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REV.
B

AS39029/58

FEDERAL SUPPLY CLASS
5935

RATIONALE

REVISION IS REQUIRED TO REMOVE THE SIZE 20 BIN CODE (659) FROM THIS DOCUMENT (THE SIZE 20 NON-MAGNETIC PART NUMBER IS COVERED BY AS39029/63 AND /64) TO CHANGE THE NON-MAGNETIC BIN CODE PART NUMBER FROM 663 TO 986 TO ALLOW THE USE OF AVAILABLE NON-OUTGASSING INKS FOR THE COLOR BANDS, TO ADD NEW TOOL PART NUMBERS IN TABLE 3 AND TO ADD AN APPLICATION NOTE TO INCLUDE BATCH TESTING INFORMATION.

NOTICE

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

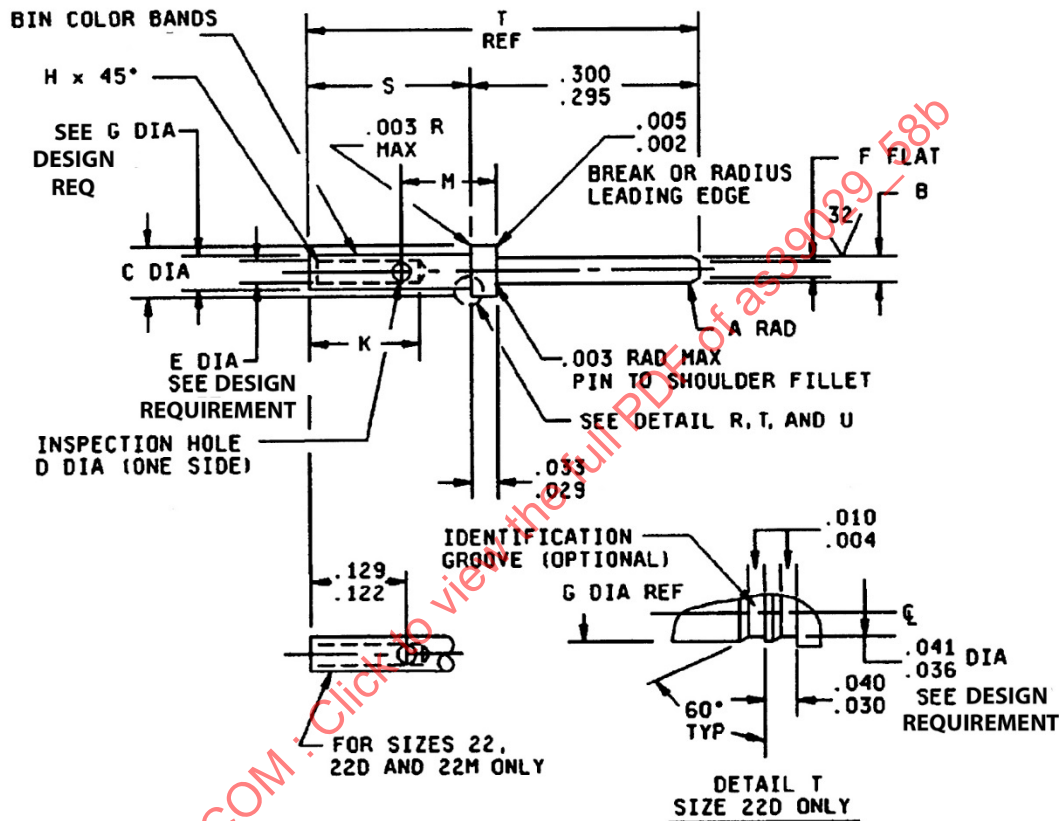
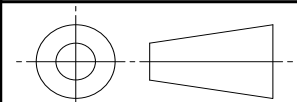


FIGURE 1 - CONNECTOR CONTACT

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THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8C1

PROCUREMENT SPECIFICATION: AS39029



AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES I, II, III, AND IV, AND MIL-DTL-55302/69 AND MIL-DTL-83733 CONNECTORS)

AS39029/58
SHEET 1 OF 7

REV.
B

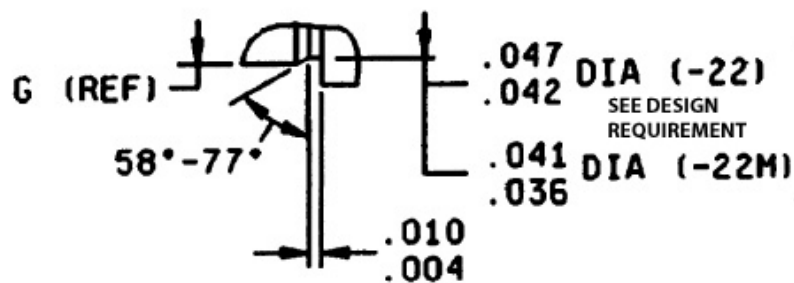
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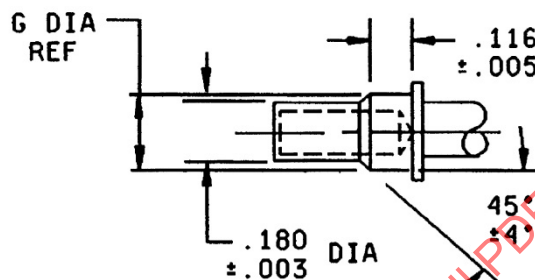
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ISSUED 2000-07 REVISED 2015-06



DETAIL R
SIZES 22, 22M ONLY



DETAIL U (SIZE 10 ONLY)

FIGURE 1 - CONNECTOR CONTACT (CONTINUED)

TABLE 1 - DIMENSIONS

BIN CODE	A RADIUS	B DIA	C DIA	D DIA	E DIA	F DIA	G DIA	H
360, 986	.020 (0.508)	.0305 (0.774)	.062 (1.57)	.022 (0.56) .018 (0.46)	.0355 (0.90) .0335 (0.85)	.011 (0.28) MAX	.048 (1.22) .046 (1.17)	.005 (0.13) .003 (0.08)
361	.010 (0.254)	.0295 (0.749)	.060 (1.52)		.029 (0.74) .027 (0.69)		.046 (1.17) .044 (1.12)	
362			.071 (1.80) .069 (1.75)		.0375 (0.95) .0355 (0.90)		.052 (1.32) .050 (1.27)	
363	.025 (0.635) .015 (0.381)	.041 (1.04) .039 (0.991)	.094 (2.39) .091 (2.31)	.032 (0.81) .026 (0.66)	.048 (1.22) .046 (1.17)	.015 (0.38) MAX	.070 (1.78) .068 (1.73)	.010 (0.25) .005 (0.13)
364	.025 (0.635)	.0635 (1.613) .0615 (1.562)	.130 (3.30) .127 (3.23)	.042 (1.07) .036 (0.914)	.068 (1.73) .066 (1.68)	.030 (0.76) .011 (0.28)	.103 (2.62) .101 (2.57)	
365	.020 (0.508)	.095 (2.41) .093 (2.36)	.182 (4.62) .179 (4.55)		.102 (2.59) .098 (2.49)	.062 (1.57) .043 (1.09)	.151 (3.84) .148 (3.76)	
528		.126 (3.20) .124 (3.15)	.242 (6.15) .238 (6.05)	.052 (1.32) .040 (1.02)	.140 (3.56) .134 (3.40)	.094 (2.39) .074 (1.88)	.213 (5.41) .207 (5.26)	.016 (0.41) .005 (0.13)

TABLE 1 - DIMENSIONS (CONTINUED)

BIN CODE	K MIN	M	S	T (REF)
360, 986	.141 (3.58)	-----	.237 (6.02) .231 (5.87)	.531 (13.49)
361		-----		
362		-----		
363	.209 (5.31)	.078 (1.98)		
364		.072 (1.83)		
365		.088 (2.24) .082 (2.08)		
528	.355 (9.02)	.115 (2.92) .108 (2.74)	.405 (10.29) .395 (10.03)	.647 (16.43)

TABLE 2 - DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS
	1 ST	2 ND	3 RD				
360	ORANGE	BLUE	BLACK	22	22D	A	B
361	ORANGE	BLUE	BROWN	22	22M		
362	ORANGE	BLUE	RED	22	22		
363	ORANGE	BLUE	ORANGE	20	20		
364	ORANGE	BLUE	YELLOW	16	16		
365	ORANGE	BLUE	GREEN	12	12		
528	GREEN	RED	GRAY	10	10		
986 1/	WHITE	GRAY	BLUE	22	22D		

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

TABLE 3 - TOOLS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL 1/	REMOVAL TOOL 1/	
				WIRED CONTACT	UNWIRED CONTACT
360, 986	M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07	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)	DANIELS PART NUMBER (DRK276-23) 2/
361	M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07	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)	DANIELS PART NUMBER (DRK276-23) 2/
362	M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07	M81969/8-03	M81969/8-04	M81969/30-08
363	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)	M81969/30-11
364	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)	M81969/30-12
365	M22520/1-01	M22520/1-04 (YELLOW)	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)	M81969/30-13
528	M22520/45-01	POSITIONER BUILT INTO BASIC TOOL	M81969/14-05 (ALL PLASTIC) M81969/8-11 (ANGLE, METAL) M81969/8-311 (INLINE, METAL)	M81969/14-05 (ALL PLASTIC) M81969/8-12 (ANGLE, METAL) M81969/8-312 (INLINE, METAL)	DANIELS PART NUMBER (DRK514B) 2/

1/ SEE APPLICATION NOTE 2.

2/ OR EQUIVALENT.

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	(R) CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES I, II, III, AND IV, AND MIL-DTL-55302/69 AND MIL-DTL-83733 CONNECTORS)		

TABLE 4 - PART NUMBERS

PART NUMBER	BIN CODE	SUPERSEDED
M39029/58-360	360	MS27493-22D
M39029/58-361 1/, 2/, 3/	361	MS27493-22M
M39029/58-362 1/, 2/, 3/	362	MS27493-22
M39029/58-363 2/	363	MS27493-20
M39029/58-364 2/, 3/	364	MS27493-16
M39029/58-365 2/, 3/	365	MS27493-12
M39029/58-528 2/, 3/	528	
M39029/58-986	986	

1/ NOT RECOMMENDED FOR NEW DESIGN.

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

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

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 TABLES 1 AND 2. 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 360 AND 986 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 WITH .001 (TIR) OF 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 DIMENSION H, THE FOLLOWING BLEND RADIUS DIMENSIONS ARE OPTIONAL:

SIZE 2 - 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.

SIZE 10 - 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 4. SUPERSEDED PART NUMBERS ARE AS SPECIFIED.

4. MATERIALS:

MATERIALS SHALL BE IN ACCORDANCE WITH AS39029.

OUTGASSING REQUIREMENT:

PART NUMBER M39029/58-986 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 M39029/58-986 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:

	AEROSPACE STANDARD	AS39029/58 SHEET 4 OF 7	REV. B
	(R) CONTACTS, ELECTRICAL CONNECTOR, PIN, CRIMP REMOVABLE (FOR MIL-DTL-24308, MIL-DTL-38999 SERIES I, II, III, AND IV, AND MIL-DTL-55302/69 AND MIL-DTL-83733 CONNECTORS)		

ACCEPTABLE TEST METHOD

CONNECTOR SHALL BE FULLY ASSEMBLED BEFORE TESTING. THE RESIDUAL MAGNETISM TEST SHALL BE PERFORMED IN A MAGNETICALLY QUIET AREA, I.E., WHERE MACHINES, ELECTRONIC EQUIPMENT, VEHICLES, AND PERSONNEL TRAFFIC ARE RESTRICTED. REFER TO THE TEST ARRANGEMENT OF FIGURE 2 BELOW AND PROCEED AS FOLLOWS:

- a. WARM UP THE MILLIAMMETER OR FLUX METER FOR A MINIMUM OF 15 MINUTES.
- b. MOUNT THE MAGNETOMETER PROBE IN A NON-MAGNETIC STAND IN A HORIZONTAL POSITION AT FULL CABLE LENGTH FROM THE MILLIAMMETER.
- c. WITH THE METER PRESET TO THE APPROPRIATE SCALE, ALIGN THE PROBE IN A MAGNETIC E-W DIRECTION OR ORIENT TO OBTAIN A ZERO READING ON THE METER.
- d. PASS THE CONNECTOR SPECIMEN THREE TIMES BETWEEN THE POLES OF A MAGNET WITH A FIELD STRENGTH OF 5000 GAUSS ± 5%. THE CONNECTOR SHALL NOT CONTACT THE POLE PIECES.
- e. IMMEDIATELY PLACE THE CONNECTOR TO WITHIN 1/8 INCH OF THE PROBE TIP AND ORIENT THE SPECIMEN FOR A MAXIMUM MAGNETISM READING. THE MEASUREMENT UNIT SHALL BE IN GAMMA, WHERE ONE GAMMA IS EQUIVALENT TO 1 X 10⁻⁵ GAUSS.

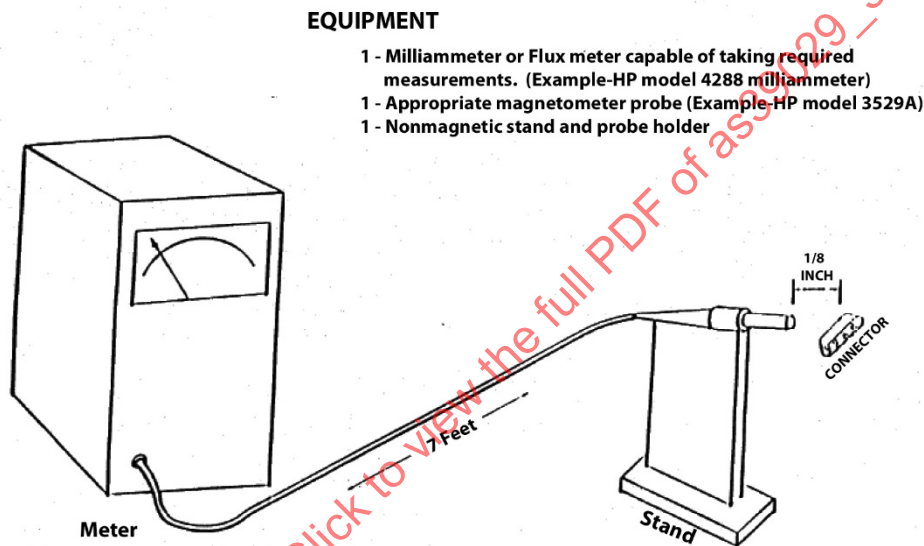


FIGURE 2- RESIDUAL MAGNETISM TEST ARRANGEMENT

AN ALTERNATIVE RESIDUAL MAGNETISM TEST METHOD MAY BE USED WITH APPROVAL FROM THE QUALIFYING ACTIVITY.

- 5. MECHANICAL:
MECHANICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.
- 6. ELECTRICAL:
ELECTRICAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.
- 7. ENVIRONMENTAL:
ENVIRONMENTAL PROPERTIES SHALL BE IN ACCORDANCE WITH AS39029.

RANDOM VIBRATION: CONNECTORS/CONTACTS SHALL BE TESTED IN ACCORDANCE WITH EIA-364-28, TEST CONDITION V. THE FOLLOWING DETAILS SHALL APPLY:

- a. USE THE VIBRATION ENVELOPE SHOWN ON FIGURE 2.
- b. VIBRATION TO BE CONDUCTED AT STANDARD TEST CONDITIONS.