

CONVENTIONAL DISTRIBUTING FRAMES

CONNECTING BLOCKS

REPAIR PROCEDURES

1. GENERAL

1.01 This section covers information pertaining to the repair of 89-type and 93-type connecting blocks.

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

1.03 Figures in this section illustrate the various replaceable parts in their proper relation to other parts of the apparatus. Associated tables provide additional information. The replaceable parts are given together with the names of the parts.

1.04 When ordering replacement parts, give both the part number and name of the part, ie, P-181434 screw. Do not refer to the BSP section number or to any information shown in parenthesis.

1.05 Information enclosed in parenthesis 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 No replacement procedures are given for screws or other parts where the procedure is obvious and consists of a simple operation.

1.07 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

- 201-220-301—Conventional Distributing Frames—Method of Making Connections

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.

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

2.03 The ends of wire previously used for a solderless wrapped connection shall not be reused for subsequent connections. The end of the wire must be cut off and reconnected by solderless wrapping. Except in cross-connection fields, 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. In cross-connection fields, the wire shall be rerun to provide sufficient length for a solderless wrapped connection. (See Section 069-132-811.)

3. TOOLS AND MATERIALS

CODE OR SPEC. NO.	DESCRIPTION
833A	Wire insertion tool (93-type block)
834B	10-wire insertion tool (93-type block)
724A	Wire removal tool (89-type block)
756D or	Wire insertion tool (89-type block)

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

SECTION 201-220-802

KS-21771	Quick clip tool (89-type block-wire insertion and removal tool)
KS-16902, L1	Wire stripping tool
KS-20827, L1	Wire unwrapping tool
KS-16363, L3 or	Wire wrapping tool
KS-21232, L1	Wire wrapping tool
KS-16734, L1 and	Wire wrapping bit (22- and 24-gauge)
KS-20963, L2	Wire wrapping sleeve (22- and 24-gauge)
—	B long-nose pliers
—	FREON* TF or
—	FREON TE35
KS-2423	Cloth

4. 93-TYPE BLOCK REPAIR PROCEDURES

109A-SW1-5 Connector

4.01 The 109A-SW1-5 connector (Fig. 1) attaches to the front of the 93-type connecting block providing an interface between the equipment cabling and the cross-connect field.

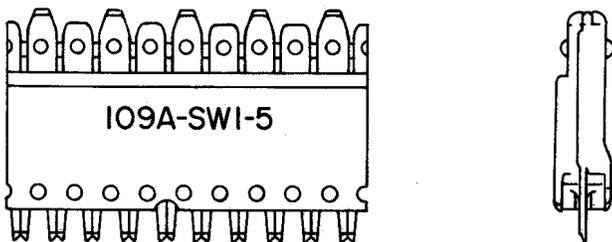


Fig. 1—109A-SW1-5 Connector

*Registered trademark of E. I. du Pont de Nemours Co., Inc.

4.02 The 109A-type connector should be replaced whenever it is removed from the 93-type block. To remove a 109A-type connector, proceed as follows:

- (1) Remove the 10 cross-connect leads from the 109A-type connector to be removed with a fiber spudger.

Note: The jumper wires should not be pulled out of the connecting block, only from the 109A-type connector. The internal channels of each slice will correctly organize and retain the jumper wires until reterminated.

- (2) Grasp the 109A-type connector at the top or bottom of the connector with a pair of B long-nose pliers.
- (3) Remove the 109A-type connector by sharply jerking on the connector at the designated points mentioned above.

Note: When the 109A-type connector is removed, the equipment cable wires may remain lodged in the quick-clip of the connector. These wires should be removed from the connector and moved over about 1/4-inch to provide a new point of incision for the terminals of the 109A-type connector.

- (4) Rerterminate the equipment cable wires using the 834B tool on the 93-type block. (See Section 201-220-301 for the method of making connections.)

Note: Termination of the equipment cable wires is performed in the same manner as the jumper cable wires.

- (5) Replace the 109A-type connector by seating the connector in place with an 834B 10-wire impact tool.

Note: When replacing the 109A-type connector, it is imperative that the white side of the connector be on the right side when facing the 93-type connecting block.

- (6) Rereminate the cross-connect jumper wires on the 93-type block with the 833A tool. (See Section 201-220-301 for the method of making connections.)

Adhesive Labels

4.03 The adhesive label shown on the 93-type block in Fig. 2 designates the use of the block, and the location of the block. A set of adhesive labels are included with each block. See Table A for a listing of the set of labels that corresponds to each connecting block.

4.04 To replace an adhesive label, proceed as follows:

- (1) Peel off the existing adhesive label.
- (2) Clean the area where the label contacts the connecting block with a clean cloth and FREON TF or FREON TE35. It is important that a clean surface is present to allow for proper adhesion.

Caution: *Do not pour the cleaner directly on the block; a short could occur causing a service interruption. Always pour the cleaning fluid directly on the cloth.*

- (3) Press on the new adhesive label.

5. 89-TYPE BLOCK REPAIR PROCEDURES

KS-21876 Designation Cover

5.01 The KS-21876 designation cover shown in Fig. 3 is an optional feature available on the 89-type blocks. This cover provides additional area when needed to label the circuits terminated on the block. For additional information on the KS-21876 designation cover, see Section 201-220-106. Since the designation cover is optional, installation procedures will be covered rather than removal procedures. To install the designation cover, proceed as follows:

- (1) Remove the two captive pan head screws from the connecting block.
- (2) Align the designation cover screw holes with the screw holes in the block.

- (3) Hold the block in a closed position and replace the two captive pan head screws.
- (4) Tighten the pan head screws and close the cover over the fanning strip.

Note: If the cover is too loose, bend the latch downward slightly. If the cover is too tight, bend the latch upward slightly. These measures will ensure a correct fit for the designation cover.

- (5) To remove the cover, reverse Steps 1 through 4.

89-Type Block Terminals—(See Fig. 4)

5.02 The 89-type connecting block will contain one of the terminals shown in Fig. 4. When replacing a terminal, the correct terminal should be chosen and replaced as follows:

- (1) Tag and remove the cross-connect jumpers associated with the broken terminal.
- (2) Loosen the two captive pan head screws and rotate the block upward into the locked position.

Note: The pan head screws only need to be removed from the block housing. The screws may be left in the block portion to hold the KS-21876 designation cover intact, if so equipped.

- (3) Tag and remove the equipment cable wiring associated with the broken terminal.
- (4) On the **equipment cable side only**, carefully twist the wire-wrap portion of the terminal backward and forward with the B long-nose pliers until it breaks.

Caution: *Care should be taken to prevent shorting against other terminals. This will prevent service interruptions.*

- (5) Rotate the block to the closed position and remove the remainder of the terminal.
- (6) Select the correct terminal replacement and insert the terminal into the front of the block (cross-connect side).

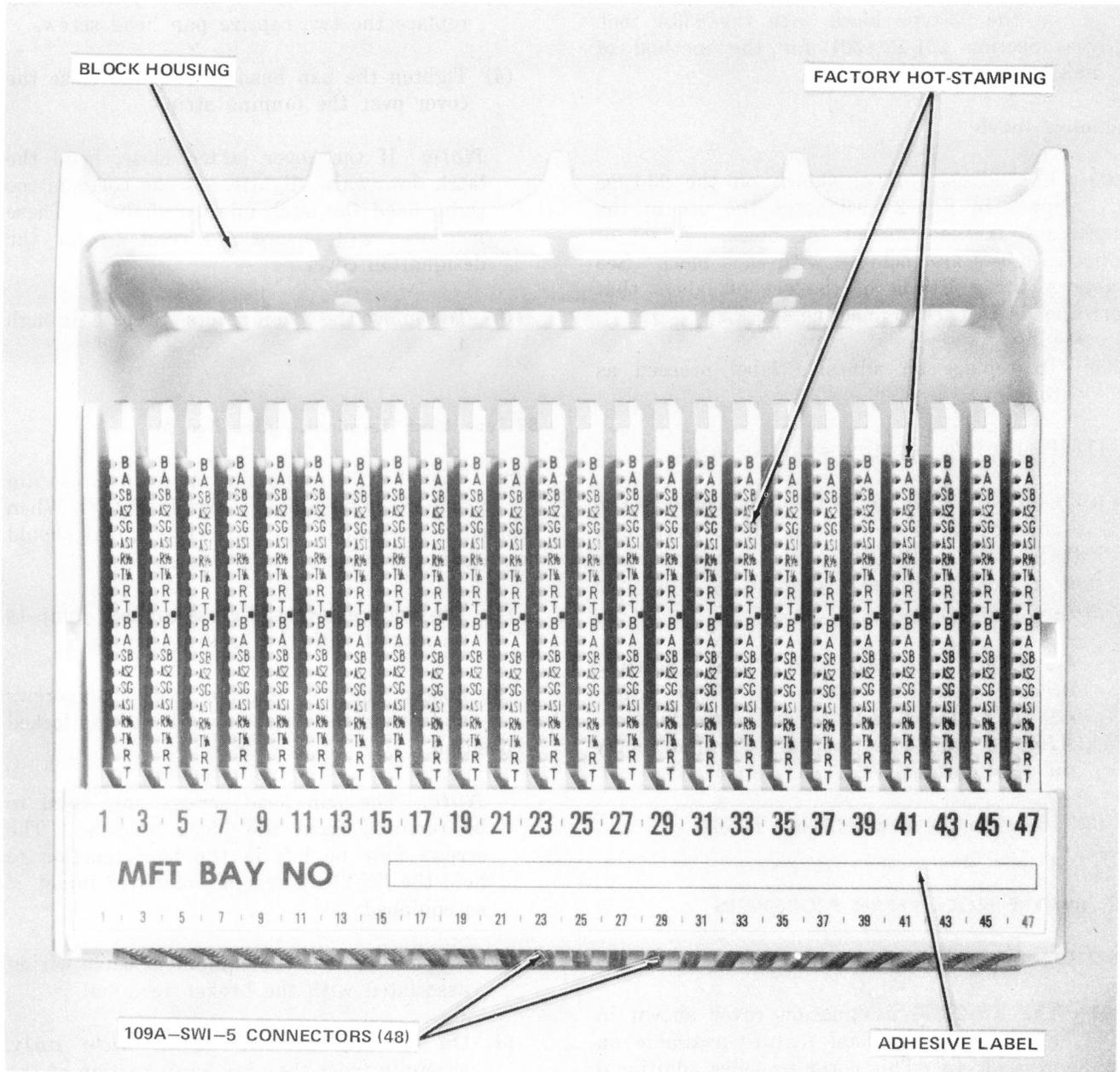


Fig. 2—Adhesive Label on 93-Type Block

(7) With the B long-nose pliers, apply a steady pressure and push the terminal into the block until a click is heard. This click is the nylon spurs on the rear of the block gripping the terminal.

Note: If the nylon spurs fail to secure the terminal in the block, twist the terminal

(equipment cable side only) 5 to 10 degrees to lock the terminal in place.

(8) Reconnect all wiring previously disconnected.

(9) Close and secure the block.

TABLE A

ADHESIVE LABELS FOR 93-TYPE BLOCK

CONNECTING BLOCK	COM. CODE NUMBERS
93A1A	842362436
93B1A	842362436
93D1A	842262410
93E1A	842262410
93G1A	842362428
93H1A	842362436
93J1A	842362444
93K1A	842362444
93L1A	842367070
93M1A (See Note)	842367070 842367419

Note : Two labels are necessary.

Equipment Cable Fanning Strip—(See Table B)

5.03 The equipment cable fanning strip (Fig. 5) located on the rear of the 89-type connecting block provides for organization of the equipment cabling. To replace the fanning strip, proceed as follows:

- (1) Loosen the two pan head captive screws and rotate the block upward to the locked position.
- (2) Tag and remove each group of wires held by the fanning strip.

- (3) Remove the two fanning strip mounting screws from the fanning strip.
- (4) Choose the correct fanning strip (Table B) and replace the broken strip.
- (5) Replace the mounting screws making sure the aluminum metal guard is in place.
- (6) Work each group of wires back into the new fanning strip.

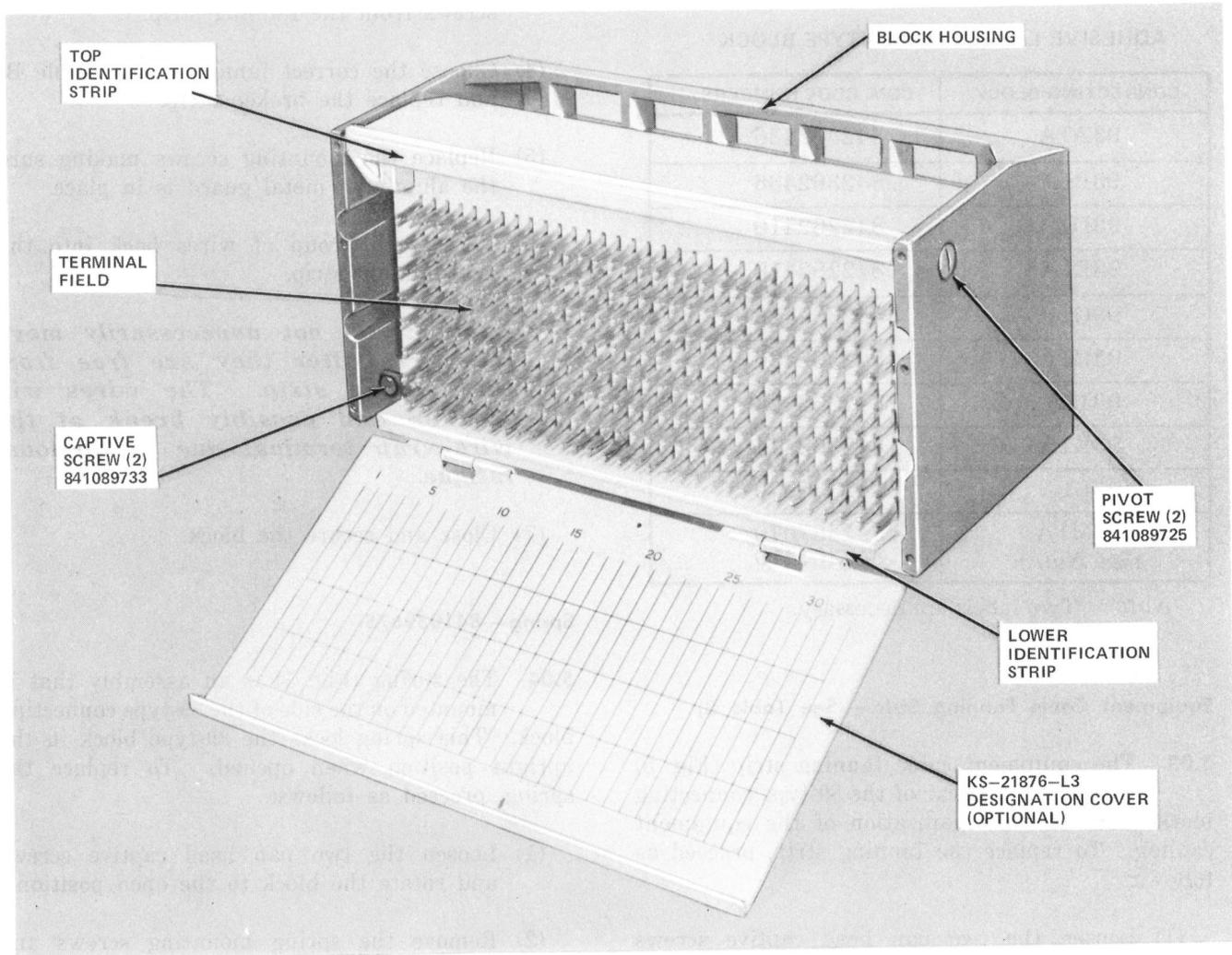
Caution: Do not unnecessarily move the wires after they are free from the fanning strip. The wires will weaken and possibly break at the wire-wrap terminal due to torsional fatigue.

- (7) Close and secure the block.

Spring—841089675

5.04 The spring (Fig. 5) is an assembly that is mounted on the side of the 89-type connecting block. This spring locks the 89-type block in the upright position when opened. To replace the spring, proceed as follows:

- (1) Loosen the two pan head captive screws and rotate the block to the open position.
- (2) Remove the spring mounting screws and replace the spring.
- (3) Replace the mounting screws.
- (4) Close and secure the block.



KS-21276 DESIGNATION COVERS FOR 89-TYPE CONNECTING BLOCKS		
LIST NO.	USED ON	PATTERN
L1	64- AND 128-PAIR BLOCKS	CONTAINS 1 ROW BY 8 COLUMN CHECKERBOARD PATTERN
L2	50- , 75- , AND 100-PAIR BLOCKS	CONTAINS 1 ROW BY 5 COLUMN CHECKERBOARD PATTERN
L3	ANY 89-TYPE BLOCK	DOES NOT CONTAIN ANY CHECKERBOARD PATTERN
L4	USED ON 96-PAIR 89-TYPE BLOCKS	CONTAINS 1 ROW BY 8 COLUMN CHECKERBOARD PATTERN
L5	USED ON 100-PAIR 89-TYPE BLOCKS	CONTAINS 1 ROW BY 5 COLUMN NON-CONSECUTIVE PATTERN

Fig. 3—89-Type Block—A&M (Quick-Clip Terminal)

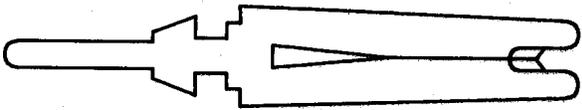
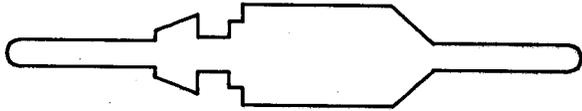
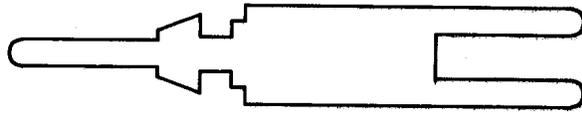


Fig. 4—89-Type Block Terminals

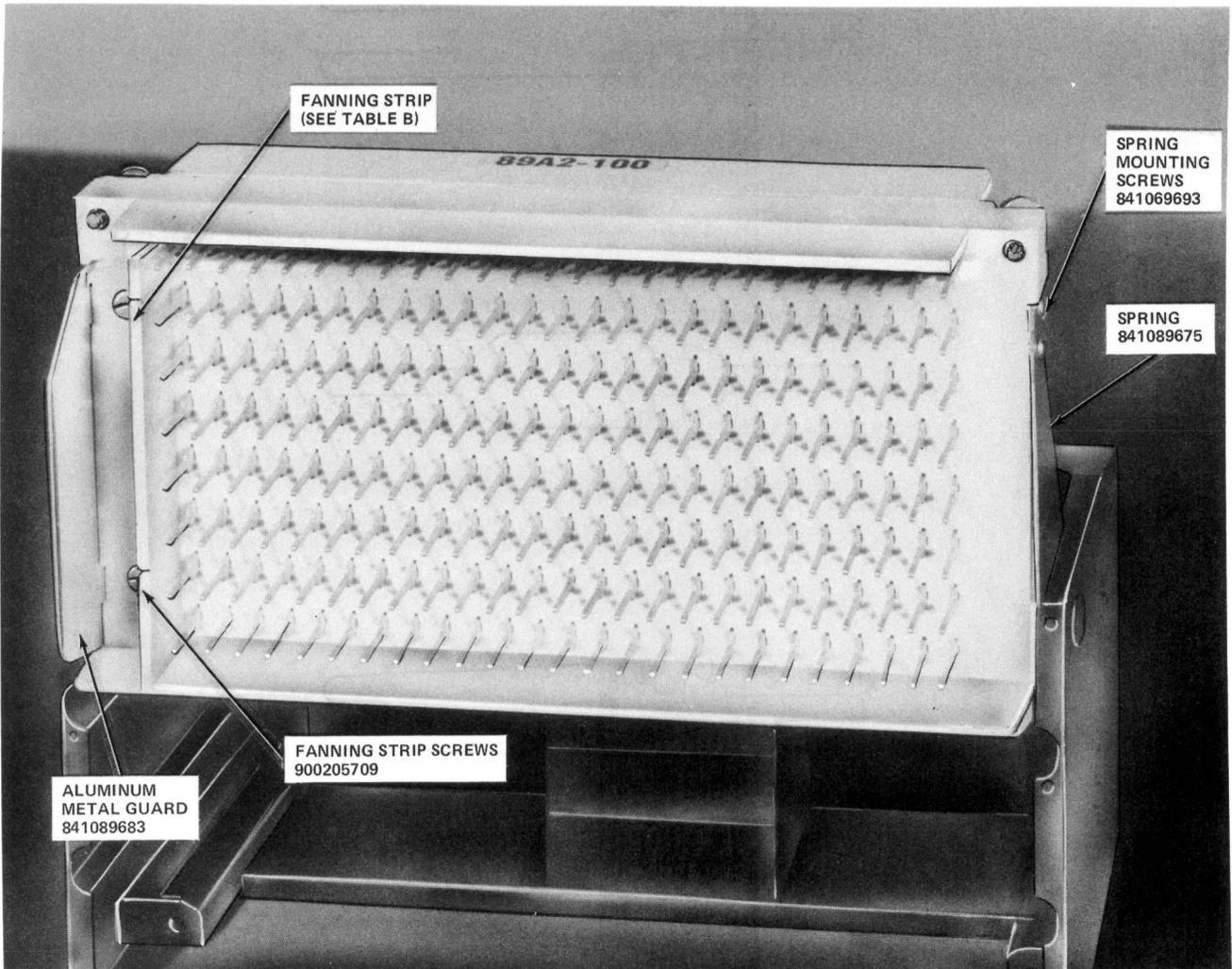


Fig. 5—89-Type Connecting Block (Open Position)

TABLE B
EQUIPMENT CABLE FANNING STRIP
89-TYPE BLOCK

CONNECTING BLOCK	COM. CODE NUMBER
89A1-100 89A1-96 89A1-50 89A2-100 89A3-100 89A4-96 89A6-96 89A7-96 89A11-96 89A12-96	841089626
89B1-75 89C1-100 89D1-50	841089634
89A1-64 89B1-128 89B1-100 89B1-64 89B2-100 89B2-64 89B3-64 89B3-100 89B4-64 89B4-100 89B2-128 89B3-128 89C1-128 89D1-64	841089642