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REV.
C

AS39029/57™

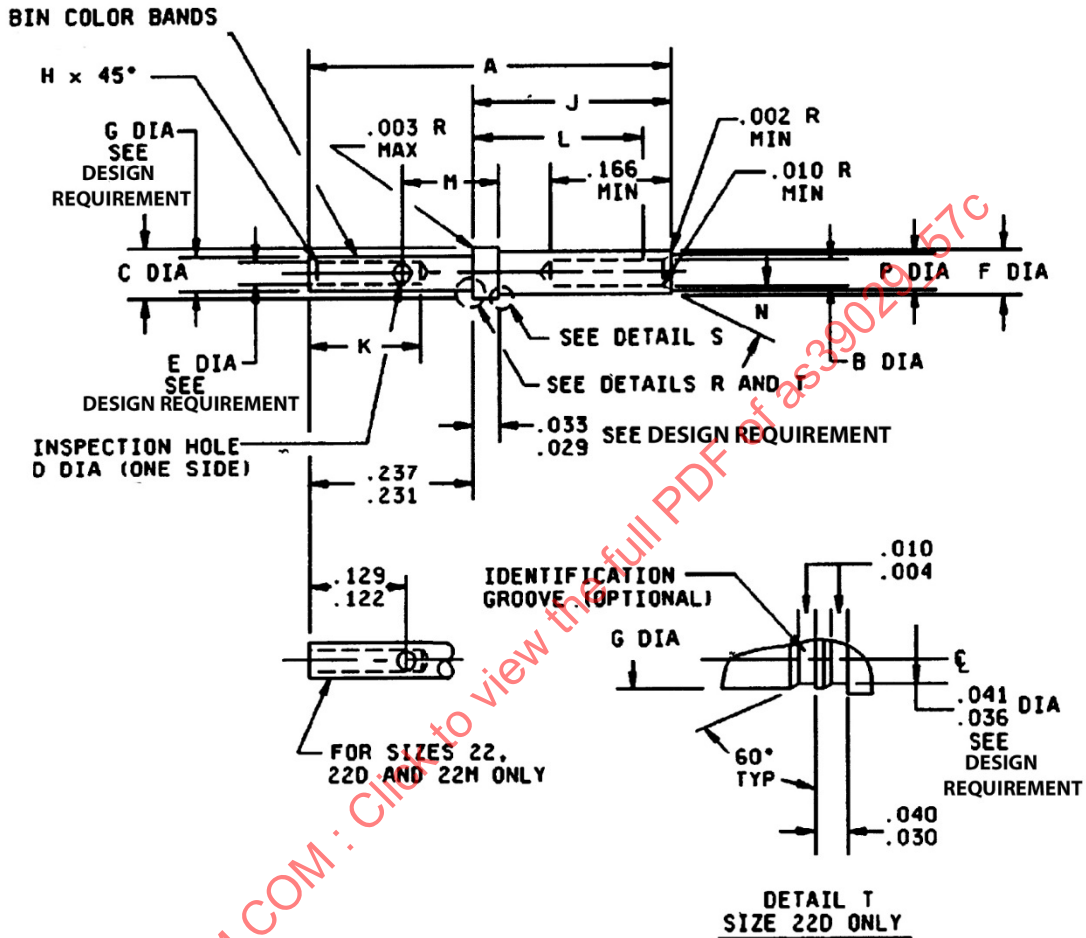
FEDERAL SUPPLY CLASS
5999

RATIONALE

LIMITED SCOPE REVISION IS REQUIRED TO ADD AN APPLICABLE AS22520 TOOL PART NUMBER TO TABLE 3 FOR BIN CODE 359 AND TO CHANGE THE FSC TO 5999.

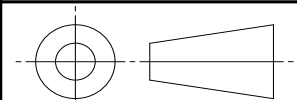
NOTICE

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



For more information on this standard, visit
<https://www.sae.org/standards/content/AS39029/57C/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTORS, SOCKET CRIMP
REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES II,
MIL-DTL-55302/68, /71, /72, /75 AND MIL-DTL-83733 CONNECTORS)

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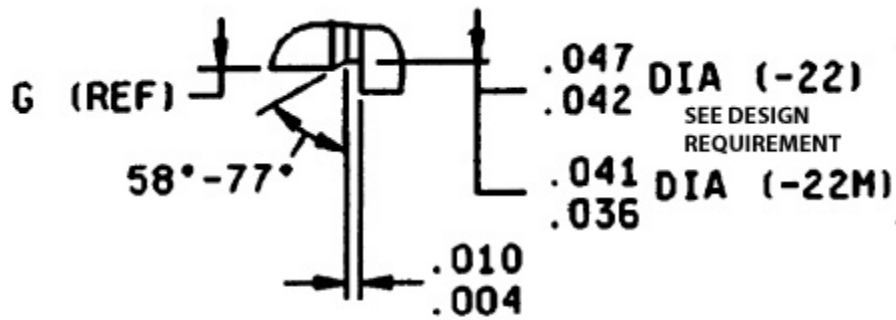
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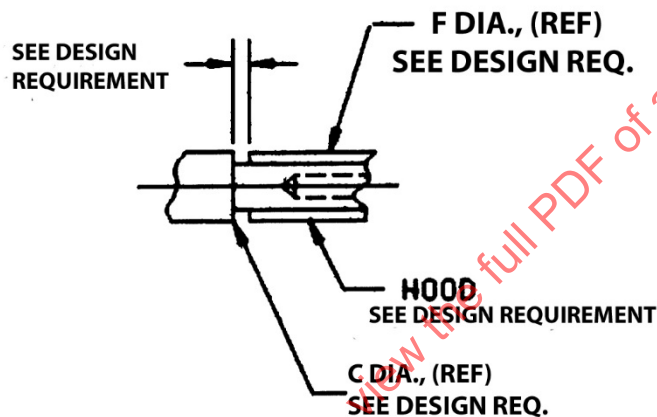
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ISSUED 2000-07 REAFFIRMED 2020-04 REVISED 2021-01



DETAIL R
SIZES 22, 22M ONLY



DETAIL S (ALL SIZES)

FIGURE 1 - CONNECTOR CONTACT (CONTINUED)

TABLE 1 - CONNECTOR CONTACT

BIN CODE	A REF	B DIA (MIN)	C DIA	D DIA	E DIA	F DIA MAX	G DIA	H
354, 982	.518 (13.16)	.031 (0.79)	.062 (1.57) .060 (1.52)	.022 (0.56) .018 (0.46)	.0355 (0.90) .0335 (0.85)	.062 (1.57)	.048 (1.22) .046 (1.17)	.005 (0.13) .003 (0.08)
355		.031 (0.79)	.062 (1.57) .060 (1.52)	.022 (0.56) .018 (0.46)	.029 (0.74) .027 (0.69)	.062 (1.57)	.046 (1.17) .044 (1.12)	
356		.031 (0.79)	.071 (1.80) .069 (1.75)	.022 (0.56) .018 (0.46)	.0375 (0.95) .0355 (0.90)	.062 (1.57)	.052 (1.32) .050 (1.27)	
357		.0415 (1.05)	.094 (2.39) .091 (2.31)	.032 (0.81) .026 (0.66)	.048 (1.22) .046 (1.17)	.078 (1.98)	.070 (1.78) .068 (1.73)	.010 (0.25) .005 (0.13)
358		.064 (1.63)	.130 (3.30) .127 (3.23)	.042 (1.07) .036 (.914)	.068 (1.73) .066 (1.68)	.113 (2.87)	.103 (2.62) .101 (2.57)	
359		.0955 (2.43)	.182 (4.62) .179 (4.55)	.042 (1.07) .036 (.914)	.102 (2.59) .098 (2.49)	.161 (4.09)	.151 (3.84) .148 (3.76)	.016 (0.41) .005 (0.13)



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TABLE 1 - CONNECTOR CONTACT (CONTINUED)

BIN CODE	J	K MIN	L MIN (SEE DESIGN REQ)	M	N°	P DIA MIN
354, 982	.289 (7.34) .279 (7.09)	.141 (3.58)	.248 (6.30)	----	50° 44°	.047 (1.19)
355				----		
356				----		
357		.209 (5.31)		.078 (1.98) .072 (1.83)	47° 28°	.053 (1.35)
358				.088 (2.24) .082 (2.08)		.084 (2.13)
359						.118 (3.00)

TABLE 2 - DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
354	ORANGE	GREEN	YELLOW	22	22D	A	B
355	ORANGE	GREEN	GREEN	22	22M		
356	ORANGE	GREEN	BLUE	22	22		
357	ORANGE	GREEN	VOILET	20	20		
358	ORANGE	GREEN	GRAY	16	16		
359	ORANGE	GREEN	WHITE	12	12		
982 1/	WHITE	GRAY	RED	22	22D		

1/ FINISH SHALL BE GOLD PLATING IN ACCORDANCE WITH ASTM B488, TYPE II, CODE C, CLASS 1.27 OVER A SUITABLE UNDERPLATE. SILVER AND NICKEL SHALL NOT BE USED AS AN UNDERPLATE ON CLASSES M AND N. THIS FINISH IS INTENDED FOR USE WITH MIL-DTL-24308 NON-MAGNETIC CONNECTORS, CLASS M AND N ONLY.

TABLE 3 - TOOLS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL	REMOVAL TOOL
354, 982	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/14-01 (ALL PLASTIC) M81969/8-01 (ANGLE METAL) M81969/8-301 (INLINE, METAL)	M81969/14-01 (ALL PLASTIC) M81969/8-02 (ANGLE METAL) M81969/8-302 (INLINE, METAL)
355	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/14-01 (ALL PLASTIC) M81969/8-01 (ANGLE METAL) M81969/8-301 (INLINE, METAL)	M81969/14-01 (ALL PLASTIC) M81969/8-02 (ANGLE METAL) M81969/8-302 (INLINE, METAL)
356	M22520/2-01 M22520/7-01	M22520/2-06 M22520/7-06	M81969/14-01 (ALL PLASTIC) M81969/8-03 (ANGLE METAL) M81969/8-303 (INLINE, METAL)	M81969/14-01 (ALL PLASTIC) M81969/8-04 (ANGLE METAL) M81969/8-304 (INLINE, METAL)
357	M22520/2-01 M22520/7-01 M22520/1-01	M22520/2-10 M22520/7-08 M22520/1-04 (RED)	M81969/14-10 (ALL PLASTIC) M81969/8-05 (ANGLE METAL) M81969/8-305 (INLINE, METAL)	M81969/14-10 (ALL PLASTIC) M81969/8-06 (ANGLE METAL) M81969/8-306 (INLINE, METAL)
358	M22520/1-01 M22520/7-01	M22520/1-04 (BLUE) M22520/7-04	M81969/14-03 (ALL PLASTIC) M81969/8-07 (ANGLE METAL) M81969/8-307 (INLINE, METAL)	M81969/14-03 (ALL PLASTIC) M81969/8-08 (ANGLE METAL) M81969/8-308 (INLINE, METAL)
359	M22520/1-01 M22520/1-01	M22520/1-04 (YELLOW) M22520/1-16	M81969/14-04 (ALL PLASTIC) M81969/8-09 (ANGLE METAL) M81969/8-309 (INLINE, METAL)	M81969/14-04 (ALL PLASTIC) M81969/8-10 (ANGLE METAL) M81969/8-310 (INLINE, METAL)

TABLE 4 - PROBE DAMAGE INSERTION DEPTHS

CONTACT SIZE	INSERTION DEPTH (INCHES)
	+ .020 - .000
22, 22M, 22D, 20	.083 - .125 1/
16	.135
12	.166

1/ INDICATED DIMENSIONS REPRESENT 1/2 AND 3/4 DEPTHS.

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	CONTACTS, ELECTRICAL CONNECTORS, SOCKET CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES II, MIL-DTL-55302/68, /71, /72, /75 AND MIL-DTL-83733 CONNECTORS)		

TABLE 5 - PART NUMBER AND BIN CODE

BIN CODE	PART NUMBER	SUPERSEDED PART NUMBER
354	M39029/57-354	MS27491-22D
355 1/, 2/, 3/	M39029/57-355	MS27491-22M
356 1/, 2/, 3/	M39029/57-356	MS27491-22
357 2/	M39029/57-357	MS27491-20
358 2/, 3/	M39029/57-358	MS27491-16
359 2/, 3/	M39029/57-359	MS27491-12
982 4/	M39029/57-982	

1/ NOT RECOMMENDED FOR NEW DESIGN.

2/ NOT FOR USE WITH MIL-DTL-83733 OR MIL-DTL-24308 CONNECTORS (FOR MIL-DTL-83733 USE CONTACT SIZES 20, 16, AND 12, REFER TO AS39029/4 OR /5).

3/ NOT FOR USE WITH MIL-DTL-55302 CONNECTORS.

4/ FOR USE WITH MIL-DTL-24308 NON-MAGNETIC CONNECTORS, CLASS M AND N ONLY.

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

1. DESIGN:

CONTACTS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE 1 AND TABLE 1. DIMENSIONS ARE IN INCHES. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY. DIMENSIONS SHOWN APPLY AFTER PLATING. OPERATING TEMPERATURE RANGE: -65 °C (-85 °F) TO 200 °C (392 °F). FOR BIN CODES 354 AND 982 ONLY, DIAMETERS E AND G ARE TO BE CONCENTRIC WITHIN .003 (TIR) REGARDLESS OF FEATURE SIZE (RFS); FOR ALL OTHER CONTACT SIZES, DIAMETERS E AND G TO BE CONCENTRIC WITHIN .001 (TIR) AT MAXIMUM MATERIAL CONDITION (MMC). THE .036-.041 DIAMETER IN DETAIL "T" AND THE .042-.047/.036-.041 DIAMETERS IN DETAIL "R" SHALL BE CONCENTRIC TO G DIAMETER WITHIN .003 TIR (RFS). FOR DETAIL "S", THE MECHANICAL PRESSURE MEMBER SHALL BE SHROUDED. HOODS IF USED SHALL CONFORM TO THE REQUIREMENTS HEREIN. THE MAXIMUM ALLOWABLE GAP BETWEEN THE HOOD AND THE BODY OF THE CONTACT IS .010 INCHES (EXCEPT 22D AND 22M CONTACTS). THE MAXIMUM ALLOWABLE GAP FOR SIZE 22D AND 22M CONTACTS IS .006 INCHES. IN ATTACHMENT AREA, THE CONTACT BODY "C" DIAMETER SHALL EXCEED THE HOOD "F" DIAMETER BY .001 INCH MIN. REGARDLESS OF FEATURE SIZE (RFS). OPTIONAL DESIGNS MAY HAVE A FULL LENGTH CORROSION RESISTANT STEEL HOOD. THE .029-.033 SHOULDER DIMENSION DOES NOT APPLY TO BIN CODES 354, 355, AND 982. DIMENSION L MINIMUM IS THE POINT AT WHICH A SQUARE ENDED PIN OF THE SAME BASIC DIAMETER AS THE MATING CONTACT FIRST ENGAGES THE SOCKET CONTACT SPRING. FOR DIMENSION H, THE FOLLOWING BLEND RADIUS DIMENSIONS ARE OPTIONAL:

SIZE 23 - BLEND RADIUS .010 INCHES ± .005 INCHES.

SIZE 22 - BLEND RADIUS .010 INCHES ± .005 INCHES.

SIZE 20 - BLEND RADIUS .015 INCHES ± .005 INCHES.

SIZE 16 - BLEND RADIUS .020 INCHES ± .005 INCHES.

SIZE 12 - BLEND RADIUS .020 INCHES ± .010 INCHES.

2. TOOLS:

TOOLS REQUIRED FOR CRIMPING CONTACTS TO THE WIRE/CABLE AND THE INSTALLING/REMOVAL FROM THE CONNECTOR SHALL BE IN ACCORDANCE WITH TABLE 3.

3. PART NUMBERS:

CONTACT PART NUMBERS SHALL BE IN ACCORDANCE WITH TABLE 5. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

OUTGASSING REQUIREMENT:

PART NUMBER M39029/57-982 SHALL MEET THE OUTGASSING REQUIREMENTS OF ASTM E595. THE REQUIREMENT MAY BE VERIFIED BY CERTIFICATION. CONTACT THE QUALIFYING ACTIVITY FOR DETAILS CONCERNING THE CERTIFICATION PROCESS.

RESIDUAL MAGNETISM REQUIREMENT:

PART NUMBER M39029/57-982 SHALL ALSO MEET THE RESIDUAL MAGNETISM. CONTACT HOODS MAY BE OF AN ALTERNATE MATERIAL TO MEET THE RESIDUAL MAGNETISM REQUIREMENT, HOWEVER THE CONTACTS MUST MEET ALL OTHER REQUIREMENTS OF AS39029 AND THIS DETAIL SHEET. WHEN TESTED WITH THE APPLICABLE MIL-DTL-24308 CONNECTOR, THE RESIDUAL MAGNETISM SHALL NOT EXCEED 200 GAMMA. THE FOLLOWING DETAILS SHALL APPLY:

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