FEDERAL SUPPLY CLASS
5935

RATIONALE

REVISE TO INCORPORATE THE OUTSTANDING AMENDMENT AS REQUIRED BY SAE GUIDELINES AND UPDATE FORMAT, FIGURES AND TABLES.

NOTICE

THE REQUIREMENTS FOR PROCURING THE CONTACTS DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF SAE AS39029.

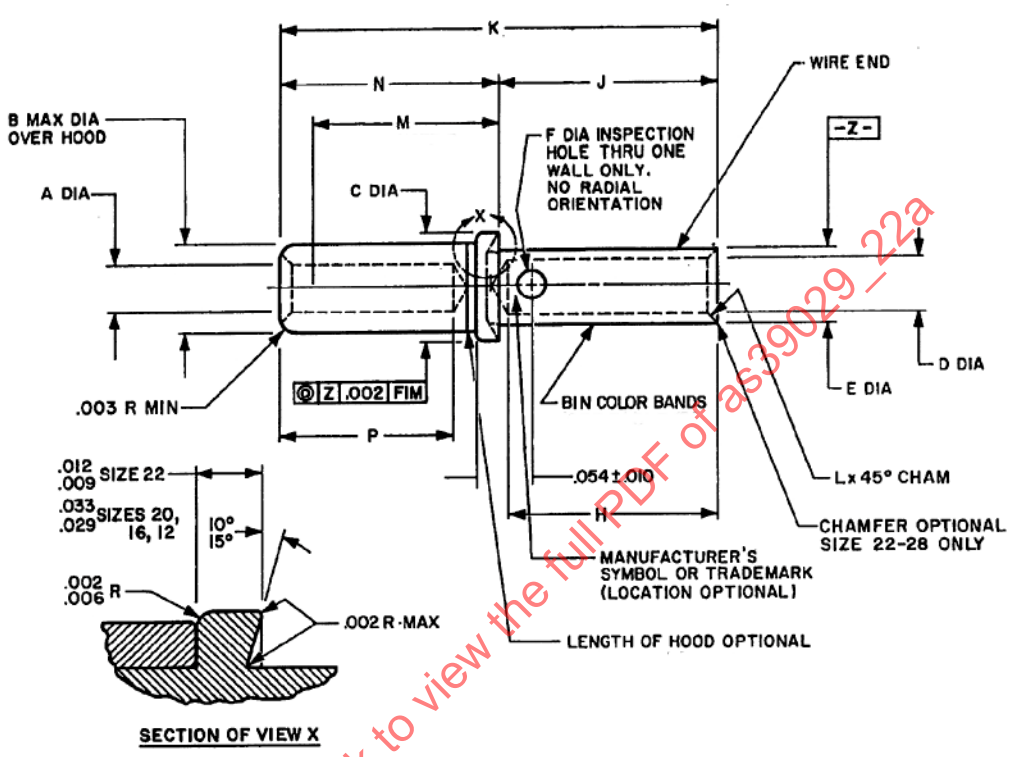
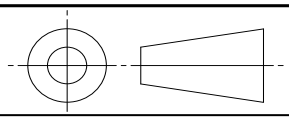


FIGURE 1 – CONTACT, SOCKET SIZE 22, 20, 16

ISSUED 2001-03 REAFFIRMED 2008-04 REVISED 2010-12

THIRD ANGLE PROJECTION



SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS39029/22A

CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS39029

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

(R) CONTACTS, ELECTRICAL, CONNECTOR, SOCKET, CRIMP REMOVABLE
(FOR AS81714 TERMINAL JUNCTION SYSTEM SERIES II AND
MIL-C-81511 SERIES 3 AND 4 CLASS L CONNECTORS)

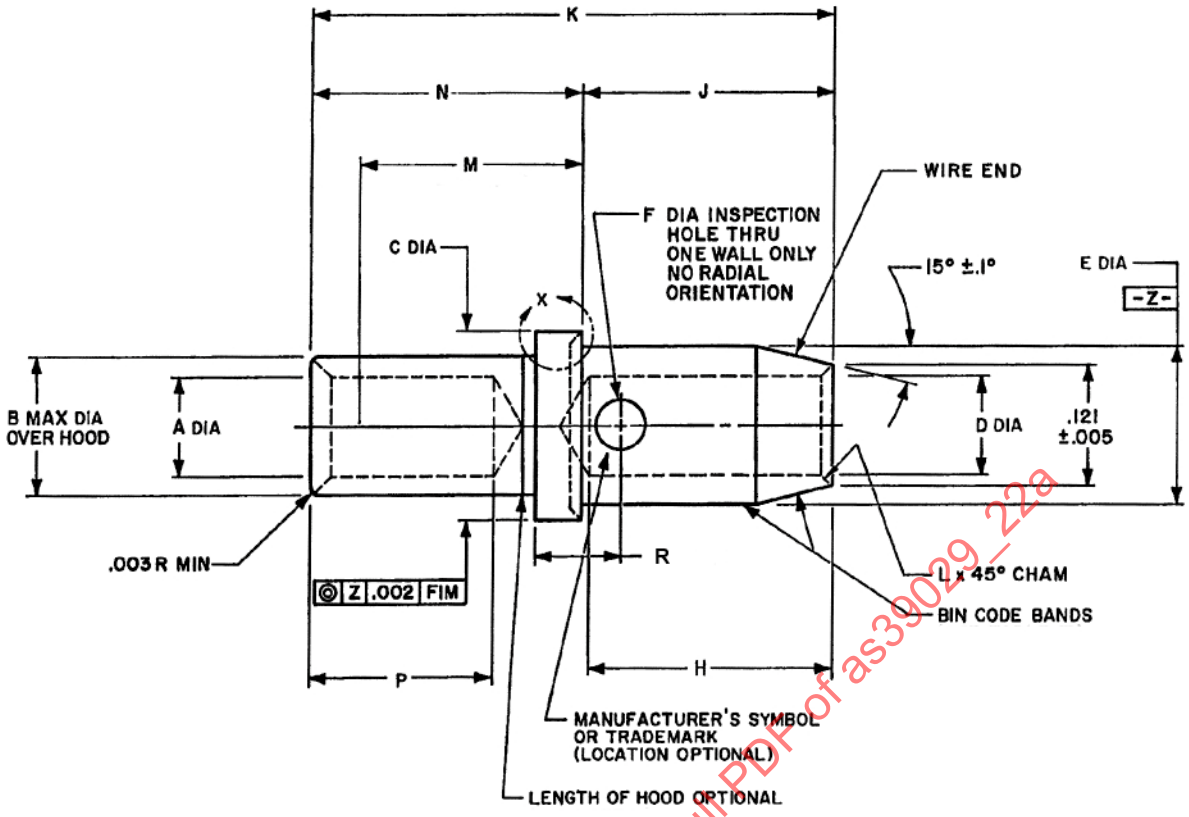


FIGURE 2 – CONTACT, SOCKET SIZE 12

TABLE 1 – DIMENSIONS

BIN CODE	A DIA	B DIA MAX	C DIA	D DIA	E DIA	F DIA	H	J	K REF	L CHAM	M MIN	N	P	R
190	.033 .031	.060	.0615 .0600	.0200 .0180	.0480 .0465	.017 .013	.175 .160	.170 .160	.327	.006 .003	.130	.166 .158	.137 .120	.035 .033
191				.0355 .0335		.022 .018								
192	.044 .042	.076	.094 .091	.048 .046	.070 .068	.027 .023			.349	.010 .005	.150	.188 .180		.055 .053
193	.066 .064	.108	.130 .127	.068 .066	.103 .101									
605	.100 .097	.168	.171 .168	.102 .096	.152 .148	.030 .019	.220 .205	.215 .205	.446	.016 .005	.176	.240 .230	.187 .170	

TABLE 2 – DESIGN CHARACTERISTICS

BIN CODE	COLOR BANDS			MATING END SIZE	WIRE BARREL SIZE	TYPE	CLASS
	1ST	2ND	3RD				
1/ 190	BROWN	WHITE	BLACK	22	28	A	B
191	BROWN	WHITE	BROWN	22	22		
192	BROWN	WHITE	RED	20	20		
193	BROWN	WHITE	ORANGE	16	16		
605	BLUE	BLACK	GREEN	12	12		

1/ SEE APPLICATION NOTE

TABLE 3 – TOOLS

BIN CODE	BASIC CRIMPING TOOL	POSITIONER	INSTALLING TOOL
190	M22520/7-01	M22520/7-11	M81969/14-01
191			-------
192		M22520/7-12	M81969/14-10
193		M22520/7-13	M81969/14-03
605	M22520/1-01	TH343 OR 650065 OR EQUIVALENT 1/	M81969/8-10 M81969/16-03

1/ TH343 IS A DANIELS MANUFACTURING CORP. PART NUMBER AND 650065 IS AN ASTRO TOOL CORP. PART NUMBER.

TABLE 4 – CONTACT RESISTANCE

ENGAGING END SIZE	WIRE SIZE RANGE	TEST CURRENT (AMPERES)	MAXIMUM VOLTAGE DROP (MILIVOLTS)		
			25 °C ±3 °C	25 °C ±3 °C AFTER CONDITIONING	200 °C +3 °C, - 0°C
22	28	1.5	60	70	100
	32	1.0	95	105	135
22	22	5.0	70	80	120
	26	2.0	60	70	100
20	20	7.5	55	65	95
	24	3.0	45	55	80
16	16	13.0	50	60	85
	20	7.5	45	55	80
12	12 1/	23.0	60	70	100
	14	17.0	55	65	95

1/ SILVER PLATED WIRE

TABLE 5 – CONTACT ENGAGEMENT AND SEPERATION FORCE

SOCKET ENGAGING END SIZE	TEST PIN DIAMETER	
	MIN +.0001, -.0000	MAX +.0000, -.0001
22	.0295	.0305
20	.0395	.0405
16	.0615	.0625
12	.0935	.0945

TABLE 6 – PROBE DAMAGE

SOCKET ENGAGING END SIZE	TEST PROBE DIAMETER	BENDING MOMENT	
		DEPTH OF INSERTION	MOMENT (MAX IN.-LB)
22	.0305 .0295	.105 .095	.10
20	.0405 .0395	.135 .125	.25
16	.0625 .0615		.37
12	.0935 .0945	.185 .175	.55

TABLE 7 – TENSILE STRENGTH

WIRE BARRELL SIZE	WIRE SIZE (AWG)	AXIAL LOAD (POUNDS)		1/ MAXIMUM RECOMMENDED CRIMP BARREL GROWTH PER DIA
		SILVER OR TIN PLATED COPPER WIRE	NICKEL PLATED COPPER WIRE	
28	28 32	2.7 1.0	1.7 1.0	.0015
22	22 26	12.0 5.0	8.0 3.0	
20	20 24	20.0 8.0	10.0 6.0	.0030
16	16 20	50.0 20.0	29.0 10.0	.0050
12	12 14	100.0 60.0	65.0 34.0	.0070

1/ UNTIL A TEST METHOD IS DEFINED FOR VERIFICATION, THE MAXIMUM GROWTH DIAMETER WILL REMAIN A RECOMMENDATION RATHER THAN A REQUIREMENT.