FEDERAL SUPPLY CLASS
5935

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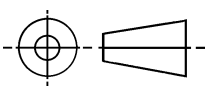
THIRD ANGLE PROJECTION



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PREPARED BY SAE SUBCOMMITTEE AE-8C1

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
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AEROSPACE STANDARD

CONTACT, ELECTRICAL CONNECTOR,
CONCENTRIC TWINAX, SOCKET, SHIELDED, SIZE 8

AS39029/91
SHEET 1 OF 8

Printed in the U.S.A.

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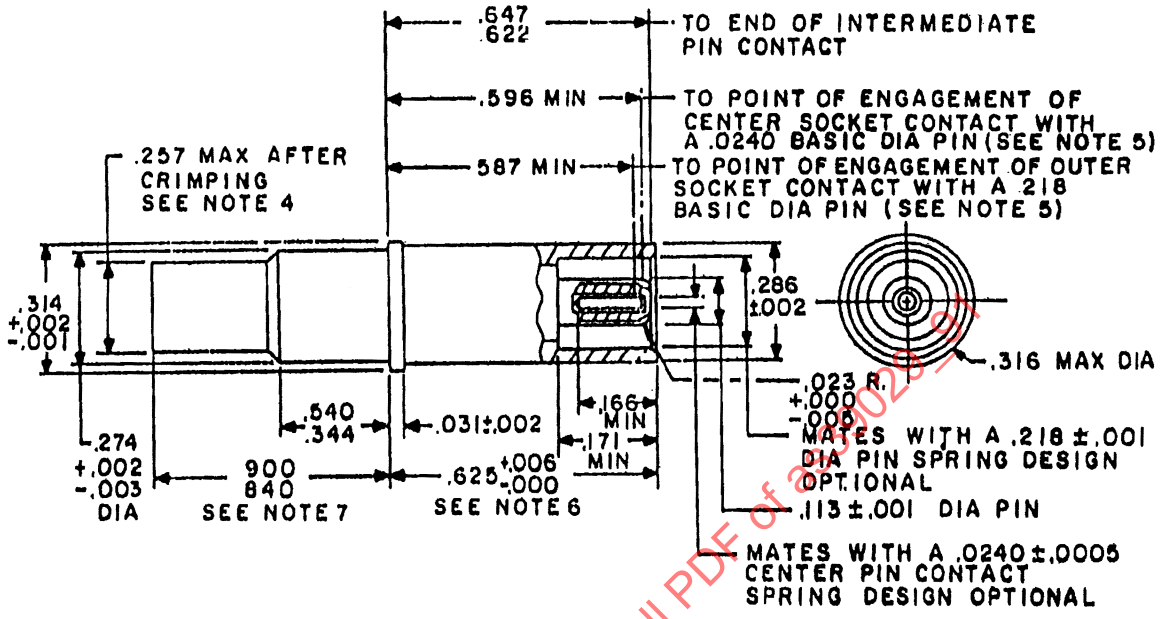
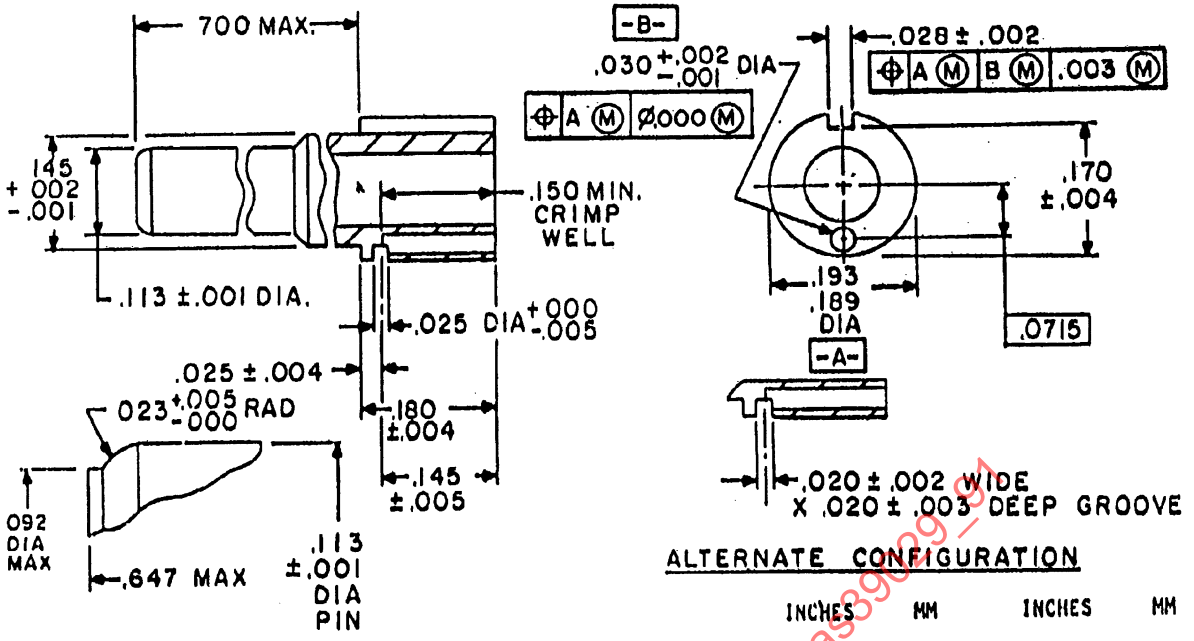
THE COMPLETE REQUIREMENTS FOR ACQUIRING THE CONTACT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF MIL-C-39029.



INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.0005	0.013	.0240	0.610	.257	6.53	.540	13.72
.001	0.03	.031	0.79	.274	6.96	.587	14.91
.002	0.05	.113	2.78	.286	7.26	.596	15.14
.005	0.13	.166	2.95	.314	7.98	.622	15.80
.006	0.15	.171	4.34	.316	8.03	.625	15.88
.023	0.58	.218	5.54	.344	8.74	.647	16.43
						.840	21.34
						.900	22.86

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions shown apply after plating.
4. Diameter shall not exceed .276 (7.01 mm) over recovered heat shrink tubing.
5. Point at which a square ended pin of the same basic diameter as the mating contact spring. Provisions for clearance hole shall be provided for outer contact test pin.
6. Dielectric protrusion shall be not greater than .035".
7. Measurement shall be taken after assembly and shall include the crimp ferrule.

FIGURE 1. CONCENTRIC TWINAX CONTACT.



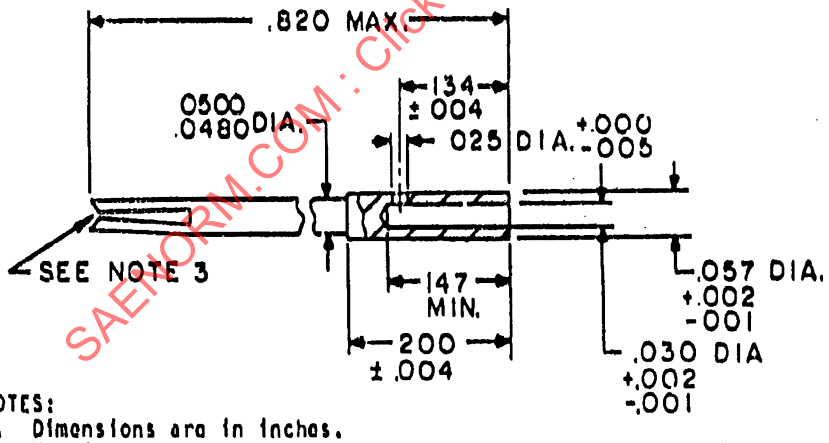
INTERMEDIATE PIN END ALTERNATE DESIGN

ALTERNATE CONFIGURATION

INCHES	MM	INCHES	MM
.001	0.03	.092	2.34
.002	0.05	.113	2.87
.003	0.08	.145	3.68
.004	0.10	.150	3.81
.005	0.13	.170	4.32
.020	0.51	.180	4.57
.023	0.58	.189	4.80
.025	0.64	.193	4.90
.028	0.71	.647	16.43
.0715	1.816	.700	17.78

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

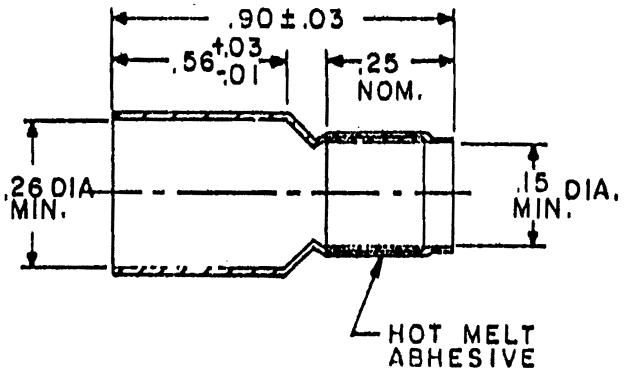
FIGURE 2. INTERMEDIATE PIN CONTACT.



INCHES	MM
.001	0.03
.002	0.05
.004	0.10
.005	0.13
.025	0.64
.030	0.76
.0480	1.220
.0500	1.270
.057	1.45
.134	3.40
.147	3.73
.200	5.08
.820	20.83

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Socket must mate with 0.0240+.0005 pin. Closed entry may be provided either by an integral part of contact design or by the surrounding dielectric material.

FIGURE 3. CENTER SOCKET CONTACT.



INCHES	MM
.01	0.3
.03	0.8
.15	3.8
.25	6.4
.26	6.6
.56	14.2
.90	22.9

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

FIGURE 4. HEAT SHRINK BOOT.

REQUIREMENTS:

Qualification: Contacts shall comply with reliability assurance provisions of MIL-STD-790 as specified in MIL-C-38999.

Design and construction:

Dimensions and configuration: See figures 1 through 4 and table I.

TABLE I. DESIGN CHARACTERISTICS.

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

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

Material:

Heat shrink boot: Shall be in accordance with MIL-I-23053/8.

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).

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

TABLE III. CONTACT RESISTANCE.

DIN 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
530	Center	M17/176-00002	1.0	55	66	94
530	Intermediate	M17/176-00002	1.0	55	66	94
530	Outer	M17/176-00002	12.0	75	90	120

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	1000
Intermediate to outer	Sea level	500

Mating contact: Shall be in accordance with MIL-C-39039/90.

Mechanical:

Contact engagement and separation force (socket contacts only): The engagement depth shall be a minimum of 0.7 of the minimum socket bored. 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. The test pins shall be in accordance with MS3197, except the diameters shall be as specified in table V.

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	
.2190 +.0000 -.0001	NA	NA	48	60	NA
.2170 +.0001 -.0000	3.0	2.0	NA	NA	NA
.0245 +.0000 -.0001	NA	NA	12	14	NA
.0235 +.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).

DIN code	Cable accommodated	Axial load (pounds, minimum)		
		Center contact	Intermediate contact	Outer contact
530	M17/176-00002	9	8	25