

## DROP AND BLOCK WIRING AT AERIAL CABLE TERMINALS

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### 1. GENERAL

**1.01** This section describes drop and block wire runs at aerial cable terminals. Its purpose is to provide a guide for the neat and orderly placement of wire rings for the support of drop and block wire.

**1.02** This section is reissued to update text and to include information on 104- and 105-type cable terminals. Since this is a general revision, arrows used to show changes will be omitted.

**1.03** When local requirements indicate the necessity for using guard arms, refer to Section 462-300-200.

**1.04** Information covering the various cable terminals referred to in this practice may be found in the 631 Division of the Bell System Practices. Refer to the following sections as needed:

- 462-030-100 DROP AND BLOCK WIRING—INSULATED WIRE
- 462-300-205 DROP AND BLOCK WIRING—STRAND ATTACHMENTS
- 462-400-211 DROP AND BLOCK WIRING, POLE-TO-BUILDING AND POLE-TO-POLE RUNS

- 620-216-013 CLEARANCES ON JOINTLY USED POLES

- 620-216-014 CLIMBING SPACE ON JOINTLY USED POLES

**1.05** At each visit to the terminal location, perform the following:

- Fingertighten 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.
- Trim frayed ends of wires which might cause leakage to adjacent wires or binding posts.

**CAUTION:** *When cutting ends of wire terminated on binding posts wear eye protection or place the free hand over the binding post before cutting the wire.*

**1.06** No more than two conductors shall be bridged on each binding post. Where additional bridging is necessary, wire terminals should be used.

### 2. SAFETY

**2.01** Safety, quality, and quantity (in that order) are three very important factors to consider in the performance of any telephone job.

**2.02** All employees engaged in working on poles should be familiar with the following practices:

- 620-105-010 B VOLTAGE TESTER USE ON JOINT-USE POLES
- 620-132-010 SAFEGUARDS TO BE TAKEN BEFORE CLIMBING POLES

• 629-720-200 BURIED PLANT, TERMINATION OF BURIED SERVICE WIRES AT JUNCTIONS WITH AERIAL PLANT

**3. STRAND-MOUNTED TERMINALS**

**3.01** Run drop wires 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.

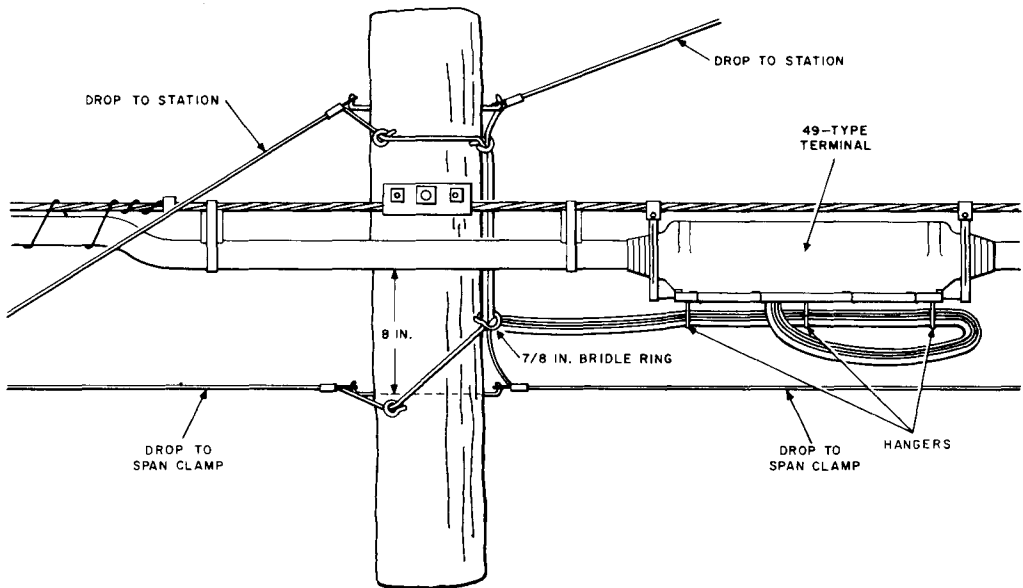
**3.02** Route the drop or block wires through the three hangers below the terminal, around the hanger at the far end, and below the terminal to the proper wire entrance holes of the assigned binding posts.

**3.03** Cut wire to the proper length for terminating.

**3.04** Remove the required amount of insulation from the wire to terminate on the binding post.

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

**3.06** 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.

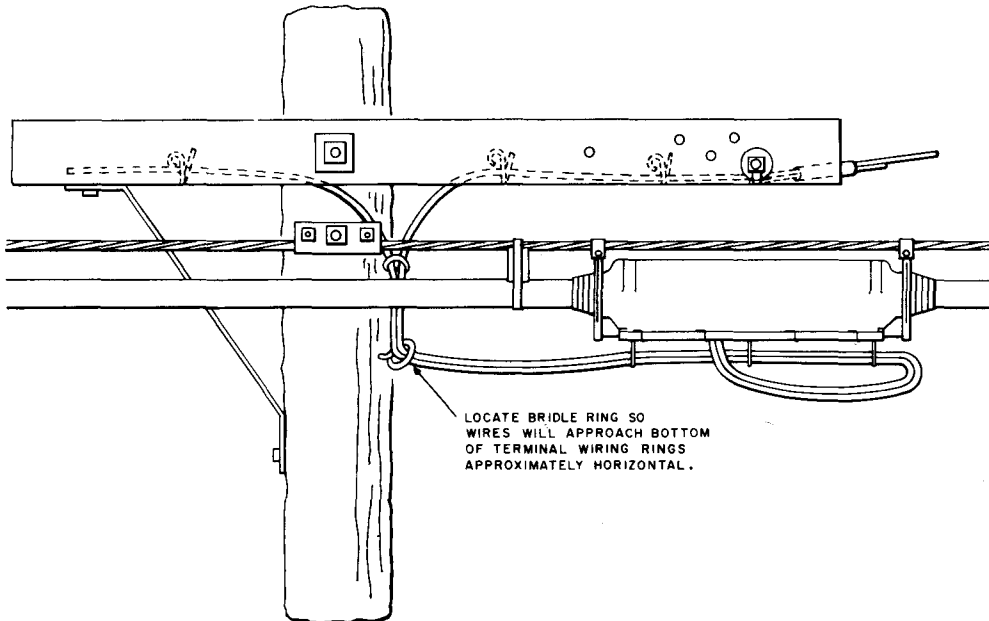


**Fig. 1—Running Drop Wire To 49-Type Terminal At Pole**

**49-TYPE TERMINAL**

**3.07** Refer to Fig. 1, 2, and 3 for typical arrangements of drop wires fed from 49-type terminals on aerial cable. ***Limit the number of drop wires in ready access 49-type terminals to eight (8).***

**3.08** 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.



**Fig. 2—Running Drop Wires To 49-Type Terminal From Guard Arm**

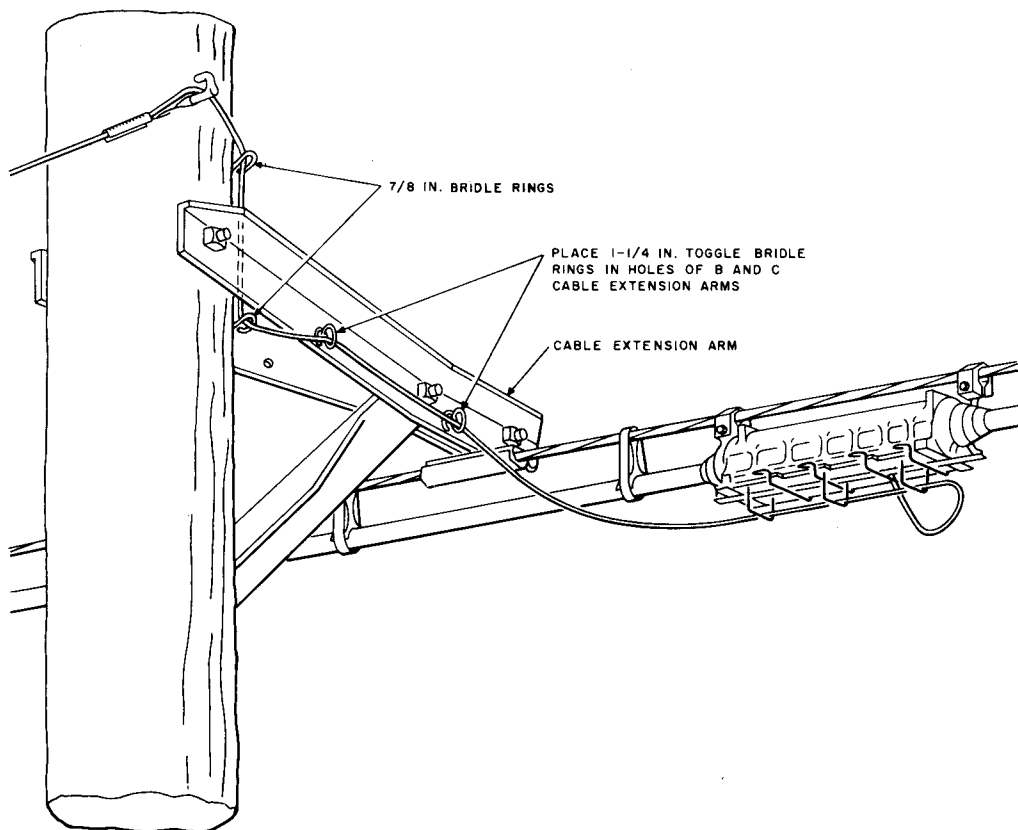


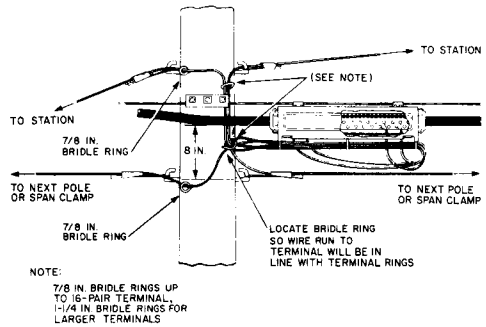
Fig. 3—Running Drop Wires To 49-Type Terminal From Cable Extension Arm

**61-TYPE TERMINALS**

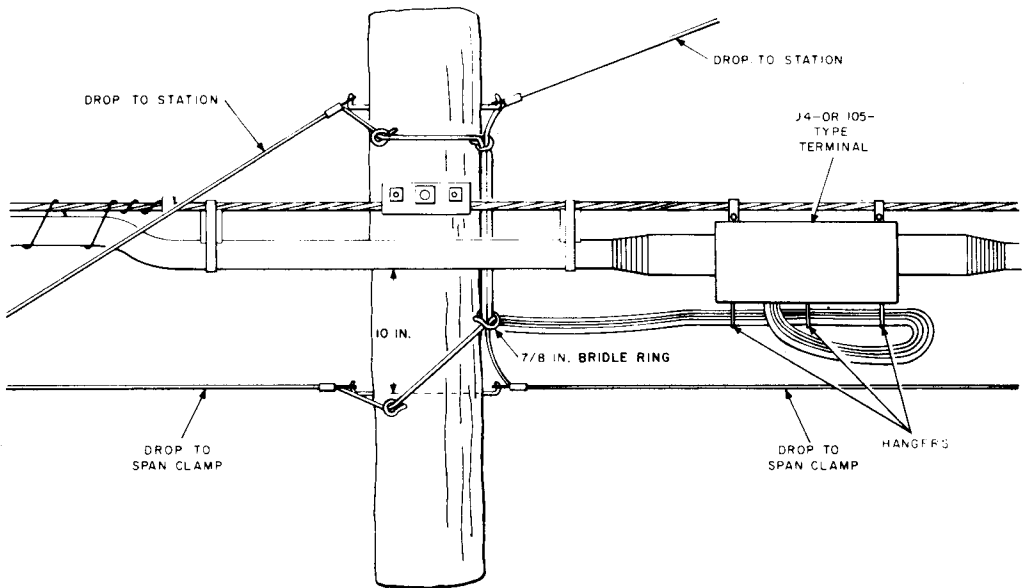
- 3.09** Refer to Fig. 4 for a typical arrangement of drop wires at a 61-type terminal.

**104-, 105-TYPE TERMINALS**

- 3.10** Refer to Fig. 5, 6, and 7 for typical arrangements of drop wires at 104- or 105-type cable terminals on aerial cable.



**Fig. 4—Running Drop Wires To 61-Type Terminal**



**Fig. 5—Running Drop Wires To 104- or 105-Type Terminal at Pole**

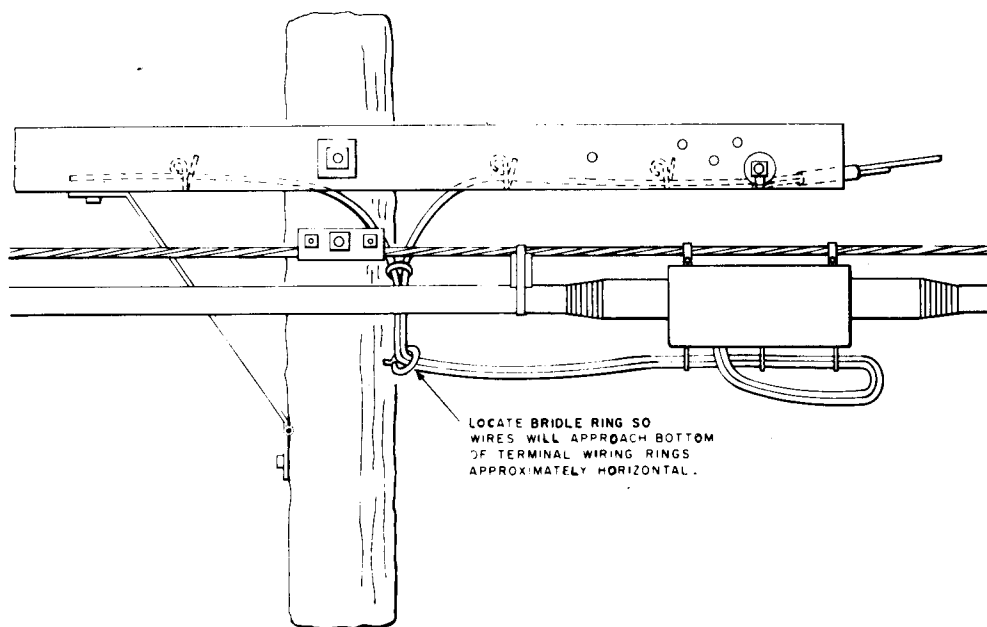


Fig. 6—Running Drop Wires To 104- or 105-Type Terminal From Guard Arm

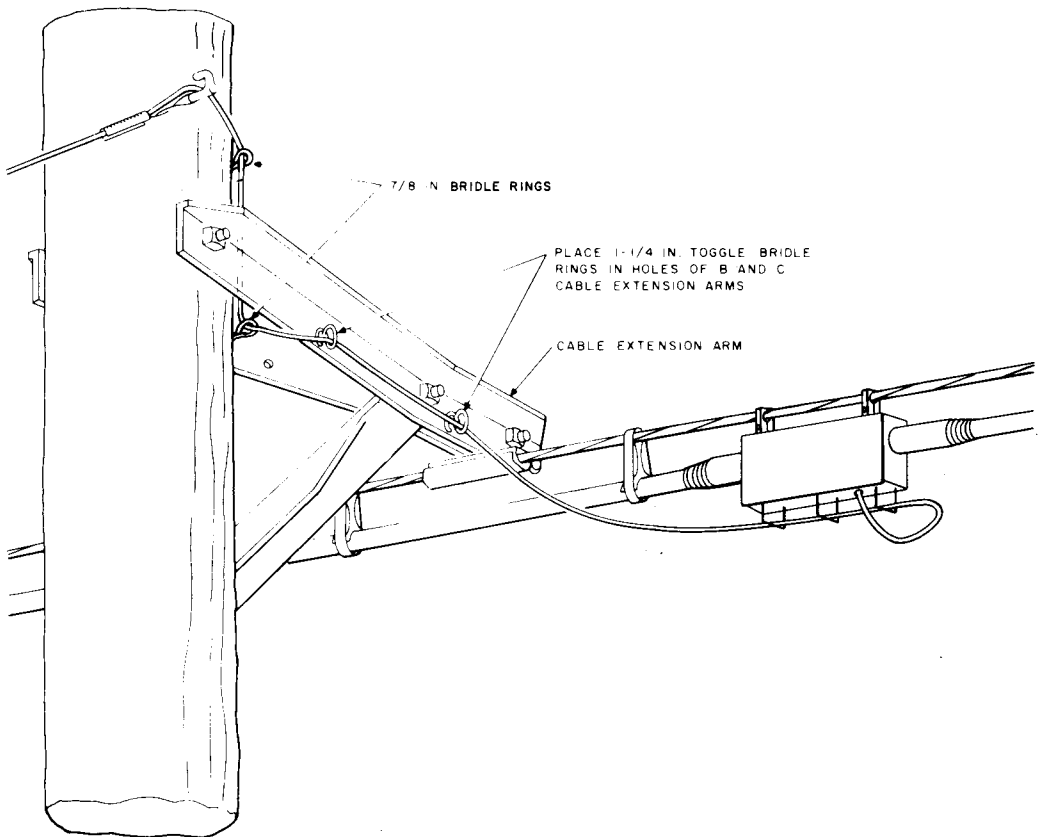


Fig. 7—Running Drop Wire To 104- or 105-Type Cable Terminal From Cable Extension Arm

**N-TYPE TERMINAL**

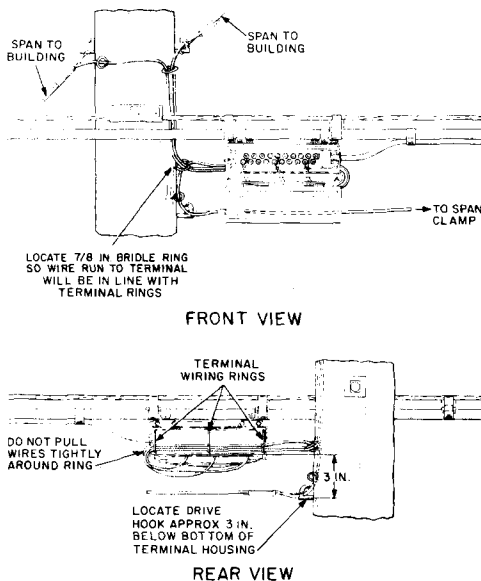
3.11 Refer to Fig. 8, 9, and 10, for typical arrangements of drop wires at N-type terminals. Note that the arrangements of wires are similar at all strand-mounted cable terminals.

**4. POLE-MOUNTED TERMINALS**

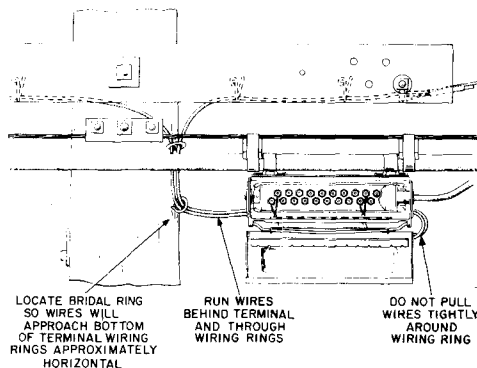
4.01 All vertical drop and block wire runs on poles should be in bridle rings which are in a straight line on the pole and spaced evenly about two feet apart. This line of bridle rings should be about 45 degrees around the pole from the face or side of the pole upon which the terminal is mounted.

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

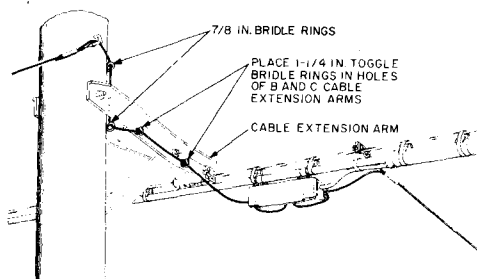
4.03 Cut the wire to the proper length for terminating.



**Fig. 8—Running Drop Wire To N-Type Cable Terminal From Pole**



**Fig. 9—Running Drop Wire To N-Type Cable Terminal From Guard Arm**



**Fig. 10—Running Drop Wire To N-Type Cable Terminal From Cable Extension Arm**

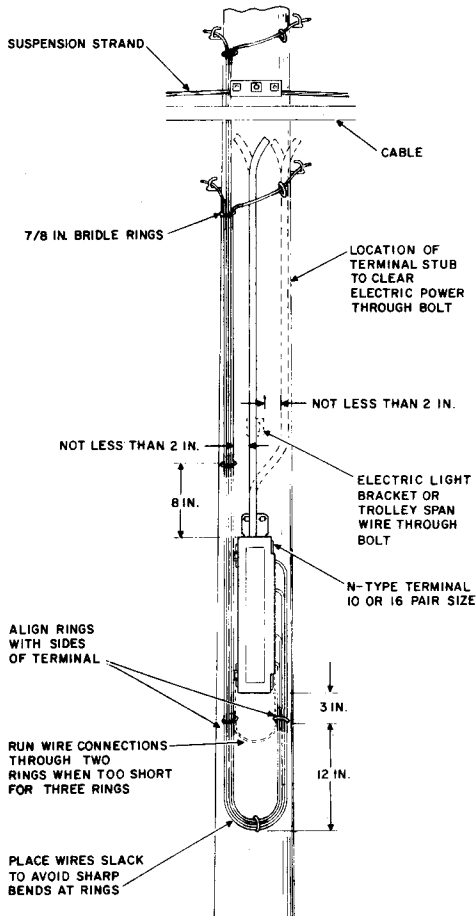
4.04 Remove the required amount of insulation from the wire to terminate on the binding post.

4.05 Insert the wire through a wire entrance hole and terminate it on the binding posts, so that the end of the insulation is about 1/8-inch from the washers on the binding post. The outer covering of drop wires should be 1/4-inch inside the terminal housing.

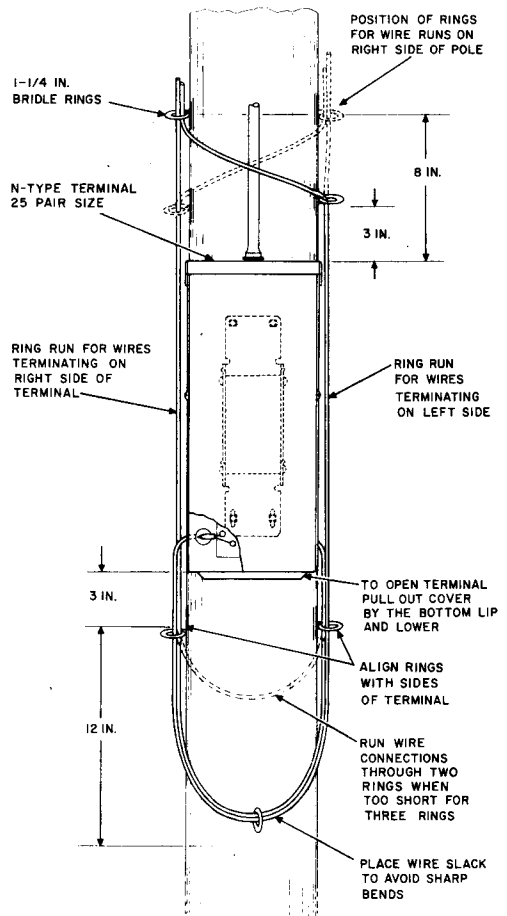
**N-TYPE TERMINALS**

4.06 Refer to Fig. 11 and 12 for typical arrangements of drop wires at N-type terminals which are mounted on poles.





**Fig. 11—Running Drop Wire To 10 or 16 Pair N-Type Cable Terminal Mounted on Pole**



**Fig. 12—Running Drop Wire To 25 Pair N-Type Cable Terminal Mounted on Pole**

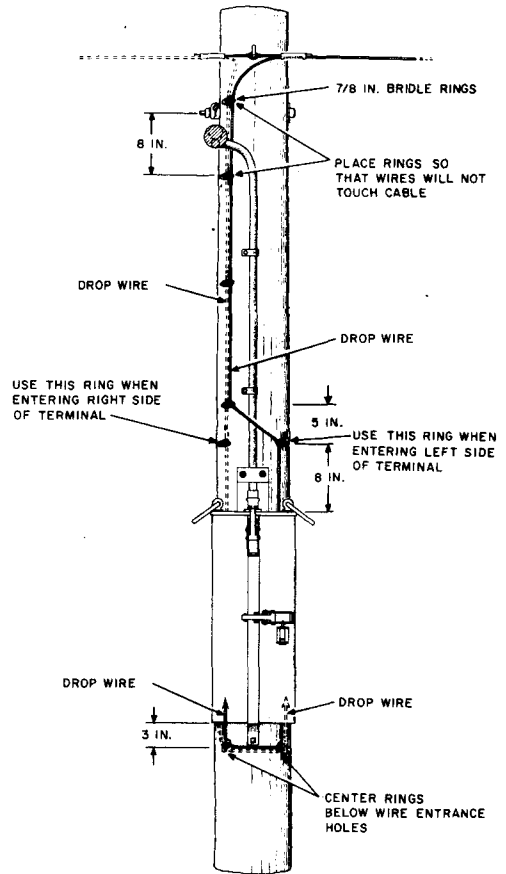
## POLE-MOUNTED CROSS-CONNECTING TERMINALS

**4.07** Install drop wire in accordance with the following procedure:

- (a) Place bridle rings on the pole as shown in Fig. 13.
- (b) Where a drop wire is to be terminated on the right 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 left 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) Install cross-connecting wire between the feeder pair binding posts and a vacant drop wire binding post. Then terminate the drop wire as shown in Fig. 14 and 15.

**4.08** Binding posts for terminating drop wire are not provided on the superseded BD and BE terminals. Drop wires are installed in these terminals as follows:

- (a) Proceed as in 4.07 (a) and (b).
- (b) Run the drop wire upward in the wiring channel behind the faceplate extension on the side of the chamber opposite the binding posts on which it is to be terminated, then over the top wiring shelf or the two rings located at the top of the housing, and downward to the



**Fig. 13—Running Drop Wire at Cross-Connecting Terminal**

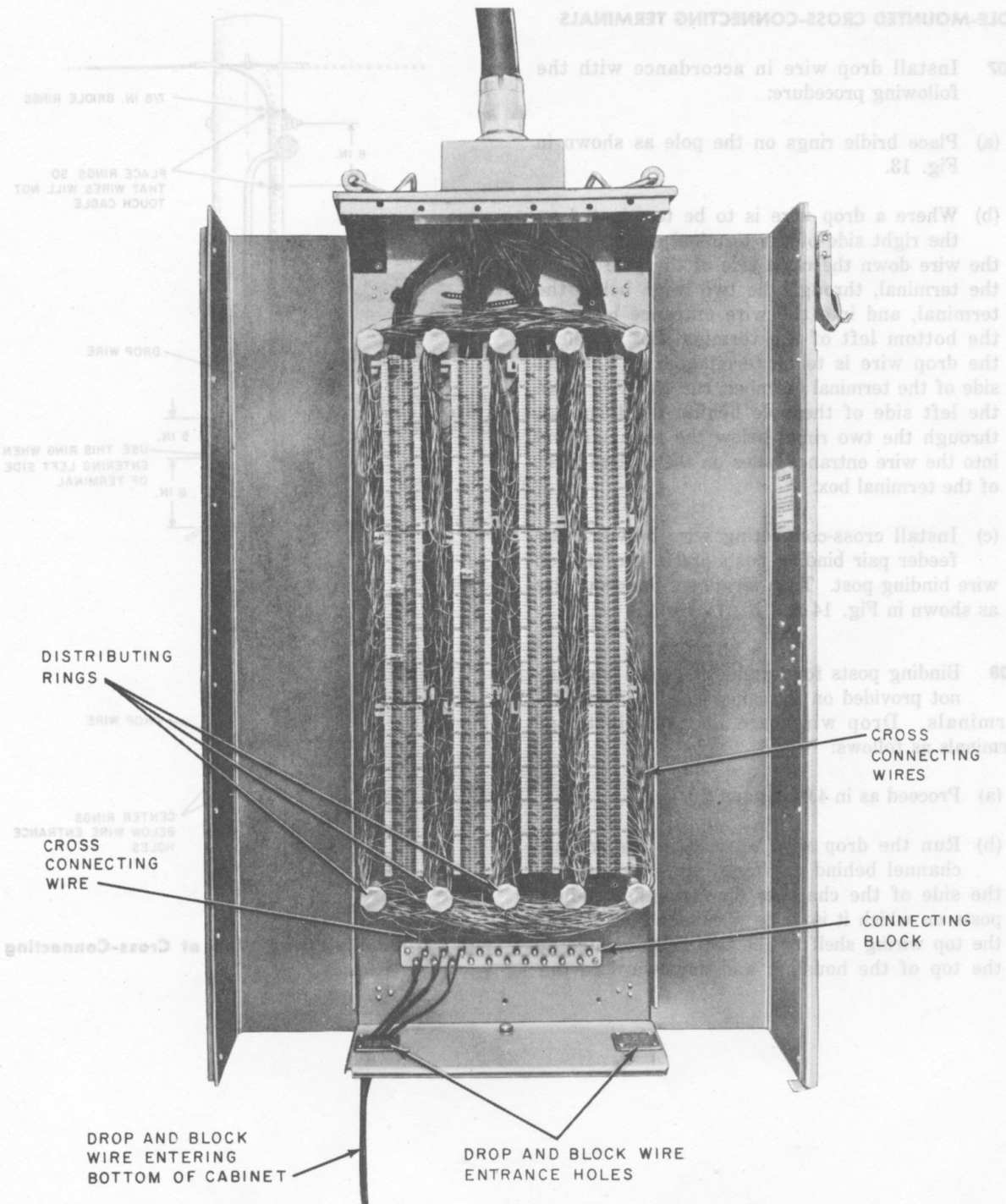
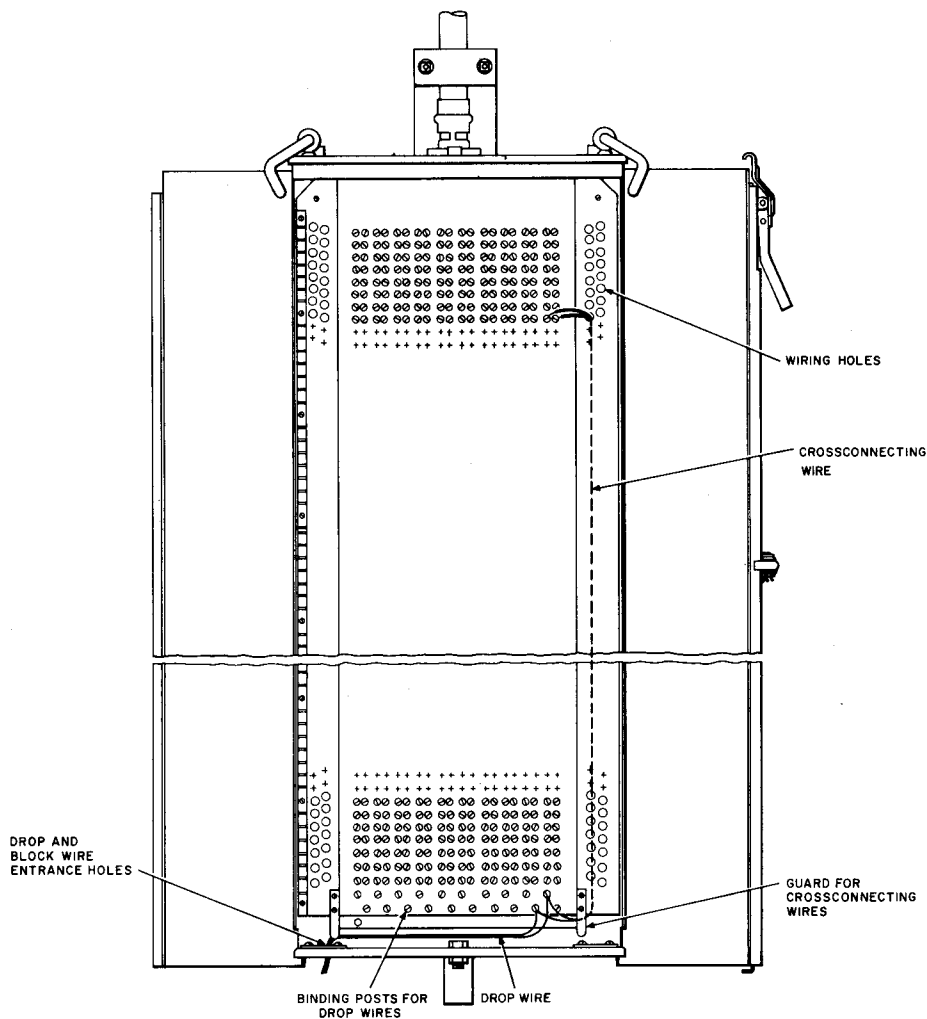


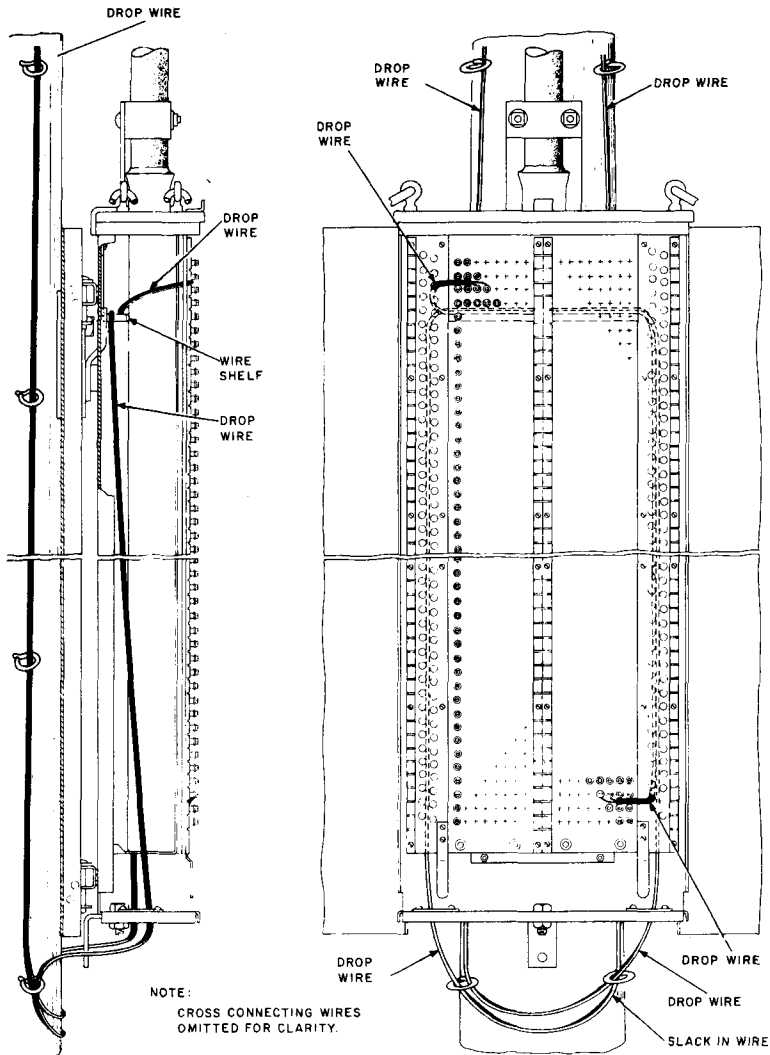
Fig. 14—Terminating Drop Wire—101-Type Cable Terminal



**Fig. 15—Terminating Drop Wire—B-Type Cable Terminals**

proper wiring hole. The routing of wires entering the terminal on the left and right sides is illustrated in Fig. 16. Terminate drop wire between washers on the binding posts of the feeder pair unless two wires are already terminated on these posts. Where one of these two wires is a cross-connecting wire, terminate the second drop wire on the distribution cable pair, but not

more than two wires should be bridged on the binding posts of the distribution cable pair. Where more than two wires are to be bridged to the same cable pair, install a 101-type wire terminal on the pole outside the terminal, and bridge the new drop and one of the existing drops in the wire terminal.



**Fig. 16—Terminating Drop Wire—Superseded BD and BE Cable Terminals**

- (c) Insert the wire into the proper wiring hole, cut wire to proper length, and terminate on the binding post with tracer conductor to the right. Place wire under the lower washer unless the space is occupied by an existing wire, in which case, place the second wire between washers.

**4.09** When slack is required in connection with transferring a drop to another cable pair or reinstalling a wire, reroute the drop around the bottom of the chamber in a terminal equipped with wiring shelf or remove wire from the M rings at the top of the terminal. Where still more slack is needed, splice wire inside the terminal and run the spliced wire over the top as in the case of a new connection.

**4.10** Install cross-connecting wires in accordance with the following procedures:

- (a) Insert one end of the wire through the proper wiring hole for the binding posts of distribution cable pair. For binding posts to the right of the wiring holes, select a hole immediately above the line of binding posts; for those to the left of the wiring holes, select a hole immediately below the line of binding posts. Select the inner of the two wiring holes of the 300-, 400-, and 600-pair terminals for wires to be terminated on the nearest two pairs of binding posts, and the outer hole for connections to the farthest binding posts.
- (b) Terminate the cross-connecting wire under the lower washers on the binding posts of a distribution cable pair. Connect the tracer conductor to the right-hand post.
- (c) When cross-connection is to be made on the same side of the chamber, run the wire in the wiring channel behind the faceplate extension and through the proper wiring hole for the binding posts of the cable pair.
- (d) When cross-connection is to be made between opposite sides of the chamber, proceed as follows:
  - (1) In 100-, 200-, 300-, and 400-pair terminals equipped with wiring shelves, route cross-connecting wire terminating on the top

third of the feeder cable pairs over the wiring shelf as illustrated by cross-connecting wires in Fig. 17. Run cross-connecting wire to the remaining feeder cable pairs around the bottom of the chamber behind the wire guards. In the case of the 600-pair terminal, route cross-connecting wires over any of the three wiring shelves in the back of the chamber or around the bottom of the chamber, whichever provides the shortest routing.

- (2) In terminals not equipped with wiring shelves, route cross-connecting wire around the bottom of the chamber. Do not run cross-connecting wires through the M bridle rings provided at the top of the terminal housing. These rings are intended for drop wire connections.

- (e) Allow about 2 inches of slack in each cross-connecting wire. Where, on a subsequent line change, a wire is found to be too short, run a new connection rather than splice out the short one.
- (f) Where it is necessary to assign two distribution cable pairs to form a party line, cross connect both distribution cable pairs to the feeder cable pair. Terminate one cross-connecting wire under the lower washer and the other wire between washers on binding posts of the feeder pairs. When more than two distribution cable pairs are required for bridging, cross connect the first two distribution cable pairs to the feeder cable pair as previously outlined. The additional bridges are connected one to each of the associated distribution cable pairs. Terminate one wire under the lower washer and the other wire between washers on the binding posts of the distribution pair.

## **5. WALL-MOUNTED TERMINALS**

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

**5.02** Refer to Fig. 18 through 25 for arranging drop and block wires at wall-mounted terminals.

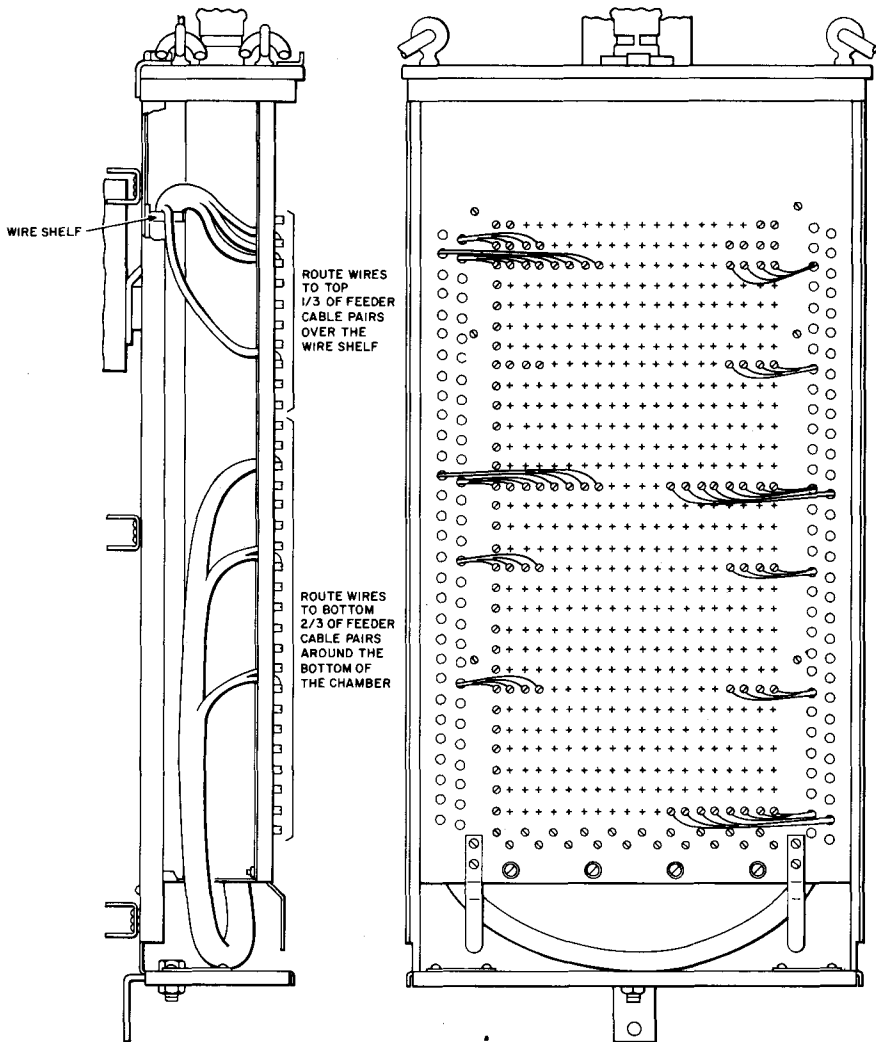


Fig. 17—Running Cross-Connecting Wire

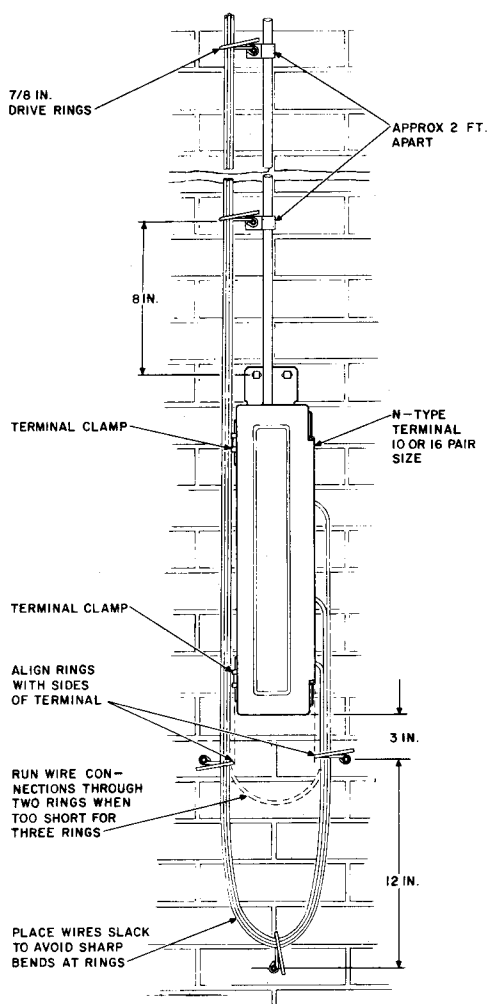


Fig. 18—Wall Mounted 10- or 16-Pair Cable Terminal With Stub at Top

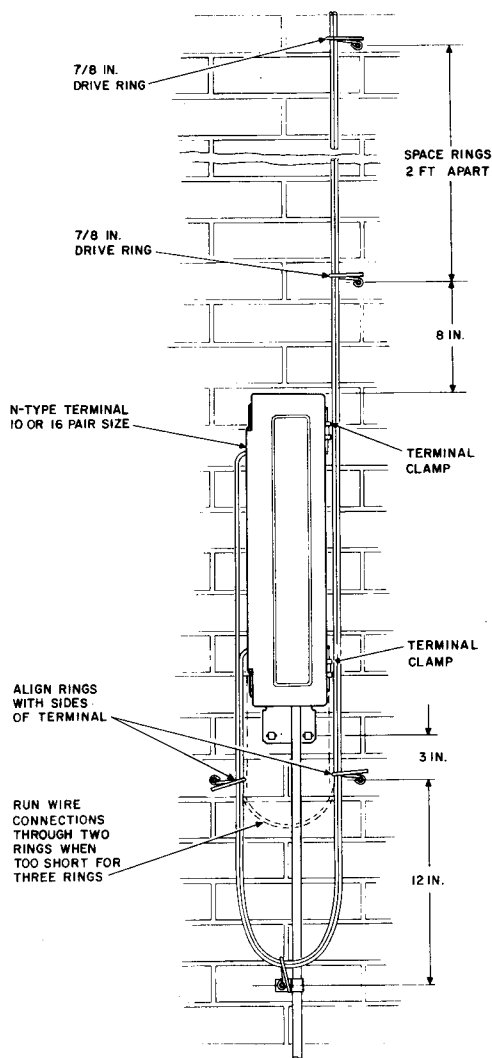
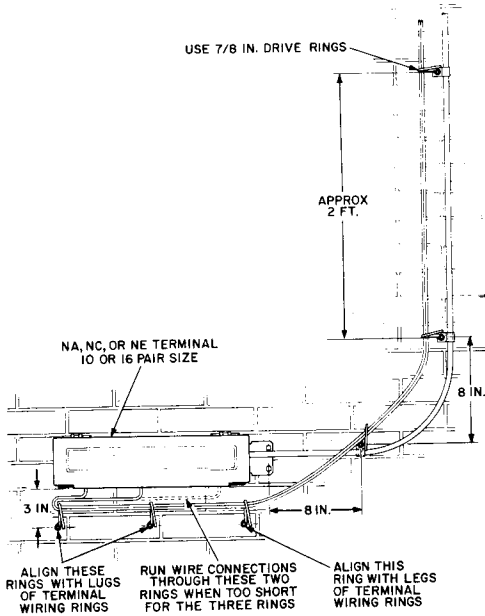
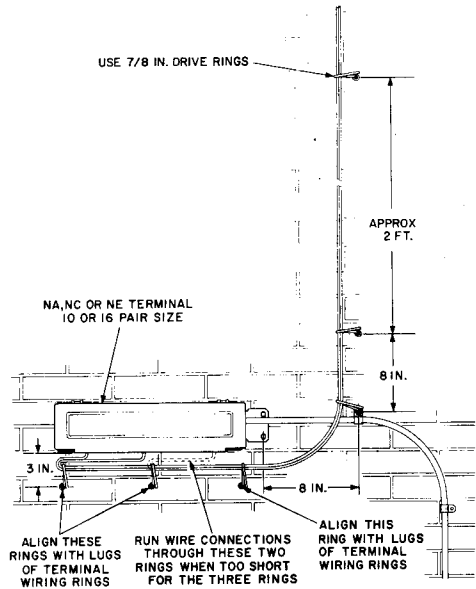


Fig. 19—Wall Mounted 10- or 16-Pair Cable Terminal With Stub at Bottom





**Fig. 20—Horizontal Mounted Cable Terminal With Stub Turned Up**



**Fig. 21—Horizontal Mounted Cable Terminal With Stub Turned Down**

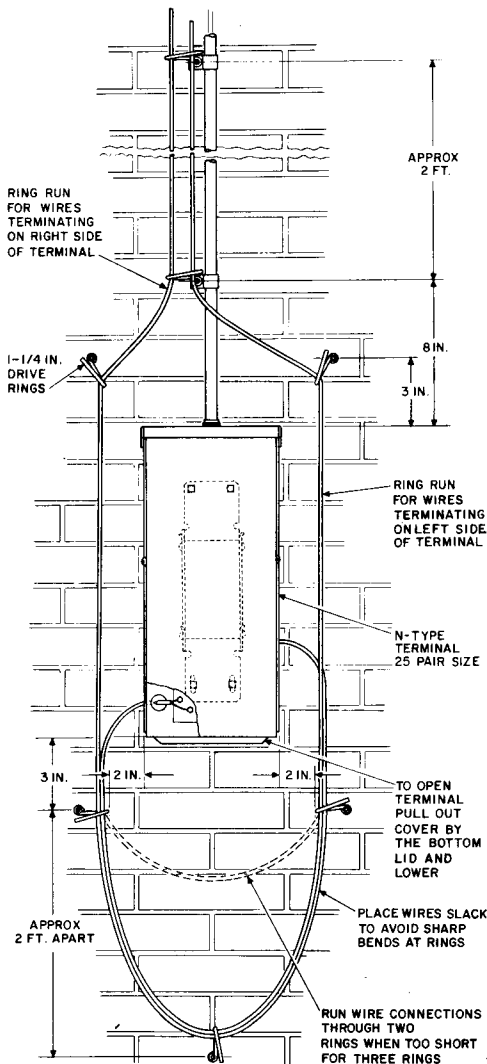


Fig. 22—Wall Mounted 25-Pair Cable Terminal With Stub at Top

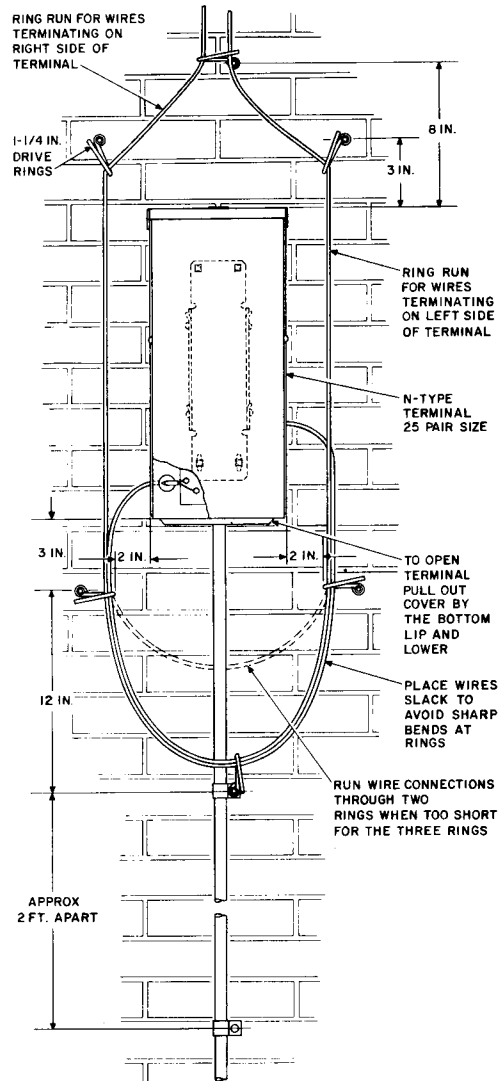


Fig. 23—Wall Mounted 25-Pair Cable Terminal With Stub at Bottom

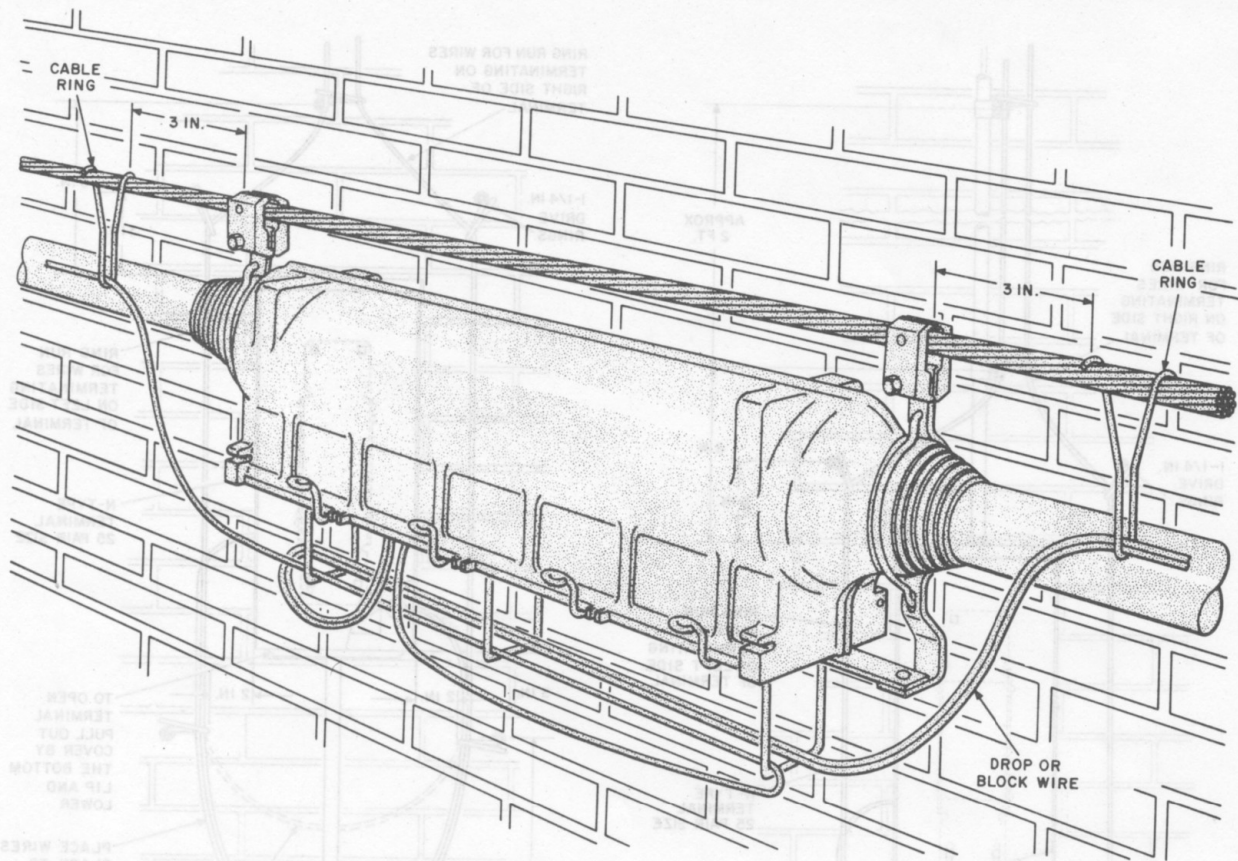


Fig. 24—Wall Mounted 49-Type Cable Terminal

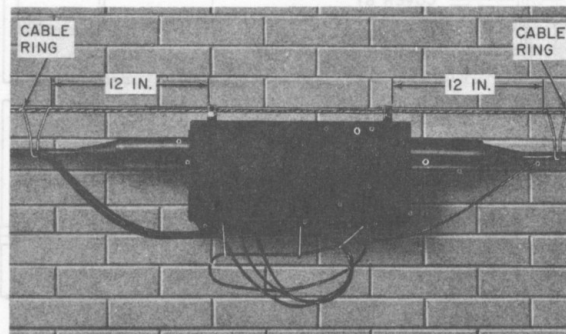


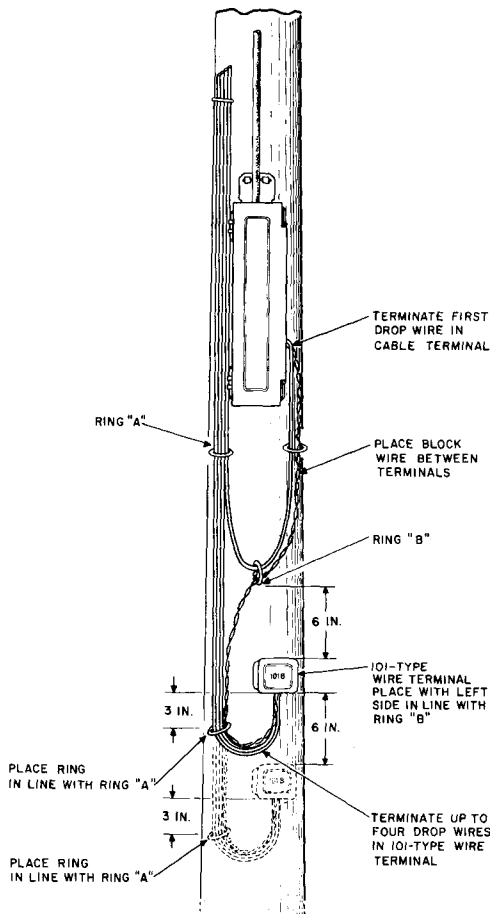
Fig. 25—Wall Mounted 104- or 105-Type Cable Terminal

## 6. 101-TYPE WIRE TERMINALS

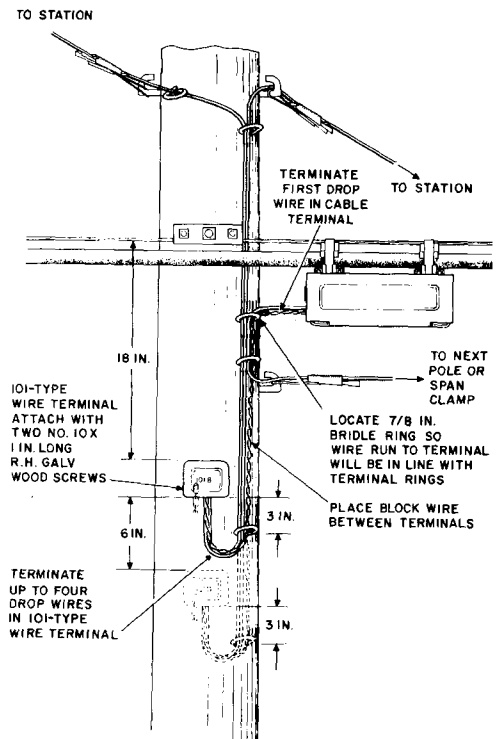
**6.01** See Section 462-240-120 for a description of the 101-type wire terminals. The 101B2 wire terminal supersedes both the 101A and 101B wire terminals. It is used for making party line taps in drop and block wire runs, in distributing drops

from cable and open wire lines, and in placing fusible links.

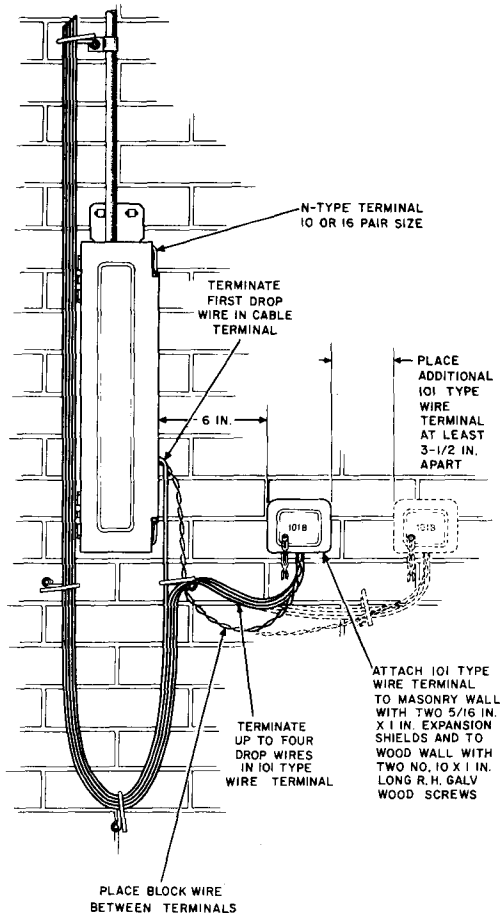
**6.02** The 101-type wire terminal should be mounted on poles and walls as shown on Fig. 26, 27, 28, and 29.



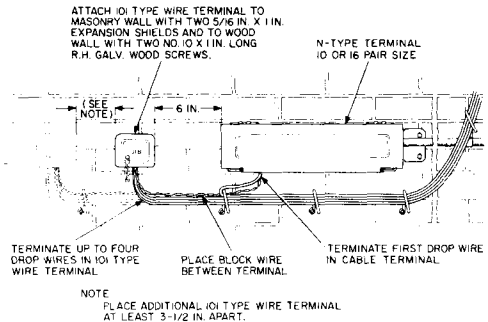
**Fig. 26—Wiring 101-Type Terminal at Pole Mounted Cable Terminal**



**Fig. 27—Wiring 101-Type Terminal at Strand Mounted Cable Terminal**



**Fig. 28—Wiring 101-Type Terminal With Vertical Wall Mounted Cable Terminal**



**Fig. 29—Wiring 101-Type Terminal With Horizontal Wall Mounted Cable Terminal**

## 7. BINDING POST CAPS AND INSULATORS

**7.01** These instructions cover the placing of binding post caps and binding post insulators in cable and wire terminals as protection against accidental contacts on special service lines and as a means for minimizing faceplate leakage in distributing cable terminals. Table A lists the binding post caps and usage.

**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.

**7.02** The B binding post cap is a molded neoprene cap which completely covers nonworking binding posts in N, T, and 61-type cable terminals.

**TABLE A**  
**BINDING POST CAPS**

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 57A types
G	Red or Black	On 30-type connecting blocks
H	Red or Black	On 31-type connecting blocks

**7.03** The C, E, F, G, and H binding post caps are similar to the B cap in design except that they have a hole and slit on the side to permit their installation over wires terminated on binding posts.

**7.04** The D binding post cap is similar to the B cap except that it has a small opening at one end. This cap is designed to fit over the end of a 7A fuse installed in L-type fuse chambers.

**7.05** 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.

**7.06** The binding post insulator is a phenol fiber sleeve, open at both ends and slotted lengthwise to admit wire terminated on the binding post. These insulators have a red enamel finish. Binding post insulators are intended as protection against accidental contacts for special service line which are terminated in terminals not suited to the use of binding post caps.

**7.07** Particular care shall be exercised not to dislodge the red binding post caps or binding post insulators associated with special service lines while working in terminals nor should they be removed without proper authorization.

#### **PLACING BINDING POST CAPS**

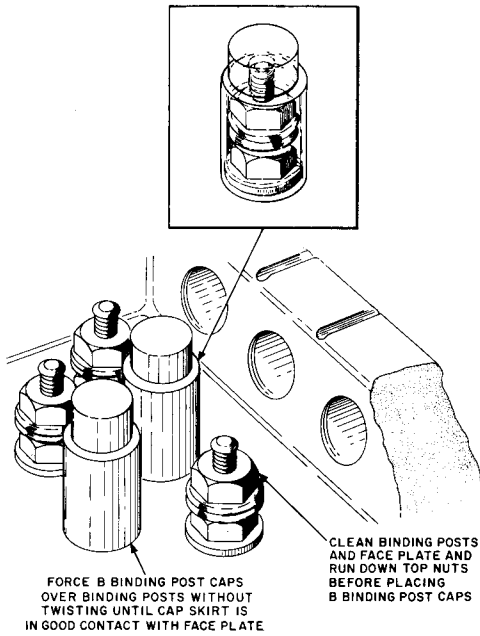
**7.08** In normal usage of B binding post caps, clean the binding posts and faceplate thoroughly before placing caps. Install the caps after all moisture is removed from around the binding posts.

**7.09** When installing the B binding post caps, first turn down the nut of the binding post fingertight. 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. Figure 30 shows a properly placed binding post cap.

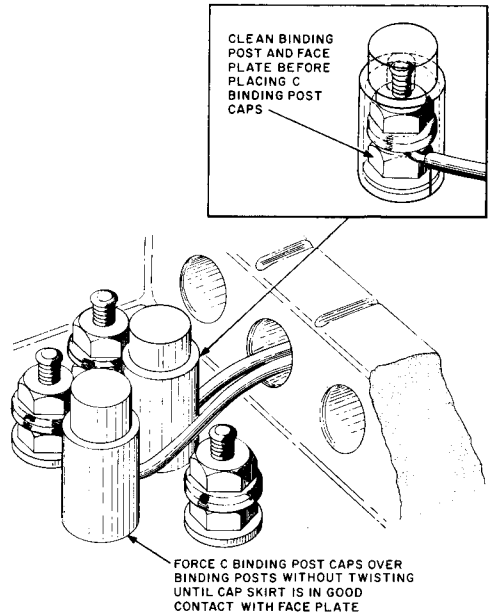
**7.10** Binding post caps come in seven sizes and are used as listed in Table A.

**7.11** Prepare the binding posts for the placing of C, E, F, G, and H binding post caps as indicated in 7.08 for the B caps.

**7.12** Place the caps over the binding post with the slit in the line with 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. 31.



**Fig. 30—Placing B Binding Post Caps**



**Fig. 31—Placing C Binding Post Caps**

7.13 C binding post caps are shown in Fig. 31.

The E, F, G, and H binding post caps are installed in the same general manner. Figure 32 illustrates an E binding post cap placed inside 49-type terminal.

7.14 To place the D binding post cap on 7A fuses installed in L-type fuse chambers, force the cap down over the end of fuse until properly seated.

#### PLACING BINDING POST INSULATORS

7.15 Install binding post insulators snugly over binding posts as shown in Fig. 33. Where

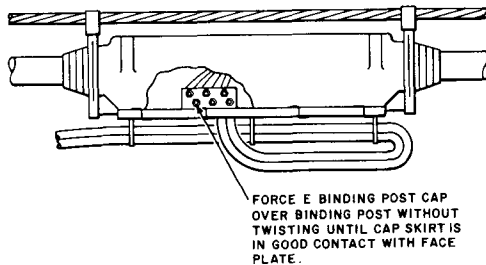


Fig. 32—E Binding Post Caps Placed in 49-Type Cable Terminal

the insulator fits loosely, place a piece of tape around the binding post inside the insulator to obtain a snug fit.

7.16 Binding post insulators come in four sizes and are used as listed in Table B.

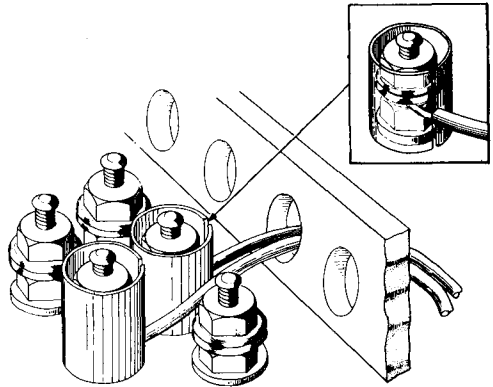


Fig. 33—Placing Binding Post Insulators

TABLE B

BINDING POST INSULATORS

COLOR	BINDING POST INSULATOR NO.	USAGE
Red	1	On binding posts having 3/8-inch nuts and also the 7T fuse
Red	2	On binding posts having 7/16-inch nuts and also the 7A fuse
Red	3	On screw-type binding posts of BD terminals
Red	6	On terminations of alarm and contactor circuits in T pressure contactor-terminals and 3-pair gastight terminals