308-TYPE CONNECTORS

DESCRIPTION, INSTALLATION, AND MARKING

CONTENTS PAGE

1. GENERAL

1.01 This section covers the description, installation, and marking of the 308-type connectors. The 308-type connector has a termination capacity of 100 pairs with the protector units arranged in a 5 x 20 array and contains a single 100-pair test terminal field. These connectors are used ***only*** on a common systems modular protector frame (MPF) ED-97898-31 for terminating outside plant cable. The protector frame module, consisting of 12 verticals, accommodates eight 308-type connectors per vertical for a total termination capacity of 9600 pairs.

1.02 When this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 A new MPF has been designed to accommodate the 308-type connector. The frame (ED-97898-31) has the same overall dimensions as the MPF (ED-1A220-31) currently used for mounting 302 type 1 connectors. The new frame can be installed in the same lineup with the existing MPF. Test sets, jacks, plugs, and cords used with 302-type connectors may also be used on the 308-type connector. (See Sections 106-315-111 and 106-315-121.)

1.04 The MPF is the dividing point between outside plant and the central office equipment. All pairs on the central office side of the connector are cabled to the main distributing frame.

1.05 The purpose of central office protection is to ensure the safety of telephone personnel and to reduce the possibility and extent of equipment damage in the event that foreign potential contacts the outside plant.

1.06 The 3-, 4-, or 5-type protector unit and 4B11C mini-bridge lifter are used with the 308-type connectors to provide electrical protection.

1.07 The stub cable mounting on the 308-type connector can be arranged in the field for either bottom- or top-mounted positions.

1.08 Replacement parts for and repairs to the 308-type connector will be included in Section 201-208-802.

2. PRECAUTIONS

2.01 Store the 308-type connectors in a dry location. Do not leave these units on loading docks or in locations exposed to the weather.

2.02 When unpacking the connector, open the carton on the side marked OPEN FROM THIS SIDE.

2.03 Do not bend the cable stubs in a radius of less than 5 inches.

2.04 Do not bend the cable stubs to a 5-inch radius more than twice at the same general location.

2.05 Do not remove the Plypak cushion from the connector until it is ready for installation on the protector frame.

3. DESCRIPTION

3.01 Refer to Table A for the standard codes for the 308-type connectors. Protector units for 308-type connectors must be ordered separately. (See Section 636-300-050.)

TABLE A

STANDARD CONNECTOR CODES

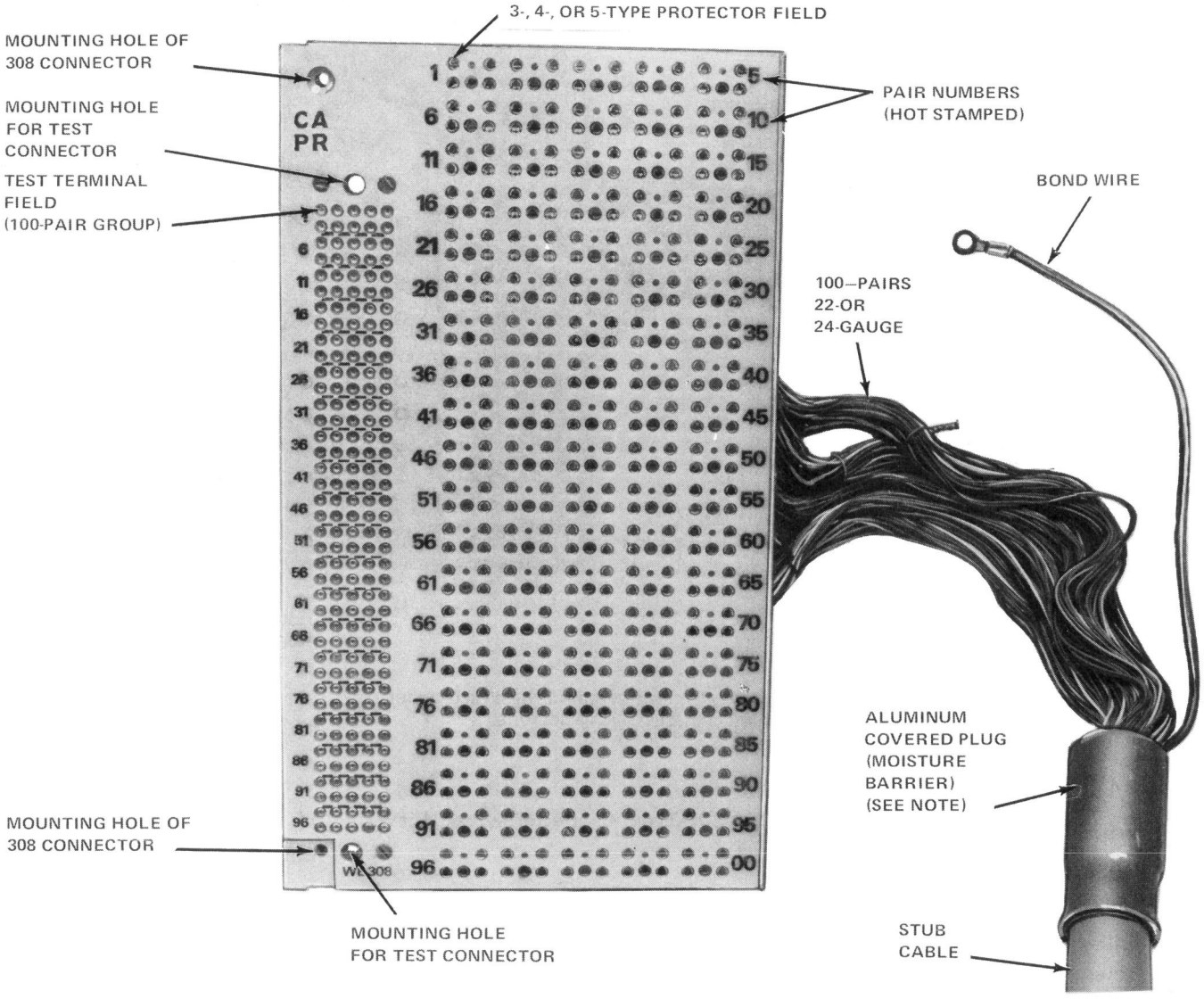
CODE[1]	STUB CABLE SIZE[2]
308A1-100	24-gauge, 100-pair
308B1-100	22-gauge, 100-pair

Note 1: These panels are not equipped with protector units. Required protector units should be ordered separately and installed by the operating company.

Note 2: Stub cables are available in 30-, 50-, 80-, 100-, 150-, and 200-foot lenghts — cable lengths should be specified on order.

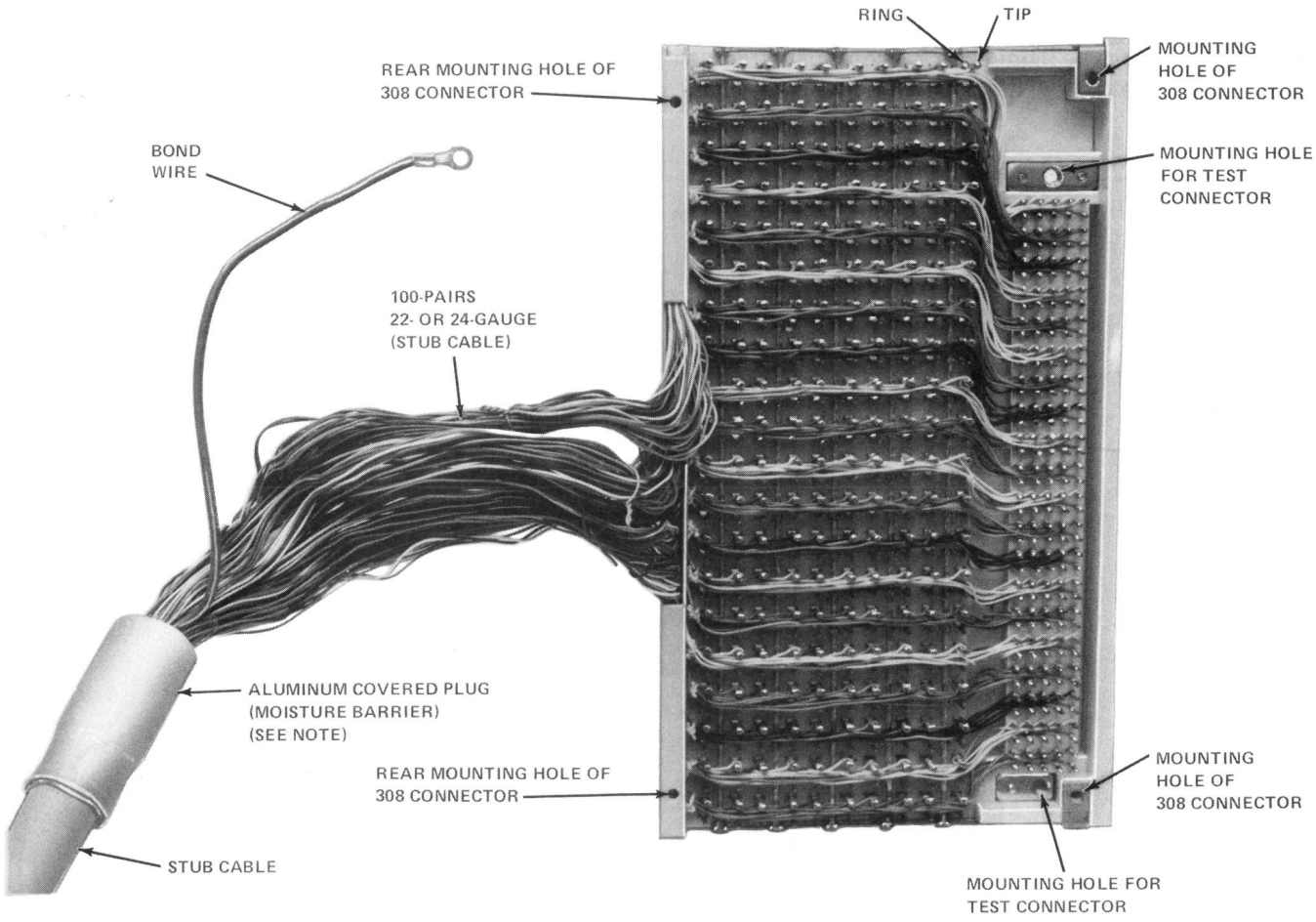
CONNECTOR PANEL

3.02 The 308-type connectors are illustrated in Fig. 1 and 2. The central office equipment cables are terminated on the wire-wrap terminals at the rear of the 308-type connector and are cabled over-aisle to the MDF.



NOTE:
FACTORY-INSTALLED PLUG PREVENTS MOISTURE FROM ENTERING THE CO SPLICE DUE TO "BREATHING" ACTION OF CABLE DURING CHANGES IN TEMPERATURE.

Fig. 1—308-Type Connector—Front View



NOTE:
FACTORY-INSTALLED PLUG PREVENTS MOISTURE FROM ENTERING THE CO SPLICE DUE TO "BREATHING" ACTION OF CABLE DURING CHANGES IN TEMPERATURE.

Fig. 2—308-Type Connector—Back View

3.03 The molded plastic panel of the 308-type connector (Fig. 1 and 2) measures 10-5/8 inches high and 6-inches wide. The 308-type connector is equipped with 100 groups of five socket-type terminals on the plastic panel. Four of these terminals are gold-plated and provide contact for tip and ring connections; the fifth terminal is solder-plated and provides a ground connection.

3.04 Pair identification is provided on the front of the connector panel by the pair numbers hot-stamped onto the panel (Fig. 1).

3.05 Gold-plated test contacts, arranged in a 100-pair group, are located on the left of the panel (Fig. 1).

3.06 The test contacts are accessible from the front of the connector for attaching test shoes (paragraph 5.02) which acccommodate the necessary cable test equipment.

STUB CABLE

3.07 The 308-type connectors have a factory-connected, color-coded, 100-pair stub cable made up with 22- or 24-gauge tinned-copper

PVC-insulated conductors, mylar-tape core wrapper, corrugated aluminum shield under an olive-gray colored PVC sheath, and an aluminum covered moisture plug at the terminated end of the stub cable. The purpose of the plug is to prevent moisture from entering the cable sheath that can result from the "breathing" action of the cable due to changes in temperature in the central office area. ***The stub cable must not be maintained under continuous pressure.***

3.08 The stub cables are available in both 22- and 24-gauge conductor sizes in lengths of 30, 50, 80, 100, 150, and 200 feet. The stub cable of the 308-type connector may be arranged for either top or bottom stub cable entrance.

3.09 Both the 22- and 24-gauge stub cables have a light olive-gray sheath. The 22-gauge stub cables can be identified by a red binder around the core wrapper. The 22- and 24-gauge stub cables have PVC-insulated conductors and have outside diameters of 0.96 inches.

3.10 Guides for selecting the appropriate stub cable gauge for the 308-type connector are covered in Section 916-559-770.

3.11 The 308-type connectors have a bond wire that has one end connected to the shield of the stub cable and the other end equipped with a ring-type terminal for connecting to the modular-type protector framework.

4. INSTALLATION OF 308-TYPE CONNECTORS

4.01 The 308-type connectors are installed on the MPF (ED-97898-31).

4.02 The MPF (Fig. 3) is 8 feet high, 6-1/2 feet long, and 1 foot deep. The 308-type connectors are mounted to the upright members on the frame, resulting in 8 connectors per vertical. Each MPF module will accommodate a total of 96 connectors.

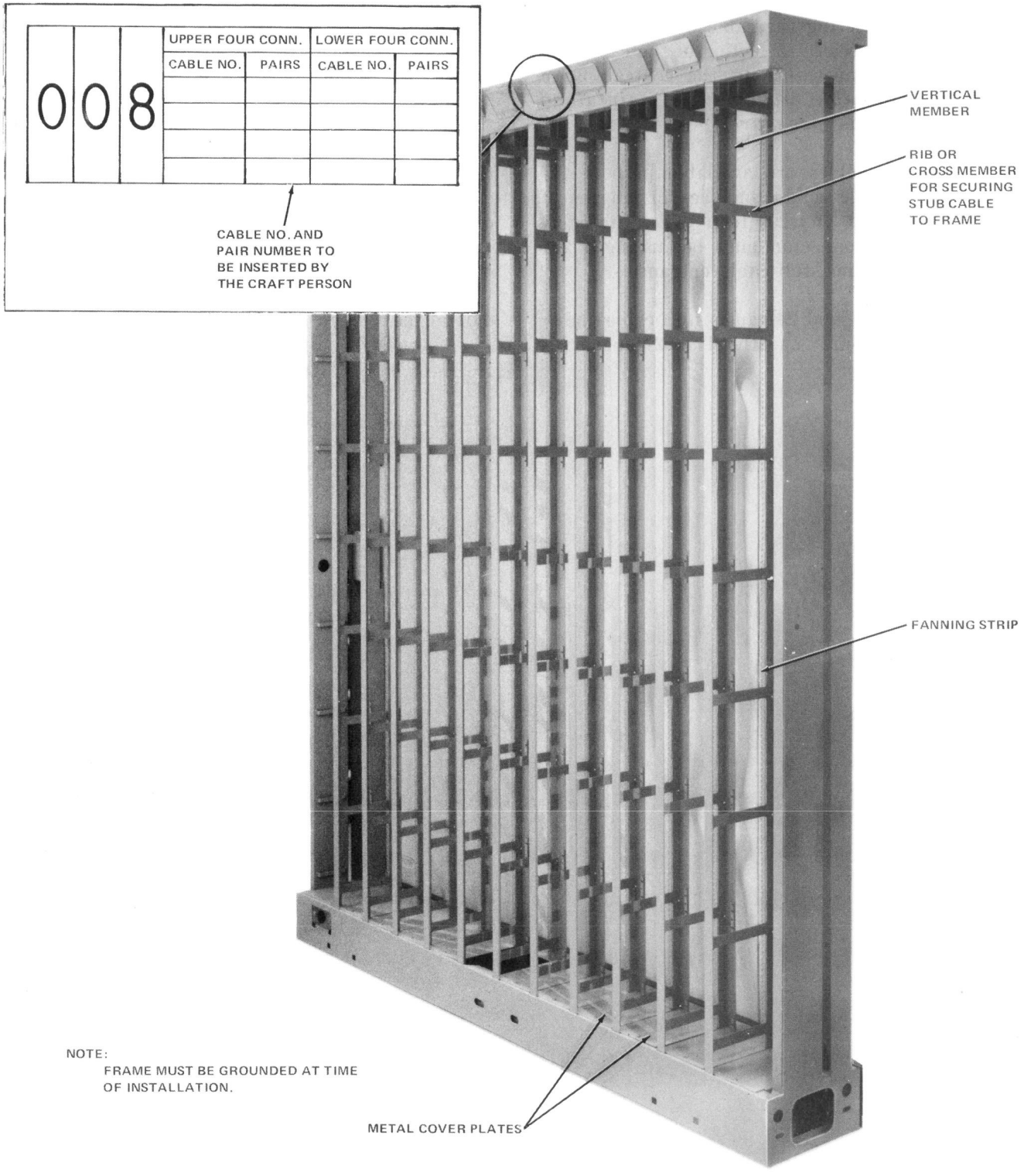


Fig. 3—MPF for 308-Type Connectors—Rear View

4.03 In locations ***where the stub cables are dressed upward,*** install the 308-type connectors on the MPF as follows:

(1) Mark the cable number and pair count of each stub on a linen tag or glass tape and attach to the stub cable before it is placed on the MPF.

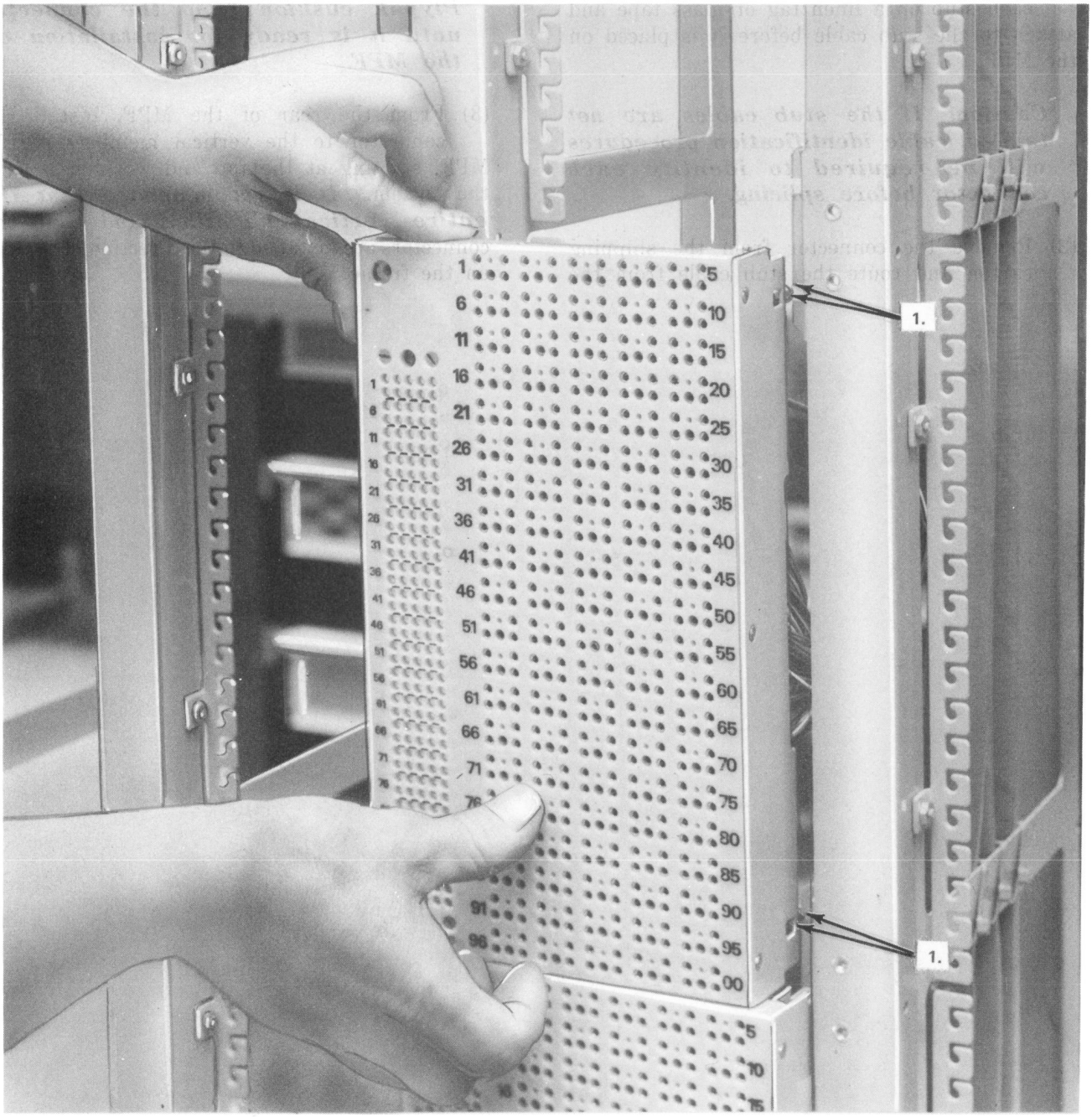
Caution: If the stub cables are not tagged, cable identification procedures will be required to identify each connector before splicing.

(2) Remove the connector from the shipping carton and route the stub cable from the rear of the MPF. Remove any cable twist that may be present.

WARNING: To prevent damage to the contact pins, do not remove the Plypak cushion from the connector until it is ready for installation on the MPF.

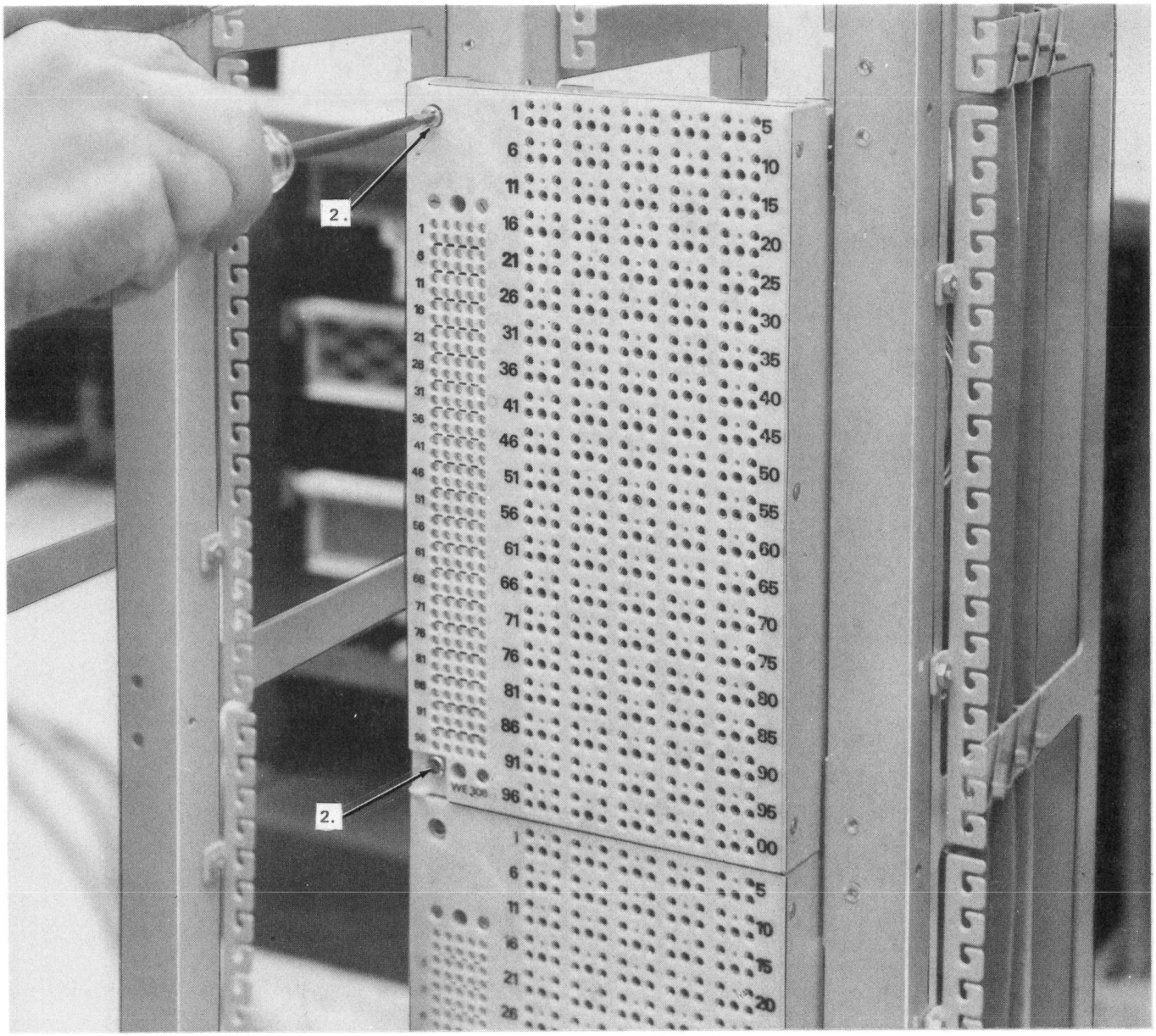
(3) From the rear of the MPF, install the connector to the vertical members of the MPF, starting at the top and working toward the bottom. ***It is recommended that the entire vertical be filled*** and that the connectors are installed in the direction of growth on the frame.

(4) Secure the connector to the MPF by using the screws furnished with the connector (Fig. 4, 5, and 6).



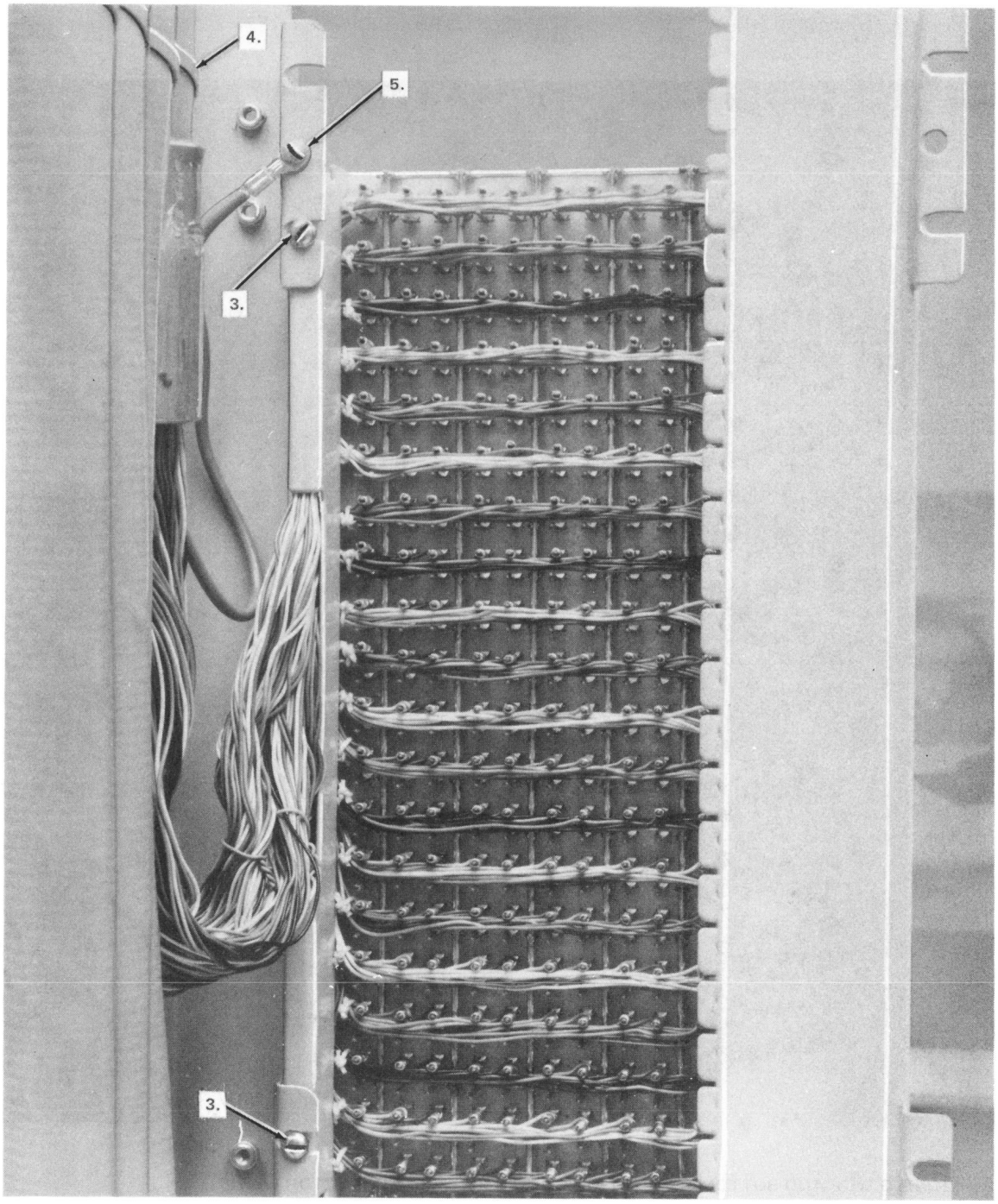
1. ALIGN REAR MOUNTING SCREWS WITH SLOTS IN FRAME WORK AND PLACE CONNECTOR INTO POSITION ONTO MPF.

Fig. 4—Aligning Rear Mounting Screws on MPF—Front View



2. AFTER ALIGNING (TOP AND BOTTOM) FRONT MOUNTING SCREWS IN CONNECTOR WITH MOUNTING HOLES IN MPF, SECURE SCREWS.

Fig. 5—Securing Front Mounting Screws onto MPF—Front View



3. TIGHTEN REAR (TOP AND BOTTOM) MOUNTING SCREWS.
4. POSITION STUB CABLE. WITH CABLE TIE SECURE STUB CABLE TO RIB OF MPF.
5. SECURE STUB CABLE BOND WIRE ONTO MPF.

Fig. 6—Securing Back Mounting Screws, Stub Cable, and Bond Wire onto MPF

(5) Position and secure the stub cable onto the MPF (Fig. 6, 7, and 8).

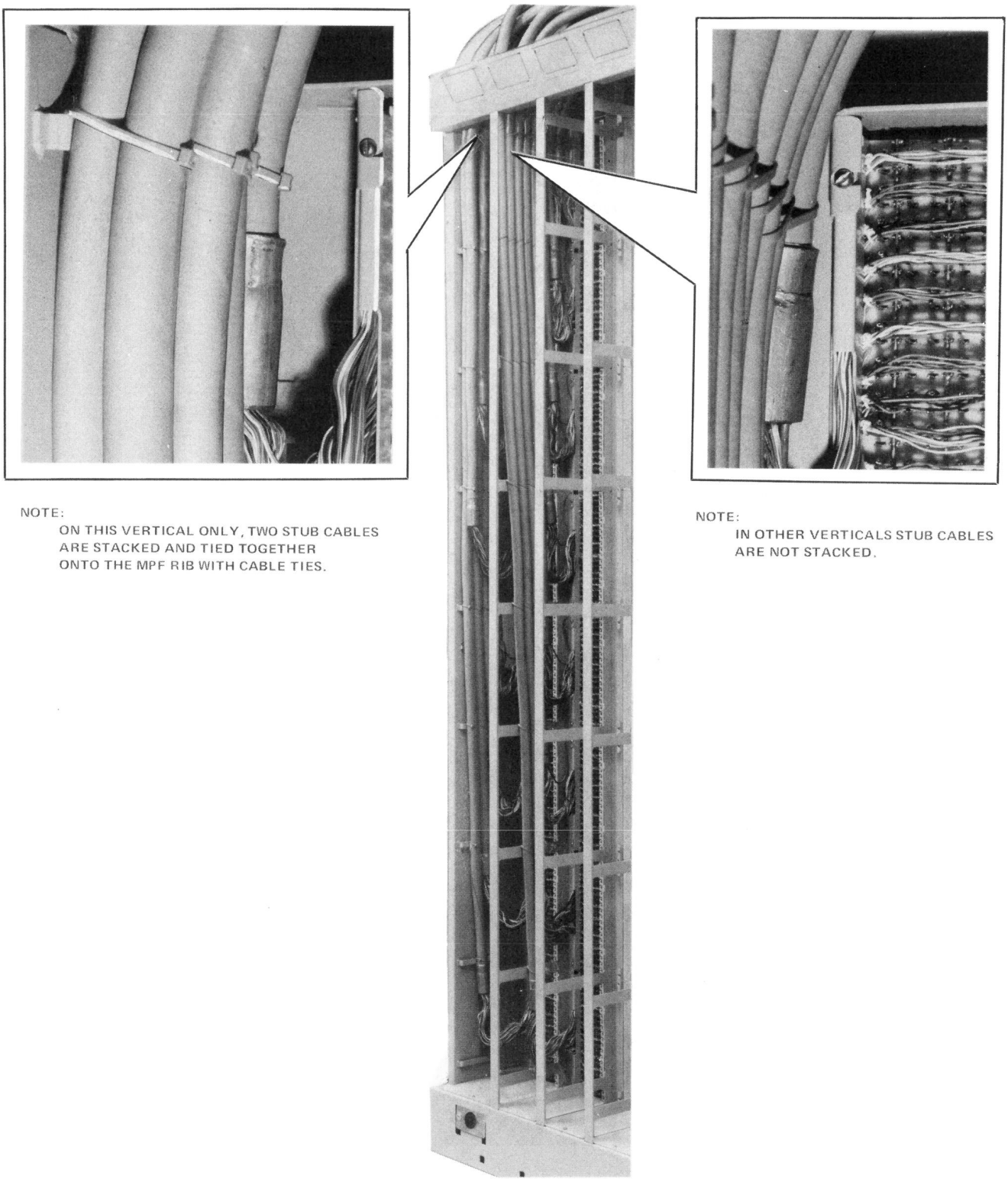


Fig. 7—Dressing and Securing Stub Cable in MPF Verticals—Rear View

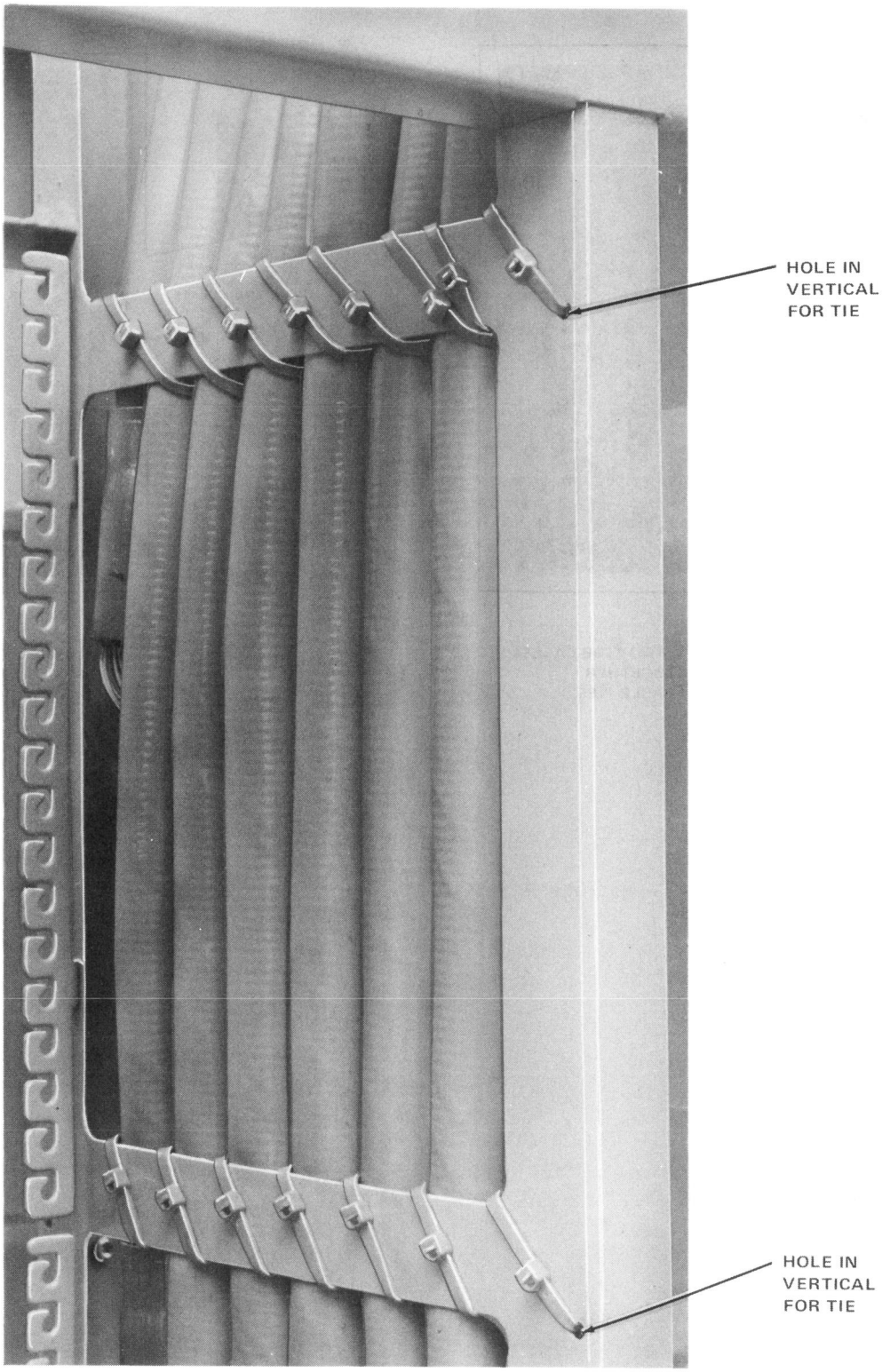


Fig. 8—Securing Stub Cables onto Ribs of MPF

(6) Connect the bond wire to the MPF framework (Fig. 6) that is immediately above the aluminum-covered moisture plug by using the self-tapping screw furnished with the connector. This provides electrical continuity between the shield of the stub cable and the MPF ground.

4.04 In a location ***where the stub cables are dressed downward,*** install the 308-type connectors as follows:

(1) Remove and retain the screws and metal cover plates (Fig. 3) from the base of the MPF to facilitate stub entrance to the cable entrance facility.

(2) The connectors are mounted in the same manner as described in paragraph 4.03 (1) through (6), except that the stub cables are routed through the bottom of the frame. Install the connectors to the vertical members, starting at the bottom and working toward the top.

(3) Position and secure the bottom-mounted stub cables on the protector frame as shown in Fig. 9.

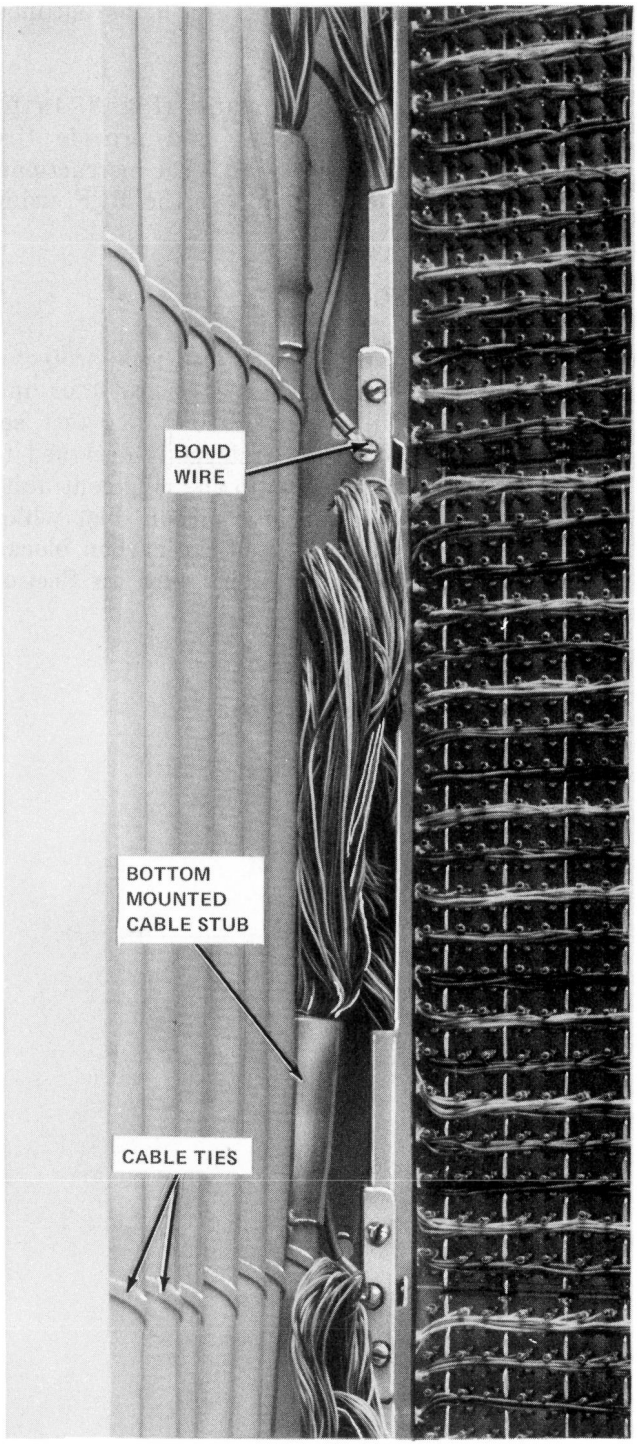


Fig. 9—Bottom-Mounted Stub Cable

(4) Connect the bond wire (Fig. 9) as outlined in paragraph 4.03 (6).

(5) Cut the metal cover plates (Fig. 3) to fit around the stub cables and provide fire protection in accordance with local instructions. Secure the metal cover plates to the MPF, using the screws removed in (1).

5. TESTING PROTECTOR UNITS

5.01 Prior to installing the 3- or 4-type protector units into the connector, each protector unit must be inserted into the KS-20100 L1 test set (Fig. 10) and tested. This test set is designed to check the protector units for tip and ring continuity and ground, and to clear any carbon dust which may have accumulated between the carbon blocks. For more detailed information, refer to Section 201-208-501.

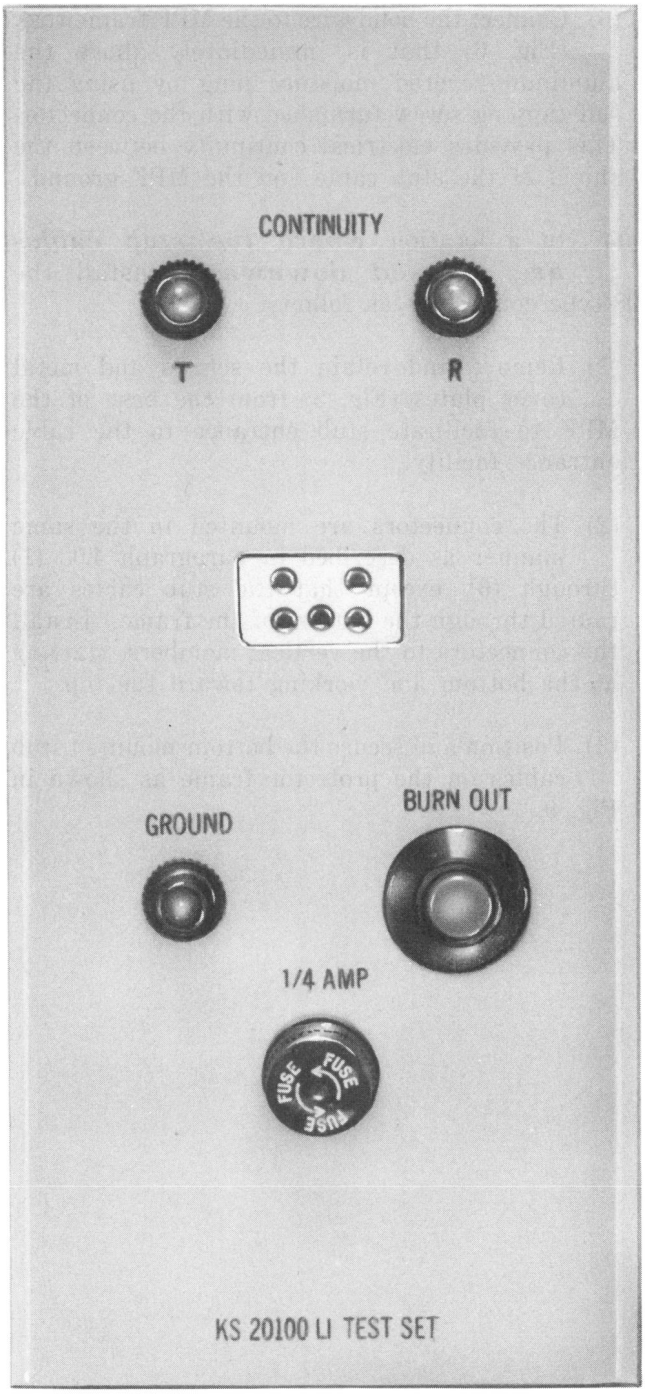


Fig. 10—KS-20100 L1 Test Set

5.02 ***P Test Connector (AT-8906):*** A 100-pair test shoe (Fig. 11) is designed for the 308-type connector and is intended for making multiple pair cable tests. For more detailed information, refer to Section 106-315-121.

WARNING: The 308-type connector test contacts are gold-plated. Any abuse, such as locating tone with a probe, shorting, or grounding pairs with long-nose pliers, etc, will damage the test contacts. Before any test is made, install the P test connector on the test contacts.

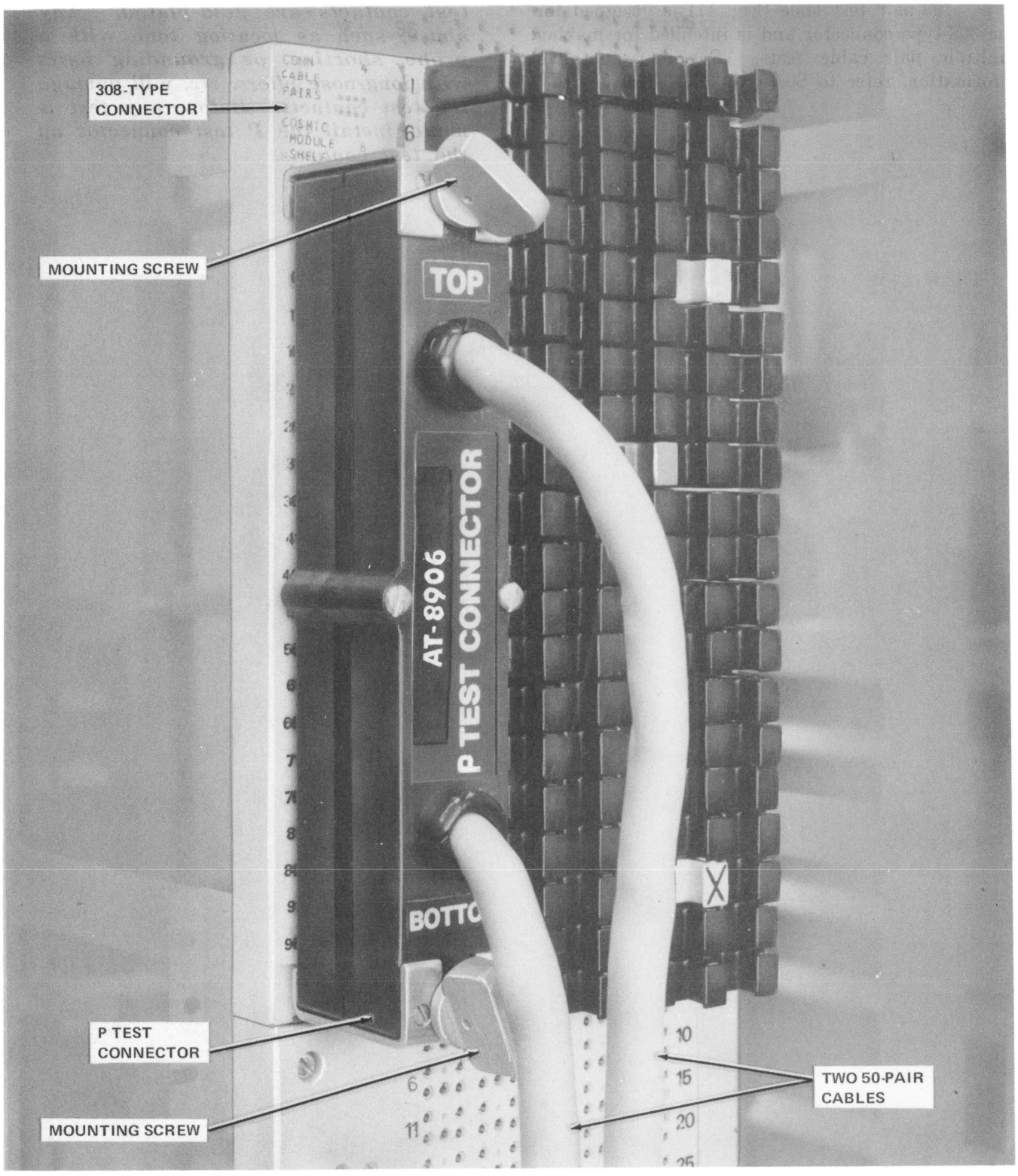


Fig. 11—P Test Connector (AT-8906) Mounted

6. MARKING

6.01 When the 308-type connector is used in conjunction with the COSMIC Frame System, a *P*rogram for *A*rrangement of *C*ables and *E*quipment (PACE) generates adhesive-backed labels for identifying equipment and labels for both COSMIC and MPF. When the PACE label is used, place it on the upper left corner on the face of the 308-type connector (see Fig. 12).

6.02 When the 308-type connector is used with frame systems other than COSMIC, the related cable and pair designations are hand-stenciled directly on the connector panel in that area for the PACE label.

6.03 For detailed information on PACE, see Section 201-222-101.

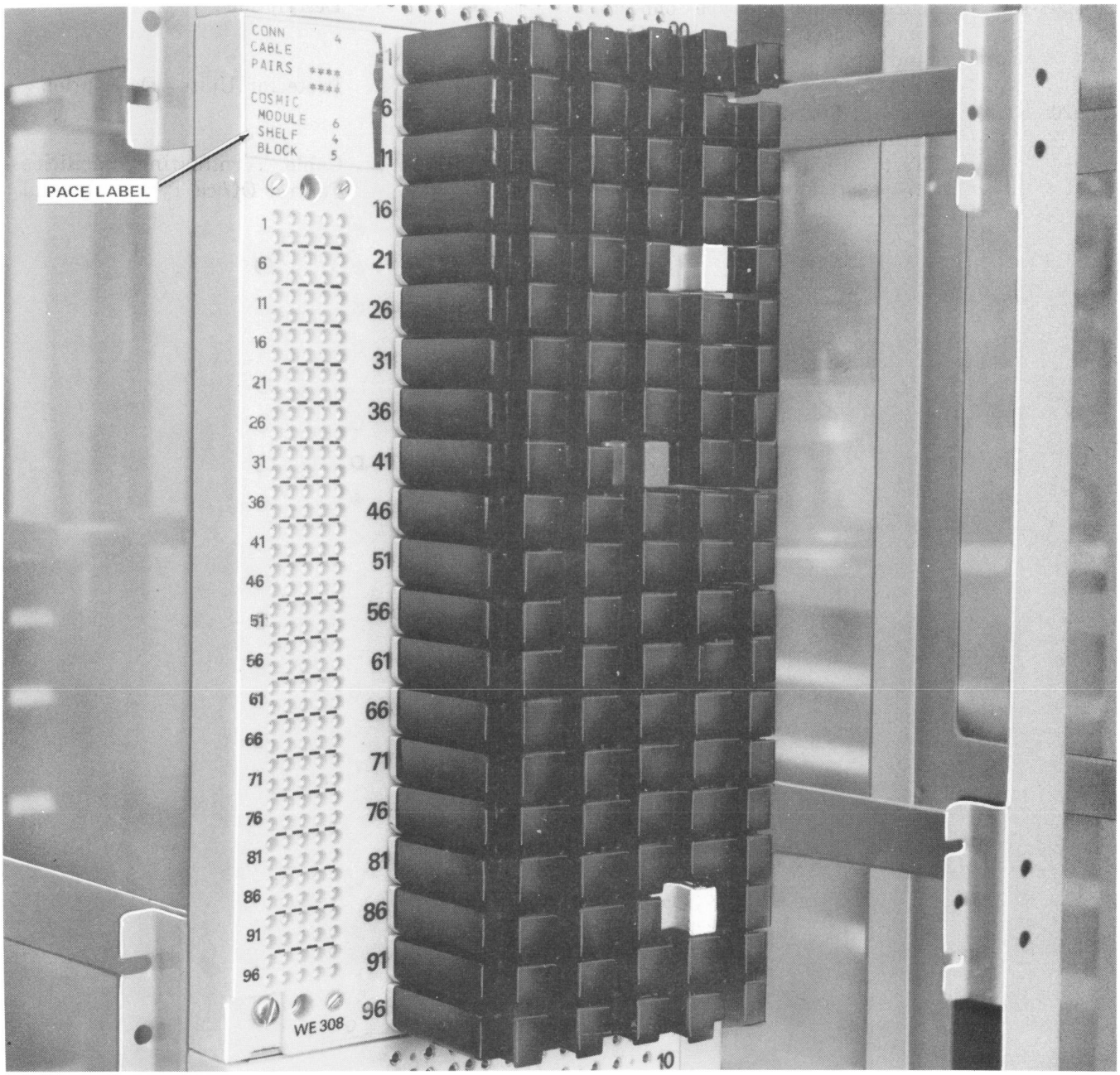


Fig. 12—PACE Marking System Label

7. REFERENCES

7.01 The following Bell System Practices contain related information.

SECTION	TITLE
106-315-121	D, G, H, M, N, and P Test Connectors—Description and Installation
201-208-102	302-, 303-, and 305-Type Connectors and Associated Protectors, Cords, and Plugs
201-208-501	302-, 303-, and 305-Type Connectors—Protector Unit Tests—Using KS-20100 L1 and L2 Test Sets
201-208-802	302-, 303-, and 305-Type Connectors and Associated Protector Units—Piece Part Data and Replacement Procedures
201-222-101	Common Systems Main Inner Connecting Frame (COSMIC)—Description
636-300-050	Protector Units—Description
916-559-770	Cable Terminating Facilities—Central Office Type— General