

**105-TYPE CABLE TERMINALS
DESCRIPTION AND INSTALLATION**

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1. GENERAL

- 1.01 This practice covers the description and installation of the 105-type cable terminals.
- 1.02 The reasons for reissuing this practice are listed below.
- (a) Include codes for cable terminals with eyelet in bond strap (bond clamp to be supplied locally)
 - (b) Include information on cable terminals with hard boots and hard boot kits

(c) Update text and illustrations.

Since this reissue is a general revision, no revision arrows have been used to denote significant changes.

1.03 The 105-type cable terminals are strand mounted cable terminals for outside use on nonpressurized PIC (polyethylene-insulated conductor) cables. They are available with or without cable protection (2A1B protector units [carbon block]). These terminals are not for use as splice closures.

1.04 105A-type hard boot kits are available for retrofit and pull-out use as listed in Table A.

TABLE A 105 HARD BOOT KITS			
KIT (NOTE 1)	COMCODE	WILL COVER MAX SHEATH OPENING (INCHES)	
		Pullout	105-12HB
	105A-12HB	104393459	36
	105A-12HBE*	104393426	36
	105A-12HBE*	104393434	36
Retrofit	105A-HB	104393871	24
	105A-HBE	104393889	24
Note: 1. Kit includes: • 2 Bond Strap Assemblies • 2 Hard Boots • 2 Foam Blocks • 4 Screws * HBE codes are furnished with eyelet bond strap. Bond clamps must be supplied locally.			

1.05 For additional information on the 105-type cable terminals, refer to the following AT&T Practices.

PRACTICE	TITLE
631-020-200	Brackets—51B and 38-Y-3913—Description and Use
631-240-211	1A1 and 1B1 Terminal Stubs—Description and Installation in 105-Type Cable Terminals
644-203-101	Aerial Plant Rehabilitation—Rebuilding Terminals and Closures
644-203-102	Rehabilitating Aerial Plant

2. DESCRIPTION

2.01 Figures 1, 2, 3, and 4 illustrate the 105-type cable terminals. Table B lists the cable terminals and their features. Table C shows the maximum capacities of each terminal when using alpeth sheath cable.

2.02 The 105A2-type cable terminals are available in 12- and 25-pair unprotected sizes and a 10-pair size with carbon block protection. These cable terminals are also available with soft boots or hard boots.

2.03 The 105B1-type cable terminals are smaller "mini" versions of the 105A2-type cable terminals. They are available in a protected or unprotected 10-pair size.

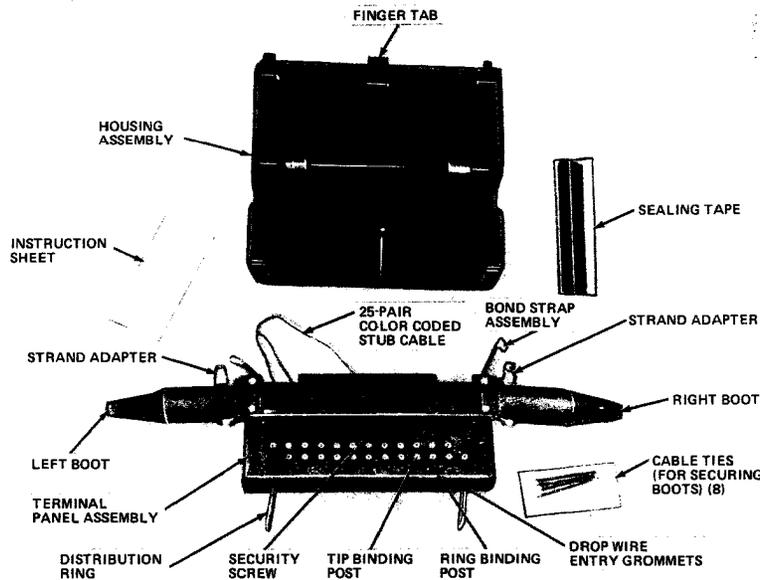


Fig. 1—105A2-25 Cable Terminal

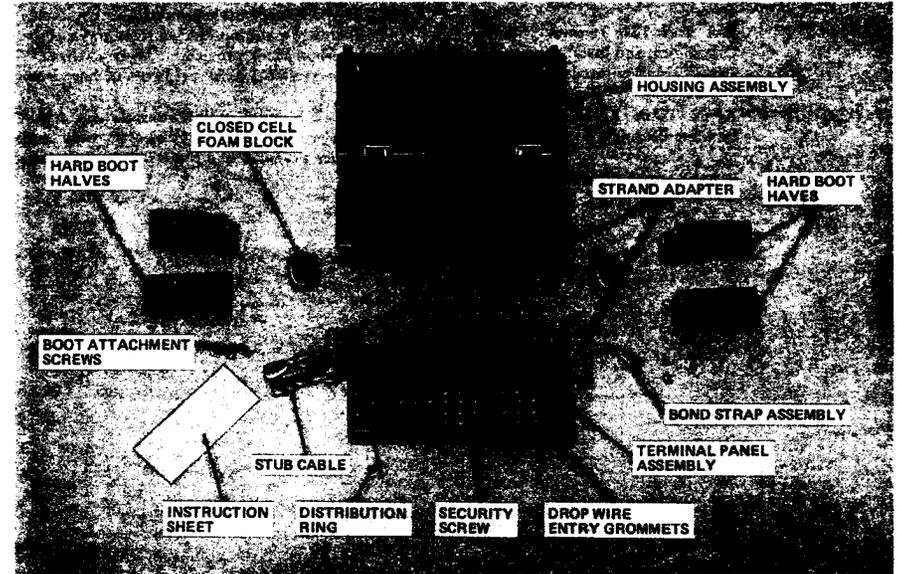


Fig. 2—105A2-25 HB Cable Terminal

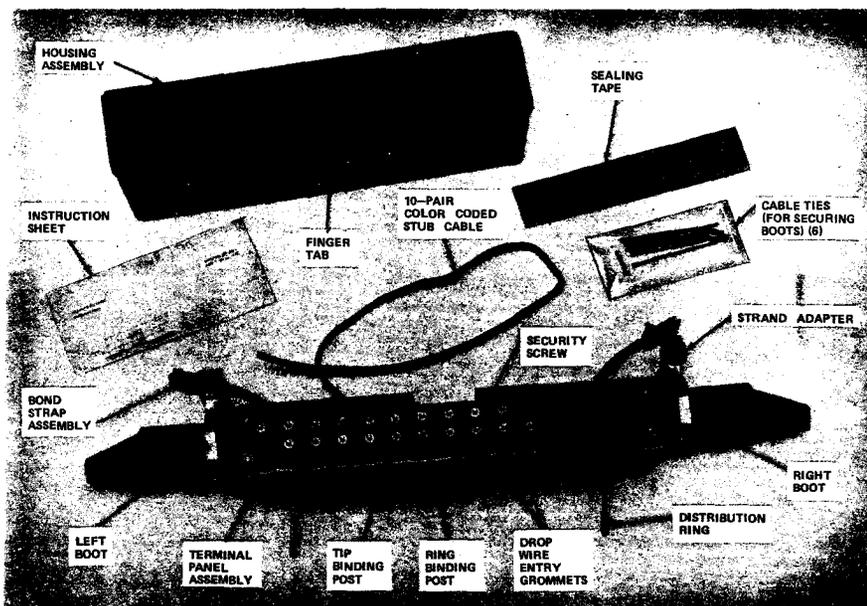


Fig. 3—105B1-10 Cable Terminal

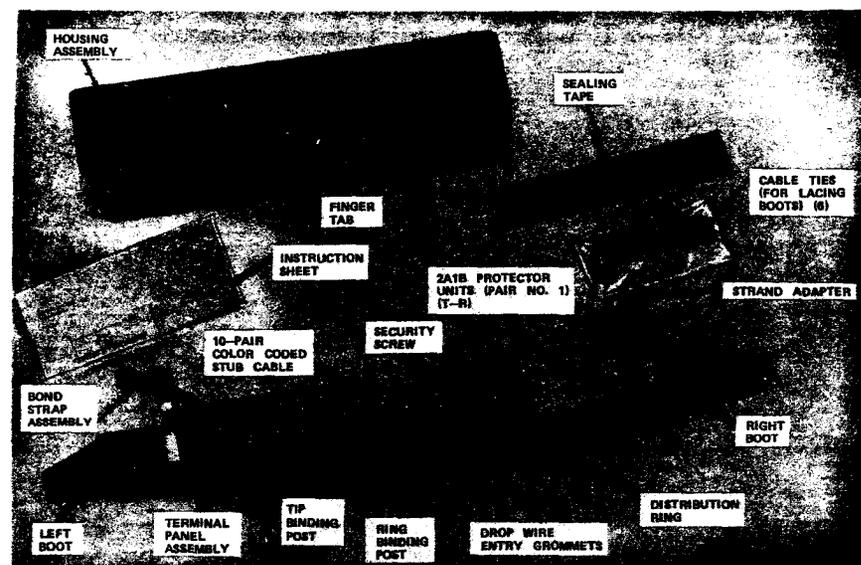


Fig. 4—105B1B-10 Cable Terminal

TABLE B 105-TYPE CABLE TERMINALS					
CABLE TERMINAL CODE	COMCODE	PROTECTION	MAX. CABLE DIA. (INCHES) (NOTE 1)	NO. OF PAIRS	COMMENTS
105A2B-10	102902905	Carbon Block (2A1B)	1.8	10	W/"D" Bond Clamps
105A2B-10E	104373683	Carbon Block (2A1B)	1.8	10	Bond Strap W/Eyelet
105A2B-10HB	104393756	Carbon Block (2A1B)	1.8	10	Hard Boots W/"D" Bond Clamps
105A2B-10HBE	104393764	Carbon Block (2A1B)	1.8	10	Hard Boots Bond Strap W/Eyelet
105A2-12	102773785	—	1.8	12	
105A2-12E	104373675	—	1.8	12	Bond Strap W/Eyelet
105A2-12HB	104393715	—	1.8	12	Hard Boots W/"D" Bond Clamps
105A2-12HBE	104393723	—	1.8	12	Hard Boots Bond Strap W/Eyelet
105A2-25	102773793	—	1.8	25	W/"D" Bond Clamps
105A2-25C	103940854	—	1.8	25	W/Binding Post Caps
105A2-25E	104259759	—	1.8	25	Bond Strap W/Eyelet
105A2-25HB	104393731	—	1.8	25	Hard Boots
105A2-25HBE	104393749	—	1.8	25	Hard Boots Bond Strap W/Eyelet
105B1-10	103203246	—	1.3	10	W/"D" Bond Clamps
105B1-10C	103940862	—	1.3	10	W/Binding Post Caps
105B1-10E	104373691	—	1.3	10	Bond Strap W/Eyelet
105B1B-10	103203253	Carbon Block (2A1B)	1.3	10	W/"D" Bond Clamps
105B1B-10C	103940870	Carbon Block (2A1B)	1.3	10	W/Binding Post Caps
105B1B-10E	104373709	Carbon Block (2A1B)	1.3	10	Bond Strap W/Eyelet

Note:
1. When these terminals are to be used with cables larger than the maximum OD, commercially available terminal stubs should be used in conjunction with the terminal as covered in Practice 631-240-211.

TABLE C 105-TYPE CABLE TERMINAL CAPACITIES (NOTE 1)			
GAUGE	MAXIMUM NO. OF CABLE PAIRS		
	105A TYPE		105B TYPE
	SOFT BOOTS	HARD BOOTS	ALL
19	150	100	50
22	300	200	100
24	600	400	200
26	900	600	300

Note:
1. Capacities using alpeh sheath cable.

2.04 The housing assembly of the 105-type cable terminal snaps in place over the terminal panel assembly. Two finger tabs in lower back of the housing assembly help to align and secure the two assemblies.

A security screw (Fig. 5) is provided for use where additional security is desired. A KS-19192, L1 security wrench (comcode 400288585) is required for tightening or loosening the security screw.

2.05 The 197A adapters (comcode 101429439) as shown in Fig. 6 are available for mounting 105-type cable terminals at locations where more than one cable is lashed to the stand.

2.06 When it is required to mount a 105-type cable terminal on a wall, a 51B bracket (comcode 100013705) is available (Practice 631-020-200).

2.07 The 105-E series codes are equipped with an eyelet in the bond straps to allow the use of locally approved bond clamps. *When a 105-type terminal is used on cable with a plastic coated inner metallic shield, the E series terminals with a locally approved bond clamp are recommended.*

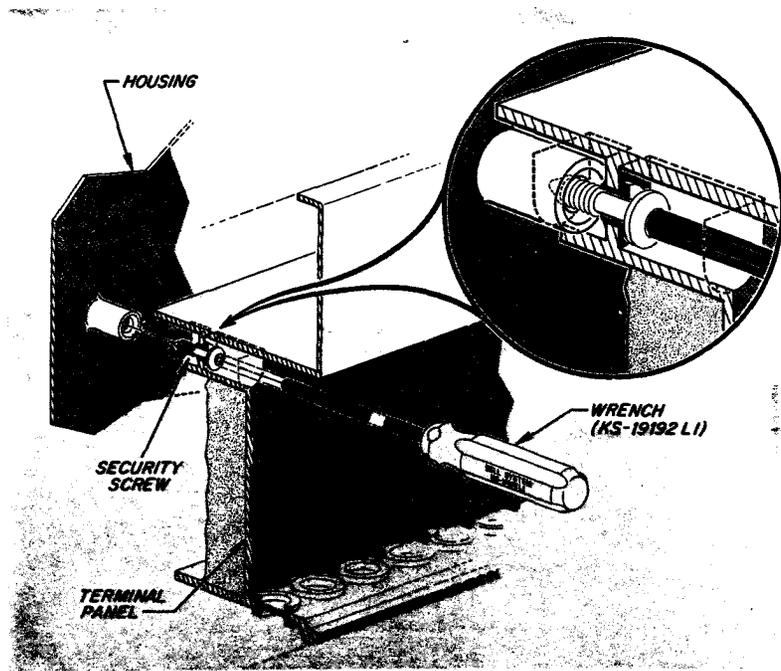
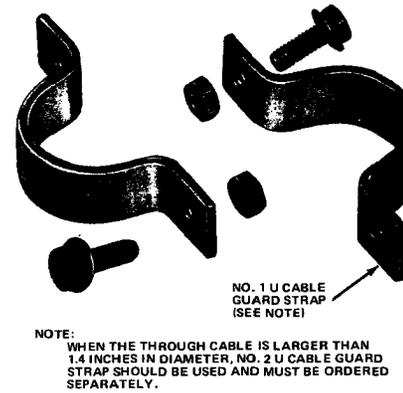


Fig. 5—Security Screw



NOTE:
WHEN THE THROUGH CABLE IS LARGER THAN
1.4 INCHES IN DIAMETER, NO. 2 U CABLE GUARD
STRAP SHOULD BE USED AND MUST BE ORDERED
SEPARATELY.

Fig. 6—197A Adapter

3. CABLE TERMINAL LOCATION

3.01 Locations for strand mounting the 105-type cable terminals are shown in Fig. 7, 8, 9, 10, 11, 12, 13, and 14.

3.02 Since the 105-type cable terminal is not an airtight terminal, it shall not be used at a junction splice between paper-insulated and PIC cables. It may be used at a minimum distance of 7 feet from this splice provided an air plug is made in the PIC cable between the terminal and the splice case as covered in Practice 637-241-011.

3.03 At cable dead ends, up to 300 pairs (1.8-inch O.D. cable) may be contained in a 105A-type cable terminal and up to 200 pairs (1.3-inch O.D. cable) in a 105B1-type cable terminal. Clear ends with 25-pair 710-type connector modules as described in Practice 632-055-205. If end of boot is open on 105A-type cable terminal, plug with formed roll of B or D sealing tape.

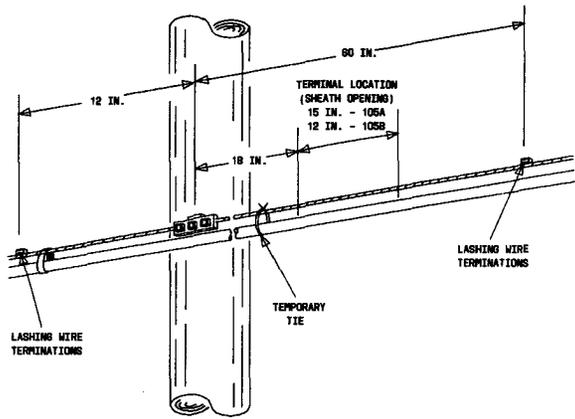


Fig. 7—Preferred Location at Right Side of Pole (Viewed From Cable Side)

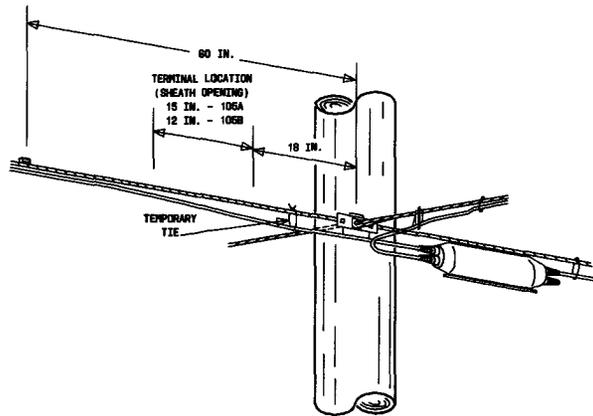


Fig. 8—Terminal Location at Left Side of Pole

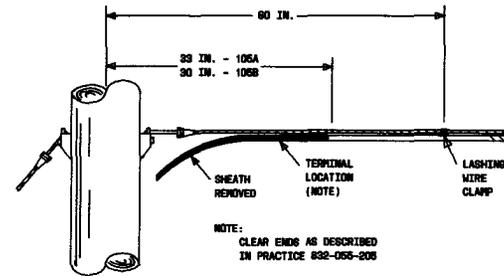


Fig. 9—Terminal Location at Dead-End Pole

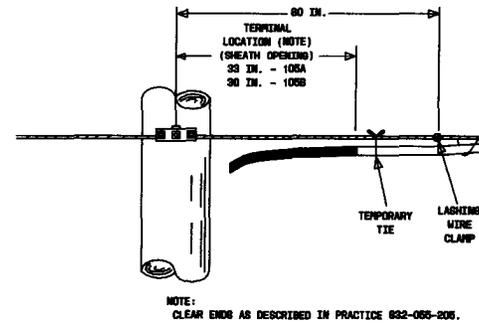


Fig. 10—Terminal Location at Cable Dead End

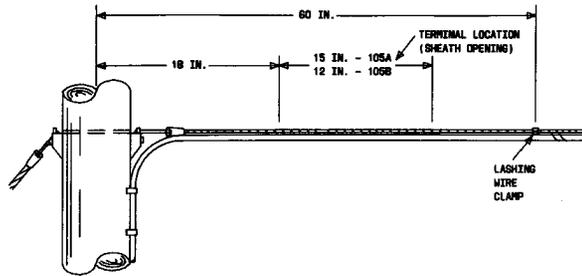


Fig. 11—Terminal Location at Junction of Aerial and Underground Cable

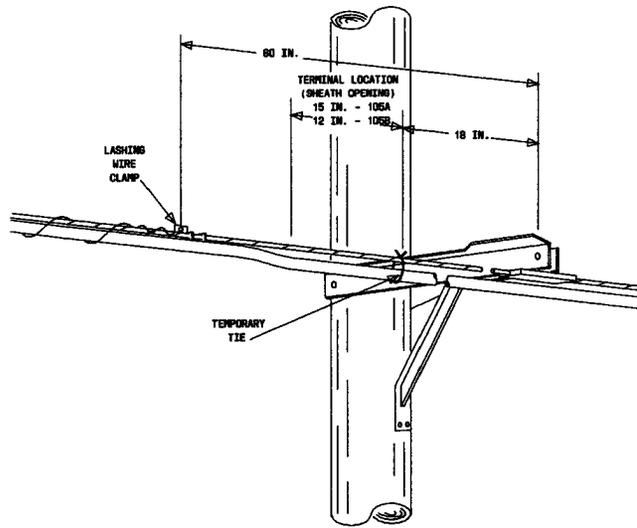


Fig. 12—Terminal Location at Extension Arm

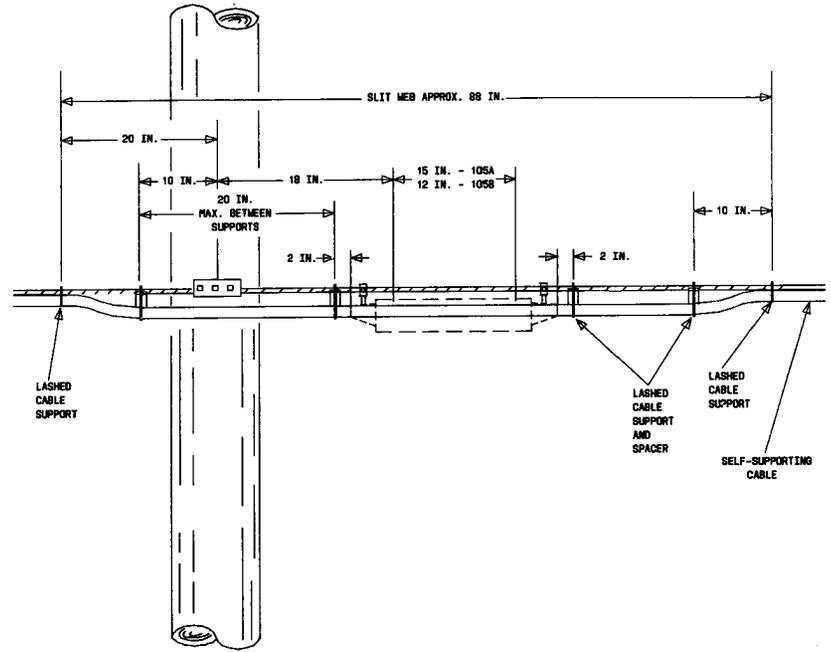


Fig. 13—Terminal Location on Self-Supporting Cable at Intermediate Pole

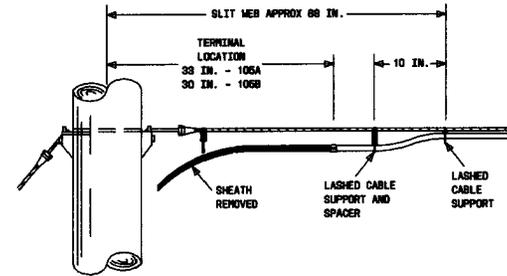


Fig. 14—Terminal Location on Self-Supporting Cable at Dead-End Pole

4. INSTALLING CABLE TERMINALS

4.01 Figure 15 shows the sheath preparation and dimensions for the 105-type cable terminals.

4.02 Open the hinged cover on the cable terminal by pulling on the finger tab(s). Separate the terminal panel assembly from the housing assembly by prying apart at the bottom edge (Fig. 16).

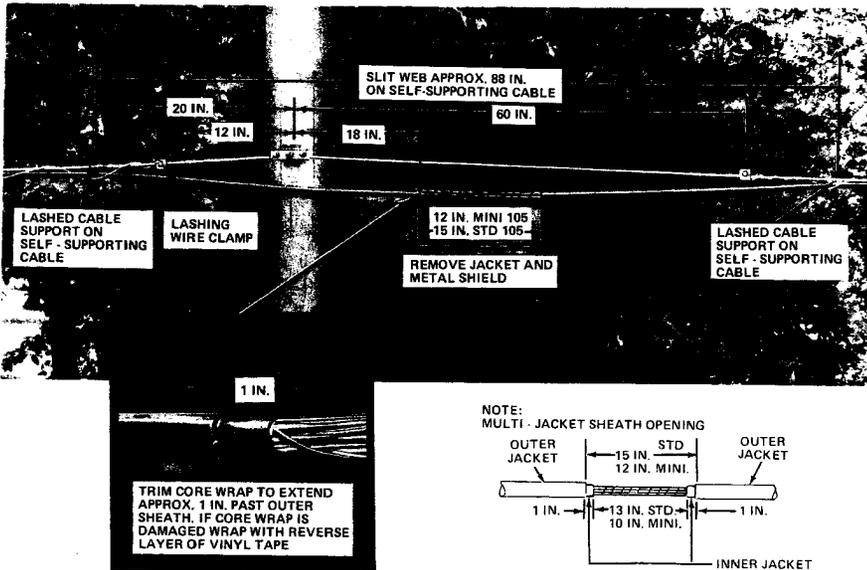


Fig. 15—Preparing Cable

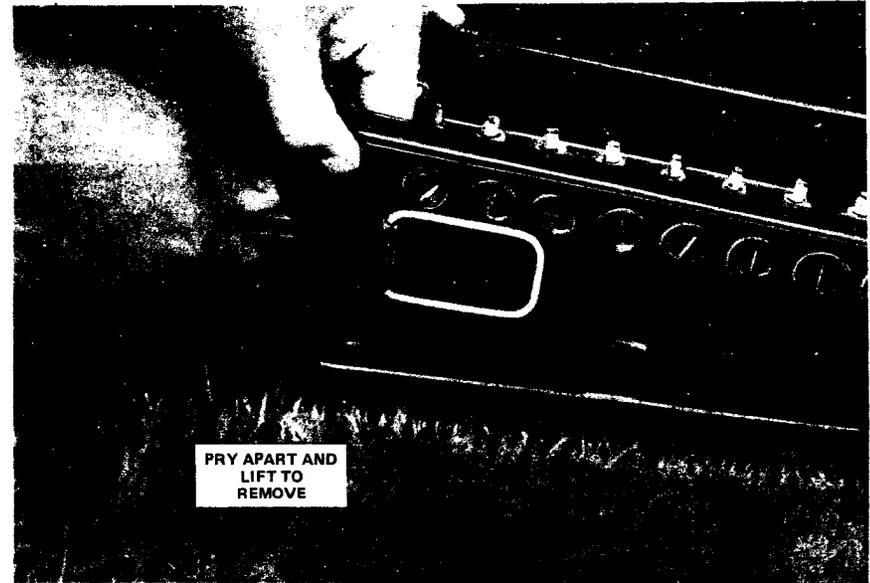


Fig. 16—Installing Terminal Panel Assembly (105A-Type Cable Terminal With Soft Boots)

A. 105A-Type Cable Terminals With Soft Boots

4.05 Place drip collars just outside the bond clamps (Fig. 17) as follows:

4.03 Center the terminal panel assembly over the sheath opening and hang the strand adapters on the strand with the bolts only finger tight (Fig. 17). If desired, the cable may be placed in front of the terminal panel assembly to provide additional working space.

(1) Use a carding brush to circumferentially scuff the sheath in the areas where the drip collars are to be formed.

(2) Wrap two layers of sealing tape over the scuffed surface next to the bond clamps.

(3) Wrap two layers of vinyl tape over the sealing tape to cover its tacky surface.

4.04 Install the bond clamps by sliding the inner shoe of the bond clamp between the core wrap and the metal shield until the threaded stud hits the end of the sheath (Fig. 17). Tighten the clamp using a 216-type tool only. If a 105-E series is being installed, bond the cable using a bond clamp in accordance with local procedures.

4.06 Dress the stub cable leads to the left end of the terminal and splice the stub cable to the assigned cable pairs using an approved connector (Fig. 17).

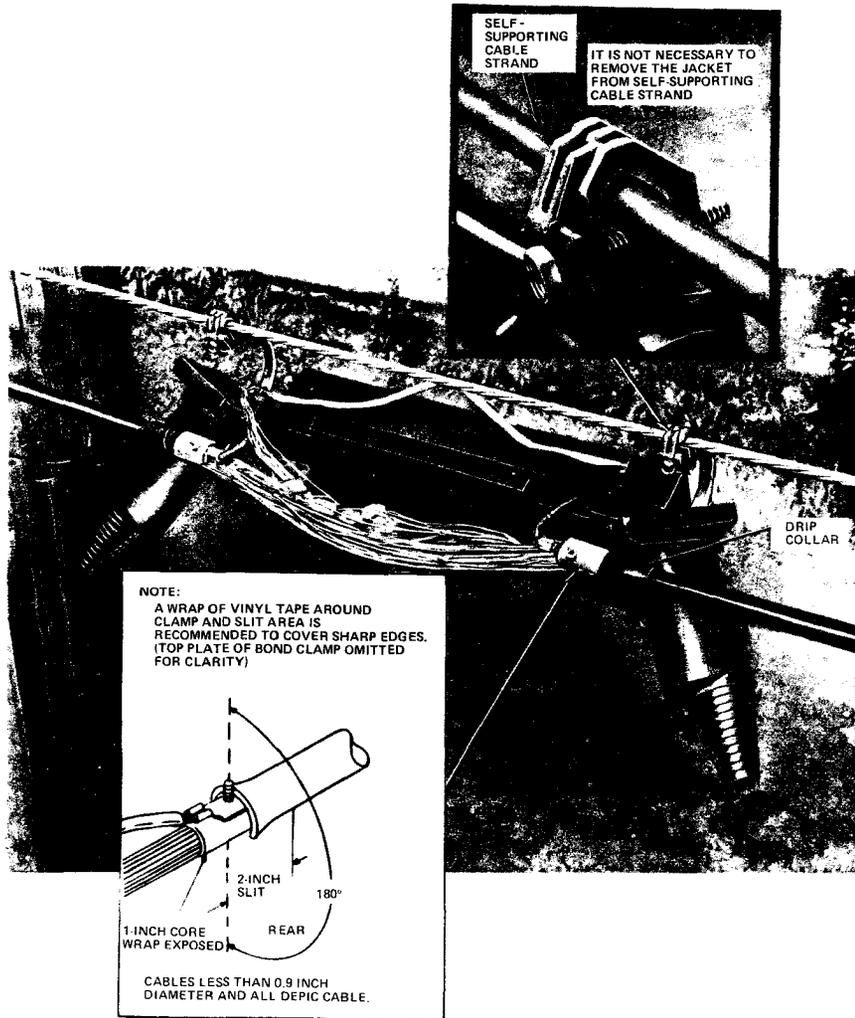


Fig. 17—Installing Terminal Panel Assembly (105A-Type Cable Terminal With Soft Boots)

4.07 Measure the cable diameter and cut the end of the boots to fit the cable. Leave the corresponding diameter mark on the boot (Fig. 18). Place the cable and splice in the chamber behind the terminal panel partition if it was positioned in front (paragraph 4.02).

Position the boots over the cable making sure the slits are aligned and closed. Place, tighten, and trim the cable ties (three on flat part and one on tapered part of each boot) (Fig. 18).

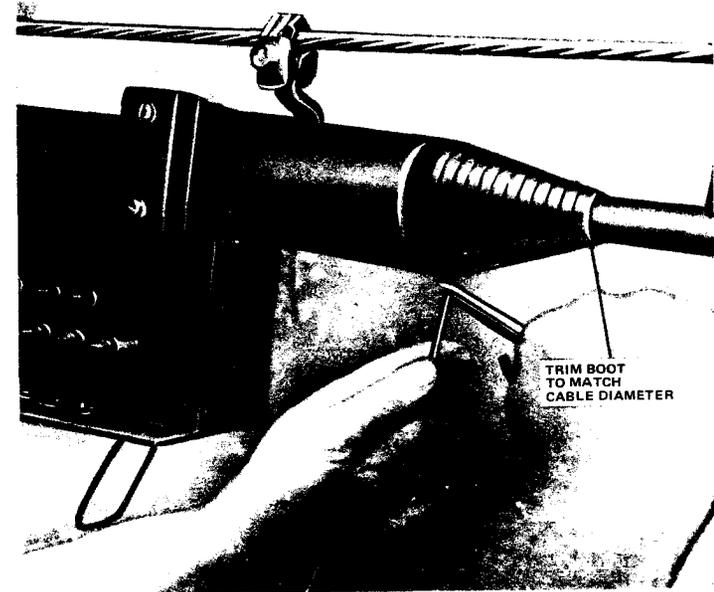


Fig. 18—Placing Cable Boots

4.08 Place the housing assembly on the terminal panel assembly by sliding the door of the housing assembly between the cable and strand (Fig. 19).

4.09 If additional security is desired, tighten the security screw using a KS-19192, L1 wrench as shown in Fig. 5.

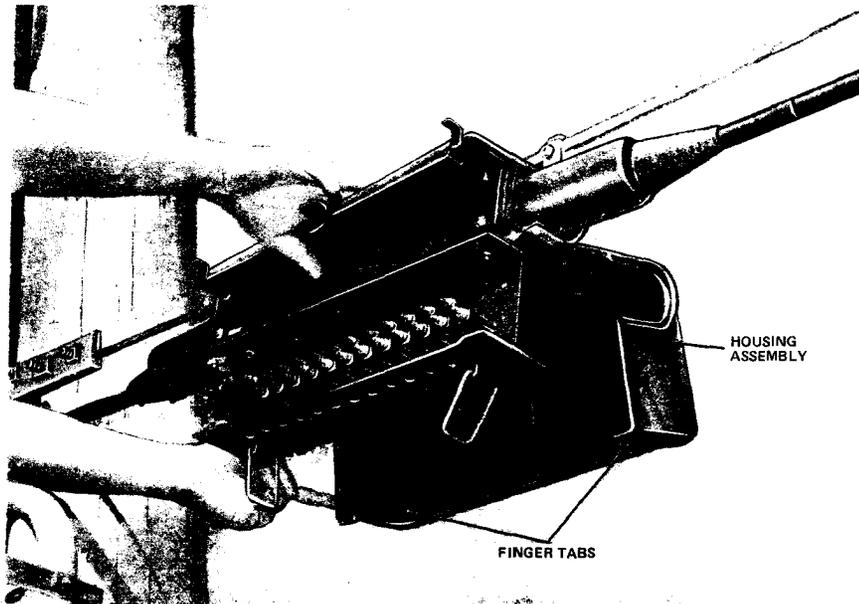


Fig. 19—Installing Housing Assembly

4.10 Tighten the strand adapters by torquing the bolts to 75 inch-pounds. Do not exceed 100 inch-pounds.

4.11 Close the cover and make sure the snap latches are secured. Place and secure the cable spacers as shown in Fig. 20.

B. 105A-Type Cable Terminal With Hard Boots

4.12 Center the terminal panel assembly over the sheath opening and hang the strand adapters

on the strand with the bolts only finger tight (Fig. 21). If desired, the cable may be placed in front of the terminal panel assembly to provide additional working space.

4.13 Install the bond clamps by sliding the inner shoe of the bond clamp between the core wrap and metal shield until the threaded stud hits the end of the sheath (Fig. 21). Tighten the clamp using a 216-type tool only. If a 105-E series is being installed, bond the cable using a bond clamp in accordance with local procedures.

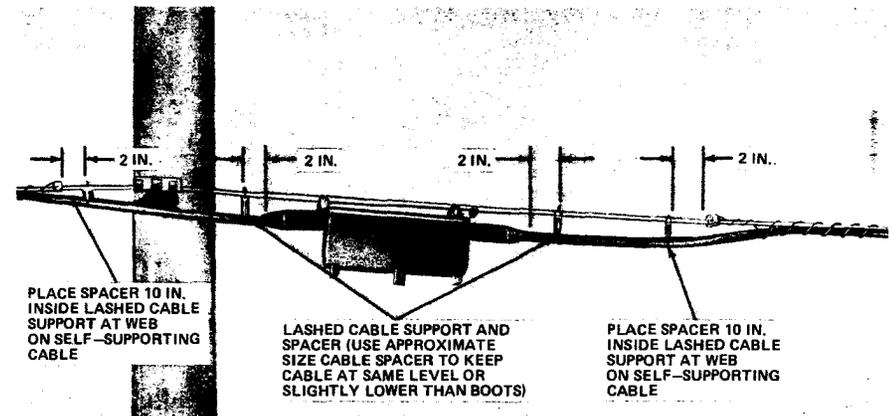


Fig. 20—Installing Cable Spacers

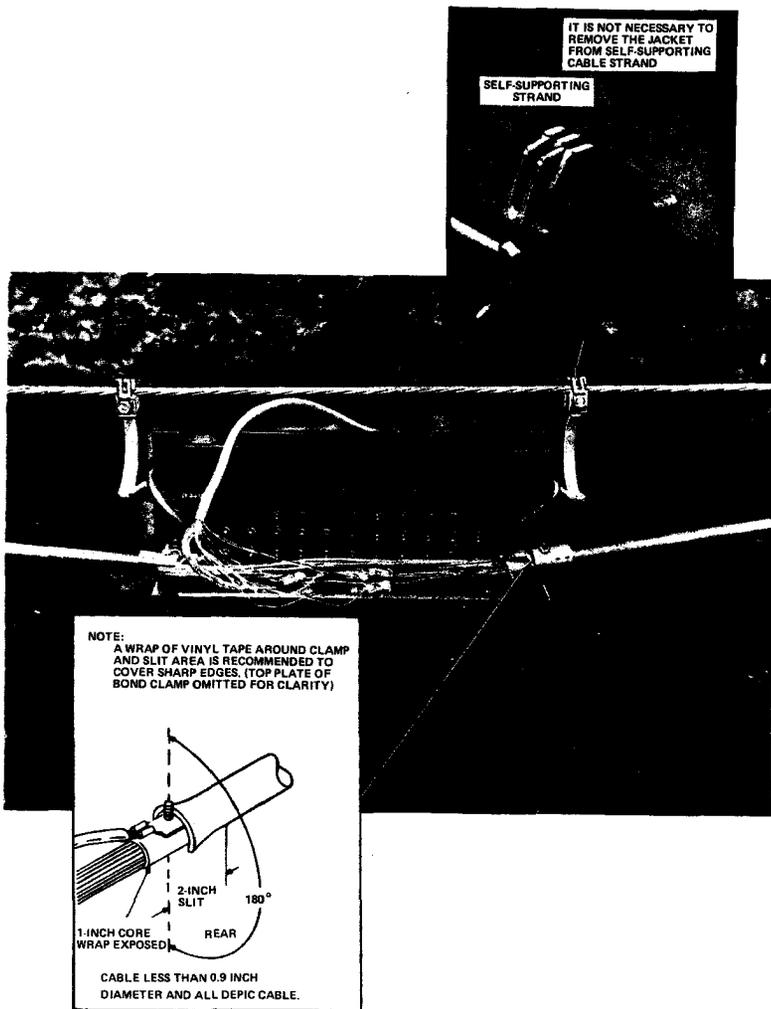


Fig. 21—Installing Terminal Panel Assembly (105A-Type Cable Terminal With Soft Boots)

4.14 Measure the diameter of the cable sheath and remove the necessary segments of the foam blocks to accommodate the cable diameter (Fig. 22). Measure and trim the end of each boot half to accommodate the cable and place the foam blocks in the boot halves (Fig. 22). *Make sure the foam block is positioned with the slit opposite the hinge section.*

4.15 Snap or slide two boot halves together and place the boot on the cable (Fig. 23). Press the flange together to engage the snaps and secure the boot in the closed position.

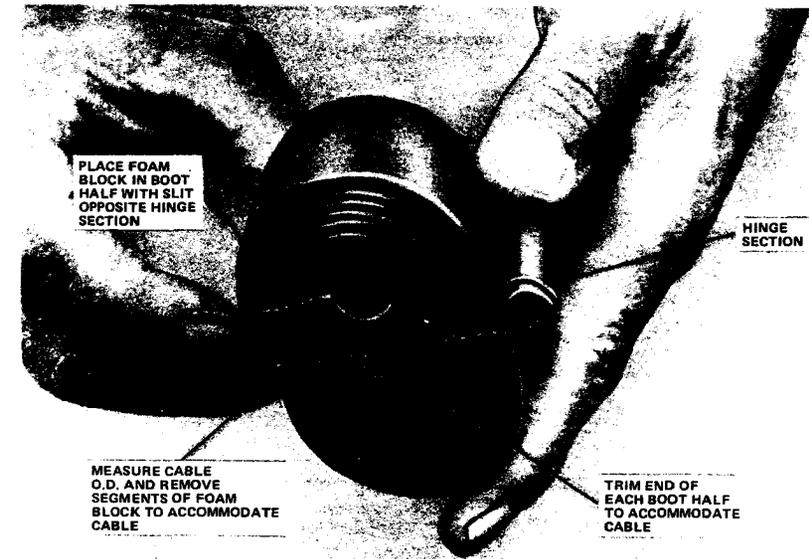


Fig. 22—Preparing Foam Block

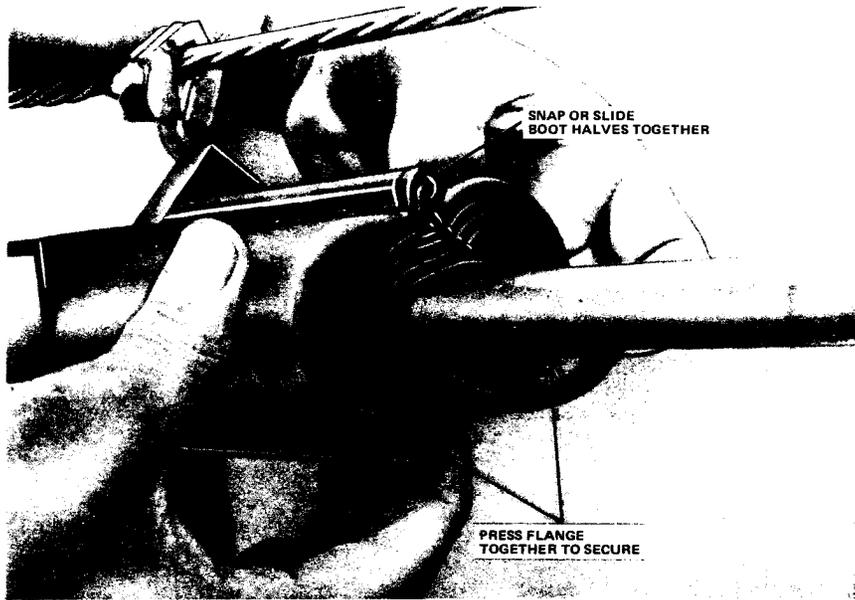


Fig. 23—Installing Cable Boots

4.16 Slide the boot up to the terminal panel and attach the boot to the terminal panel with the two screws provided (Fig. 24). Install the boot on the other end of the terminal panel in a similar manner.

4.17 Place the housing assembly on the terminal panel assembly by sliding the door of the housing assembly between the cable and strand

(Fig. 25). Align the housing with the terminal panel making sure the bottom of the terminal panel is positioned between the finger tabs and the outer shell of the housing assembly.

4.18 If additional security is desired, tighten the security screw using a KS-19192, L1 wrench as shown in Fig. 5.

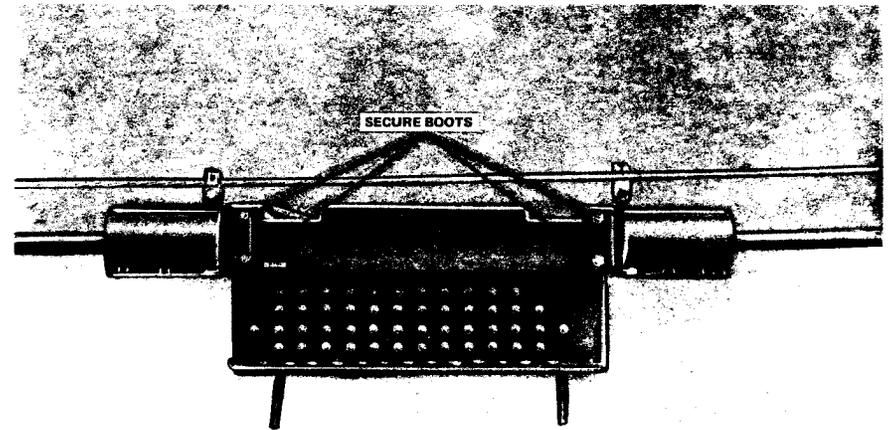


Fig. 24—Securing Boots

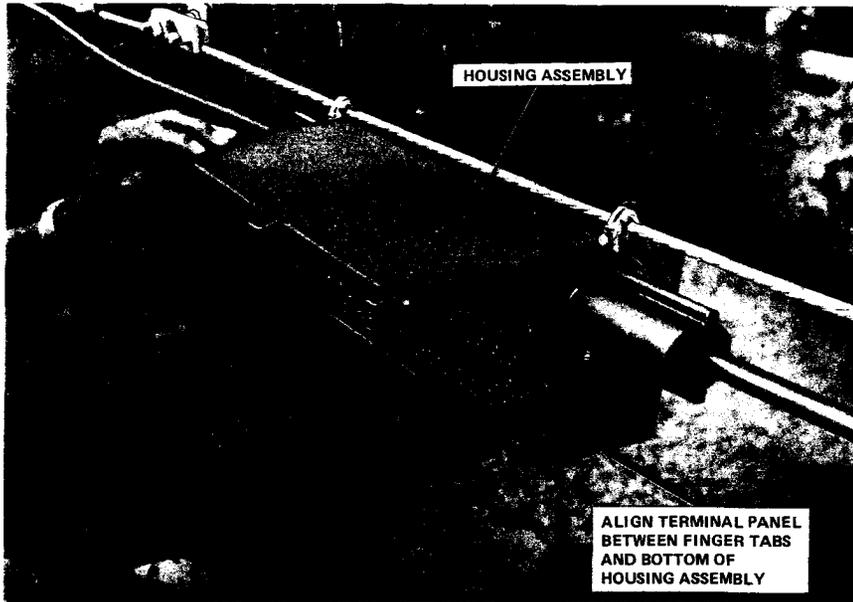


Fig. 25—Installing Housing Assembly

4.19 Tighten the strand adapters by torquing the bolts to 75 inch-pounds. Do not exceed 100 inch-pounds.

4.20 Close the cover and make sure the snap latches are secured. Place and secure the cable spacers as shown in Fig. 26.

C. 105B-Type Cable Terminal

4.21 Center the terminal panel assembly at the sheath opening and install the bond straps to support the assembly as shown in Fig. 27. Install the bond clamps by sliding the inner shoe of the bond clamp between the core wrap and metal shield until the threaded stud hits the end of the sheath. Tighten the clamp using a 216-type tool only. Cut off the excess stud and wrap the clamp with a layer of vinyl tape.

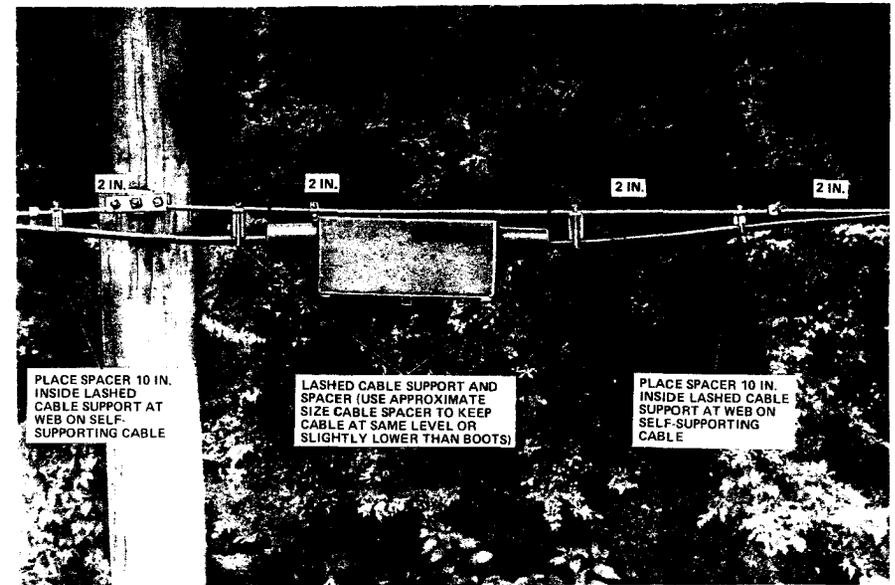


Fig. 26—Installing Cable Spacers

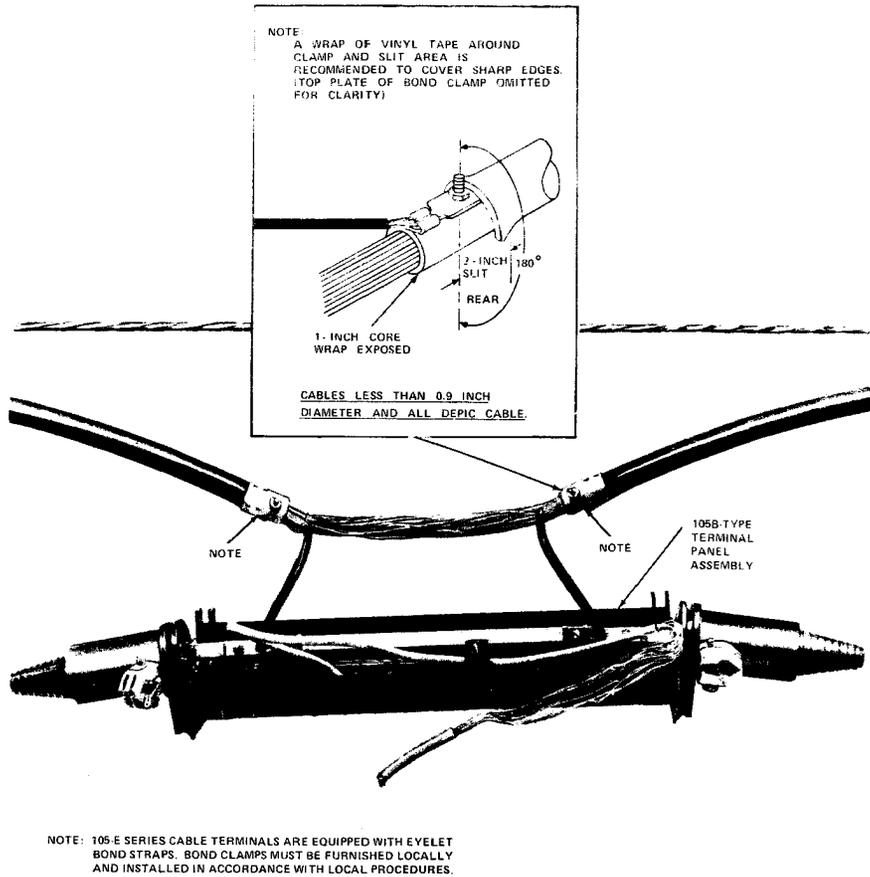


Fig. 27—Installing Bond Clamps (105B-Type Cable Terminal)

4.22 Place the drip collars just outside the bond clamps (Fig. 28) as follows:

- (1) Use a carding brush to circumferentially scuff the sheath in the areas where the drip collars are to be formed.
- (2) Wrap one layer of sealing tape over the scuffed surface next to the bond clamps.
- (3) Wrap two layers of vinyl tape over the sealing tape to cover its tacky surface.

4.23 Dress the stub cable leads to the left end of the terminal and splice the stub cable to the

assigned cable pairs using an approved connector (Fig. 28).

4.24 Hang the terminal panel assembly on the strand and center over the sheath opening (Fig. 29). Torque the strand adapter bolts to 75 inch-pounds. *Do not exceed 100 inch-pounds.* It is not necessary to remove the jacket from self-supporting cable strand.

4.25 Measure the cable diameter and cut the end of the boots to fit the cable. Leave the corresponding diameter mark on the boot (Fig. 29). Position the boots over the cable making sure the slits are aligned and closed. Place, tighten, and trim the cable ties (two on flat part and one on tapered part of each boot).

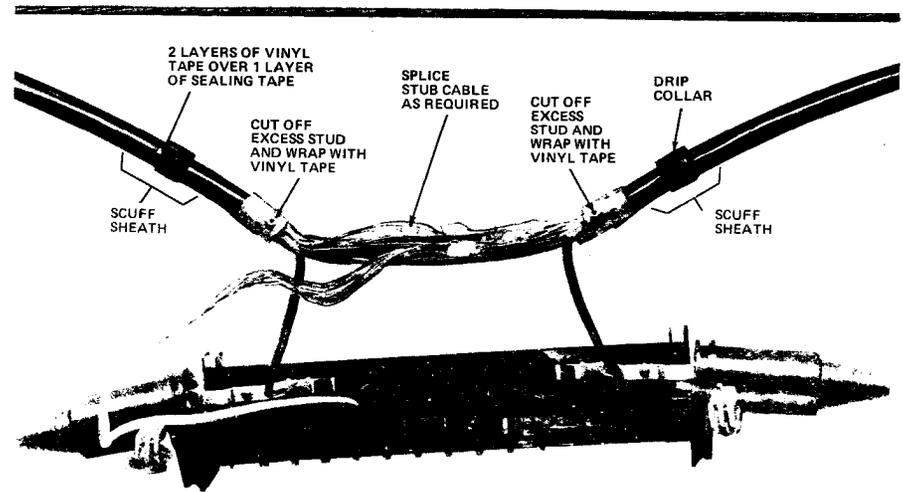


Fig. 28—Installing Drip Collars (105B-Type Cable Terminal)

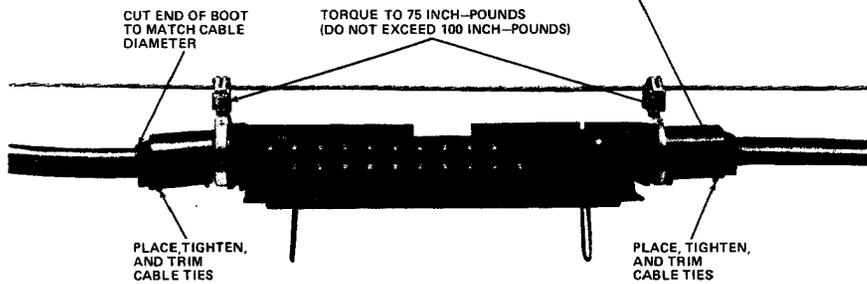
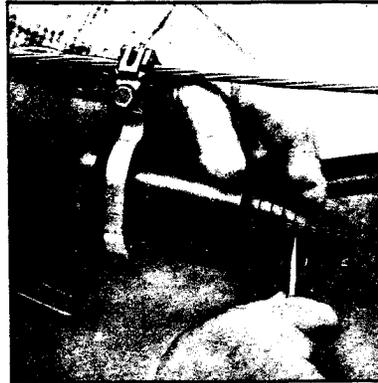


Fig. 29—Placing Terminal Panel Assembly on Strand

4.26 Place the housing assembly on the terminal panel assembly by sliding the door of the housing assembly between the cable and strand. Align the housing with the terminal panel making sure the bottom of the terminal panel is positioned between the finger tabs and the outer shell of the housing assembly (Fig. 30).

4.27 If additional security is desired, tighten the security screw using a KS-19192, L1 wrench as shown in Fig. 5.

4.28 Close the cover and make sure the snap latch is secured. Place and secure the cable spacers as shown in Fig. 31.

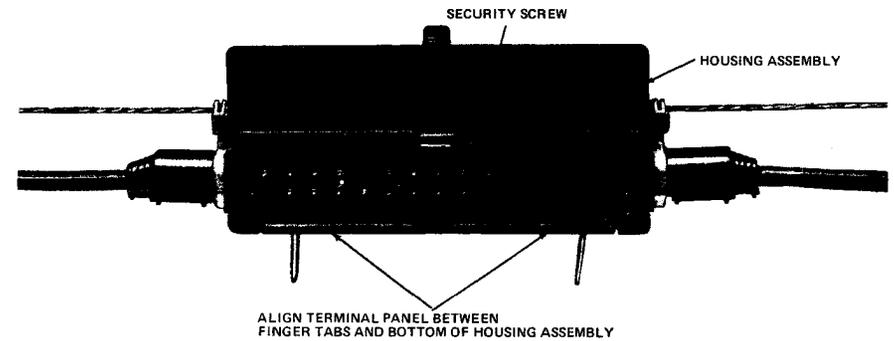


Fig. 30—Installing Housing Assembly

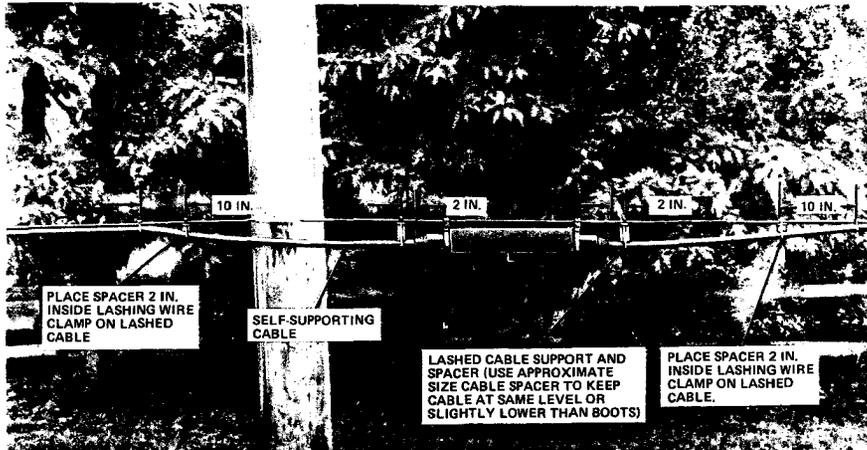


Fig. 31—Installing Cable Spacers

D. Installing Drop Wire

4.29 Drop wires are installed in all 105-type cable terminals by routing the wire through the drive rings or bridle rings along the pole to the level of the distributing rings on the bottom of the terminal. The drop wire is then routed through the distributing rings and formed as a drip loop before entering a grommet below the binding post (Fig. 32).

4.30 Punch a hole in the grommet just below the designated binding post, prepare the end of the drop wire, insert through the grommet and terminate as shown in Fig. 32. Figure 33 shows the completed installation of the 105-type cable terminal.

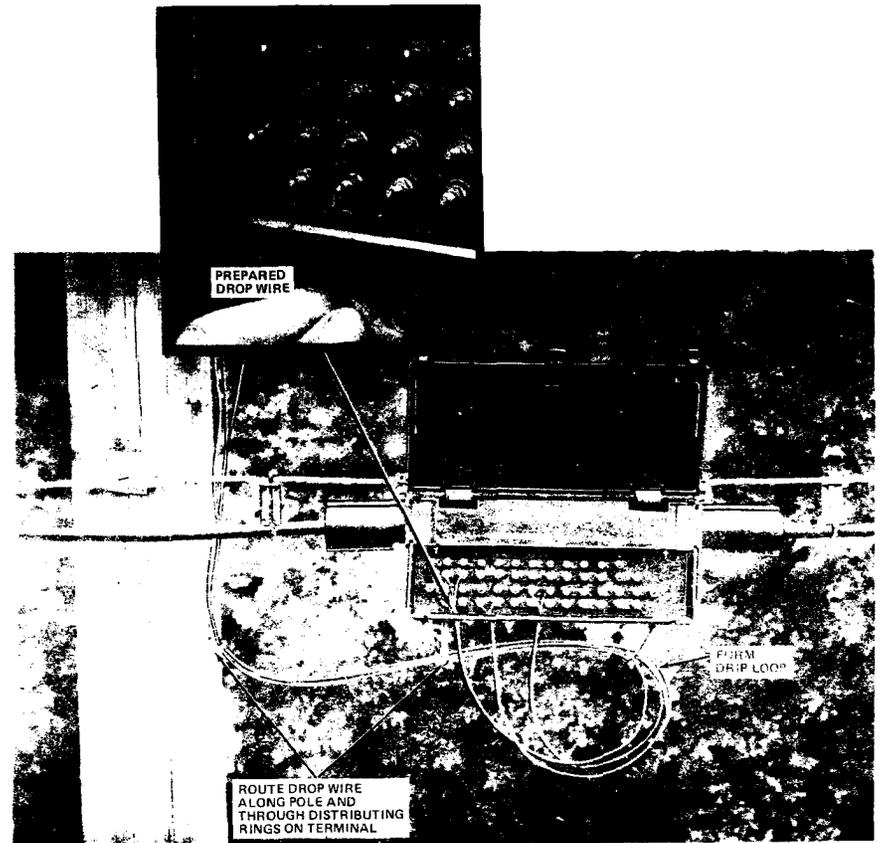


Fig. 32—Installing Drop Wire



Fig. 33—Completed 105-Type Cable Terminal

5. INSTALLING HARD BOOT RETROFIT AND PULL-OUT KITS

5.01 To replace the boots on a 105A-type cable terminal with hard boots or a pull-out kit (see Table C), remove the housing assembly, existing cable terminal boots, and sealing tape collars and install the retrofit or pull-out kits as discussed in paragraphs 5.02 through 5.05.

5.02 Measure the diameter of the cable sheath and remove the necessary segments of the foam

block to accommodate the cable diameter (Fig. 34). Measure and trim the end of each boot half to accommodate the cable and place the foam blocks in the boot halves as shown in Fig. 34. *Make sure the foam block is positioned with the slit opposite the hinge section.*

5.03 Snap or slide the two boot halves together and place the boots on the cable (Fig. 35). Press the flange together to engage the snaps and secure the boots in the closed position.

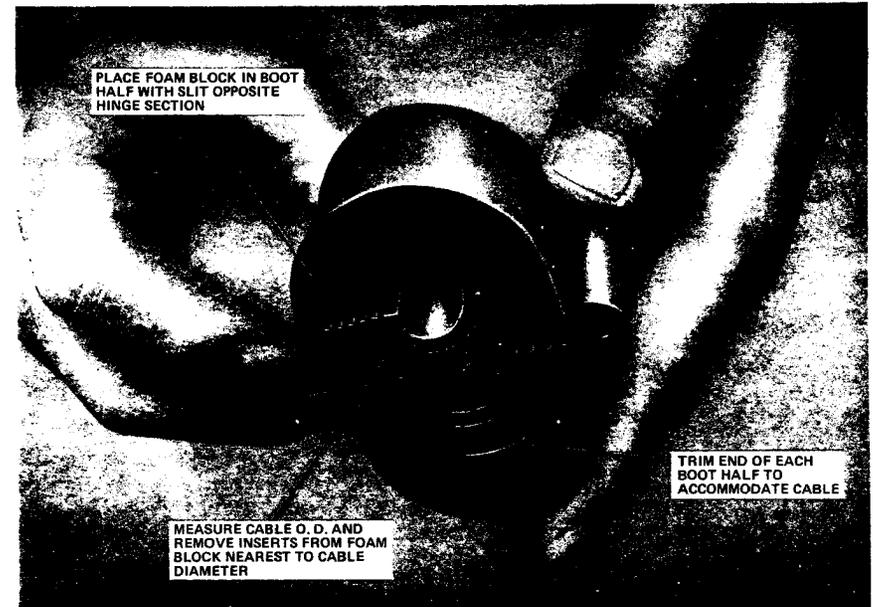


Fig. 34—Preparing Hard Boot

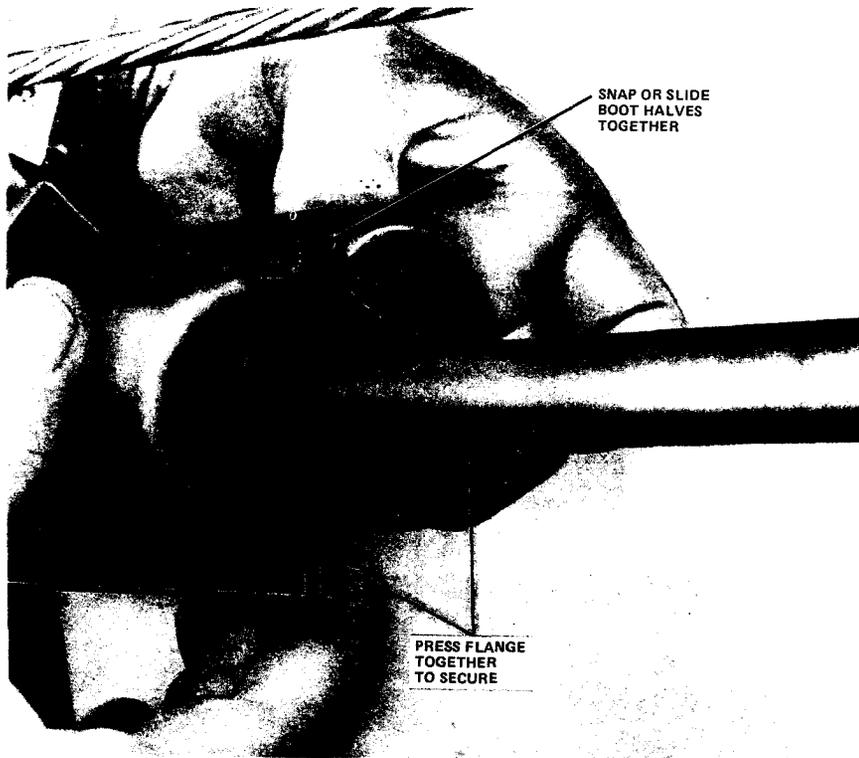


Fig. 35—Placing Hard Boot on Cable

5.04 Slide the boots up to the terminal panel and secure with the two screws provided for each boot (Fig. 36).

Note: On terminal panels which have the boot mounting on the bottom of the splice chamber, omit the screws and slide the boot flange behind the splice partition as shown in Fig. 36.

5.05 Place cable spacers two inches outside each end of the terminal boots and reinstall the housing assembly.

6. ISSUING ORGANIZATION

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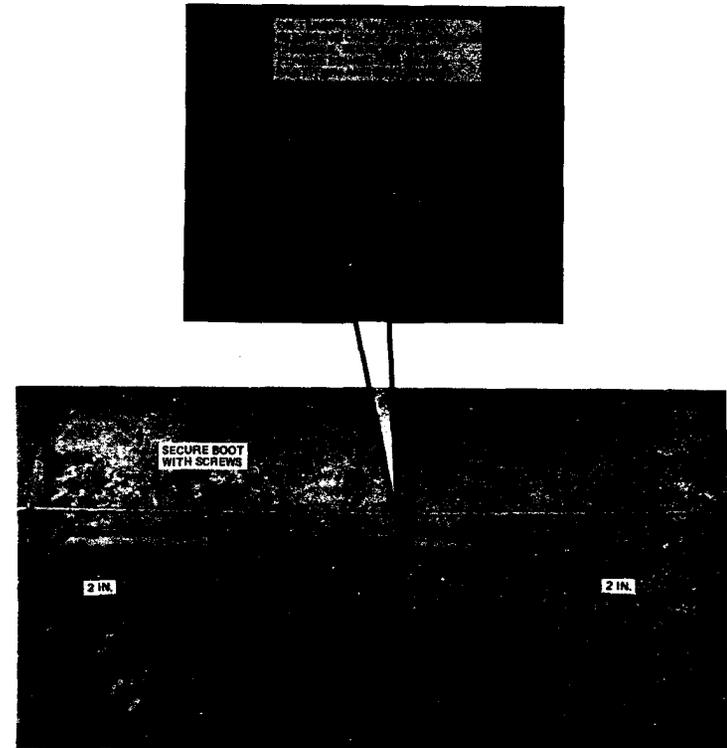


Fig. 36—Installed Pull-Out Kit