IS DEFINED BY NOTE 1 AS SHOWN IN THE PART OR IDENTIFYING NUMBER (PIN).
- TERMINATION BAND CONFIGURATION IS NOT CONTROLLED. BAND WITH BUCKLE MAY EXCEED THE "Z" DIMENSION (SEE TABLE II) PROVIDED THE BAND DOES NOT INTERFERE WITH BOOT ATTACHMENT. BAND MATERIAL SHALL BE AS SPECIFIED IN TABLE III.
- SHRINK BOOT (WHEN REQUIRED) SHALL BE AS SPECIFIED IN AS5258.
- TERMINATION OF THE ACCESSORY SHIELD WITH HARNESS SHIELD MAY BE PERFORMED WITH A AS85049/93 SHIELD SUPPORT RING OR SIMILAR SPLIT RING ACCESSORY TYPES.
- THREE (3) HOLES EQUALLY SPACED SHALL BE PROVIDED AND ACCOMMODATE .020 MAXIMUM SAFETY WIRE FOR THE NON-SELF-LOCKING COUPLING CONFIGURATION.
- DRAIN HOLES WILL BE PROVIDED WITH A .125 (32 MM) DIAMETER, 4 PLACES EQUALLY SPACED (OPTIONAL, SEE PART NUMBER DEVELOPMENT).

TABLE I. SHELL SIZE AND DIMENSION.

Accessory Shell Size Code	Allowable Cable Entry Size	AS81703 Series III Shell Size (Ref)	MIL-C-26482 Series II & MIL-DTL-83723 Series III Shell Size (Ref)	MIL-DTL-5015 Series I & II Shell Size (Ref)	A Max Diameter
03	01	3	-	-	.885
08	01	-	8	8s	.885
10	01-03	-	10	10S & 10SL	1.010
12	01-05	7	12	12S & 12	1.135
14	02-06	12	14	14S & 14	1.260
16	04-08	19	16	16S & 16	1.385
18	05-09	27	18	18	1.510

TABLE I CONTINUED. SHELL SIZE AND DIMENSION.

Accessory Shell Size Code	Allowable Cable Entry Size	AS81703 Series III Shell Size (Ref)	MIL-C-26482 Series II & MIL-DTL-83723 Series III Shell Size (Ref)	MIL-DTL-5015 Series I & II Shell Size (Ref)	A Max Diameter
20	07-11	37	20	20	1.635
22	09-13	-	22	22	1.760
24	11-14	-	24	24	1.885
28	14-16	-	-	28	2.135
32	16-17	-	-	32	2.395
36	17-19	-	-	36	2.635
40	19-21	-	-	40	2.885
44	21-23	-	-	44	3.135
48	23-25	-	-	48	3.385
61	12-14	61	-	-	1.885

TABLE II. CABLE ENTRY DIMENSIONS.

ENTRY SIZE	W $\pm .020$	Y +.008 -.000	Z MAX	ENTRY SIZE	W $\pm .020$	Y +.008 -.000	Z MAX
01	.250	.044	.560	15	1.250	.069	1.600
02	.312	.044	.630	16	1.375	.069	1.710
03	.375	.044	.690	17	1.500	.086	1.840
04	.438	.044	.750	18	1.625	.086	2.000
05	.500	.044	.820	19	1.750	.086	2.120
06	.562	.044	.890	20	1.875	.086	2.270
07	.625	.044	.950	21	2.000	.086	2.440
08	.688	.044	1.020	22	2.125	.086	2.600
09	.750	.069	1.120	23	2.250	.086	2.750
10	.812	.069	1.200	24	2.375	.086	2.900
11	.875	.069	1.270	25	2.500	.086	3.060
12	.938	.069	1.260				
13	1.000	.069	1.370				
14	1.125	.069	1.470				

TABLE III. MATERIAL AND FINISH

Figure 1	Finish Description	Base Material	Finish Code
Adapter & Coupling Nut	Electroless Nickel	Aluminum Alloy	N <u>1/</u>
	Cadmium Olive Drab Over Electroless Nickel		W <u>3/</u>
Band <u>4/</u>	Tin	Copper	
Band <u>4/</u>	Passivated	Stainless Steel	
Shield <u>5/</u>	Nickel	Copper	K
Shield <u>2/</u>	Tin	Copper	T

1/ Limited to space applications for military.

2/ Braid in accordance with A-A-59569.

3/ Military preferred finish for general applications except Space.

4/ Choice of band is optional

5/ Braid is round soft copper in accordance with MIL-DTL-27500

#### REQUIREMENTS:

- 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.
- QUALIFICATION: AS85049 CATEGORY 3B AND HERE-IN.
- LIFE CYCLE (SELF-LOCKING ONLY): SEE AS85049
- DIMENSION AND CONFIGURATION: SEE FIGURE 1, TABLE I, AND TABLE II.
- INTERFACE DIMENSIONS: SEE AS85049 FIGURE 4.
- COUPLING NUT: CAPTIVATED TO ADAPTER BODY, FREE TO ROTATE, AND SELF LOCKING OR NON-SELF LOCKING
- 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.
- ADDITIONAL QUALIFICATION TESTS: THE FOLLOWING TESTS SHALL BE PERFORMED ON A UNTESTED SMALL, MEDIUM, AND LARGE ACCESSORY:
  - BRAID COVERAGE: THE BRAID COVERAGE SHALL BE 90 PERCENT MINIMUM. TEST DATA RECEIVED FROM THE BRAID MANUFACTURER MAY BE USED FOR QUALIFICATION DATA.
  - BRAID RETENTION: WITH ACCESSORY CHAMPED, 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 MEASURE FROM A FIX POINT ON THE ADAPTER. BRAID BREAKAGE DUE TO TENSILE LOAD WILL NOT BE VIEWED AS A FAILURE.