

INCH-POUND

MIL-DTL-55302/190A  
20 January 2006  
SUPERSEDING  
MIL-C-55302/190  
22 November 1988

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:  
RECEPTACLE, SOCKET CONTACTS, 100 POSITIONS,  
PRINTED WIRING BOARD (.075 SPACING)

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-55302.

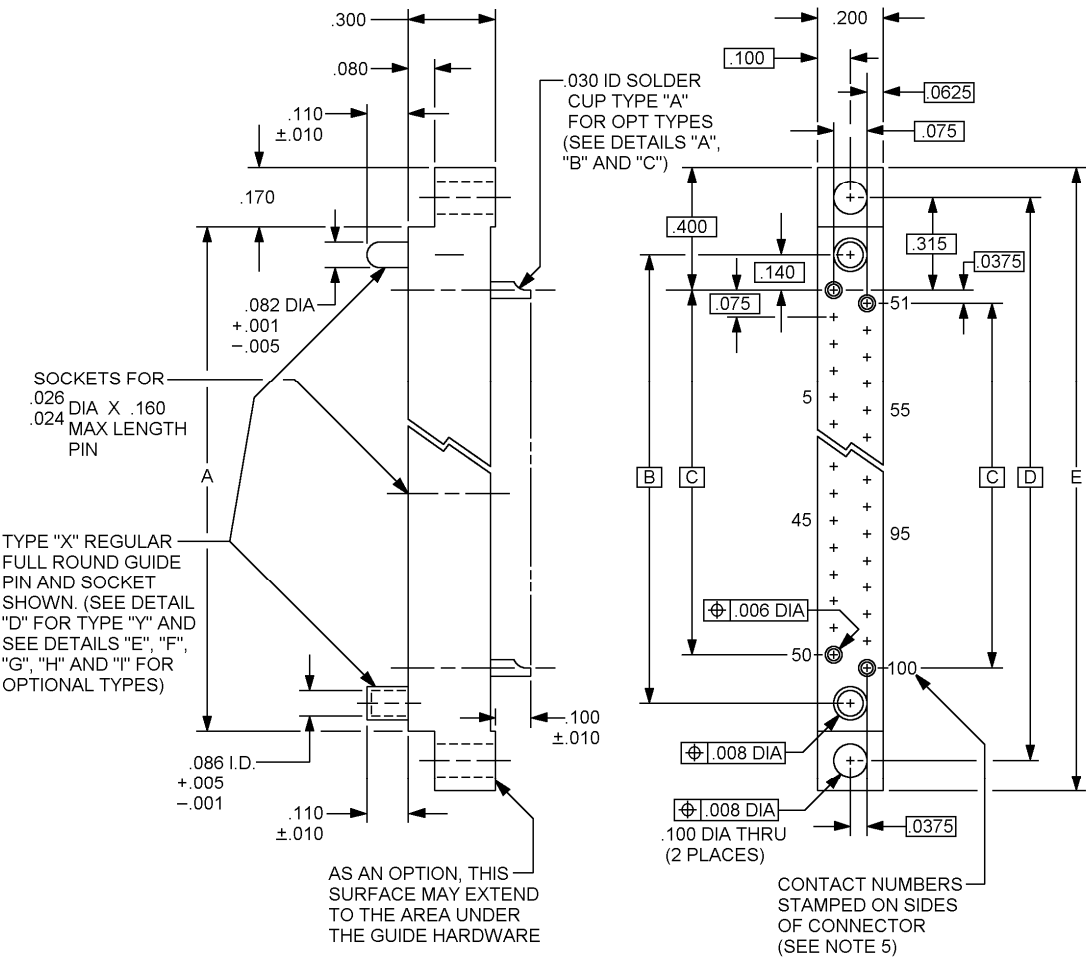


FIGURE 1. Connector, receptacle, .075 (1.91 mm) spacing.

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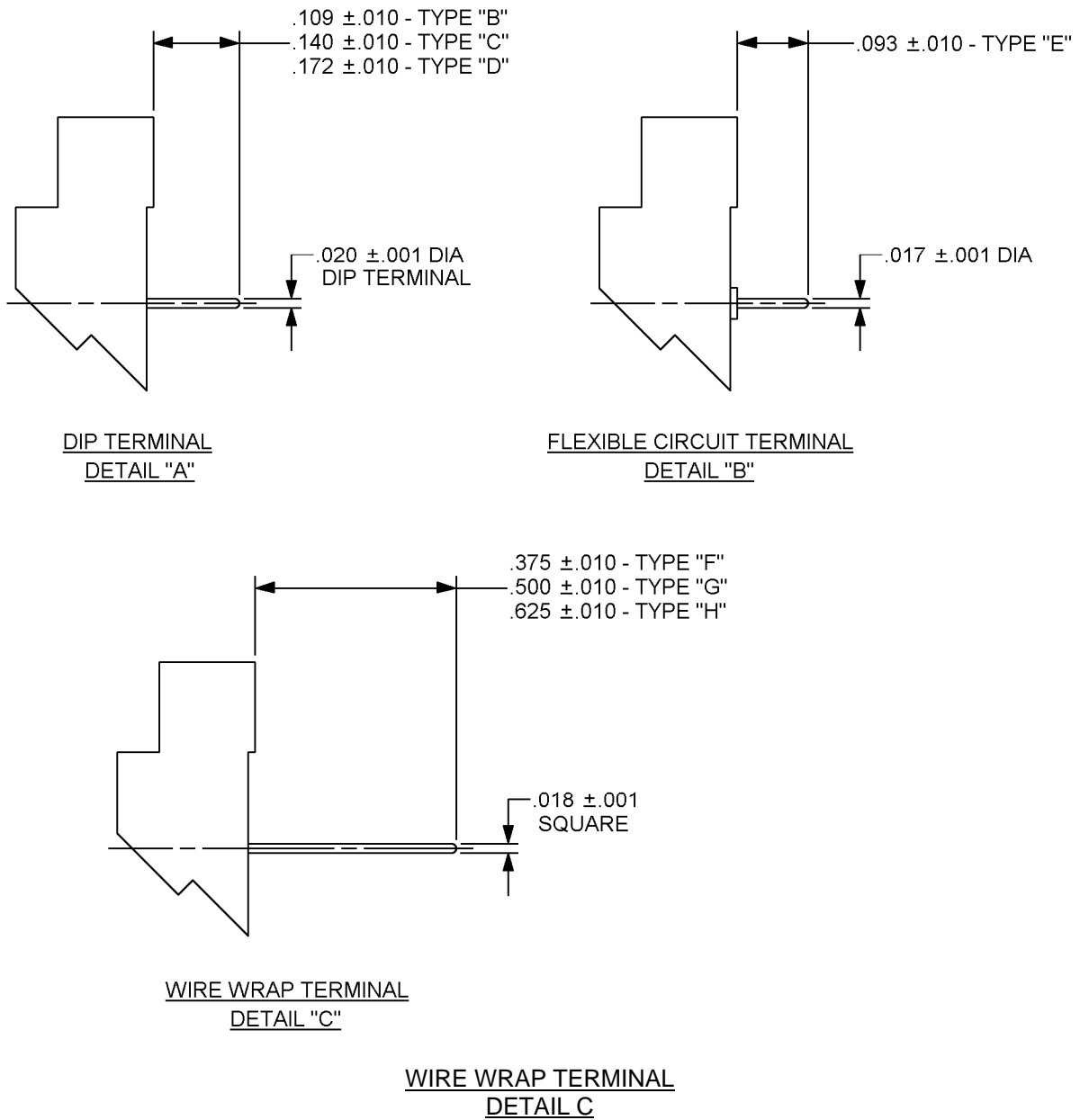


FIGURE 1. Connector, receptacle, .075 (1.91 mm) spacing - Continued.

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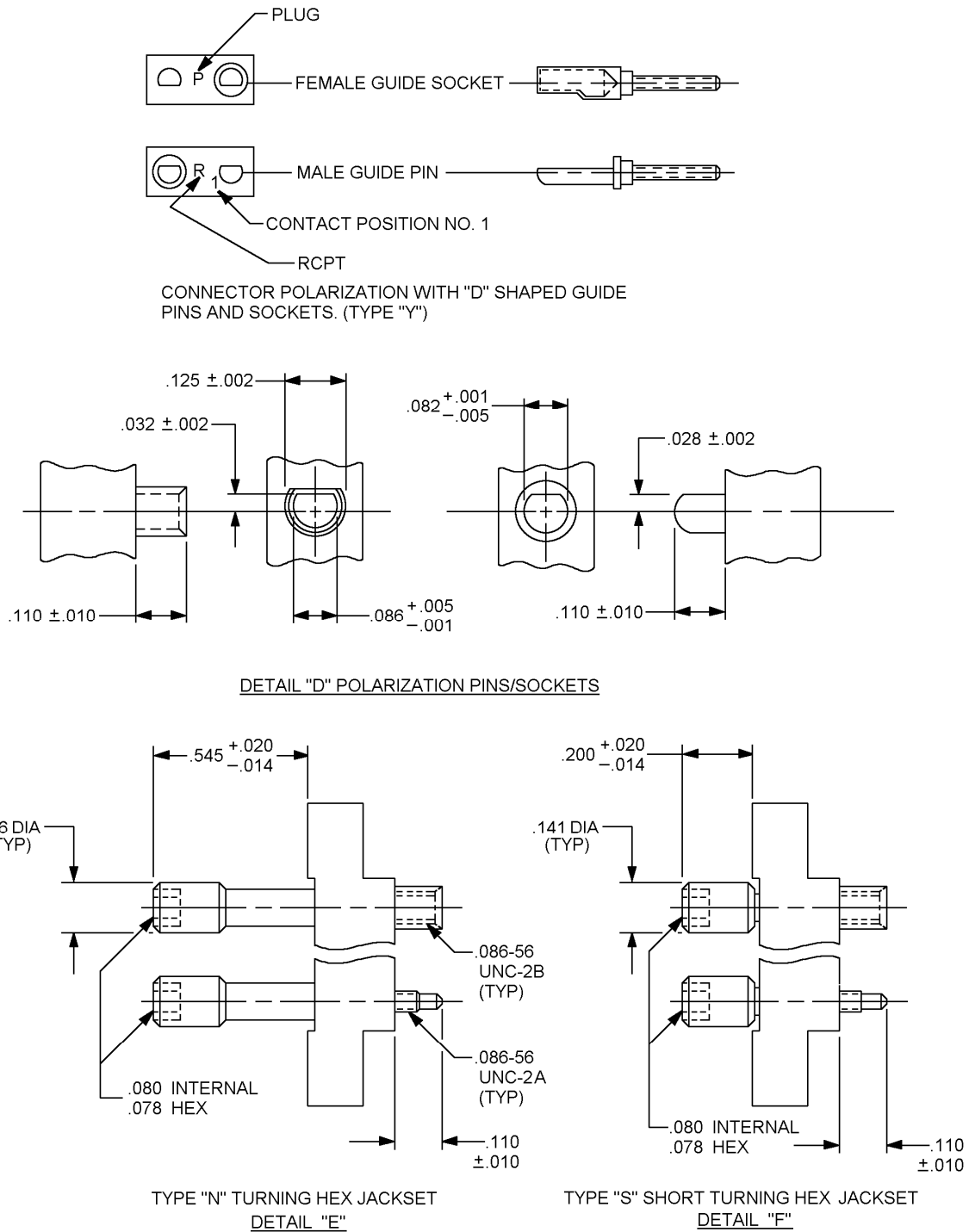


FIGURE 1. Connector, receptacle, .075 (1.91 mm) spacing - Continued.

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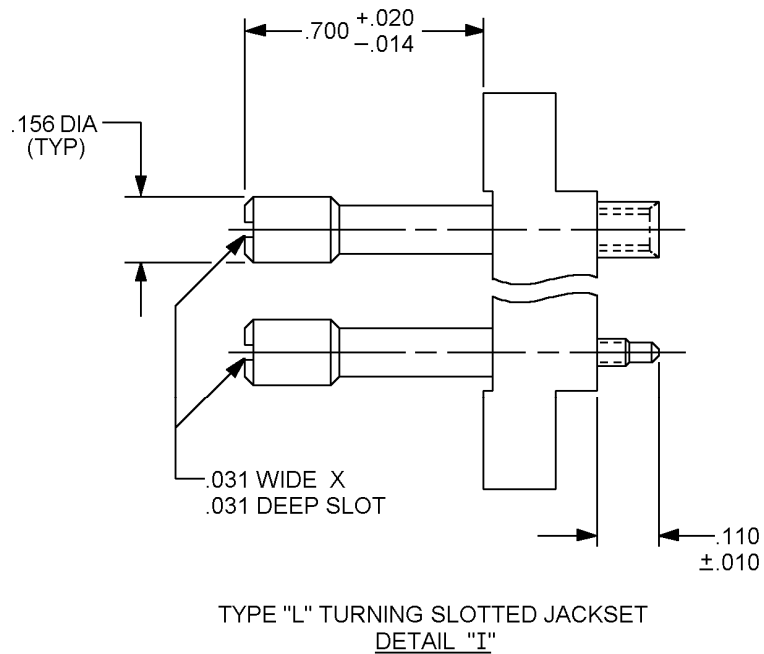
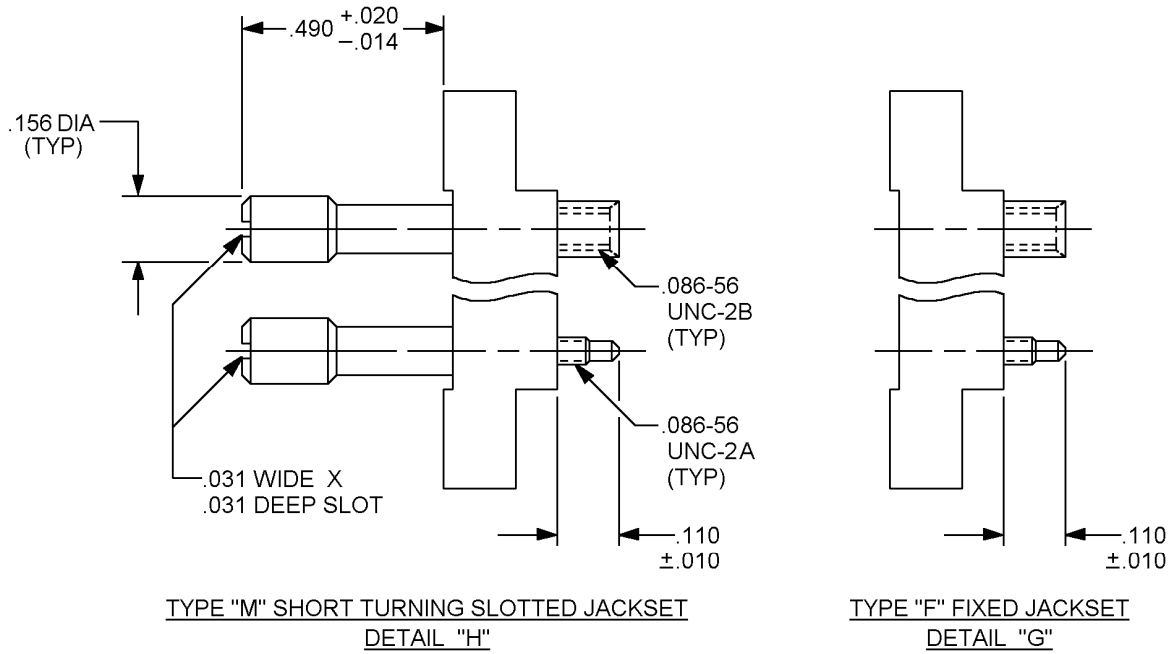


FIGURE 1. Connector, receptacle, .075 (1.91 mm) spacing - Continued.

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Number of contacts	Dimensions				
	A ± .010	BSC B	BSC C	BSC D	E ± .010
100	4.173 (105.99)	3.993 (101.42)	3.675 (93.35)	4.343 (110.31)	4.513 (114.63)

Inches	mm	Inches	mm	Inches	mm
.001	0.03	.0375	0.95	.160	4.08
.005	0.13	.0625	1.59	.170	4.32
.006	0.15	.075	1.91	.172	4.37
.008	0.20	.078	1.98	.200	5.08
.010	0.25	.080	2.03	.300	7.62
.014	0.36	.082	2.08	.315	8.00
.017	0.43	.086	2.18	.375	9.53
.018	0.46	.093	2.36	.400	21.16
.020	0.51	.100	2.54	.490	12.45
.0245	0.62	.109	2.77	.500	12.70
.0255	0.66	.110	2.79	.545	13.84
.028	0.71	.125	3.18	.625	15.88
.030	0.76	.140	3.56	.700	17.78
.031	0.79	.141	3.58		
.032	0.81	.156	3.96		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ±.005 (0.13 mm).
4. These connectors mate with connectors specified in MIL-DTL-55302/191 using appropriate hardware.
5. Numbers indicating the first and last position in each row and every fourth contact in between shall be marked on the side(s) of the connector. As an option to the above, numbers indicating every fourth cavity may be stamped on the side of the connector, with exception that the number one contact shall be marked.
6. Conformal coating cleanness shall be .005 (0.13 mm) minimum.

FIGURE 1. Connector, receptacle, .075 (1.91 mm) spacing - Continued.

## REQUIREMENTS

Dimensions and configuration: See figure 1.

Material: Guide pins, type X guide sockets, jackscrews, and jacksockets shall be made of corrosion resisting stainless steel in accordance with ASTM A581/A581M or ASTM A582/A582M, passivated in accordance with SAE-AMS-2700, or shall be corrosion resistant copper nickel alloy (61± 2 percent copper, 25 ± 2 percent nickel, 2.5 percent maximum other, and the balance zinc) and shall have a brinell hardness of 145 to 175. Type Y guide sockets shall be beryllium copper in accordance with ASTM B196/B196M or ASTM B197/B197M, nickel plated in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches.

Plating: The contact plating shall be in accordance with MIL-DTL-55302, or gold in accordance with ASTM B488, type II, code C, class 1.27, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches in the engaging area and gold in accordance with ASTM B488, type III, code C, class 0.51 or type II, code A class 0.51, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches in the termination area.

Contact identification: See figure 1.

Oversize pin exclusion: In accordance with MIL-DTL-55302, except that the test for contact size number 23 shall be performed.

Contact engagement and separation forces (number 24 contacts):

Minimum separation: 0.5 ounce with 0.0245 inch diameter test pin, reference SAE-AS31971-24X1.

Maximum engagement: 4.0 ounces with 0.0255 inch diameter test pin, reference SAE-AS31971-24Y1.

Mating and unmating:

Low insertion force contacts: The maximum mating force, in pounds, shall be the number of contacts multiplied by 0.25 and the withdrawal force, in pounds, shall be a minimum of 0.04 times the number of contacts and shall not exceed the measured insertion force.

NOTE: Not applicable when mating and unmating is accomplished through the engaging of jackscrews and jacksockets.

Jackscrews and jacksocket torque: 2 inch pounds max fully mated.

Contact resistance: The average contact resistance of all contacts measured shall not exceed 0.007 ohm, and no individual contact pair shall have a resistance exceeding 0.015 ohm.

Dielectric withstanding voltage:

Sea level: 750 volts rms.

High altitude: 250 volts rms at 70,000 feet.

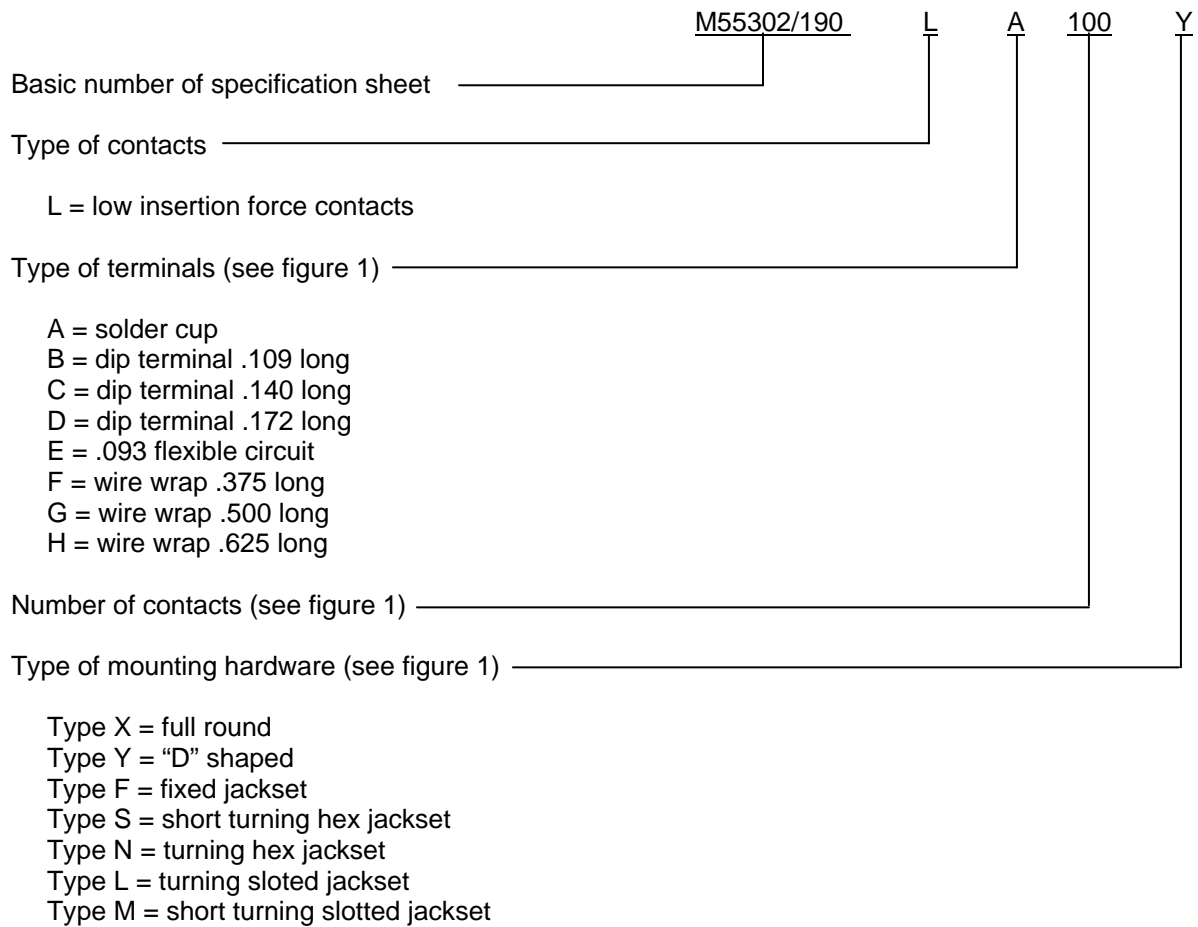
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Current rating: 3.0 amperes maximum per contact.

Polarization: Type X regular, guide pin and socket, full round (see figure 1). Type Y, adjustable "D" shaped guide pin and socket (see figure 1, detail D). All connectors are supplied in the -1 polarized position. For other than OEM use, connectors may be repolarized by using M55302/57-01 spanner wrench and M55302/190-01 guide pin and guide socket kit. When guides are removed and reinstalled in another position, apply Loctite 83-CV or equivalent on the threads. Ordering connectors in other than the -1 polarized position may be done by the OEM's by placing the desired polarized position in brackets three spaces after the part or Identifying Number (PIN) on the purchase order. Example: M55302/57-A10Y [-32]. Polarization pins and sockets shall be adjusted to any desired configuration by spanner wrench (M55302/57-01). Ordering connectors in the -1 polarized position without Loctite 83-CV or equivalent applied may be done by placing a "-0" in brackets three spaces after the PIN on the purchase order. Guide sets, as installed, shall withstand 7 ounce-inches backoff torque applied through the guide set mounting nut.

M55302/190-01 kit: Consists of one type Y "D" shaped guide socket and one type Y "D" shaped guide pin and two spanner nuts.

Example of PIN:



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Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-55302, this document references the following:

MIL-DTL-55302/191  
ASTM A581/A581M  
ASTM A582/A582M  
ASTM B196/B196M  
ASTM B197/B197M  
ASTM B488  
SAE-AMS-QQ-N-290  
SAE-AMS-2700

CONCLUDING MATERIAL

Custodians:  
Army - CR  
Navy – EC-  
Air Force – 11  
DLA - CC

Preparing activity:  
DLA - CC

(Project: 5935-4606-001)

Review activities:  
Army - AR, AT, AV, CR4, MI  
Navy - AS, MC, OS, SH  
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.