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AS39029™/118

FEDERAL SUPPLY CLASS
5999

RATIONALE

NEW CONTACTS REQUIRED FOR AIRCRAFT ENGINE APPLICATIONS.

NOTICE

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

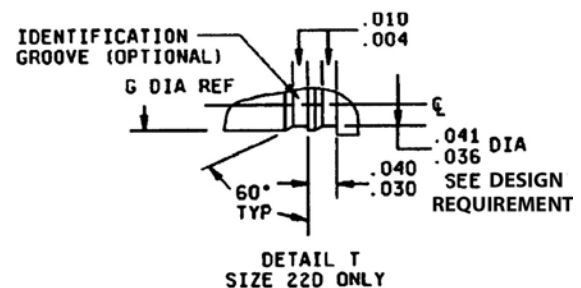
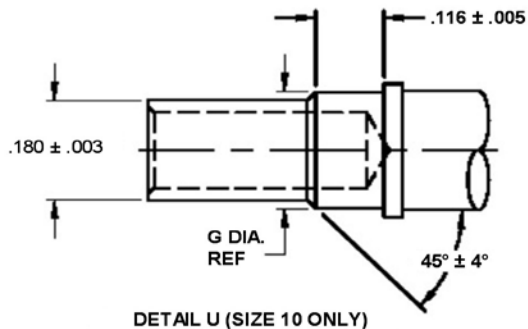
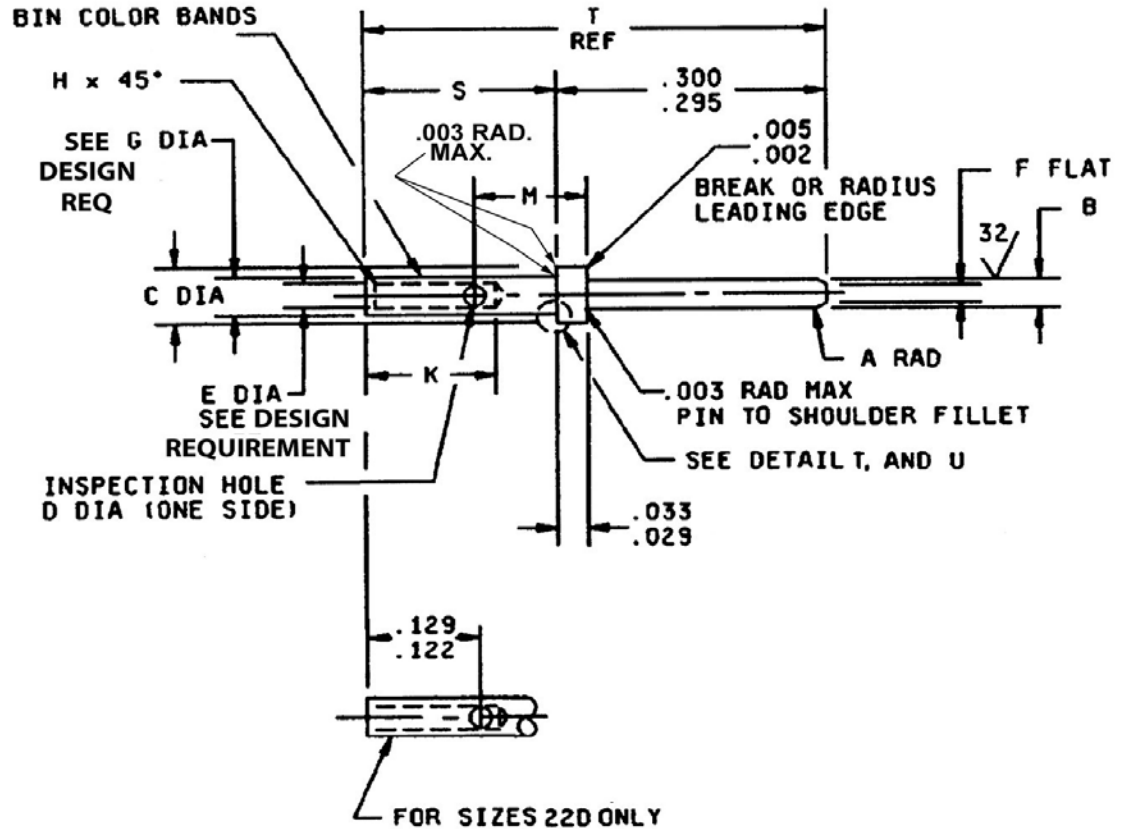
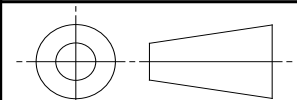


FIGURE 1 - PIN CONTACT

For more information on this standard, visit
<https://www.sae.org/standards/content/AS39029/118/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR, PIN,
CRIMP REMOVABLE, ENGINE APPLICATION
(FOR MIL-DTL-38999 SERIES I, III, AND IV CONNECTORS)

AS39029™/118
SHEET 1 OF 7

Documents

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TABLE 1 – FIGURE 1 DIMENSIONS

BIN CODE	MATING END SIZE	WIRE BARREL SIZE	A RADIUS	B DIA	C DIA	D DIA	E DIA	F DIA	G DIA	H <u>1</u> / 2	K MIN	M	S	T (REF)
644 650	22	22D	.020 .010	.0305 .0295	.062 .060	.022 .018	.0355 .0335	.011 MAX	.048 .046	.005 .003	.141	---	.237 .231	.531
646 652	20	20	.025 .015	.041 .039	.094 .091	.032 .026	.048 .046	.015 MAX	.070 .068	.010 .005	.209	.078 .072		
647 653	16	16	.025 .020	.0635 .0615	.130 .127	.042 (.036)	.068 .066	.030 .011	.103 .101	.016 .005	.209	.088 .082		
648 654	12	12		.095 .093	.182 .179		.102 .098	.062 .043	.151 .148			.115 .108		
649 655	10	10		.126 .124	.242 .238	.052 .040	.140 .134	.094 .074	.213 .207		.355	.115 .108	.405 .395	.647

1/ IF A BLEND RADIUS IS USED MATING END SIZE 22 SHALL BE .010 ± .005, SIZE 20 SHALL BE .015 ± .005, AND SIZE 16 SHALL BE .020 ± .005.

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

1. CONTACT SHALL BE A CLASS B, TYPE A CONTACT IN ACCORDANCE WITH FIGURE 1 AND TABLE 1.
 - a. DIMENSIONS ARE IN INCHES AND SHOWN AFTER PLATING. METRIC UNITS PROVIDED IN TABLE 6 ARE GIVEN FOR GENERAL INFORMATION ONLY (SEE SPECIFICATION NOTES).
 - b. IF A BLEND RADIUS IS USED, CRIMP BARREL END SIZE 20 SHALL BE .015 ± .005, AND SIZE 16 SHALL BE .020 ± .005.
 - c. SHOULDER DIMENSION .029/.033 DOES NOT APPLY TO BIN CODES -646 AND -652 (SEE FIGURE 1).
 - d. DIAMETERS E AND G SHALL BE CONCENTRIC WITHIN 0.003 (TIR) AT LEAST MATERIAL CONDITION (LMC) FOR BIN CODES -644 AND -650.
 - e. DIAMETERS E AND G SHALL BE CONCENTRIC WITHIN 0.001 (TIR) AT THE LEAST MATERIAL CONDITION (LMC) FOR ALL BIN CODES EXCEPT CODES -646 AND -652.
 - f. DIMENSION .041/0.036 (SEE DETAIL T) SHALL BE CONCENTRIC TO DIAMETER G WITHIN 0.003 TIR (RFS).
 - g. DIMENSION "K" SHALL DEFINE THE LOCATION OF WIRE STOP ON A WIRE STRIPPER TOOL.
2. CONTACT MATERIAL SHALL BE IN ACCORDANCE WITH AS39029 EXCEPT AS FOLLOWS (SEE TABLE 2).
 - a. CONTACT PLATING FOR BIN CODES 644, 646-650 SHALL BE GOLD PLATED 100 MICRO-INCHES MINIMUM THICKNESS OVER 50 MICRO-INCHES MINIMUM THICKNESS NICKEL UNDERPLATE (SEE TABLE 2).
 - b. CONTACT PLATING FOR BIN CODES 650, 651-655 SHALL BE IN RHODIUM PLATED 50 MICROINCHES MINIMUM THICKNESS IN ACCORDANCE WITH ASTM B634 OVER 150 MICROINCHES MINIMUM THICK NICKEL UNDERPLATE (SEE TABLE 2).
 - c. THE INTERIOR OF THE CRIMP BARREL AT THE CRIMP LOCATION SHALL BE 3 MICROINCHES MINIMUM FOR LOCALIZED GOLD PLATING.
 - d. LOCALIZED RHODIUM PLATING IS NOT PERMITTED.

	AEROSPACE STANDARD	AS39029™/118 SHEET 2 OF 7 
	CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE, ENGINE APPLICATION (FOR MIL-DTL-38999 SERIES I, III, AND IV CONNECTORS)	



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3. CONTACT MARKING AND RATINGS ARE IN ACCORDANCE WITH TABLE 2.

TABLE 2 - CONTACT MARKING AND RATINGS ^{1/}

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS	CONTACT PLATING
	1 ST	2 ND	3 RD					
644	BLUE	YELLOW	YELLOW	22	22D	A	B	GOLD OVER NICKEL
646	BLUE	YELLOW	BLUE	20	20			
647	BLUE	YELLOW	VIOLET	16	16			
648	BLUE	YELLOW	GRAY	12	12			
649	BLUE	YELLOW	WHITE	10	10			
650	BLUE	GREEN	BLACK	22	22D			RHODIUM OVER NICKEL
652	BLUE	GREEN	RED	20	20			
653	BLUE	GREEN	ORANGE	16	16			
654	BLUE	GREEN	YELLOW	12	12			
655	BLUE	GREEN	GREEN	10	10			

^{1/} OPERATING TEMPERATURE RANGE: -65 °C (-85 °F) TO 200 °C (392 °F).

4. THE CONTACT SHALL BE CRIMPED ON WIRE AND REMOVED FROM THE CONNECTOR USING TOOLS SPECIFIED IN TABLE 3.

TABLE 3 - CRIMPING, INSERTION, AND REMOVAL TOOLS

BIN CODE	WIRE BARREL SIZE	BASIC CRIMPING TOOL	POSITIONER	INSERTION TOOL	REMOVAL TOOL	
					WIRED CONTACTS	UNWIRED CONTACTS
644 650	22D	M22520/2-01	M22520/2-09	M81969/14-01 ^{1/}	M81969/14-01 ^{1/}	M81969/30-09
		M22520/7-01	M22520/7-07	M81969/8-01 ^{2/} M81969/8-301 ^{3/}	M81969/8-02 ^{4/} M81969/8-302 ^{5/}	
646 652	20	M22520/1-01	M22520/1-04 RED	M81969/14-10 ^{1/}	M81969/14-10 ^{1/}	M81969/30-11
		M22520/2-01	M22520/2-10	M81969/8-05 ^{2/}	M81969/8-06 ^{4/}	
		M22520/7-01	M22520/7-08	M81969/8-305 ^{3/}	M81969/8-306 ^{5/}	
647 653	16	M22520/1-01	M22520/1-04 BLUE	M81969/14-03 ^{1/} M81969/8-07 ^{2/}	M81969/14-03 ^{1/} M81969/8-08 ^{4/}	M81969/30-12
		M22520/7-01	M22520/7-04	M81969/8-307 ^{3/}	M81969/8-308 ^{5/}	
648 654	12	M22520/1-01	M22520/1-04 YELLOW	M81969/14-04 ^{1/} M81969/8-09 ^{2/} M81969/8-309 ^{3/}	M81969/14-04 ^{1/} M81969/8-10 ^{4/} M81969/8-310 ^{5/}	M81969/30-13
649 655	10	M22520/45-01	POSITIONER BUILT INTO BASIC TOOL	M81969/14-05 ^{1/} M81969/8-11 ^{2/} M81969/8-311 ^{3/}	M81969/14-05 ^{1/} M81969/8-12 ^{4/} M81969/8-312 ^{5/}	M81969/30-14

^{1/} ALL PLASTIC INSERTION AND REMOVAL TOOL

^{2/} METAL (ANGLED) INSERTION TOOL

^{3/} METAL (STRAIGHT) INSERTION TOOL (RECOMMENDED FOR LIMITED ACCESS CONNECTOR APPLICATIONS)

^{4/} METAL (ANGLED) REMOVAL TOOL

^{5/} METAL (STRAIGHT) REMOVAL TOOL (RECOMMENDED FOR LIMITED ACCESS CONNECTOR APPLICATIONS)

	AEROSPACE STANDARD	AS39029™/118 SHEET 6 OF 7	
	CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE, ENGINE APPLICATION (FOR MIL-DTL-38999 SERIES I, III, AND IV CONNECTORS)		



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