112-TYPE CONNECTING BLOCKS
REPAIR AND REPLACEMENT PROCEDURES
"COSMIC* " II MINI MAIN DISTRIBUTING FRAME

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1. GENERAL

1.01 This section describes the procedures for repairing and replacing 112-type connecting blocks and their associated fanning strips and terminals used on the COSMIC II mini main distributing frame.

1.02 This section is reissued for the reasons listed below. Revision arrows are used to emphasize the significant changes.

(a) To add the R-1682, 756C-3, 950A, and 980A tools in Part 2

(b) To add a reference to the 980A and 950A tools in paragraph 5.01

(c) To add a reference to the 756C-3 and 950A tools in paragraph 5.08

(d) To add Fig. 3, 4, and 7 depicting the 980A, 950A, and 756C-3 tools, respectively.

(e) Revise title to properly identify trademark.

1.03 Both the part number and the name of the part must be listed when ordering replacement parts. Information enclosed in parentheses in Parts 2 and 3 is ***not*** ordering information.

1.04 No replacement procedures are given for screws where the procedure is obvious and consists of a simple operation.

1.05 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

- 201-222-320 — 112-Type Connecting Blocks — Method of Making Connections — COSMIC II Mini Combined Distributing Frame

2. TOOLS

2.01 ***List of Tools and Material:*** The following tools and materials are used in this section.

CODE OR SPEC NO	DESCRIPTION
AT-7860	B-long nose pliers
AT-7858	V-notch diagonal pliers
AT-7825	4-inch E screwdriver
R-4473	Combination skinning tool
	DETAIL 18(For 26-gauge wire—blue dot on blade)
	DETAIL 19(For 24-gauge wire—orange dot on blade)
KS-16363, L3	Wire-wrapping tool
KS-16734, L1	Wire-wrapping bit (red for 24-gauge wire)
KS-16903, L1	Wire-wrapping bit (yellow for 26-gauge wire)
KS-20963, L2	Wire-wrapping sleeve (red for 24-gauge wire)
KS-20963, L3	Wire-wrapping sleeve (yellow for 26-gauge wire)
KS-20827, L1	Wire-unwrapping tool
KS-22616	Connecting block removal tool
KS-20962	Distributing frame bag
KS-22035	Plastic spudger
◗R-1682	Electrician's sissors◖
R-2916	Twine
756C-2	Wire insertion tool
◗756C-3	Wire insertion tool
950A	Wire insertion and removal tool
980A	Wire removal tool◖
724A	Wire removal tool

3. REPLACEMENT PARTS

3.01 The connecting block code is stamped on the rear of the block. Table A lists the comcodes associated with each connecting block code.

3.02 This paragraph contains the information necessary for ordering replacement parts. However, the information within parentheses is for reference only and is not to be used as ordering information.

COMCODE	DESCRIPTION
842367823	Connector, 3-beam (112-type connecting block terminal)
103288213	Connecting block assembly (112C1B-100)
103288288	Connecting block assembly (112E1A-128)
103288296	Connecting block assembly (112E1B-128)
103556247	Connecting block assembly (112E1C-128)
841639933	Fanning strip (bottom, 112C1B-100 connecting block)
841087919	Fanning strip (top, 112C1B-100 connecting block)

TABLE A

COMCODES

CONNECTING BLOCK CODE	CONNECTING BLOCK COMCODE	FANNING STRIP COMCODE	
		BOTTOM	TOP
112C1B—100	103288213	841639933	841087919
112E1A—128	103288288	842365678	842365694
112E1B—128	103288296	843264466	843264474
112E1C-128	103556247	843266297	843266305

COMCODE	DESCRIPTION
842365678	Fanning strip (bottom, 112E1A-128 connecting block)
842365694	Fanning strip (top, 112E1A-128 connecting block)
843264466	Fanning strip (bottom, 112E1B-128 connecting block)
843264474	Fanning strip (top, 112E1B-128 connecting block)
843266297	Fanning strip (bottom, 112E1C-128 connecting block)
843266305	Fanning strip (top, 112E1C-128 connecting block)

4. PREPARATION

4.01 Before starting any replacement procedure, the circuit or circuits involved must be made busy according to local practices.

4.02 To replace a terminal or the entire connecting block, it is necessary to remove the cross-connections and the cable wiring. For a single terminal replacement, the wires do not have to be tagged for identification. However, to replace a connecting block, extreme care must be taken to identify and tag each lead or pair of leads as they are removed from the terminals.

4.03 Generally, there is enough slack (10 inches) in the cross-connection wires to allow for the replacement of the fanning strip without removing the connections from the terminals. The one-way gate (Fig. 1) can be spread open wide enough, by using the plastic spudger, to allow the wires to be pulled through the gate. The connections should remain seated in the quick-connect terminal. As an added precaution, the wires associated with each column should be tied or taped together to aid in placing the wires into the proper gate after the new fanning strip has been installed.

4.04 If any special service insulating clips are removed during the replacement procedure, the circuit(s) involved should be noted.

4.05 Before a 112E1A-128 type connecting block can be removed from the wiring shelf of an equipment module, the ED-6C314-70, G5 designation strip must be removed. The designation strip is fastened to the wiring shelf by four screws. It can easily be removed and then replaced upon completion of the repair procedure.

5. REPAIR AND REPLACEMENT PROCEDURES

A. Terminal

5.01 Remove the cross-connection wire(s) from the defective terminal, using the 724A wire removal tool (Fig. 2), ▶the 980A wire removal tool (Fig. 3), or the 950A wire insertion and removal tool (Fig. 4).◀

5.02 The connecting block must be removed from the wiring shelf. Use the KS-22616 tool (Fig. 5) and proceed as follows:

(1) Insert the prongs of the tool into the three slots on the top of the fanning strip. There are

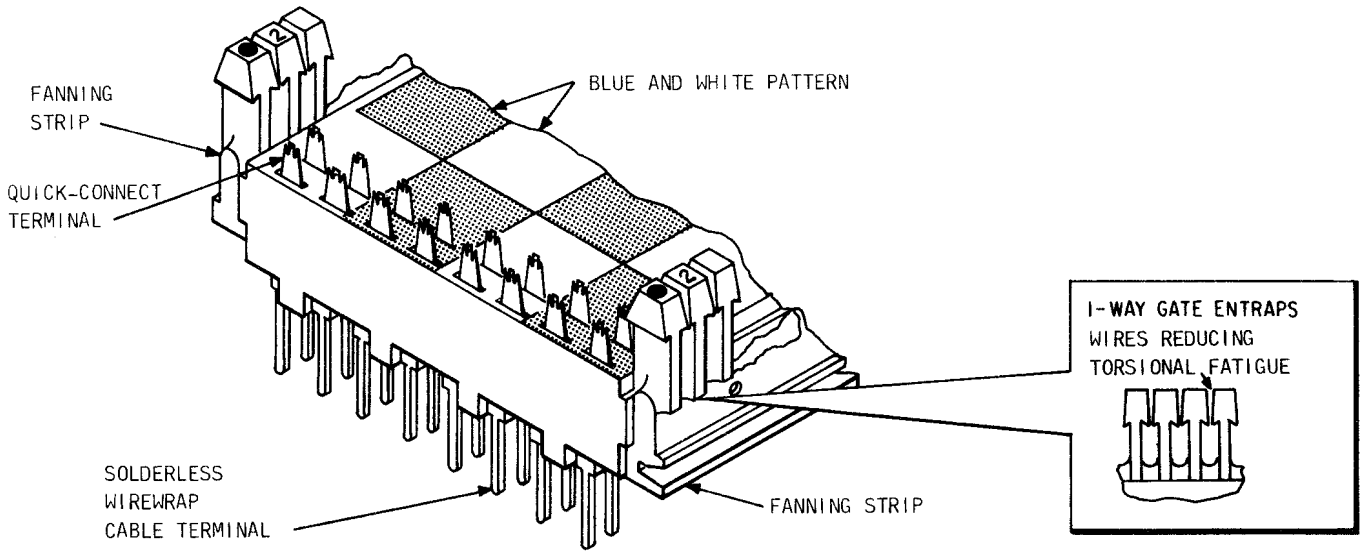

Fig. 1—Connecting Block Features

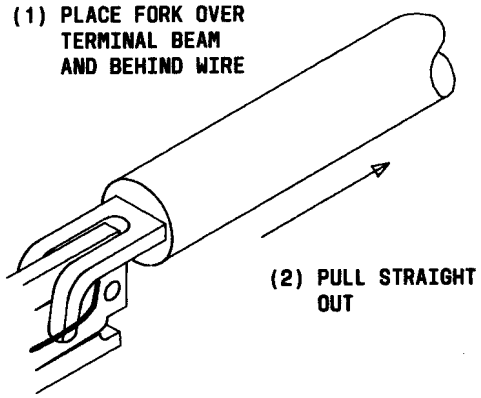

Fig. 2—724A Wire Removal Tool

three groups of three slots. Use the rightmost slot of each group.

(2) Press down on bar, as shown in Fig. 5, until the three prongs of the tool are seated properly in the slots.

(3) The tool handle is offset in an upward direction. Rotate the handle downward until the three tangs on the fanning strip disengage from the wiring shelf.

(4) Lift the connecting block up slightly to disengage the bottom fanning strip, which is slotted lengthwise, from the track on the wiring shelf.

5.03 Remove the cable wire(s), using the KS-20827 wire-unwrapping tool.

5.04 Use the wire-unwrapping tool to push the terminal toward the front of the block. The terminal can then be easily pulled out from the front of the block using the long-nose pliers.

5.05 Place the new terminal into the front of the block. Use the wire-insertion tool and insert it on the terminal. Push the terminal into the block, using a slight pressure, until it is seated properly (indicated by a "click").

5.06 Reconnect the cable wire(s) on the new terminal.

5.07 Reinstall the connecting block on the wiring shelf by first engaging the grooved bottom fanning strip on the wiring shelf track. Next, push the upper fanning strip against the shelf until the three fanning strip tangs snap into place.

5.08 Reinsert the cross-connection(s) into the new terminal using the 756C-2 wire-insertion tool

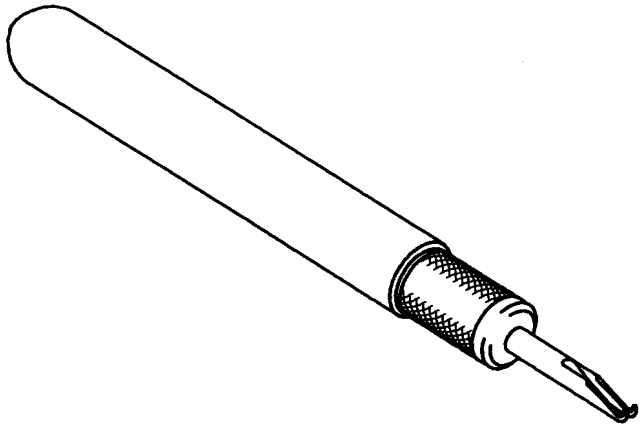

Fig. 3—980A Wire Removal Tool

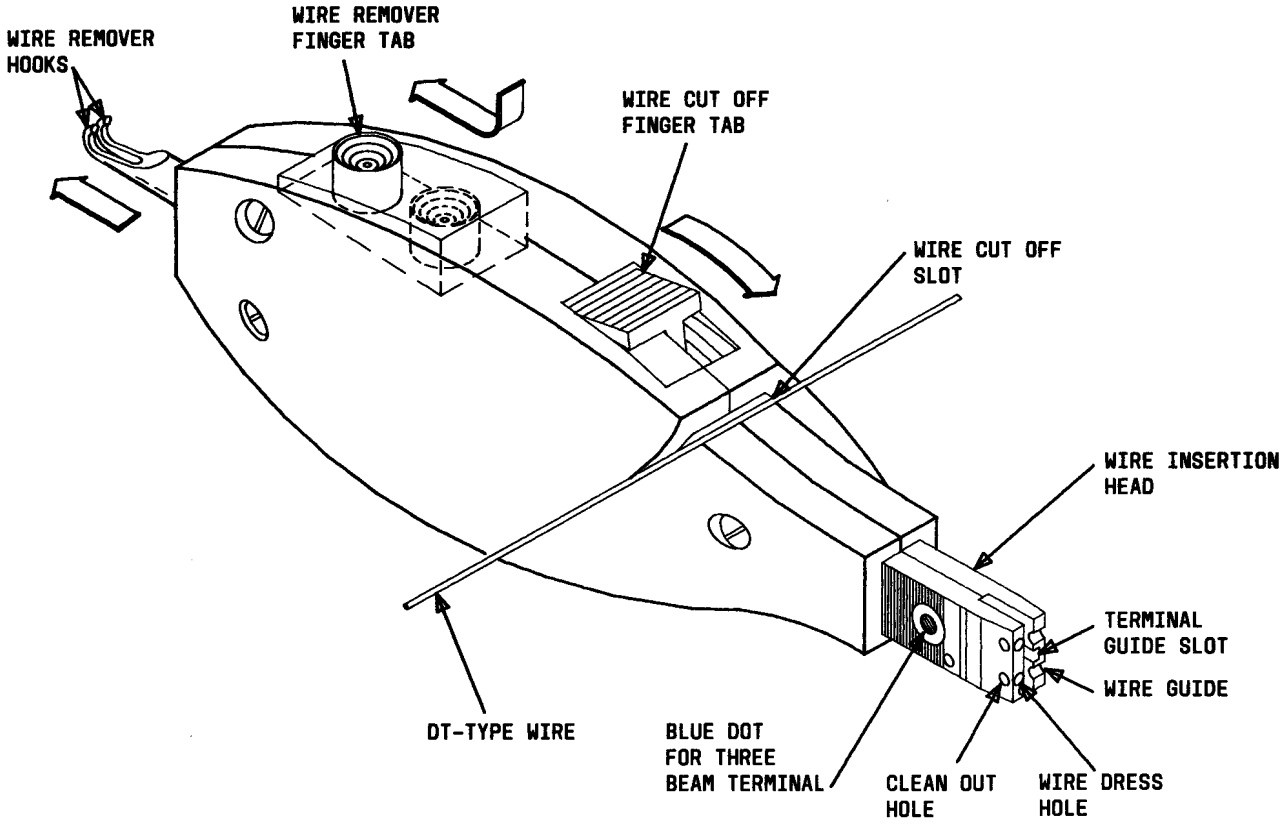

Fig. 4—950A Wire Insertion and Removal Tool

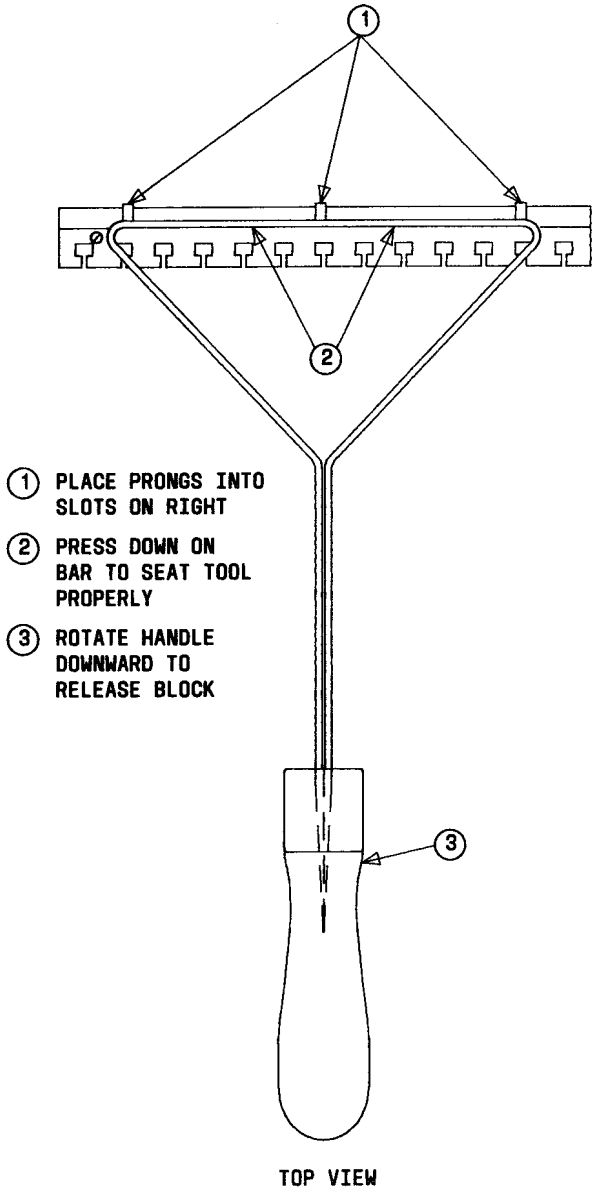

Fig. 5—Method of Removing Connecting Block

(Fig. 6), ◗the 756C-3 wire insertion tool (Fig. 7), or the 950A wire insertion and removal tool (Fig. 4).◖

B. Fanning Strip

5.09 The cross-connections must be removed from the fanning strip one-way gates using the procedure outlined in paragraph 4.03.

5.10 The connecting block must be removed from the wiring shelf using the procedures outlined in paragraph 5.02.

5.11 The fanning strip can be removed from the block by removing the three machines screws. Using the same screws, fasten the new fanning strip to the block.

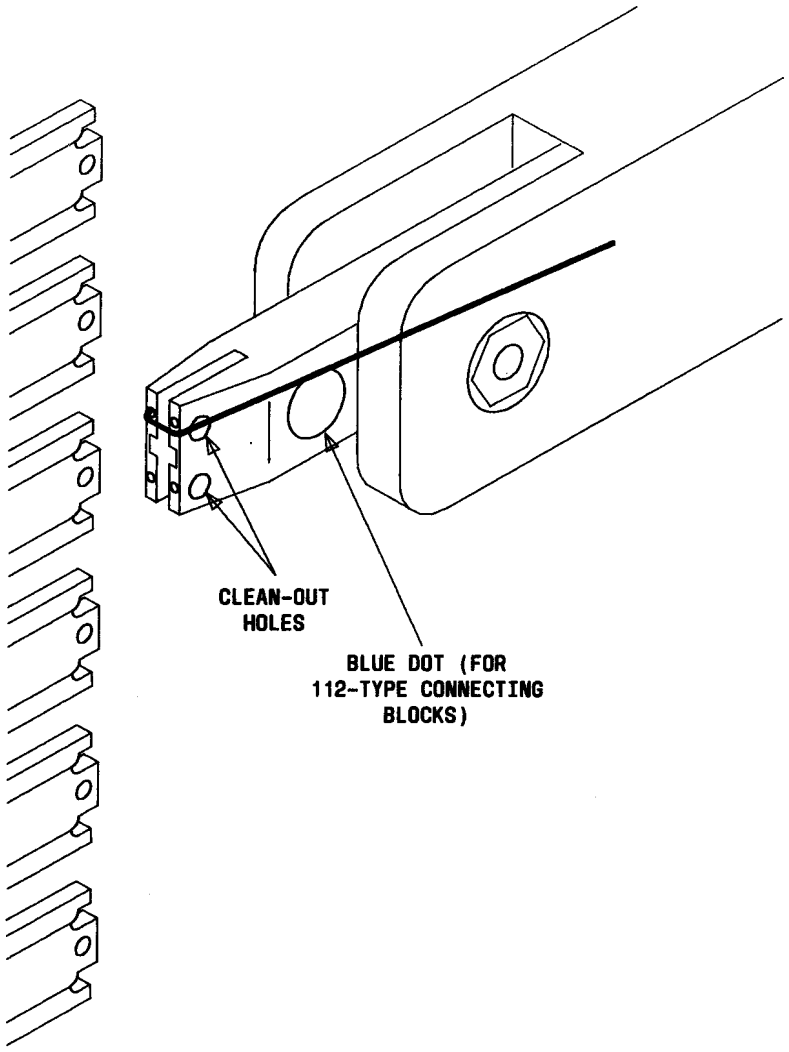

Fig. 6—756C-2 Wire Insertion Tool

5.12 Reinstall the connecting block on the wiring shelf using the procedure outlined in paragraph 5.07.

5.13 Reinsert the cross-connection wires into the proper one-way gates on the fanning strip and dress the wires back on the wiring shelf.

5.14 Make a visual inspection of the front of the block to be sure that none of the wires have been removed from their quick-connect terminal. Use the plastic spudger to dress the wires along the front of the block.

C. Connecting Block

5.15 Use the wire removal tool to remove the cross-connection wires from the terminals. Cut back each wire past the pierced insulation, approximately 1/4 inch. Deposit wire clippings into the distributing frame bag. Tag each wire for identification and tie or tape together all wires associated with the same fanning strip one-way gate. Remove the wires from the one-way gates (see paragraph 4.03), and place the wires on the wiring shelf so they will not interfere with the removal of the connecting block.

5.16 Use the KS-22616 connecting block removal tool and follow the procedures outlined in

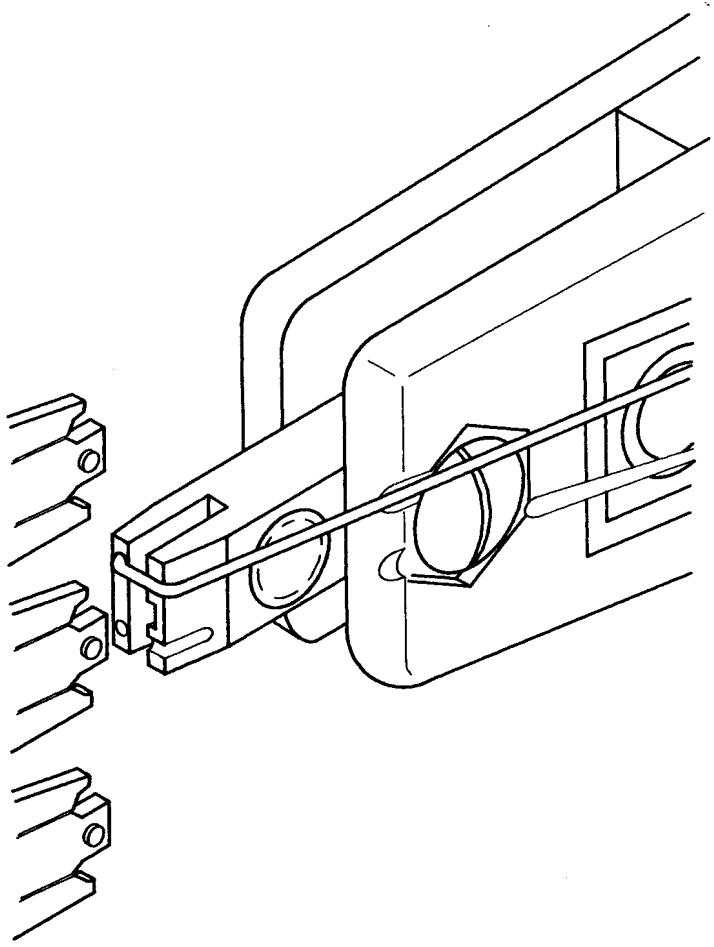

Fig. 7—756C-3 Wire Insertion Tool

paragraph 5.02 for removing the connecting block from the wiring shelf.

5.17 With the cable wiring side of the block facing upward, place the block against the shelf so that the bottom of the bottom fanning strip is flush against the outside surface of the shelf. Use the roll of twine to lash the block to the shelf by making several wraps around the front part of the bottom fanning strip and the shelf. This should hold the block firmly in place. Remove and cut off skinned portion of the cable wires and identify each cable wire (by tagging or other means). Place wire clippings into distributing frame bag.

5.18 Cut the twine holding the defective connecting block to the frame. Place the new block against the shelf and follow the procedure outlined in paragraph 5.17 to lash it to the shelf.

5.19 Reconnect the cable wires, using the proper wire-wrapping bit. Dress the cable back on the shelf.

5.20 Cut the twine holding the block to the shelf. Install the new connecting block on the wiring shelf following the procedure outlined in paragraph 5.07.

5.21 Reconnect all the cross-connections and place them in the proper fanning strip one-way gates. Remove the identification tags and the ties. Dress the wires on the front of the block and dress the slack back into the vertical cabling trough.

5.22 Following local practices, verify that all circuits affected are working properly.