

TERMINALS

N-TYPE AND 53-TYPE CABLE TERMINALS

DESCRIPTION AND INSTALLATION

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1. GENERAL

1.01 This section covers the description and installation of N-type and 53-type cable terminals. These protected and unprotected distribution terminals are suitable for cable strand mounting, pole mounting or building wall locations.

1.02 This section is reissued to:

- Include information formerly found in Sections 631-210-201, 631-210-202, 631-210-203, and 631-210-211.
- To show redesigned mounting lug on the 10- and 16-pair N-type cable terminals.

- To show method of mounting 10- and 16-pair N-type cable terminals on self-supporting cable.
- To show the new cast resin terminal block in the 53A4-type cable terminal.
- To summarize the various codes of N- and 53-type cable terminals in Table B.

Since this issue covers a general revision the arrows ordinarily used to indicate changes have been omitted.

1.03 The *10- and 16-pair N-type cable terminals should NOT* be used at industrial and seashore locations where corrosion can be expected. The 49-type terminals (Section 631-240-100) or the 104-/105-type cable terminals (Section 631-250-100) should be used at these locations. The *25-pair N-type cable terminals* may also be used at industrial and seashore locations.

1.04 The N- and 53-type cable terminals are equipped with solid cast resin binding post blocks and are *gastight*.

1.05 Each binding post of these blocks is equipped with two washers and a top nut for the termination of drop and block wiring. B and C binding post caps may be used (when necessary) to reduce faceplate leakage or when Special Safeguard Measures (SSM) or Special Service Protection (SSP) is required.

**Reprinted to comply with modified final judgment.

1.06 The stub cables of these terminals contain 24-gauge conductors having even count color coded PVC insulation. Standard and optional stub cable lengths are covered in Table A.

Note: It is *not* recommended to reverse the terminal blocks and stub cable directions in the N-type or 53-type cable terminals.

TABLE A
STUB CABLE LENGTHS

CODE	STD. LENGTH (FEET)	OPTIONAL LENGTHS - (FEET) (IF SPECIFIED IN THE ORDER)
NC10-Type NC16-Type NF10-Type NF16-Type	12	3, 5 1/2, 8, 25
NC25-Type NF25-Type	12	5 1/2, 8, 25
NH25 53A4-Type	12	25

2. DESCRIPTION

N-TYPE CABLE TERMINALS

2.01 N-type cable terminals are available as protected and nonprotected and are designed for strand, pole, or wall mounting (Table B).

2.02 **NC-type cable terminals** are protected type terminals available in either 10-, 16-, or 25-pair sizes (Fig. 1, 2, and 3). They are equipped with 2A1B protector units (Fig. 4) which provide cable protection.

Note: *Field maintenance of 2-type protector units is not recommended. When line testing indicates carbon block operation, replace the protector.*

2.03 **NH-type cable terminals** are protected type terminals available in either 16- or 25-pair sizes (Fig. 5 and 6). They are similar to the NC-type terminals except as follows:

- (a) A ground clamp is added on the outside of the terminal housing for terminating a No. 6 ground wire to a cold water pipe or other suitable station ground.

TABLE B

N- AND 53-TYPE CABLE TERMINALS

TYPE	TERMINAL (SEE NOTE)	RATING	FIG. NO.	PAIR SIZE	PROTECTOR UNITS FURNISHED*	FOR MOUNTING ON		
						STRAND OR STRAND SUPPORTED CABLE	POLE	WALL
P R O T E C T E D	NC10P	STD	3	10	2A1B (107B)	X	†	†
	NC10	A&M	—	10	2A1B (107B)	X	†	†
	NC16P	STD	1	16	2A1B (107B)	X	†	†
	NC16	A&M	—	16	2A1B (107B)	X	†	†
	NH16	STD	4	16	2A1A (107C)	X	†	†
	NC25P	STD	9	25	2A1B (107B)		X	X
	NC25	A&M	—	25	2A1B (107B)		X	X
	NH25	STD	10	25	2A1A (107C)		X	X
N O N P R O T E C T E D	NF10P	STD	—	10		X	†	†
	NF10	A&M	—	10		X	†	†
	NF16P	STD	6	16		X	†	†
	NF16	A&M	—	16		X	†	†
	NF25P	STD	11	25			X	X
	NF25	A&M	—	25			X	X
	53A4-50P	STD	12	50			X	X
	53A4-50	STD	—	50			X	X

Note: Suffix "P" indicates alpeh sheath stub cable. No suffix letter indicates lead sheath stub cable.

* 2A1B Cable Protection (Fig. 4) 2A1A Station Protection (Fig. 7).

† These terminals may be adapted for mounting on poles or walls by means of a 45A bracket (Fig. 22).

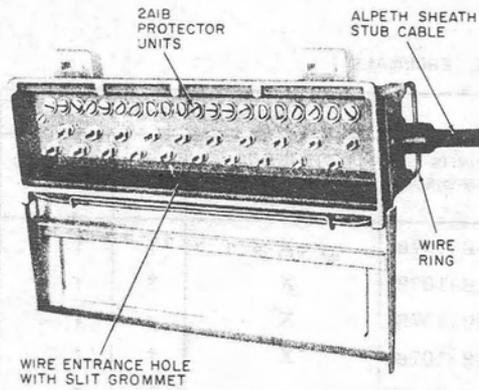


Fig. 1—NC10P Cable Terminal

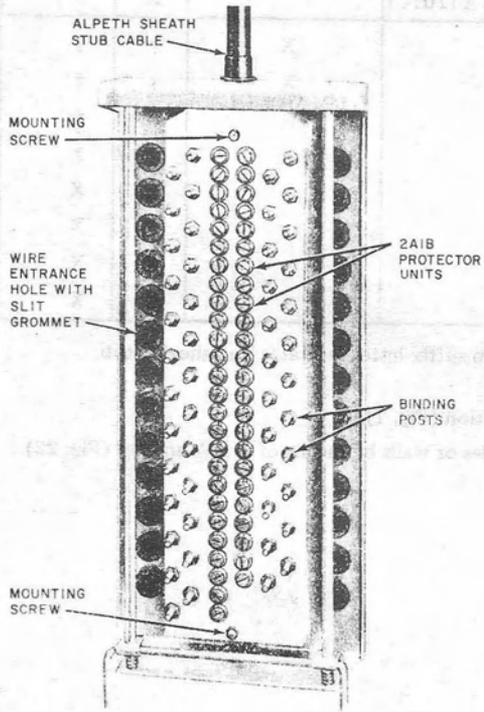


Fig. 2—NC25P Cable Terminal—Interior

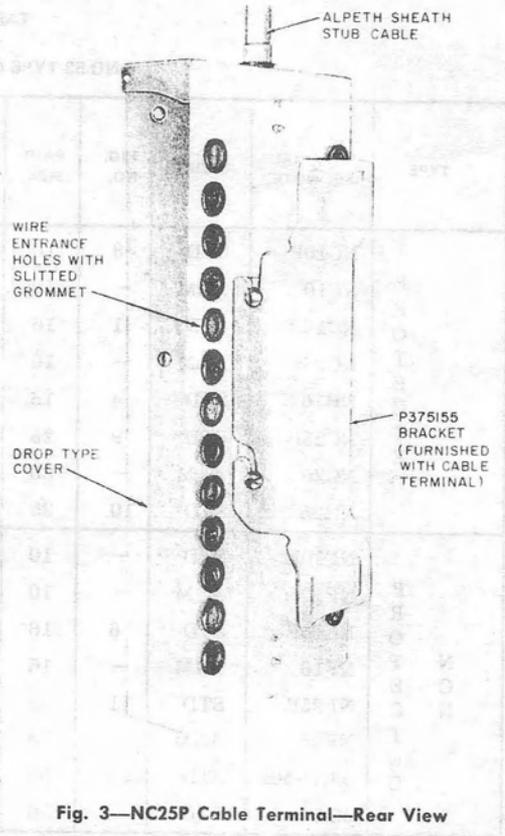


Fig. 3—NC25P Cable Terminal—Rear View

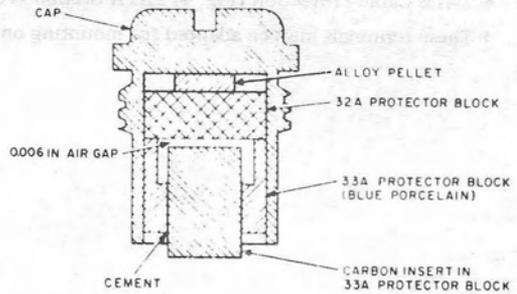


Fig. 4—2A1B Protector Unit

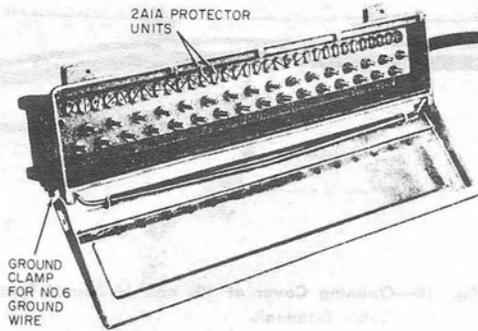


Fig. 5—NH16 Cable Terminal

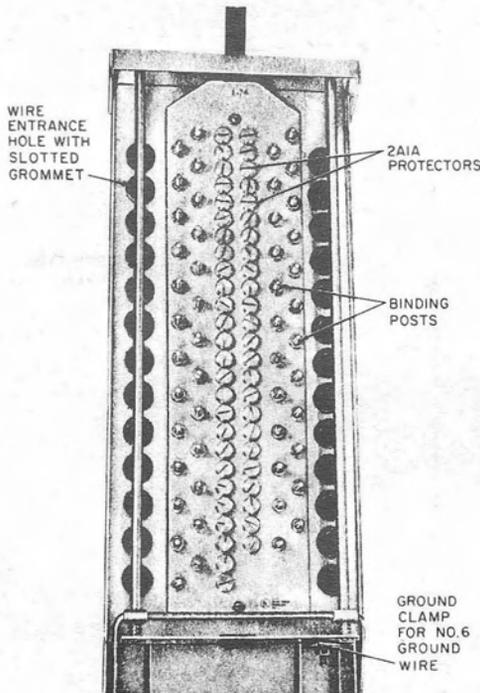


Fig. 6—NH25 Cable Terminal—Interior

(b) 2A1A protector units (Fig. 7) are substituted for 2A1B protector units to provide the required fuseless station protection. (See Note after 2.02).

2.04 *NF-type cable terminals* are nonprotected type terminals available in either 10-, 16-, or 25-pair sizes (Fig. 8 and 9) and are intended for use where protection is not required.

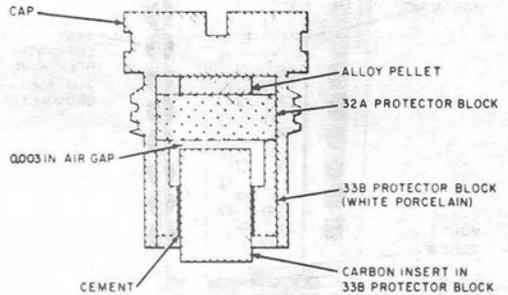


Fig. 7—2A1A Protector Unit

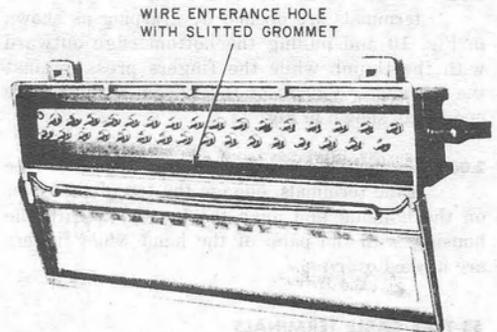


Fig. 8—NF16P Cable Terminal

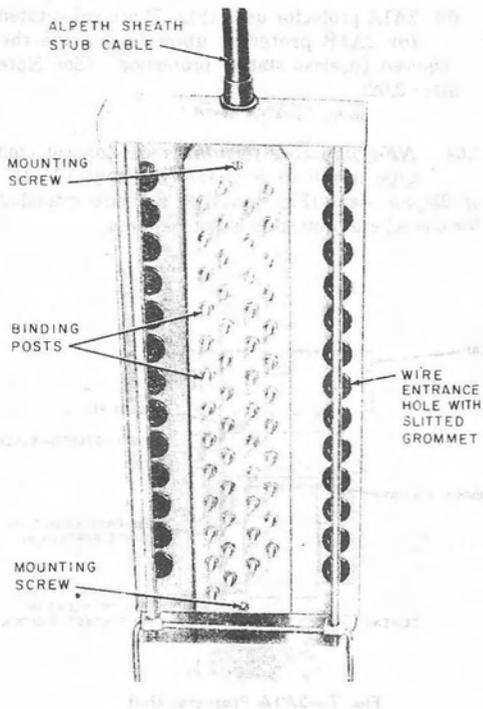


Fig. 9—NF25P Cable Terminal—Interior

2.05 Covers of the 10- and 16-pair N-type cable terminals are opened by grasping as shown in Fig. 10 and pulling the bottom edge outward with the thumb while the fingers press against the top edge. Covers of the 25-pair terminals are opened as shown in Fig. 11.

2.06 To close the cover of 10- and 16-pair N-type cable terminals, engage the top of the cover on the housing and push the bottom toward the housing with the palm of the hand while fingers are hooked over top.

53-TYPE CABLE TERMINALS

2.07 The 53-type cable terminals are nonprotected terminals designed for pole or wall mounting (see Table B). They consist of a 2C1-50 terminal block, available with either an alpeth sheathed or lead sheathed stub cable, mounted in a weatherproof galvanized sheet metal box (Fig. 12).

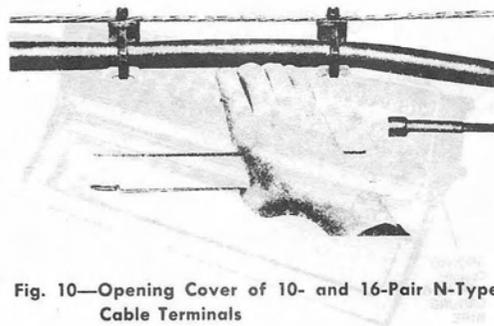


Fig. 10—Opening Cover of 10- and 16-Pair N-Type Cable Terminals

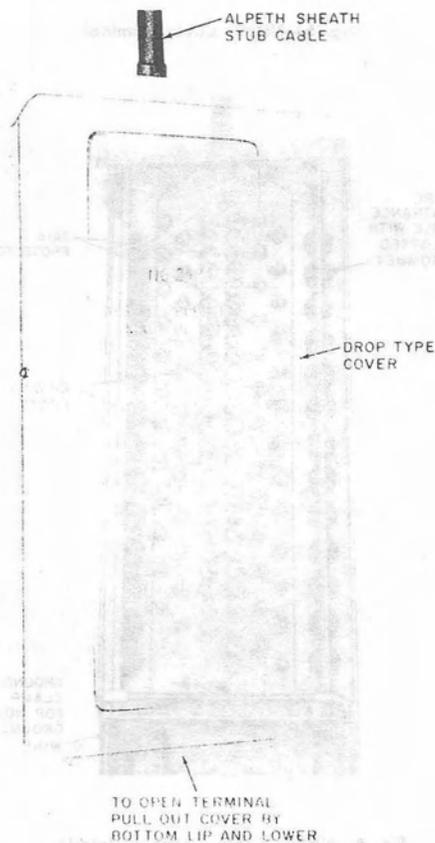


Fig. 11—Opening Cover of 25-Pair N-Type Cable Terminals

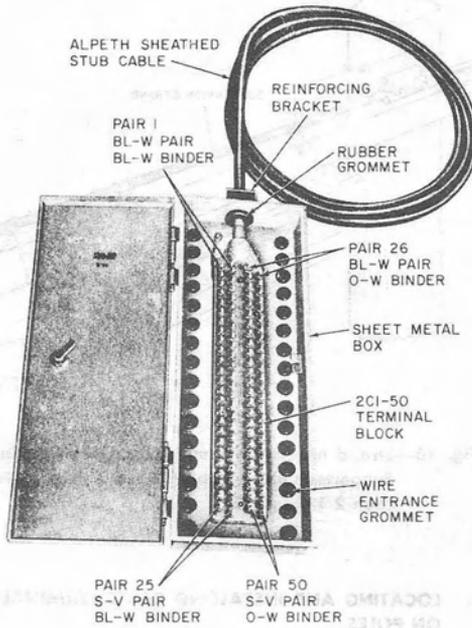


Fig. 12—53A4-50P Cable Terminal

3. LOCATING AND INSTALLING CABLE TERMINALS ON SUSPENSION STRAND

LOCATING TERMINALS

3.01 When locating N-type cable terminals on cable suspension strand, the terminal stub should always be to the right of the housing when viewed with the cover facing the worker.

3.02 Whenever possible locate the terminal to the right of the pole and at a distance of 18 inches between the cable suspension bolt and the nearest terminal support (Fig. 13). The front of the terminal is placed on the cable side of the pole.

3.03 Where the available space between the pole and an existing splice will not permit the terminal to be located as described in 3.02, it may be moved nearer to the pole to a point where its near end falls in line with the side of the pole.

3.04 When it is necessary to mount the terminal other than to the right, the 18 inches distance from the pole should be kept whenever possible.

INSTALLING TERMINALS ON LASHED CABLE AND SELF SUPPORTING CABLE

3.05 Determine the location for the terminal as outlined in 3.01 through 3.04. Install the terminal as shown in Fig. 14.

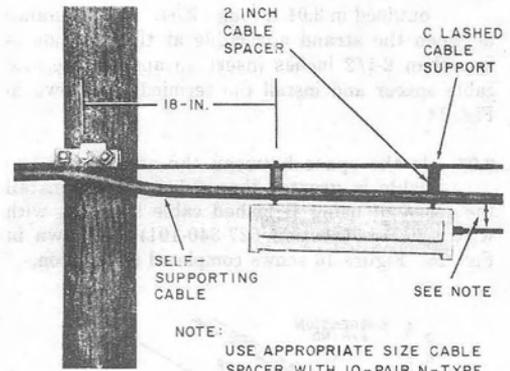


Fig. 13—Locating Strand Mounted Terminal

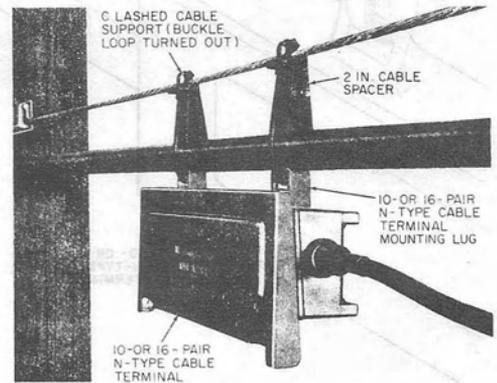


Fig. 14—10- or 16-Pair N-Type Cable Terminal Installed

Note 1: On self-supporting cable use a B web splitter (AT-8273) and separate cable from strand (Fig. 13).

Note 2: C lashed cable supports should not be used on cables greater than 2 1/2 inches in diameter or heavier than 8 pounds per foot.

INSTALLING TERMINALS ON RING-SUPPORTED CABLE

3.06 Determine the location for the terminal as outlined in 3.01 through 3.04. If the distance between the strand and cable at this location is less than 2-1/2 inches insert an appropriate size cable spacer and install the terminal as shown in Fig. 14.

3.07 If the space between the strand and the cable is greater than 2-1/2 inches, install the terminal using B lashed cable supports with wire hangers (Section 627-340-101) as shown in Fig. 15. Figure 16 shows completed installation.

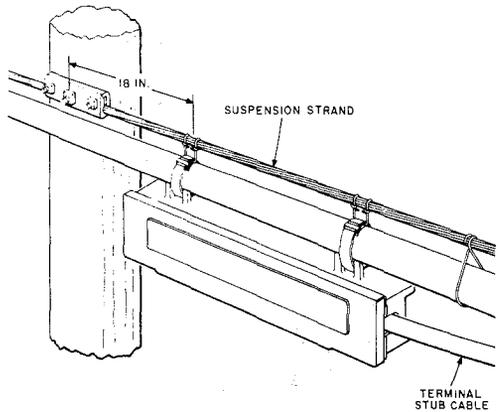


Fig. 16—Strand Mounted Terminal Installed On Ring Supported Cable—Cable/Strand Space Greater than 2 1/2-Inches

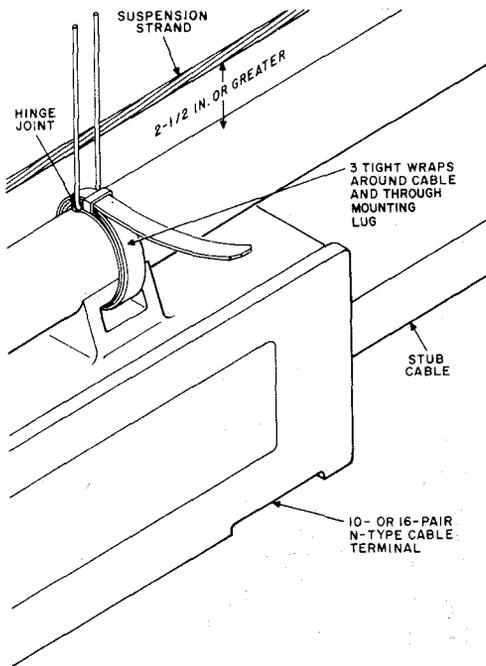


Fig. 15—Installing 10- or 16-Pair N-Type Cable Terminal On Ring-Supported Cable

4. LOCATING AND INSTALLING CABLE TERMINALS ON POLES.

4.01 Where possible locate the terminal mounting bracket on the cable side of the pole as shown in Fig. 17. If the bracket cannot be placed at the preferred distance of 24 inches below the suspension strand, locate it in accordance with Fig. 18 through 20.

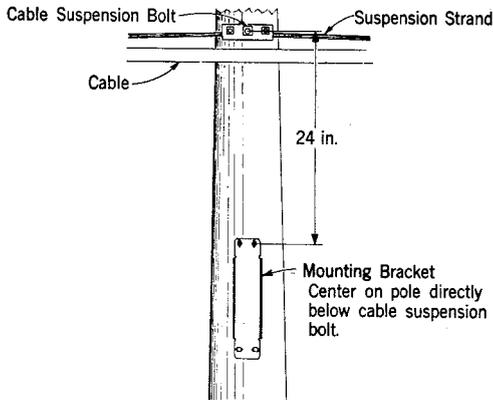


Fig. 17—Preferred Location of Mounting Bracket on Pole

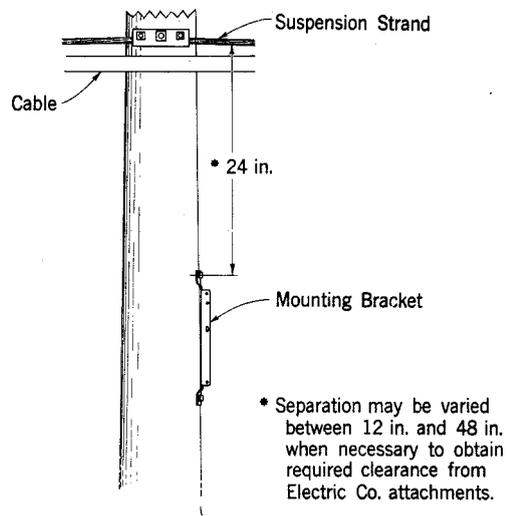


Fig. 19—Location of Mounting Bracket on Face or Back of Pole

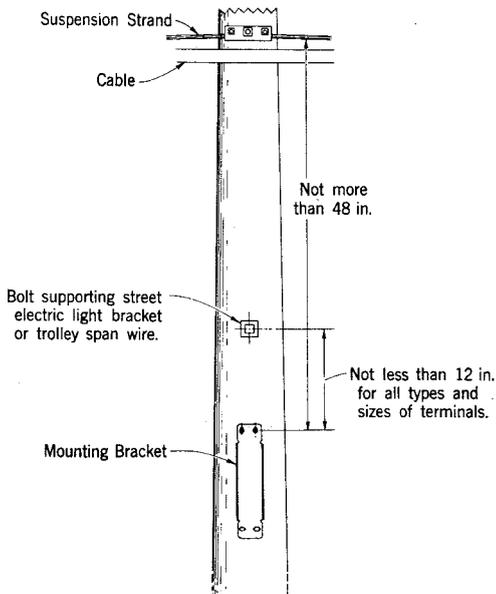
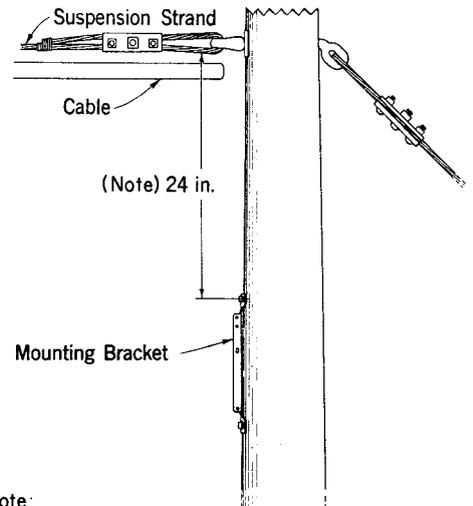


Fig. 18—Location of Mounting Bracket on Pole Where Greater Separation is Required



Note:

Separation may be varied between 12 in. and 48 in. when necessary to obtain required separation from Electric Company attachments.

Fig. 20—Location of Mounting Bracket at End Pole

4.02 Where the terminal is to be placed on a pole carrying a cable extension fixture, locate the mounting bracket on the face or back of the pole as shown in Fig. 21.

4.03 Where the terminal is to be spliced to buried cable or underground subsidiary cable, locate the terminal, equipped with a 12-foot stub, at a height of 14 feet between the bottom of the bracket and ground. Where buried or subsidiary cable is carried up a pole, locate the terminal at heights for terminals associated with aerial cable.

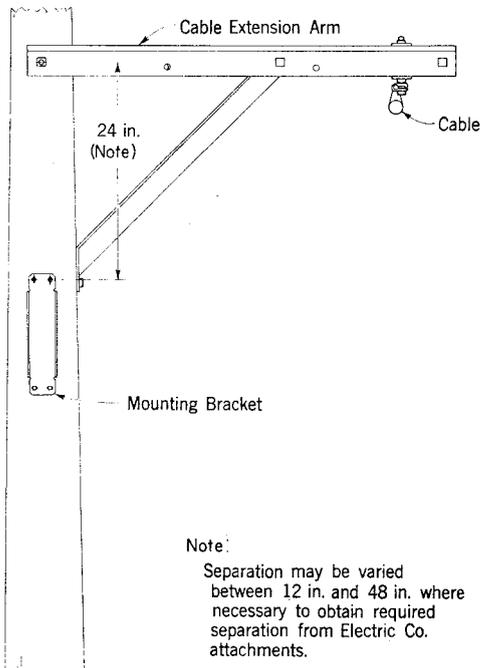


Fig. 21—Mounting Bracket Installed on a Pole Carrying a Cable Extension Fixture

POLE MOUNTING 10- AND 16-PAIR N-TYPE CABLE TERMINALS

4.04 Mounting the 10- and 16-pair N-type cable terminals on poles requires the use of the 45A bracket (Fig. 22) which must be ordered separately.

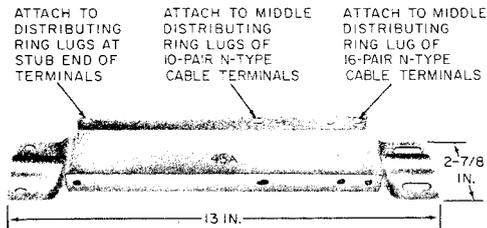


Fig. 22—45A Mounting Bracket

4.05 Mount the 10- or 16-pair terminals on the pole as follows:

- (1) Attach the 45A bracket as shown in Fig. 23.
- (2) Before mounting the terminal on the bracket, remove the distributing rings and return to stock as piece parts for future use. Tap the wiring ring holes using the No. 10 3/4-inch long self-tapping screws furnished with the 45A bracket. See Fig. 22 to determine the required wiring ring holes for tapping. This operation can be done more conveniently on the ground prior to climbing a pole.

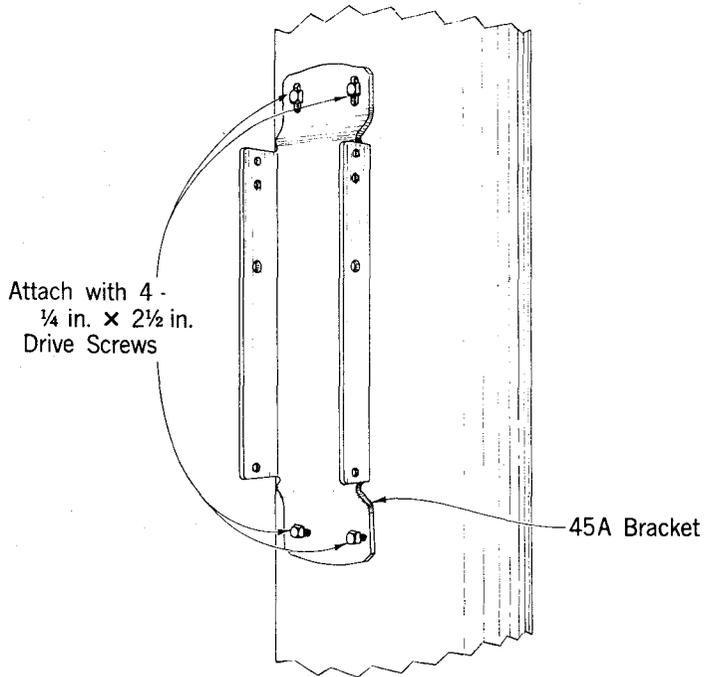


Fig. 23—Attaching 45A Mounting Bracket To Pole

(3) Set the terminal on the bracket and secure in place with four self-tapping screws as indicated in Fig. 24.

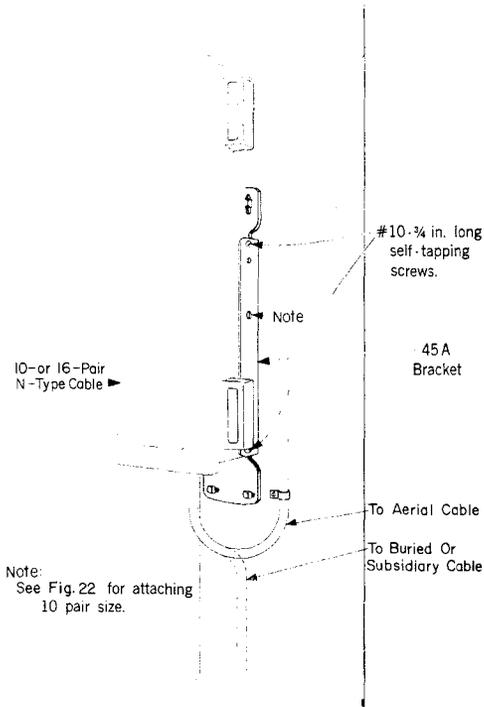


Fig. 24—10- or 16-Pair N-Type Cable Terminal Attached To Mounting Bracket

POLE MOUNTING 25-PAIR N-TYPE AND 53-TYPE CABLE TERMINALS

4.06 A P-375115 mounting bracket is furnished with each 25-pair N-type and each 53-type cable terminal. Attach the mounting bracket to the pole as shown in Fig. 25.

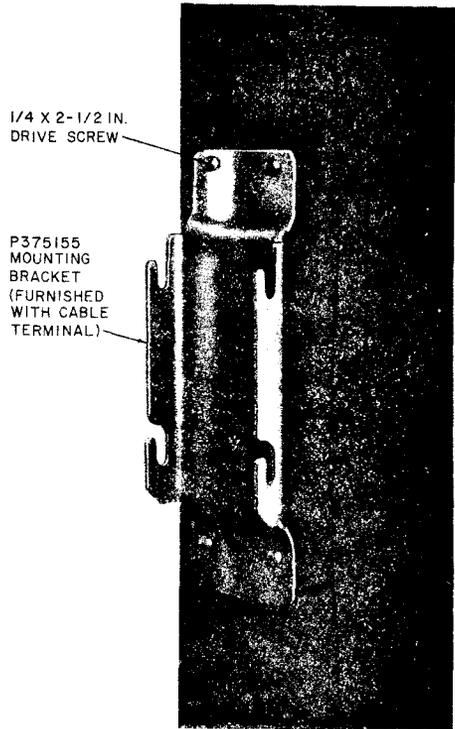


Fig. 25—P-375115 Mounting Bracket Attached to Pole

4.07 Install the cable terminal as follows:

- (1) Back off the four fastening screws (Fig. 26, on the back of a terminal sufficiently to engage into the slots of the mounting bracket.

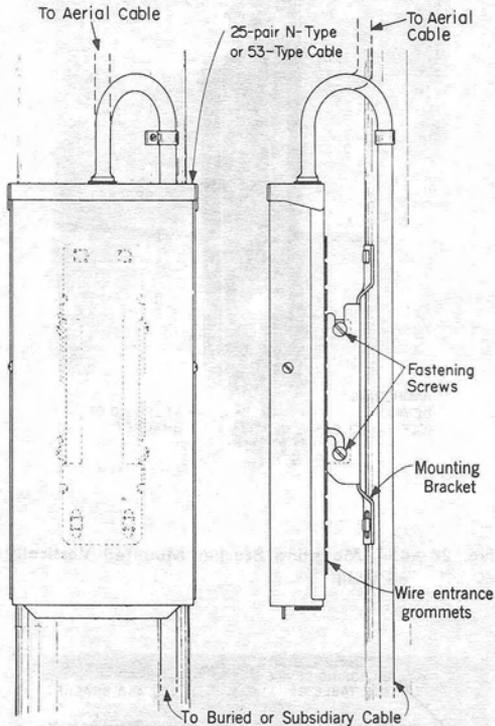


Fig. 26—Installing Cable Terminal on Pole Mounting Bracket

- (2) Place the terminal on the mounting bracket and tighten the screws to secure the terminal.
- (3) Terminals are furnished with stub on top. Mount the terminal as shown in Fig. 26 and 27.

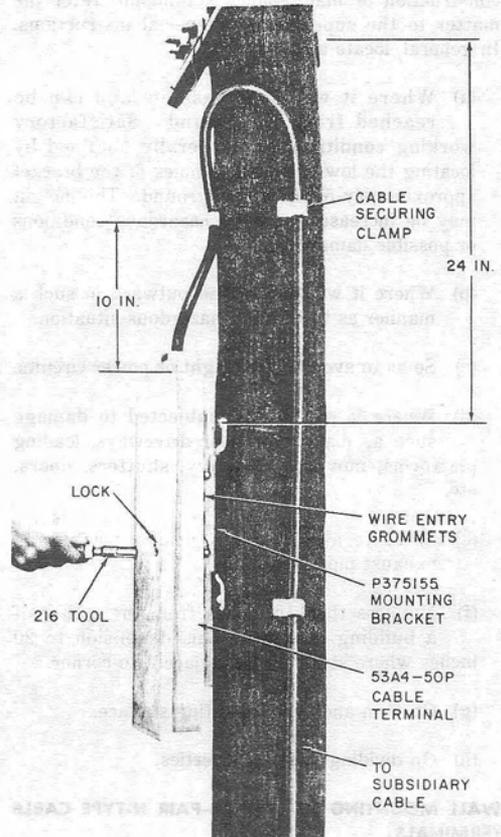


Fig. 27—53-Type Cable Terminal Installed on Pole

5. LOCATING AND INSTALLING CABLE TERMINALS ON WALLS

5.01 Locate terminals in accordance with detail construction plans, observing the following points insofar as practical. If the specified terminal location does not appear desirable from either a construction or maintenance standpoint, refer the matter to the supervisor for special instructions. In general, locate a terminal:

- (a) Where it will be accessible and can be reached from the ground. Satisfactory working conditions are generally obtained by locating the lower mounting holes of the bracket approximately 5 feet above ground. This height may be increased to avoid hazardous conditions or possible damage.
- (b) Where it will not extend outward in such a manner as to create a hazardous situation.
- (c) So as to avoid electric light or power circuits.
- (d) Where it will not be subjected to damage such as may occur near driveways, loading platforms, moving machinery, shutters, doors, etc.
- (e) So as to avoid leaders, drains, waste, and exhaust pipes.
- (f) Not less than 10 inches from the corner of a building. Increase this dimension to 20 inches where stub cable is adjacent to corner.
- (g) On firm and even mounting surface.
- (h) On dividing line of properties.

WALL MOUNTING 10- AND 16-PAIR N-TYPE CABLE TERMINALS

5.02 Mounting the 10- and 16-pair N-type cable terminals on walls requires the use of the 45A bracket (Fig. 22) which must be ordered separately.

Caution: Do not mount the terminal with left side stub cable entry.

5.03 The N-type terminals in the 10- and 16-pair sizes are suitable for both vertical and horizontal mounting on walls and may be mounted as follows:

- (1) Attach the 45A bracket on the wall as illustrated in Fig. 28 and 29.

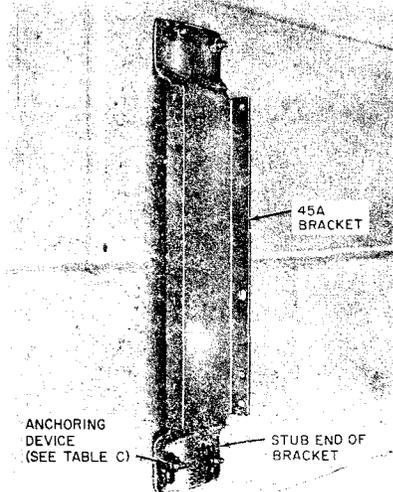


Fig. 28—45A Mounting Bracket Mounted Vertically on Wall

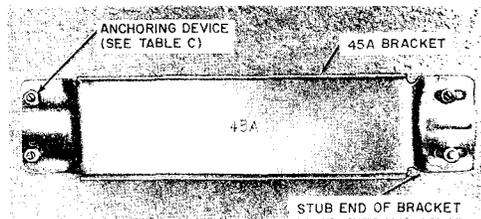


Fig. 29—45A Mounting Bracket Mounted Horizontally on Wall

(2) Before mounting the terminal on the bracket, remove the distributing rings and return to stock as piece parts for future use. Tap the wiring ring holes using the No. 10 3/4-inch long self-tapping screws furnished with the 45A bracket. See Fig. 22 to determine the required wiring ring holes for tapping.

(3) Set the terminal in position on the 45A bracket and secure it with four self-tapping screws as illustrated in Fig. 30.

5.04 Secure stub cable of N-type terminals to building walls by means indicated in Table C.

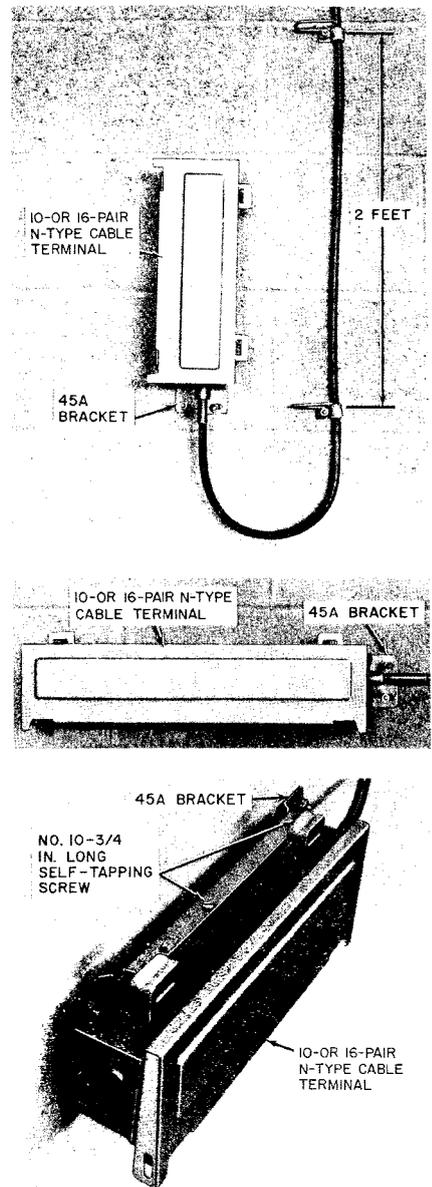


Fig. 30—Securing 10- or 16-Pair N-Type Cable Terminal to 45A Mounting Bracket

TABLE C
ANCHORING DEVICES

TYPE OF WALL	ANCHORING DEVICE TO BE USED	
	FOR MOUNTING BRACKET	TO SECURE STUB CABLE
Masonry	4 - 1/4 in. x 1-1/4 in. Hammer Drive Anchors	No. 9 cable clamp with 1/4 in. x 1 in. hammer drive anchor.
Hollow Tile	4 - 1/4 in. x 4 in. Toggle Bolts	Two strands of lashing wire or 049 steel construction wire anchored by means of 1-1/2 in. No. 8 RH galv. wood screw used as a toggle or 1/8 in. by 4 in. toggle bolt.
Wood	4 - 1-1/2 in. No. 14 RH Galvanized Wood Screws	No. 9 cable clamp with 1 in. No. 14 RH galv. wood screw. 1-1/2 in. strap nails may be used if mounting surface is substantial.

5.05 Figures 31 and 32 show *terminals mounted below a horizontal cable run* with stub cable attached to building wall.

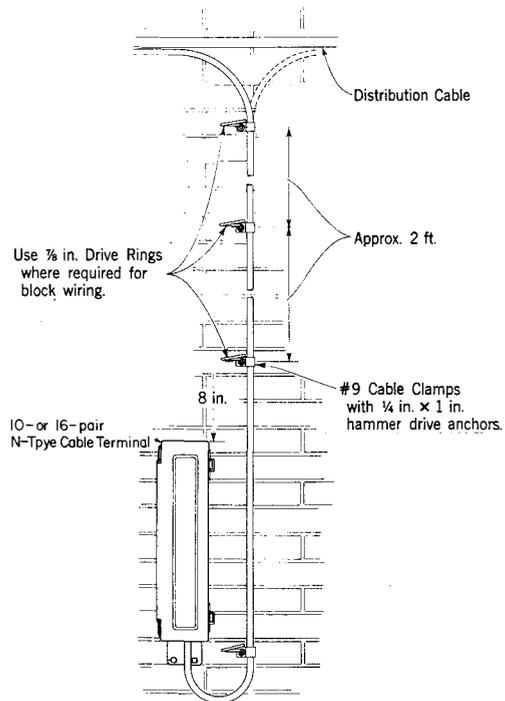


Fig. 31—Vertical Mounted Terminal Below a Horizontal Cable Run

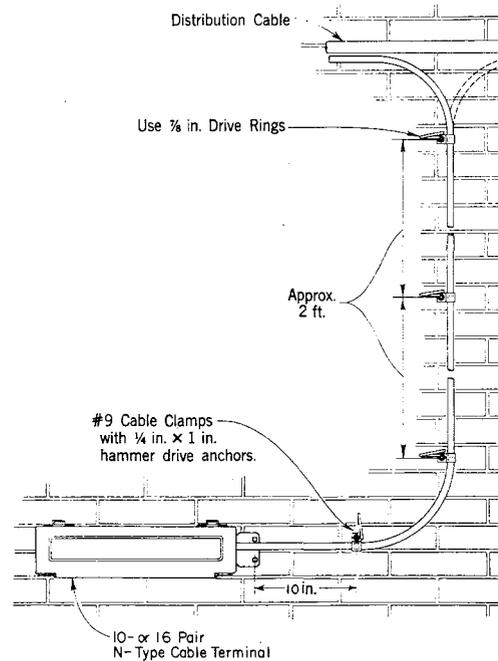


Fig. 32—Horizontal Mounted Terminal Below a Horizontal Cable Run

5.06 Figures 33 and 34 show *terminals mounted in line with a vertical cable run or above a horizontal cable run.*

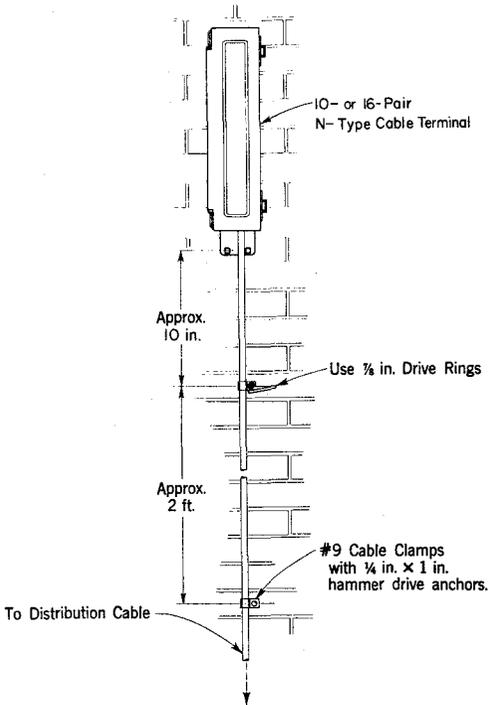


Fig. 33—Vertical Mounted Terminal Above a Horizontal Cable Run

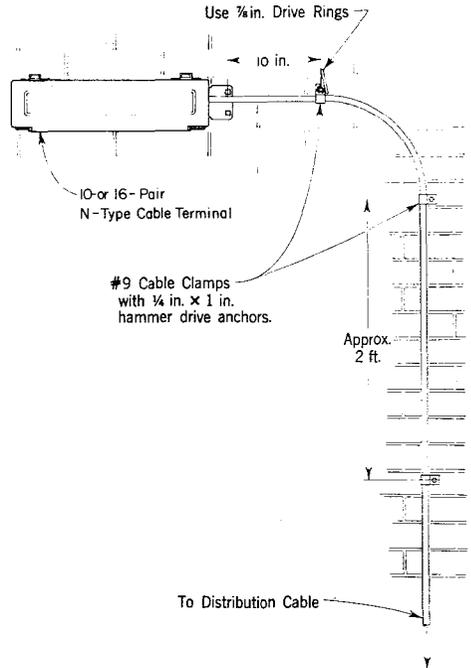


Fig. 34—Horizontal Mounted Terminal Above a Horizontal Cable Run

MOUNTING 25-PAIR N-TYPE OR 53-TYPE TERMINALS ON WALLS

5.07 These terminals are suitable for vertical mounting only on walls. A P-375155 mounting bracket is supplied with each terminal.

5.08 Mount these terminals on walls as follows:

- (1) Attach the mounting bracket as illustrated in Fig. 35.

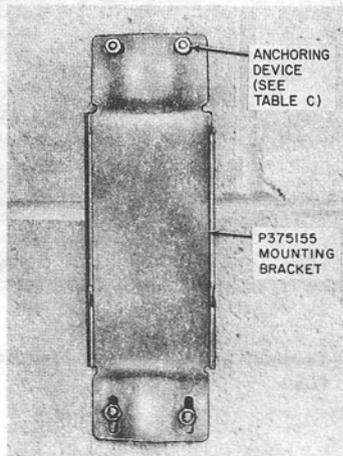


Fig. 35—P-375155 Mounting Bracket Secured To Wall

- (2) Back off the four fastening screws (Fig. 36) on the back of a terminal sufficiently to engage into the slots of the mounting bracket.

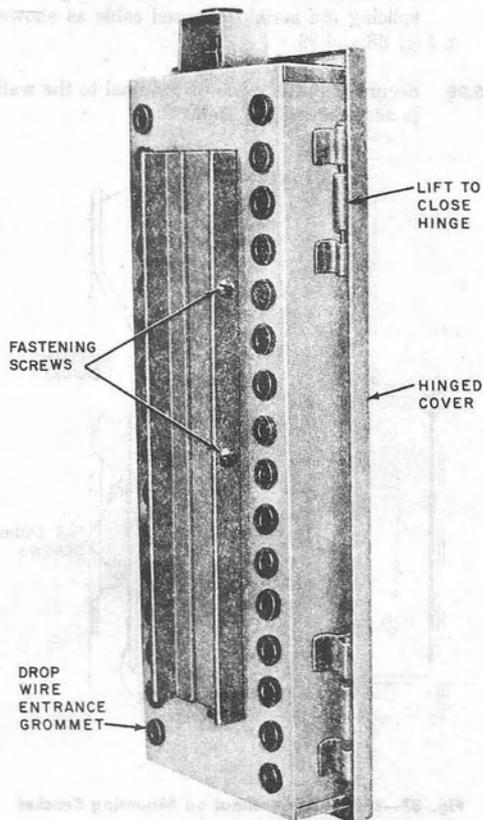


Fig. 36—53-Type Cable Terminal (Rear View)

(3) Place the terminal on the mounting bracket and tighten the screws to secure the terminal. See Fig. 37.

(4) The terminal stub should be arranged for splicing the aerial or buried cable as shown in Fig. 38 and 39.

5.09 Secure the stub cable of terminal to the wall in accordance with Table C.

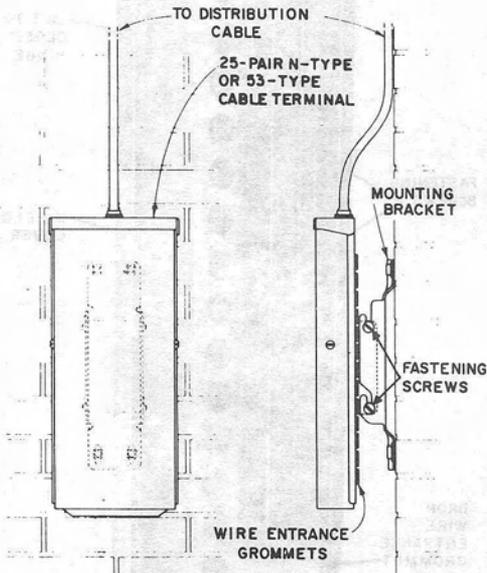


Fig. 37—Installing Terminal on Mounting Bracket

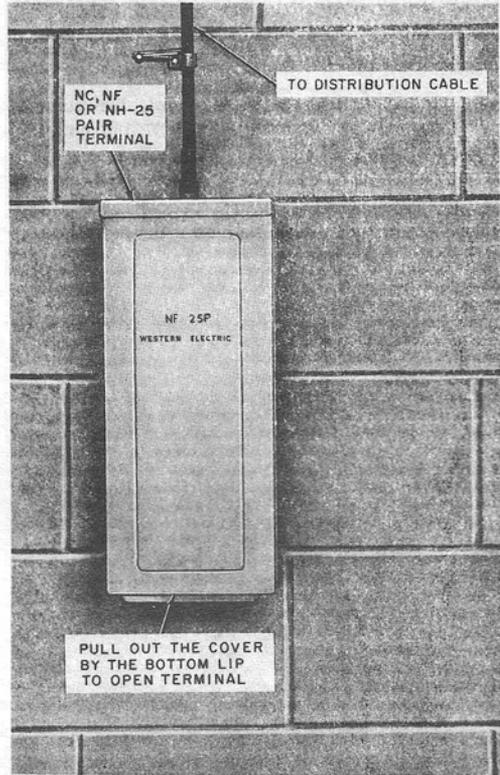


Fig. 38—Terminal Arranged for Splicing to Aerial Cable

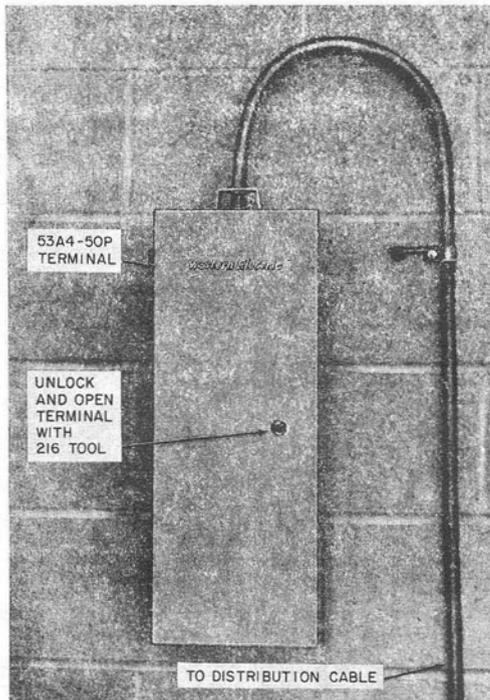


Fig. 39—Terminal Arranged for Splicing To Buried Cable

6. SUPERSEDED EQUIPMENT

6.01 NA-type cable terminals (rated MD) were available in 10- and 16-pair sizes only and are replaced by the NC- and NF-type cable terminals.

6.02 Earlier 10- and 16-pair N-type cable terminals were suspended from strand with B lashed cable supports as shown in Fig. 40.

6.03 The 53A2-51 cable terminal (MD) (Fig. 41) and 53A3-50 cable terminal (MD) are mounted on the P-375155 mounting bracket the same as the 53A4-50P terminal.

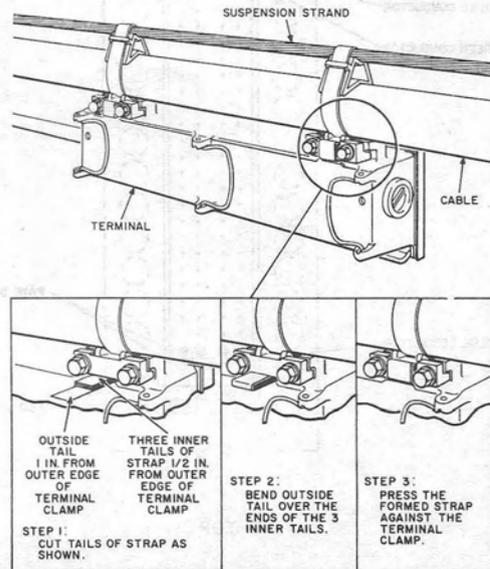


Fig. 40—Superseded N-Type Cable Terminals

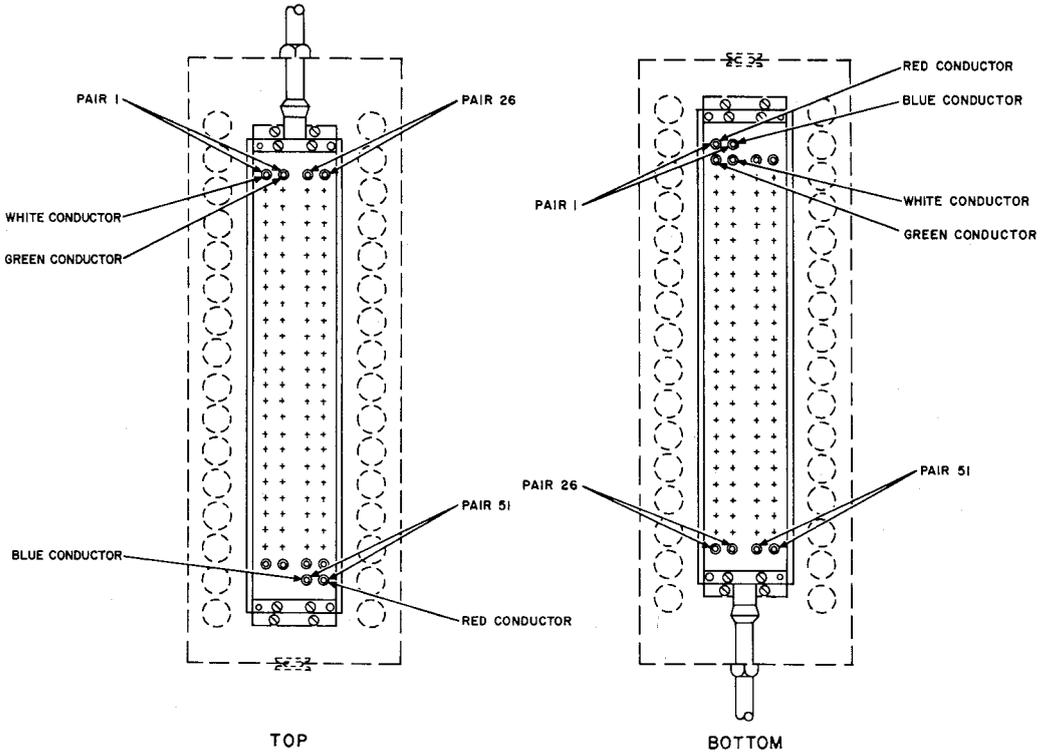


Fig. 41—Superseded 53A2-51 Cable Terminal