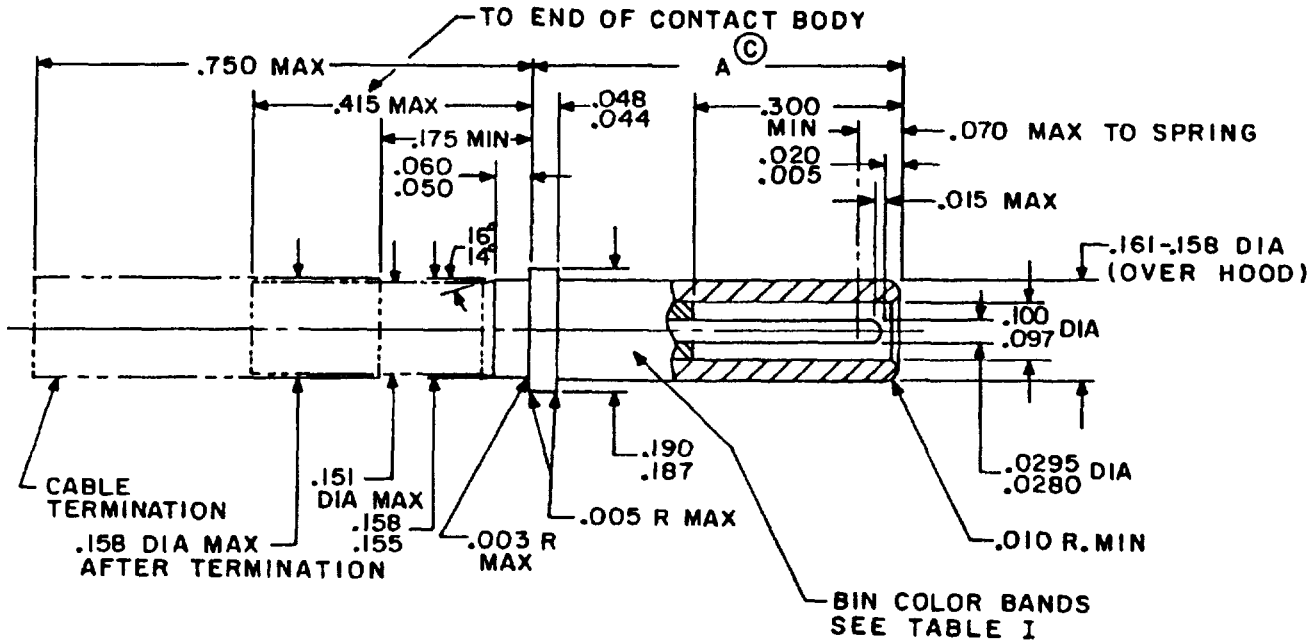
MILITARY SPECIFICATION SHEET

CONTACTS, ELECTRICAL CONNECTORS, SOCKET, SOLDER, REMOVABLE, SHIELDED, SIZE 12 (FOR MIL-C-83723 SERIES III, MIL-C-26482 SERIES 2, MIL-C-83733, AND DOD-C-83527 CONNECTORS)

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

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



Inches	mm	Inches	mm	Inches	mm
.003	0.08	.050	1.27	175	4 44
005	0.13	.060	1.52	.187	4.75
.010	0.25	.070	1.78	.190	4.85
.015	0.38	.097	2.46	.300	7.62
.020	0.51	.100	2.54	.415	10.54
.0280	0.711	.151	3.84	492	12.50
.0295	0.749	.155	3.94	500	12.70
.044	1.12	.158	4.01	.705	17.91
.048	1.22	.161	4.09	.715	18.16
				.750	19 05

Ⓒ TABLE I Dimensions.

BIN Code	A
396, 397	.500
398	.492
555 1/	.715
	.705

1/ For use with DOD-C-83527 connectors.

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions shown apply after plating.
4. When this contact is used in MIL-C-83723 series III connectors, intermateability can not be achieved with MIL-C-26500 connectors

FIGURE 1. Connector contact.

Ⓒ denotes changes

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ASSEMBLY INSTRUCTIONS:

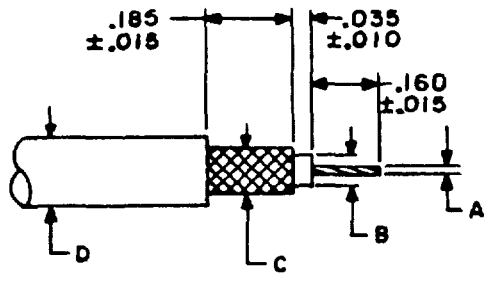
(C) 1. Strip cable as shown on figure 2.

2. Insert cable into contact until it is fully bottomed.

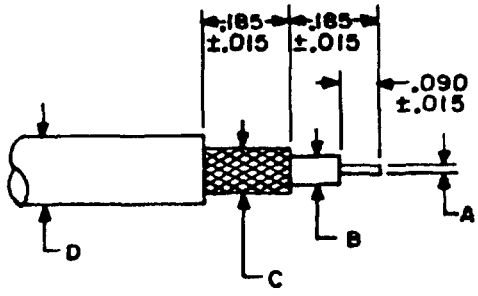
3. Heat contact with appropriate tools as shown on table II until solder melts and flows and strain relief tubing conforms to cable. Using designated heating tools will facilitate proper soldering without endangering cable insulation integrity.

(C) 4. If sealing via rear grommet is required for twisted pairs (BIN 398), an additional sealing device is required.

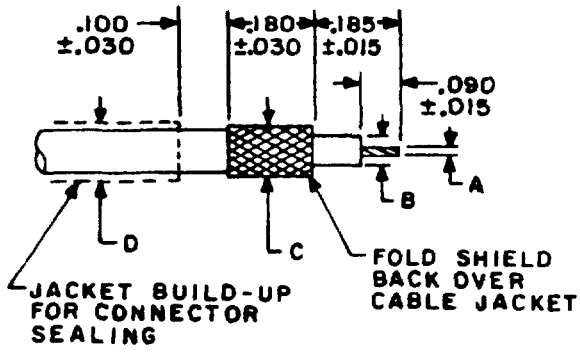
(C) 5. See tables I, IV, and V for cable accommodation.



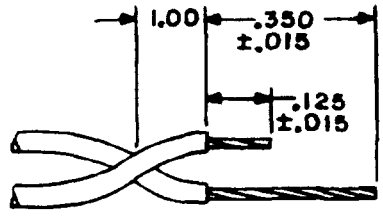
(C) CABLE PREPARATION FOR BIN 396



(C) CABLE PREPARATION FOR BIN 397 & 555 STRAIGHT SHIELD



(C) CABLE PREPARATION FOR BIN 397 FOLDBACK SHIELD



(C) CABLE PREPARATION FOR BIN 398

Inches	mm
.010	0.25
015	0 38
030	0.76
035	0 89
090	2 29
100	2.54
.125	3.18
.160	4.06
180	4.57
.185	4 70
.350	8.89
1.00	25.4

FIGURE 2. Assembly instructions.

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REQUIREMENTS:

Design and construction:
Dimensions and configuration. See figure 1 and table I.

© TABLE I. Design and characteristics.

BIN code	Color band 1ST	2ND	3RD	Cable accommodation (see figure 2) 1/ A	2/ B	3/ C	4/ D	Shield preparation technique	Test cables	Type	Class
396	Orange	White	Blue	.026 Max. .011 Min.	.105 Max. .093 Min.	.124 Max. .112 Min.	.145 Max. .120 Min.	Straight	M17/095-RG180	D	A
397	Orange	White	Violet	.026 Max. .011 Min.	.081 Max. .055 Min.	.099 Max. .077 Min.	.140 Max. .094 Min.	Straight	M17/094-RG179 Raychem 9530H1024-9 5/	D	A
				.026 Max. .011 Min.	.045 Max. .030 Min.	.099 Max. .077 Min. after fold-back	.140 Max. .094 Min. after build-up	Foldback	M17/093-RG178	D	A
398	Orange	White	Gray	24 and 26 AWG twisted pair				N/A	Twisted pair 24 and 26 AWG per MIL-C-55021	D	A
555	Green	Green	Green	.026 Max .011 Min	.081 Max .055 Min	.099 Max .077 Min	.140 Max .094 Min	Straight	M17/094-RG179	D	A

1/ A. Conductor diameter
2/ B Dielectric diameter
3/ C Shield diameter
4/ D: Jacket diameter
5/ Or equivalent.

Inches	mm	Inches	mm
.011	0.28	.099	2.51
.026	0.66	.105	2.67
.030	0.76	.112	2.84
.045	1.14	.120	3.05
.055	1.40	.124	3.15
.077	1.96	.140	3.56
.081	2.06	.145	3.68
.093	2.36		
.094	2.39		

Tools: See table II.

© TABLE II. Tools.

BIN code	Standard fixture Basic fixture	Adapter	Repair fixture	Heating tool	Installing and removal tool
396, 397, 398	AD - 1319 Raychem 1/	AT - 1319-19 Raychem 1/	AD - 1494 Raychem 1/	M83521/5-04	M81969/14-04
555	AD - 1319 Raychem 1/	AT - 1319-25 Raychem 1/	AD - 1569 Raychem 1/	M83507/14-02	M81969/14-04

1/ Or equivalent.

Mating contact: MIL-C-39029/74.
Assembly instructions: Manufacturer's recommended assembly instructions shall be shipped with unit package. See figure 2.
© Solder type: SN63SRMAP2 in accordance with QQ-S-571.
Cable accommodation: See tables I, IV, and V.

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Contact engagement and separation forces (socket contact only): See table III. The engagement depth shall be as encountered in normal service. The test pins shall be in accordance with MS3197 except the diameters shall be as specified in table III.

TABLE III. Contact engagement and separation forces.

Test pin diameter (inch)	Minimum separation force (ounces)		Maximum engagement force (ounces)		Maximum average engagement force
	Initial	After conditioning	Initial	After conditioning	
.0950 (2.41) +.0002 (0.01) -.0000 (0.00)	NA	NA	30	36	NA
.0930 (2.36) +.0000 (0.00) -.0002 (0.01)	3.0	2.5	NA	NA	NA

(C) Low signal level contact resistance: 20 milliohms, maximum. Tested with 24 AWG twisted pair.

Contact resistance: See table IV.

(C) TABLE IV. Contact resistance.

BIN code	Cable accommodated	Test current (amps) 1/	Maximum voltage drop (millivolts)					
			25°+3°,-0°C		25°+3°,-0°C 2/		125°+3°,-0°C	
			Inner	Outer	Inner	Outer	Inner	Outer
396	M17/095-RG180	1	120	13	144	16	204	22
397	M17/093-RG178 M17/094-RG179	1	120	13	144	16	204	22
	9530H1024-9 3/ (Raychem)	1	60	5	72	6	90	7.5
	24 AWG (twisted pair)	3	57	49	68	59	97	83
398	26 AWG (twisted pair)	2	63	51	76	61	107	87
555	M17/094-RG179	1	120	13	144	16	204	22

1/ Ammeter accuracy of 2 percent
2/ After conditioning.
3/ Or equivalent

Vibration. Method 2005 of MIL-STD-1344, test condition VI, letter J, except the duration shall be 8 hours in the longitudinal direction and 8 hours in the perpendicular direction (16 hours total).

Shock (specified pulse): Method 2004 of MIL-STD-1344, test condition D.

Dielectric withstanding voltage. 900 V rms, minimum, at sea level.

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© Conductor retention (tensile strength test): See table V.

© TABLE V. Conductor retention.

BIN code	Cables accommodated	Minimum tensile load 1/ (pounds)	
		Inner contact	Outer contact
396	M17/095-RG180	4.5	20.0
397	M17/093-RG178	5.2	6.5
	M17/094-RG179	5.2	16.0
	Raychem 9530H1024-9	5.5	19.5
398	24 AWG twisted pair	15.0	15.0
	26 AWG twisted pair	10.5	10.5
555	M17/094-RG179	5.2	16 0

1/ Breakage of cable outside of solder joint shall be considered passing.

Part number: See table VI.

© TABLE VI. Part number.

BIN code	Part number	Supersedes
396	M39029/73-396	M39029/73-12A
397	M39029/73-397	M39029/73-12C
398	M39029/73-398	M39029/73-12B
555	M39029/73-555	None

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

Review activities:
Army - AR, MI
Navy - EC, MC
Air Force - 11, 99
DLA - ES

User activity:
Navy - OS

Preparing activity:
Air Force - 85

Agent:
DLA - ES

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