PC6/48 AND PC12/55 CABLE CLOSURES
DESCRIPTION AND INSTALLATION

CONTENTS PAGE

1. GENERAL

1.01 This section covers the description and installation of the PC6/48 and PC12/55 cable closures. The repair and replacement of cable closures used in buried plant with the PC-type cable closure are described in Section 644-200-032.

1.02 This section is reissued to update the PC6/48 and PC12/55 cable closure and to include the 5-pair, 9-type terminal block. Since this is a general revision, arrows normally used to indicate changes have been omitted.

1.03 These closures are used to:

- Provide preferred count or fixed count access facilities for terminating buried service wires or aerial drops.
- Enclose aboveground splices in buried PIC cable.
- Load cable pairs.

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

1.05 The procedures for preparation and termination of service wire in these closures are outlined in Section 462-260-202.

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.

TABLE A

CLOSURE CAPACITY (TOTAL PAIRS)

CLOSURE	LOOP	SPLICE		BACKBOARD REMOVED
		CONNECTOR	IN SPLICING CHAMBER BEHIND BACKBOARD	
PC6/48	400 Pair 24-26 Gauge	700-3B 701-2A 710	200 300 400	300 400 400
	300 Pair 22-Gauge	700-3B 710-2A 710	200 300 300	300 300 300
	200 Pair 19-Gauge	700-3B 710-2A 710	100 200 200	200 200 200
PC12/55	900 Pair 24- to 26-Gauge	700-3B 701-2A 710	900 1800 1800	1800 1800 1800
	600 Pair 22-Gauge	700-3B 701-2A 710	600 1200 1200	1200 1200 1200
	300 Pair 19-Gauge	700-3B 701-2A 710	300 600 600	600 600 600

TABLE B

SERVICE WIRE AND LOADING CAPACITY

CLOSURE	SERVICE WIRE CAPACITY (NOTE)		LOADING CAPACITY
	2 PAIR	5 PAIR	
PC6/48	12	8	
PC12/55	24	16	100 Pair Using 701-Type Coil Core

Note: Do not place 2- and 5-pair service wires in the same clamp. The difference in diameters prevents a satisfactory bond for 2-pair service wire.

2. DESCRIPTION

2.01 The PC6/48 cable closure (Fig. 1) and the PC12/55 cable closure (Fig. 2) are assemblies of steel parts consisting of components shown in Fig. 1 and 2.

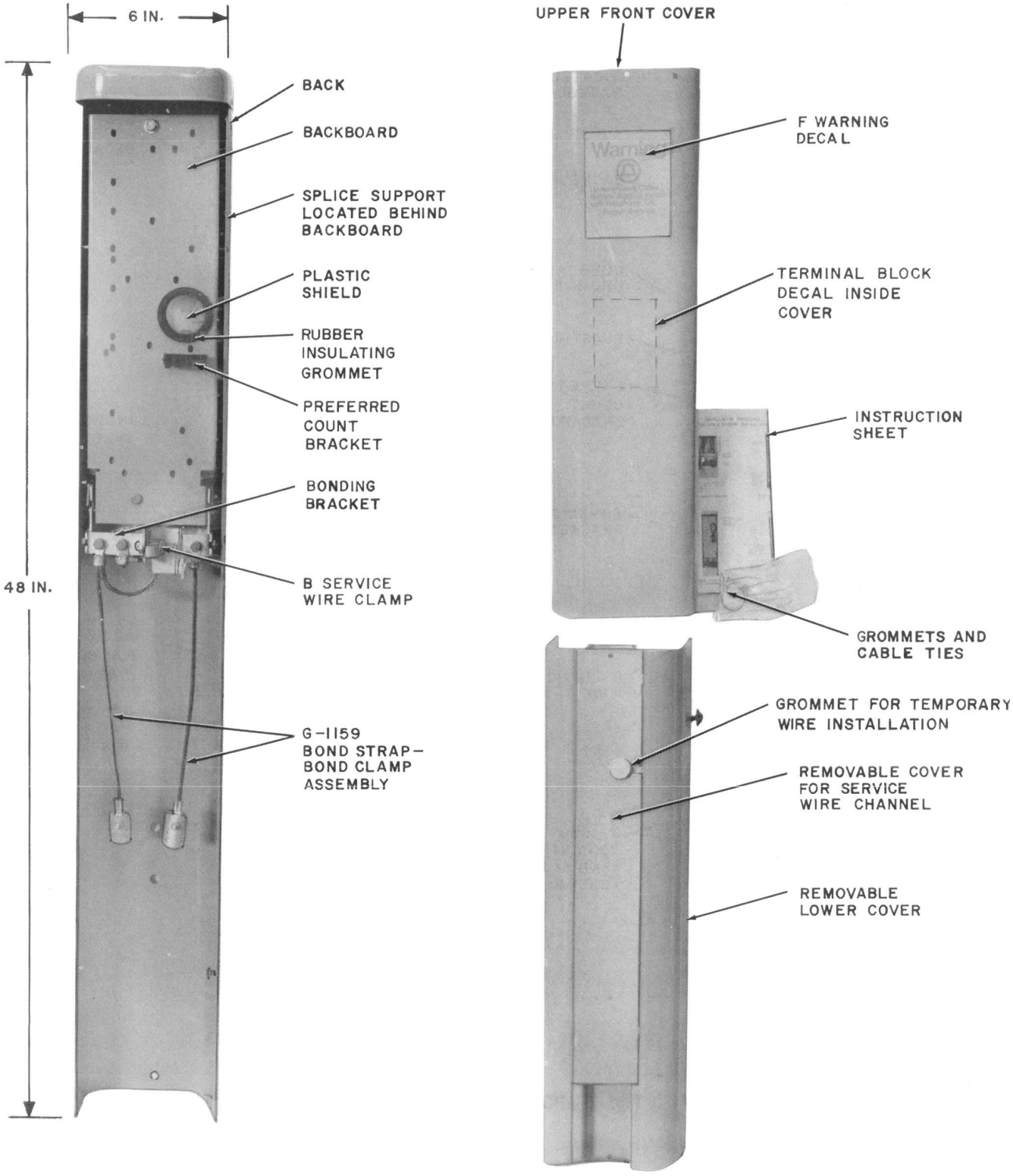


Fig. 1—PC6/48 Cable Closure

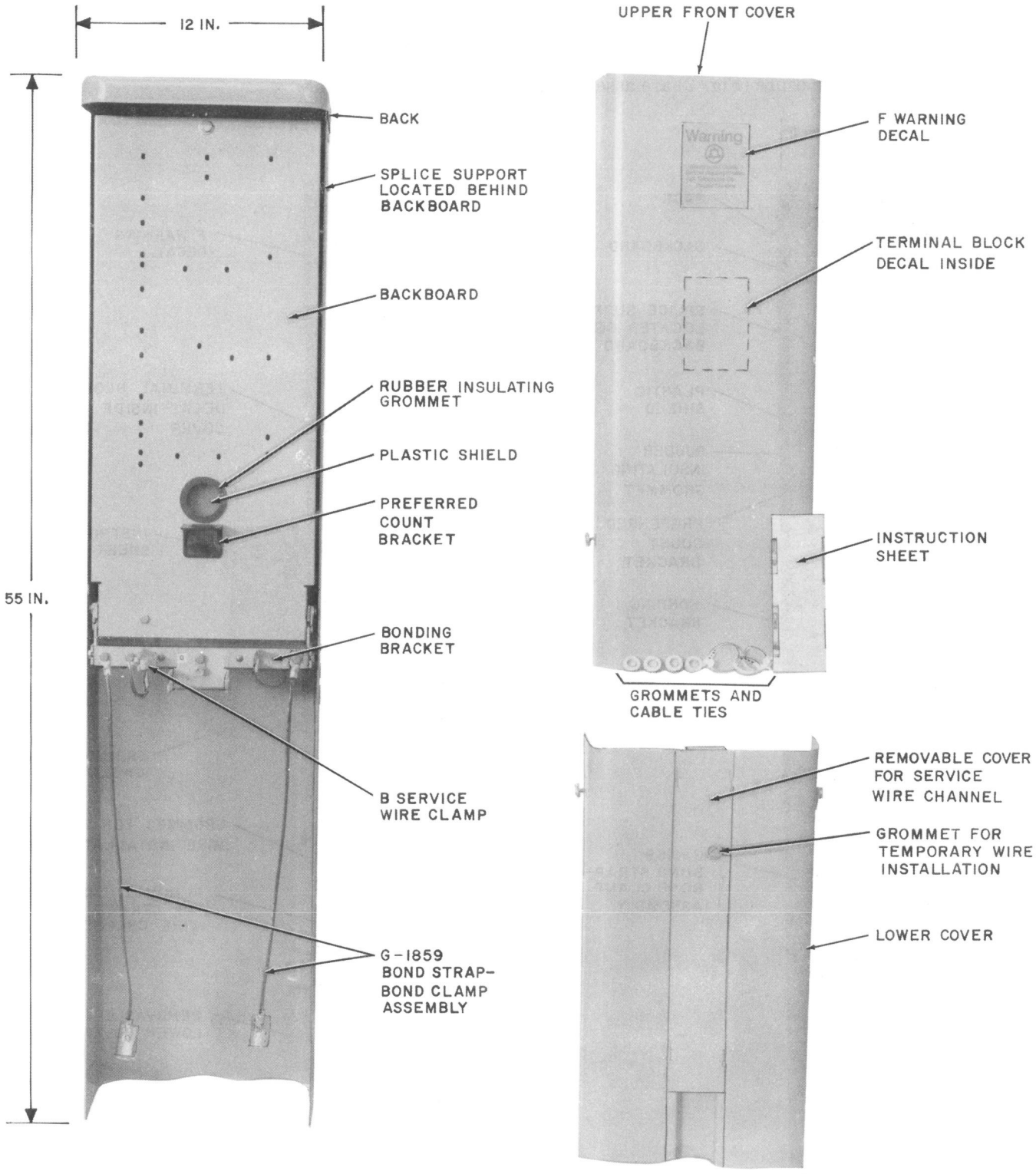


Fig. 2—PC12/55 Cable Closure

2.02 The exposed parts of these closures are galvanized and have a gray-green finish. The internal parts are galvanized steel with an additional baked enamel finish on the front side of the backboard. The hardware items are stainless steel.

2.03 The bottom front covers have a service wire channel with removal cover plate for installing service wires subsequent to initial installation. 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 for preferred count access and fixed count access 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. 3): To provide stability on free standing installations the 72 inch post is used when loose soil conditions prevail for back-to-back mounting with another telephone closure or with power company closure on joint power telephone buried distribution installation. All of the necessary mounting hardware is provided with the post.

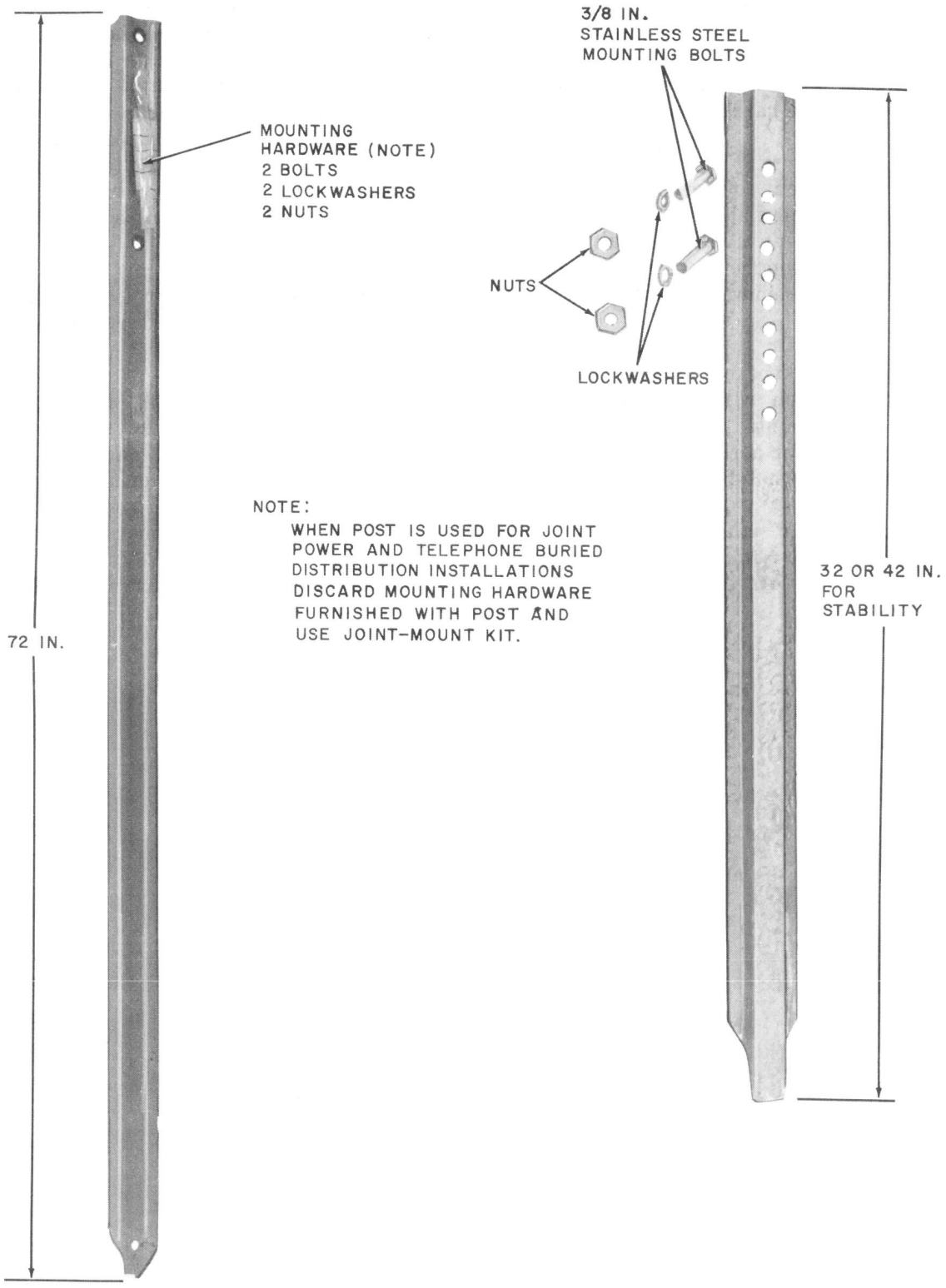


Fig. 3—Anchor Post

(b) ***Joint Mount Kit*** (Fig. 4): A joint mount kit is required for back-to-back mounting. The kit consists of two studs, eight nuts, eight washers, and an instruction sheet.

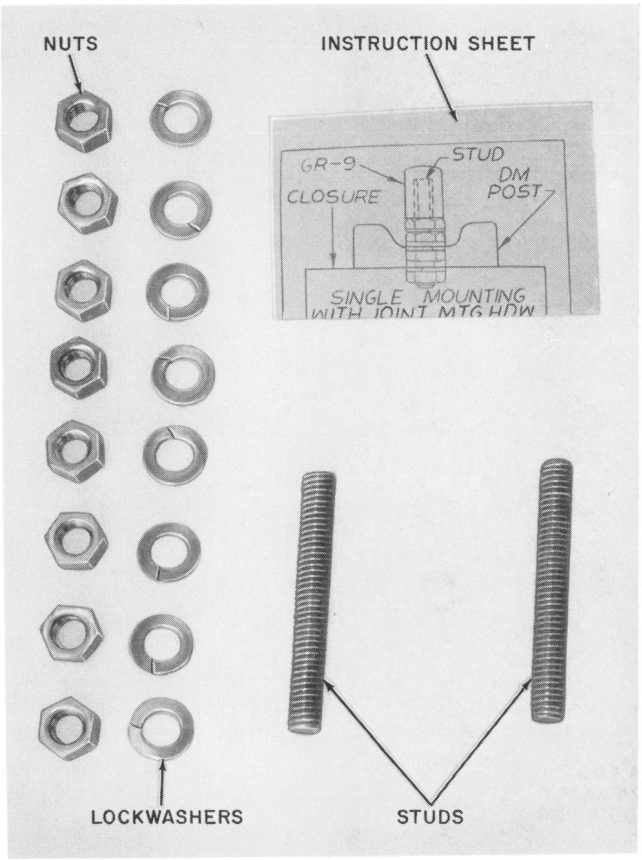


Fig. 4—Joint Mount Kit

(c) ***9A1A-5 Terminal Block*** (Fig. 5): A 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.

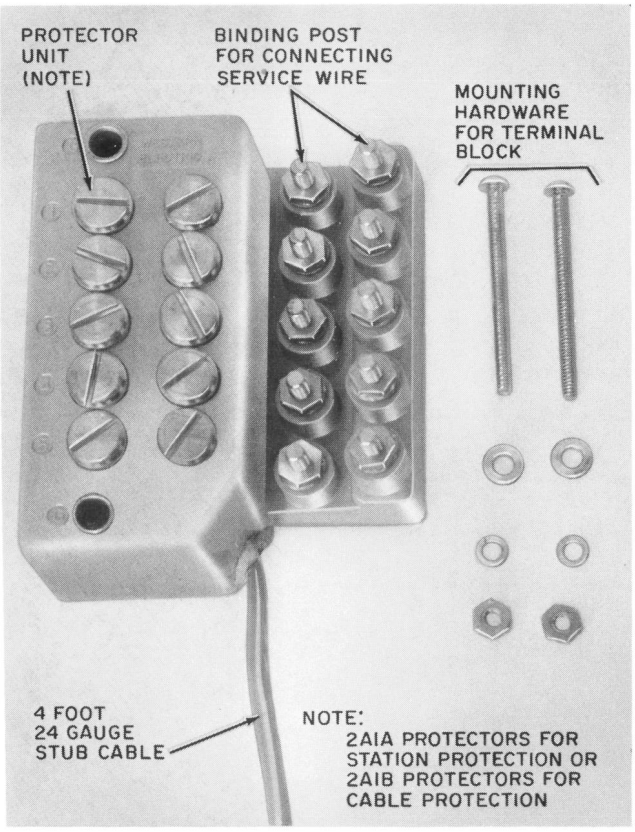


Fig. 5—5-Pair 9-Type Terminal Block Protected

(d) ***9A1B-5 Terminal Block*** (Fig. 5): 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. 6) 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.

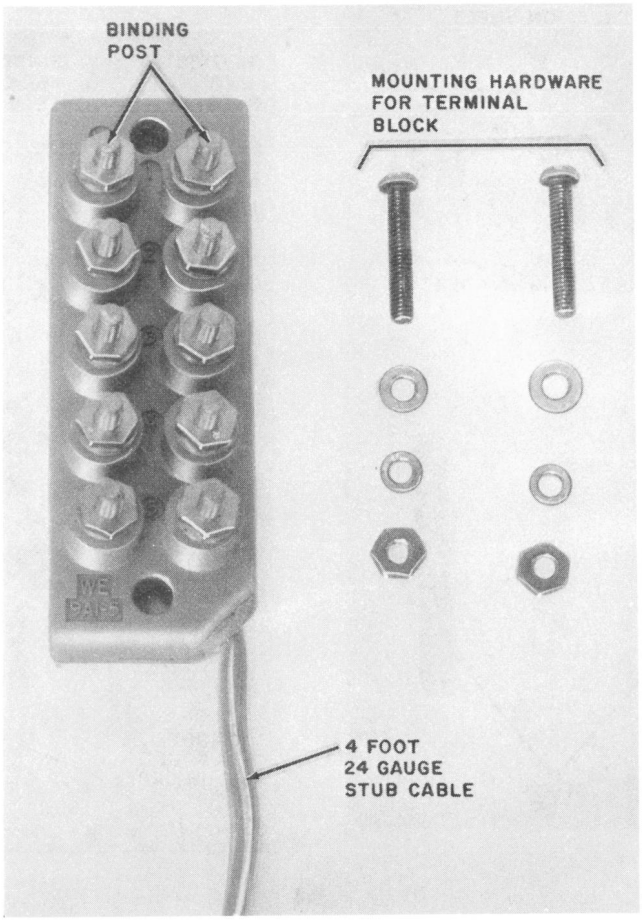


Fig. 6—5-Pair 9-Type Terminal Block Unprotected

(f) ***9A1-10 and 9A1-25 terminal blocks*** (Fig. 7): Unprotected terminal blocks equipped with a 24-gauge, 4-foot plastic sheath stub.

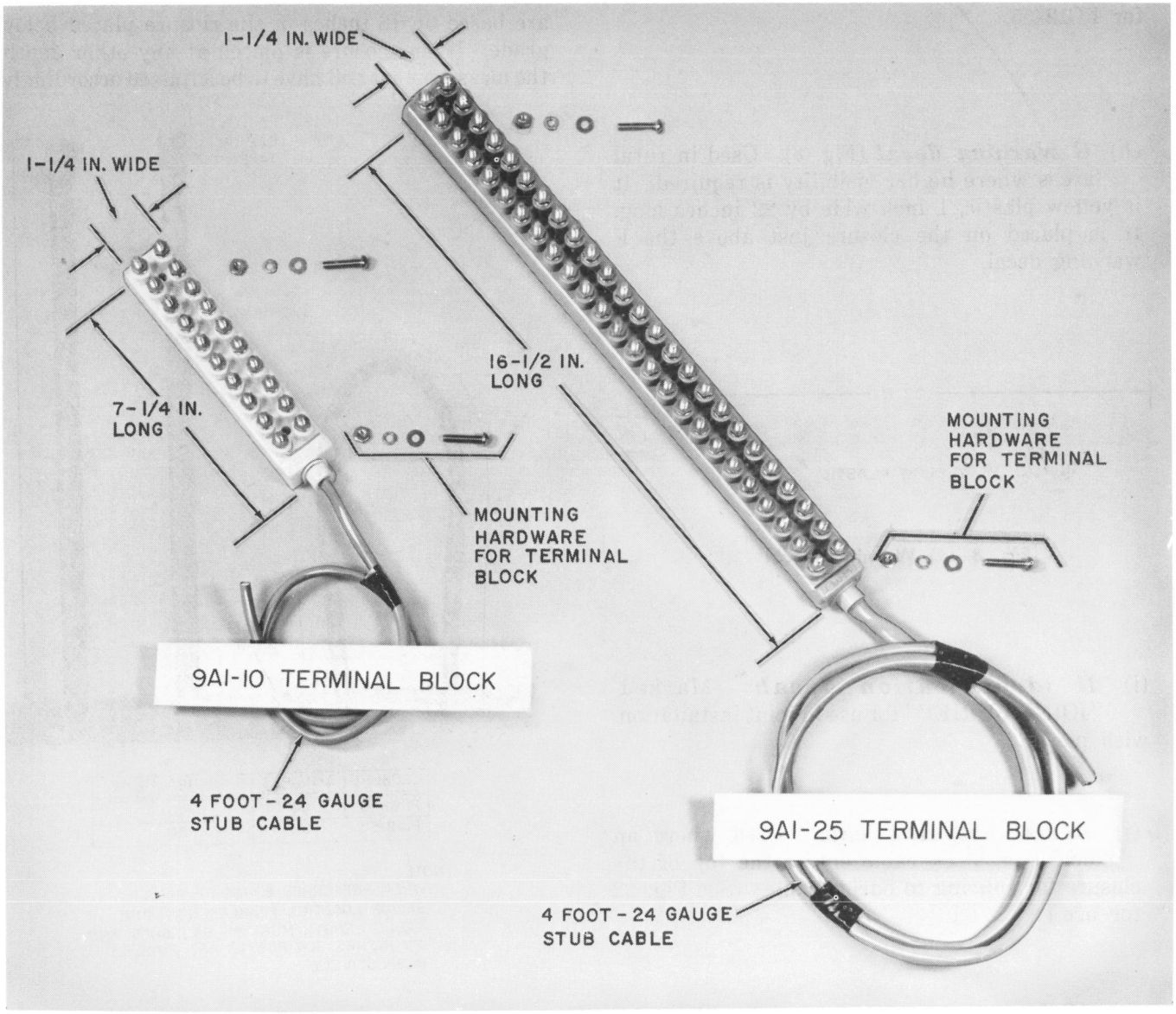


Fig. 7—9A1-Type Terminal Block

(g) ***Bond Strap-Bond Clamp Assembly G-1159 or G-1859:*** Used to bond cable shield to ground bracket of closure. Two supplied with each closure. If additional straps are required, order G-1159 for PC6/48 or G-1859 for PC12/55.

(h) ***G warning decal*** (Fig. 8): Used in rural areas where higher visibility is required. It is yellow plastic, 1 inch wide by 22 inches long. It is placed on the closure just above the F warning decal.

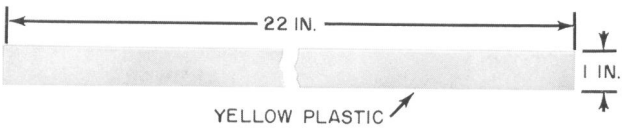


Fig. 8—G Warning Decal

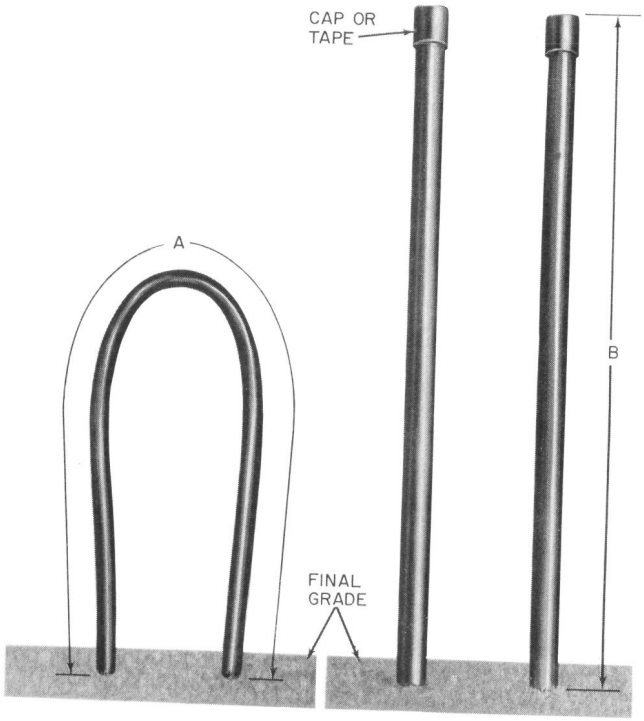
(i) ***H identification decal:*** Marked "JOINT-BURIED" for use in joint installation with power.

(j) ***Aerial entrance cap:*** Used where an aerial or block cable enters the top of the closure for splicing to buried cable. (See Fig. 22 for use.)

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

3. CABLE PLACING

3.01 The amount of loop or cable ends required above final grade at each closure location is illustrated in Fig. 9. 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 (NOTE)
PC6/48	60	40
PC12/55	90	80

NOTE:
WHEN PREFERRED COUNT APPEARS AT SPLICE LOCATION (CABLE ENDS) ONE CABLE LENGTH MUST BE 84 INCHES AND 126 INCHES FOR PC6/48 AND PC12/55 RESPECTIVELY.

Fig. 9—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.

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 C lists the anchors required for placing.

TABLE C

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 this opening with B caulking compound. If closure is mounted on combustible wall, place metallic conduit from the knockout through the wall. (Fig. 10).

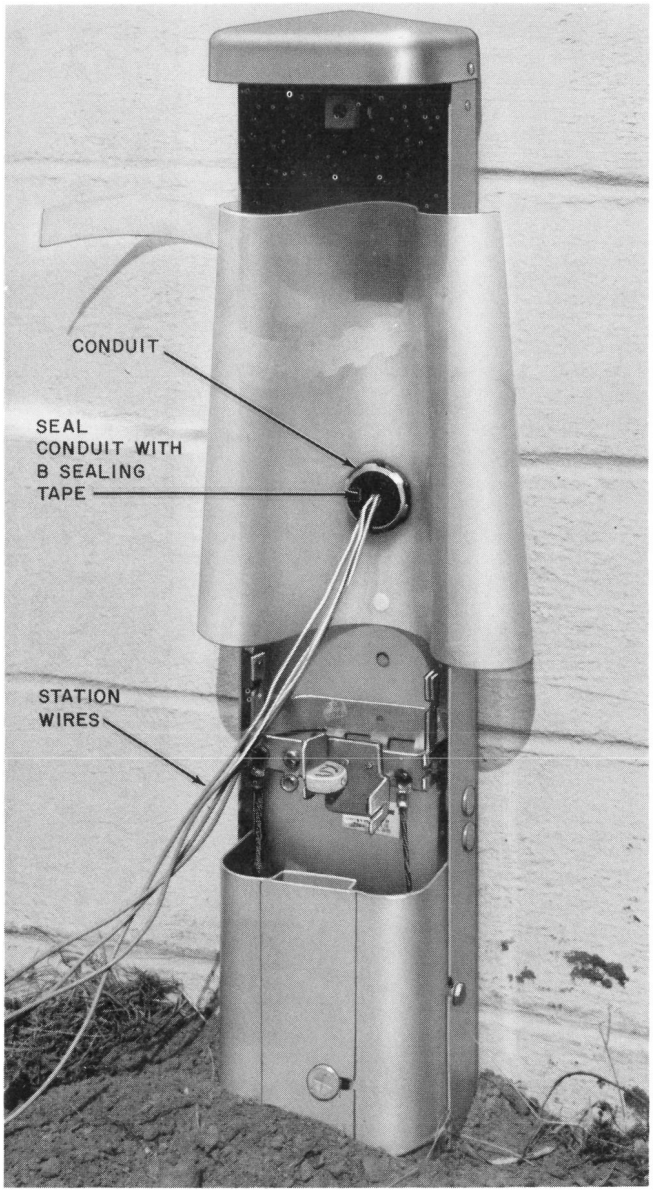


Fig. 10—PC6/48 Cable Closure—Wall Mounted

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. 11.

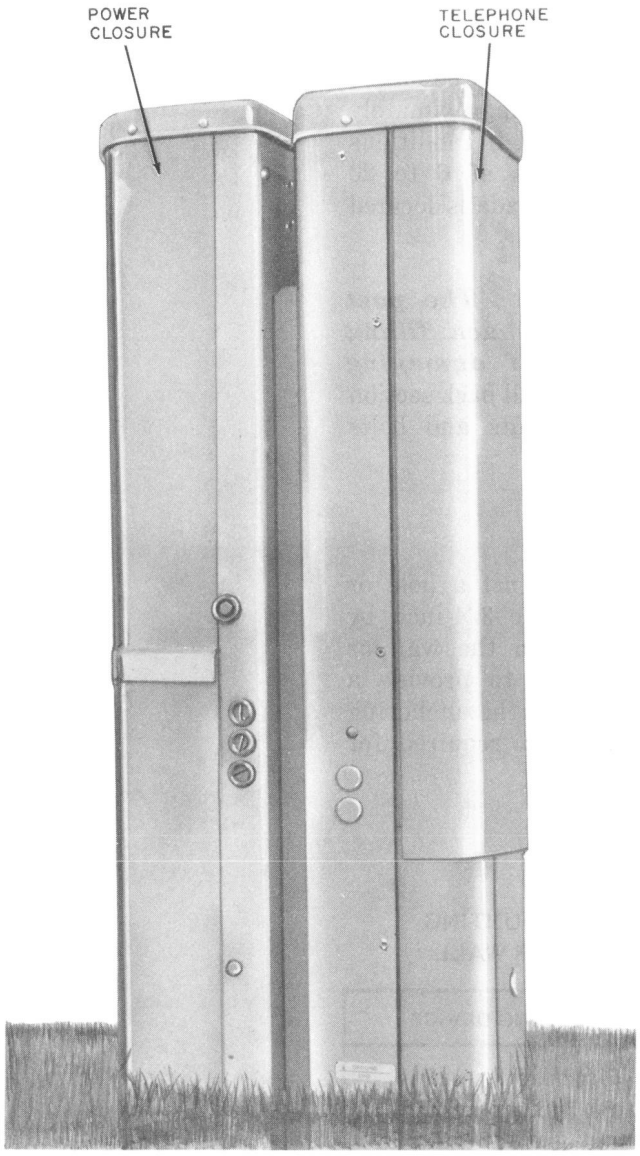


Fig. 11—Joint Installation—Telephone and Power

4.09 Attach the ground wire 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 backboard to power neutral ground (Fig. 14).

5. CABLE SHEATH PREPARATION

5.01 Mark cable even with top of bonding bracket. Remove the bonding bracket 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. 12. ***Do not remove core wrap at this time.***

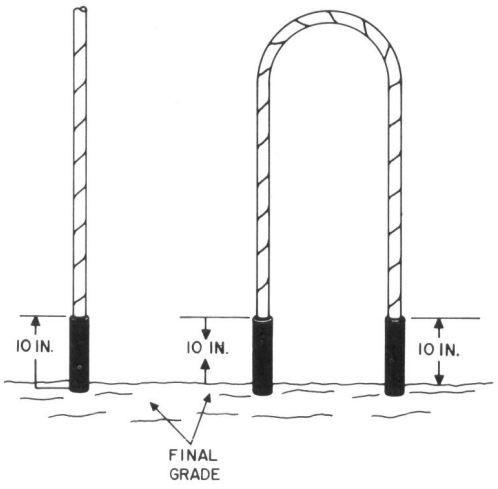


Fig. 12—Cable Sheath Removed

5.03 Cable sheath preparation for cable entering top of closure from aerial plant is illustrated in Fig. 13.

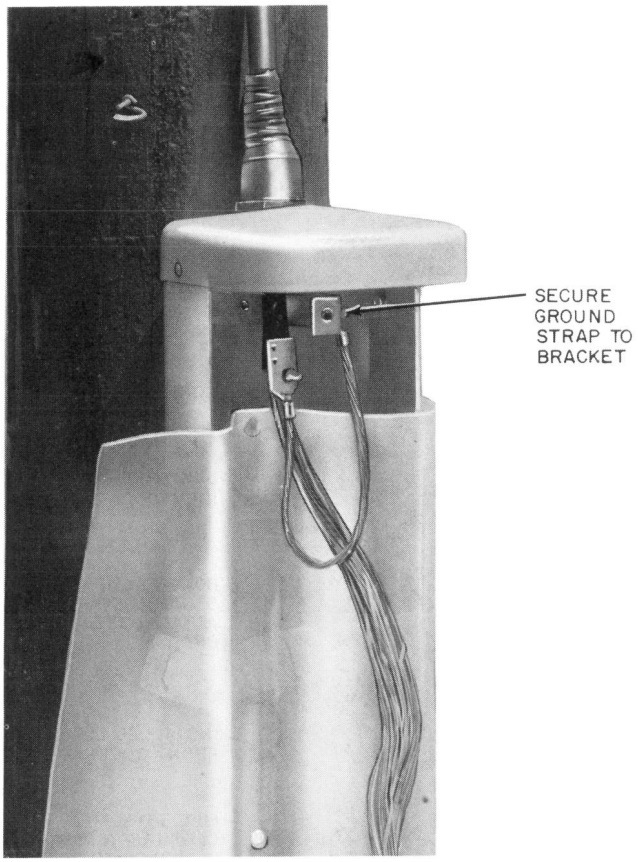


Fig. 13—Sheath Preparation for Aerial Entrance Cable

5.04 Loosen nut and install bond clamp-bond strap assembly on the cable as outlined in Section 081-852-118. Reinstall the bonding bracket and attach the bond strap to bonding bracket for completion of electrical bond as shown in Fig. 14.

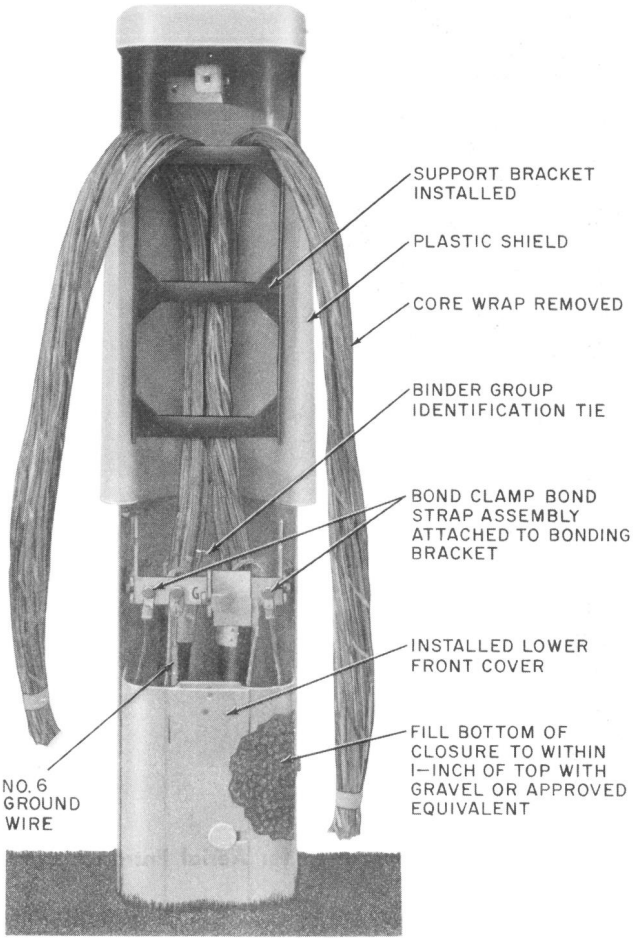


Fig. 14—Installed Cable Closure

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 (Fig. 14).

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, cap the cable end as shown in Fig. 15 and as outlined in Section 631-600-005 (waterproof cable) or Section 633-505-211 (air-core cable).

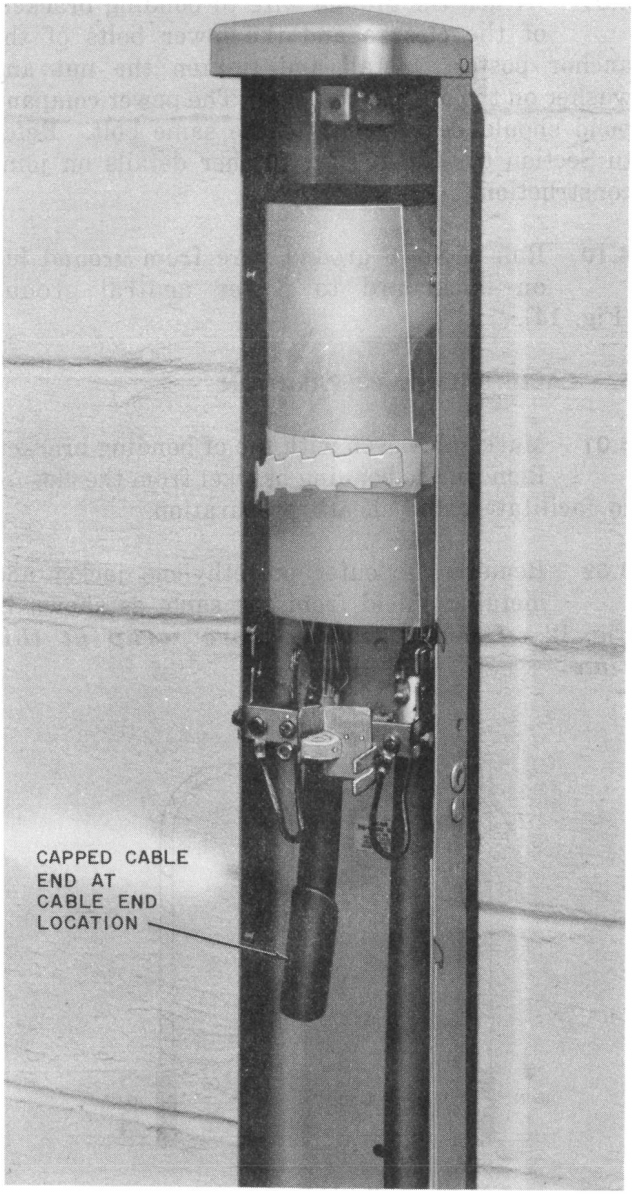


Fig. 15—Capped Cable End

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

Preferred Count Terminal

6.01 From the looped cable remove the assigned preferred count from the cable then wrap the other binder groups with the plastic shield (Fig. 16).

6.02 Install backboard on bonding bracket hinges as shown in Fig. 16. Route the assigned preferred count binder group through the hole in the backboard. A 9-type terminal block is then mounted on the backboard (Fig. 17). Secure the backboard in the upright position. Attach bonding braid of backboard to bonding bracket.

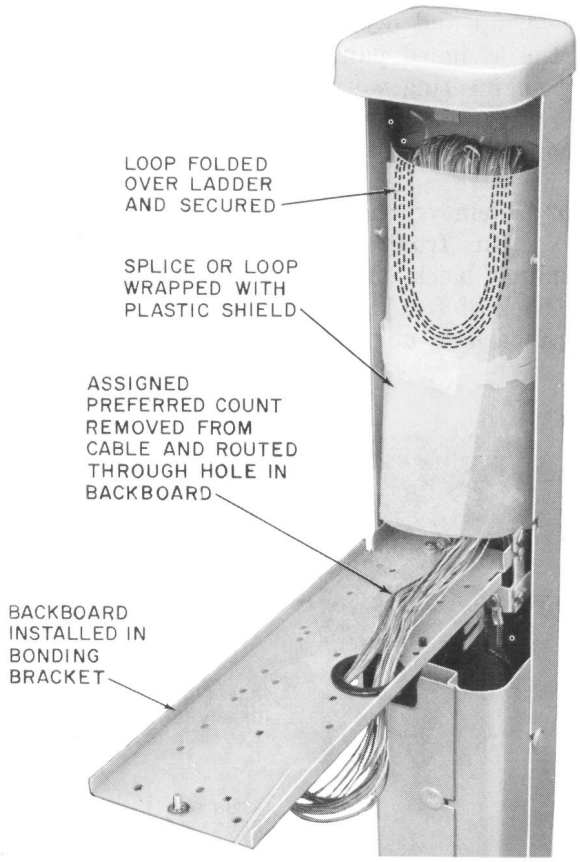


Fig. 16—Installed Backboard in PC6/48 Cable Closure—Typical for PC12/55 Cable Closure

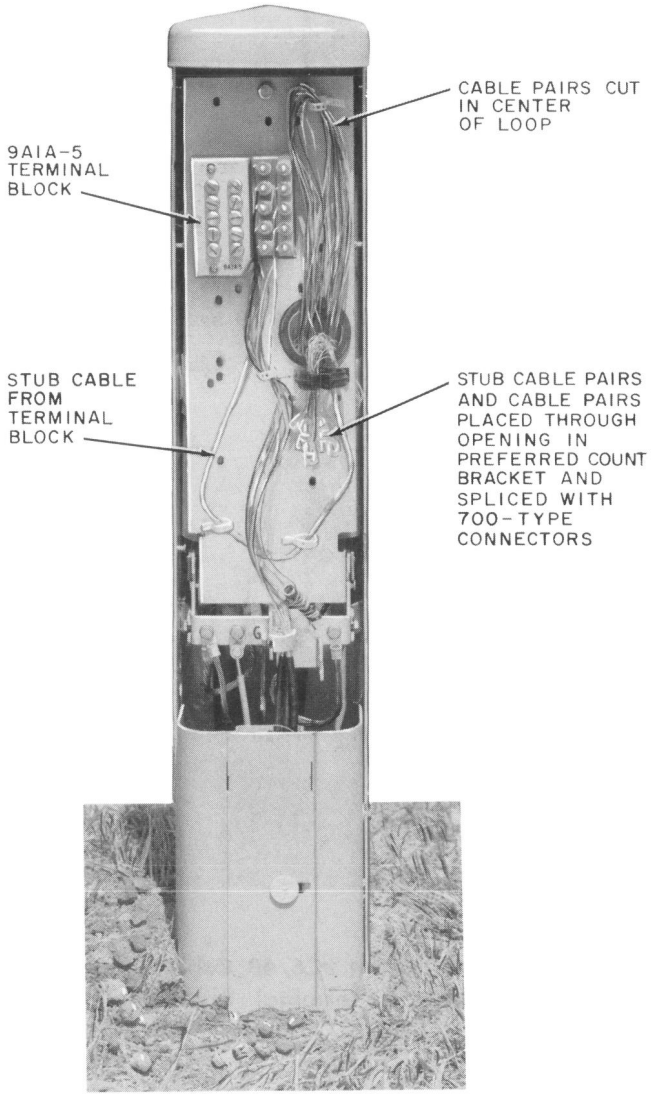


Fig. 17—Preferred Count PC6/48 Cable Closure With Protected Terminal Block—Typical for PC12/55 Cable Closure

6.03 Remove the sheath from the stub cable of the 9-type terminal block as shown in Fig. 18 and pass the stub pairs through the preferred count bracket.

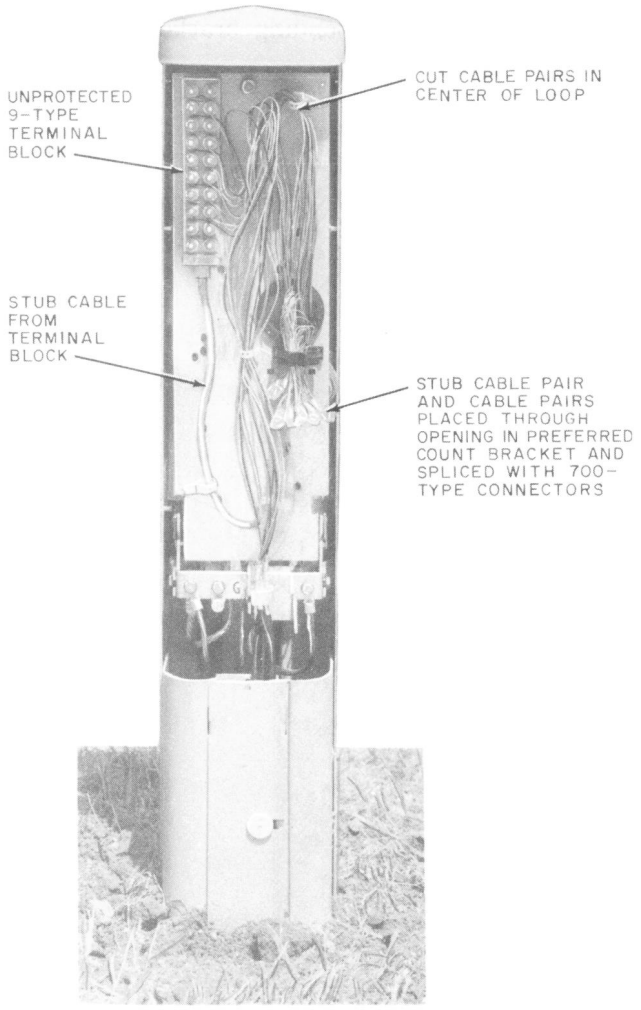


Fig. 18—Preferred Count PC6/48 Cable Closure With Unprotected Terminal Block—Typical for PC12/55 Cable Closure

6.04 Remove the cable pair from the preferred count and cut in the center of the loop opening. Route the CO side of cable pairs through the opening in the preferred count bracket, then join to the terminal block leads with 700-type connector or other approved connector. ***When terminal blocks for station protection are used, run ground wire from connector on bonding bracket to approved ground as outlined in the 631 Division of the Bell System Practices.***

Note: At multiple plant locations, bridge the cable pair and terminal block stub leads or service wire conductors. The preferred count loop must be routed through opening in preferred count bracket.

Fixed Count Terminal

6.05 Route the stub cable of the terminal block down the backboard and under the plastic shield, up and over the splice support and splice to the assigned pairs of the cable as outlined on the engineering work print.

6.06 Wrap the splice with the plastic shield.

6.07 Remove the preferred count bracket from the front of backboard then mount the terminal block on the backboard. Refer to decal on back of front cover for block location. Secure backboard in upright position (Fig. 19 and 20).

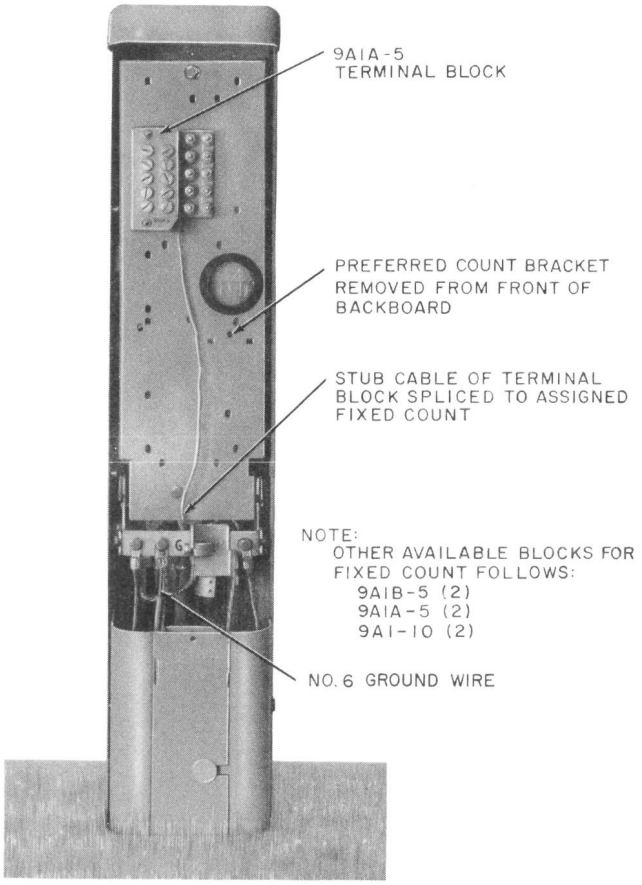


Fig. 19—Fixed Count PC6/48 Cable Closure With 9A-Type Protected Block

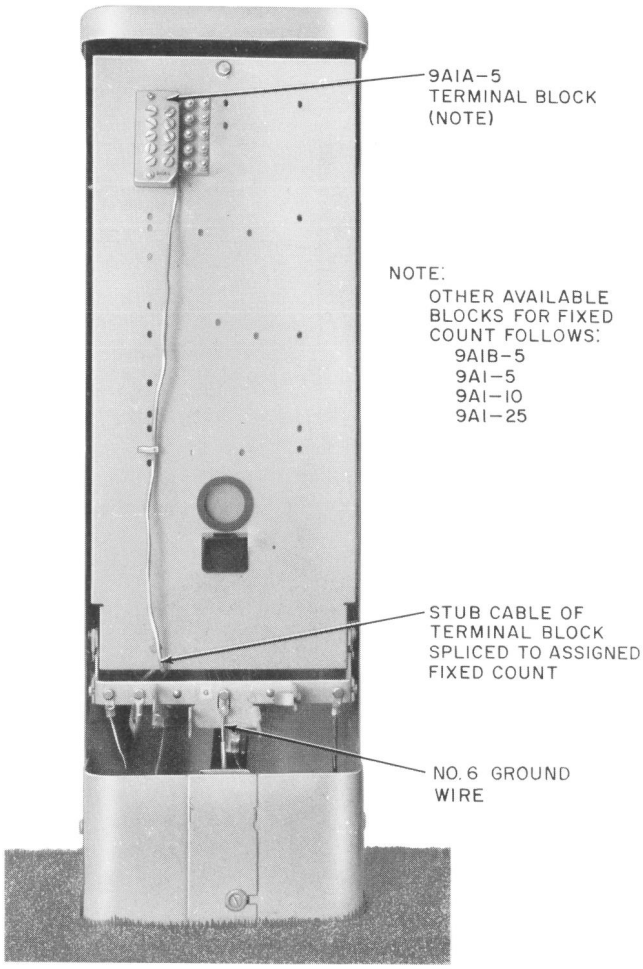


Fig. 20—Fixed Count PC12/55 Cable Closure With 9A-Type Protected Block

Splicing

6.08 When the closure is used to house a splice only, place the cable over the splice support as shown in Fig. 14. The backboard can be left off if necessary to accommodate splice bundle.

6.09 Install binder group identification ties, using insulated wire having the same colors as the binders, as shown in Fig. 14.

6.10 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 700-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 21 and 22 illustrate a completed splice.

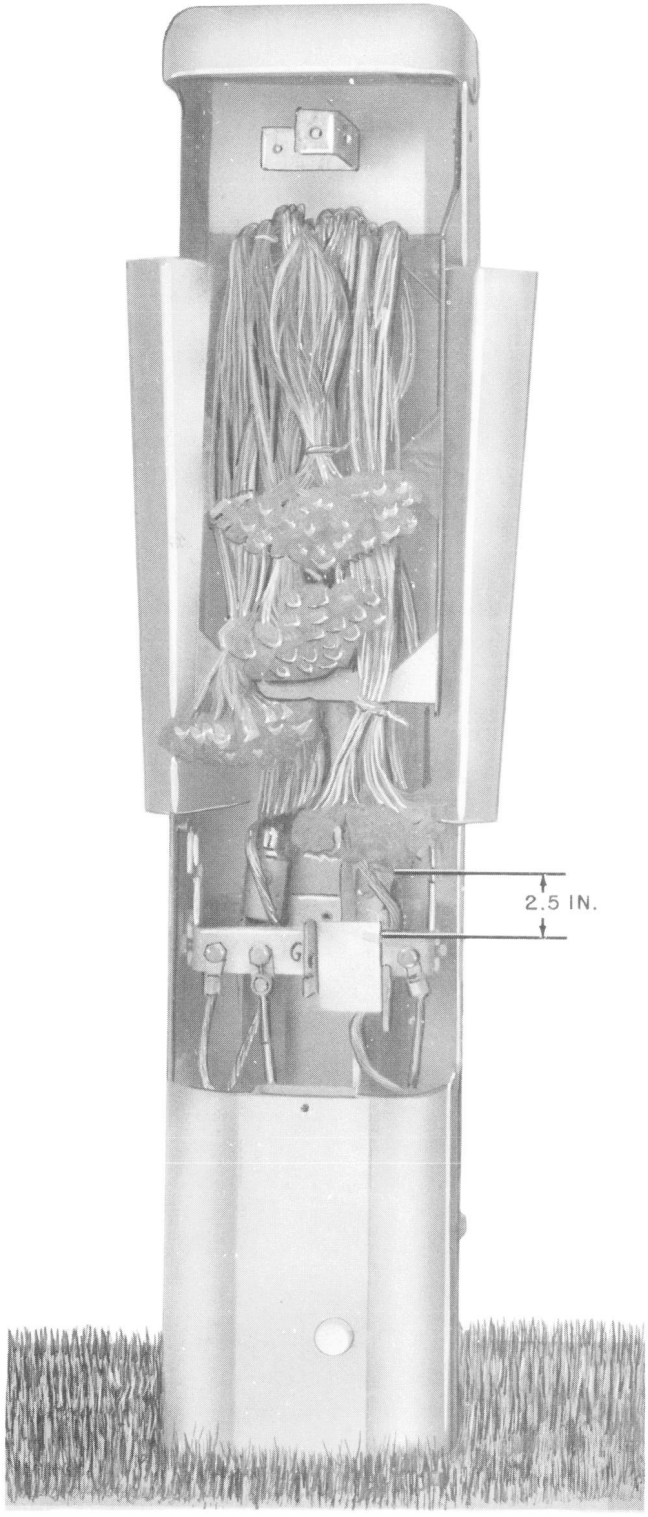


Fig. 21—Completed Splice in PC6/48 Cable Closure Using 700-Type Connectors—Typical for PC12/55

6.11 Isolate the completed splice by folding over the plastic shield, then close the backboard and tighten the screw.

6.12 Figure 23 illustrates an aerial cable entering the closure at a junction between buried and aerial plant.

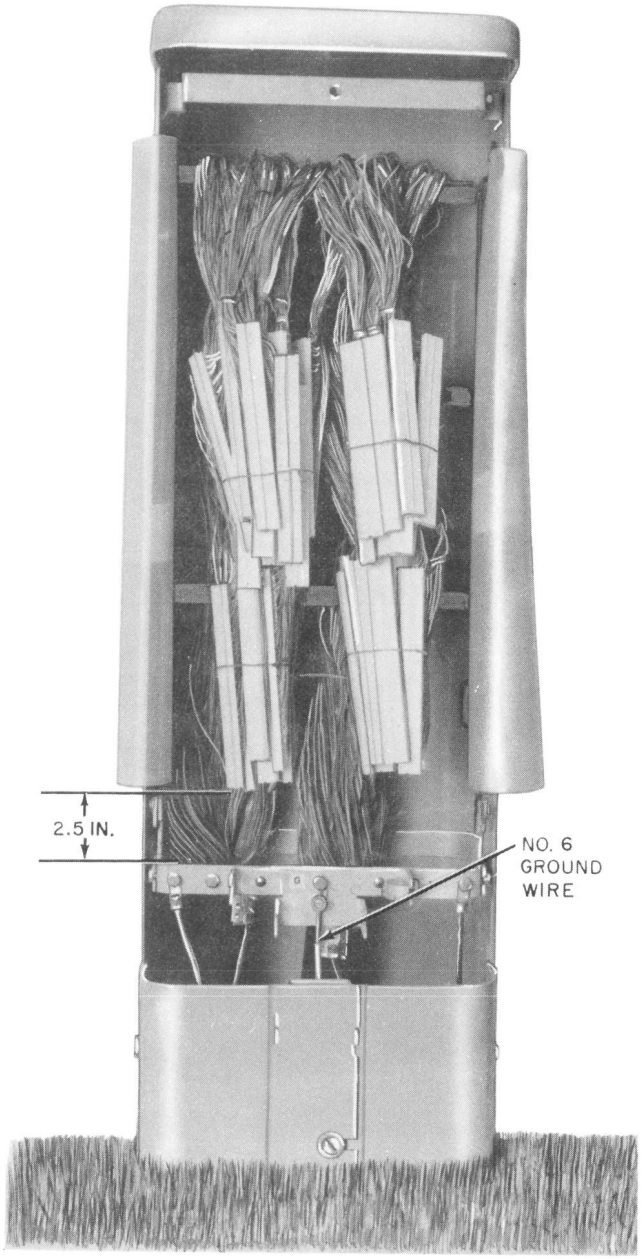


Fig. 22—Completed Splice in PC12/55 Cable Closure Showing Either CONECS Cable Ends or 710 Field Spliced Connectors

Fig. 23—Closure Used at Junction of Buried and Aerial Plant

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 B 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. 8) 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.