

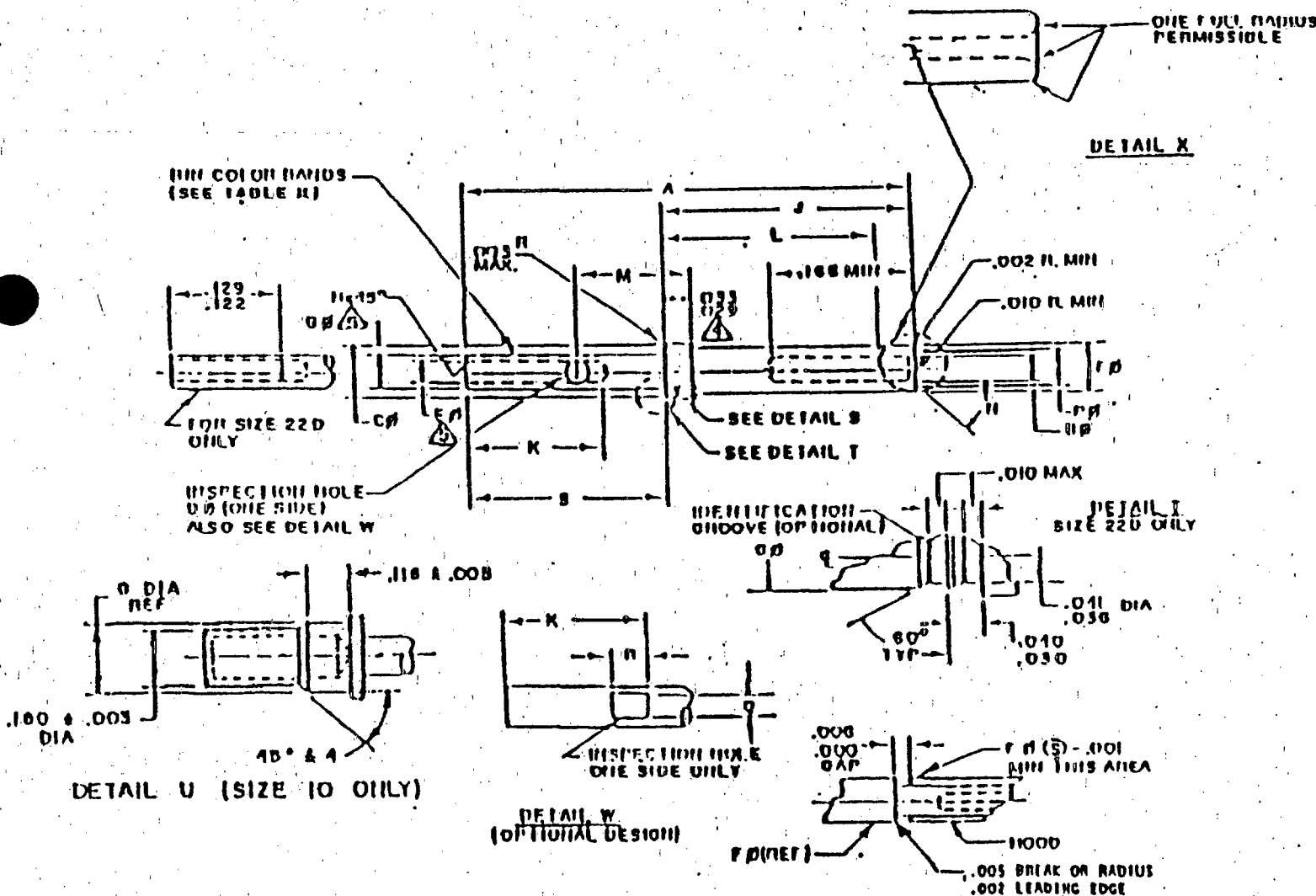
INCH-POUND  
MIL-C-39029/106A  
21 September 1990  
SUPERSEDING  
MIL-C-39029/106  
22 February 1990

MILITARY SPECIFICATION SHEET

CONTACTS, ELECTRICAL CONNECTOR, SOCKET, CRIMP REMOVABLE,  
(FOR MIL-C-38999 SERIES I, III AND IV AND MIL-C-29600 SERIES A CONNECTORS)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the contacts described herein shall consist of this specification and the latest revision of MIL-C-39029.



AMSC N/A  
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited. FSC 5935

TABLE I. Dimensions.

BIN Code	A REF	80 Min	C0	D0	E0	F0 MAX	G0	H	J	K Min	L Min	M	N°	P0 Min	Q	R	S
614		.031	.062	.022	.0355	.062	.048	.005		.141		---	50°	.047	.022	.046	
			.060	.018	.0355		.046	.003						44°		.018	.018
615		.0415	.094	.032	.048	.078	.070	.010		.209		.078	47°	.053	.032	.063	.237
			.091	.026	.046		.068	.005				.072	40°		.026	.026	.026
616	.855	.064	.130	.042	.068	.113	.103	.010	.626	.209	.585	.088	47°	.084	.042	.073	
			.127	.036	.066		.101	.005	.616				.082	40°		.030	.036
617		.0955	.182	.042	.102	.161	.151	.016		.209		.088	47°	.118	.042	.073	
			.179	.036	.098		.148	.005					.082	40°		.030	.036
618	1.021	.1265	.242	.052	.140	.215	.213	.016		.385		.115	N/A	.146	N/A	N/A	.405
			.238	.046	.134		.207	.005					.108	1/	1/		

1/ Full radius permissible.

NOTES:

1. Dimensions are in inches unless otherwise specified.
2. Metric equivalents are based upon 1 inch = 25.4 mm.
3. Dimensions apply after plating.
4. Indicated dimension does not apply for BIN-614.
5. For BIN-614 only, diameters E and G to be concentric with full indicator movement (FIM) regardless of feature size (S); for all other contact sizes, diameters E and G to be concentric within .001 FIM at maximum material condition (M).
6. Point at which a square ended pin of the same basic diameter as the mating contact first engages the socket contact spring.
7. Hoods shall not exceed contact body diameter (S) in attachment area.
8. Optional design may have a full length corrosion resistant steel hood.
9. Manufacturers trademark per AIR-1351.

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.003	.0762	.052	1.321	.098	2.489	.179	4.547
.005	.1270	.053	1.346	.101	2.565	.182	4.623
.010	.2540	.060	1.524	.102	2.591	.207	5.258
.016	.4064	.062	1.575	.103	2.616	.209	5.309
.018	.4572	.063	1.600	.108	2.743	.213	5.410
.022	.5588	.064	1.626	.113	2.870	.215	5.461
.026	.6604	.066	1.676	.115	2.921	.231	5.867
.030	.7620	.068	1.727	.118	2.997	.237	6.020
.031	.7874	.070	1.778	.1265	3.213	.238	6.045
.032	.8128	.072	1.829	.127	3.226	.242	6.147
.0335	.8509	.073	1.854	.130	3.302	.355	9.017
.0355	.9017	.078	1.981	.134	3.404	.385	9.779
.036	.9144	.082	2.083	.140	3.556	.395	10.03
.0415	1.054	.084	2.134	.141	3.581	.405	10.29
.042	1.067	.088	2.235	.146	3.708	.585	14.86
.046	1.168	.091	2.311	.148	3.759	.616	15.65
.047	1.194	.094	2.388	.151	3.835	.626	15.72
.048	1.219	.0955	2.426	.161	4.089	.855	21.72

TABLE II. Design characteristics.

BIN code	Color bands			Mating end size	Wire barrel Size	Type	Class
	1st	2nd	3rd				
614	Blue	Brown	Yellow	22	220	A	B
615	Blue	Brown	Green	20	20		
616	Blue	Brown	Blue	16	16		
617	Blue	Brown	Violet	12	12		
618	Blue	Brown	Gray	10	10		

TABLE III. Tools.

Wire barrel size	Basic crimping tool	Positioner	Installing tool	Removal tool
22D	M22520/2-01 M22520/7-01	M22520/2-07 M22520/7-05	M81969/14-01 M81969/8-01	M81969/14-01 M81969/8-02
20	M22420/7-01 M22520/2-01 M22520/1-01	M22520/7-08 M22520/2-10 M22520/1-04 Red	M81969/8-05  M81969/14-10	M81969/8-06  M81969/14-10
16	M22520/1-01  M22520/7-01	M22520/1-04 Blue M22520/7-04	M81969/8-07  M81969/14-03	M81969/8-08  M81969/14-03
12	M22520/1-01	M22520/1-04 Yellow	M81969/8-09 M81969/14-04	M81969/8-10 M81969/14-04
10	M22520/XX <u>1/</u>	M22520/XX <u>1/</u>	M81969/8-XX <u>1/</u> M81969/14-05	M81969/8-YY <u>1/</u> M81969/14-05

1/ To be determined

#### REQUIREMENTS:

Contacts shall comply with reliability assurance provisions of MIL-STD-790 as specified in MIL-C-38999.

Dimensions: See Figure 1 and Table I.

Design characteristics and configuration: See Figure 1 and Table II.

Tools: See Table III.

Mating contacts: MIL-C-39029/107.

Durability: 1500 cycles.

Vibration: The vibration requirements shall consist of those tests specified in MIL-C-38999. The contact sample group shall be 12 contacts, divided equally between the three separate vibration tests of MIL-C-38999 for Series III connectors.

Shock: The shock requirements shall consist of those tests specified in MIL-C-38999. The contact sample group shall be divided in half and each group subjected to the separate shock tests of MIL-C-38999 for Series III connectors.

## REQUIREMENTS: (continued)

Qualification: The qualification requirements shall consist of the sample numbers and tests specified in MIL-C-39029 for type A contacts with localized finish. For those tests which require the use of a connector pair, either a composite or metal shell connector pair may be utilized. Caution should be used if exceeding the rated durability cycles of a metal shell connector. For vibration and shock testing, accessories shall be as specified in MIL-C-39029.

Periodic qualification: The manufacturer shall forward a report every 24 months to the qualifying activity. The periodic qualification requirements shall consist of those tests specified for qualification except for vibration and shock.

QPL evaluating activity: Naval Avionics Center, B/444, 6000 East 21st Street, Indianapolis, Indiana 46219-2189.

Material: Base: Conductive copper alloy.  
 Plating: Contacts shall be plated to meet or exceed the performance requirements of MIL-C-39029 and withstand 1500 cycles of durability, (see 4.6.5). Contact finish shall be 5 millionths minimum gold alloy over 45 millionths palladium alloy, over a suitable underplate, and compatible with gold finish as defined in of MIL-C-39029.

Example of part number: M39029/106-614

Specification  
sheet number

BIN code

Custodians:  
 Army - CR  
 Navy - AS  
 Air Force - 85

Preparing activity:  
 Navy - AS  
 (Project No. 5935-3812-01)

Review activities:  
 Army -AV  
 Navy -EC  
 Air Force -15  
 DLA -ES  
 NASA - NA

User activities:  
 Army -MI  
 Navy -SH, MC  
 Air Force -15