307-TYPE CONNECTORS

REPAIR PROCEDURES

"COSMIC*" II MAIN DISTRIBUTING FRAME SYSTEM

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1. GENERAL

1.01 This section provides information for the repair of 307-type connectors used on the COSMIC II main distributing frame system.

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

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1.03 When ordering replacement parts, give both the code number and name of the parts. Do not refer to this section number or any other information that may be shown in parentheses.

1.04 Before making repairs, 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
- 201-208-110—307-Type Connectors—Description.

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. ***Only*** the connector terminals are designated as replaceable parts on the 307-type connector. (Section 201-222-810 describes the repair procedures for the connecting blocks.)

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

2.03 The end of a 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 the insulation removed before reconnecting. 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.)

3. TOOLS

CODE	DESCRIPTION
AT-7424	E Rosin-core solder
AT-7860	B Long nose pliers
R-4773	Combination skinning tool
DETAIL 18	(For 26-gauge wire — blue dot on blade)
DETAIL 19	For 24-gauge wire — orange dot on blade)
KS-22271	Connector panel removal tool
KS-6320	Spudger
KS-20962	Distributing frame bag
KS-22325, L1	Service bracket
KS-8740	Soldering copper (or other KS-copper rated at 95 watts)
KS-16363, L2	Wire-wrapping gun
KS-20551 or KS-20827, L1	Wire-unwrapping gun

4. MATERIAL

CODE OR SPEC NO.	DESCRIPTION
814648622	Ground terminal, P46D862
842360562	Tip or ringing terminal
402066104	Cable tie (blue)
402066088	Cable tie (orange)
402066096	Cable tie (green)
402066070	Cable tie (brown)
401787726	Cable tie (gray)
R-2916	Twine

5. PROCEDURE

5.01 Remove the 4C-type protector unit from the circuit that is to be repaired.

5.02 Use the connector panel removal tool (Fig. 1 and 2) to remove connector from the frame. A slight downward pressure applied to the tool will release the upper latching details. Tilt the top of the connector outward and downward, then lift the connector off the bottom pivot pins.

5.03 While supporting the connector with one hand, use the free hand to place the service bracket (Fig. 3) on the frame pins. Figure 4 shows a service bracket in place on a new frame installation. Place the lower connector pins into the upper slots of the service bracket. Rotate the connector downward so that the top front of the connector is resting against the bottom of the service bracket and the wiring side of the connector is facing outward (Fig. 5).

5.04 The plastic mounting bracket, which houses the 710-connectors and the ground strap, must be removed. First, tie each individual group of connecting block leads (25 pairs each), using twine or tape. Identify each group according to the color of the cable tie (blue, orange, green, or brown) presently fastened to the mounting bracket. Next, cut and remove the colored cable ties. This should provide enough slack in the wiring to enable the plastic mounting bracket to be removed. First disengage the two tangs on the top, and then the tangs on the bottom. The bracket can then be removed, with the 710-connectors in place, and carefully placed above the connector to gain access to the connector terminals.

5.05 To remove a tip or ring terminal (Fig. 6), first remove the wire wrap and cut and dispose of the bare wire. Use the skinning tool to remove the insulation (1-5/8 inches for 22- and 24-gauge wires and 1-7/8 inches for 26- gauge wire). The wire is now prepared for connection to a new terminal.

5.06 To remove a ground terminal (Fig. 7), heat the soldered connection, using the soldering copper, and remove as much of the solder from the con-

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nection as can be drawn off on the copper. The terminal should move or wiggle freely if the soldered connection to the ground rod has been broken.

5.07 Using the long-nose pliers, bend the tangs on the terminal until they line up with the slots in the connector panel. Again, using the long nose pliers, push the terminal through the connector casting far enough to be sure the tangs line up with and will go through the connector casting.

Note: Have the replacement terminal handy before continuing with this procedure.

5.08 Lift the connector from the bottom of the service bracket (as though it were hinged at the top) high enough to gain access to the terminal that is to be removed. Using the long-nose pliers, remove the terminal while noting the position of the tangs as it is withdrawn from the casting. Insert the new terminal using the position of the tangs as a reference. If properly inserted, the terminal can be pushed until it is fully seated in the casting. A protector unit can be used for this purpose. Lower the connector onto the service bracket. Using the long-nose pliers, bend the tangs approximately 45 degrees to hold the terminal in the casting.

5.09 If a tip or ring terminal has been replaced, reconnect the previously skinned wire to the terminal. If a ground terminal has been replaced, resolder the terminal to the ground bar.

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5.10 Place the plastic mounting bracket, containing the 710-connectors, onto the connector. Be sure the four tangs are properly seated on the connector.

5.11 Using the proper colored cable ties, fasten the connecting block wire groups to the plastic mounting bracket. Remove the twine or tape that had been used to separate the groups during the replacement procedure.

5.12 Inspect each portion of the mounting bracket housing to be sure the 710-connectors are contained properly in their portion of the housing and be sure the ground strap is placed into the channel provided for it on the housing.

5.13 Remove the connector from the service bracket and, while supporting the connector with one hand, remove the service bracket and dress the connecting block wiring and stub cabling back onto the frame.

5.14 Place the connector into the lower snap-in locks and pivot it upright into the locked position.

5.15 Reinsert the proper protector unit into the repaired circuit.

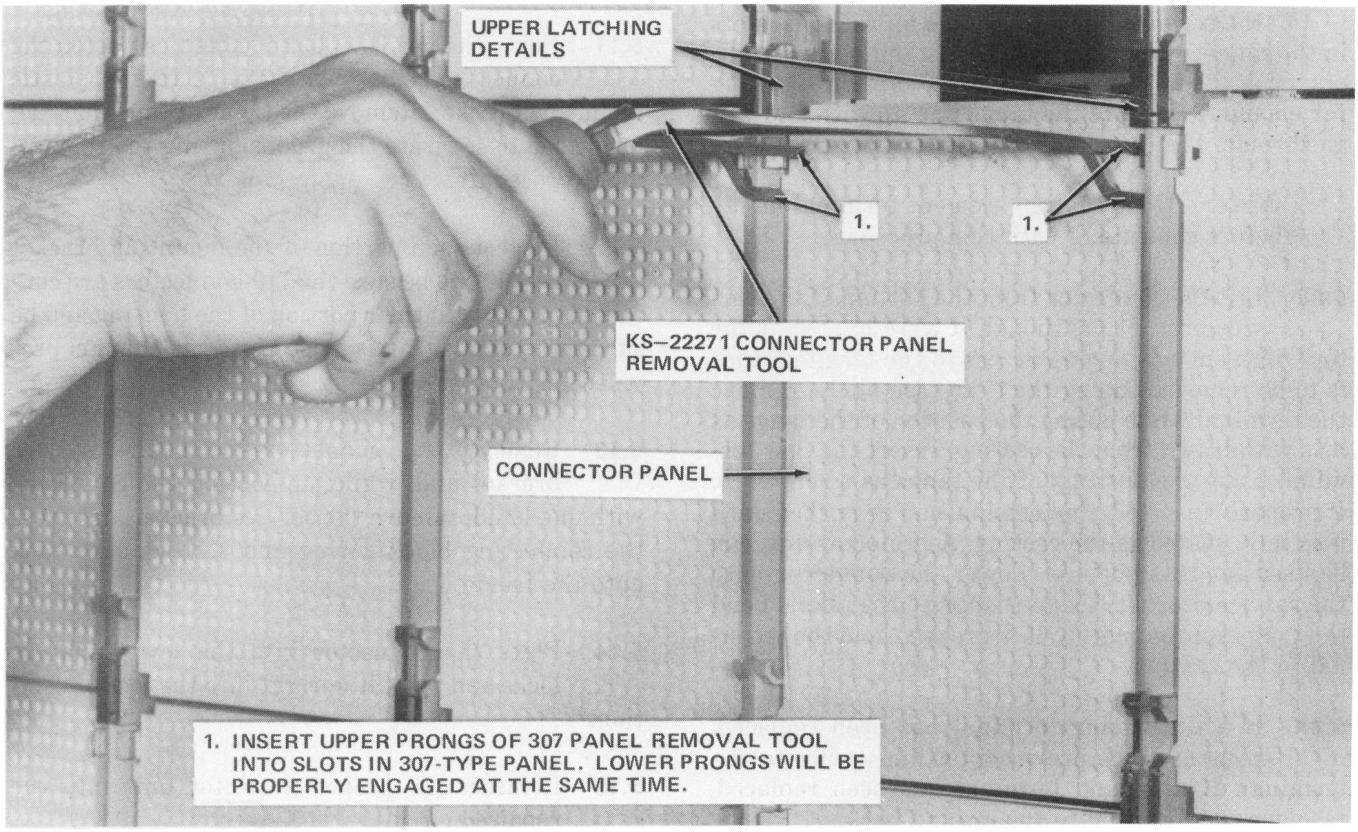


Fig. 1—Engaging Connector Panel Removal Tool Into Panel

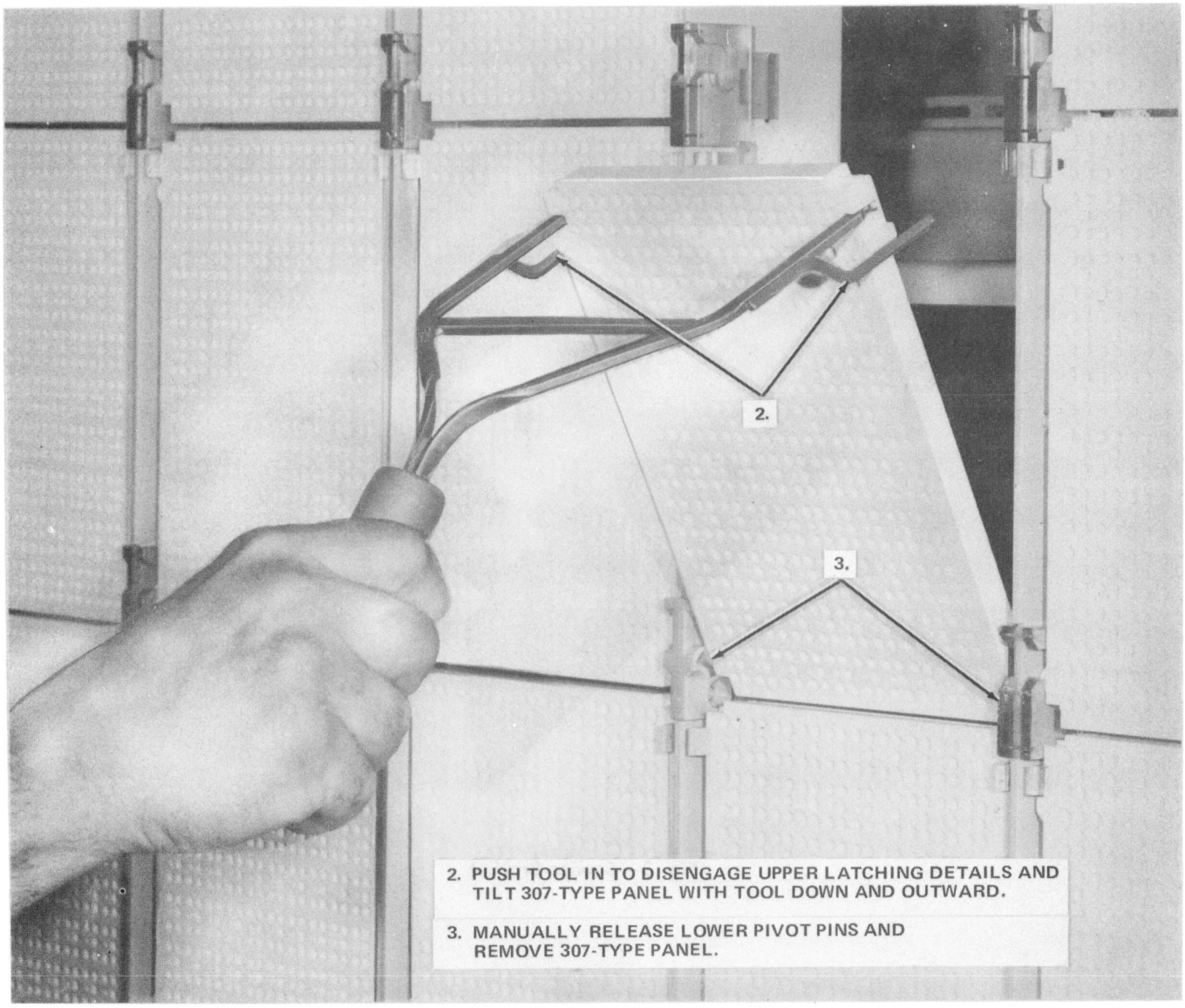


Fig. 2—Removing Connector Panel

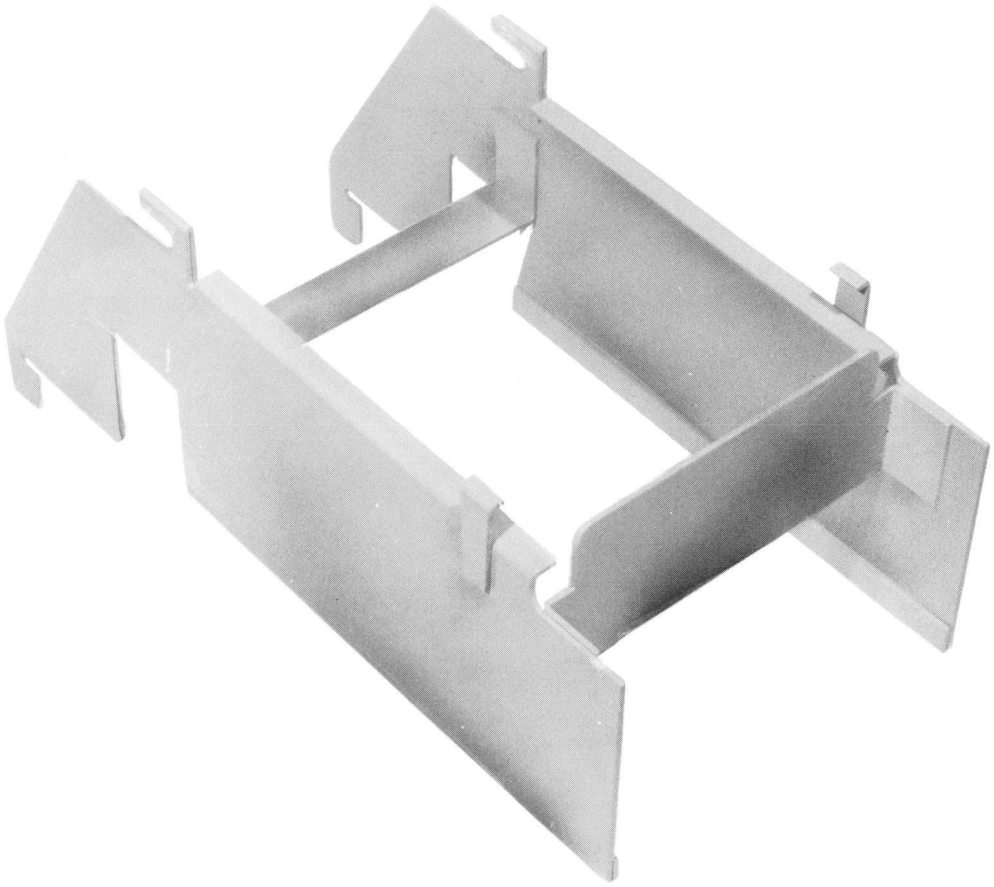
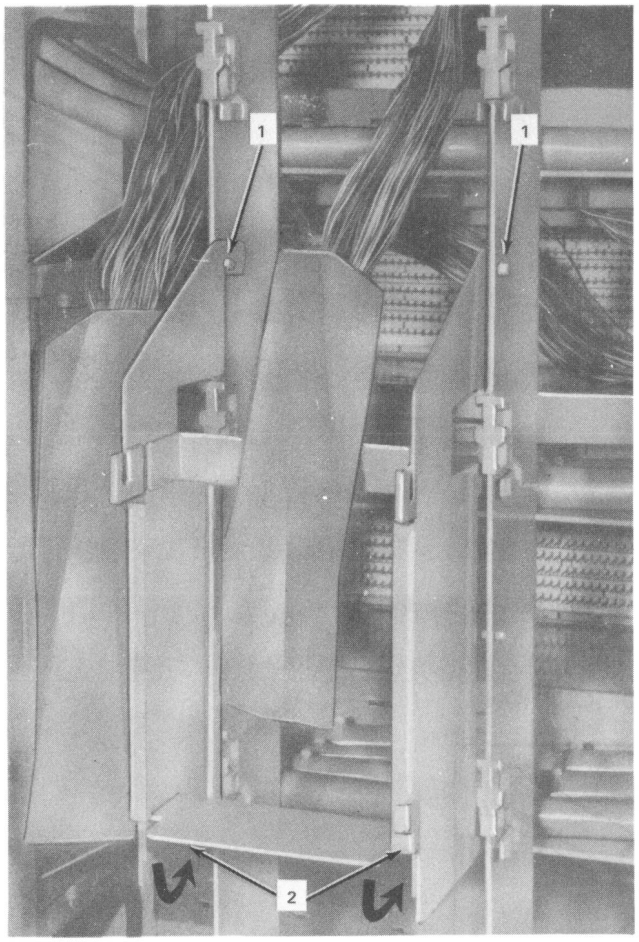
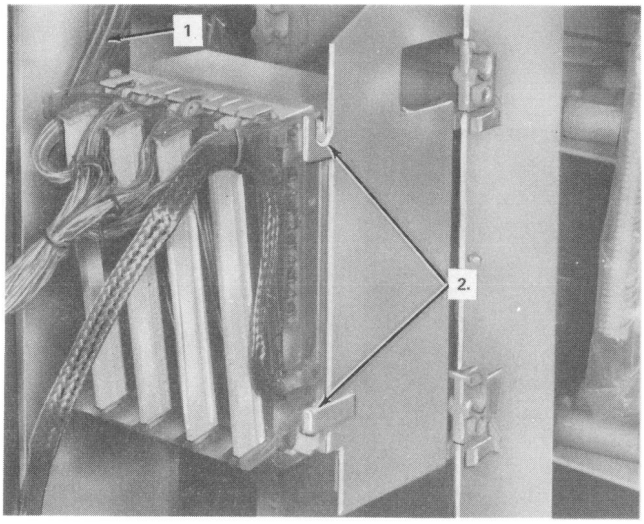


Fig. 3—Service Bracket



1. WITH BOTTOM OF SERVICE BRACKET TILTED TOWARD THE AISLE, ALIGN AND ENGAGE FRAME PINS AND SERVICE BRACKET SLOTS.
2. PIVOT BOTTOM OF SERVICE BRACKET TOWARD FRAME UNTIL IT RESTS AGAINST FRAME AND SNAP IN LOCKS.

Fig. 4—Installing Service Bracket



1. MOVE CONNECTORIZED END OF STUB CABLE TO SIDE OF SERVICE BRACKET.
2. MOUNT 307 CONNECTOR PIN INTO UPPER SLOT OF SERVICING SHELF, BOTTOM AND SIDES OF CONNECTOR RESTS AGAINST SERVICE BRACKET.

Fig. 5—Installing 307-Connector on Service Bracket

SPEC NO. **DESCRIPTION**

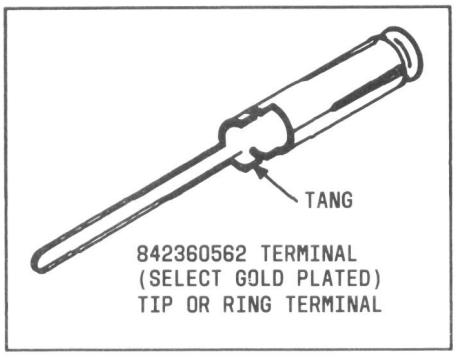


Fig. 6—Tip or Ring Terminal

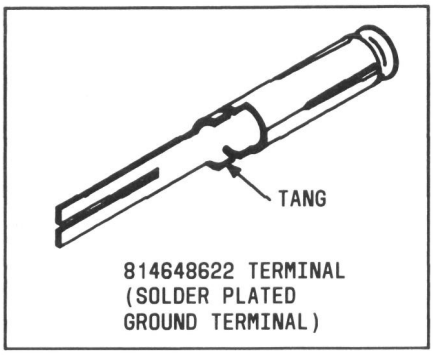


Fig. 7—Ground Terminal