

CORDS AND PLUGS ASSOCIATED WITH 302-, 303-, AND 305-TYPE CONNECTORS

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1. GENERAL

1.01 This section describes plugs, cords, and test connectors used with the 302-, 303-, and 305-type connectors associated with main distributing frames and COSMIC distributing frames.

1.02 This section is reissued to add the 305-type connector and associated cords and plugs and to add the C-4920 and C-4930 multiple pair test connectors. The section title is revised to include the 305-type connector.

1.03 Plugs, cords, and test connectors used on other than 302-, 303-, and 305-type connectors are covered in Sections 201-206-102 and 201-207-102.

1.04 Other sections which may be helpful are in the 032 Division.

2. CORDS, PLUGS, AND TEST CONNECTORS

A. Plugs and Test Connectors Used With 302-, 303-, and 305-Type Connectors

2.01 Table A lists plugs and test connectors used with 302-, 303-, and 305-type connectors.

B. Cords Used With 302-, 303-, and 305-Type Connectors

2.02 Table B lists cords used with 302-, 303-, and 305-type connectors.

3. D, G, H, M, AND N TEST CONNECTORS AND C-4920 AND C-4930 MULTIPLE PAIR TEST CONNECTORS

A. General

3.01 This part describes the D, G, H, M, and N test connectors and the Communications Technology Corporation C-4920 and C-4930 multiple pair test connectors (see Section 106-315-119) and covers their use in testing outside plant cable pairs terminated on 302-, 303-, or 305-type connectors. The D, G, H, and N test connectors are similar except for the mounting arrangement and pair numbering. The D test connector mounts on the test terminal field of the 302A1 and 302B1 connectors. The G test connector mounts on the test terminal field of the 302A2 and 302B2 connectors, and the H test connector mounts on the test terminal field of the 303A1 and 303B1 connectors. The N test connector mounts on the test terminal field of the 305-type connectors. The M test connector is used to connect the test terminal field of the 305A1 or 305B1 connector to automatic pair identification equipment. The C-4920 and C-4930 multiple pair test connectors connect the test terminal fields of

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the 302- or 303-type connectors to automatic pair identification equipment.⚡

B. Description

3.02 The G test connector used with the 302A2 and 302B2 connectors on the double-sided protector frame (DSPF) (Fig. 1) consists of 100 contacts mounted in a plastic housing. Each contact consists of a gold-plated brass plunger, a gold-plated brass spike, and a gold-plated music wire-spring which bridges the plunger to the spike. The spring also presses the plunger against the recessed test button on the 302-type connector. The spikes on the face of the test connector protect the gold-plated buttons of the 302-type connector from damage when a B test point is used.

3.03 The D used with the 302A1 and 302B1 connectors on the modular protector frame (PF) test connector (Fig. 2) is similar to the G test connector except for the mounting arrangement (Fig. 3).

3.04 The H test connector (Fig. 4) is similar to the G test connector except for the number of locating pins on the rear and the pair numbering on the front.

3.05 The N test connector used with the 305-type connector has the test field spikes at right angles to the spring loaded contacts to facilitate testing due to the orientation of the 305-type connector mounting on the main frame (Fig. 5). The test connector is mounted to the 305-type connector test terminal field with captured thumb screws. Connection is made to all 200 recessed gold-plated test buttons (100 pairs). Numbering is 1 through 00 (100).

3.06 C-4920 and C-4930 multiple pair test connectors (Fig. 6) consists of a plastic shell in which 100 gold plated pins (50 pairs) are housed and internally connected to the 50-pair test cord. The 15-foot test cord divides into two 25-pair branches which terminate in two KS-19162-L4 (or equivalent) connectors.

3.07 The C4920 multiple pair test connector is designed for use with either the 302A2, 302B2, or 303-type connectors.

3.08 The C4930 multiple pair test connector is designed for use with the 302A1 or 302B1 connectors.

3.09 The M test connector (Fig. 7) used with the 305-type connector is similar to the multiple pair test connector except it contacts all 100 pairs of the test terminal field. Two 50-pair, 15-foot long cables terminate in two each KS-19162-L4 connectors. The four connectors are numbered 1-25, 26-50, 51-75, and 76-100 respectively.⚡

C. Use

CAUTION: All connectors must be handled and used carefully to avoid damage and contamination to spring loaded contacts and/or test field spikes.⚡

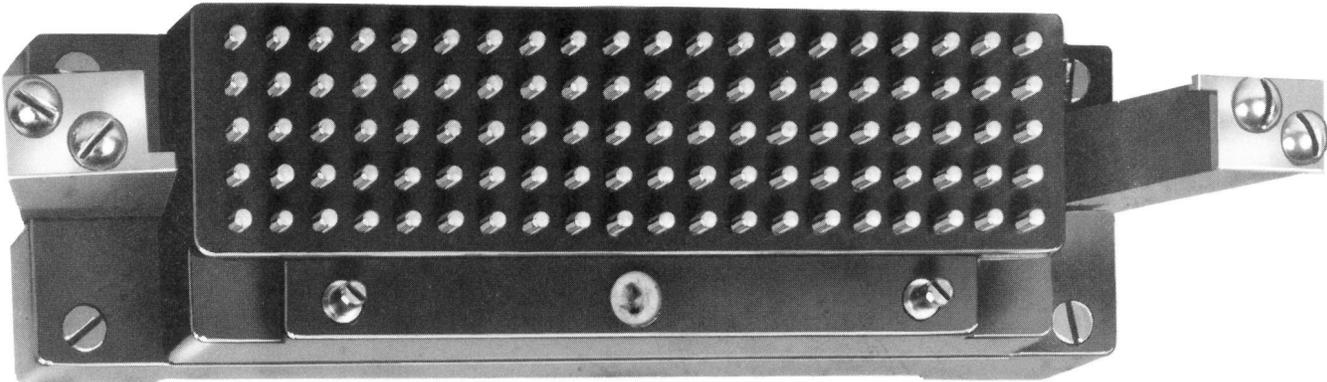
3.10 The D, G, or H test connector is placed over the 50-pair test terminal field on the 302- or 303-type connector and held in place by slots in the modular protector frame (D test connector) or by hooks over the rear of the connector (G and H test connector). The spikes on the face of the test connector will withstand repeated contacts with a B test point; whereas, the recessed gold-plated buttons on the 302-, 303-, and 305-type connector test panel will not.

3.11 The D, G, or H test connector can be used on either of the two test terminal fields of a 302- or 303-type connector. The D and G test connector must be inverted from one test terminal field to another (top to bottom). They have two sets of pair numberings: one set (pairs 1 through 50) inverted from the other set (pairs 51 through 100). The H test connector should not be inverted when moved from one test terminal field to another. Both sets of pair numbering on the H test connector have the same orientation.

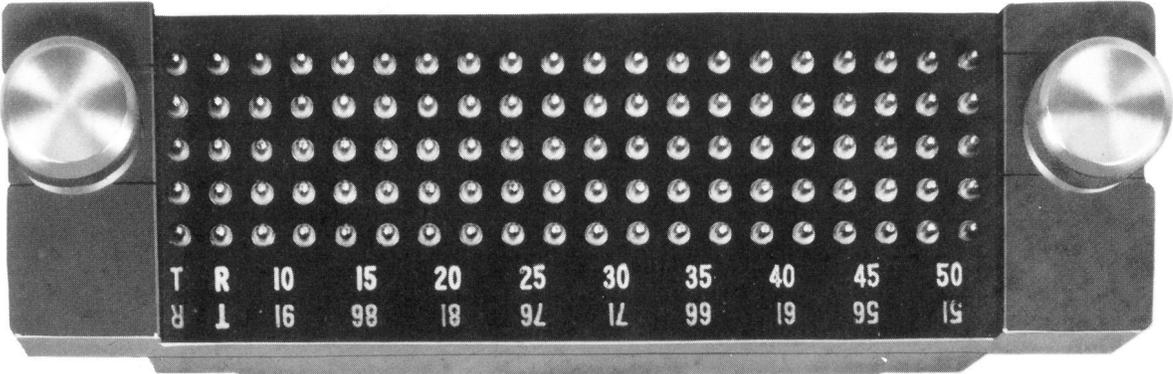
3.12 The test connectors will not make contact with the test buttons on any special service pair covered with a KS-19478 L1 Guard.

3.13 The test connector spikes also accommodate the chuck-type connectors of the W2FH and W2FM cords (Fig. 8 and Table B) for connection of outside plant or other test equipment.

3.14 The M and N test connectors are designed for use with the 305-type connectors.⚡



REAR VIEW



FRONT VIEW

Fig. 1—G Test Connector (For 302A2 and 302B2 Connector)

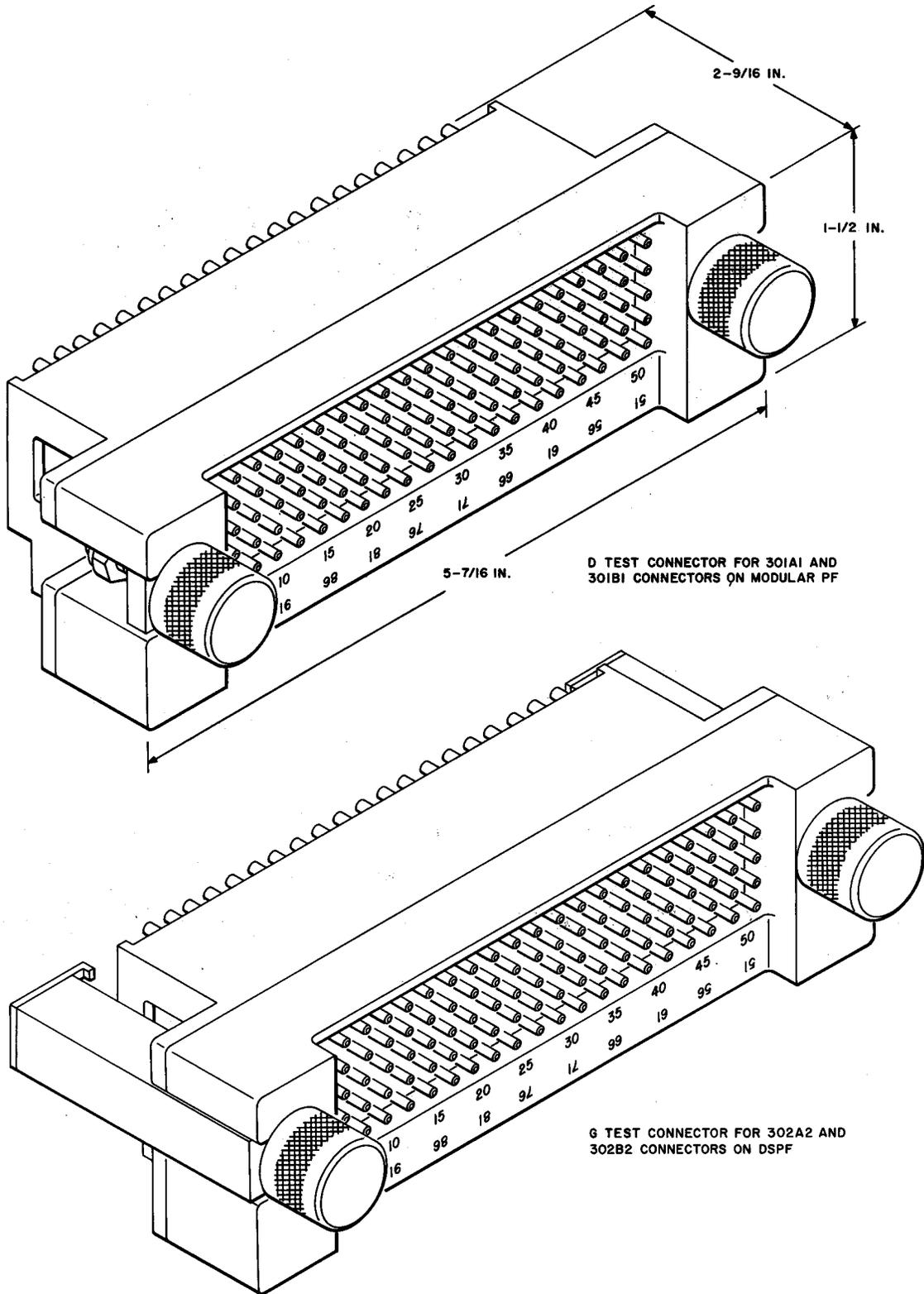
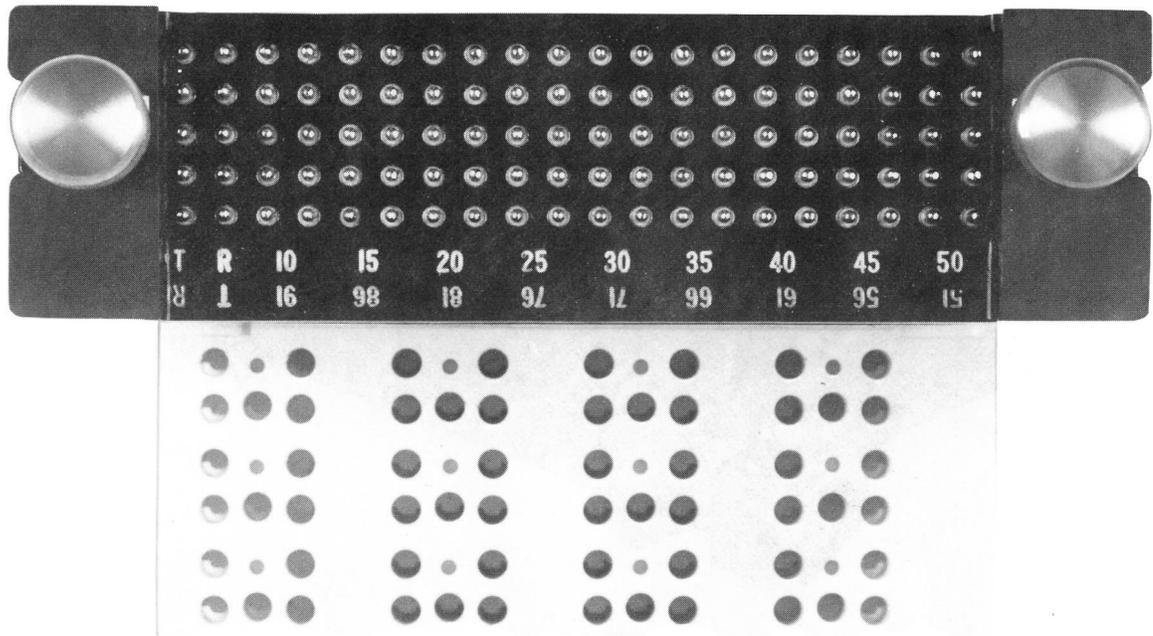
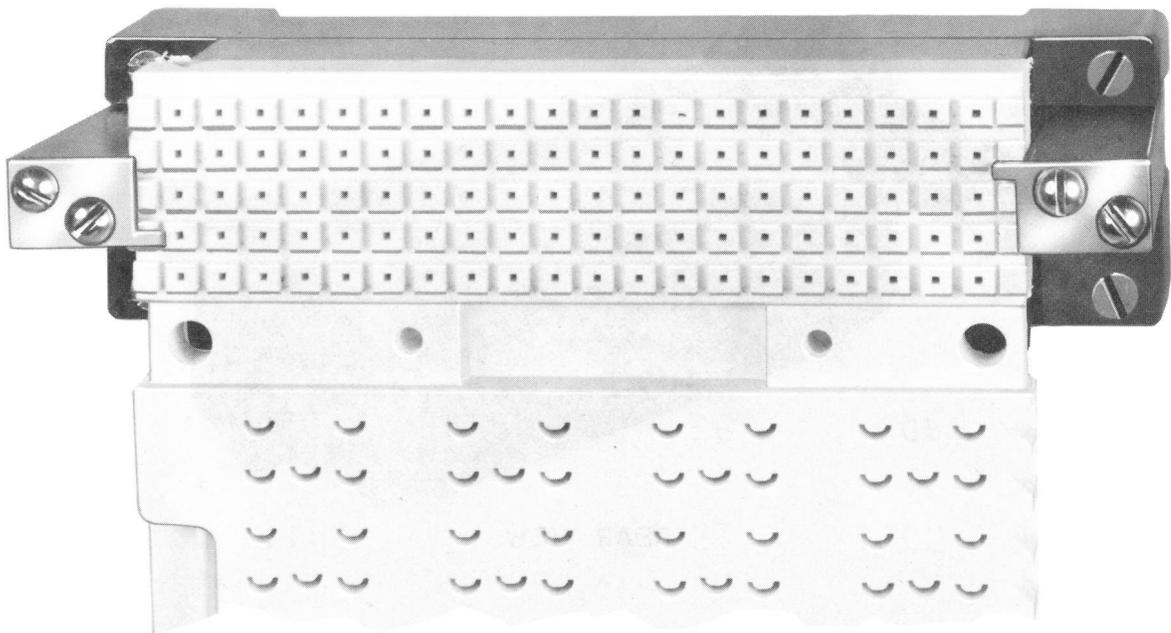


Fig. 2—D and G Test Connector Mounting Arrangement

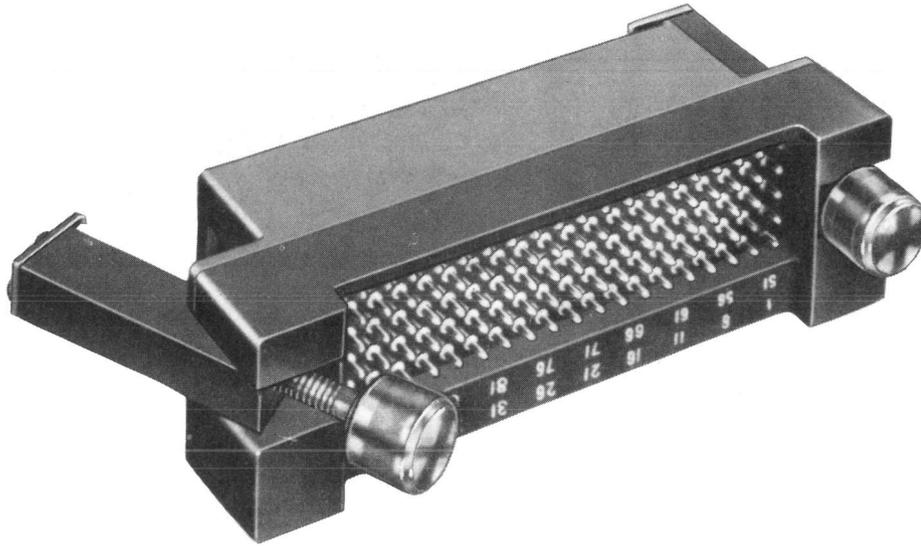


FRONT VIEW

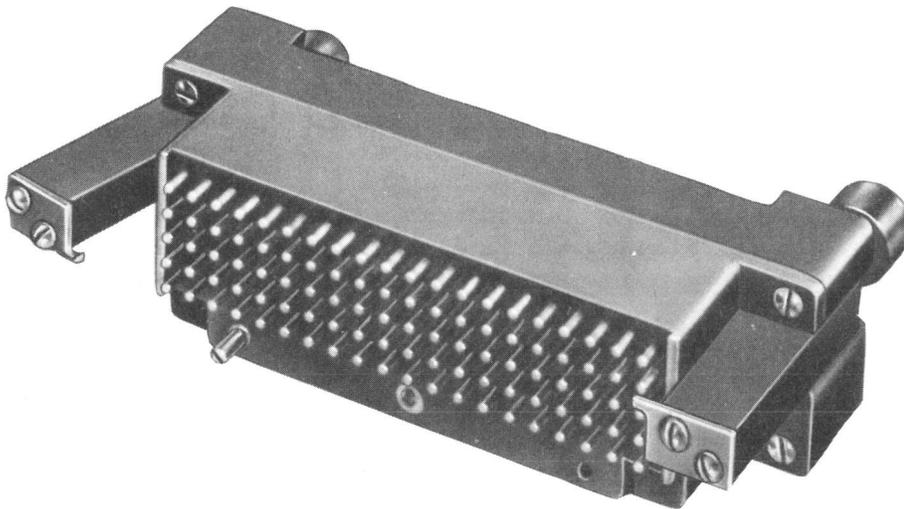


REAR VIEW

Fig. 3—G Test Connector Mounted—(For 302A2 and 302B2 Connectors Mounted on Double-Sided Protector Frame)



FRONT VIEW



REAR VIEW

Fig. 4—H Test Connector (For 303-Type Connectors)

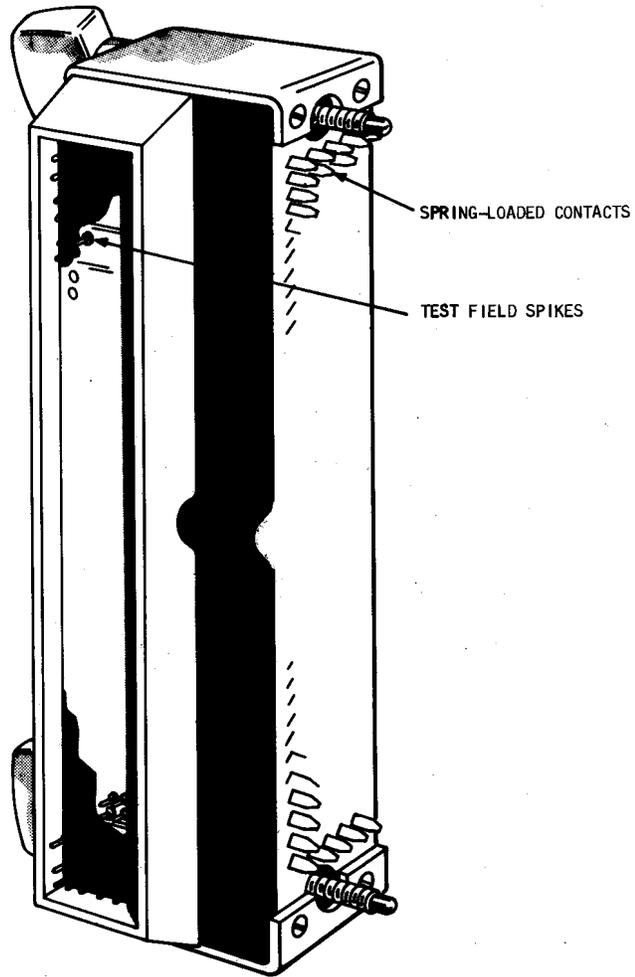


Fig. 5—N Test Connector (For 305-Type Connector)

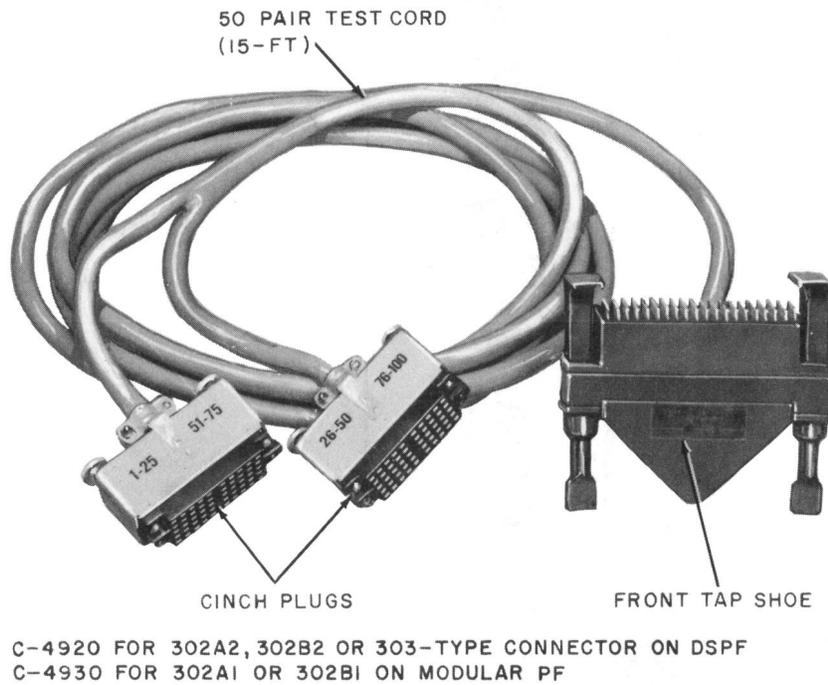


Fig. 6—C-4920 and C-4930 Multiple Pair Test Connector (KS-19162 L4 Equivalent)

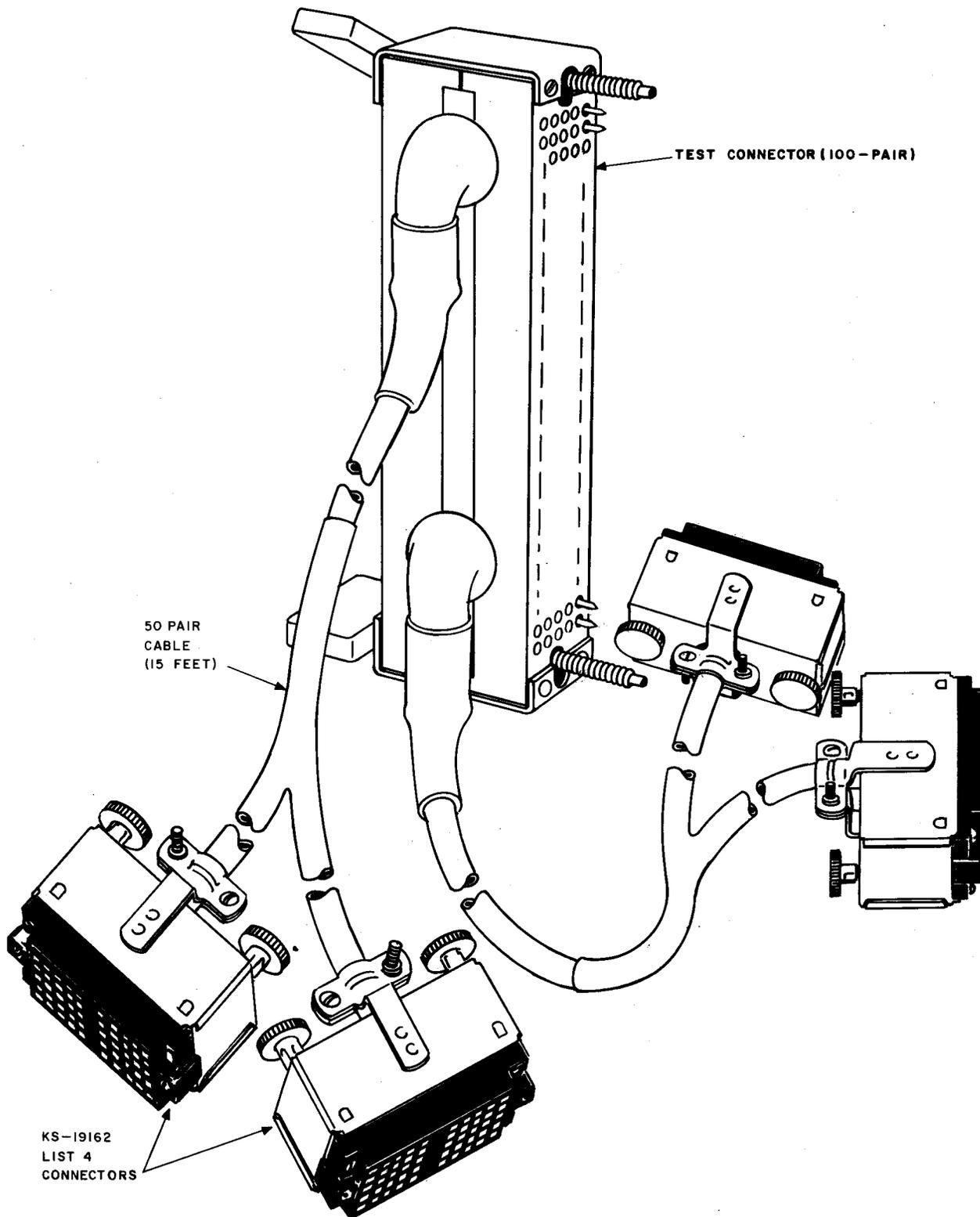


Fig. 7—M Test Connector (AT-8323) (For 305-Type Connector)

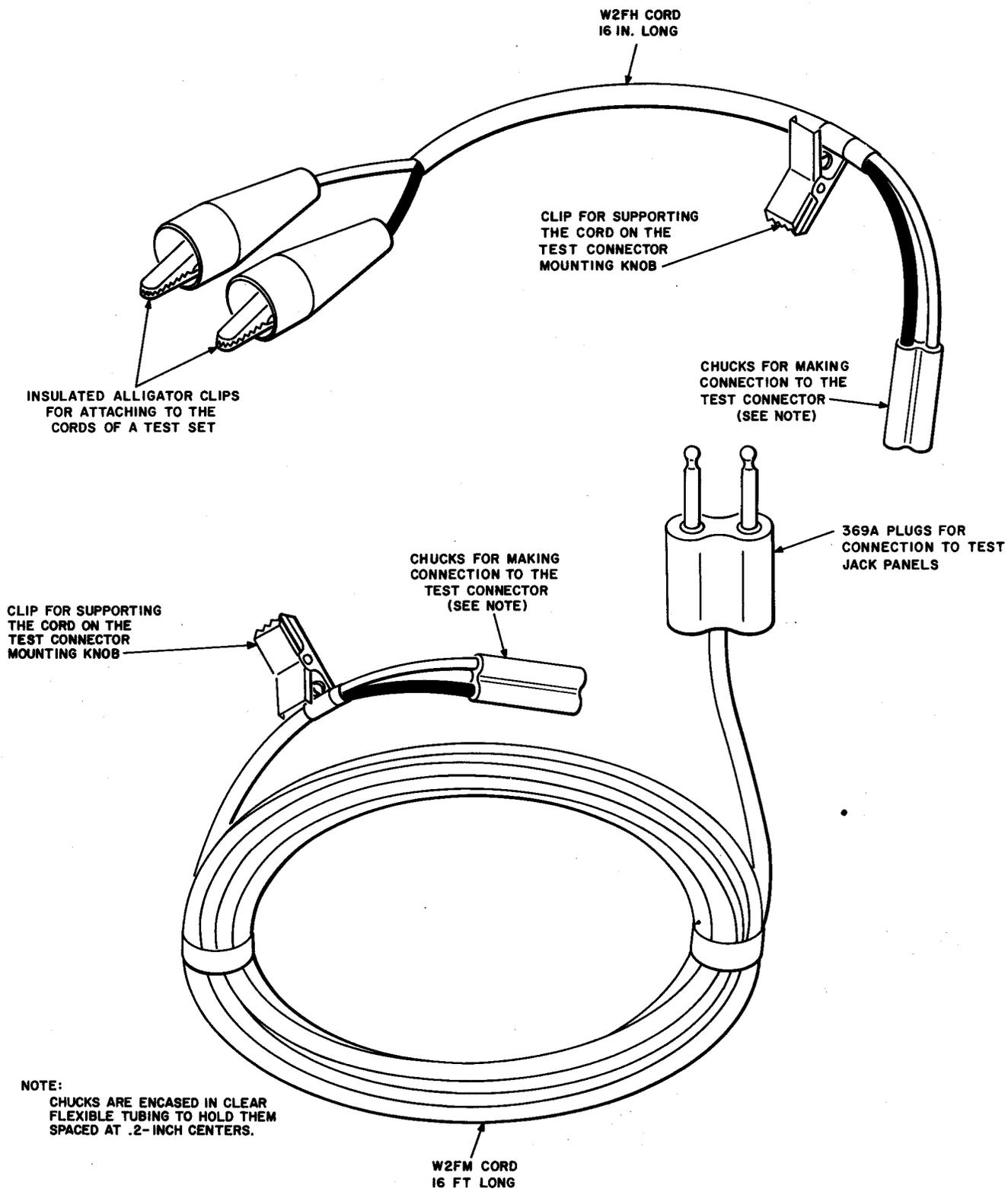
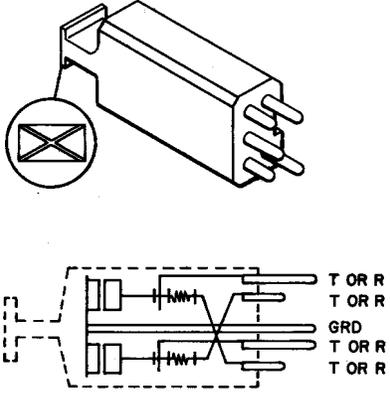


Fig. 8—W2FH and W2FM Cords

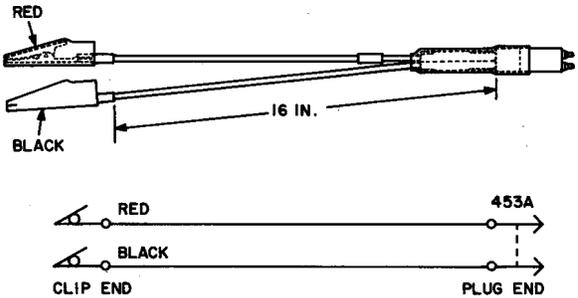
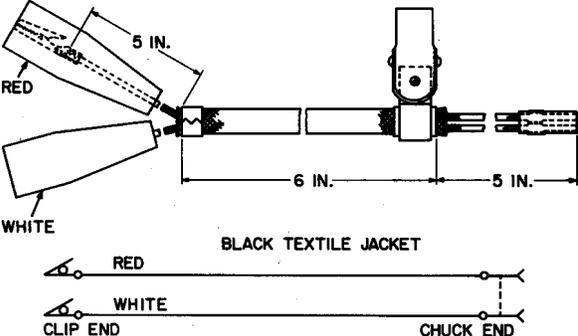
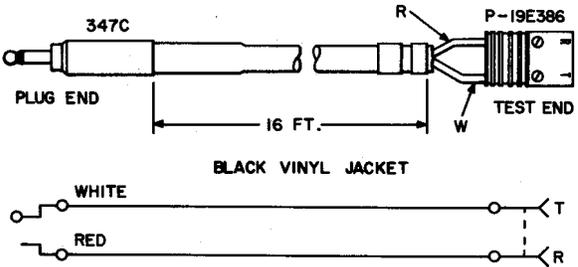
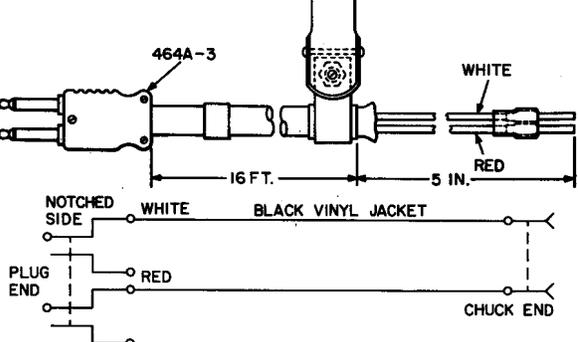
→TABLE A←

PLUGS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| PLUG | DESCRIPTION AND USE | ILLUSTRATION AND SCHEMATIC |
|--|--|---|
| <p>429F Replaces 429A</p> | <p>Consists of 4A5C protector components housed in a white case. The color is white to indicate that the pair is being reversed.</p> <p>Note: 429F plugs can be used on 302-, 303-, and 305-type connectors. Older 429A and 429E plugs can only be used on 302-type connectors.</p> |  |
| <p>D and G Test Con- nectors</p> | <p>Used to provide access to all 50 test terminals on a test terminal field of 302-type connectors.</p> | <p>See Figures 1 and 2 and 3.08.</p> |
| <p>H Test Con- nectors</p> | <p>Used to provide access to all 50 test terminals on a test terminal field of 303-type connectors.</p> | <p>See Figures 4 and 3.08.</p> |
| <p>M Test Con- nector</p> | <p>Used with 305-type connectors for connecting 100 pair test field to automatic pair identification equipment.</p> | <p>See Figure 7 and 3.07.</p> |
| <p>N Test Con- nector</p> | <p>Used to provide access to all 100 test terminals on the test terminal field on the 305-type connectors.</p> | <p>See Figure 5 and 3.05.</p> |
| <p>C-4920 Multiple Pair Test Con- nector</p> | <p>Used with 303 or 302A2 or 302B2 connectors to connect test terminal fields to automatic pair identification equipment.</p> | <p>See Figure 6 and 3.06.</p> |
| <p>C-4930 Multiple Pair Test Connector</p> | <p>Used with 302A1 or 302B1 connectors to connect test terminal fields to automatic pair identification equipment.</p> | <p>See Figure 6 and 3.06.</p> |

→TABLE B←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|------|--|--|
| W2EF | <p>Used to apply short between tip and ring or to apply ground to either tip or ring or both.</p> <p>CAUTION: Not to be used as an adapter for connecting longer cords.</p> |  |
| W2FH | <p>Connects outside plant test sets to a cable pair.</p> |  |
| W2FL | <p>Used on rear of No. 1 ESS Modular MDF to patch between 78B-64 connecting block and service observing jack panel.</p> |  |
| W2FM | <p>Used in conjunction with D, G, and H test connectors for 302- and 303-type connectors.</p> |  |

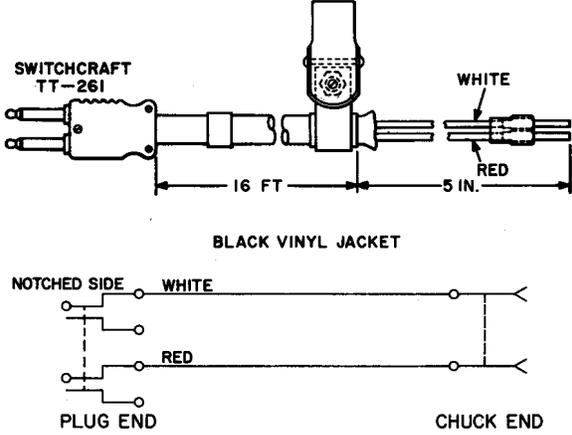
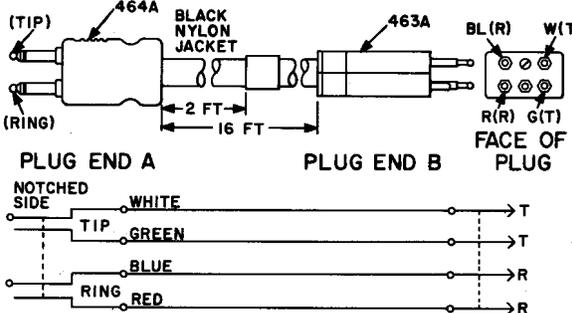
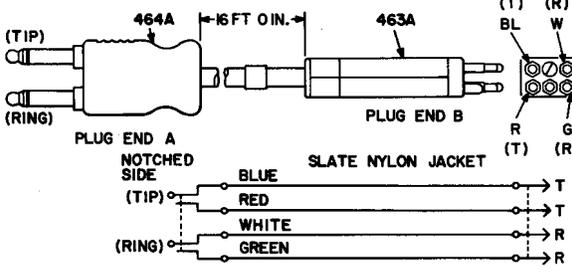
→TABLE B (Contd)←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|------|---|--|
| W2GC | Used for making connection to a cable pair at a vacant protector socket on a 302-type connector only. | <p>Diagram of W2GC cord showing a 5 IN. clip end with white and red wires, a 3 FT. black nylon jacket, and a 463A plug end with a face of plug. A schematic below shows the white wire connected to terminal T and the red wire connected to terminal R.</p> |
| W2GD | Used in series with a P20B cord to connect KS-14103 test set to cable pair at a vacant protector socket on 302-type connectors only. | <p>Diagram of W2GD cord showing a 10 IN. black neoprene jacket with plug end A (white and black wires) and plug end B (red wire). A schematic below shows a HOWARD JONES P-202-CCT PLUG MUELLER NO. 23 INSULATOR (RED) connected to terminal T and terminal R.</p> |
| W2GL | Used for making connection to a cable pair at a vacant protector socket on 303- and 305-type connectors. | <p>Diagram of W2GL cord showing a 5 IN. clip end with white and red wires, a 3 FT. slate nylon jacket, and a plug end with a face of plug. A schematic below shows the white wire connected to terminal T and the red wire connected to terminal R.</p> |
| W2GM | Used in series with a P20B cord to connect KS-14103 test set to cable pair at a vacant protector socket on 303- and 305-type connectors. | <p>Diagram of W2GM cord showing a 10 IN. olive gray jacket with plug end A (white and black wires) and plug end B (red wire). A schematic below shows a HOWARD JONES P-202-CCT PLUG MUELLER NO. 23 INSULATOR (RED) connected to terminal T and terminal R.</p> |

→TABLE B (Contd)←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|------------------|---|--|
| W2HA | Bridging cord used with 302, 303, and 305-type connectors on frames equipped with <i>Miniature Test/Talk System</i> hardware. |  <p>SWITCHCRAFT TT-261</p> <p>16 FT</p> <p>5 IN.</p> <p>WHITE</p> <p>RED</p> <p>BLACK VINYL JACKET</p> <p>NOTCHED SIDE</p> <p>WHITE</p> <p>RED</p> <p>PLUG END</p> <p>CHUCK END</p> |
| W4BR | Used for making in and out tests from <i>302-type connectors only</i> . |  <p>(TIP)</p> <p>(RING)</p> <p>464A</p> <p>BLACK NYLON JACKET</p> <p>2 FT</p> <p>16 FT</p> <p>463A</p> <p>PLUG END A</p> <p>PLUG END B</p> <p>FACE OF PLUG</p> <p>BL(R)</p> <p>W(T)</p> <p>R(R)</p> <p>G(T)</p> <p>NOTCHED SIDE</p> <p>WHITE</p> <p>TIP GREEN</p> <p>BLUE</p> <p>RING RED</p> <p>T</p> <p>T</p> <p>R</p> <p>R</p> |
| W4CJ W4CT | Used for making in and out tests from <i>303- and 305-type connectors</i> . Same as W4CJ with miniature KS-plug. Used with frames equipped with <i>Miniature Test/Talk System</i> hardware (ED-6C110). |  <p>(TIP)</p> <p>(RING)</p> <p>464A</p> <p>16 FT 0 IN.</p> <p>463A</p> <p>PLUG END A</p> <p>PLUG END B</p> <p>(T) BL</p> <p>(R) W</p> <p>(R) G</p> <p>(T) R</p> <p>SLATE NYLON JACKET</p> <p>NOTCHED SIDE</p> <p>BLUE</p> <p>(TIP) RED</p> <p>WHITE</p> <p>(RING) GREEN</p> <p>T</p> <p>T</p> <p>R</p> <p>R</p> |

→TABLE B (Contd)←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|------|---|--|
| W4CL | Used in making manual and automatic Varley measurements on 302-type connectors only. | <p>Diagram illustrating the W4CL cord assembly and its schematic. The assembly consists of Plug End A (6 IN. long), a 16 FT. section, and Plug End B. Plug End C is also shown. Labels include W, BL, 464A, 463A, G, R, T, and R. The schematic shows the NOTCHED SIDE of 464A (W, BL, G, R) and the FACE OF 463A PLUG (G, R). It details the use of 141 CORD TIP and 360A/360B TOOL to test the cord's continuity between the two plug faces.</p> |

→TABLE B (Contd)←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|--------------------|--|--|
| <p>W4CM</p> | <p>Used in making manual and automatic Varley measurements on 303- and 305-type connectors.</p> | <p>Diagram illustrating the W4CM cord configuration and electrical connections. The cord consists of Plug End A (6 IN. long), a 16 FT 0 IN. section, and Plug End B (463A). Plug End C is also shown. The schematic shows the NOTCHED SIDE and the FACE OF 463A PLUG. The NOTCHED SIDE includes wires (BL), (W), (R), and (G) connected to 360B TOOLS and 141 CORD TIPS. The FACE OF 463A PLUG includes terminals (T), (R), and (G) connected to 360A TOOLS and 141 CORD TIPS. A GOOD/BAD indicator is also shown.</p> |
| <p>W4CP</p> | <p>Used for making in and out tests from 302-type connectors on frames equipped with Miniature Test/Talk System hardware.</p> | <p>Diagram illustrating the W4CP cord configuration and electrical connections. The cord consists of Plug End A (RING), a 16 FT 0 IN. section, and Plug End B (FACE OF PLUG). The schematic shows the NOTCHED SIDE and the FACE OF PLUG. The NOTCHED SIDE includes wires WHITE, GREEN, BLUE, and RED connected to terminals (TIP), (RING), (R), and (T). The FACE OF PLUG includes terminals (R), (T), (BL), (W), (R), (G), and (R), (T).</p> |

→TABLE B (Contd)←

CORDS USED WITH 302-, 303-, AND 305-TYPE CONNECTORS

| CORD | USE | ILLUSTRATION AND SCHEMATIC |
|-------------|--|---|
| <p>W4CR</p> | <p>Used in making manual and automatic Varley measurements on <i>302-type connectors only.</i></p> | <p>NOTCHED SIDE SWITCHCRAFT TT-261 (W)</p> <p>BLACK NYLON BRAIDED CORD</p> <p>FACE OF 463A PLUG</p> <p>FACE OF 463A PLUG</p> <p>GOOD</p> <p>BAD</p> <p>141 CORD TIP</p> <p>360B TOOL</p> <p>360A TOOL</p> <p>(G) T (G) T (G) T</p> <p>(R) R (R) R (R) R</p> |