

MILITARY SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, INSERT (INSULATOR), FEMALE RECTANGULAR,  
 POLARIZED, CENTER SCREW LOCK, FOR 117 REMOVABLE TYPE CONTACTS

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

The complete requirements for acquiring the connectors described herein shall consist of this specification and the latest issue of MIL-C-28731.

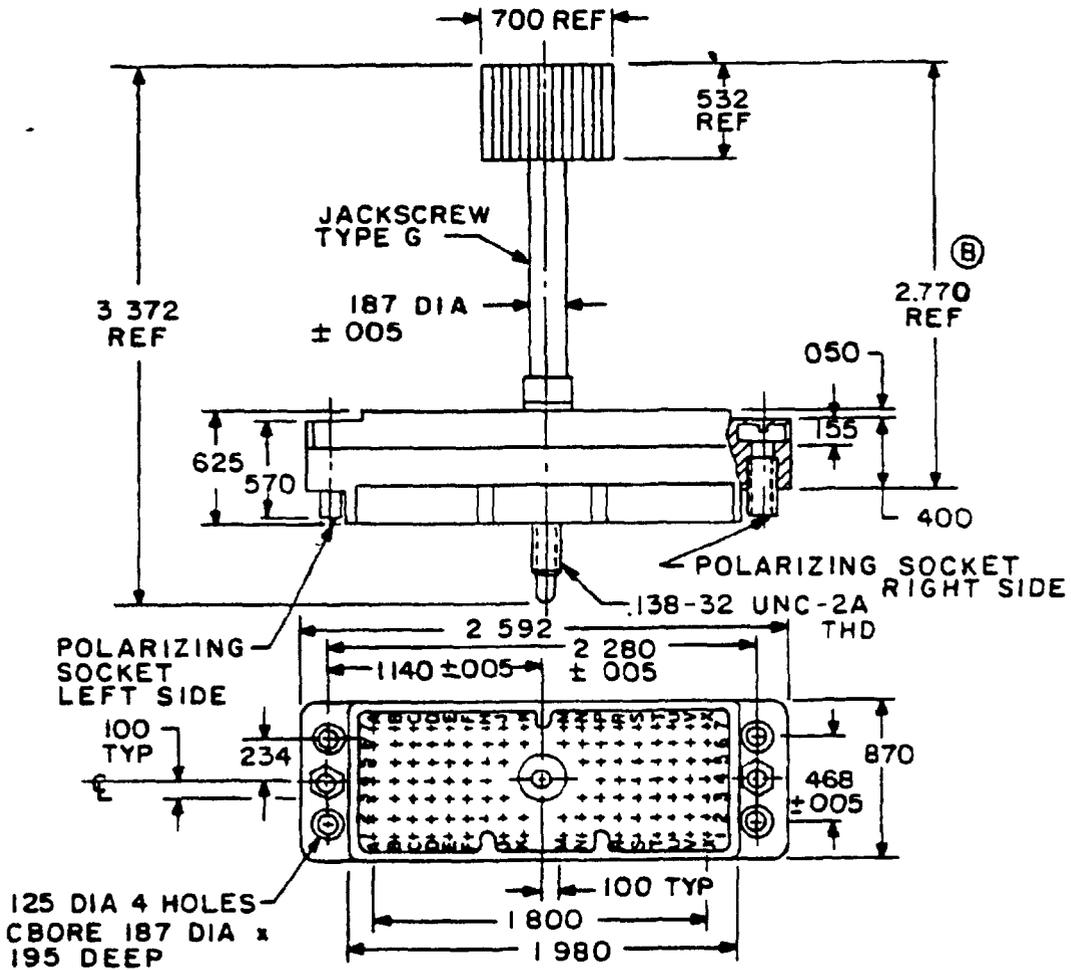
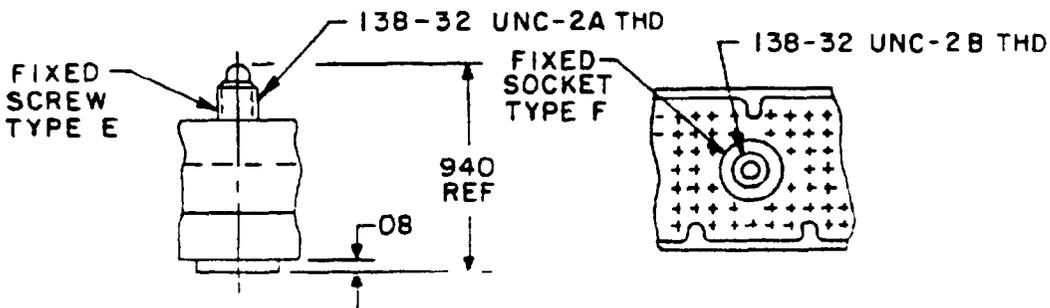
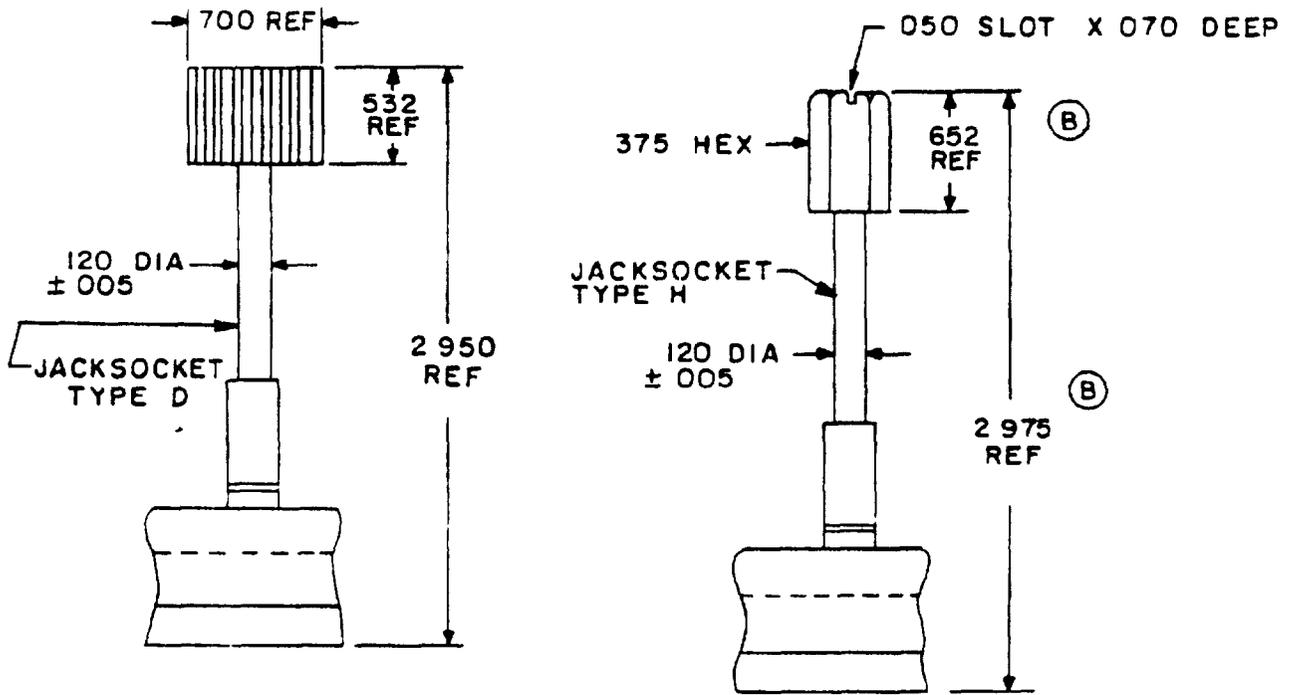


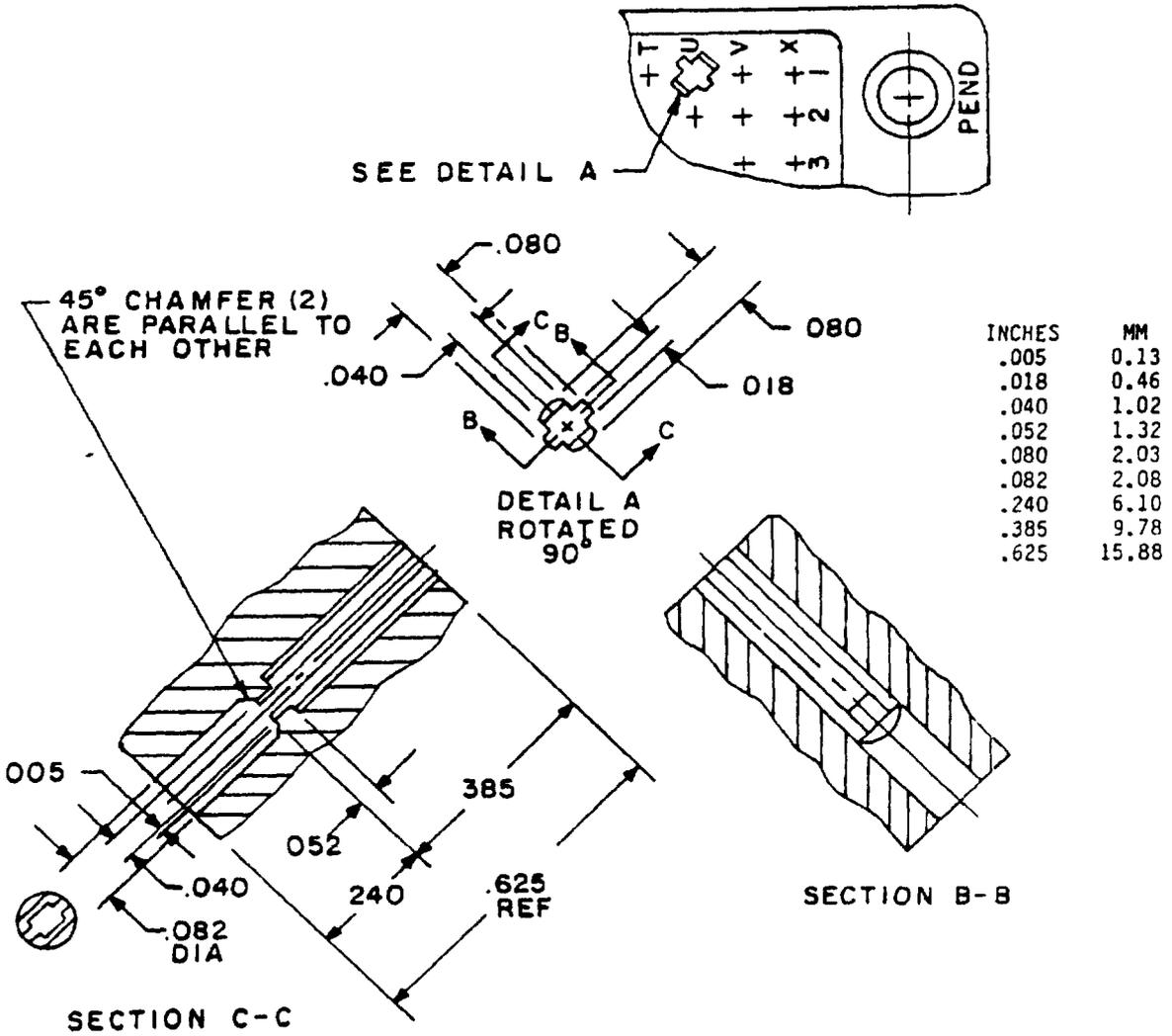
FIGURE 1. Connector, female rectangular.

(B) denotes changes



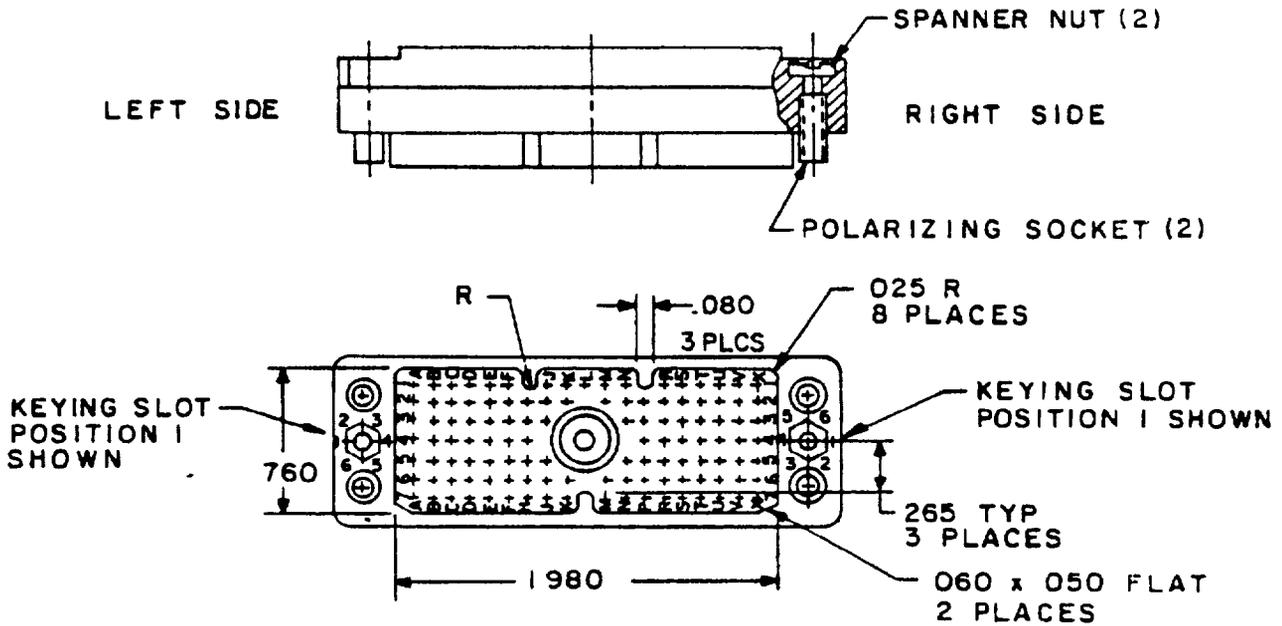
INCHES	MM
.005	0.13
.050	1.27
.07	2.0
.100	2.54
.120	3.05
.125	3.18
.138	3.51
.155	3.94
.187	4.75
.195	4.95
.234	5.94
.375	9.52
.400	10.16
.468	11.89
.532	13.51
.625	15.88
.652	16.56
.700	17.78
.870	22.10
.940	23.88
1.140	28.96
1.300	45.72
1.980	50.29
2.280	57.91
2.592	65.84
2.950	74.33
2.375	75.56
3.372	85.65

FIGURE 1. Connector, female rectangular - Continued



Configuration A - Contact hole detail

FIGURE 1. Connector, female rectangular - Continued.



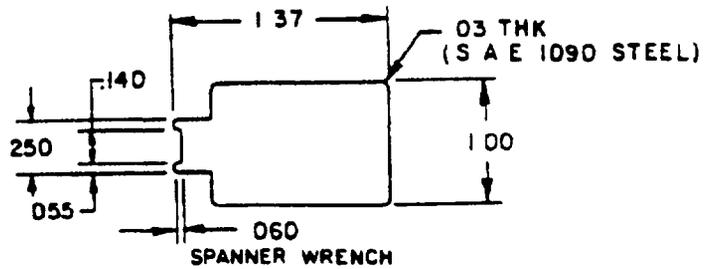
POLARIZING KEY MATING CODE	
R (FEMALE) Position	P (MALE) Position
1	4
2	5
3	6
4	1
5	2
6	3

**POLARIZING POSITION CHANGE**

Keying position on both polarizing sockets can be rotated to desired position by loosening spanner nut (counter-clockwise), resetting socket in one of six positions then retightening spanner nut (clockwise).

NOTE. Overtightening of spanner nut can fracture connector. Spanner keying wrench shown below.

INCHES	MM
.025	0.63
.03	0.8
.050	1.27
.055	1.40
.060	1.52
.080	2.05
.140	3.56
.250	6.35
.265	6.73
.760	19.30
1.00	25.4
1.37	34.8
1.980	50.49



**CONFIGURATION OPTIONAL  
DIMENSIONS REF ONLY**

Configuration B - Connector polarization guide (layout)

FIGURE 1. Connector, female rectangular - Continued.

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Tolerances between any two contact centers shall be  $\pm 004$  (0.10 mm).
4. Flatness, squareness, and parallelism shall be within dimensional tolerances.
5. Contact hole details shall be in accordance with configuration B.
6. Mating connector information:  
M28731/32-0001 mate with M28731/31-0003 and -0005.  
M28731/32-0002 mate with M28731/31-0004 and -0006.  
M28731/32-0003 and -0005 mate with M28731/31-0001.  
M28731/32-0004 and -0006 mate with M28731/31-0002.
7. Polarization information  
Polarization sockets are provided for indexing to preclude intermixing of adjacent connectors. By using a standard type spanner wrench, polarization sockets can be rotated to desired position. For parts supplied directly to the government, polarization will be in the 1-1 position. For other polarization positions see connector polarization guide configuration A (see marking, note 13d). For direct government acquisition a tool is supplied in the unit package for polarization socket adjustment.
8. Contact and terminal designations:  
Contacts and terminals shall be designated on the insulator using letters in the location shown on figure 1.
9. Tolerance shall be  $\pm .010$  (0.25 mm) unless otherwise specified.
10. Patent notice:  
Patent No. 3,675,185 owned by Elco Corporation. The government has a royalty-free license under the above patent for the benefit of manufacturers of items called for in this specification, either for the government or for use in equipment to be delivered to the government.
11. For direct government acquisition crimp contacts M28731/35-0001 are furnished in a plastic bag in each unit package (see marking, note 13a).
12. For direct government acquisition wrappost contacts are M28731/36-0001 and are factory installed in connector body (see marking, note 13a).
13. Marking
  - a. Connectors supplied directly to the government shall be marked with the military part number (see table I). Example: M28731/32-0001.
  - b. Connectors supplied with contacts to government end users shall be marked with the military part number (see table I). Example: M28731/31-0001.
  - ⓑ c. Connectors supplied without contacts to government end users shall be marked as follows. Example: M28731/32E (screw or socket type from table I). The user shall complete the remaining portion of the military part number as shown in table I based upon contact type he assembles. Example: M28731/32E-0004.
  - ⓑ d. Polarization position marking is not required unless otherwise specified. When required polarization marking shall be in accordance with the connector polarization guide (see configuration B). The marking shall appear following the part number
14. Applicable contact insertion and removal tools
 

ⓑ	Insertion . . . . .	MIL-I-81969/5-01
	Removal . . . . .	MIL-I-81969/4-02
15. Rectangular shield Shall conform to MIL-C-28731/19, part number M28731/19-0007 through M28731/19-0010 and -0017, -0018 for type A and B hardware.
16. Recommended hardware (not furnished) for panel mounting (4) .112-40-UNC-2A (length to suit) bolt with No. 4 washer and mating nut.
17. Rectangular shield for connector M28731/32-0007 shall conform to MIL-C-28731/38. Part number M28731/38-001 must be ordered separately

FIGURE 1. Connector, female rectangular - Continued.

MIL-C-28731/32B

REQUIREMENTS

- Dimensions and configuration: See figure 1.
- Mating and unmating forces (torque): 120 inch-ounces, maximum.
- Dielectric withstanding voltage: 1,000 volts rms (sea level).
- Mechanical shock (specified pulse): Applicable.
- Contact retention: 6 pounds.
- Contact separation force 1 ounce, minimum.
- Contact current rating. 5 amperes, 22 AWG wire.
- Part number: See table I.

TABLE I. Part number information.

Military part number	Actuating hardware	Polarizing socket position		Contact type
		Left side	Right side	
M28731/32-0001	Jackscrew Type G	1	1	Crimp, MIL-C-28731/35 <u>1/</u>
M28731/32-0002	Jack socket Type D	1	1	Crimp, MIL-C-28731/35 <u>1/</u>
M28731/32-0003	Fixed socket Type F	1	1	Crimp, MIL-C-28731/35 <u>1/</u>
M28731/32-0004	Fixed screw Type E	1	1	Crimp, MIL-C-28731/35 <u>1/</u>
M28731/32-0005	Fixed socket Type F	1	1	Wrappost, MIL-C-28731/36 <u>2/</u>
M28731/32-0006	Fixed screw Type E	1	1	Wrappost, MIL-C-28731/36 <u>2/</u>
M28731/32-007	Jack socket Type H	1	1	Crimp, MIL-C-28731/35 <u>1/</u>

1/ See figure 1, note 11

2/ See figure 1, note 12

Custodians  
 Army - CR  
 Navy - EC  
 Air Force - 85

Preparing activity  
 Navy - EC  
 (Project 5935-3488-24)

Review activities:  
 Army - AR, AT, MI  
 Navy - AS  
 Air Force - 11, 17, 99  
 DLA - ES

User activities:  
 Army - AL, AV, ME  
 Navy - MC, OS  
 Air Force - 19

Agent  
 DLA - ES

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DEPARTMENT OF THE NAVY

Naval Electronic Systems Command  
Washington, DC 20363



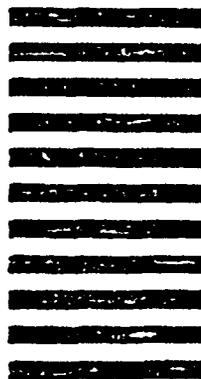
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# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

MTA-C-28731/32B

2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

VENDOR

USER

MANUFACTURER

OTHER (Specify) \_\_\_\_\_

b. ADDRESS (Street, City, State, ZIP Code)

5. PROBLEM AREAS

a. Paragraph Number and Wording

b. Recommended Wording

c. Reason/Rationale for Recommendation

6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) - Optional

b. WORK TELEPHONE NUMBER (Include Area Code) - Optional

c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional

8. DATE OF SUBMISSION (YYMMDD)