

## DROP AND BLOCK

### STRAND, SHEATH, POLE, AND WALL WIRE TERMINALS

#### 1. GENERAL

1.01 This section describes routing and terminating of drop and block wiring at aerial cable terminals.

1.02 This section is reissued to:

- Add information on the 3A4-3 terminal block which replaces the 3A3-3 and 3A3-2 terminal blocks.
- Add information on the routing of drop and block wiring.
- Revise format and illustrations.

1.03 ♦All employees engaged in aerial work should be familiar with the safety precautions to be observed in working on poles and aerial terminals.♦

1.04 ♦At each visit to the terminal location, perform the following procedures:

- Finger-tighten the nuts on all unused binding posts to keep all contact areas as clean as possible.
- Brush the faceplate with a water tool brush to remove any dirt that may have accumulated and check for excessive corrosion on the faceplate.
- Trim frayed ends of wires which might cause leakage to adjacent wires or binding posts.

**Caution:** *When cutting wire ends of wire terminated on binding posts, wear eye protection and place the free hand over the binding post before cutting the wire.*♦

1.05 ♦Where additional information is required, refer to Section 462-260-201 (Drop and block wiring at aerial cable terminals).♦

#### 2. ROUTING OF WIRE RUNS♦

##### Strand-Mounted Terminals

2.01 Drop wires should preferably be run to the terminal from the adjacent pole (Fig. 1) except where they distribute from a cable extension arm or from a span clamp. A drop wire distributing from a span clamp should be run directly from the span clamp to the terminal when the span clamp is adjacent to the terminal.

2.02 Route the drop or block wires through the three hangers below the terminal, around the hanger at the far end, and below the terminal to the proper wire entrance holes of the assigned binding posts.

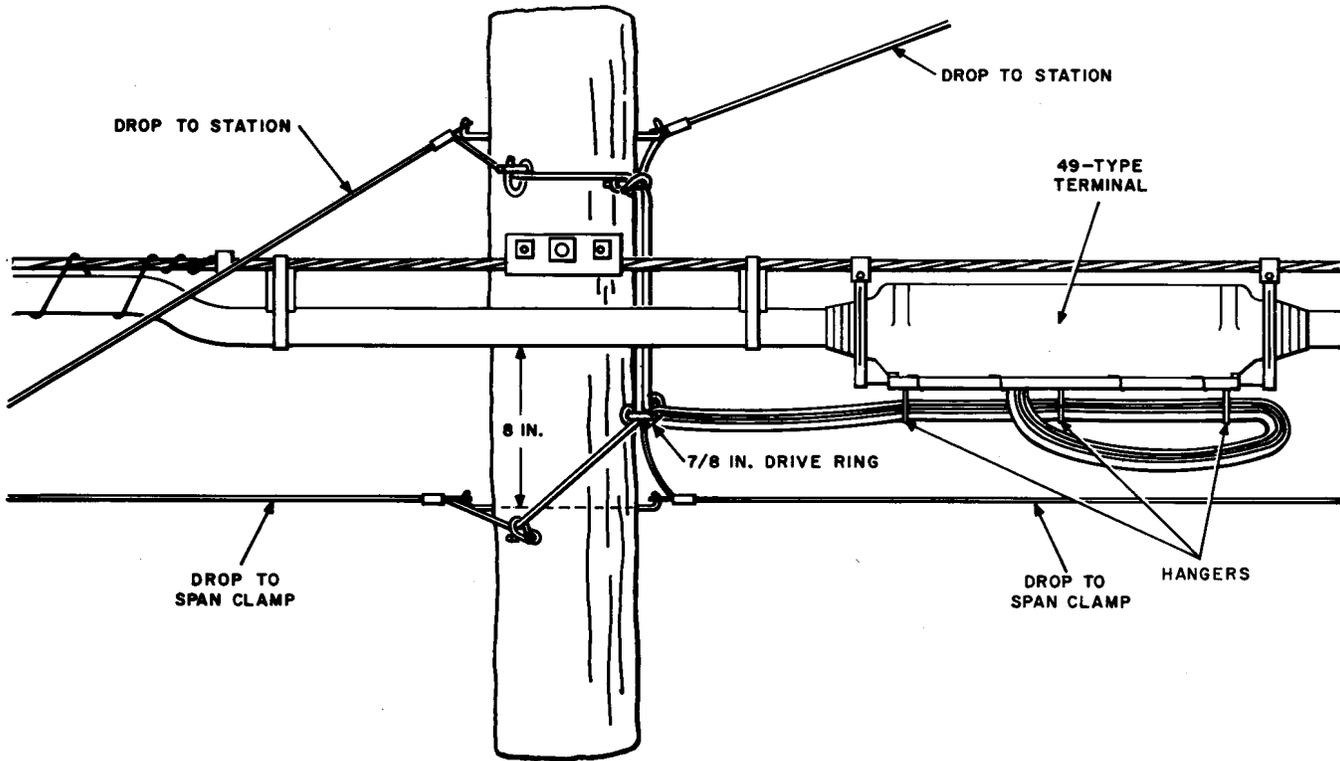
2.03 Refer to Fig. 1, 2, 3, 4, and 5 for typical arrangements of drop wires fed from strand-mounted terminals on aerial cable. Note that the arrangement of wires is similar at all strand-mounted cable terminals.

2.04 When placing new connections, the wire should be run through all the rings below the terminal in order to provide enough slack to enable any wire to reach any pair of binding posts in the event of changes in cable pair assignments. Wire should be loosely placed to avoid sharp bends around rings which may cause damage to the wire insulation.

##### Pole-Mounted Terminals

2.05 All vertical drop and block wire runs on poles should be in drive rings which are in a straight line on the pole and spaced evenly about two feet apart. This line of drive rings should be about 45 degrees around the pole from the face or side of the pole upon which the terminal is mounted.

2.06 Wires should be routed through the ring run to the terminal entrance hole.



◆ Fig. 1—Running Drop Wire to 49-Type Terminal at Pole ◆

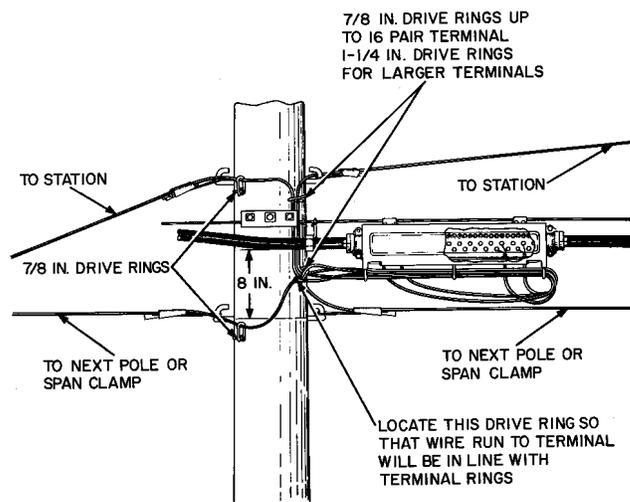
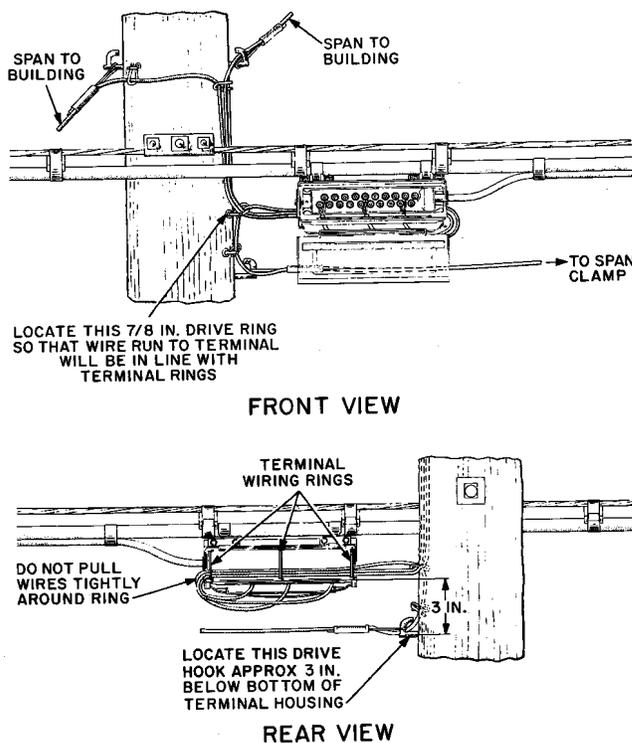


Fig. 2—Running Drop Wires to 61-Type Terminal

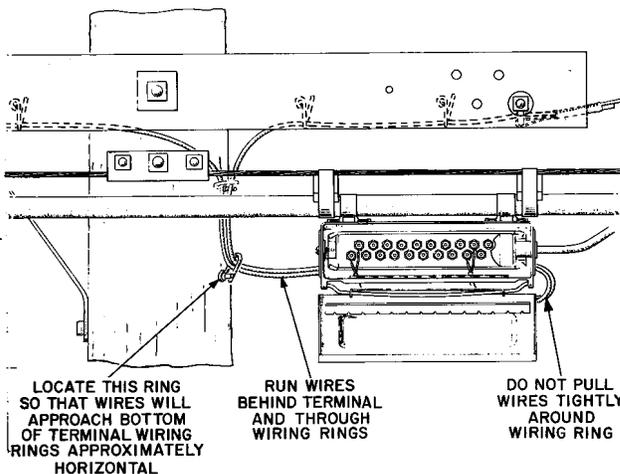
2.07 Refer to Fig. 6 and 7 for typical arrangements of drop wires at N-type terminals which are mounted on poles.

2.08 With pole-mounted cross-connecting terminals, install drop wire in accordance with the following procedure:

- (a) Place drive rings on the pole as shown in Fig. 8.
- (b) Where a drop wire is to be terminated on the left side of the terminal chamber, run the wire down the right side of the pole behind the terminal, through the two rings below the terminal, and into the wire entrance holes on the bottom left of the terminal box. Where the drop wire is to be terminated on the right side of the terminal chamber, run the wire down the left side of the pole behind the terminal, through the two rings below the terminal, and into the wire entrance holes on the bottom right of the terminal box.
- (c) Insert the drop wire into one of the entrance holes located in the bottom of the terminal housing.



▶ Fig. 3—Running Drop Wire to N-Type Terminal From Pole ◀



▶ Fig. 4—Running Drop Wire to N-Type Terminal From Guard Arm ◀

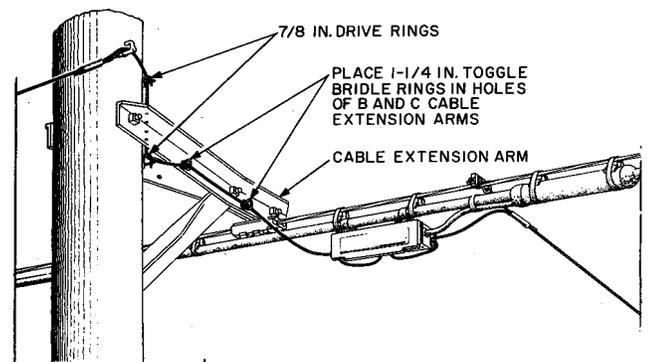


Fig. 5—Running Drop Wire to N-Type Terminal From Cable Extension Arm

### Wall-Mounted Terminals

2.09 The wiring arrangements at wall-mounted terminals are very much like the arrangements at strand- and pole-mounted terminals, and should always be done in a neat and orderly fashion.

2.10 Refer to Fig. 9, 10, and 11 for arranging drop and block wires at wall-mounted terminals.

### 101-Type Wire Terminals

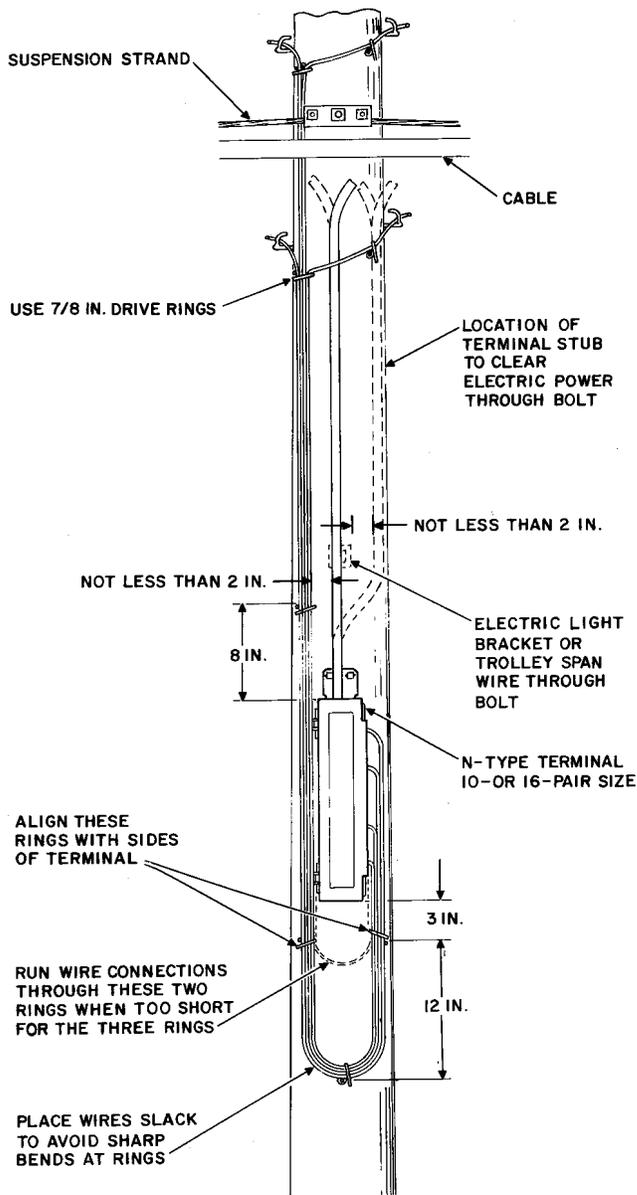
2.11 See Section 462-240-120 for a description of the 101-type wire terminals. The 101B2 wire terminal supersedes both the 101A and 101B (Fig. 12) wire terminal. It is used for making party line taps in drop and block wire runs, in distributing drops from cable and open wire lines, and in placing fusible links.

2.12 The 101-type wire terminal should be mounted on poles and walls as shown on Fig. 13, 14, 15, 16, and 17.

## 3. TERMINATING WIRING AT CABLE TERMINALS

### Miscellaneous Type Terminals

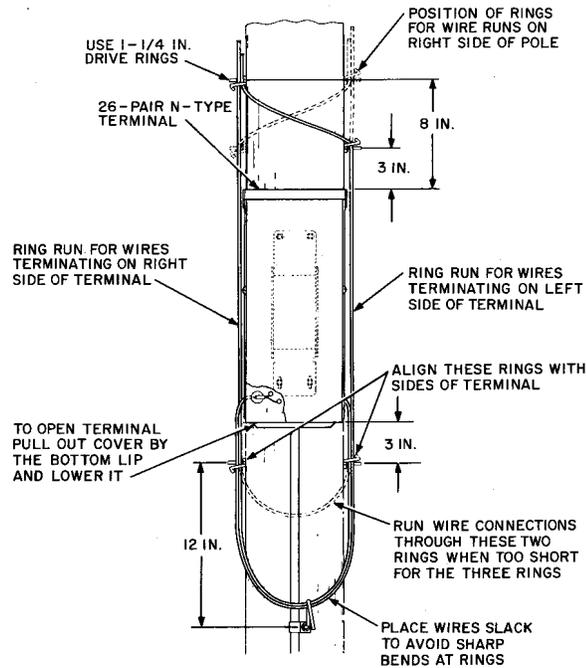
3.01 Cut wire to the proper length for terminating, and remove the required amount of insulation from the wire to terminate on the binding post. See Fig. 18.



**Fig. 6—Running Drop Wire to 10- or 16-Pair N-Type Terminal Mounted on Pole**

**3.02** Using long-nose pliers or other suitable tool, break through the wire entrance hole immediately below the proper pair of binding posts.

**3.03** Insert the wire through the wire entrance hole and terminate it on the binding post so that the end of the insulation is about 1/8 inch from the washers. The outer covering of the drop wires should extend at least 1/4 inch inside the terminal housing. See Fig. 19.



**Fig. 7—Running Drop Wire to 26-Pair N-Type Terminal Mounted on Pole**

**3.04** Bridge no more than two conductors on each binding post. Where additional bridging is necessary, utilize wire terminals.

**3.05** Terminate drop wire on cross-connecting type terminals by installing drop wire as shown in Fig. 20. Use G cross-connecting wire between the feeder pair binding posts and vacant drop wire binding posts if required.

**49-Type Terminal**

**3.06** The 3A4-3 terminal block (Fig. 21) replaces the 3A3-2 and 3A3-3 (Fig. 22) terminal blocks for use in the 49-type cable terminal. The 3A3-2 and 3A3-3 terminal blocks will be rated manufacture discontinued (MD).

**3.07** The 49-type terminal was formerly supplied with one P-18A782 terminal block in position 1 and additional blocks in positions 2 and 3, if required.

**3.08** Current terminals are furnished with two terminal blocks (Fig. 25) in positions 2 and

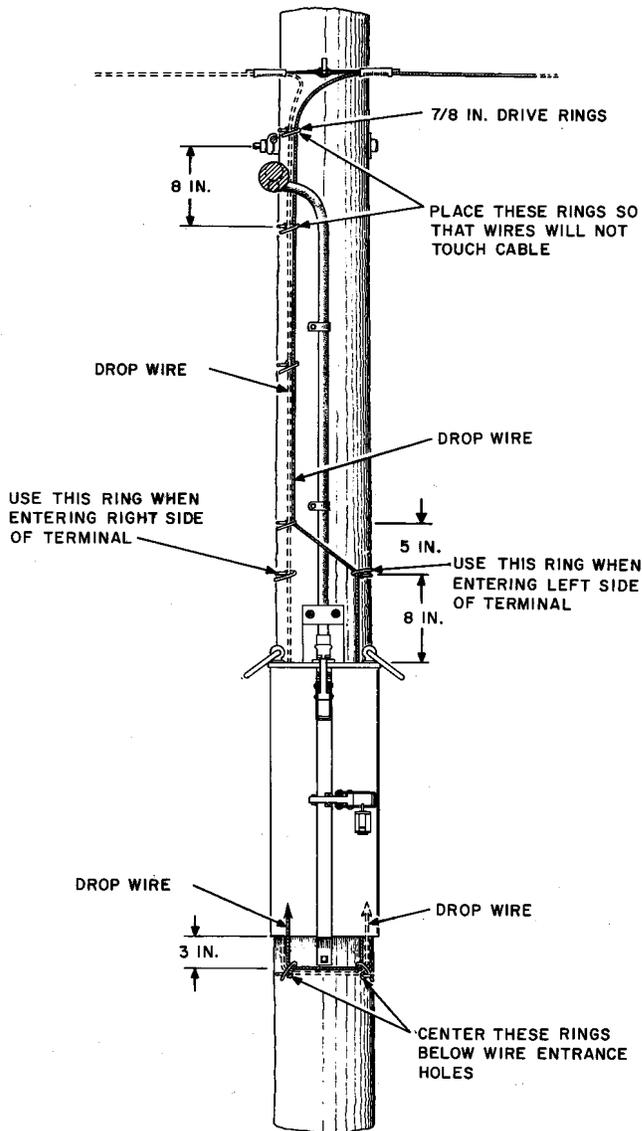


Fig. 8—Running Drop Wire at Cross-Connecting Terminal

3. If an additional block is required, install in position 4.

3.09 Refer to Table A for lead colors using P-18A782 and 3A3-3 or 3A4-3 terminal blocks.

**Note:** No more than three terminal blocks should be mounted in a 49-type terminal and no more than eight pairs of binding posts should be used.

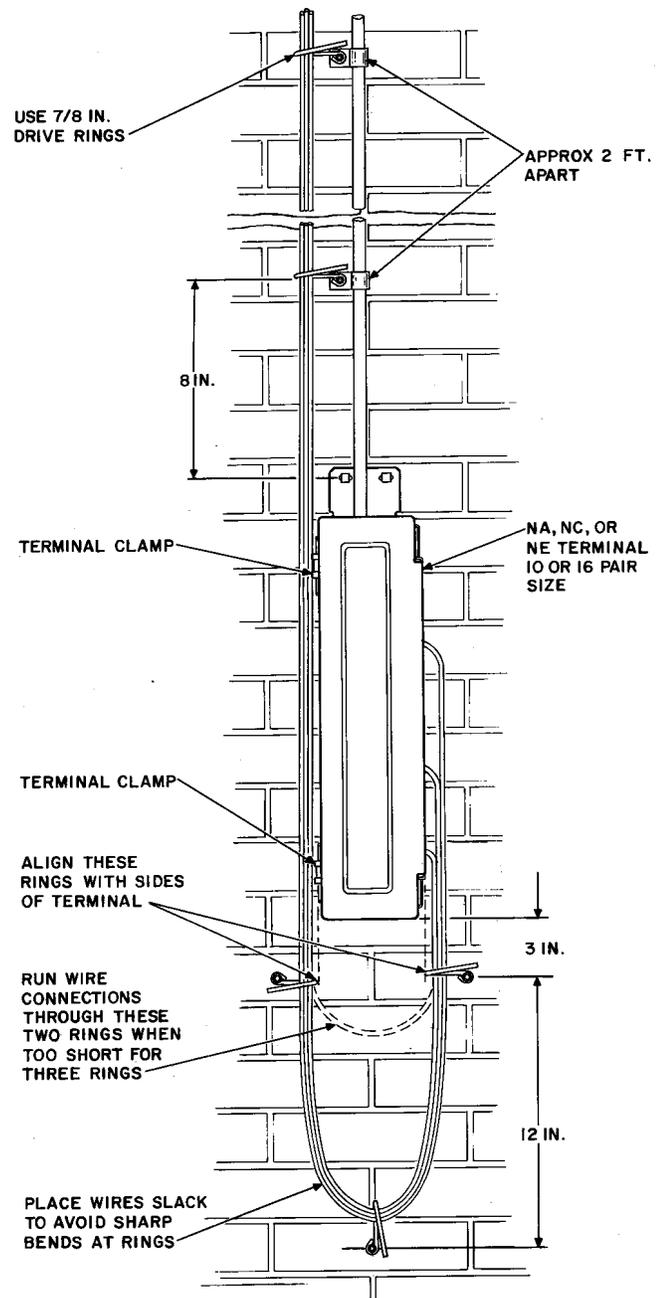


Fig. 9—Wall Mounted 10- or 16-Pair Terminal With Stub at Top

3.10 At seacoast or other locations where corrosion due to salt atmosphere can be expected, remove existing 3A3-3 and replace with a 3A2-3 or 3A4-3 terminal block. These blocks are similar to the 3A3-3 except that the mounting studs are made of zinc-plated steel, and the 3A4-3 has a single mounting stud.

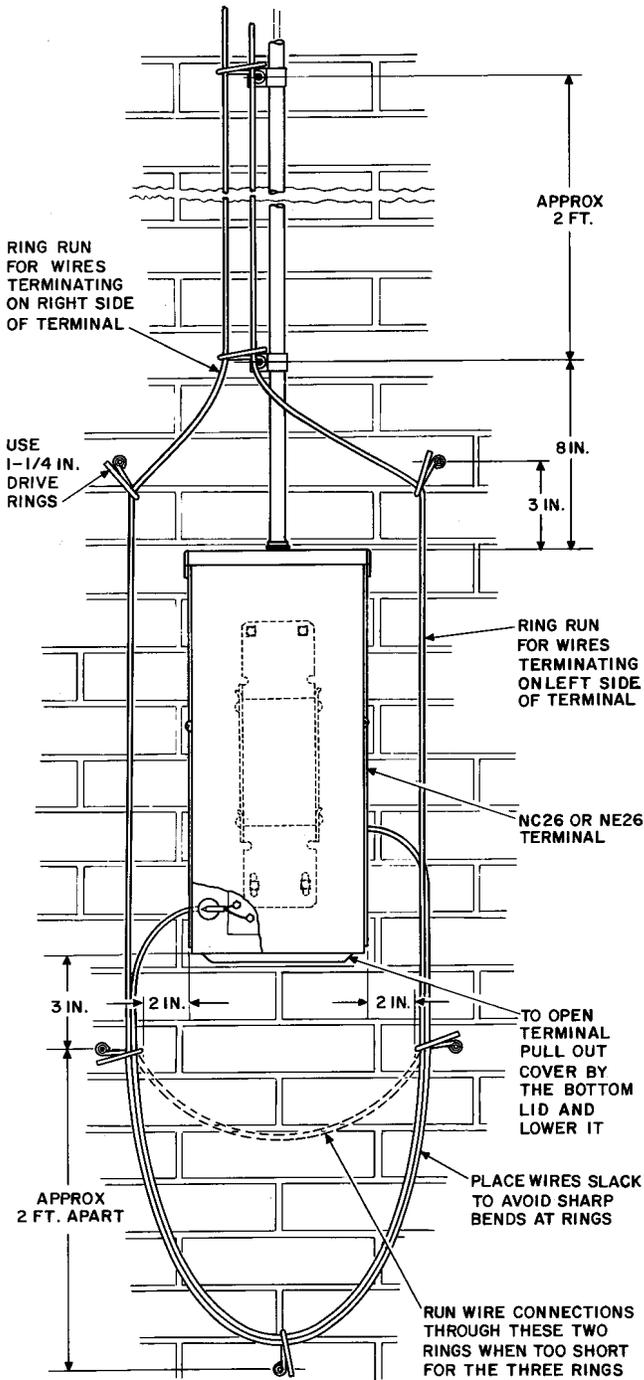


Fig. 10—Wall Mounted 26-Pair Terminal With Stub at Top

3.11 If cable protection is required, remove the existing block and substitute a 3A2B-3 terminal block. This block is equipped with protector units and two internally connected leads per binding post (Fig. 23).

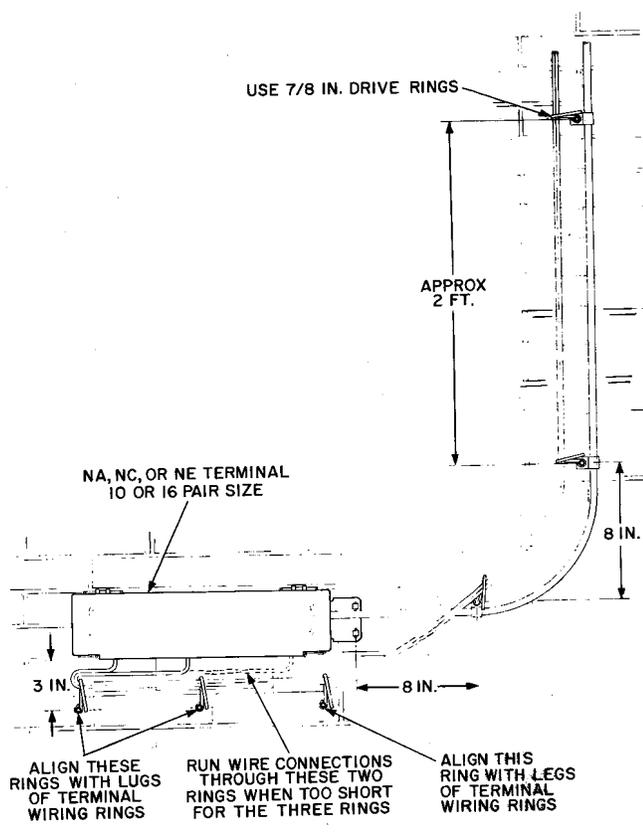


Fig. 11—Horizontal Wall Mounted Terminal With Stub Turned Up

3.12 When SCOTCHLOK® UG Bridging Connectors are used to connect the 3A2B-3 terminal block leads to the cable pairs, the unused leads should first be placed under the bottom washers of their respective binding posts and cut off as close as possible. Do not remove the insulation from the extra leads.

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3.13 When selecting cable pairs by color code, use the *center* binder group markers for identifying the required group. Slide the marker to one side and then select the required cable pair within the group.

3.14 The preferred method of joining the terminal block leads to the cable pairs assigned is with the SCOTCHLOK UG Bridging Connector. The use of UG Bridging Connectors eliminates the need to cut the cable conductors, thereby reducing the possibility of open conductors beyond the

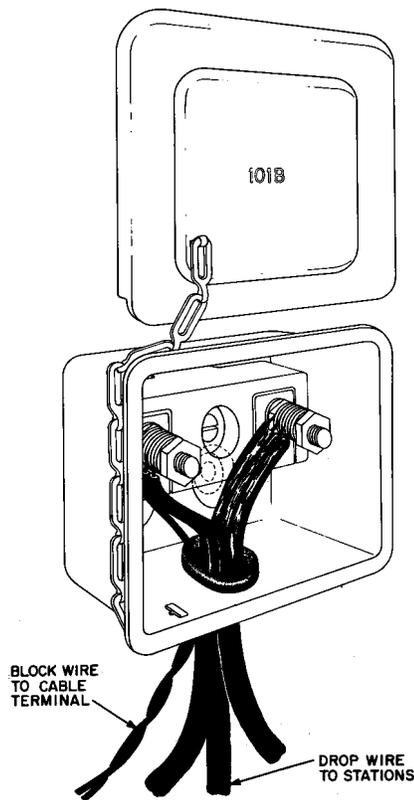


Fig. 12—101B Wire Terminal

terminal and also improving housekeeping in the terminal. When bridging connectors are used, the second lead is not required and is cut off close to the lug (Fig. 24 and 25).

**3.15** An alternate method of joining the terminal block leads to the cable conductors is with the use of B wire connectors. However, with this method the cable conductors must be cut, thereby increasing the possibility of open conductors beyond the terminal (Fig. 26).

**3.16** When binding post leads already bridged to a cable pair with UG connectors are to be reassigned to another cable pair, proceed as follows:

- (1) Cut the binding post leads as near as possible to the connectors. **Do not attempt to remove the connectors from the cable pair conductors.**

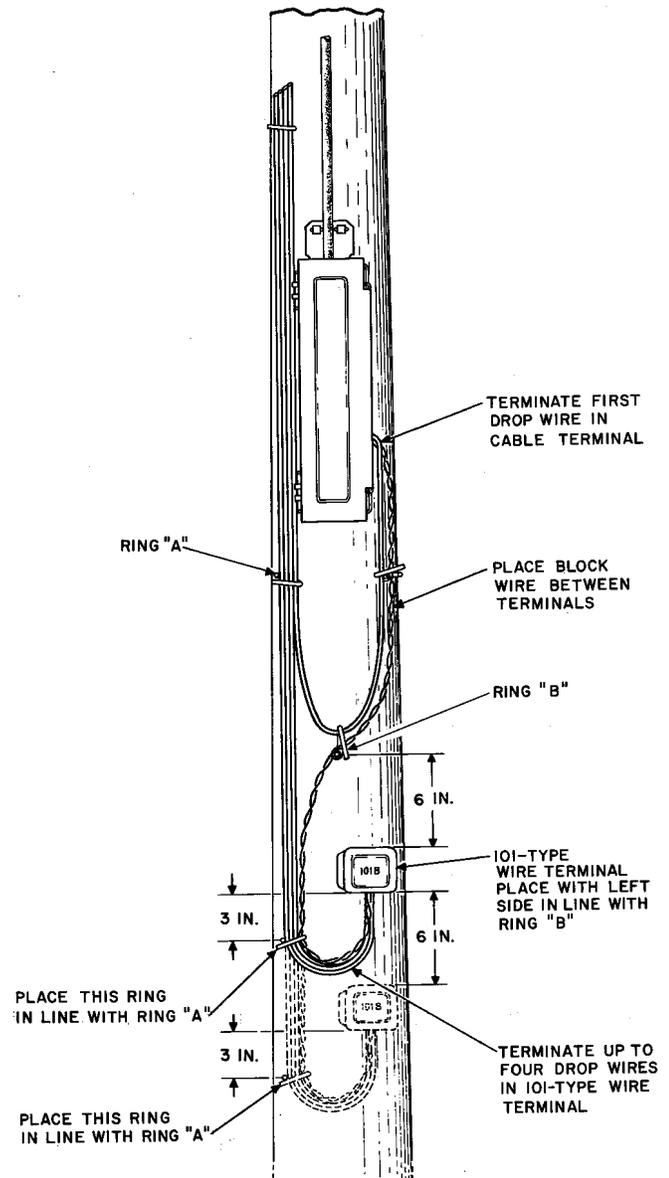
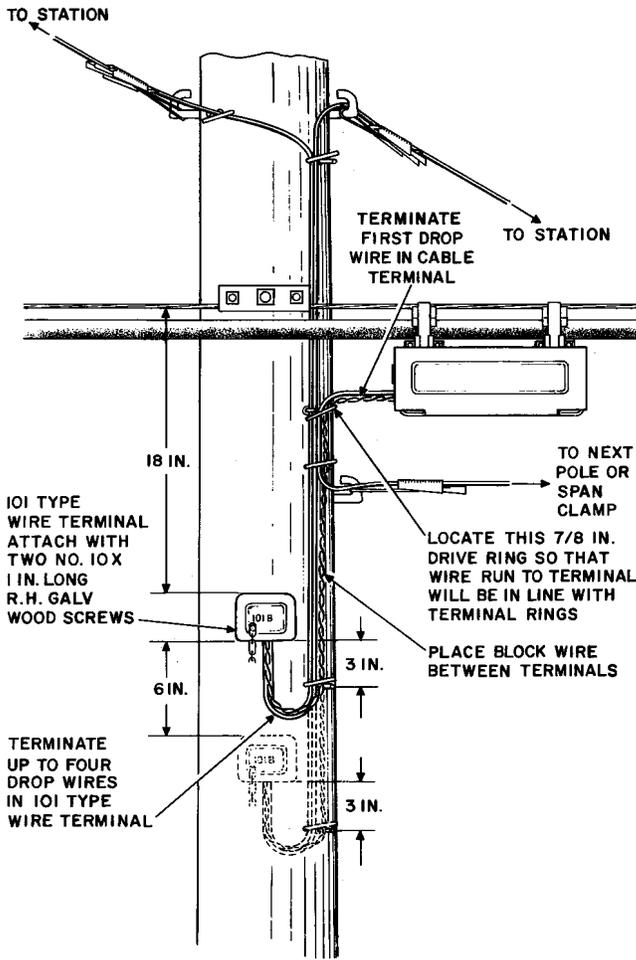


Fig. 13—Wiring 101-Type Terminal at Pole Mounted Terminal

- (2) Separate the newly assigned cable pairs from the preferred count binder group. Make certain these pairs are not damaged.
- (3) Reconnect the binding post leads to the newly assigned cable pair.

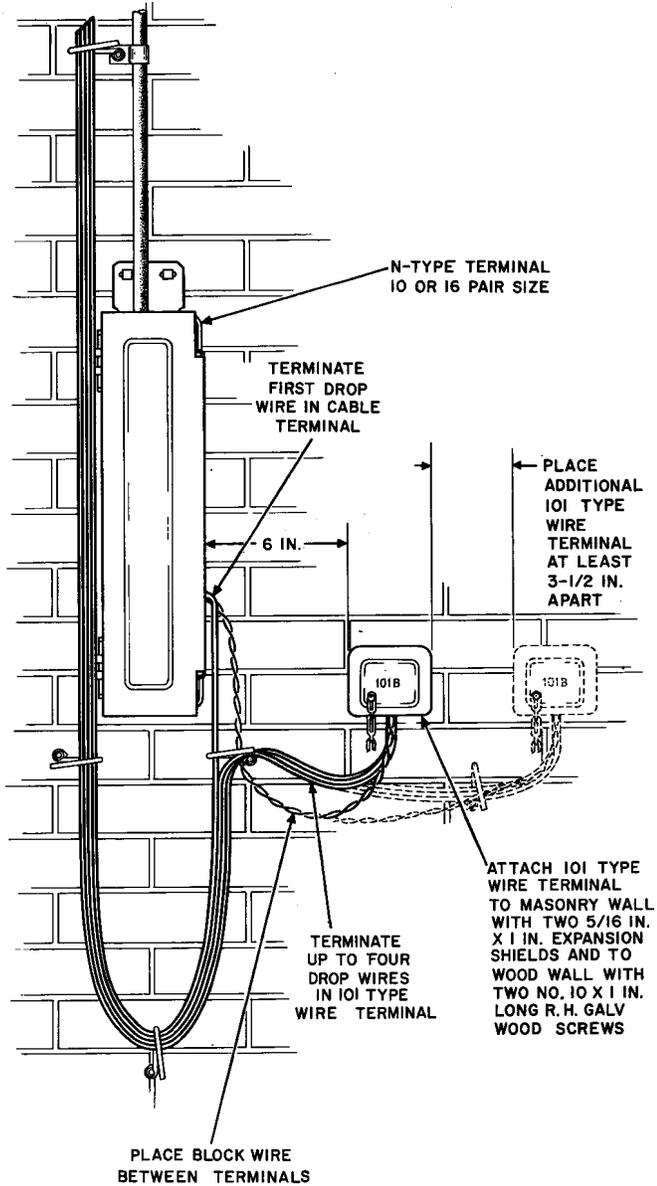
**3.17** Additional drop wire terminations may be made in terminals already in plant by adding



**Fig. 14—Wiring 101-Type Terminal at Strand Mounted Terminal**

a 3A3-3 or 3A4-3 terminal block (maximum of three blocks in a terminal).

- (1) Mount a 3A3-3 or 3A4-3 terminal block (3A2B-3 if protection is required) adjacent to the existing terminal block.
- (2) Loosen the B cable tie and fold the previously joined conductors aside to facilitate selection of the cable pairs assigned.
- (3) Loop the binding post leads through the pair clip on the right side of the terminal.
- (4) Join the binding post leads to the cable pairs assigned with SCOTCHLOK UG Connectors, or B wire connectors. Stagger the position of the connectors.



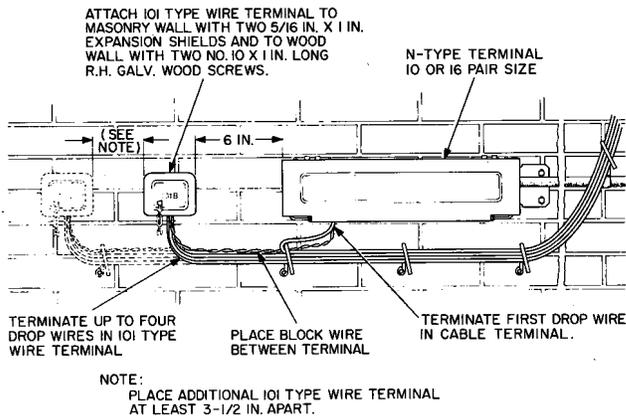
**Fig. 15—Wiring 101-Type Terminal With Vertical Wall-Mounted Terminal**

- (5) Replace the B cable ties around the conductor bundle and tie rod.

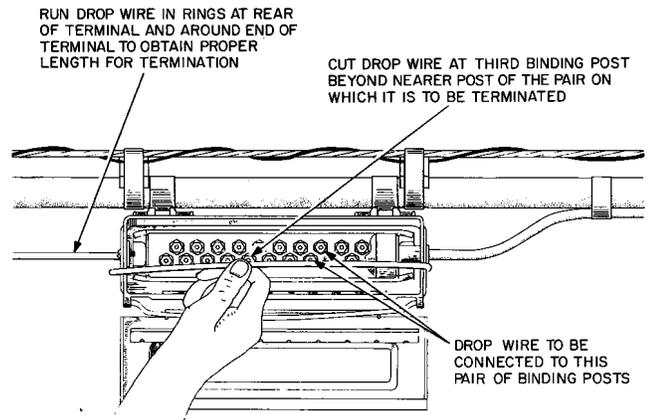
A completed installation with eight drop wire connections is shown in Fig. 27.

#### 4. BINDING POST CAPS AND INSULATORS

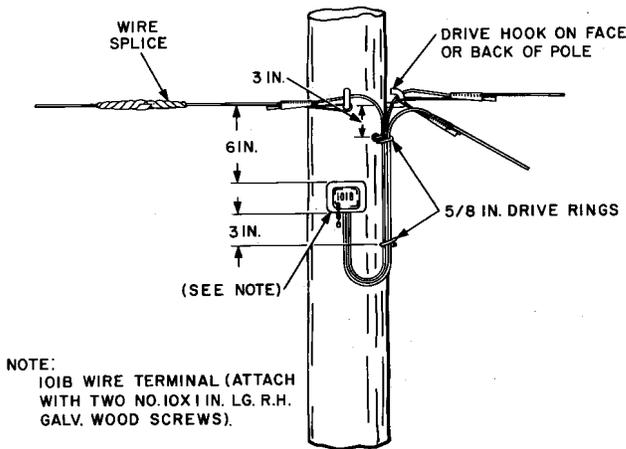
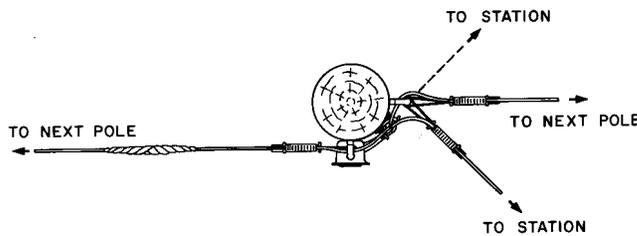
**4.01** These instructions cover the placing of binding post caps in cable and wire terminals as protection against accidental contacts on special



**Fig. 16—Wiring IO1-Type Terminal With Horizontal Wall-Mounted Terminal**



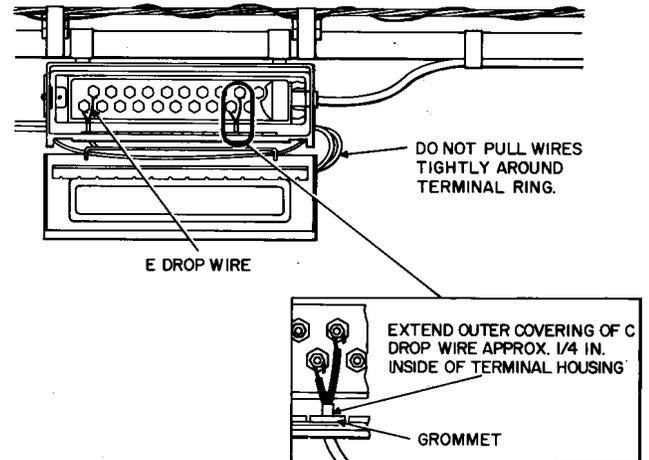
**Fig. 18—Obtaining Proper Length of Wire for Termination**



**Fig. 17—Wiring Party Line Tap**

service lines and as a means for minimizing faceplate leakage in distributing cable terminals. Table B lists the binding post caps and usage.

**Caution:** Check with local test desk to make sure no cable breakdown tests are in progress before working in terminals.

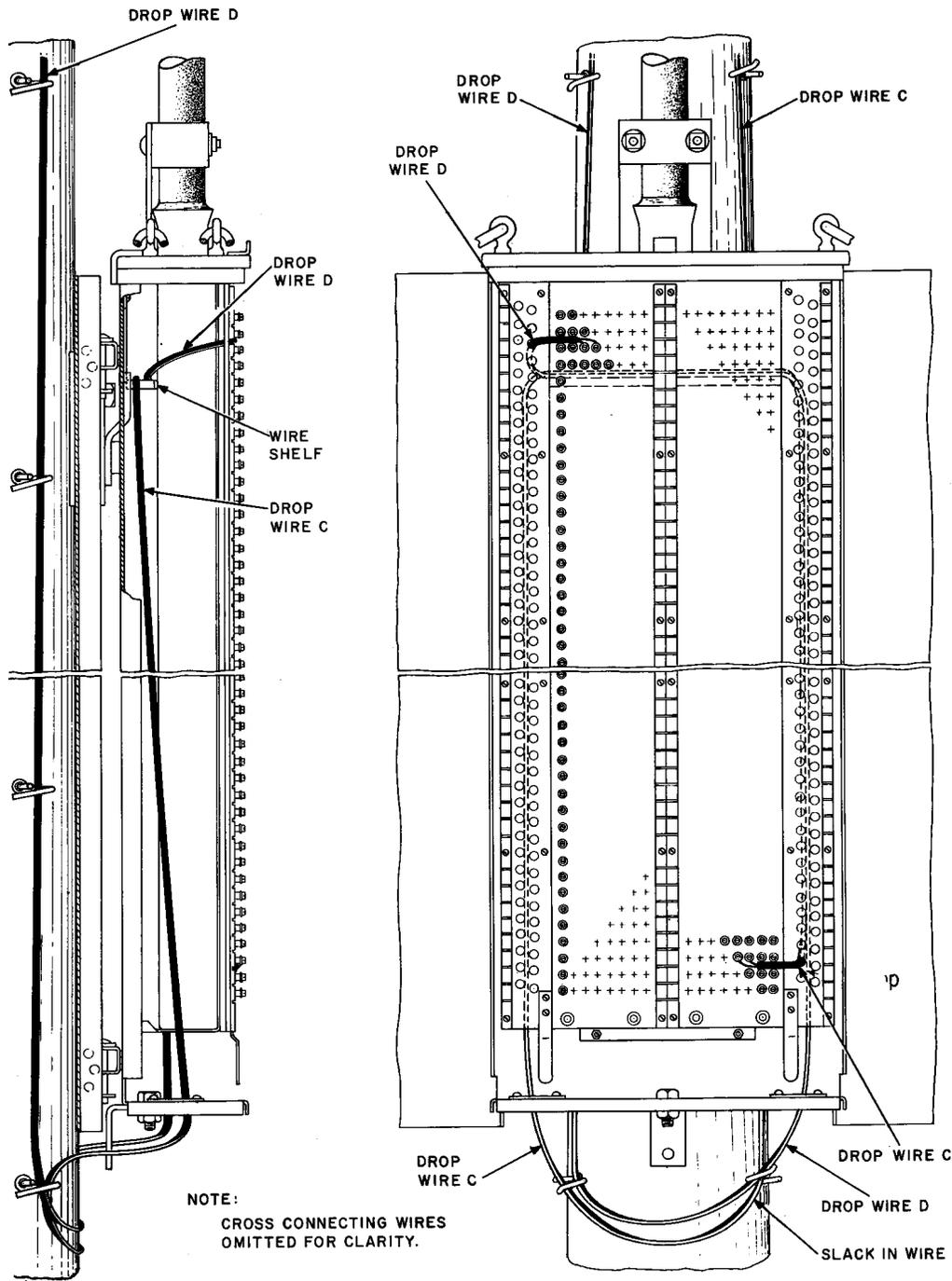


**Fig. 19—Terminating Wires at Terminals**

**Note:** Special service lines cover such circuits as program supply, radio and television network services, picture transmission, teletypewriter, fire, police, power remote control, burglar alarm, etc. (See 4.06.)

**4.02** Binding post caps are supplied in red and black colors as a means of identifying the types of circuits on which they are being used. The red cap is intended for use on special service lines as protection against accidental contacts and the black for minimizing faceplate leakage and other purposes.

**4.03** When installing the B binding post caps, first turn down the nut of the binding post

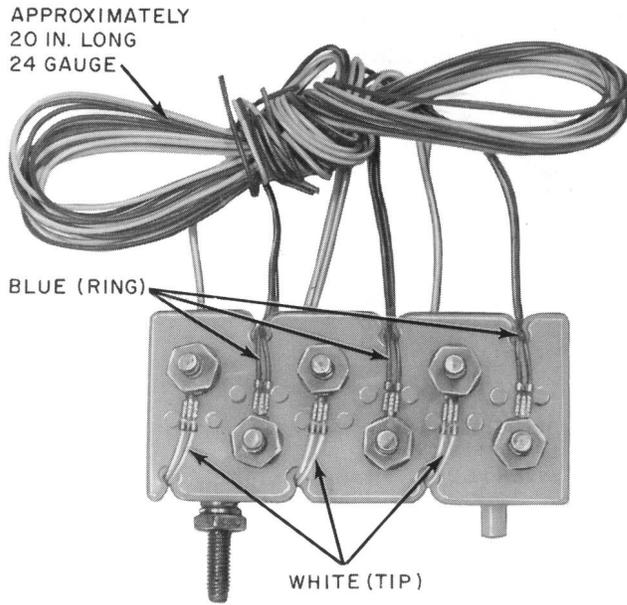


**Fig. 20—Terminating Drop Wire—BD and BE Terminals**

finger-tight. Force the cap over the binding post, without twisting, until the skirt of the cap is in good contact with the faceplate. If the cap is twisted while being forced over the binding post, the skirt of the cap may fold under instead of seating squarely on the faceplate as desired. Fig. 28 shows a properly placed binding post cap.

**4.04** In normal usage of binding post caps, clean the binding posts and faceplate thoroughly before placing caps. Install the caps after all moisture is removed from around the binding posts.

**4.05** Place the C binding post caps over the binding post with the slit in the line with



◆ Fig. 21—3A4-3 Terminal Block ◆

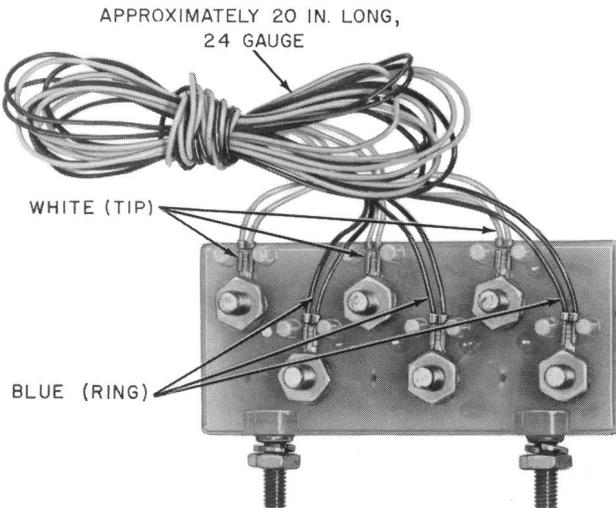


Fig. 22—3A3-3 Terminal Block

the terminated wire. Force the cap down over the binding post with terminated wire in the slit until the skirt of the cap is in good contact with

the faceplate. Adjust terminated wire so that it is positioned inside the hole of the cap as indicated in Fig. 29.

TABLE A  
TERMINAL BLOCK LEAD COLORS

		P-18A782 BLOCK		3A4-3 3A3-3 BLOCK
		OLD	NEW	
Pair 1	T R	W R	W BL	W BL
Pair 2	T R	W BL	W O	W BL
Pair 3	T R	W Y	W G	W BL
Pair 4	T R	W G	W BR	
Pair 5	T R	W BR	W S	
Pair 6	T R	W S	W BL	

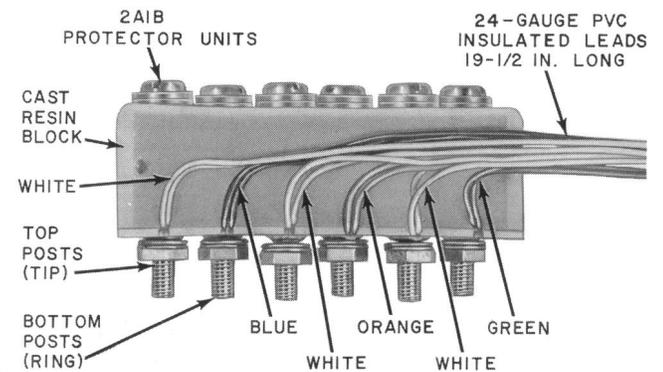
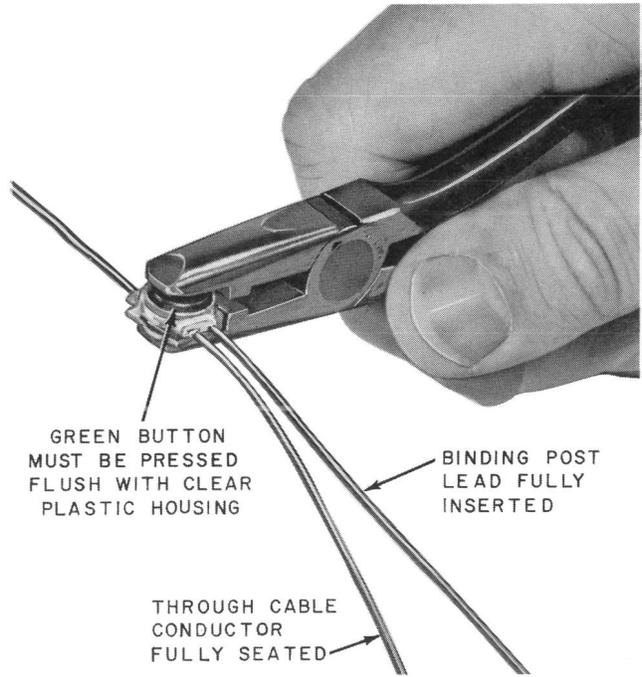


Fig. 23—3A2B-3 Terminal Block, Top View

4.06 Refer to Section 460-110-100 if more information on Special Service Protection is required.



▶ Fig. 24—Pressing UG SCOTCHLOK Connector with C Pressing Pliers ◀

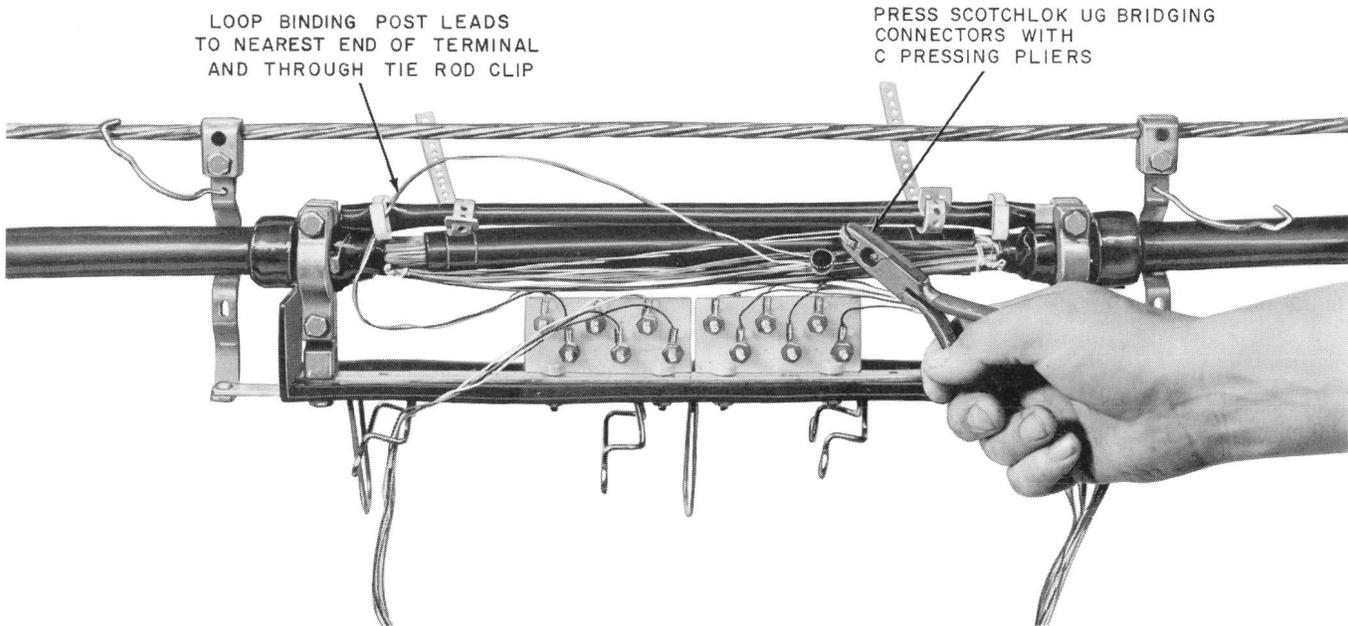
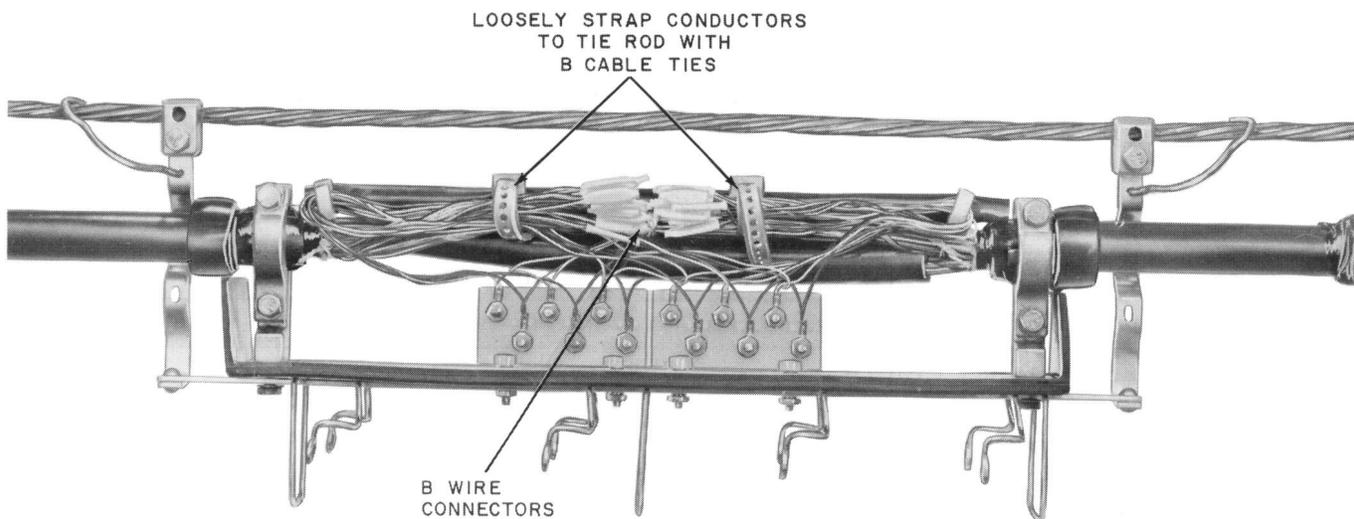
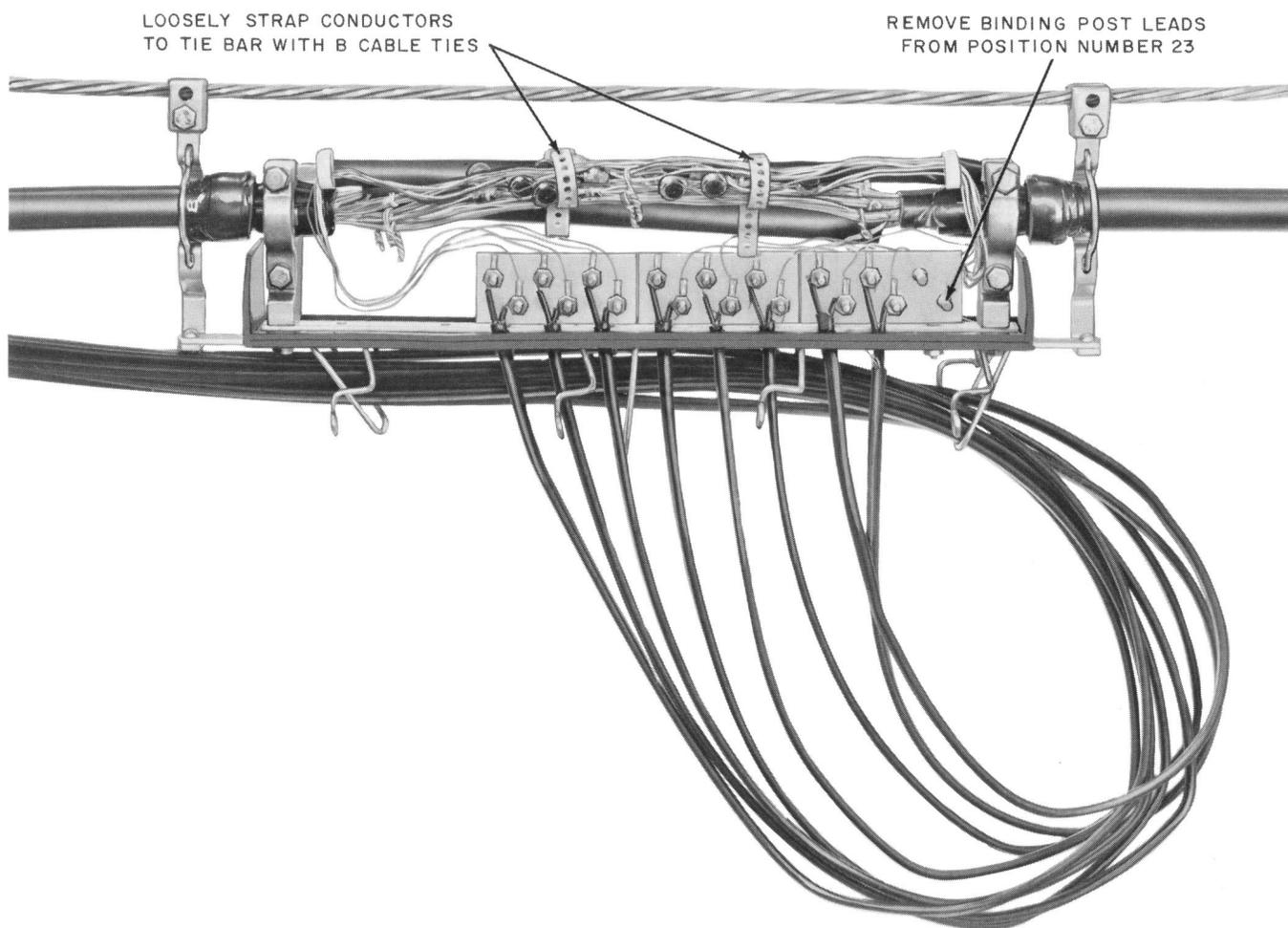


Fig. 25—Bridging Binding Post Leads to Cable Conductors



**Fig. 26—Completed Installation Using B Wire Connectors**

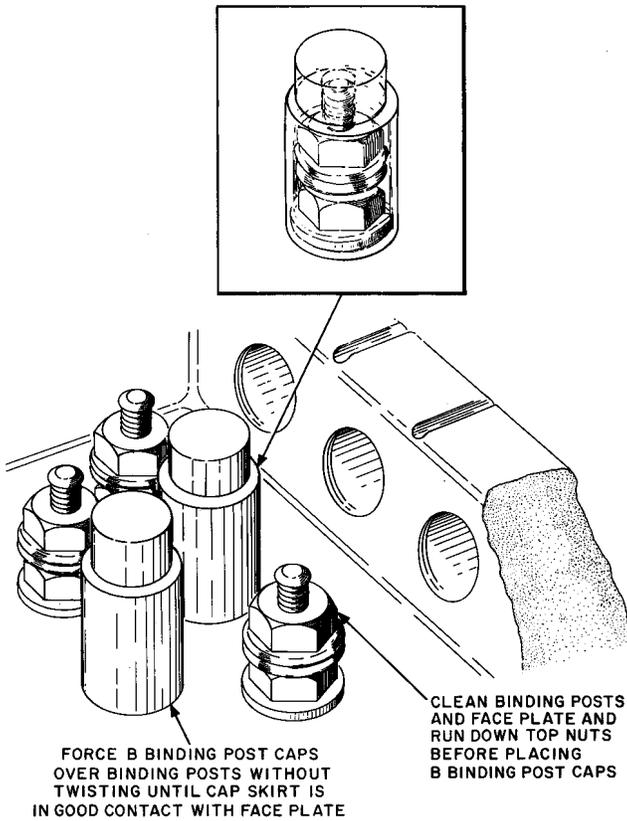


**Fig. 27—49-Type Terminal With Eight Drop Wire Connections**

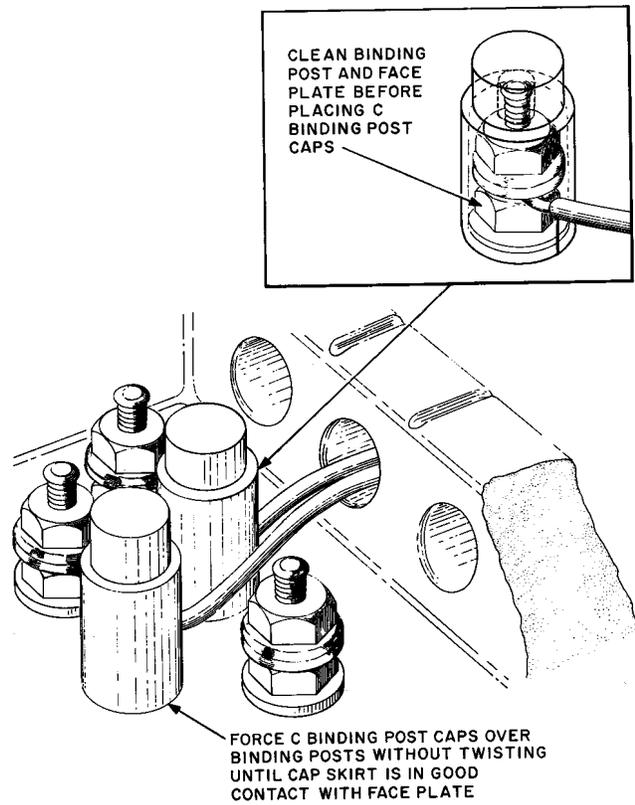
TABLE B  
BINDING POST CAPS

(SEE BSP 460-110-100 FOR DETAILED INFORMATION)

BINDING POST CAP	COLOR	USAGE
B	Red or Black	On nonworking posts of N, T, and 61-type cable terminals
C	Red or Black	On working posts of N, T, and 61-type cable terminals
D	Red or Black	On 7A fuses installed in L type fuse chambers
E	Red or Black	On 49-type cable terminals
F	Red or Black	On B buried cable terminals and connecting blocks equipped with insulation crushing washers — 30-2, 57B, and 59A types
G	Red or Black	On 30-type connecting blocks
H	Red or Black	On 31-type connecting blocks



▶ Fig. 28—Placing B Binding Post Caps ◀



▶ Fig. 29—Placing C Binding Post Caps ◀