

## PC-TYPE CABLE CLOSURES DESCRIPTION AND INSTALLATION

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### 1. GENERAL

1.01 This section covers the description and installation of the PC4/48, PC4/48M, PC6/48, and PC12/55 cable closures. The repair and replacement of cable closures used in buried plant

with the PC-type cable closures are described in Section 644-200-032.

1.02 This section is reissued to update the PC6/48 and PC12/55 cable closures and to include the PC4/48 and PC4/48M cable closures and PC6 Extension Kit AT-8943. Revision arrows are used to emphasize the more significant changes.

1.03 The closures referenced above are used to:

- Provide fixed count terminating facilities for buried service wires or aerial drops
- Enclose aboveground splices in buried PIC cable
- Load cable pairs
- Provide additional height to PC6/48 by using PC6 Extension Kit.

1.04 The maximum number of cables that can be accommodated is relative to the total number of pairs as shown in Table A and the total diameter that will fit in bottom of closure.

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"BELL" and/or the BELL symbol in this document is here-  
by deleted and "expunged".

◆ TABLE A ◆

**CLOSURE CAPACITY (MAXIMUM PAIRS) USING 710 CONNECTOR  
WITH BACKBOARD IN PLACE (NOTE)**

CLOSURE	STRAIGHT SPLICE			CABLE LOOP (NOT CUT)		
	IN	OUT	TOTAL PAIRS	IN	OUT	TOTAL PAIRS
PC4/48	100 24/26 ga	100 24/26 ga	200 plus stub cable pairs from fixed count block(s)	100 24/26 ga	100 24/26 ga	200 plus stub cable pairs from fixed count blocks(s)
PC6/48	400 24/26 ga 300 22/19	400 24/26 ga 300 22/19	800 plus stub cable pairs from fixed count block(s)	400 24/26 ga	400 24/26 ga	800 plus stub cable pairs from fixed count block(s)
PC12/55	900 26 ga (only)	900 26 ga (only)	1800 plus <u>in</u> and <u>out</u> pairs for up to 900 pair load coil or stub cable pairs from fixed count block(s)	900	900	1800 plus <u>in</u> and <u>out</u> pairs for up to 900 pair load coil or stub

*Note:* Maximum pairs listed are 24/26 gauge; larger gauges (22 and 19) will be relative to cable diameter that will fit in closure.

1.05 The procedures for preparation and termination of service wire in these closures are outlined in Section 629-720-200.

1.06 The cable closures shall be located where they are protected from damage by motor vehicles and other machinery. They should also be located at least one foot from metallic fences or similar lightning attractors.

## 2. DESCRIPTION

2.01 ◆The PC4/48, PC4/48M, PC6/48, and PC12/55 cable closures are assemblies of steel parts consisting of components shown in Fig. 1, 2, 3, and 4, respectively.

*Note:* The PC4/48M cable closure is used for rehabilitating existing ready access plant to fixed count as shown in Fig. 26.◆

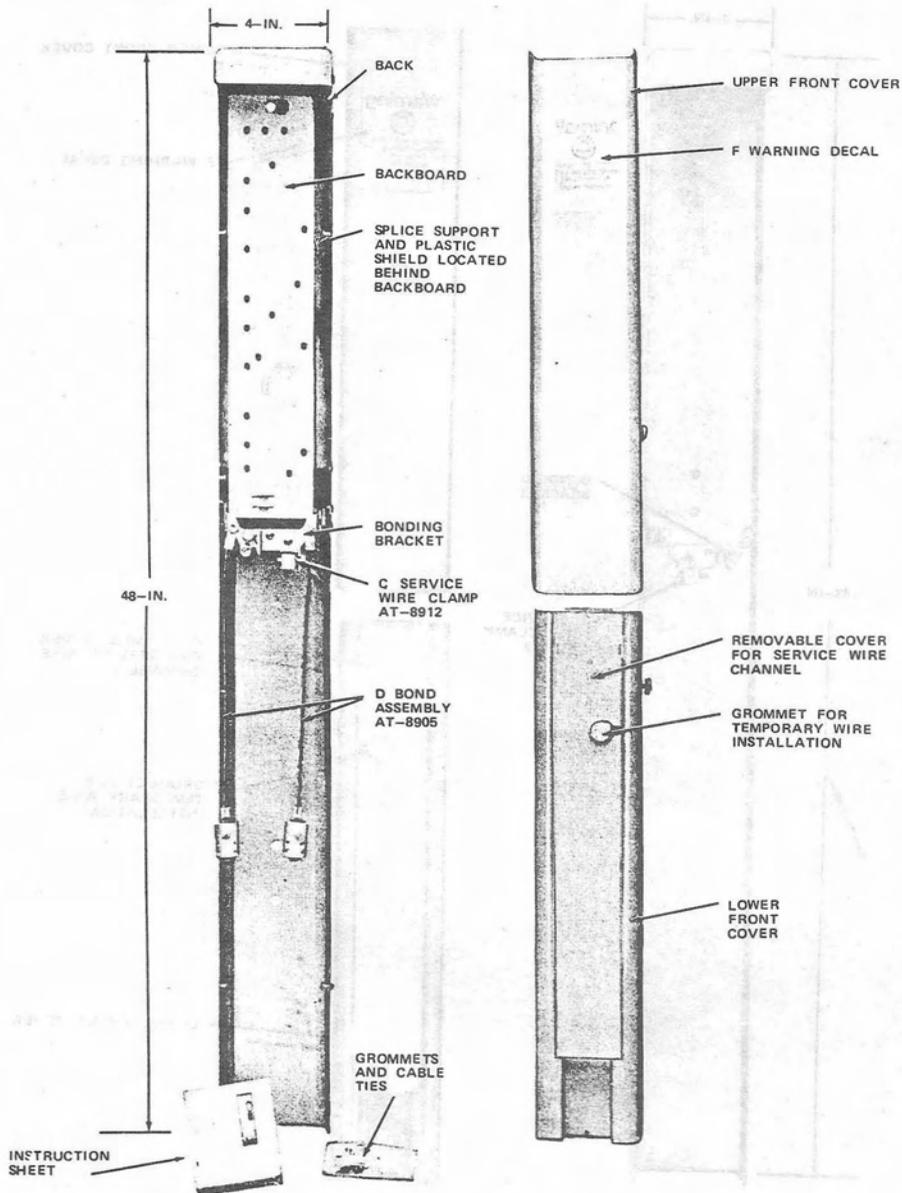


Fig. 1—PC4/48 Cable Closure

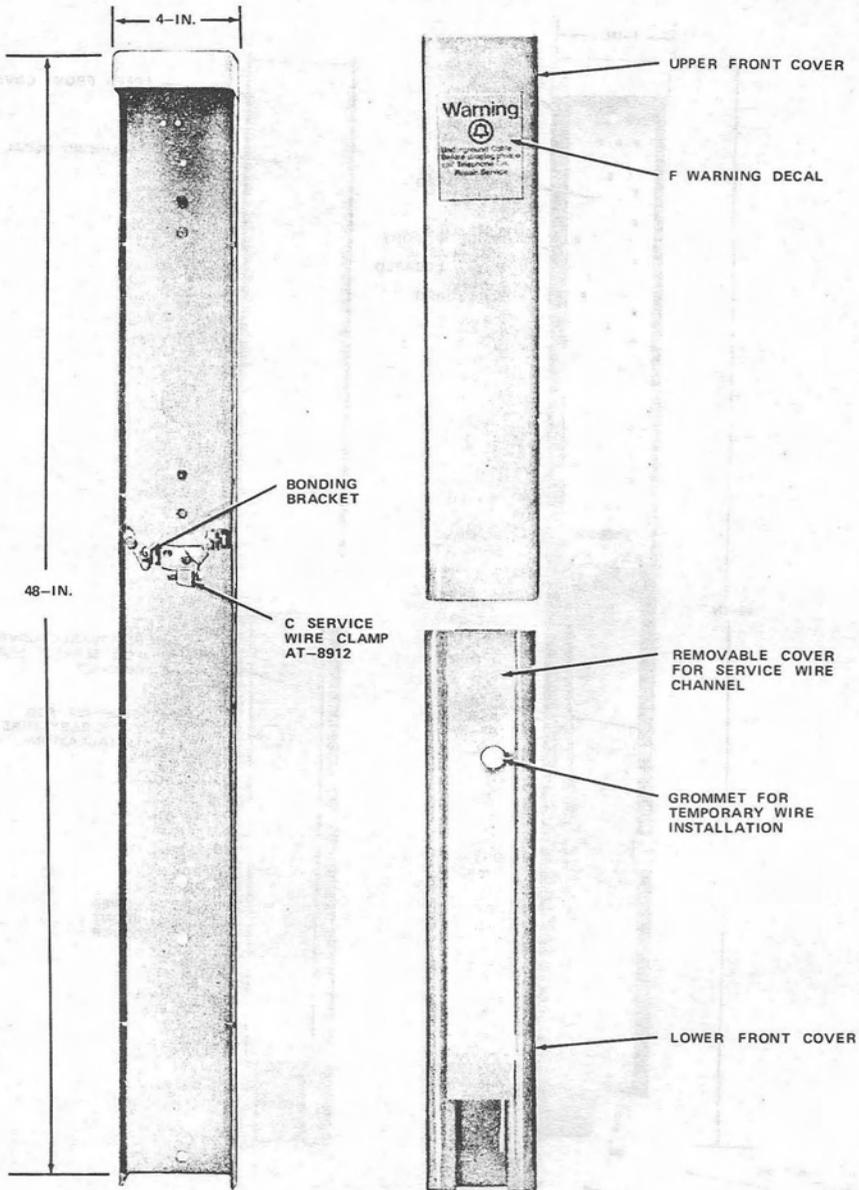


Fig. 2—PC4/48M Cable Closure

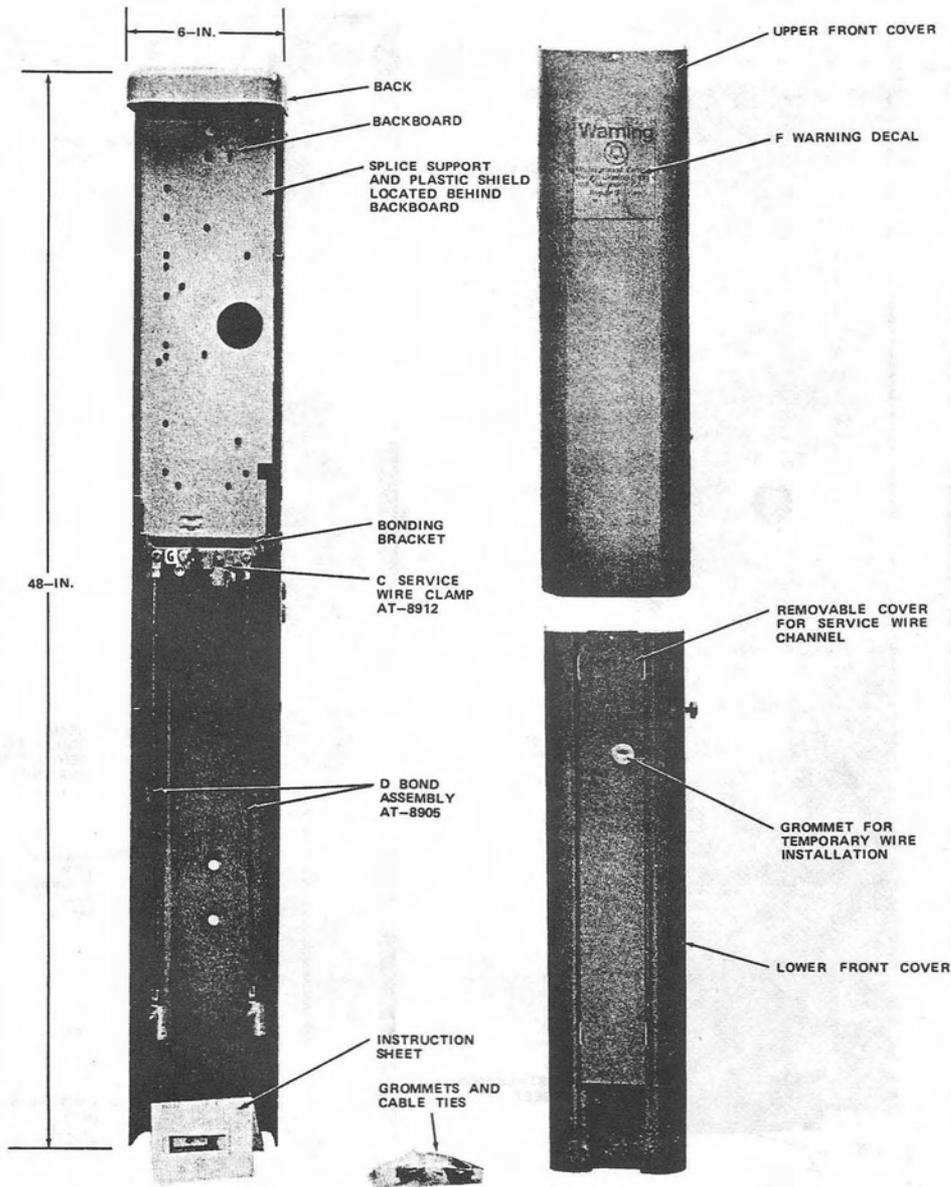


Fig. 3—PC6/48 Cable Closure

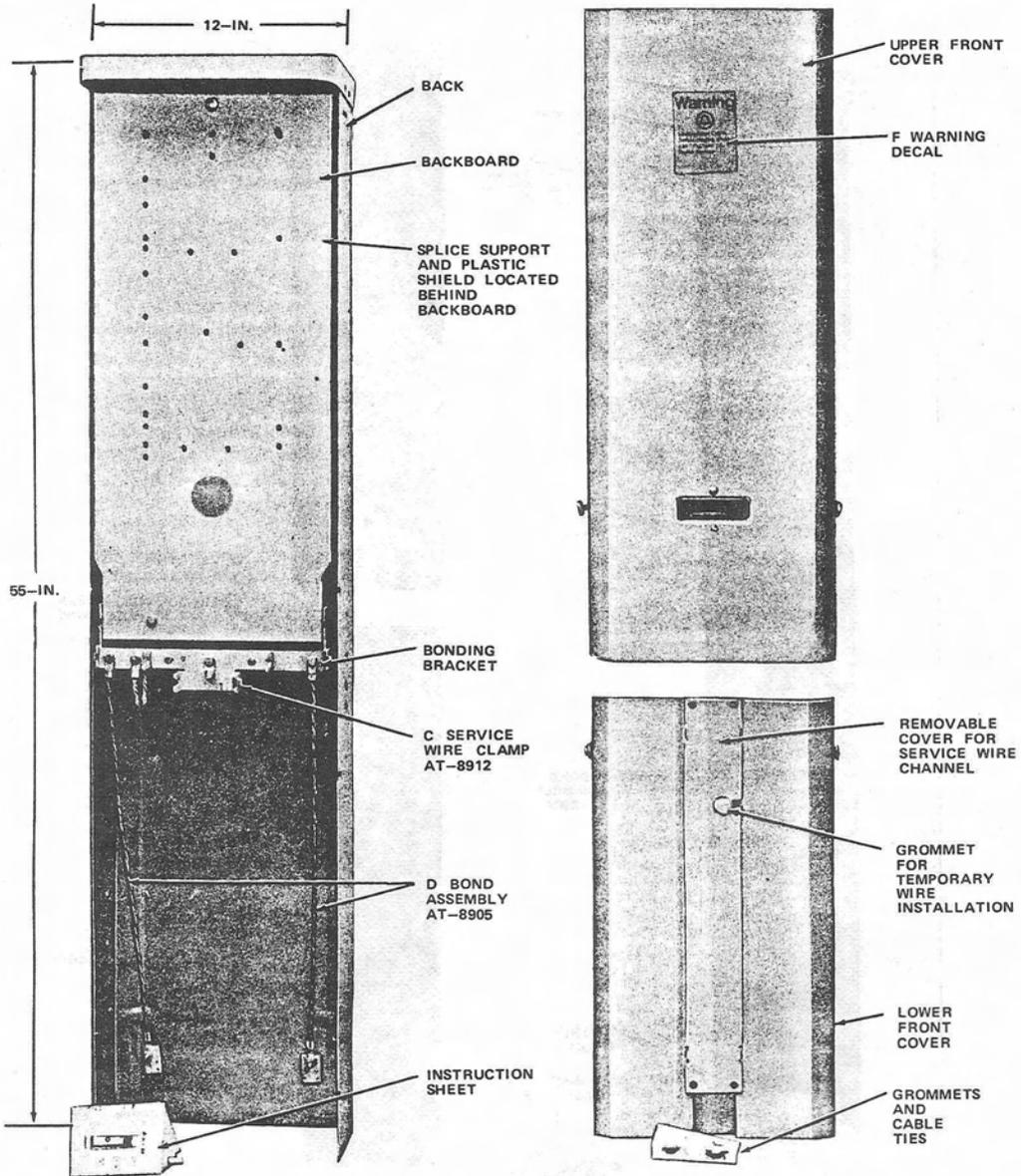


Fig. 4—PC12/55 Cable Closure

**2.02** The exposed parts of these closures are galvanized and have a gray-green finish. ♦The internal ground bracket, except in the PC12/55, is stainless steel; the PC12/55 ground bracket is hot dip galvanized. The galvanized steel backboard has an insulating finish on the front side. ♦

**2.03** The bottom front covers have a service wire channel with removable cover plate for installing service wires. The cover plate has a grommet to provide access for the installation and removal of temporary service wires.

**2.04** A 1-3/4 inch knockout on the rear surface provides station wire entrances when the closures are wall mounted. A 2-inch knockout is provided in the cap for aerial cable entrance. The upper sections have two 3/4-inch knockouts on each side for aerial drop wire entrances. ***It is recommended that where this feature is to be used the 3/4-inch knockouts should***

***be removed by hitting them from the inside of the closure and grommets placed at the time the closure is installed.***

**2.05** The backboards serve as divider panels between the cable loop or splice area and terminating area. The backboards are hinged at the bottom and secured at the top with cap screws. Holes for mounting terminal blocks are provided.

**2.06** Optional parts, not furnished with the closures which must be ordered separately as required, are as follows:

- (a) ***Anchor posts 32, 42, or 72 inches***  
(Fig. 5): The 32- and 42-inch anchor posts are used to provide stability on free standing installations. The 72-inch post is used when loose soil conditions prevail or for back-to-back mounting with another telephone closure or with a power company closure on joint power telephone buried distribution installation. All of the necessary mounting hardware is provided with the post.

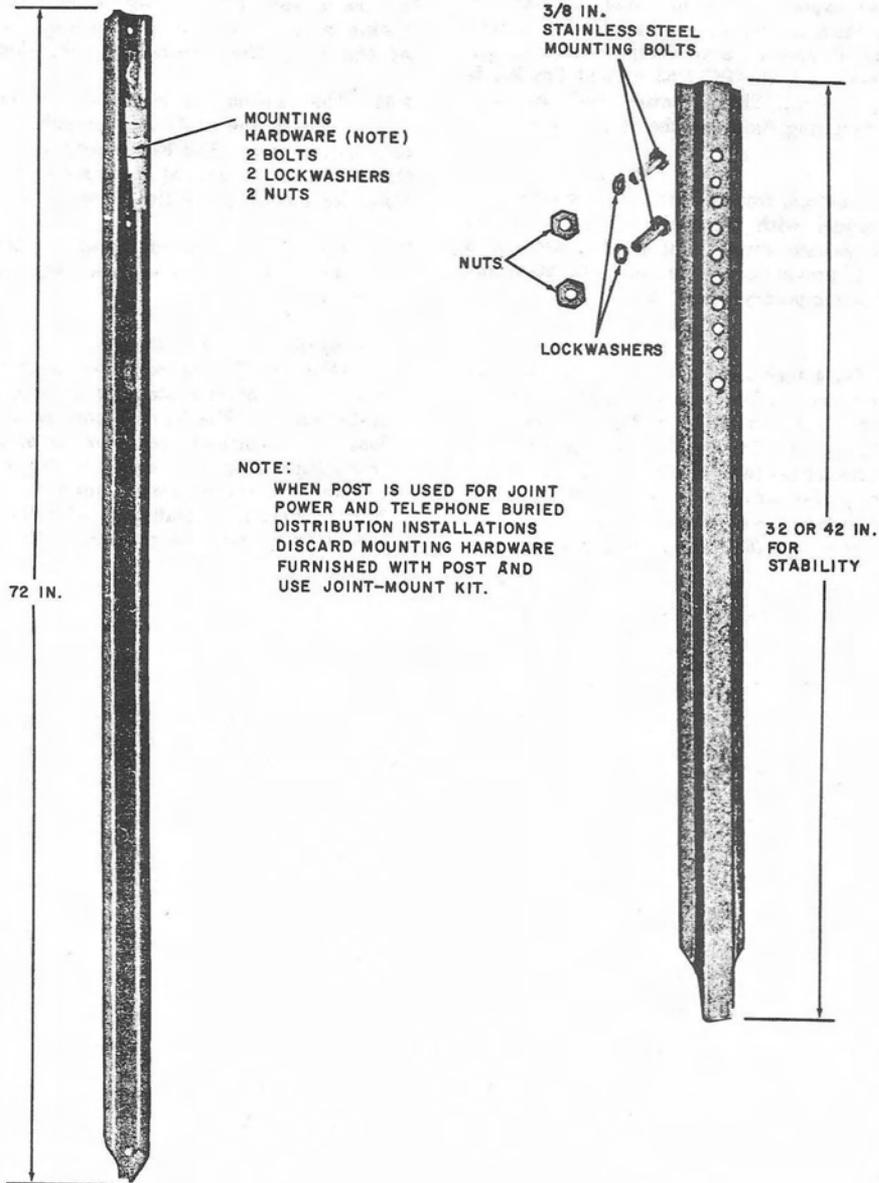


Fig. 5—Anchor Post

(b) **Joint Mount Kit** (Fig. 6): A joint mount kit is required for back-to-back mounting. The kit consists of two studs, eight nuts, eight lock washers, and an instruction sheet.

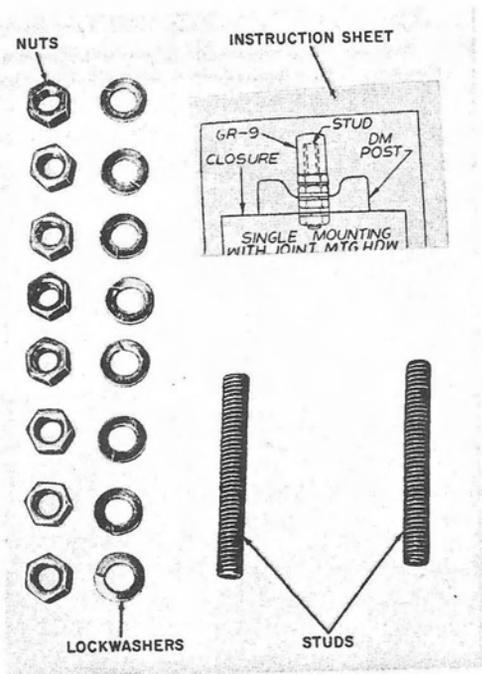


Fig. 6—Joint Mount Kit

(c) **9A1A-5 Terminal Block** (Fig. 7): A UL listed 5-pair station protector for use when closure is wall mounted on building. It consists of a cast resin block with five pairs of binding posts and ten 2A1A protector units internally connected to a 4-foot insulated 24-gauge stub cable.

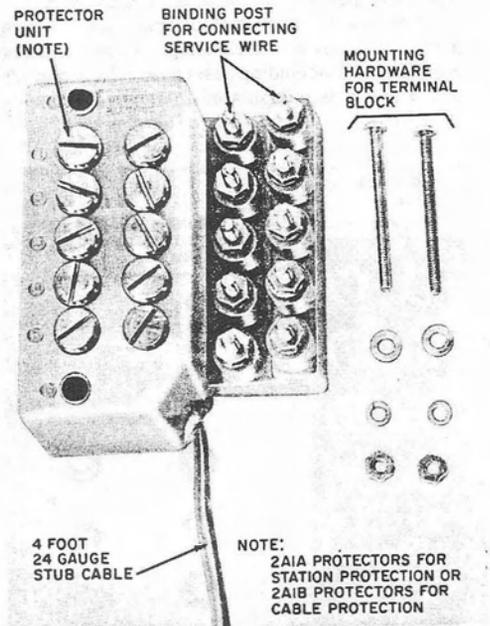


Fig. 7—5-Pair 9-Type Terminal Block Protected

(d) **9A1B-5 Terminal Block** (Fig. 7): A 5-pair cable protector that is identical to the 9A1A-5 terminal block except that it employs ten 2A1B protector units.

(e) *The 9A1-5 Terminal Block* (Fig. 8) provides for unprotected termination of five pairs. It consists of a cast resin block equipped with five pairs of binding posts internally connected to a 4-foot plastic insulated 24-gauge stub cable.

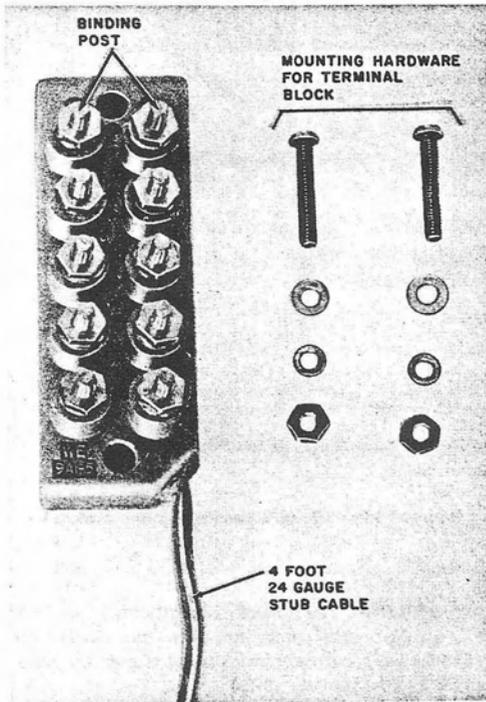


Fig. 8—5-Pair 9-Type Terminal Block Unprotected

(f) *9A1-10, 9A1-10W, 9A1-25, and 9A1-25W Terminal Blocks* (Fig. 9): The 9A1A-10 and 9A1-25 are unprotected terminal blocks equipped with a 24-gauge, 4-foot plastic sheath stub. The 9A1-10W and 9A1-25W blocks are equipped with a waterproof stub.†

(g) *Additional D Bond Assembly AT-8905:* Used to bond cable shield to ground bracket of closure. Two are supplied with each closure.

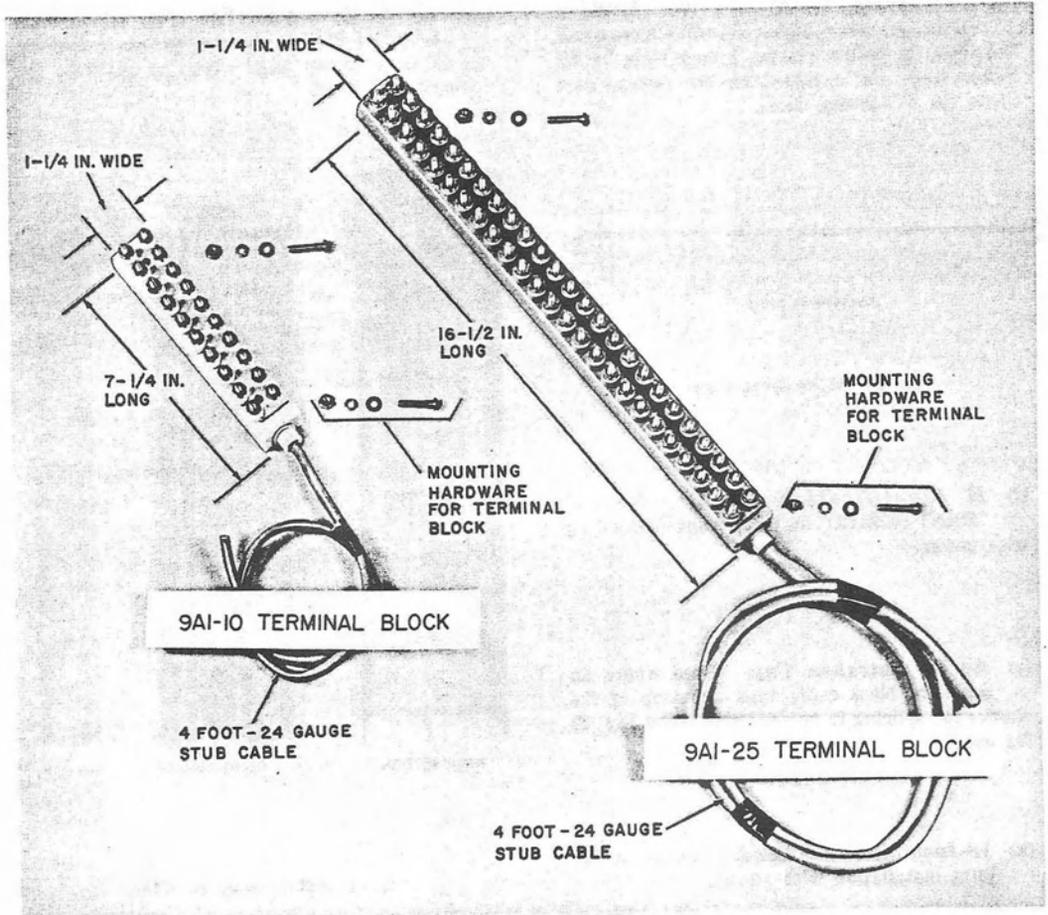


Fig. 9—9A1-Type Terminal Block

(h) **G Warning Decal** (Fig. 10): Used in rural areas where higher visibility is required. The decal is yellow plastic, 1 inch wide by 25 inches long. It is placed on the closure just above the F warning decal.



Fig. 10—G Warning Decal

(i) **H Identification Decal**: Marked "JOINT-BURIED" for use in joint installation with power.

(j) **Aerial Entrance Cap**: Used where an aerial or block cable enters the top of the closure for splicing to buried cable. (See Fig. 25 for use.)

(k) **18-Inch Ground Lead**: Required for joint installation with power.

(l) **PC-6 Extension Kit** (Fig. 11) extends height of PC6/48 closure for use in marshy areas, deep snows, high water, or anyplace for greater visibility.

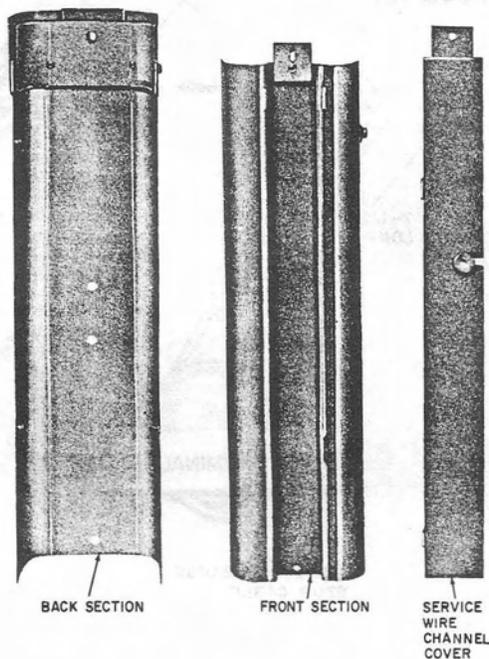
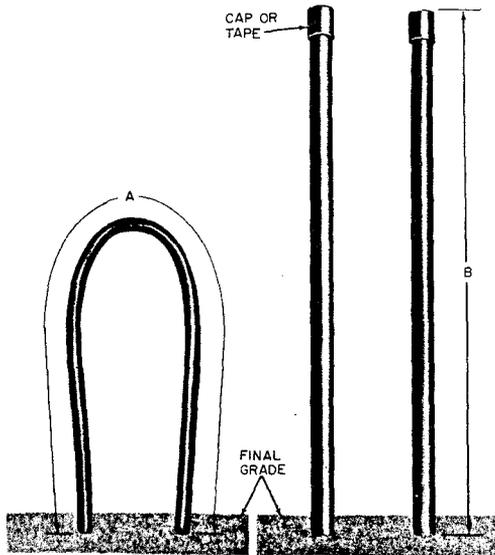


Fig 11—PC6 Extension Kit

### 3. CABLE PLACING

3.01 The amount of loop or cable ends required above final grade at each closure location is illustrated in Fig. 12. The loop or cut end requirements are based on 16 inches of the closure placed below grade. If the closure is placed at any other depth, the measurement will have to be adjusted accordingly.



CLOSURE	A-INCHES	B-INCHES
PC4/48	60	40
PC6/48	60	40
PC6/48 WITH EXTENSION KIT	108	84
PC12/55	90	80

Fig. 12—Cable Required at Closure Location

### 4. PLACING CLOSURE

4.01 Locate the closure as shown on the engineering work prints.

**Note:** When a joint trench is provided for power and telephone company cables, the closure should be placed a minimum of 6 inches off the trench line as outlined in Section 629-020-100.

4.02 It is recommended that the closure be placed so the bottom of the closure is approximately 16 inches below final grade; however, if conditions require it can be placed at depths of 6 to 20 inches. A decal indicating normal grade is located on the closure.

4.03 Place anchor post as required. **The post should be placed before back filling to eliminate the possibility of damaging cable.** Disassemble closure and install back section to anchor post and secure with nuts and bolts provided. Place bolts so head is on outside of closure.

## Closure—Pole or Wall Mounted

4.04 Before placing a closure against a pole or wall, two round washers, size 3/4-inch by 1-3/4 inch, must be placed between the wall or pole and the back of the closure to provide a standoff. The washers are placed on the anchoring devices. Table B lists the anchors required for placing.

TABLE B

ANCHORING DEVICES FOR MOUNTING  
CABLE CLOSURES TO POLE OR WALL

TYPE OF MATERIAL	ANCHORING DEVICE
Wood	5/16-inch drivescrew, with a 3/8 galvanized washer placed under head of screw
Masonry	5/16-inch × 1-1/4 inch screw anchors
Hollow Tile or Blocks	5/16-inch × 5-inch or 6-inch toggle bolts

4.05 Place the closure so the knockout in the back is in alignment with the station wire exit irrespective of grade.



*When the knockouts in the top or back of the closure are required for cable or wire entrance, remove knockout by striking from inside of closure. Seal these openings with aerial entrance cap or B caulking compound respectively. If closure is mounted on combustible wall, place metallic conduit from the knockout through the wall (Fig. 13).*

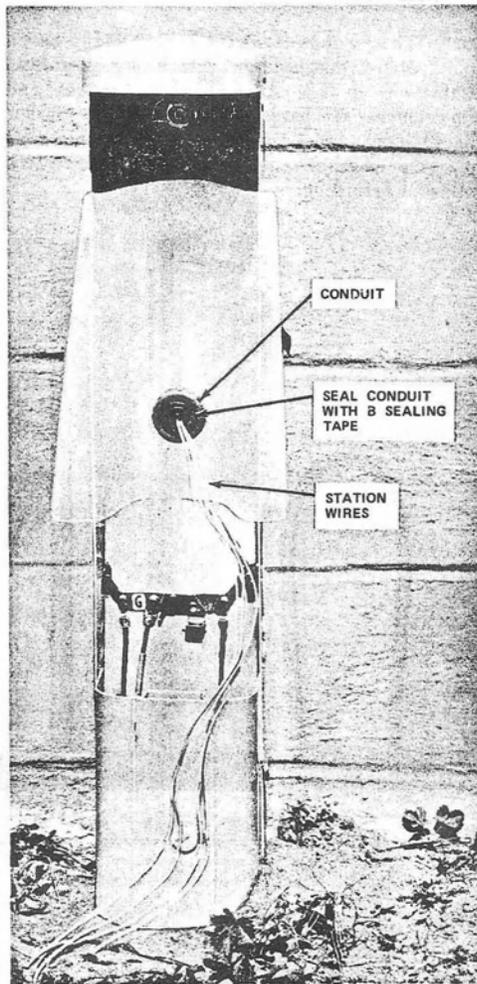


Fig. 13—PC6/48 Cable Closure—Wall Mounted

**Back to Back Installation With Power Pedestal**

4.06 Obtain a 72-inch anchor post and a joint mount kit, discard mounting hardware furnished with post, then locate the mounting post as indicated on the engineering work prints. *The post should be placed before back filling to eliminate the possibility of damaging cable.*

4.07 Place the anchor post into the ground to a depth that will allow the bottom of the closure to be 16 inches below final grade or in line with power closure.

4.08 Using the joint mount kit instruction sheet and hardware, mount the closures as shown in Fig. 14.

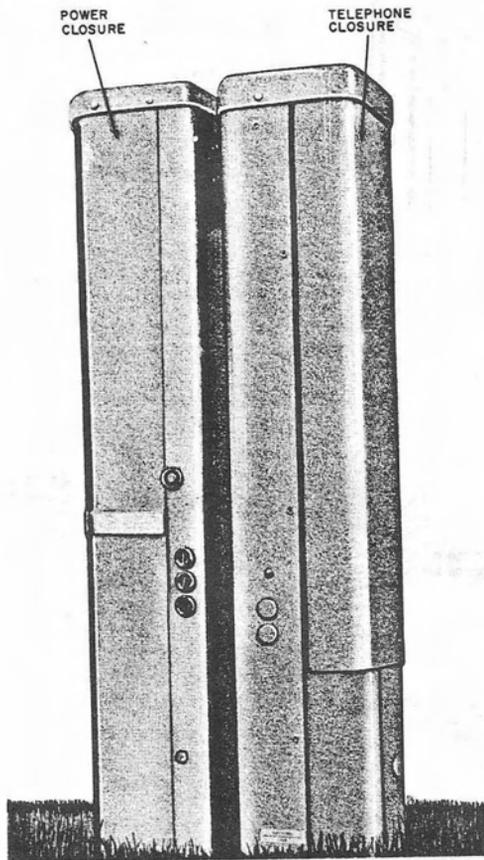


Fig. 14—Joint Installation—Telephone and Power

4.09 Attach the ground lead to bonding brackets of the closure and the lower bolts of the anchor posts. Install and tighten the nut and washer on the anchor post bolt. The power company bond should be attached to the same bolt. Refer to Section 629-020-100 for further details on joint construction.

4.10 Run a No. 6 ground wire from ground lug on bonding bracket to power neutral ground (Fig. 19).

♦Installation of PC6 Extension Kit on PC6/48 Cable Closure

4.11 To extend height of closure for use in marshy areas, deep snows, high water, or any place for greater visibility, obtain a 72-inch anchor post and install a PC6 extension kit or PC6/48 cable closure as shown in Fig. 15.♦

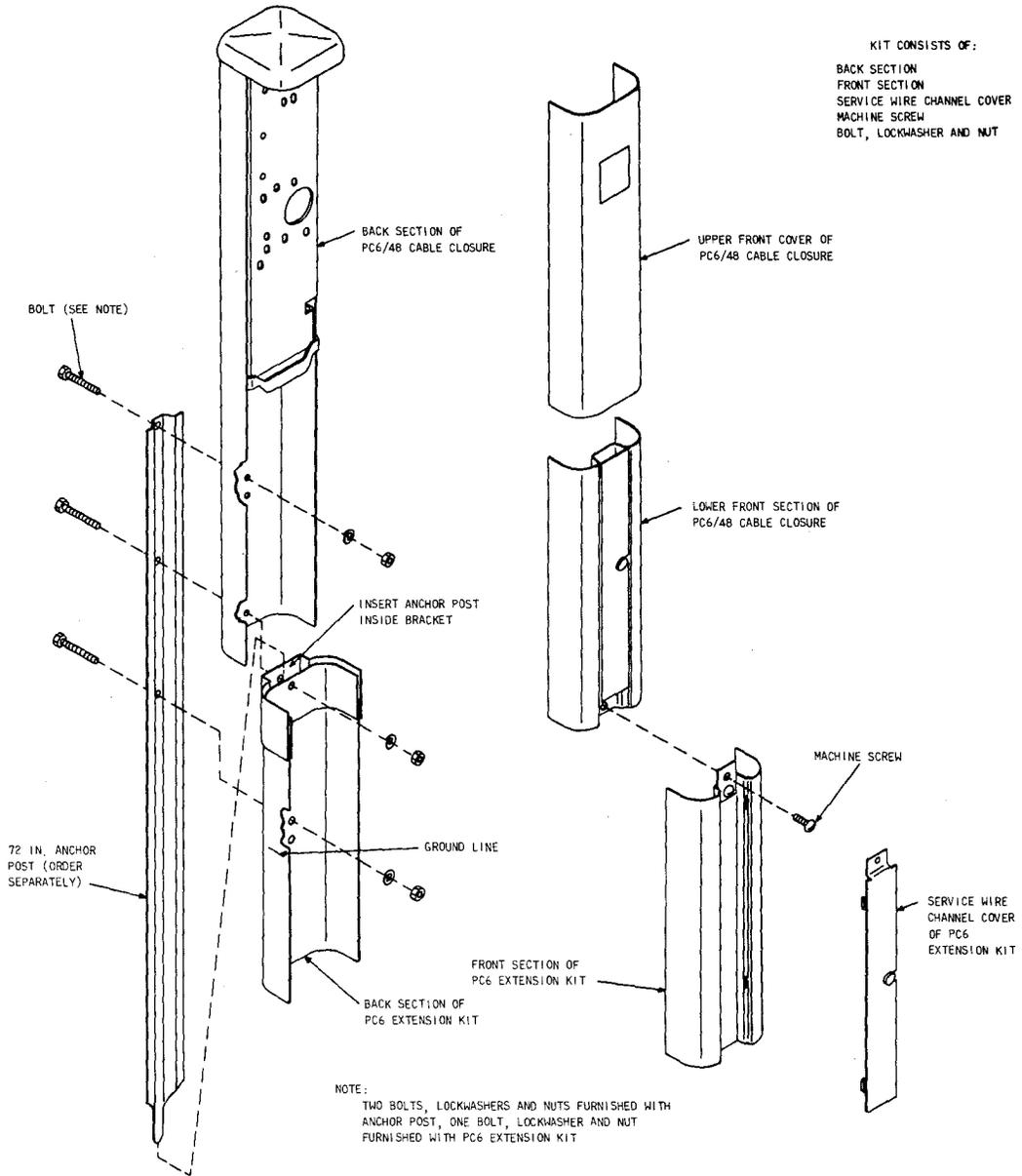


Fig. 15—Installation of PC6 Extension Kit

## 5. CABLE SHEATH PREPARATION

5.01 Mark cable even with top of bonding bracket.  
Remove the bonding bracket and backboard from the closure to facilitate cable sheath preparation.

5.02 Remove the outer polyethylene jacket and metallic shield from the cable as shown in Fig. 16. *Do not remove core wrap at this time.*

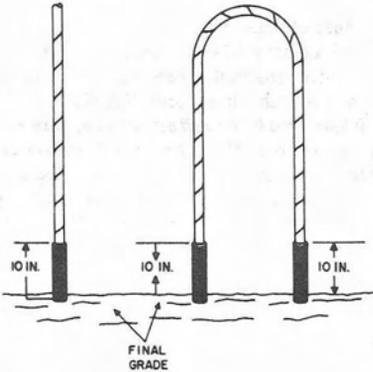


Fig. 16—Cable Sheath Removed

5.03 Cable sheath preparation for cable entering top of closure from aerial plant is illustrated in Fig. 17.

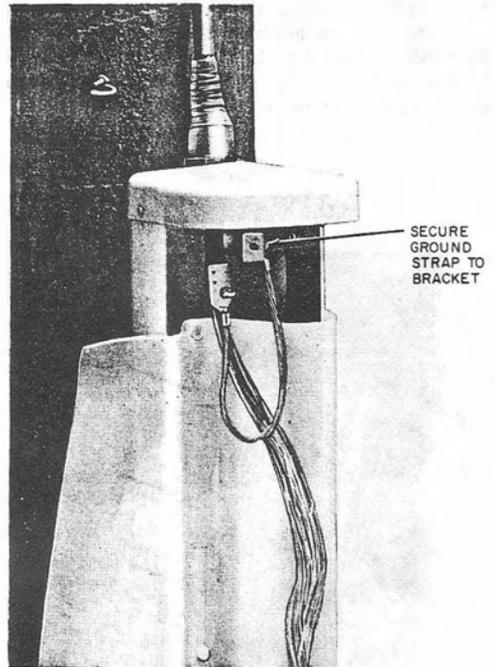


Fig. 17—Sheath Preparation for Aerial Entrance Cable

5.04 Loosen nut and install D bond assembly on the cable as outlined in Section 081-852-118. Reinstall the bonding bracket and attach the D bond assembly to bonding bracket for completion of electrical bond as shown in Fig. 18.

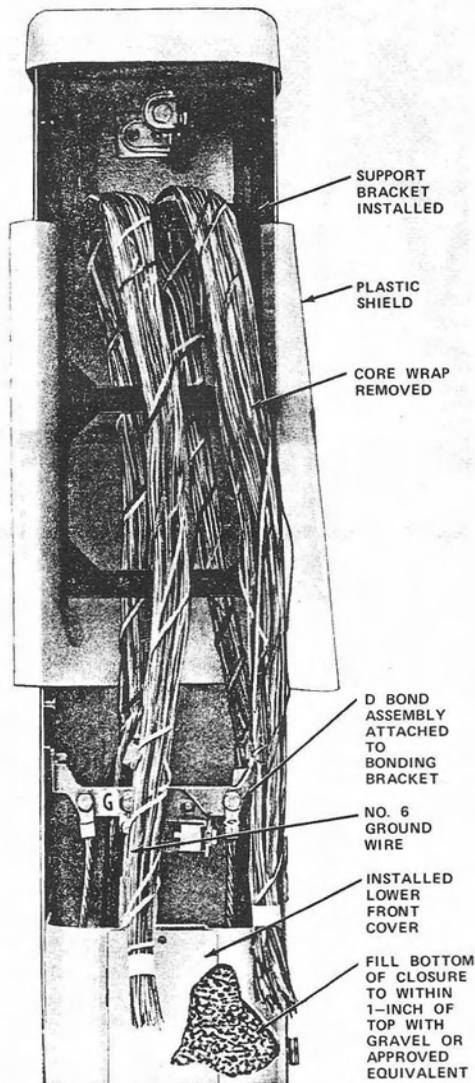


Fig. 18—Installed Cable Closure

5.05 Remove the core wrap from the cable. Using insulated wire having the same color as the binder, apply binder group identification ties near the cable butts at each end of the sheath opening.

5.06 *If cable is not waterproof, it will be necessary to place a moisture plug* as outlined in Section 631-600-305.

5.07 At cable end location, clear the cable ends with 710 connectors as outlined in Section 632-205-220.

5.08 Install the lower front cover. If service wires have been placed, route them through service wire channel, then carefully restore the earth outside the base and **TAMP** firmly. **Fill the base with crushed stone, small clean gravel, or locally approved equivalent to within 1 inch of top of the base. This helps prevent rodent damage and reduces moisture condensation inside the completed closure.**

## 6. EQUIPPING CLOSURE

### Fixed Count Terminal

6.01 Refer to template on back page of instruction sheet for block location, then mount the terminal block on the backboard.

6.02 Route the stub cable of the terminal block down the backboard and under the splice support, up and over the splice support following the routing of the cable conductors. Splice to the assigned pairs of the cable as outlined on the engineering work print.

6.03 Wrap the splice with the plastic shield, then secure backboard in upright position (Fig. 19, 20, and 21).

### Splicing

6.04 When the closure is used to house a splice only, place the cable over the splice support as shown in Fig. 18. The backboard can be left off if necessary to accommodate splice bundle.

6.05 Install binder group identification ties, using insulated wire having the same colors as the binders.

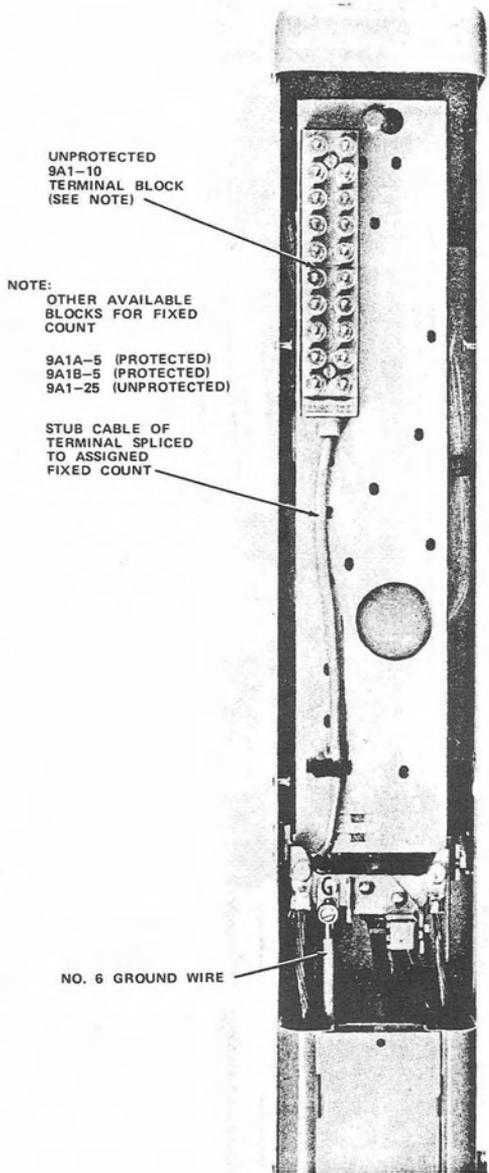


Fig. 19—Fixed Count PC6/48 Cable Closure With Unprotected Terminal Block

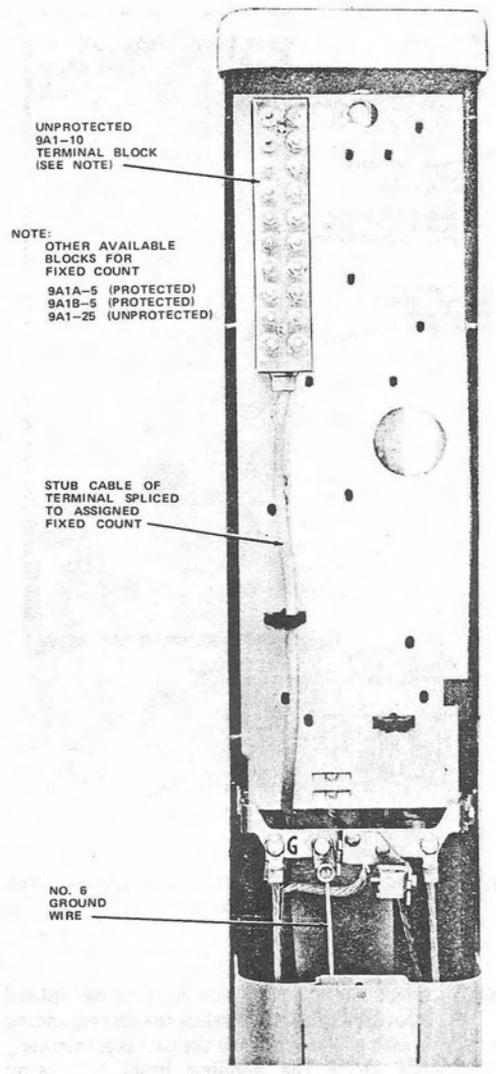


Fig. 20—PC6/48 Cable Closure Equipped With 9A-Type Terminal Block

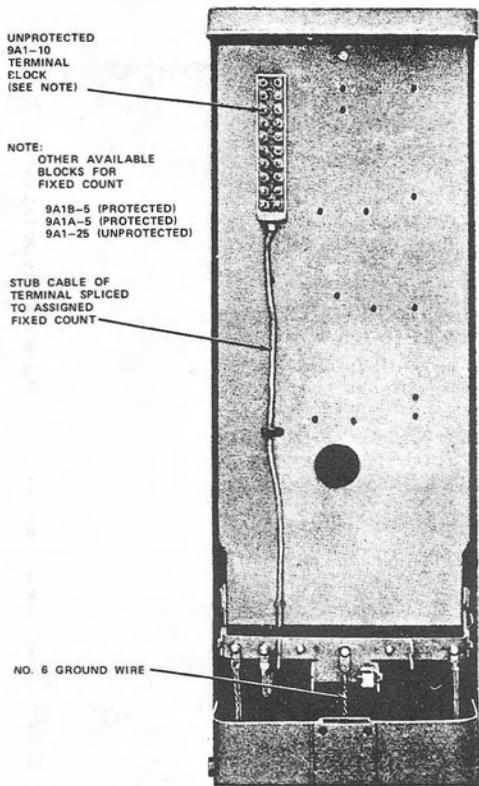


Fig. 21—PC12/55 Cable Closure Equipped With 9A-Type Terminal Block

6.06 Select the first 25-pair unit to be spliced from each cable, then select the corresponding pair from each binder group, cut the pair approximately 2.5 inches above the bonding bracket. Using 710-type connector, or other approved connectors, splice the pairs. For large pair size cables, stagger the 25-pair group to build the splice in layers. Figures 22, 23, and 24 illustrate a completed splice.

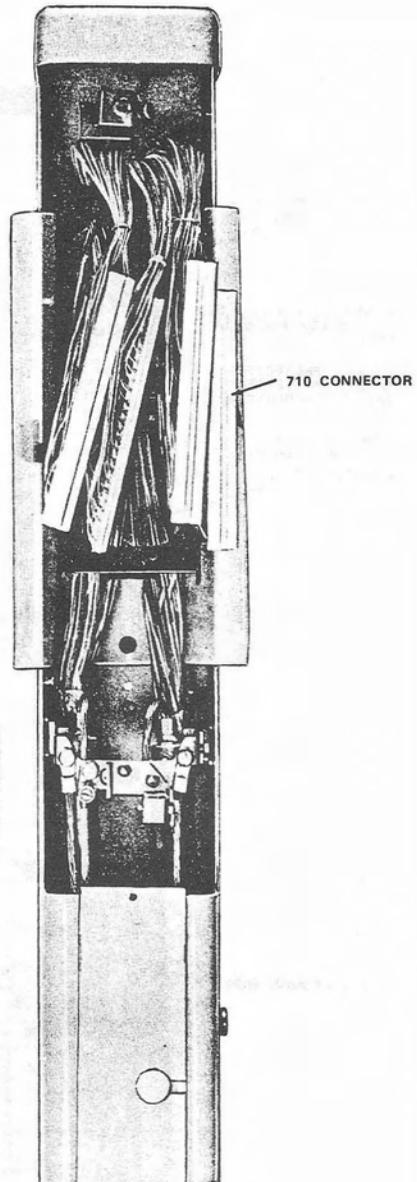


Fig. 22—Completed Splice in PC4/48 Cable Closure

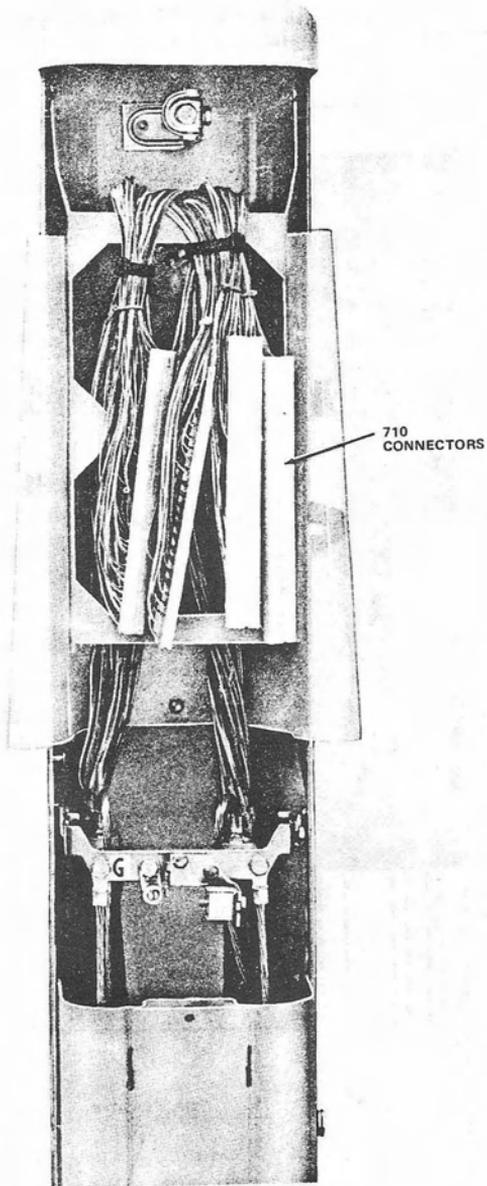


Fig. 23—Completed Splice in PC6/48 Cable Closure

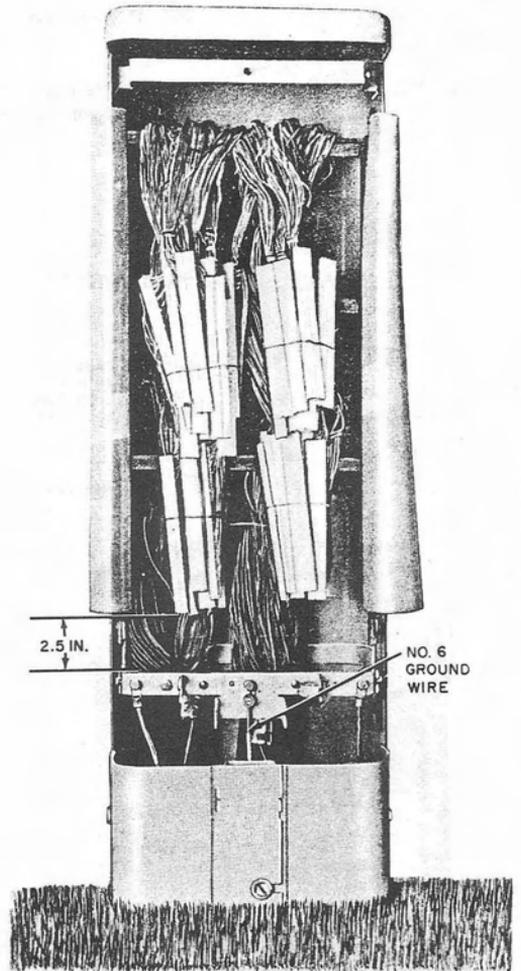


Fig. 24—Completed Splice in PC12/55 Cable Closure Using 710 Connectors

6.07 Wrap the plastic shield around the completed splice and secure with tie. If backboard is retained, secure in upright position.

6.08 Figure 25 illustrates an aerial cable entering the closure at a junction between buried and aerial plant.



Fig. 25—Closure Used at Junction of Buried and Aerial Plant

6.09 Figure 26 illustrates a PC4/48M cable closure equipped with a 9A1-10W terminal block for buried encapsulated splices.

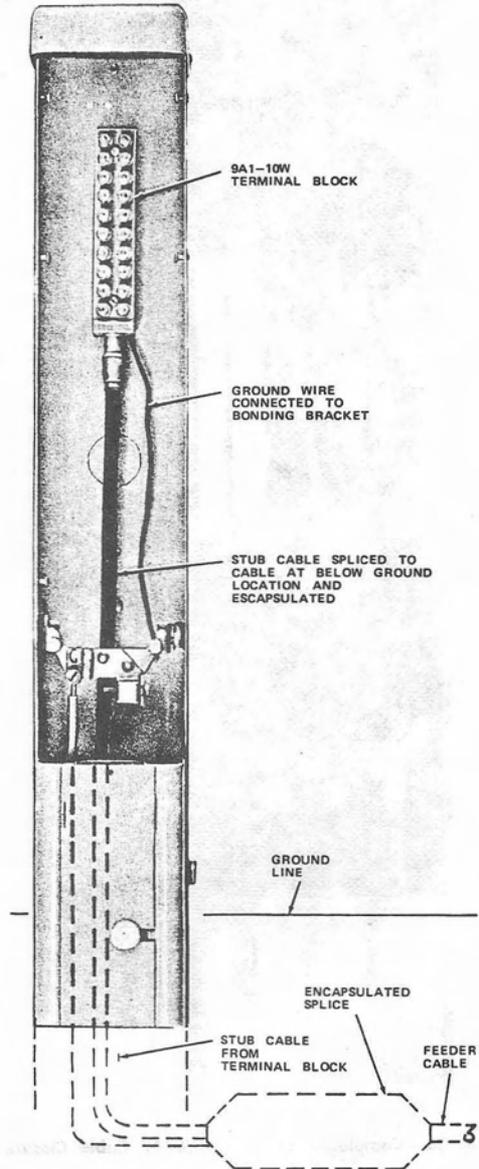


Fig. 26—PC4/48M Cable Closure Equipped With 9A1-10W Terminal Block

**7. BONDING TO POWER**

**7.01** Bond the cable sheath to the power company ground by running a No. 6 ground wire from the ground wire connector on the bonding bracket. The No. 6 ground wire is connected to the power company ground as covered in local instructions. Refer to Section 629-020-100 for further details on joint construction.

**8. ENCLOSING CLOSURE**

**8.01** Place the upper front cover on the closure and secure.

**8.02** The F warning decal is factory installed. Where higher visibility is required, a G warning decal (Fig. 10) is placed just above the F warning decal.

**8.03** When used joint with power, the closure can also be marked with H identification decal indicating joint use with power.