

## WIRE TERMINALS

### INSTALLATION OF 104-TYPE WIRE TERMINALS AND 116-TYPE PROTECTORS

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#### 1. GENERAL

**1.01** This section covers the installation of 6-pair wire terminals and protectors when specified for use with the various types of multiple line wire.

**1.02** This section is reissued to add information on the 104B2-6 Wire Terminal and the 116D2B-6 Protector. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted.

**1.03** The 104-type wire terminals are described in Section 624-300-100 and the 116-type protectors are described in Section 624-300-101. Any of these 6-pair wire terminals or protectors can be re-used if they are in satisfactory condition.

**1.04** Where a wire terminal or protector is installed on new wire, leave sufficient slack in the conductors at the time the new wire is being placed for proper installation of the terminal. Slack is provided by cutting out a section of the support wire and splicing the remaining ends of the support wire together. A wire terminal is installed on *existing* multiple line wire by splicing slack into the conductors. Be sure to maintain the color of conductors when providing slack. Cut only the conductors being terminated; the others can be placed in a B Cable Guard through the B Wire Bracket or behind the terminal.

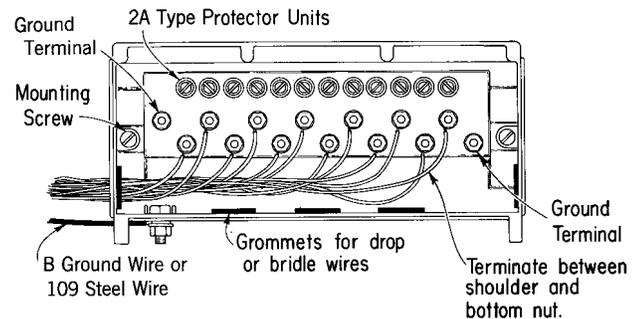
**1.05** A 116-type protector should be grounded as follows.

- (a) To a cable strand or power multigrounded neutral wire with B Ground Wire.
- (b) To the support wire of multiple line wire with a 109 Construction Wire or 109 Steel Line Wire.

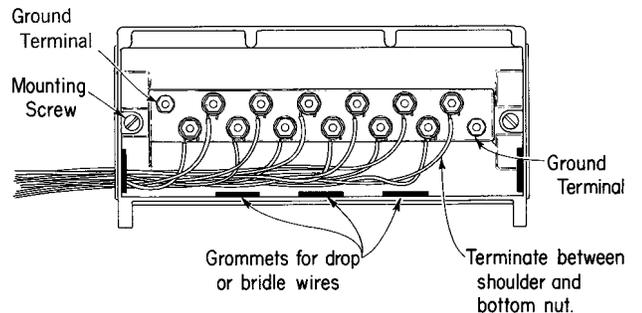
#### 2. INTERNAL WIRING

**2.01** The insulation on the multiple line wire conductors must be removed before they are terminated on the binding posts.

**2.02** The internal wiring for a 116D Protector and a 104B Wire Terminal is shown in Figs. 1 and 2, respectively.



**Fig. 1 – 116D Protector (cover omitted for clarity)**



**Fig. 2 – 104B Wire Terminal (cover omitted for clarity)**

**2.03** The internal wiring for a 116B Protector and a 104A Wire Terminal is shown in Figs. 3 and 4, respectively.

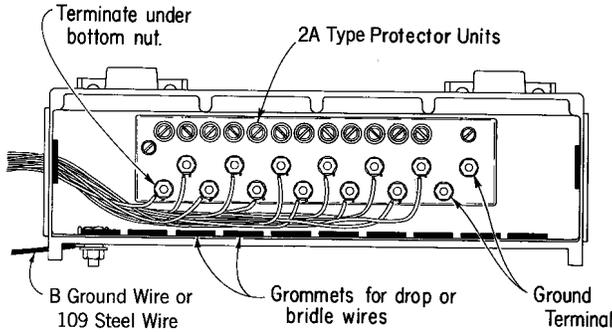


Fig. 3 - 116B Protector (cover omitted for clarity)

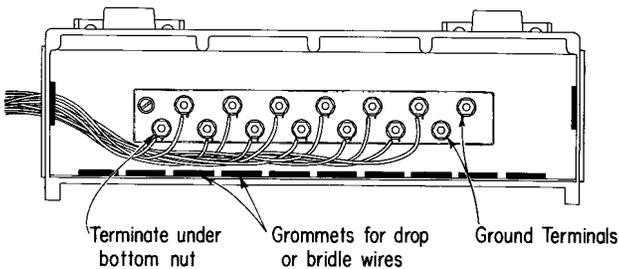


Fig. 4 - 104A Wire Terminal (cover omitted for clarity)

2.04 The internal wiring for a 116D2B-6 Protector and a 104B2-6 Wire Terminal is shown in Figs. 5 and 6, respectively.

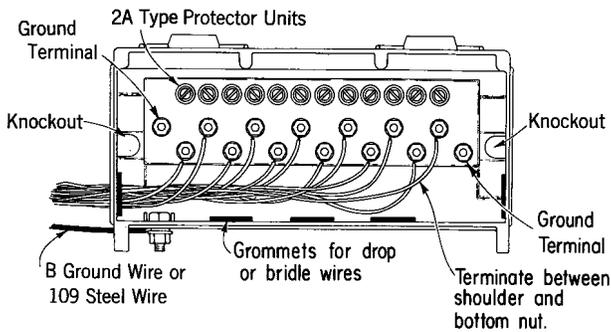


Fig. 5 - 116D2B-6 Protector (cover omitted for clarity)

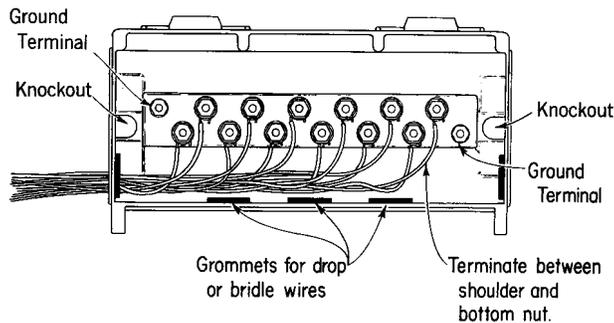


Fig. 6 - 104B2-6 Wire Terminal (cover omitted for clarity)

### 3. LOCATING ON SUPPORT WIRE OF MULTIPLE LINE WIRE

3.01 The 104B2-6 Wire Terminal or 116D2B-6 Protector can be placed on the insulated support wire. At deadend poles, this can be accomplished by using two B Wire Adapters and two lashed cable supports as shown in Fig. 7 and described in 3.03.

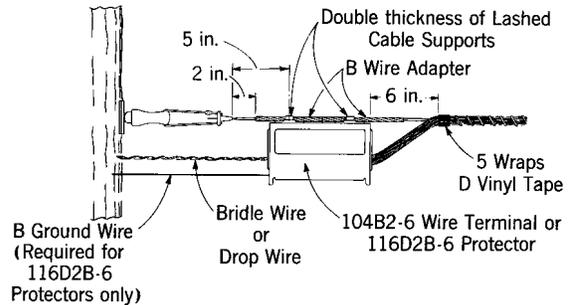


Fig. 7 - Multiple Line Wire Deadend

3.02 A 104B2-6 Wire Terminal or 116D2B-6 Protector can be located at a multiple line wire intermediate pole using two B Wire Adapters and two lashed cable supports as shown in Fig. 8 and described in 3.03.

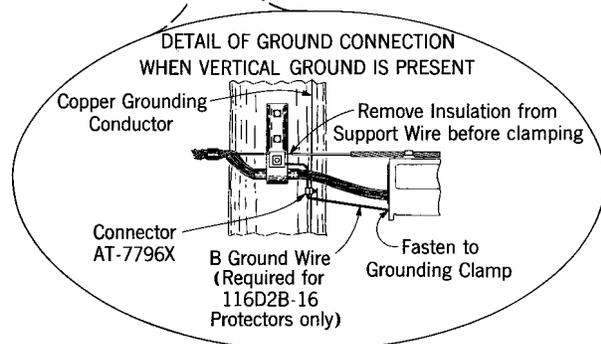
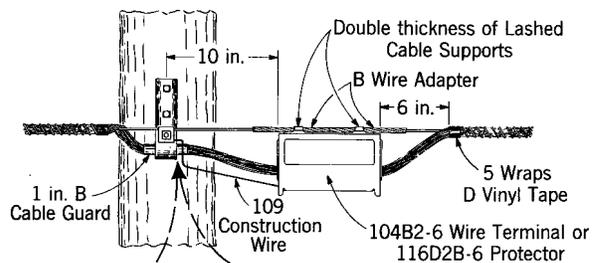
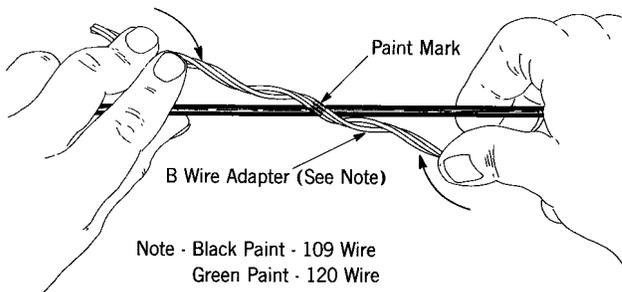


Fig. 8 - At Multiple Line Wire Intermediate Pole

**3.03 Installation of 104B2-6 Wire Terminal or 116D2B-6 Protector**

(a) Place a B Wire Adapter about 5 inches from the end of the wirewise or sleeve deadending the support wire. **Do not remove the insulation from the support wire** before placing the wire adapter. The wire adapter is installed as follows.

(1) Place the 3-wire set first, starting at the center which is marked by paint, as shown in Fig. 9. Place the 3-wire set (gauge by eye) on the support wire so that it is centered at the terminal clamp nearest the pole (see Fig. 7). Wrap the set so it is spiraled around the support wire from the center out to the ends in each direction at once using the thumb and forefinger of each hand. Be sure that the ends are snapped into place over the support wire.



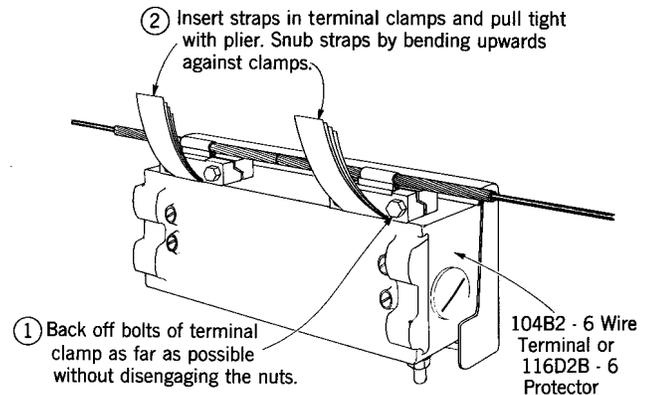
**Fig. 9 – Installation of B Wire Adapter**

(2) Place the second 3-wire set for 120 size or first 2-wire set for 109 size next to the first 3-wire set, being sure to match the paint marks at the center so the ends will be approximately even. It is installed in a similar manner to the 3-wire set.

(3) Place the last 2-wire set in the gap left between the other sets and match the paint marks so the ends will be about even. Install as described in (1).

(b) Start the second B Wire Adapter on the support wire with the paint mark about 3 inches from the end of the first B Wire Adapter so that it is centered at the far terminal clamp. (See Fig. 7.)

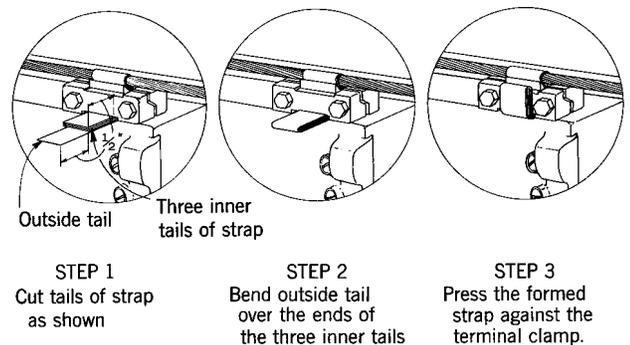
(c) Cut off the buckles from a pair of lashed cable supports and fold in half to obtain double thickness. Bend straps over the wire adapter on support wire with ends pointing down. (See Fig. 10.)



**Fig. 10 – Inserting Cable Supports In Terminal Clamps**

(d) Hold the terminal in proper alignment with support wire, and tighten the bolts of the terminal clamps with the C Socket Wrench or N Cable Terminal Wrench. Take up alternately on the two bolts of each clamp.

(e) Terminate straps as shown in Fig. 11.



**Fig. 11 – Terminating Cable Supports**

**4. LOCATING ON MULTIPLE LINE WIRE POLES**

**4.01** At wire deadend poles, 6-pair wire terminals or protectors can be located as shown in Fig. 12.

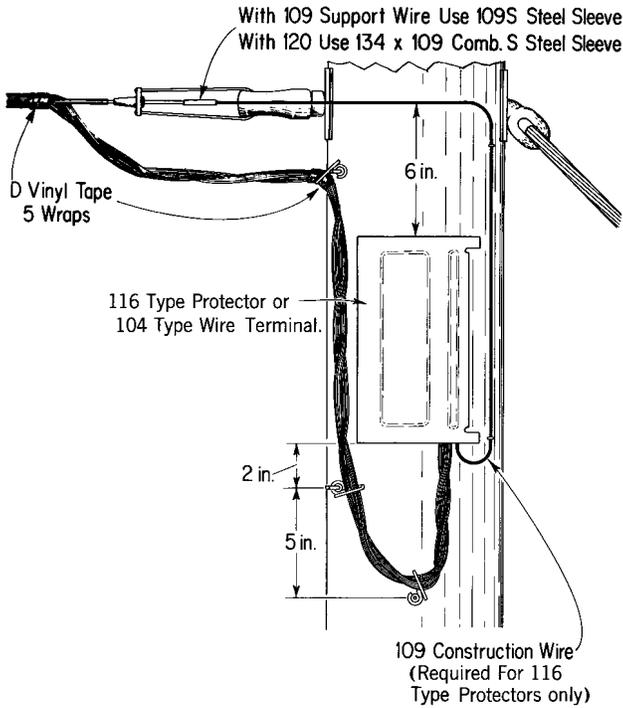


Fig. 12 – At Wire Deadend Pole

4.02 At intermediate poles, 6-pair wire terminals or protectors can be located as shown in Fig. 13.

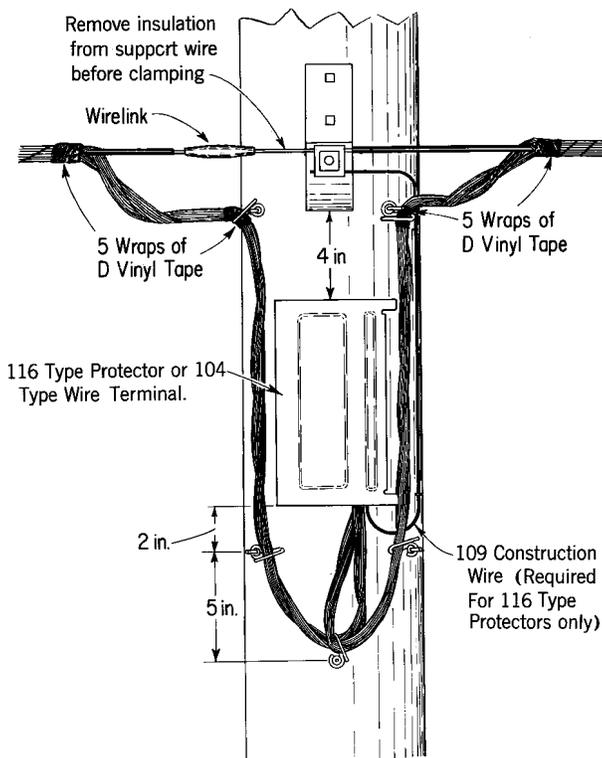


Fig. 13 – Intermediate Pole

4.03 At wire deadend poles involving cross-arms, the wire terminals or protectors can be located on the crossarm as shown in Fig. 14.

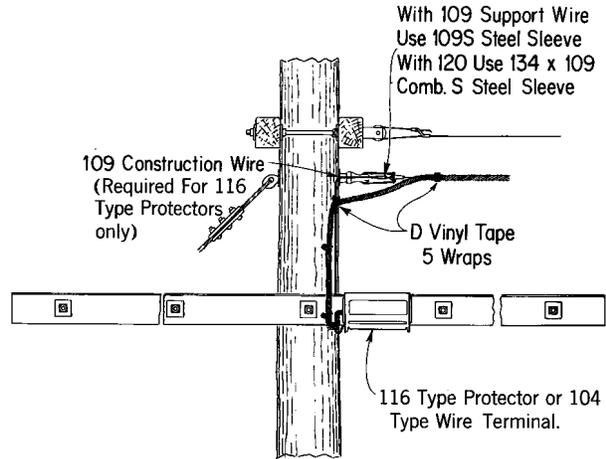


Fig. 14 – Crossarm or Wire Deadend Pole

5. LOCATING ON CABLE POLES

5.01 The various types of 6-pair wire terminals or protectors should be located on intermediate cable poles as shown in Figs. 15, 16, and 17.

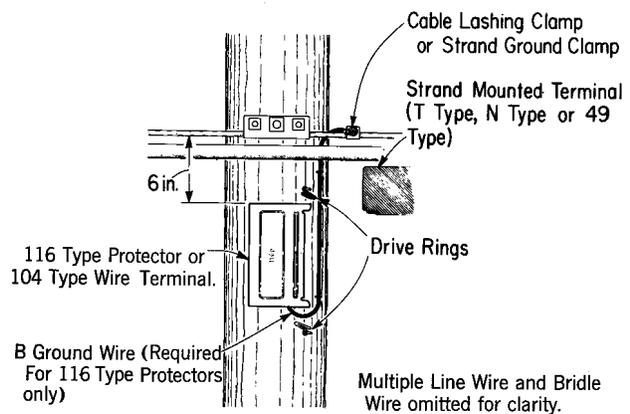


Fig. 15 – Pole With Strand-Mounted Cable Terminal (multiple line wire and bridle wire omitted for clarity)

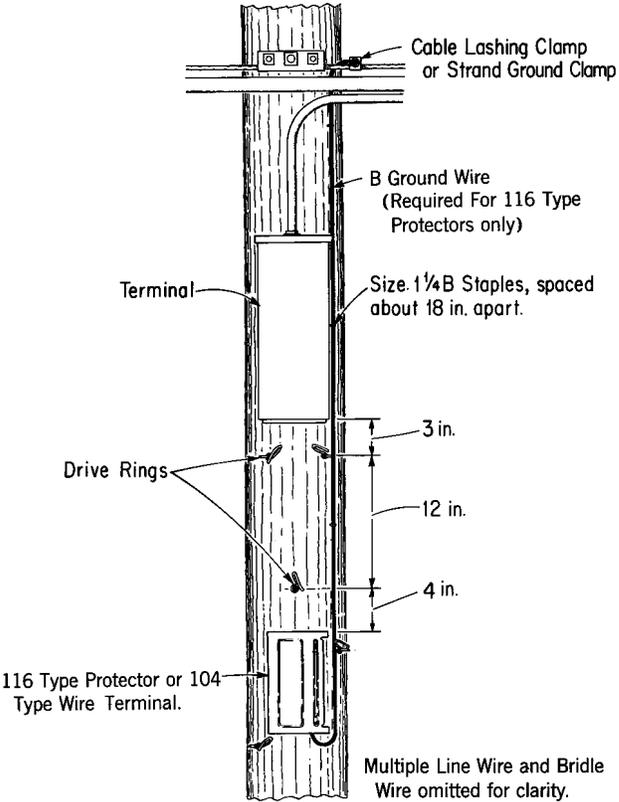


Fig. 16 — Pole With Pole-Mounted Cable Terminal (multiple line wire and bridle wire omitted for clarity)

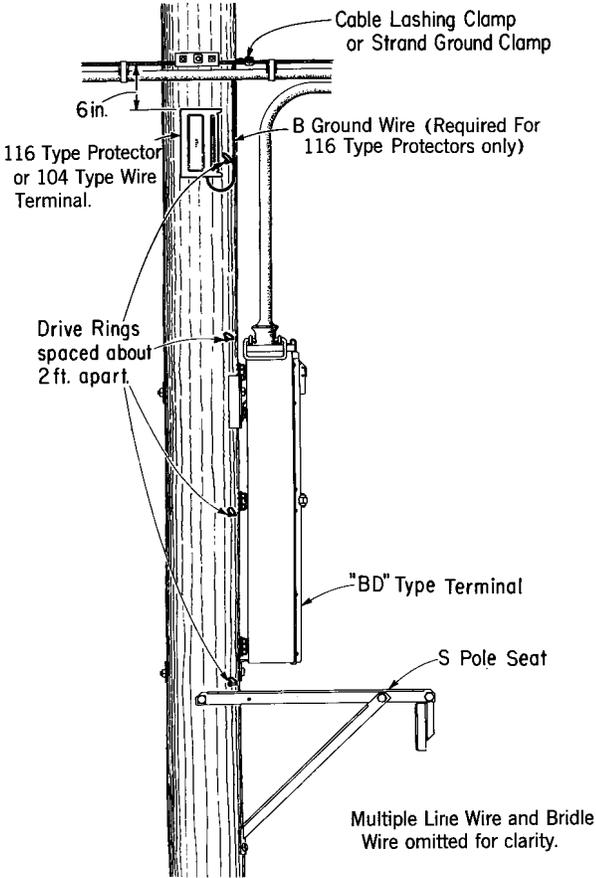
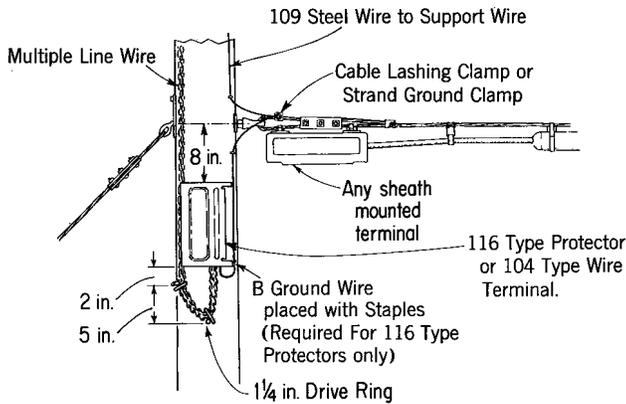


Fig. 17 — Pole With Pole-Mounted Cross-Connecting Terminal (multiple line wire and bridle wire omitted for clarity)

**SECTION 624-300-200**

**5.02** The various types of 6-pair wire terminals or protectors should be located at cable deadend poles as shown in Figs. 18 and 19.



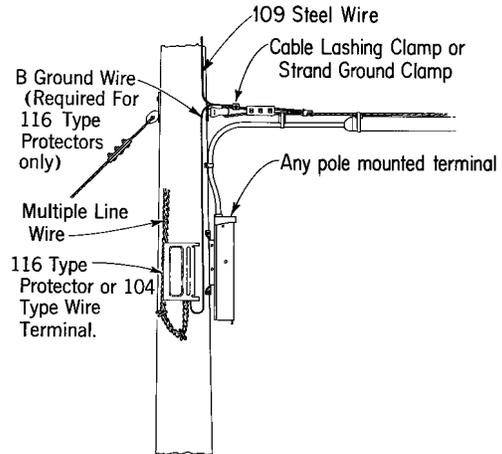
**Fig. 18 – Deadend Pole With Strand-Mounted Cable Terminal**

**6. LOCATING ON CABLE SUSPENSION STRAND**

**6.01** The 104B2-6 Wire Terminal or 116D2B-6 Protector is installed on cable suspension

strand in a manner similar to the installation of cable terminals described in Section 631-210-201.

**6.02** Wire terminals and protectors should be placed on the cable suspension strand in such a location that they do not interfere with climbing space, existing aerial splices, or terminals.



**Fig. 19 – Deadend Pole With Pole-Mounted Cable Terminal**