

**302- AND 308-TYPE CONNECTORS  
REPAIR PROCEDURES  
PROTECTOR FRAMES**

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A. Tip and Ring Terminals . . . . .	2	1. GENERAL	
B. Ground Terminals . . . . .	3	1.01 This section covers information required for maintenance and repair of 302- and 308-type connectors. Information on the 303-, 305-, and 310- type connectors is provided in Section 201-208-805.	
C. Test Terminals . . . . .	3	1.02 The reasons for reissuing this section are listed below. Since this reissue is a general revision, revision arrows have not been used to de- note significant changes.	
INSTALLING TERMINALS . . . . .	3	(a) To add "Protector Frames" to title of section	
A. Tip and Ring Terminals . . . . .	3	(b) To add information on the 308-type 2 hinged connector	
B. Ground Terminals . . . . .	3	(c) To change table designation from A to B and add a new Table A	
C. Test Terminals . . . . .	3	(d) To change numerical designations of four ex- isting figures and add four new figures	
5. REPLACEMENT OF ASSOCIATED PARTS . . . . .	3	(e) To generally update this section.	
<b>Figures</b>		1.03 Figures in this section illustrate the various piece parts in their proper relation to other parts of the apparatus. Associated tables provide	
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**NOTICE**

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## SECTION 201-208-802

additional information. The piece-part numbers of the various parts are given together with the names of the parts.

**1.04** When ordering piece parts for replacement purposes, give both the part number and name of the part. Do not refer to the section number or to any information shown in parentheses following the piece-part numbers.

**1.05** Information enclosed in parentheses is not ordering information. It may be references to notes or parts referred to in other portions of the section not considered replaceable or part names in general use in the field if they differ from those assigned by the manufacturer.

**1.06** Before making repairs to the apparatus referred to in this section, craft personnel should be familiar with the contents of the following sections:

- 069-132-811—Punched or Wire-Type Terminals (Not Having Notches or Perforations)—Method of Making and Removing Wrapped Connections
- 069-140-811—Soldered Connections—Using Soldering Coppers—Method of Making and Removing.

## 2. PRECAUTIONS

**2.01** This section covers only those parts which can be replaced in the field. No attempt should be made to replace parts not designated. All terminals are replaceable. The threaded inserts on 308-type connectors as well as the number plates on 302-type connectors are also replaceable.

**2.02** Exercise extreme care when removing and connecting wires and replacing terminals to prevent damage to adjacent connections and to avoid shorts, grounds and crosses to operating circuits.

**2.03** The ends of wire previously used for a solderless wrapped connection or soldered connection shall not be reused for subsequent connections. The end of the wire must be cut off and reconnected by solderless wrapping or soldering. It will be necessary to splice the wire if there is not enough slack to provide the number of turns required for solderless wrapped connections. (See Section 069-132-811.)

**2.04** Figures 1 and 2 illustrate the 302-type connectors and Fig. 3 and 4 illustrate the 308-type connectors and the relationship of piece parts.

## 3. TOOLS AND MATERIAL

**3.01** A list of tools and material used in this section follows:

CODE OR SPEC NO.	DESCRIPTION
AT-7860	B long-nose pliers
AT-7825	4-inch E screwdriver
KS-6320	Orange stick
86A	Bracket (two)
AT-7424	Solder
KS-8740	Soldering copper (or other KS-8740 coppers rated at 95 watts)
KS-16363, L3	Wire wrap gun
KS-20551 or KS-20827, L1	Wire unwrapping tool.

## 4. REPAIR PROCEDURES

**Note:** The 302-type 2 connectors [which are manufacture discontinued (Mfr Disc)] as well as the 302-type 3 and 308-type 2 connectors are mounted on double-sided protector frames and must be hinged open (Fig. 5 and 6) to expose the wiring side of the connector. Two 86A brackets can be installed on the 302-types 2 and 3 connectors to hold them in the opened position. The 308-type 2 connector is held in the opened position by utilizing plastic cable ties or lacing twine.

### REMOVING TERMINALS

#### A. Tip and Ring Terminals

**4.01** On the wiring side of the connector, tag and remove the leads from the broken or damaged terminal.

**4.02** Using B long-nose pliers, close the tangs on the terminal or break the terminal flush with

the back side of the connector panel and remove the terminal from the front side of the connector panel.

#### B. Ground Terminals

**4.03** On wiring side of the connector, use a soldering copper and remove all solder from the terminal to be replaced.

**4.04** Using B long-nose pliers, close the tangs on the damaged or broken terminal or break the terminal flush with the back side of the connector panel and remove the terminal from the front side of the connector panel.

#### C. Test Terminals

**4.05** From the wiring side of the connector, tag and remove the leads from the terminal to be replaced.

**4.06** Using a new terminal or a sharp instrument, such as a test probe, push the broken terminal through to the front of the connector about 1/8 inch.

**4.07** From the test contact or front side of the connector, grasp the terminal head with the B long-nose pliers and pull the terminal from the block.

#### INSTALLING TERMINALS

**4.08** Table A contains ordering information for the various connector terminals.

**4.09** Prior to making connections to terminals, refer to paragraph 2.03.

#### A. Tip and Ring Terminals

**4.10** Using the fingers, properly orient the new terminal and insert into the same hole from which the old terminal was removed. Push the terminal into the hole as far as possible.

**4.11** Insert a protector unit into the connector to hold the terminal in place.

**4.12** On the wiring side of the connector, use the B long-nose pliers and pull the terminal into its proper position. Pay attention to the orientation of the terminal. Determine that the terminal is in the correct position by observing the position of adjacent terminals.

**4.13** Using B long-nose pliers, carefully spread the tangs of the terminal to lock the terminal in place in the connector panel.

**4.14** Reconnect all leads to the terminal.

**4.15** Remove the protector unit.

#### B. Ground Terminals

**4.16** Using the fingers, properly orient the new terminal and insert into the same hole from which the old terminal was removed. Push the terminal into the hole as far as possible.

**4.17** Insert a protector unit into the connector to hold the terminal in place.

**4.18** On the wiring side of the connector, use the B long-nose pliers and pull the terminal into its proper position. Pay attention to the orientation of the terminal. Determine that the terminal is in the correct position by observing the position of adjacent ground terminals.

**4.19** Using B long-nose pliers, carefully spread the tangs of the terminal to lock the terminal in place in the connector panel.

**4.20** Remove the protector unit.

**4.21** Using the soldering copper, solder the terminal to the ground bus.

#### C. Test Terminals

**4.22** From the front side of the connector, insert the new terminal into the same hole from which the old terminal was removed.

**4.23** Using the fingers, push the terminal into the hole as far as possible.

**4.24** Using an orange stick, push the terminal into its seated position on the connector.

**4.25** From the wiring side of the connector, reconnect all leads.

#### 5. REPLACEMENT OF ASSOCIATED PARTS

**5.01** *Threaded Inserts (Fig. 7):* The 100-pair P or R test connector attaches to the 308-type connector by means of two thumbscrew fasteners which engage threaded inserts at the top and bottom of the test contact field. The threaded inserts have different comcode numbers because of their different

lengths. Comcode numbers for the two inserts are as follows:

***Top Insert—842137879***

***Bottom Insert—842357543.***

**5.02** To remove and replace the threaded inserts from the 308-type 1 connector panel, the connector must be removed from the protector frame. The 308-type 2 connector can be opened on its hinges. To remove the 308-type 1 connector from the frame, proceed as follows:

- (a) Remove and retain the two mounting screws on the rear of the connector.
- (b) Remove and retain the two mounting screws from the front of the connector. Removal of these screws will allow the connector to be removed from the protector frame.

**5.03** To remove the threaded inserts from the connector panel, proceed as follows:

- (a) Observe the mounting of the inserts. At the front side of the connector, remove and retain the flathead screws which secure the insert in position.
- (b) Remove the insert carefully to prevent a short in the test terminal field.
- (c) Install the insert and secure with the flathead screws removed in Step(a).
- (d) Replace the 308-type 1 connector on the protector frame by reversing the steps in paragraph 5.02 or closing the 308-type 2 hinged connector.

**5.04** ***Number Plates (Fig. 8):*** The four plastic number plates used to identify pairs on the 302-type connectors equipped with protector units can be removed and new ones reinserted. The number plates are held in position on the connector panel by inserting them under the protector units. Table B contains the part numbers of the various number plates.

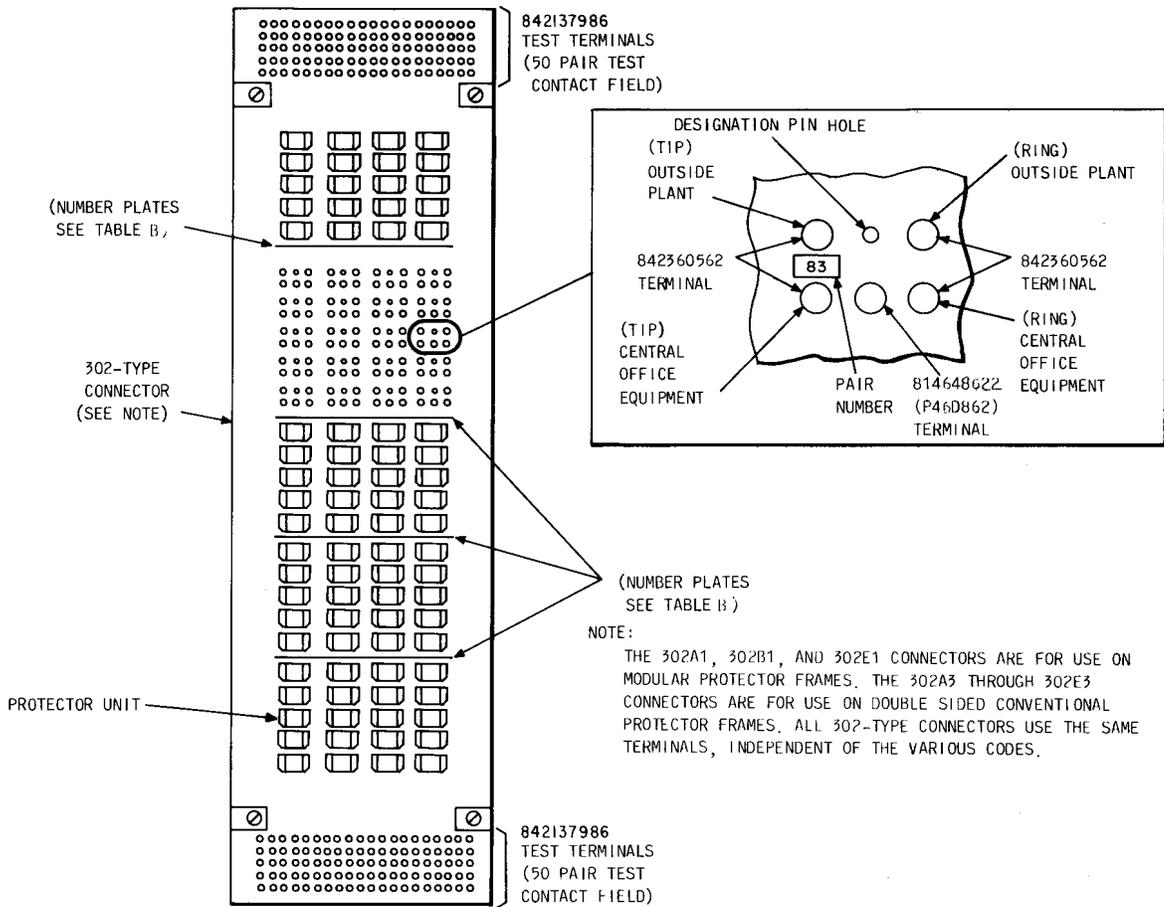


Fig. 1—302-Type Connector Panel

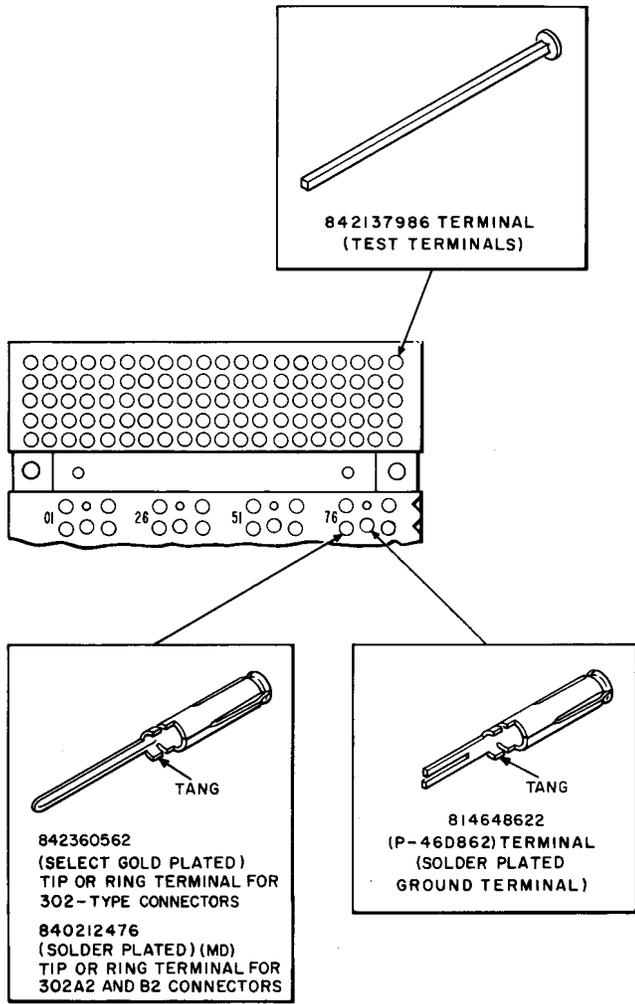


Fig. 2—302-Type Connector, Front Side

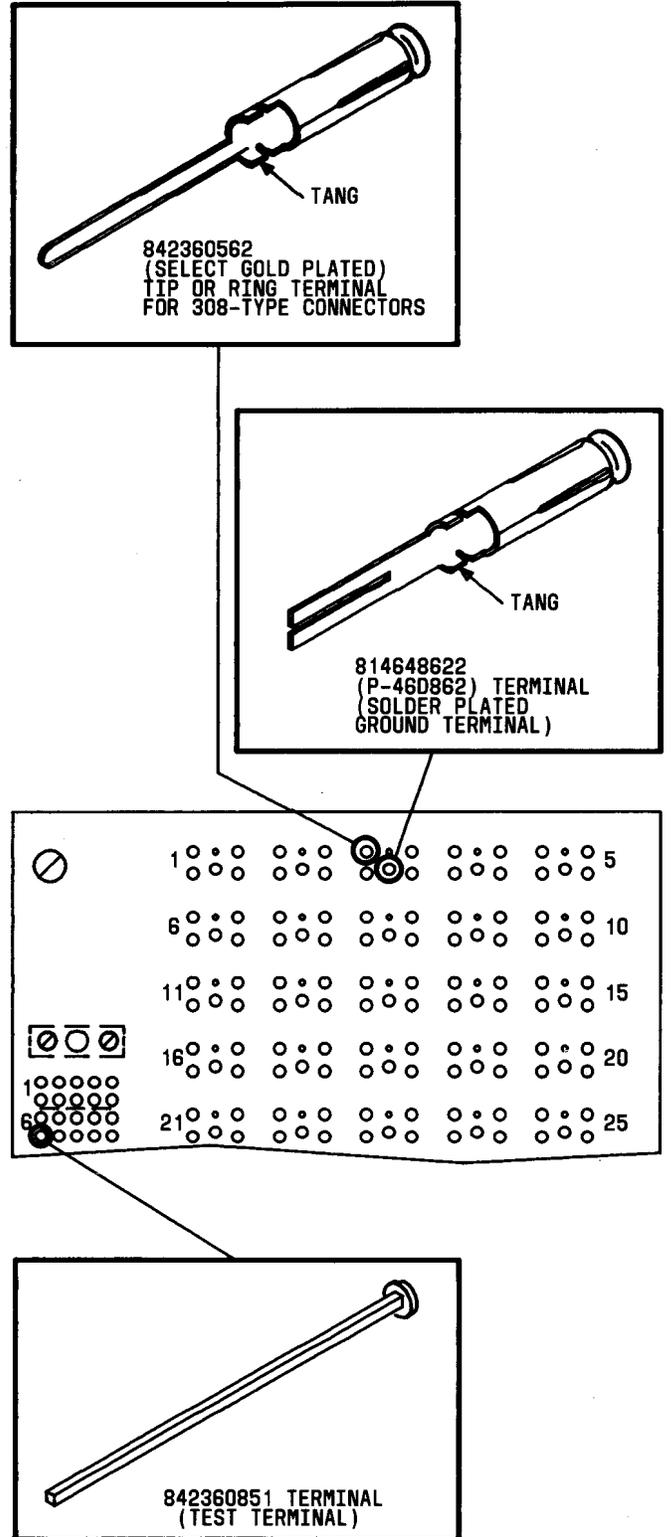


Fig. 3—308-Type 1 Connector, Front Side

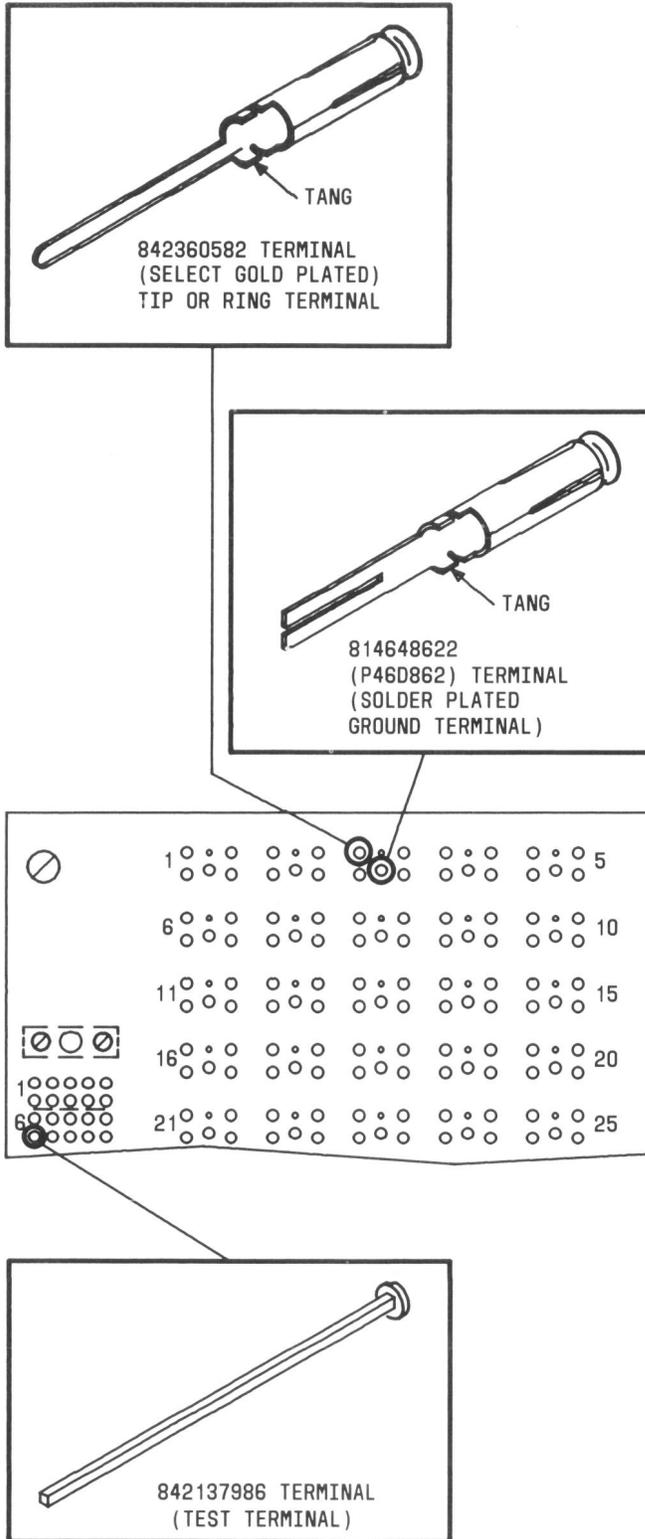


Fig. 4—308-Type 2 Connector, Front Side

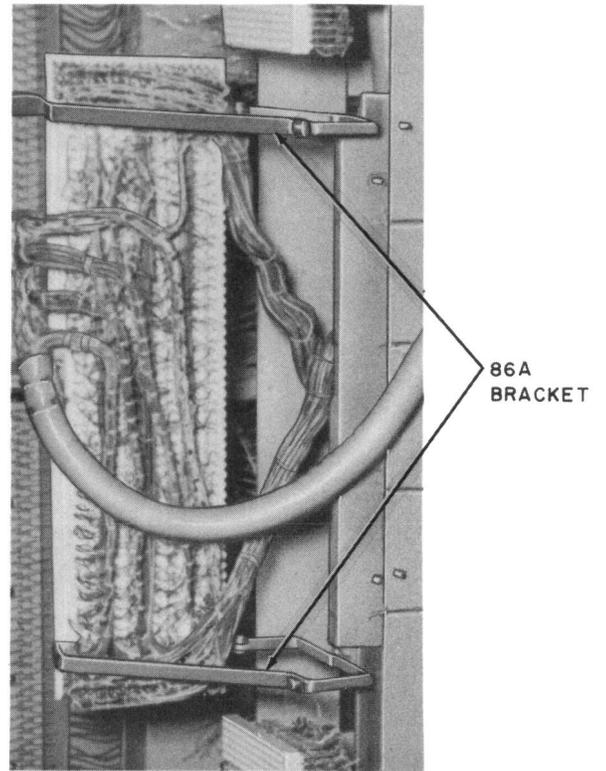


Fig. 5—86A Bracket Attached to 302A3 Mounting Bracket

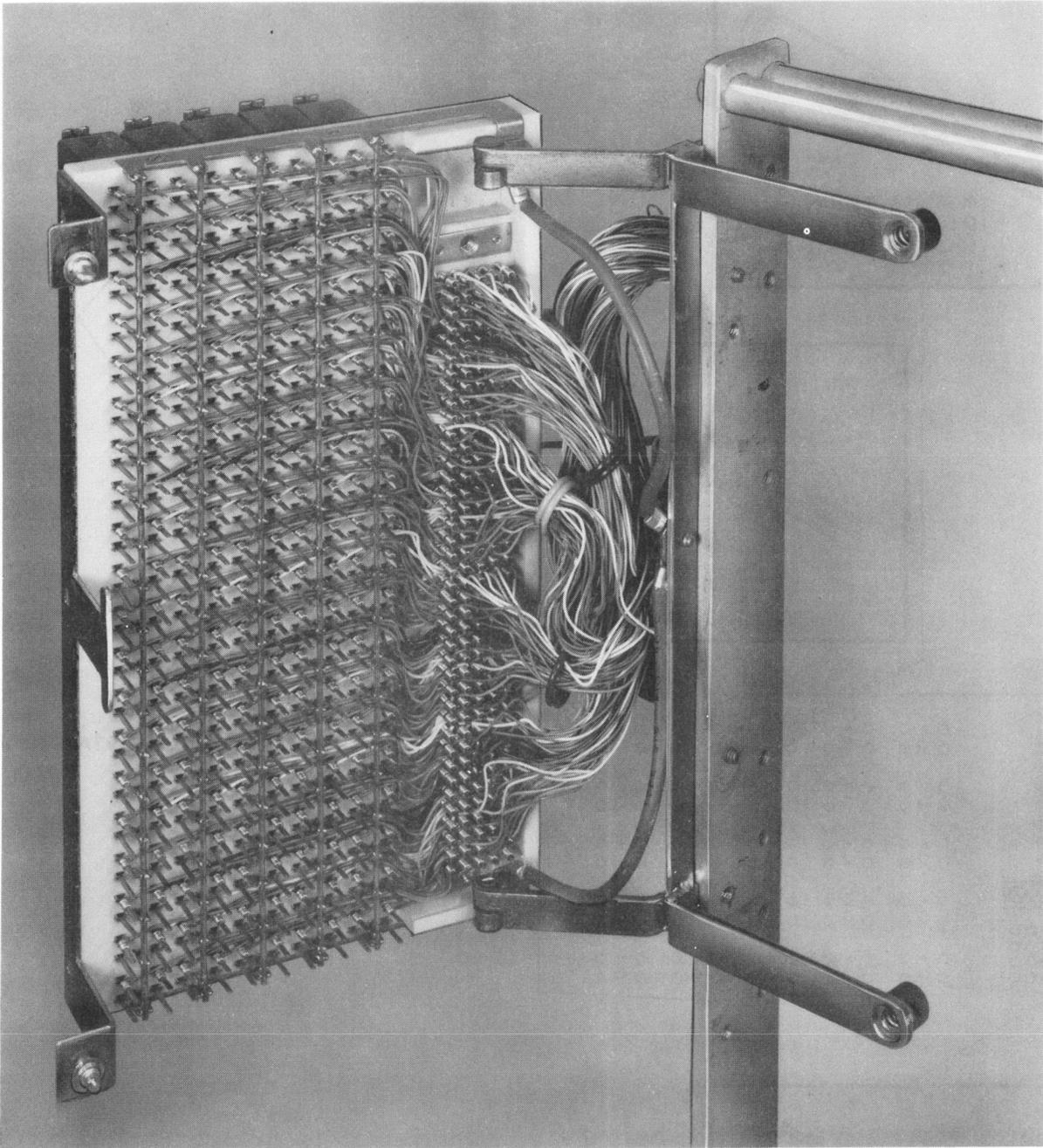


Fig. 6—308-Type 2 Connector-Opened on Hinges

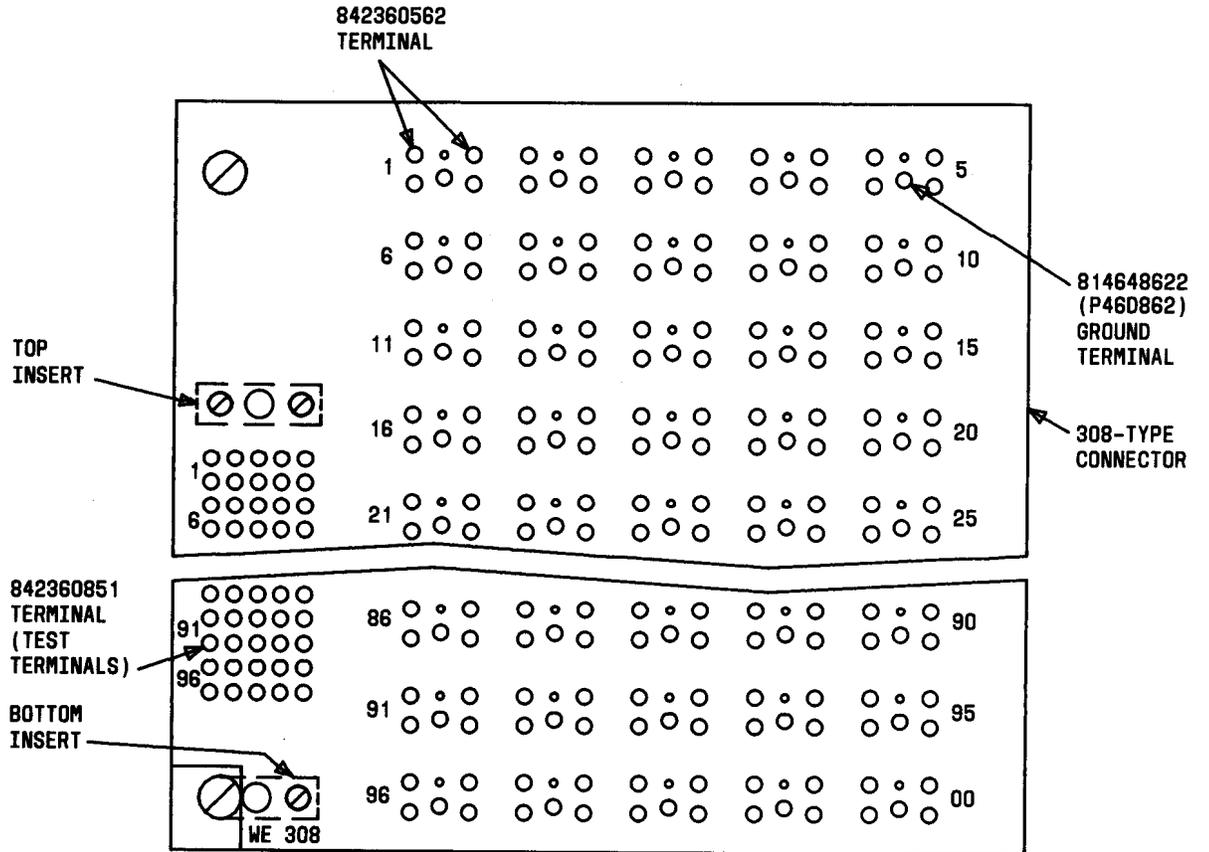


Fig. 7—308-Type 1 Connector Panel

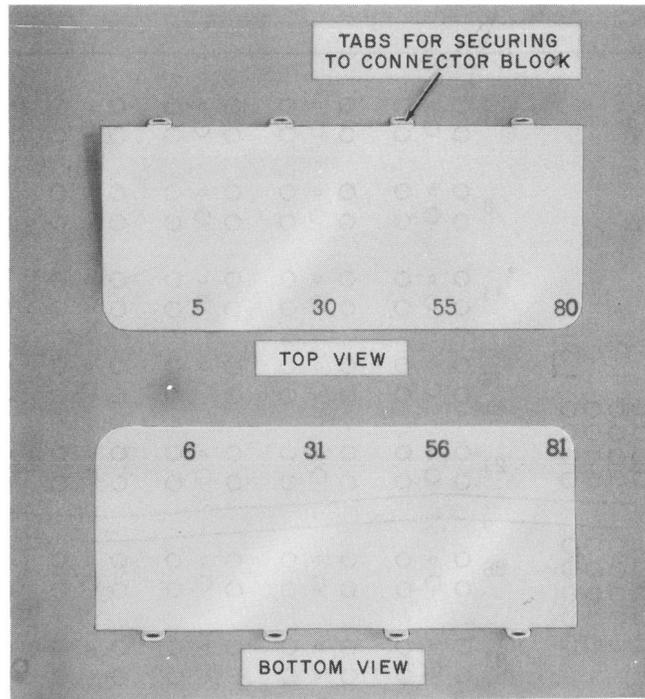


Fig. 8—Plastic Number Plates

TABLE A

TERMINAL ORDERING INFORMATION

CONNECTOR TYPE	COMCODE		
	GROUND TERM.	TIP & RING TERM.	TEST TERM.
302-Type 1	814648622	842360562	842137986
302-Type 2*	814648622	840212476	842137986
302-Type 3	814648622	842360562	842137986
308-Type 1	814648622	842360562	842360851
308-Type 2	814648622	842360562	842137986

\*Manufacture Discontinued (Mfr Disc)

TABLE B

## NUMBER PLATES FOR 302-TYPE CONNECTORS

USED WITH	PLATE NUMBER	STENCILED			
3-Type Protector Units	P-19E131	5-6,	30-31,	55-56,	80-81
	P-19E132	10-11,	35-36,	60-61,	85-86
	P-19E133	15-16,	40-41,	65-66,	90-91
	P-19E134	20-21,	45-46,	70-71,	95-96
4-Type Protector Units	P-46L642	5-6,	30-31,	55-56,	80-81
	P-46L643	10-11,	35-36,	60-61,	85-86
	P-46L644	15-16,	40-41,	65-66,	90-91
	P-46L645	20-21,	45-46,	70-71,	95-96
5-Type Protector Units	P-19E127	5-6,	30-31,	55-56,	80-81
	P-19E128	10-11,	35-36,	60-61,	85-86
	P-19E129	15-16,	40-41,	65-66,	90-91
	P-19E130	20-21,	45-46,	70-71,	95-96