FEDERAL SUPPLY CLASS
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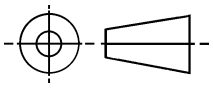
THIRD ANGLE PROJECTION



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PREPARED BY SAE SUBCOMMITTEE AE-8C1

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AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR,
CONCENTRIC TWINAX, SOCKET, SHIELDED, SIZE 8
(FOR MIL-C-28840)

AS39029/105
SHEET 1 OF 7

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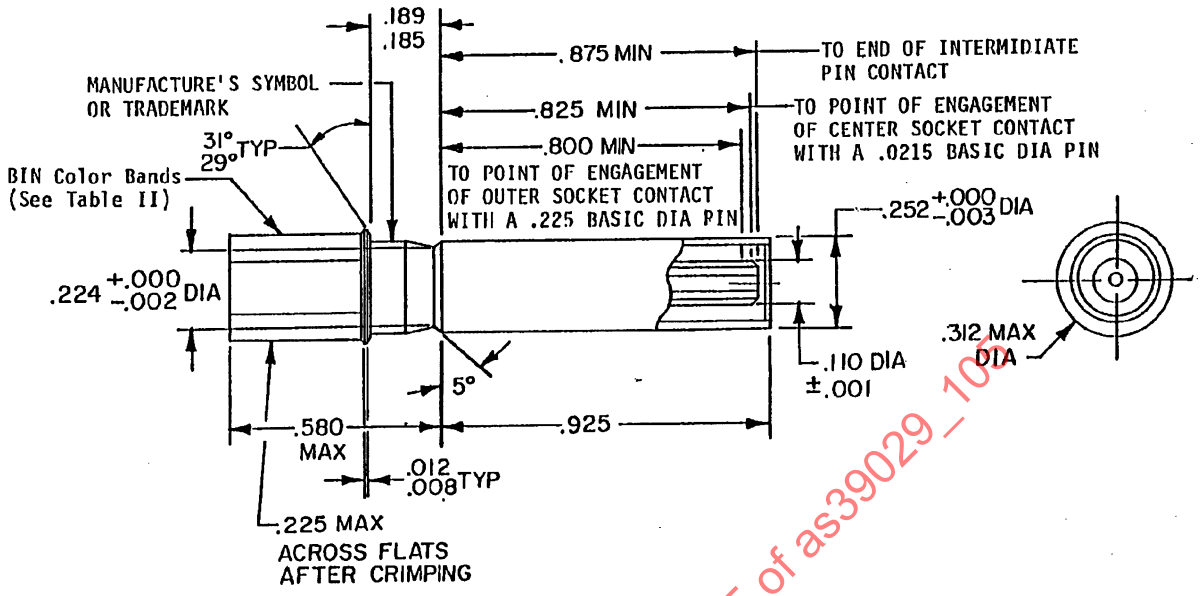
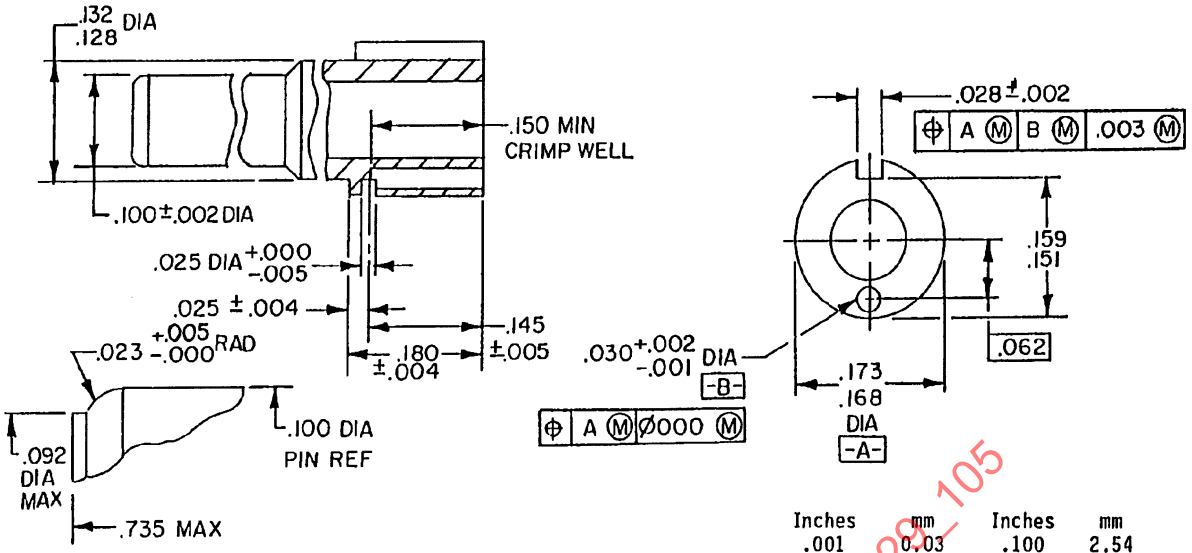
THE REQUIREMENTS FOR ACQUIRING THE CONTACTS DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF MIL-C-39029.



Inches	mm	Inches	mm	Inches	mm
.001	0.02	.110	2.79	.312	7.92
.002	0.05	.1115	2.83	.580	14.73
.0025	0.06	.185	4.69	.800	20.32
.003	0.07	.189	4.80	.825	20.95
.008	0.20	.224	5.68	.875	22.22
.012	0.30	.225	5.71	.925	23.49
.0215	0.54	.252	6.40		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions shown apply after plating.
4. Point at which a square ended pin of the same basic diameter as the mating contact first engages the intermediate contact spring. Provision for clearance hole shall be provided for the test pin.

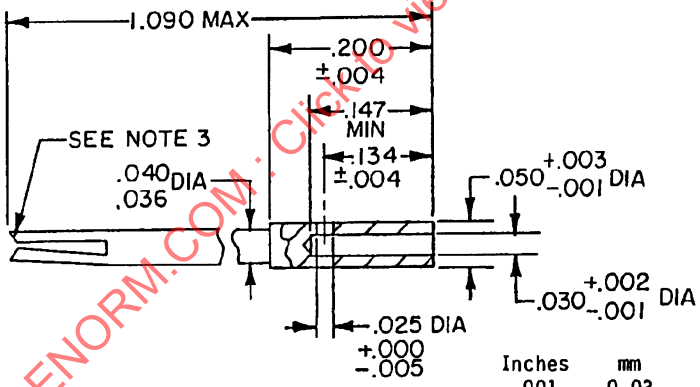
FIGURE 1. CONCENTRIC TWINAX CONTACT.



Inches	mm	Inches	mm
.001	0.03	.100	2.54
.002	0.05	.128	3.25
.003	0.08	.132	3.35
.004	0.10	.145	3.68
.005	0.13	.150	3.81
.023	0.58	.151	3.84
.025	0.64	.159	4.04
.028	0.71	.168	4.27
.030	0.76	.173	4.39
.062	1.57	.180	4.57
.092	2.34	.735	18.67

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. INTERMEDIATE PIN CONTACT.



Inches	mm	Inches	mm	Inches	mm
.001	0.03	.005	0.13	.050	1.27
.002	0.05	.025	0.64	.134	3.40
.003	0.08	.030	0.76	.147	3.73
.004	0.10	.036	0.91	.200	5.08
		.040	1.02	1.090	27.69

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Closed entry may be provided either by an integral part of contact design or by surrounding dielectric material.

FIGURE 3. CENTER SOCKET CONTACT.

REQUIREMENTS:

Qualification:

Contacts shall comply with the reliability assurance provisions of MIL-STD-790 as specified in MIL-C-28840.

Design and construction:

Dimensions and configurations: See figures 1 through 3 and table I.

TABLE I. DESIGN CHARACTERISTICS.

BIN code	Color bands			Contact cavity size	Cable accommodated	Type	Class
	1st	2nd	3rd				
557	Green	Green	Violet	8	M17/176-00002	D	B

Assembly procedure: Manufacturer's recommended assembly instructions shall be shipped with unit package.

Electrical:

Low signal level contact resistance (center and intermediate contacts only): See table II.

Contact resistance: See table III.

Frequency: 0 to 20 MHz (operating frequency range).

Voltage rating: 500 volts rms maximum; working voltage at sea level, 125 volts rms maximum at 70,000 feet.

TABLE II. LOW SIGNAL LEVEL CONTACT RESISTANCE (CENTER AND INTERMEDIATE CONTACTS ONLY).

BIN code	Cable accommodated	Maximum contact resistance (milliohms)	
		Initial	After conditioning
557	M17/176-00002	55	66

TABLE III. CONTACT RESISTANCE.

BIN code	Contact	Cable accommodated	Test current (amperes)	Maximum voltage drop (millivolts)		
				+25°C, +3°C 0°C		+175°C, +3°C, 0°C
				Initial	After conditioning	After conditioning
557	Center	M17/176-00002	1.0	55	66	94
557	Intermediate	M17/176-00002	1.0	55	66	94
557	Outer	M17/176-00002	12.0	75	90	128

Dielectric withstanding voltage: Shall be as specified in table IV.

TABLE IV. DIELECTRIC WITHSTANDING VOLTAGE.

Contacts	Altitude	Test voltages ac rms
Center to intermediate	Sea level	1,000
Intermediate to outer	Sea level	500

Mating contact: Shall be in accordance with MIL-C-39029/104.

Mechanical:

Contact engagement and separation force (socket contacts only): The engagement depth shall be a minimum of 0.7 of the minimum socket bored depth. The test pins shall be in accordance with MS3197, except the diameters shall be as specified in table V. Provision for clearance hole on outer contact. Test pins shall be provided.

TABLE V. CONTACT ENGAGEMENT AND SEPARATION FORCE.

Test pin diameter (inch)	Minimum separation force (ounces)		Maximum engagement force (ounces)		Maximum average engagement force
	Initial	After conditioning	Initial	After conditioning	
.2260 +.0000 -.0001	NA	NA	48	60	NA
.2240 +.0001 -.0000	5.0	2.0	NA	NA	NA
.0190 +.0000 -.0001	NA	NA	12	14	NA
.0210 +.0001 -.0000	0.5	0.4	NA	NA	NA

Crimp tensile strength (center, intermediate, and outer contact crimp joint): See table VI.

TABLE VI. CRIMP TENSILE STRENGTH (AT AMBIENT).

BIN code	Cable accommodated	Axial load (pounds, minimum)		
		Center contact	Intermediate contact	Outer contact
557	M17/176-00002	8	8	25

Vibration: Method 2005 of MIL-STD-1344, test condition V. The following details shall apply:

a. Use the vibration envelope shown on figure 4.
b. Vibration: To be conducted at standard test conditions.
c. Duration: Eight hours in the longitudinal direction and 8 hours in a perpendicular direction (16 hours).