

RATIONALE

LIMITED SCOPE REVISION NEEDED TO ADD NEW CRIMP TOOLS AND MINOR EDITING AS NEEDED.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39029.

THIS DETAIL SPECIFICATION SPECIFIES LOWER PERFORMANCE REQUIREMENTS THAN THE APPLICABLE MIL-DTL-38999 SERIES II CONNECTORS (SEE APPLICATION NOTES).

REV. D  
AS39029™/78

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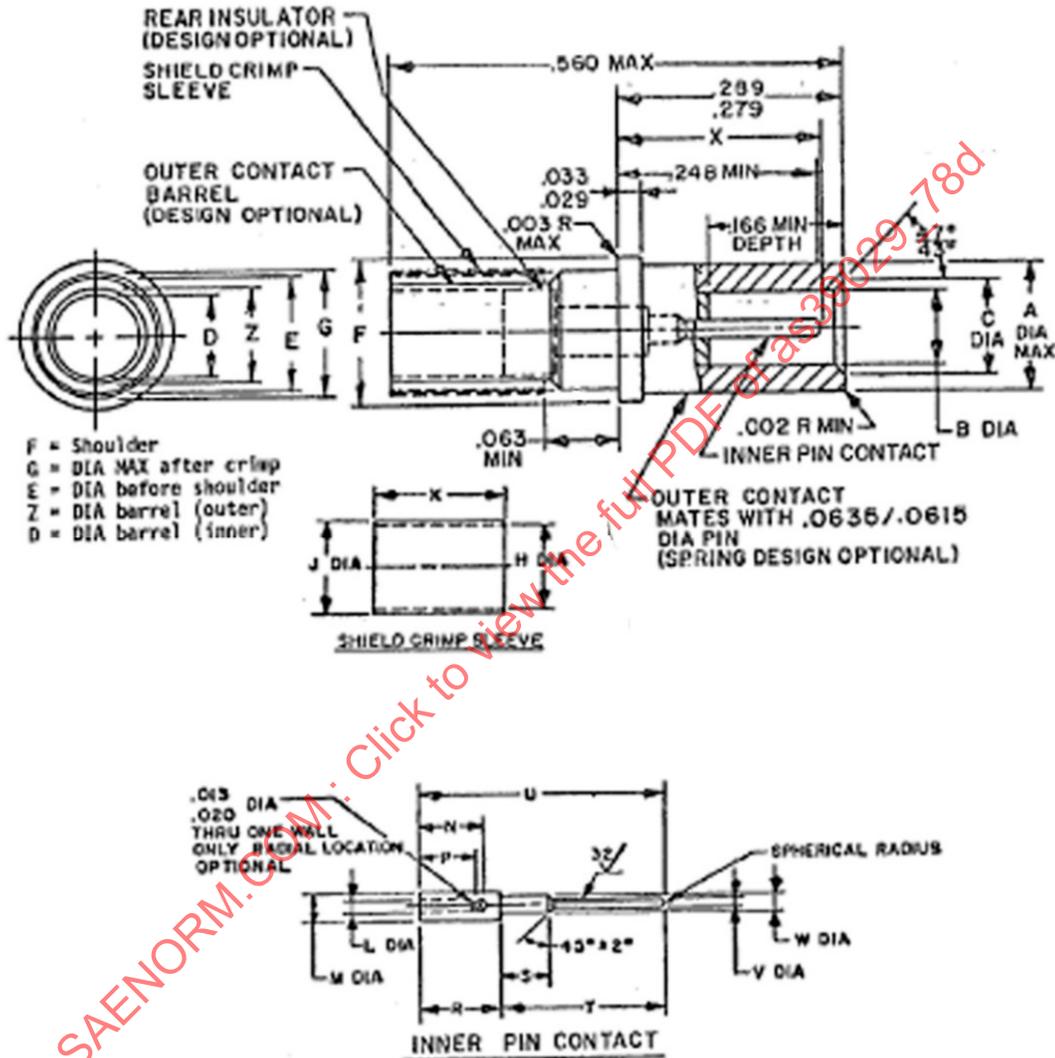
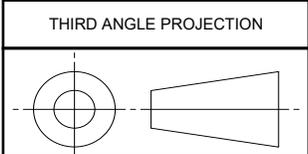


FIGURE 1 - SOCKET CONTACTS

For more information on this standard, visit  
<https://www.sae.org/standards/content/AS39029/78D/>



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



**AEROSPACE STANDARD**

CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP  
REMOVABLE, SHIELDED, SIZE 16  
(FOR MIL-DTL-38999 SERIES II CONNECTORS)

AS39029™/78  
SHEET 1 OF 6

REV. D

**TABLE 1A - CONTACT DIMENSIONS**

BIN CODE	A DIA MAX	B DIA	C DIA	D DIA MIN	E DIA	F DIA	G DIA MAX	H DIA MIN	J DIA MAX	K	L DIA MIN
432	.113 (2.87)	.068 (1.73) .065 (1.65)	.089 (2.26) .084 (2.13)	.0670 (1.70)	.103 (2.62) .101 (2.57)	.130 (3.30) .127 (3.23)	.108 (2.74)	.105 (2.67)	.120 (3.05)	.105 (2.67) .095 (2.41)	.0210 (0.53)
433				.0575 (1.46)				.094 (2.39)			.0210 (0.53)
434				.0670 (1.70)				.105 (2.67)			.0355 (0.90)
435				.0575 (1.46)				.094 (2.39)			.0270 (0.69)

**TABLE 1B - CONTACT DIMENSIONS (CONTINUED)**

BIN CODE	M DIA MAX	N MIN	P	R	S	T	U REF	V DIA	W DIA	X	Z DIA MAX
432	.046 (1.17)	.103 (2.62)	.094 (2.39) .087 (2.21)	.125 (3.18) .119 (3.02)	.079 (2.01) .073 (1.85)	.269 (6.83) .266 (6.76)	.3895 (9.89)	.0155 (0.39) .0145 (0.37)	.030 (0.76) .028 (0.71)	.274 (6.96) .264 (6.71)	.085 (2.16)
433	.046 (1.17)										.076 (1.93)
434	.052 (1.32)										.085 (2.16)
435	.046 (1.17)										.076 (1.93)

**TABLE 2 - MARKING AND DESIGN CHARACTERISTICS**

BIN CODE	COLOR BANDS			CABLE ACCOMMODATED	CONTACT CAVITY SIZE	TYPE	CLASS
	1 <sup>ST</sup>	2 <sup>ND</sup>	3 <sup>RD</sup>				
432	YELLOW	ORANGE	RED	M17/119-RG174 <sup>3/</sup> M17/113-RG316 M17/094-RG179	16	D	B
433	YELLOW	ORANGE	ORANGE	M17/093-RG178			
434 <sup>1/</sup>	YELLOW	ORANGE	YELLOW	<sup>2/</sup>			
435 <sup>1/</sup>	YELLOW	ORANGE	GREEN	<sup>2/</sup>			

<sup>1/</sup> CONTACT NOT RECOMMENDED FOR USE.

<sup>2/</sup> NO KNOWN STANDARD CABLE EXISTS TO REPLACE THE PREVIOUSLY RECOMMENDED COMMERCIAL CABLES OR THE CABLES ARE NO LONGER MANUFACTURED. STANDARD TOOLS MAY NOT APPLY. FOLLOW CONTACT SUPPLIER'S INSTRUCTIONS.

<sup>3/</sup> CABLE IS NOT RECOMMENDED FOR NEW DESIGN.

**TABLE 3 - TOOLS**

BIN CODE	INNER CONTACT		OUTER CONTACT		INSTALLING TOOL	REMOVAL TOOL
	BASIC CRIMPING TOOL	POSITIONER	BASIC CRIMPING TOOL	POSITIONER		
432, 433, 434, 435	M22520/2-01	M22520/2-35	M22520/4-01	M22520/4-02	M81969/8-07 OR M81969/8-307 OR M81969/14-03	M81969/8-08 OR M81969/8-308 OR M81969/14-03

**TABLE 3A - INNER CONTACT TOOL SELECTOR SETTING**

BIN CODE	KNOWN CABLE ACCOMMODATED	INNER CONTACT TOOL SELECTOR SETTING NO.
432	M17/119-RG174 <sup>3/</sup> M17/113-RG316 M17/094-RG179	3 5 3
433	M17/093-RG178	3
434 <sup>1/</sup>	<u>2/</u>	<u>2/</u>
435 <sup>1/</sup>	<u>2/</u>	<u>2/</u>

- <sup>1/</sup> CONTACT NOT RECOMMENDED FOR USE.  
<sup>2/</sup> NO KNOWN STANDARD CABLE EXISTS TO REPLACE THE PREVIOUSLY RECOMMENDED COMMERCIAL CABLES OR THE CABLES ARE NO LONGER MANUFACTURED. STANDARD TOOLS MAY NOT APPLY. FOLLOW CONTACT SUPPLIER'S INSTRUCTIONS.  
<sup>3/</sup> CABLE IS NOT RECOMMENDED FOR NEW DESIGN.

**TABLE 4 - CONTACT ENGAGEMENT AND SEPARATION FORCES**

TEST PIN DIAMETER (INCHES)	MINIMUM SEPARATION FORCE (OUNCES)		MAXIMUM ENGAGEMENT FORCE (OUNCES)		MAXIMUM AVERAGE ENGAGEMENT FORCE (OUNCES)	
	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING	INITIAL	AFTER CONDITIONING
.0635 (1.61) +.0002 (0.01) -.0000 (0.00)	N/A	N/A	30	36	N/A	N/A
.0615 (1.56) +.0000 (0.00) -.0002 (0.01)	2.0	1.5	N/A	N/A	N/A	N/A

**TABLE 5 - CONTACT RESISTANCE**

BIN CODE	CABLE ACCOMMODATED	MAXIMUM VOLTAGE DROP (MILLIVOLTS)					
		25° +3°, -0 °C		25° +3°, -0 °C 4/		200° +3°, -0 °C	
		INNER	OUTER	INNER	OUTER	INNER	OUTER
432	M17/119-RG174 3/	55	85	66	102	94 1/	145 3/
	M17/113-RG316	55	75	66	90	94	128
	M17/094-RG179	120	70	144	84	204	119
433	M17/093-RG178	120	110	144	132	204	187
434 1/	2/						
435 1/	2/						

- 1/ CONTACT NOT RECOMMENDED FOR USE.
- 2/ NO KNOWN STANDARD CABLE EXISTS TO REPLACE THE PREVIOUSLY RECOMMENDED COMMERCIAL CABLES OR THE CABLES ARE NO LONGER MANUFACTURED. STANDARD TOOLS MAY NOT APPLY. FOLLOW CONTACT SUPPLIER'S INSTRUCTIONS.
- 3/ THE MAXIMUM OPERATING TEMPERATURE OF THE RG174 PVC CABLE IS 85° +3°, -0 °C. CABLE IS NOT RECOMMENDED FOR NEW DESIGN.
- 4/ AFTER CONDITIONING.

**TABLE 6 - LOW SIGNAL LEVEL CONTACT RESISTANCE (INNER CONTACT ONLY) AND TENSILE STRENGTH**

BIN CODE	CABLE ACCOMMODATED	MAXIMUM CONTACT RESISTANCE (MILLIOHMS)		TENSILE LOAD (POUNDS MINIMUM)	
		INITIAL	AFTER CONDITIONING	INNER CONTACT	OUTER CONTACT
432	M17/119-RG174 3/	55	66	15.0	15.0
	M17/113-RG316	55	66	10.0	15.0
	M17/094-RG179	120	144	3.5	15.0
433	M17/093-RG178	120	144	3.5	10.0
434 1/	2/				
435 1/	2/				

- 1/ CONTACT NOT RECOMMENDED FOR USE.
- 2/ NO KNOWN STANDARD CABLE EXISTS TO REPLACE THE PREVIOUSLY RECOMMENDED COMMERCIAL CABLES OR THE CABLES ARE NO LONGER MANUFACTURED. STANDARD TOOLS MAY NOT APPLY. FOLLOW CONTACT SUPPLIER'S INSTRUCTIONS.
- 3/ CABLE IS NOT RECOMMENDED FOR NEW DESIGN.

**TABLE 7 - PART NUMBER AND BIN CODE**

PART NUMBER	BIN CODE	SUPERSEDED PART NUMBER
M39029/78-432	432	M39029/78-16A
M39029/78-433	433	M39029/78-16B
M39029/78-434	434	M39029/78-16C
M39029/78-435	435	M39029/78-16D

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39029.

1. DESIGN:
  - a. CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLES 1 AND 2.
  - b. DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS IN PARENTHESES ARE FOR GENERAL INFORMATION ONLY. DIMENSIONS APPLY AFTER PLATING.
  - c. THE .248 MIN DIMENSION IS THE POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE OUTER CONTACT SPRING.