

RECONSTRUCTION OF BURIED DISTRIBUTION PLANT

CONTENTS	PAGE
1. GENERAL	1
2. RECONSTRUCTION OF B CABLE CLOSURE USING B CABLE CLOSURE REHABILITATION KIT	2
3. RECONSTRUCTION OF D CABLE CLOSURE USING D CABLE REHABILITATION KIT	9
4. RECONSTRUCTION OF E CABLE CLOSURE USING E RETROFIT KIT	16
5. RECONSTRUCTION OF BURIED AIR CORE PLANT	22
6. REPLACING BONDS IN EXISTING PEDESTAL CLOSURES	38
A. Replacing Inner Sheath Clamp With D Bond Assembly	38
B. Replacing B, C, or D Bond Clamp With D Bond Assembly	41
7. REPLACEMENT OF CLOSURES USED IN BURIED PLANT	48
A. Replacing B Cable Closure Mounted on B Closure Post	49
B. Replacing Combination B and C Cable Closure	54
C. Replacing D Cable Closure	57
D. Replacing E Cable Closure	60
E. Replacing KA5 Cable Closure	63
F. Replacing KB5 Cable Closure	67
G. Replacing KC5 Cable Closure	70
H. Replacing KD5 Cable Closure	73

CONTENTS	PAGE
I. Replacing G Cable Closure	76
J. Replacing H Cable Closure	80
1. GENERAL	
1.01 This section outlines the procedures for reconstructing cable closure used in buried plant.	
1.02 This section is reissued to include:	
• Use of B and D cable closure rehabilitation kits	
• Method of replacing bonds in existing closures	
• Method of reconstructing deteriorated ready-access buried plant and converting it to stabilized, encapsulated, fixed count plant.	
Since this reissue includes a general revision, arrows ordinarily used to indicate changes have been omitted.	
1.03 <i>Prior to working on cable closures used in joint buried plant, it will be necessary to become familiar with the procedures and precautions outlined in Section 629-020-102 (BURIED PLANT MAINTENANCE TO EXISTING SYSTEMS).</i>	
1.04 Information outlined herein pertaining to replacing bonds was originally contained in Section 631-600-301.	
1.05 When water is found in the core of buried air core cables, the cable will have to be rehabilitated by one of two methods.	
(a) Replacing cable with waterproof cable	
(b) Reclamation with C reclamation compound as outlined in Section 644-200-033.	

NOTICE

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Bell System except under written agreement

1.06 When it is necessary to disconnect service wire, **notify subscriber that service is to be temporarily interrupted for repair.**

1.07 If conditions in the closure do not warrant total reconstruction as outlined herein, rework the closure to restore bonds, add a fixed count block, gravel, and install moisture dams on air core cable sections which are subject to future flooding.

1.08 Do not use B wire connectors to join PIC cables.

2. RECONSTRUCTION OF B CABLE CLOSURE USING B CABLE CLOSURE REHABILITATION KIT

2.01 The procedures for converting a ready-access B cable closure into a fixed count wiring configuration using a B cable closure rehabilitation kit (Fig. 1) are outlined in Steps 1 through 10.

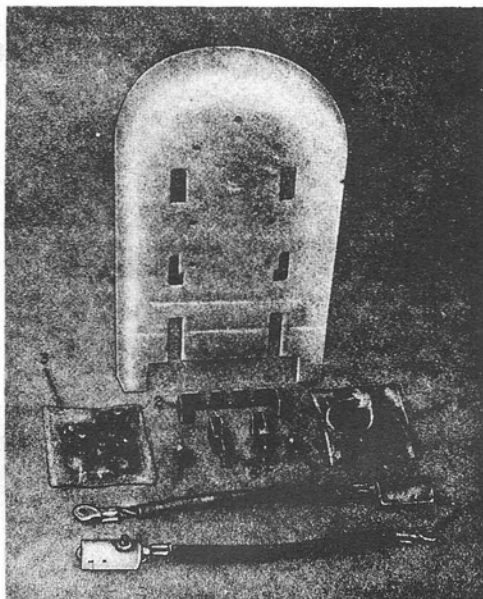
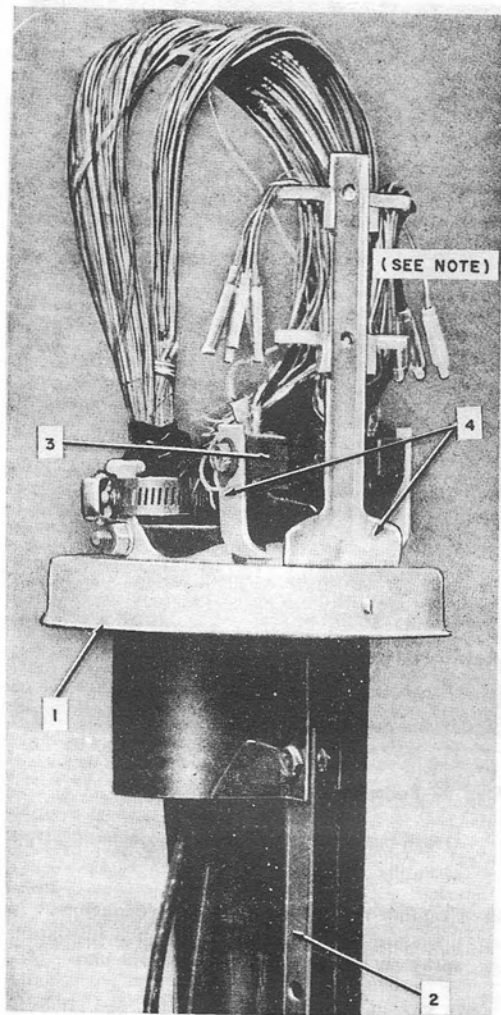


Fig. 1—B Cable Closure Rehabilitation Kit

1. Rehabilitation cover
2. Service wire bracket
3. Plastic caps
4. Bond clamp/strap assembly
5. Cable tie and loose hardware
6. Mounting brackets
7. Socket head cap screws

Note 1: There are enough parts in the kit to cover all configurations; therefore, **some parts may be left over after installation.**

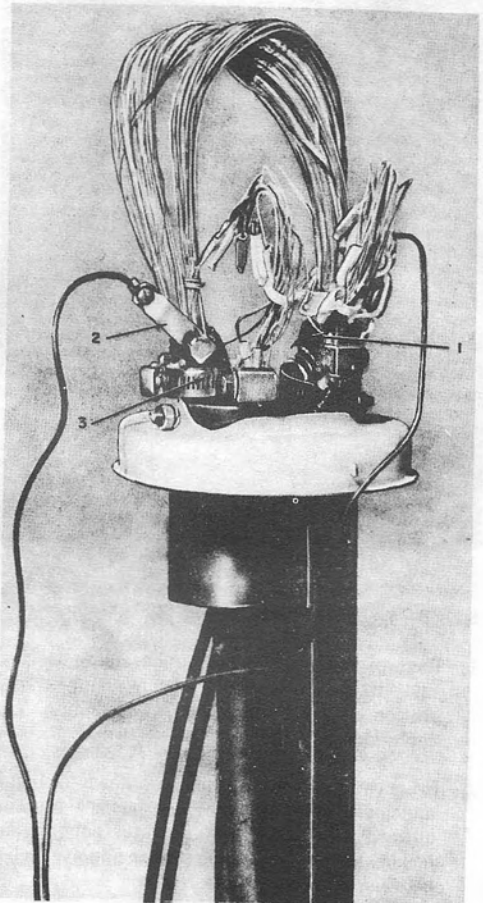
Note 2: The 6- and 9-type terminal blocks can be used with the B rehabilitation kit.



Step 1—Remove Dome and Lower Front Section of Post

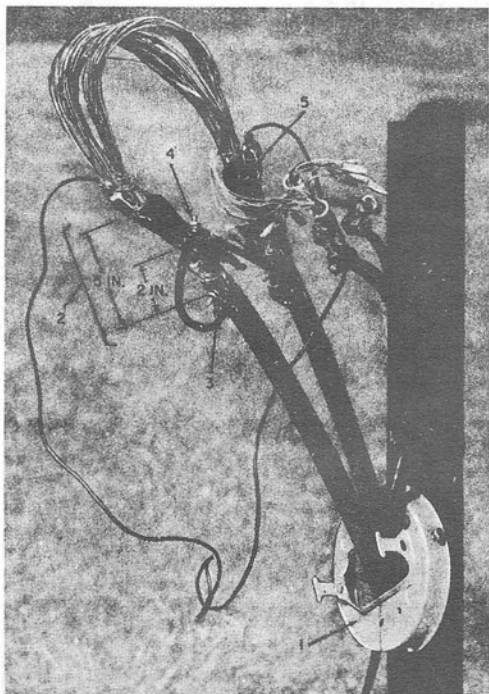
1. Remove metal dome from closure.
2. Remove lower front section of post.
3. Remove AT-7796X connectors.
4. Remove L- and U-shaped brackets from the baseplate.

Note: Use 700-type connectors for new terminations.



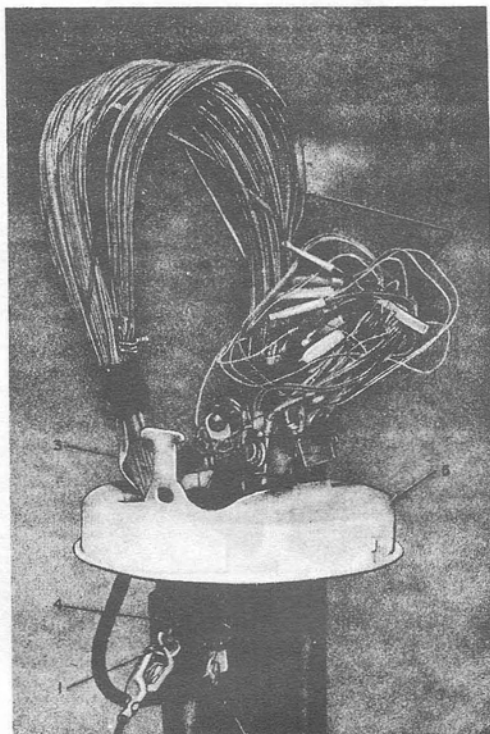
Step 2—Installed B Temporary Bond

1. Remove tape from ground tabs.
2. **Attach B temporary bond across cable shield.**
3. Loosen sealing clamp and remove cable from baseplate.



Step 3—Preparing Cable Sheath

1. Remove hardware securing baseplate to post, and lift baseplate up. Remove upper front section of post, then lower the baseplate down cable sheath.
2. From butt of cable, measure down 5 inches and mark outer polyethylene jacket. Measure upward 2 inches and mark outer polyethylene jacket. Remove the 2-inch section of polyethylene between the two marks.
3. Partially open metallic shield and install bond clamp/strap assembly.
4. Fasten loose ends of bond straps using a screw and nut furnished with kit. Remove B temporary bond.
5. Remove old inner sheath clamp and cable sheath above newly installed bond clamps.



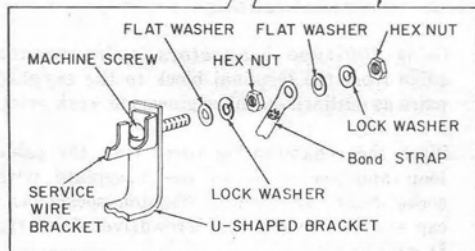
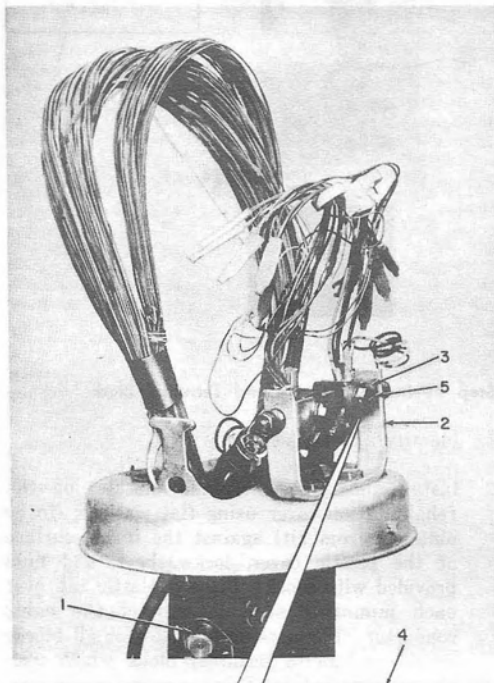
Step 4—Restoring Cable Conductors

1. Attach temporary bond across bond clamp/strap assembly studs.
2. Examine the insulation on all conductors. If necessary, restore insulation with B insulation spray as follows: (Section 462-030-102)
 - (a) Spread conductors apart, spray and allow to dry.
 - (b) Respray and allow to dry.
 - (c) Bring conductors together so they will fit under the plastic cover, spray and allow to dry.
3. Wrap the conductors with B polyethylene tape from bond clamps upward 6 inches (wrap express pairs separately) and secure with vinyl tape.

4. Tape bond clamps to prevent metal-to-metal contact between bond clamps. This permits sheath continuity tests between terminals.

Note: Do not tape over bond clamp studs.

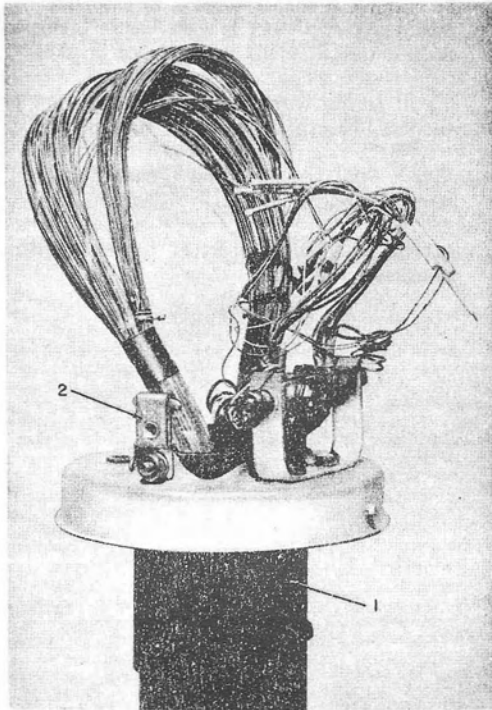
5. Position baseplate over rear post section.



2. Reassemble U-shaped bracket to baseplate. If 3-pair protected block is used, install L-shaped bracket (see Step 10) on U-shaped bracket.
3. Install service wire bracket (with slots up) to U-shaped bracket using longer machine screws.
4. Attach bond straps to the U-shaped bracket; remove temporary bond.
5. Attach AT-7796X connectors to service wire bracket.

Step 5—Bonding Cable Sheath

1. Place a plastic cap over each bond clamp stud. This prevents the studs of bond clamps from making metal-to-metal contact with the closure.

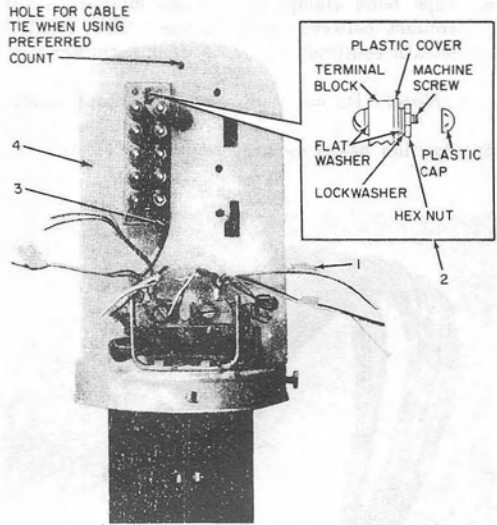


Step 6—Closure Prepared for Installation of Rehabilitation Cover

1. Reassemble the front post sections.
2. Place a mounting bracket over each baseplate tab and secure with carriage bolts securing the baseplate to the post.

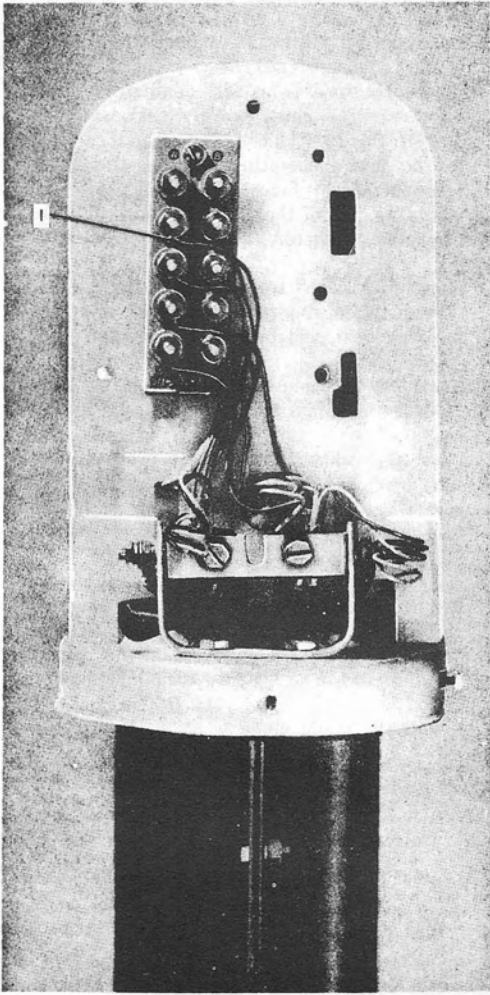
Note: If carriage bolts are not present, secure the mounting bracket with flat washer, lockwasher, and screw.

3. If the metal dome is 8 inches high, trim lower section of rehabilitation cover using the grooves as a guide.



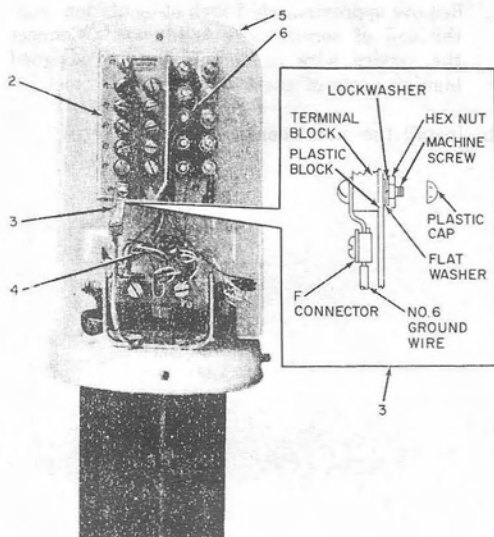
Step 7—Installed Cover and Terminal Block

1. Identify and tag service wires.
2. Install and secure terminal block(s) on the rehabilitation cover using flat washers (to be obtained from kit) against the inside surface of the plastic cover, lockwashers, and nuts provided with block. Place a plastic cap over each mounting stud to protect the cable conductor. Use uppermost holes for all blocks except the 9A1-5 terminal block which uses the top and bottom hole.
3. Using **700-type connectors**, splice the stub cable from the terminal block to the assigned pairs as outlined on the engineering work print.
4. Place the rehabilitation cover over the cable loop and secure it to the baseplate with socket-head cap screws. Tighten socket-head cap screws using a hex screwdriver from the D wrench kit.



Step 8—Unprotected Fixed Count

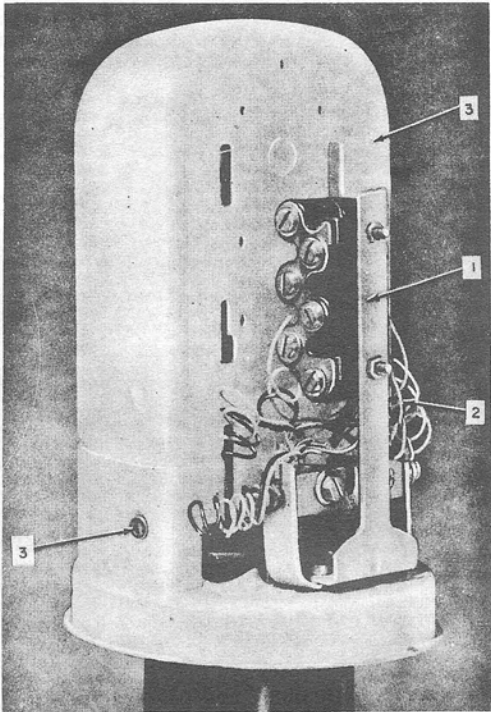
1. Remove approximately 1 inch of insulation from the end of service wire conductor. Connect the service wire conductors to the assigned binding posts of the 9-type terminal block.
2. Install the metal dome.



Step 9—Protected Fixed Count Using 9A1B-5 Terminal Block (Cable Protection)

1. Identify and tag service wires.

2. Install and secure a 9A1B-5 terminal block on a full size rehabilitation cover (9A1B-5 **cannot** be used on a shortened cover) using flat washers (to be obtained from kit) against the inside surface of the plastic cover; lockwashers and nuts provided with block. Secure an F connector to the lower mounting stud of the 9A1B-5 terminal block. Place a plastic cap over each mounting stud of the protector block to protect the cable conductor.
3. Using an F connector, connect a No. 6 ground wire between the protector block and screw securing U-shaped bracket to baseplate.
4. Using 700-type connectors, splice the stub cable from the terminal block to the assigned pairs.
5. Place the rehabilitation cover over the cable loop and secure it to the baseplate with socket-head cap screws. Tighten socket-head cap screws using a hex screwdriver from the D wrench kit.
6. Remove approximately 1 inch of insulation from the end of service wire conductors. Connect the service wire conductors to the assigned binding post of the 9-type terminal block.
7. Install the metal dome.



Step 10—Protected Fixed Count Using 6A4B-3 Terminal Block (Cable Protection)

1. Remove plastic clips from L-shaped bracket, then install and secure a 6A4B-3 terminal block on L-shaped bracket.
2. Using 700-type connectors, splice the wire leads from terminal block to the assigned pairs.
3. Place the rehabilitation cover over the express pairs and secure the cover to the baseplate with socket-head cap screws and tighten using a hex screwdriver from the D wrench kit.
4. Remove approximately 1 inch of insulation from the end of service wire conductors. Connect the service wire conductors to the assigned binding post.
5. Install the metal dome.

3. RECONSTRUCTION OF D CABLE CLOSURE USING D CABLE CLOSURE REHABILITATION KIT

3.01 The procedures for converting a ready-access D cable closure into a fixed count wiring configuration using a D cable closure rehabilitation kit (Fig. 2) are outlined in Steps 11 through 18.

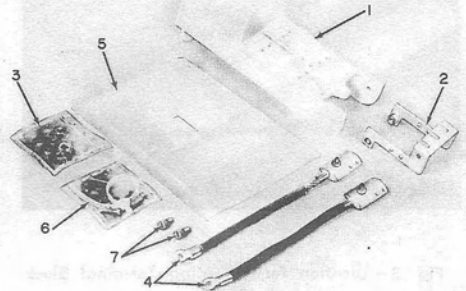


Fig. 2—D Cable Closure Rehabilitation Kit

1. Rehabilitation cover
2. Mounting bracket
3. Plastic caps
4. Bond clamp/strap assembly
5. Plastic shield
6. Cable tie and loose hardware
7. Socket head cap screws

Note 1: There are enough parts in kit to cover all configurations. Some parts may be left over after installation.

3.02 The 9- or 6-type terminal blocks can be mounted on the rehabilitation cover using the holes as illustrated in Fig. 3.

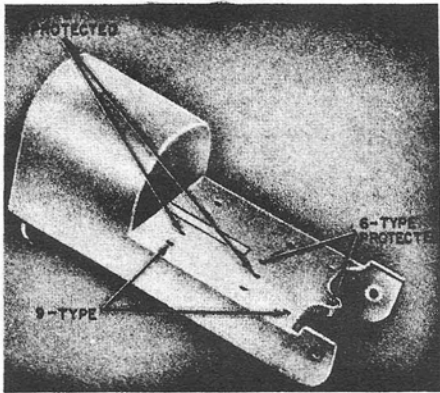
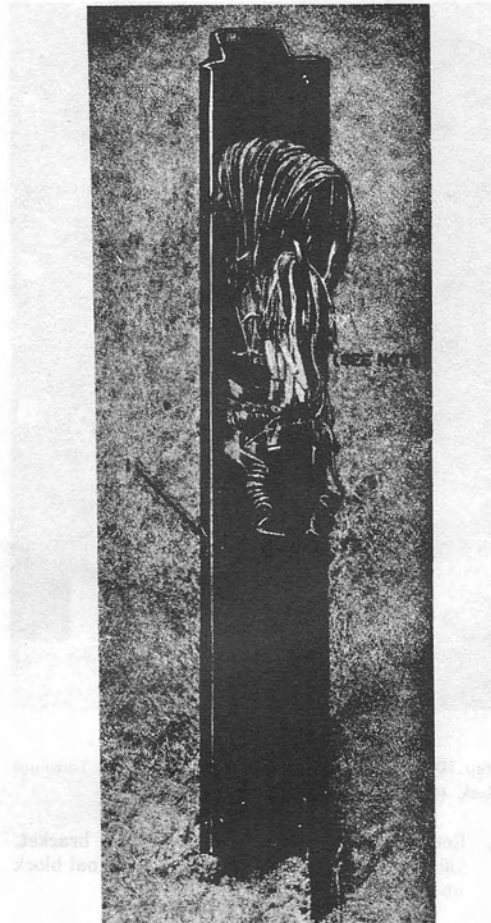


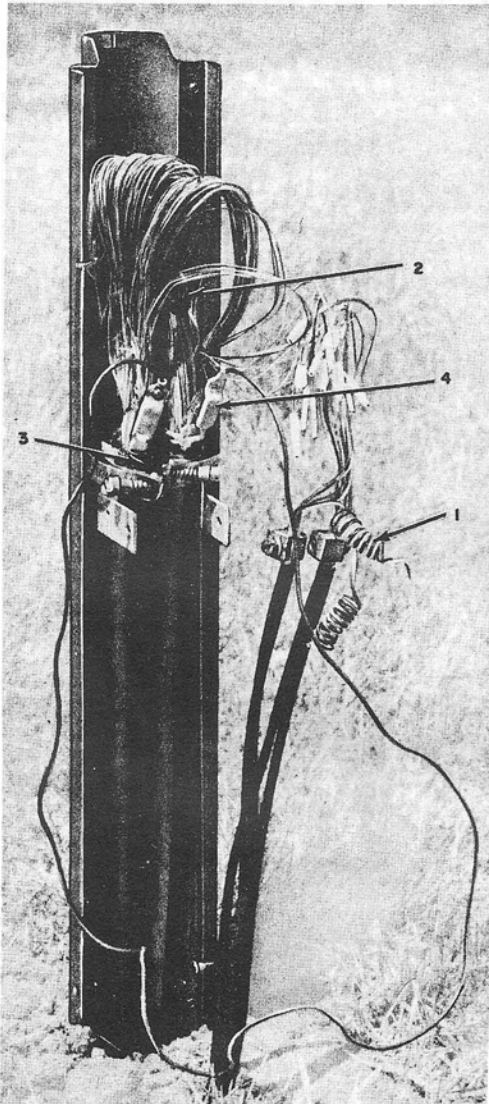
Fig. 3—Location for Mounting Terminal Block



Step 11—D Cable Closure With Covers Removed

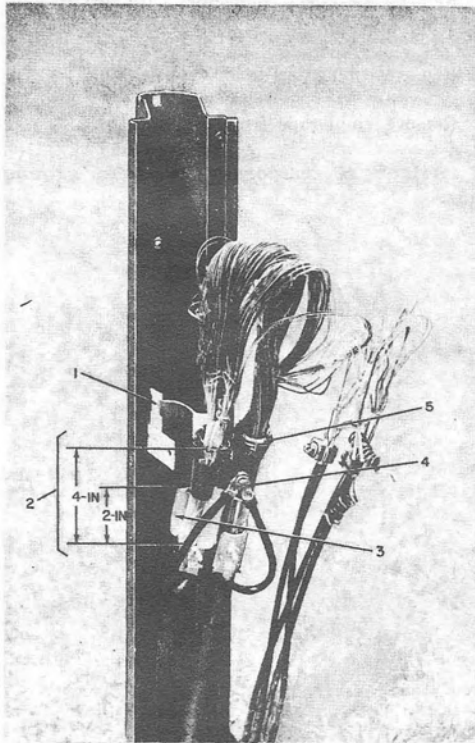
1. Remove front cover(s).

Note: Use 700-type connectors for new terminations.



Step 12—Installation of Temporary Bond

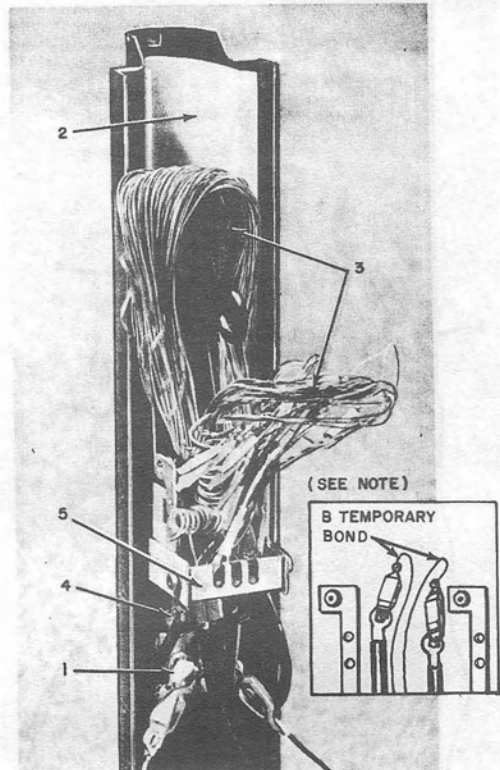
1. Remove AT-7796X connectors with service wire from bracket.
2. Remove conductors from eyebolt.
3. Remove vinyl tape from ground tabs.
4. **Attach B temporary bond to ground tabs.**



Step 13—Prepare Cable Sheath

1. Loosen and remove sealing clamp securing cable to ground bracket.
2. From butt of cable, measure down 4 inches and mark outer polyethylene jacket. Measure up 2 inches, mark outer polyethylene jacket. Remove 2-inch section of polyethylene between the two marks.
3. Partially open metallic shield and install bond clamp/strap assembly.
4. Fasten loose ends of bond straps using a screw and nut furnished with kit. Remove B temporary bond.
5. Remove old inner sheath clamp and cable sheath above newly installed bond clamps.

Note: When required, install moisture plugs as outlined in Section 631-600-305. (Do not pour plugging compound at this point.)



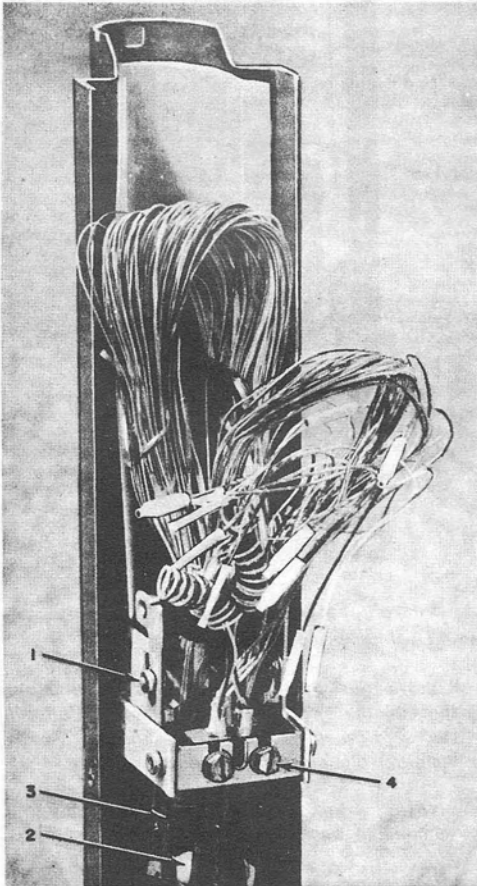
Step 14—Restoring Cable Conductors

1. **Connect temporary bond across bond clamp/strap assembly studs.**

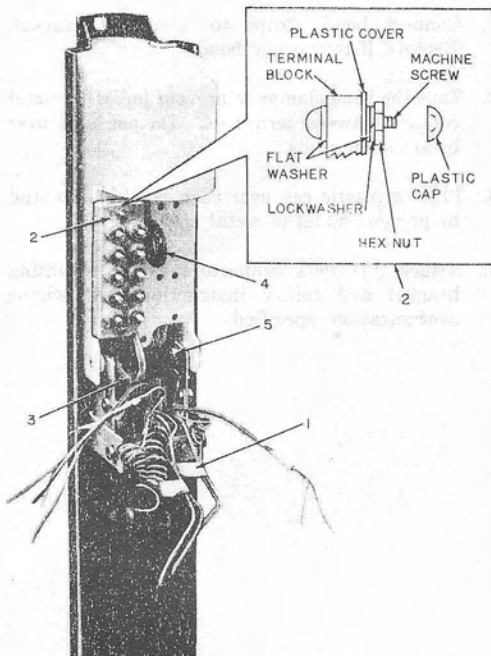
Note: If moisture plug is used, connect B temporary bond as indicated in the above figure.

2. Install plastic shield.
3. Examine the insulation on all conductors. If necessary, restore the insulation with B insulation spray as follows: (Section 462-030-102)
 - (a) Spread conductors apart, spray, and allow to dry.

- (b) Respray and allow to dry.
- (c) Bring conductors together so they will fit under the plastic cover, spray and allow to dry.
4. Wrap the conductors with B polyethylene tape from the bond clamps upward 8 inches (wrap express pairs separately) and secure using vinyl tape.
 5. Position cable and service wires into rear section of closure, then secure mounting bracket to the closure.
1. Connect bond straps to mounting bracket. Remove B temporary bond.
 2. Tape the bond clamps to prevent metal-to-metal contact between terminals. Do not tape over bond clamp studs.
 3. Place a plastic cap over each bond clamp stud to prevent metal-to-metal contact.
 4. Attach AT-7796X connectors to the mounting bracket and follow instructions for wiring configuration specified.

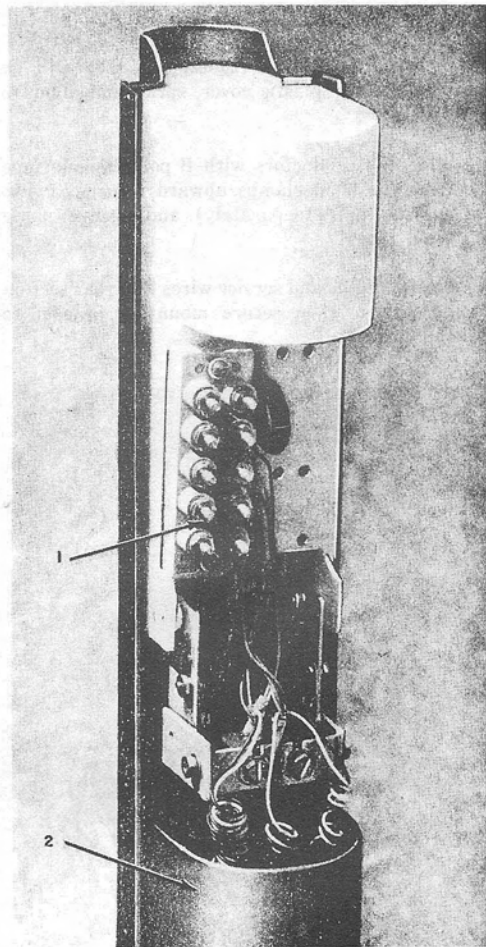


Step 15—Bonded Cable Sheath



Step 16—Installed Cover and Terminal Block

1. Identify and tag service wires.
2. Install and secure terminal block(s) on the rehabilitation cover using holes shown in Fig. 3, then secure with flat washers (from kit), lockwashers, and nuts provided with the block against the inside surface of plastic cover. Place a plastic cap over each mounting stud to protect the cable conductors.
3. Using 700-type connectors, splice the stub cable from the terminal block to the assigned pairs.
4. Position the rehabilitation cover so the eyebolt passes through the slot. Push the cover up to the top of plastic shield.
5. Secure cover to mounting bracket with socket-head cap screws. Tighten socket-head cap screws using a hex screwdriver from the D wrench kit.

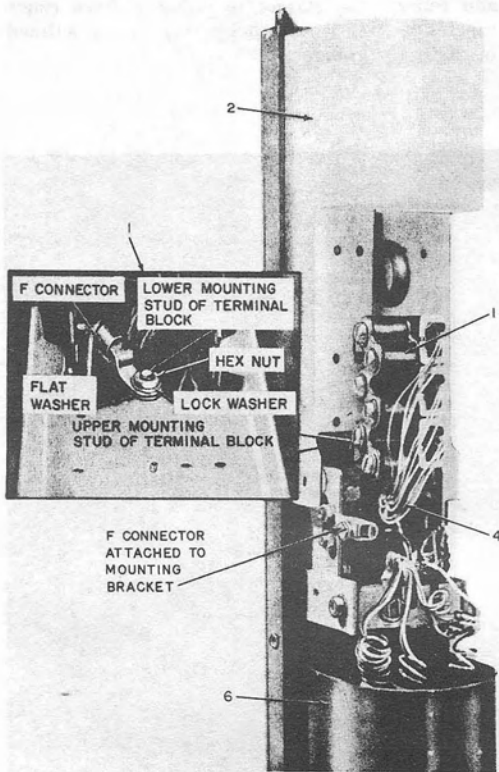


Step 17—Unprotected Fixed Count

1. Remove approximately 1 inch of insulation from the end of service wire conductors. Connect the service wire conductors to the 9-type terminal block assigned binding posts.

Note: When required, pour the plugging compound for moisture seal.

2. Install covers.



Step 18—Protected Fixed Count (Cable Protection)

1. Install and secure a 6A4B-3 terminal block on rehabilitation cover. (Install F connector as shown in sketch above.)

2. Place the rehabilitation cover over the express pairs so the eyebolt passes through the slot. Push the cover up to the top of the plastic shield. Secure the cover to the ground bracket with socket-head cap screws and tighten using a hex screwdriver from the D wrench kit.

3. Attach an F connector to the mounting bracket.

Note: Use a No. 6 ground wire to connect the F connector on the terminal block's lower mounting stud to the F connector on the mounting bracket.

4. Using 700-type connectors, splice the wire leads from terminal block to the assigned pairs.

5. Remove approximately 1 inch of insulation from the end of service wire conductors. Connect the service wire conductors to the assigned binding post of the 6A4B-3 terminal block.

Note: When required, pour the plugging compound for moisture seal.

6. Install covers.

4. RECONSTRUCTION OF E CABLE CLOSURE USING E RETROFIT KIT

4.01 The procedures for modifying an E cable closure to eliminate the ready-access feature

and convert the closure to either a fixed count capability using E retrofit kit (Fig. 4) are outlined in Steps 19 through 25.

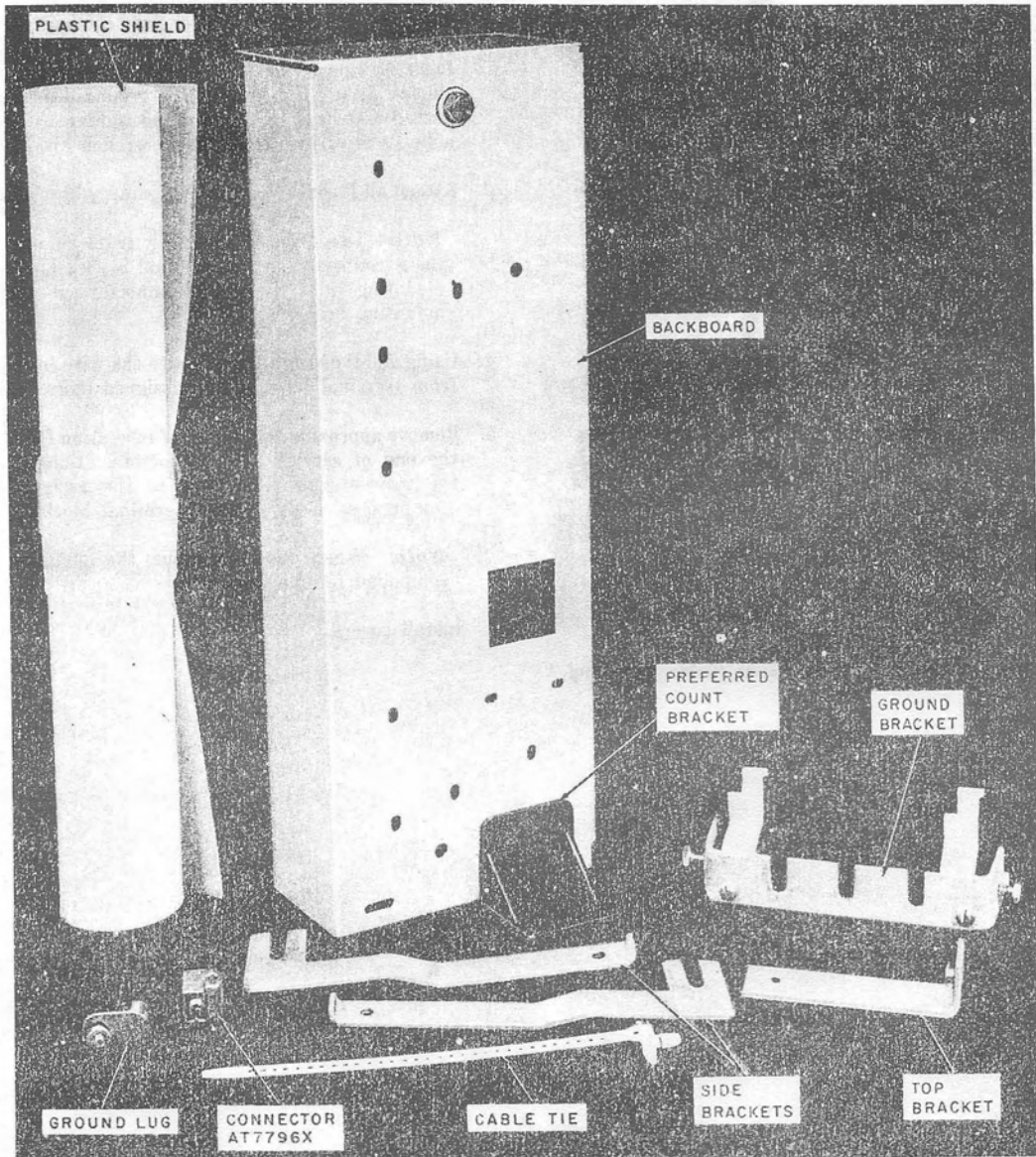
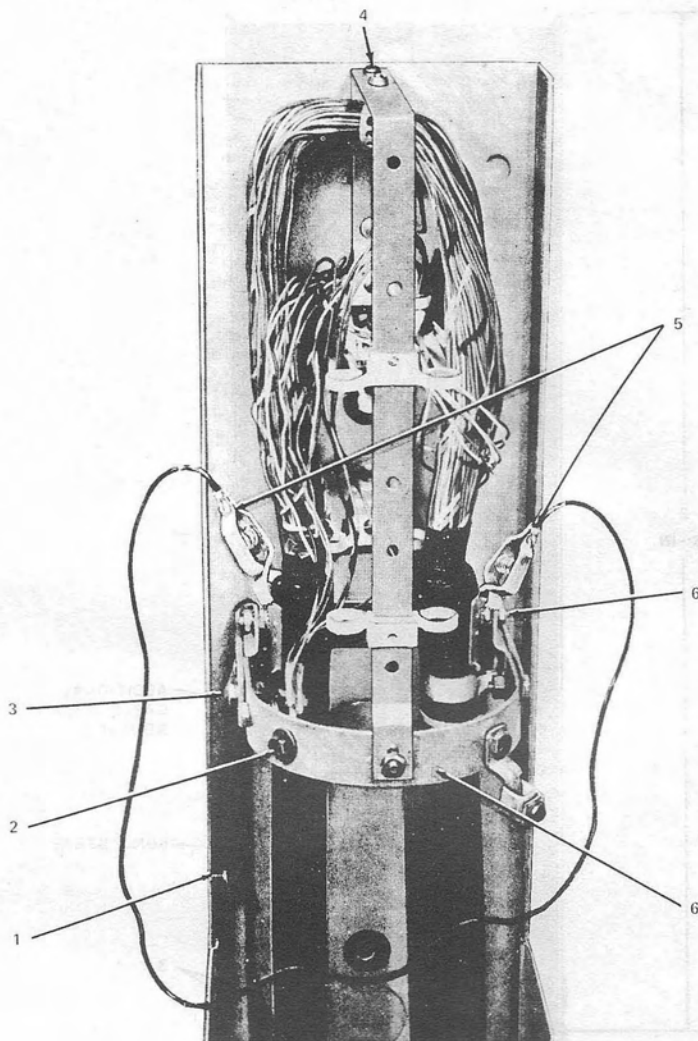
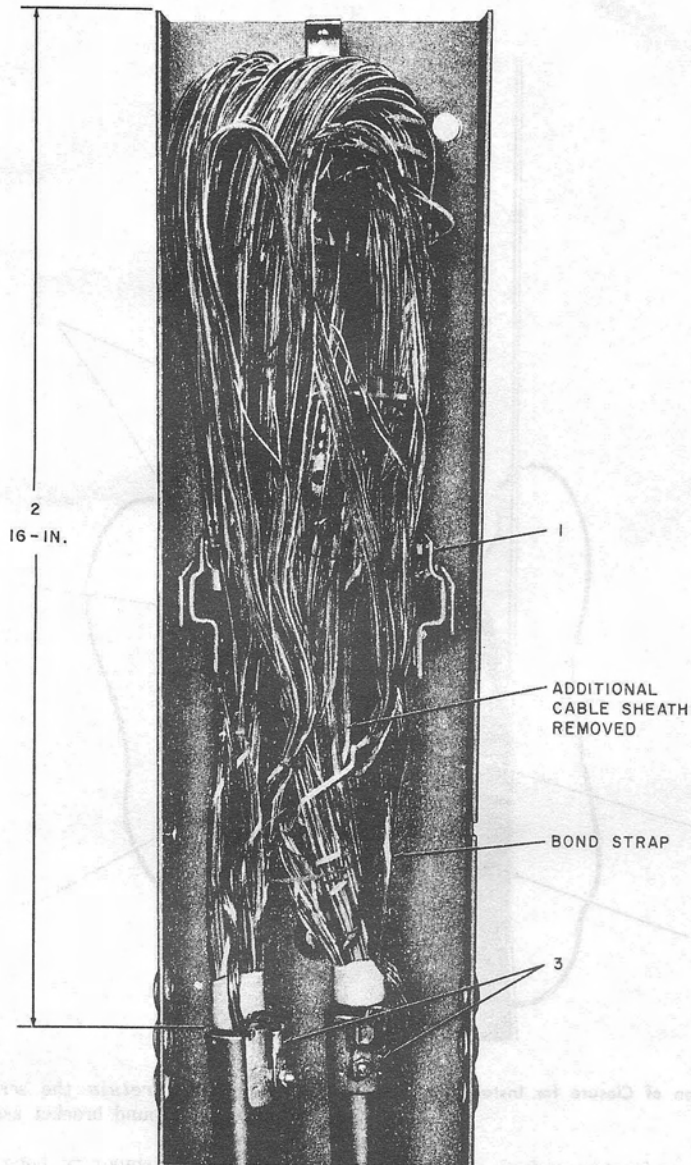


Fig. 4—E Retrofit Kit



Step 19—Preparation of Closure for Installation of E Retrofit Kit

1. Remove the upper front cover from the closure.
2. Remove all AT-7796X connectors with service wires from ground bracket.
3. Remove and **retain** the nuts, bolts, and washers securing the ground bracket to the fixed brackets.
4. Remove and **retain** the screw securing the top of the ground bracket assembly.
5. Install a B temporary bond AT-7781 across sheath opening.
6. Disconnect the bond clamps or bond straps from ground bracket, then remove the ground bracket assembly.

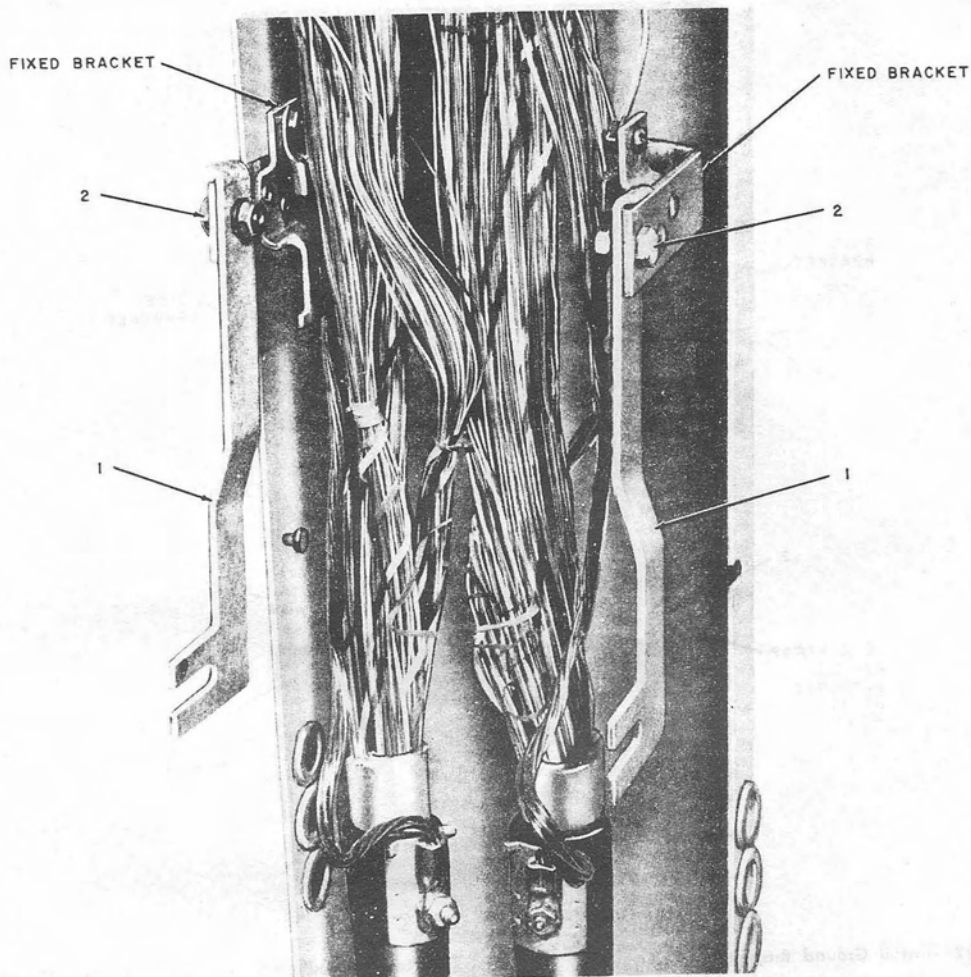


Step 20—Cable Sheath Preparation

1. Remove bond straps and bond clamps from cables.

2. Remove additional cable sheath to a point measured 16 inches from the top of the closure.

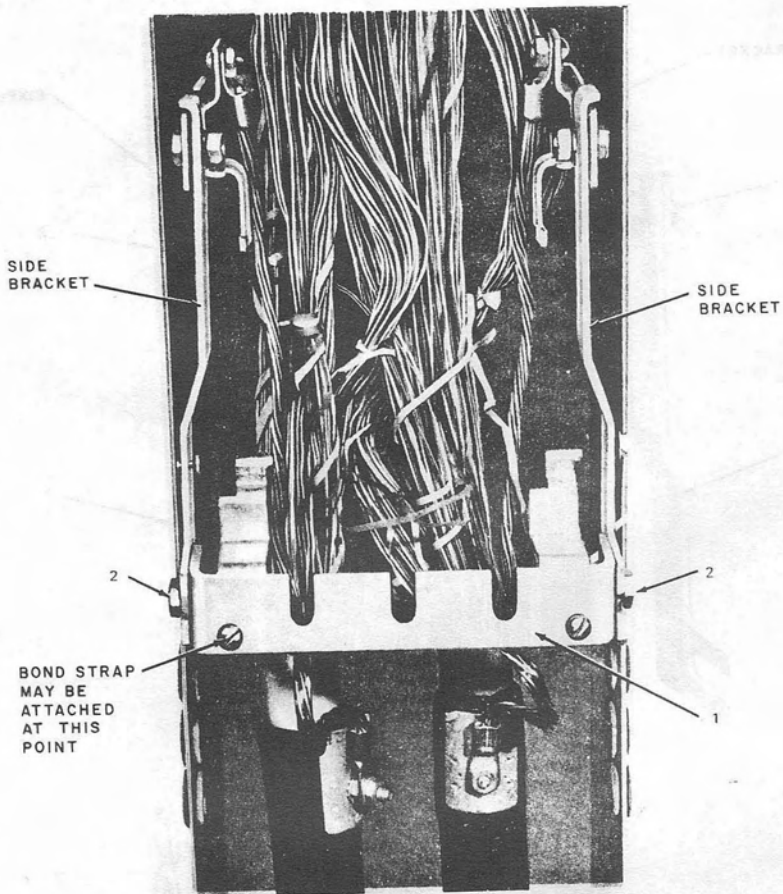
3. Install bond clamps and bond straps as outlined in Section 081-852-118.



Step 21—Installation of Side Brackets

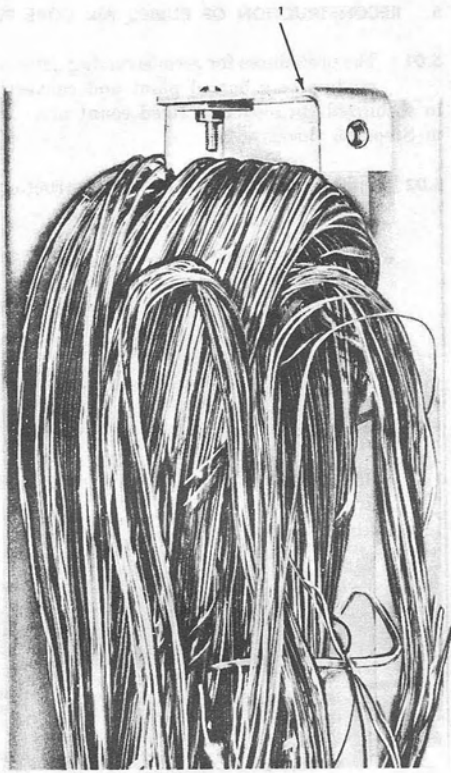
1. Install the two offset galvanized side brackets *on the inside* of the fixed brackets.

2. Secure with nuts and bolts retained in Step 19. *The head of screw goes to the outside of the brackets.*



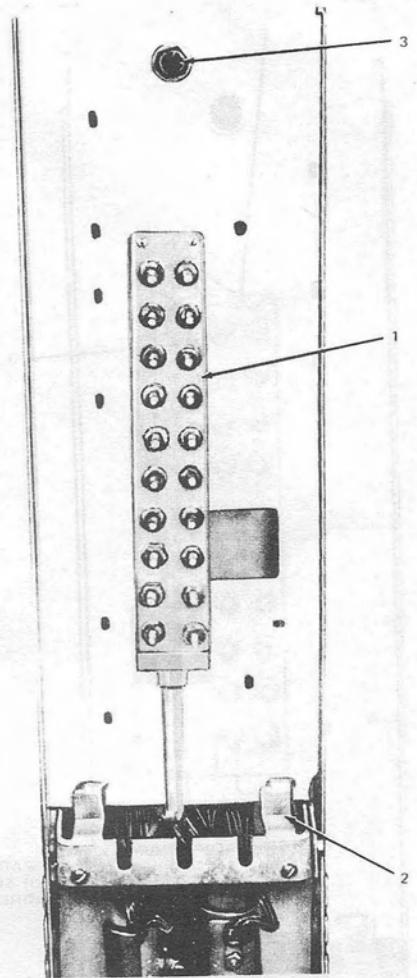
Step 22—Install Ground Bracket.

1. Attach the ground bracket to the side brackets.
2. Tighten cap screws on each side of ground bracket. The bond strap may now be attached to either the fixed bracket or the new ground bracket.



Step 23—Install Top Bracket

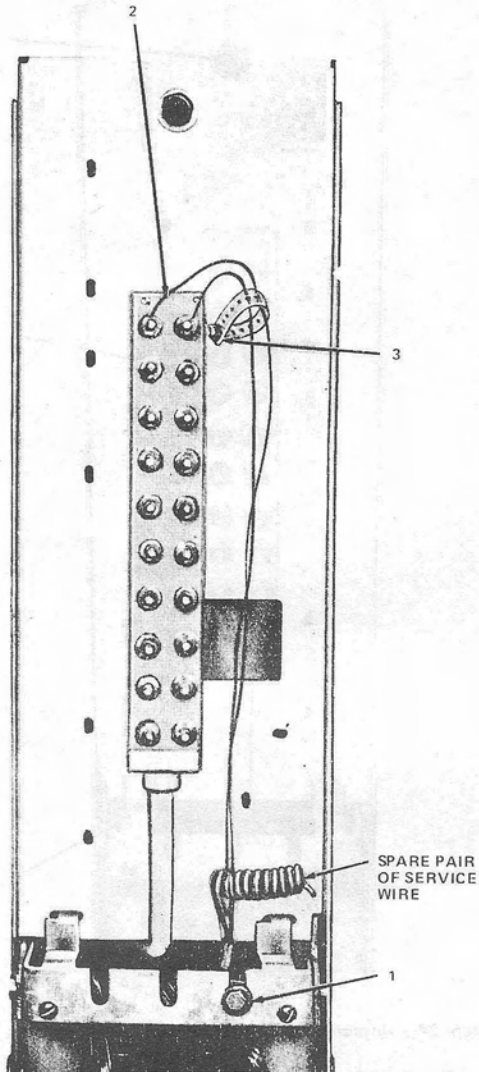
1. Attach the top bracket to the fixed bracket at the top of the closure using screw removed in Step 19.



Step 24—Unprotected Fixed Count

1. Remove the preferred count bracket from the front of the backboard. Install and secure terminal block (9A1-10) to the backboard.
2. Install backboard and attached terminal block on ground bracket; then with bracket hinged down, splice the terminal block stub cable to the assigned pairs.
3. Cut the plastic shield to the required height, then wrap the splice. Secure the backboard in the upright position.

TYPE	QUANTITY	DESCRIPTION
9A1-10	1	Terminal Block
9A1-11	1	Terminal Block
9A1-12	1	Terminal Block
9A1-13	1	Terminal Block
9A1-14	1	Terminal Block
9A1-15	1	Terminal Block
9A1-16	1	Terminal Block
9A1-17	1	Terminal Block
9A1-18	1	Terminal Block
9A1-19	1	Terminal Block
9A1-20	1	Terminal Block



Step 25—Terminated Service Wire

1. Attach AT-7796X connector and service wire, removed in Step 19, to ground bracket.
2. Connect service wire to assigned binding post on terminal block.
3. Secure service wire to backboard with cable tie.

5. RECONSTRUCTION OF BURIED AIR CORE PLANT

5.01 The procedures for reconstructing deteriorated ready-access buried plant and converting it to stabilized encapsulated fixed count are outlined in Steps 26 through 46.

5.02 The parts required for reconstruction are as follows:

- PC6/48 or PC12/55 cable closure
- 9-type terminal block—Type and size as required
- 700 or 710 splicing connectors and tools
- D encapsulant
- Rehabilitation kits (Fig. 5) listed in Table A.

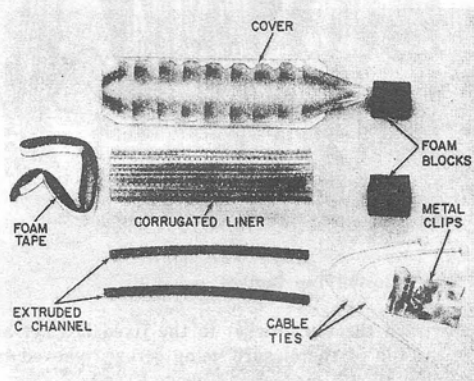
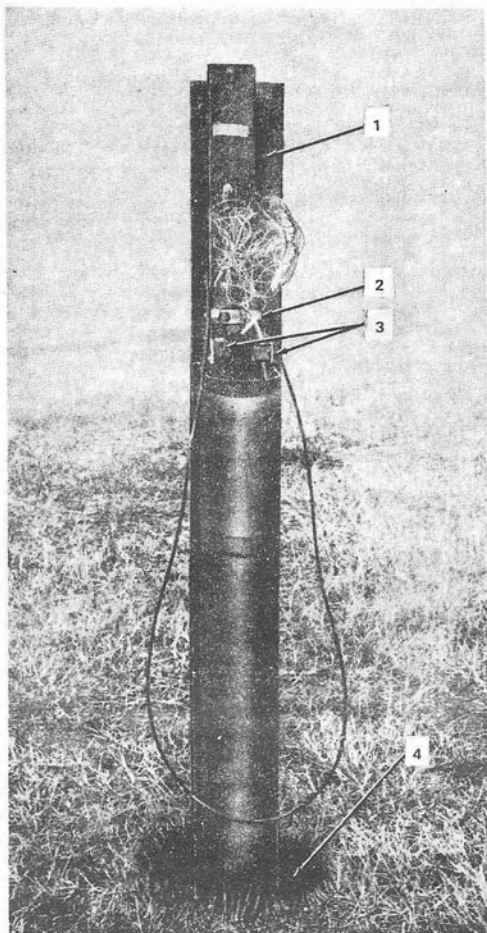


Fig. 5—1-Type Rehabilitation Kit

TABLE A

REHABILITATION KITS

REHABILITATION KIT	USE ON CABLE PAIR SIZE	FITS CLOSURE
1A1	25 and 50	PC6/48
1B1	75 and 100	PC6/48
1C1	200 and 300	PC6/48
1D1	400	PC12/55



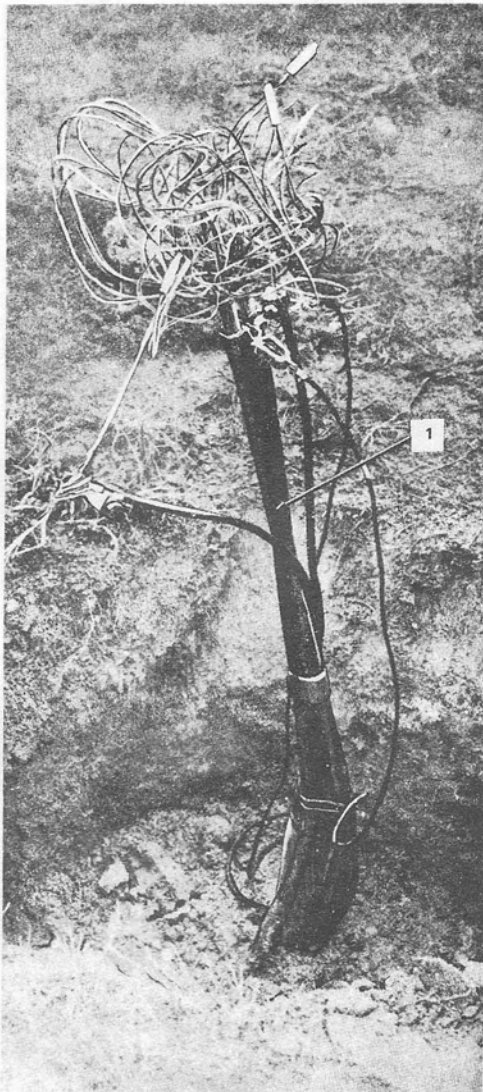
Step 26—Removing Existing Closure

1. Remove cover from closure to gain access to cable sheath.
2. Install B temporary bond AT-7781 to metallic shield of cable on each side of sheath opening.

Danger: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

3. Remove connectors securing service wires to closure.

4. Excavate a hole 2 feet by 2 feet by 16 inches deep. ***Exercise care not to damage buried service wires and cables while digging.***



Step 27—Closure Removed From Cable

1. Remove closure from cable.

5.03 Figure 6 summarizes the cable preparation described in Steps 28 through 32.

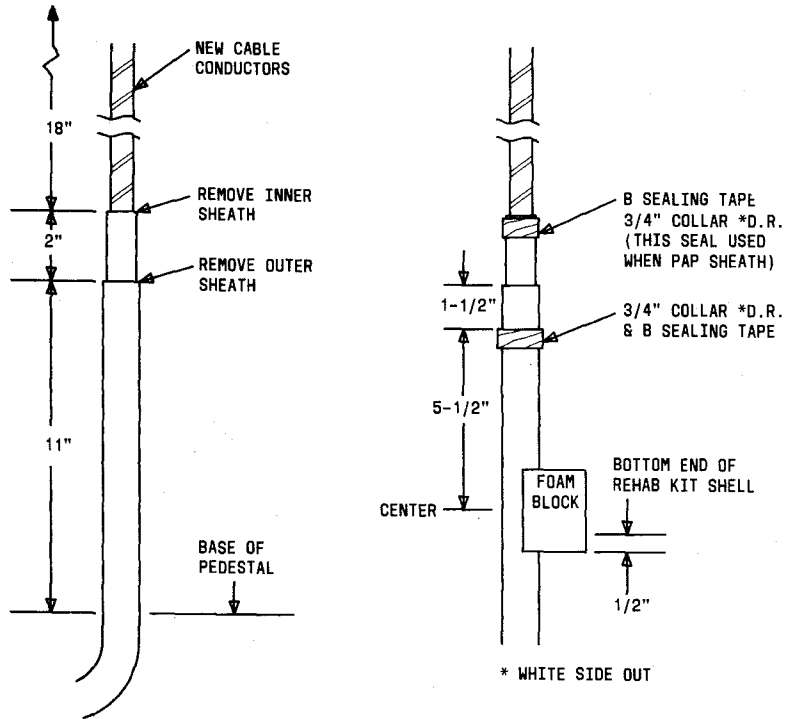
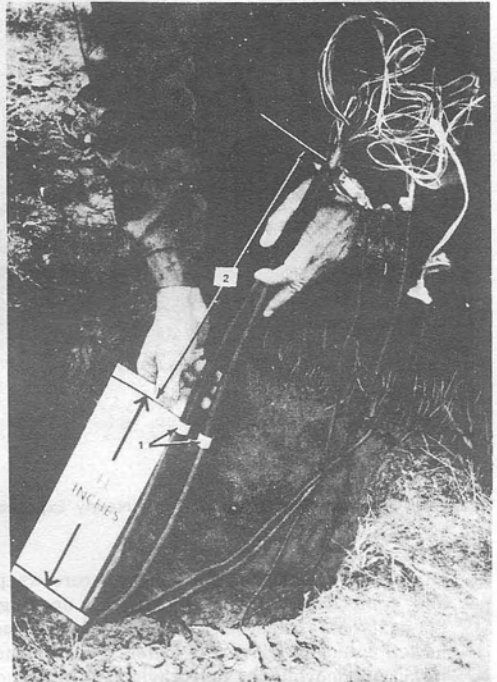


Fig. 6—Summary for Preparing Cable Sheath



Step 28—Placing Reference Mark

1. Temporarily place back section of PC-type cable pedestal over the cables coming out of the ground. Insure cable ends enter base of pedestal.
2. Place reference mark on cable at base end of pedestal (approximately 16 inches below grade). If cable is less than 16 inches deep, it will be necessary to make adjustments accordingly.



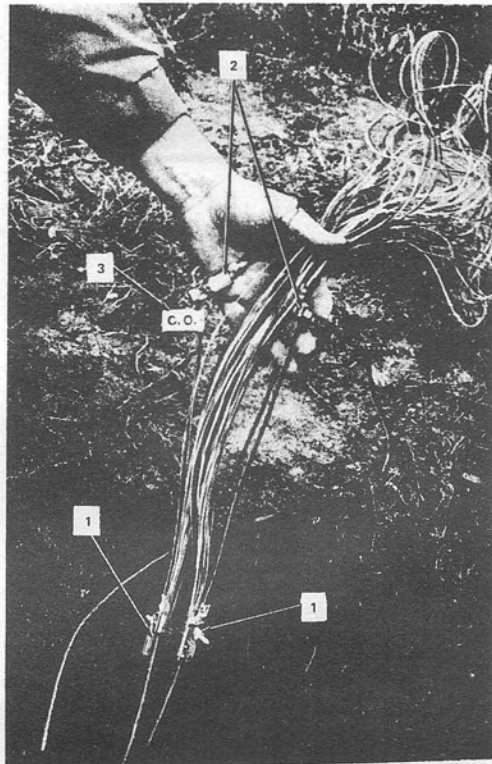
Step 29—Marking Cable and Sheath Removal

1. Mark each cable sheath 11 inches above reference mark.
2. Remove polyethylene jacket and metallic shield from mark to existing sheath opening.



Step 30—Remove Core Wrapper From Newly Exposed Conductors

1. For alphet sheath, leave 3/4-inch of core wrap and remove remainder to existing opening. For dual sheath cable, mark the inner polyethylene jacket 2 inches above the outer polyethylene jacket. Remove inner polyethylene sheath and core wrap from mark to existing sheath opening. **Exercise care not to damage conductors.** Eighteen inches of newly exposed conductors are desirable to resplice in order to remove the old exposed and possibly cracked or deteriorated conductors.



Step 31—Installed D Bond Assembly

1. Obtain D bond assembly from PC-type closure and install on each side of sheath opening. One bond assembly should be on the back side and one on the front side to prevent contact with each other.

Note: On cables up to 0.8 inches in diameter, cut a 2-inch long slit in the cable sheath on the opposite side from point of insertion of D bonding assembly to avoid forcing the inner plate of the D bond assembly under the cable sheath.

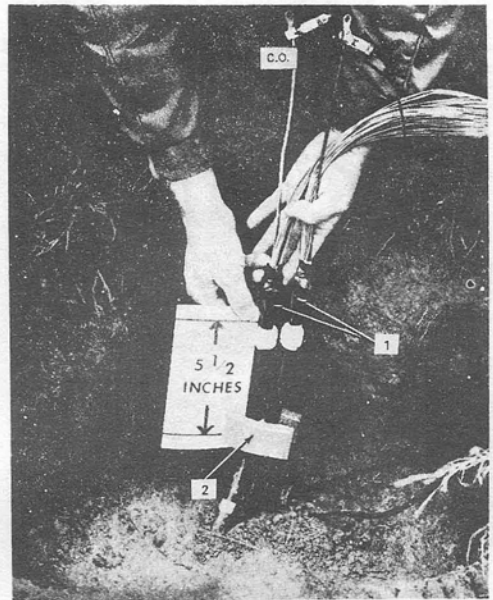
2. Attach B temporary bond to bond assemblies to provide sheath continuity across sheath opening.
3. Mark the top of the bond strap on the CO side with a piece of tape or other approved marker to aid future troubleshooting.



Step 32—Installed Collars

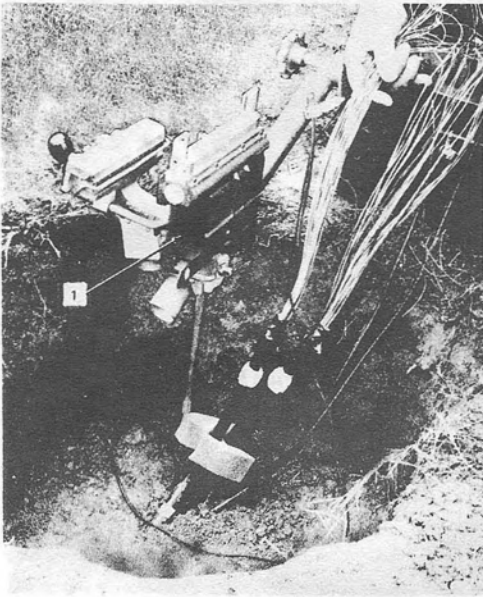
1. Using B cleaning fluid and a carding brush, clean and scuff the outer cable sheath (and inner sheath, if applicable).
2. Form collars on outer sheaths using one layer of 3/4-inch wide B sealing tape. Wrap the collar with several turns of fully stretched DR tape (white side out) and **and finish with last turn unstretched**. DR tape has a tendency to unwrap itself while encapsulant is setting up, if wrapped too tightly.

Note: These tape wrappings are extremely important because the D encapsulant will not adhere to the polyethylene cable sheath but will adhere to the DR tape preventing water from entering the splice.



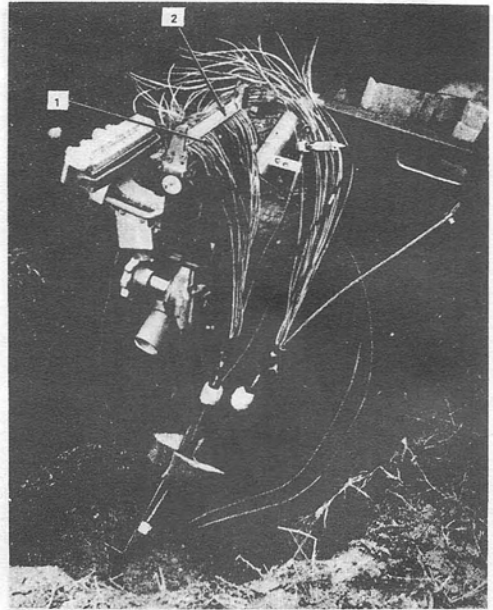
Step 33—Rehabilitated Cable

1. Wrap each bond clamp with vinyl tape. **Do not tape over DR tape collar**
2. Insert foam block(s) supplied with the rehabilitation kit between the cables as shown.



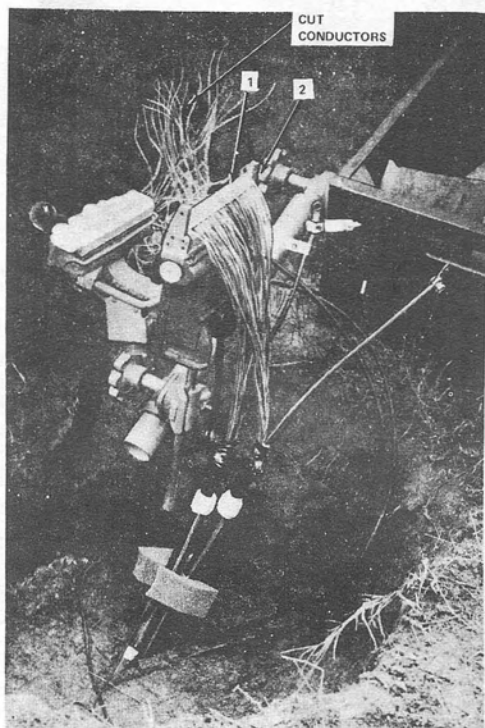
Step 34—Tool Step-Up for Splicing

1. Set up 710 connector splicing tool as outlined in Section 632-205-220.



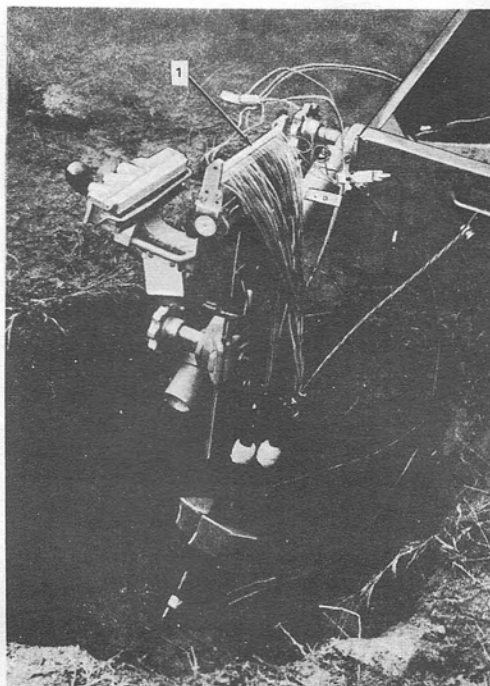
Step 35—Placing Conductor From CO Side of Cable Loop

1. Place index strip of 710-TC-25 connector in cutter-presser, then select 25-pair binder group from CO side of cable loop and place into index strip per color code sequence. **Do not cut off conductors.**
2. Place connector module on index strip and press.



Step 36—Placing Conductor From Field Side of Cable Loop

1. Place the identical 25-pair group from the field side of cable loop into the connector module. Seat and cut the conductors.
2. Install and press cap on connector module.



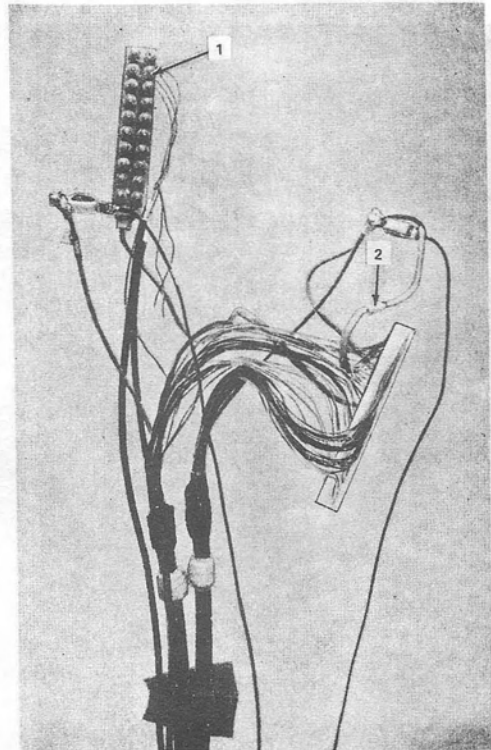
Step 37—Trimmed Conductors

1. Carefully trim off the old cable conductors (one conductor at a time) from the index strip, then place a strip of B paper tape over the exposed conductor ends. **Do not cut conductors with service wires attached.**



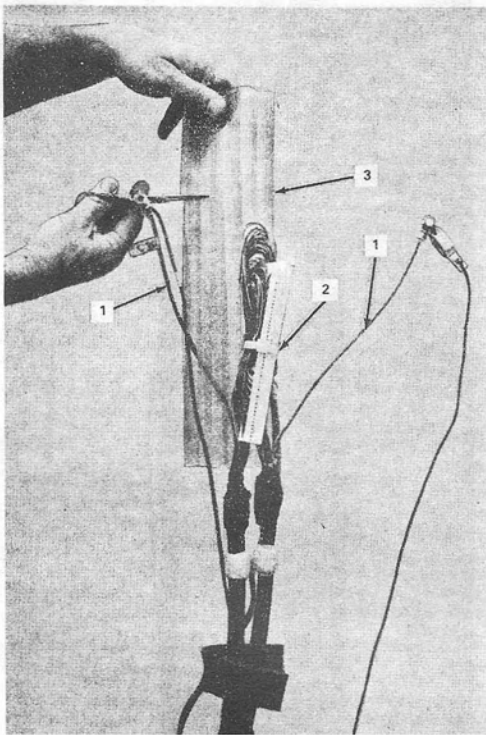
Step 38—Placing Stub Cable Pairs of 9A1-Type Terminal Block in Bridge Modules

1. Place bridge module into 710 connector containing assigned fixed count pairs, then place the stub cable pairs from 9-type terminal block into the slots containing the newly assigned pairs from the engineering work print.
2. Seat and cut off the conductors.
3. Place cap on bridge module and seat using cutter-presser. Remove bridge module and connector assembly from cutter-presser.



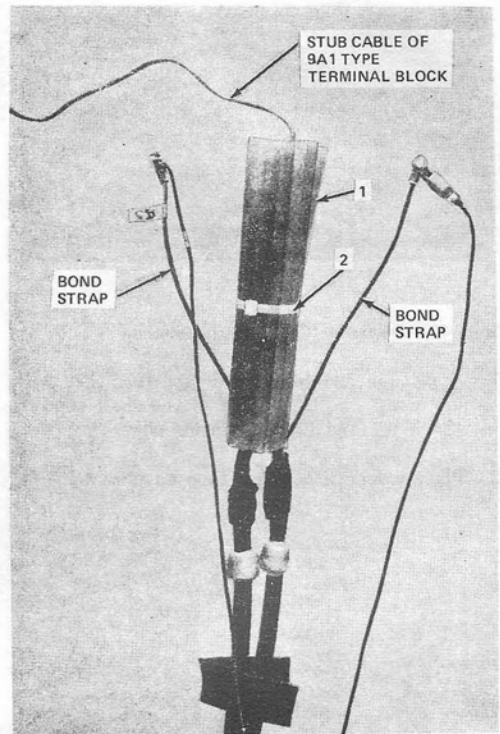
Step 39—Terminate Service Wires on 9A1-Type Terminal Block

1. Identify service wires, then cut service wire from conductor and connect to assigned pair on terminal block.
2. Install a B sealing tape collar wrapped with DR tape (white side out) on the end of the stub cable of 9-type terminal block. This prevents the stub cable from being inadvertently pulled out of the encapsulant in the 1-type closure.



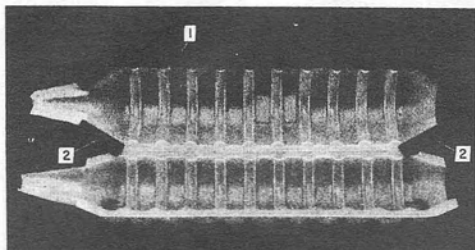
Step 40—Preparing Splice Bundle

1. Separate the bond straps from splice bundle.
2. Neatly fold splice into vertical bundle and secure with cable tie.
3. Cut plastic liner to required length to fit splice.



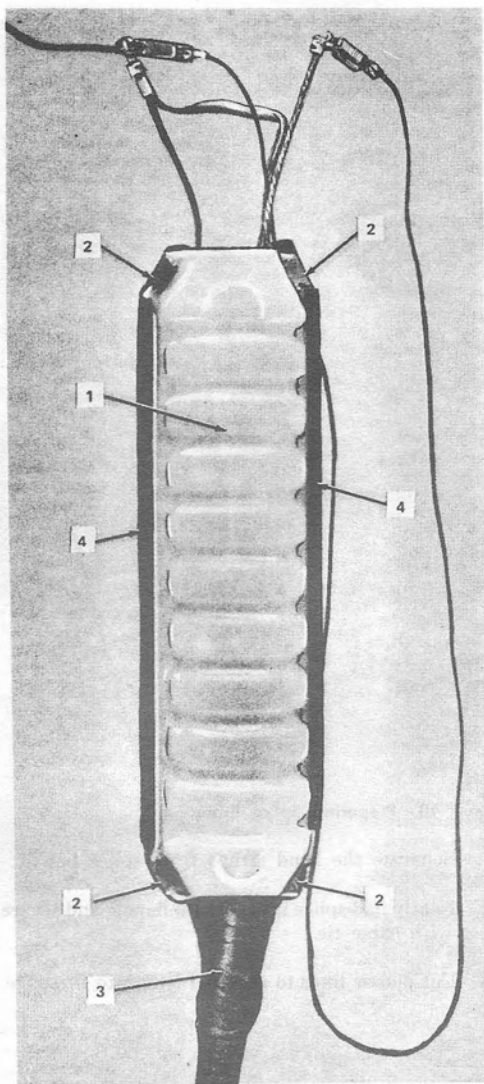
Step 41—Wrapped Splice Bundle

1. Wrap splice with plastic liner, leaving bond straps on outside of corrugated liner and widely separated to avoid contact with each other.
2. Secure liner with cable tie.



Step 42—Preparing Cover for Installation

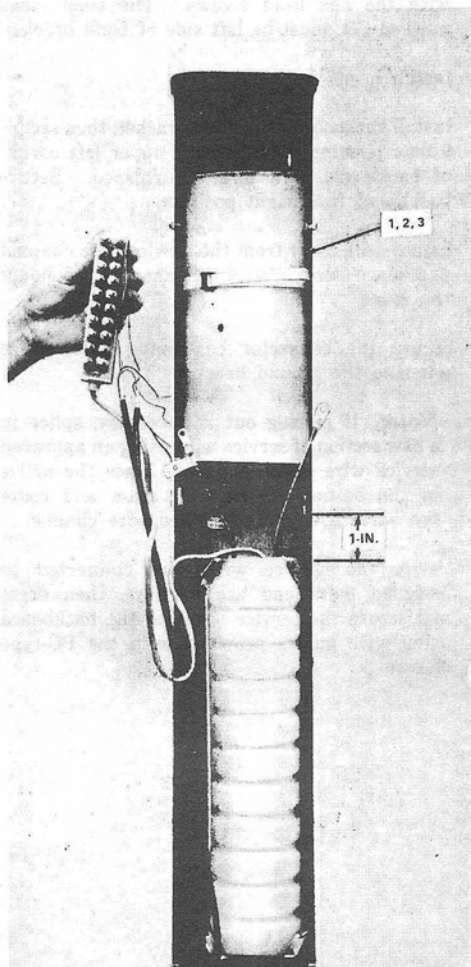
1. Apply adhesive back foam tape furnished with kit along the inside edge of the shell opposite the hinge and flush to inside edge.
2. Place a length of foam tape on nozzle flange.



Step 43—Installation of Cover

1. Place cover over splice bundle and position so that nozzle is approximately 1/4 inch from bottom of foam block.
2. Place metal clips on the two corner flanges as close to cable as possible and squeeze with pliers.

3. Wrap nozzle with vinyl tape starting on the cable and overlapping the foam tape extending from cover flange.
4. Slide extruded C channel over edges of cover.



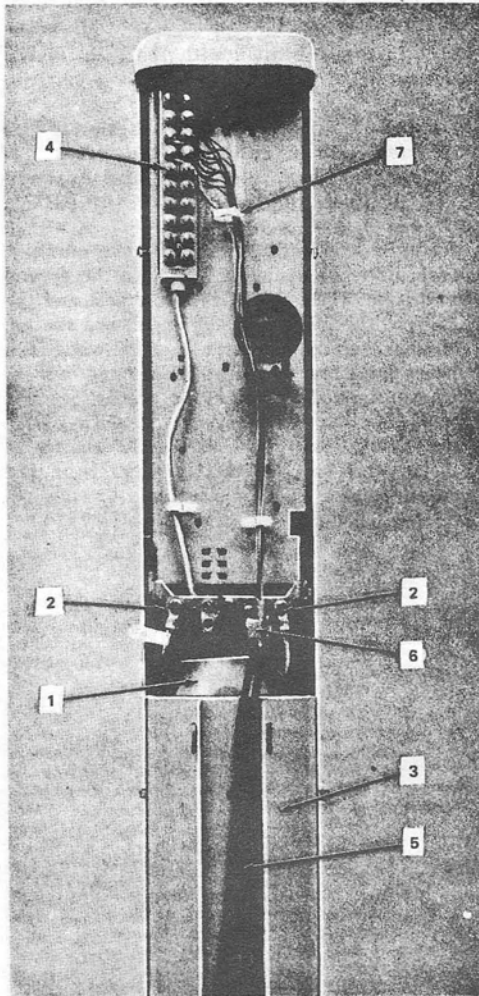
Step 44—Installed Back Section of Cable Closure

1. Temporarily position the back section of the closure over the installed rehabilitation kit, then

position a 3/2-inch mounting post flush with the rear of the PC-type closure. Mark the spot in the excavation with the point of the post.

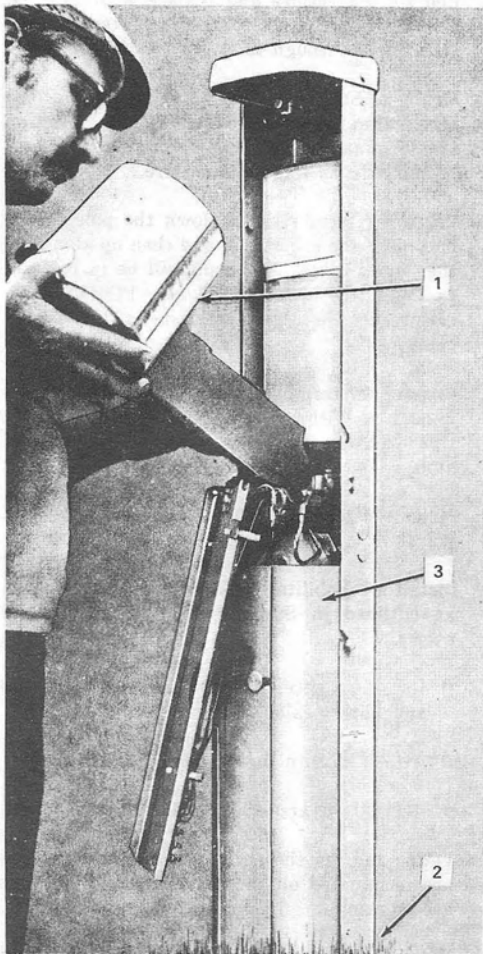
Danger: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

2. Remove the back section of the closure, then drive the mounting post into the ground to a point where the holes in the post and the PC-type closures are in alignment, and the top of the rehabilitation cover is at least one inch below bond bracket. **Exercise care not to damage cable or service wires.**
3. Install and secure back sections of closure to mounting post. Insert the bolts **from the inside** of the PC-type closure.



Step 45—Assembled Cable Closure

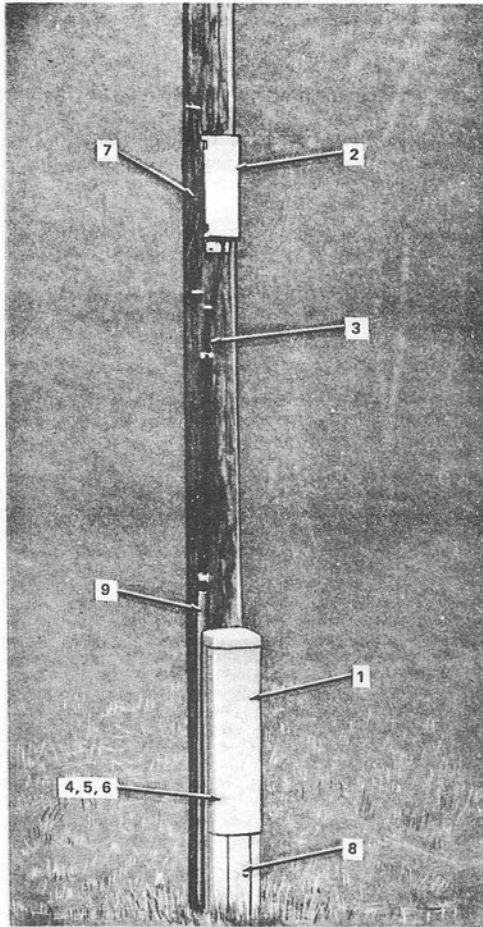
1. Place the splice in base of closure so that the flanges of the 1-type closure is positioned diagonally across base.
 2. Attach the bond straps to the ground bracket with the hex head screws. The bond strap marked CO, must be left side of bond bracket.
 3. Install lower front cover.
 4. Install backboard on ground bracket, then secure 9-type terminal block on the upper left corner of backboard with screws furnished. Secure backboard in upright position.
 5. Remove the cover from the service wire channel and place service wires in channel. Replace the cover.
 6. Secure the connector containing the service wires to the ground bracket.
- Note:** If piecing out is necessary, splice in a new section of service wire using an approved service wire splice closure. Place the splice in the bottom of the excavation and route the wire through the service wire channel.
7. Verify the service wires are connected to assigned pairs and are working, then dress and secure the service wires to the backboard using wire guides provided with the PC-type closure.



Step 46—Encapsulating Splice

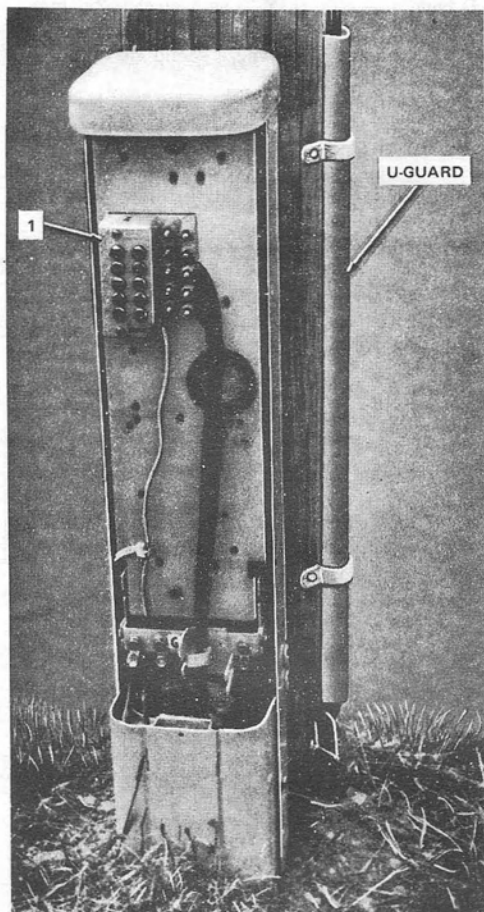
1. Mix the D encapsulant per instructions; then using a piece of cardboard as a trough, pour the encapsulant into the trough to fill closure to the top. This may require topping off after settling takes place.
2. Backfill the excavation.
3. When the encapsulant has set up, fill the base of the closure with gravel to within an inch of the top, then place the upper front cover. Identify the terminal per local instructions.

5.04 The procedures for reconstructing a buried closure with aerial drops are outlined in Steps 47 through 48.



Step 47—Four or More Aerial Drops Terminated on Aerial Terminal Fed by Buried Plant

1. Remove old closure and replace with PC-type closure following the same procedures outlined in Steps 28 through 46 except for the following:
2. Mount a NC (protected) or NF (unprotected) terminal at proper height on the pole. Position the terminal so the stub is on the same side of the pole as the cable closure.
3. Route the terminal stub down the pole to the bottom of the excavation and then up alongside the buried cable. The stub will be in position to enter the **bottom** of the PC6/48 cable closure in the same manner as the buried cable.
4. Prepare the terminal stub and install a D bond assembly. With an appropriate marker, identify this bond wire as being attached to the terminal stub.
5. Splice the terminal stub to the assigned cable pairs.
6. Install a rehabilitation kit and PC-type closure as outlined in Steps 40, 41, 42, 43, and 44 except:
 - (a) Use one additional foam block between stub and buried cable.
 - (b) Attach closure to the pole in 2 places.
 - (c) Aerial drops are terminated in aerial terminal.
7. Verify and tag the aerial drops to assure they are terminated on the assigned pair and they are working.
8. Mix the D encapsulant per instructions and pour into closure, then backfill excavation and fill closure with gravel as outlined in Step 46.
9. Place U-guard around terminal stub.



Step 48—Aerial Drops Terminated on 9A1B-5 Terminal—
Less Than Four Aerial Drops

Note: It should be determined beforehand whether or not sufficient slack exists in present drops to reach new block without piecing out. If not, use N-type terminal as discussed previously.

1. The procedures for rehabilitating the cable, replacing the old cable closure, and encapsulating the splice are outlined in Steps 26 through 46 except:
 - (a) The cable closure is secured to pole.
 - (b) A protected 9A1B-5 terminal block is used for terminating aerial drops.
 - (c) Aerial drops are run down the pole and through the grommets, then connected to terminal blocks.
 - (d) Place U-guards over aerial drops entering closure.

6. REPLACING BONDS IN EXISTING PEDESTAL CLOSURES

6.01 This part covers the methods for replacing the inner sheath clamps or bond clamps with

a D bond assembly (Fig. 7) as a mechanical means of making electrical bonds to the metallic shield of plastic sheath cable where shield continuity has been found deficient.

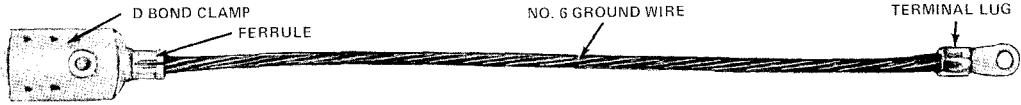


Fig. 7—D Bond Assembly

A. Replacing Inner Sheath Inner Sheath Clamp With D Bond Assembly

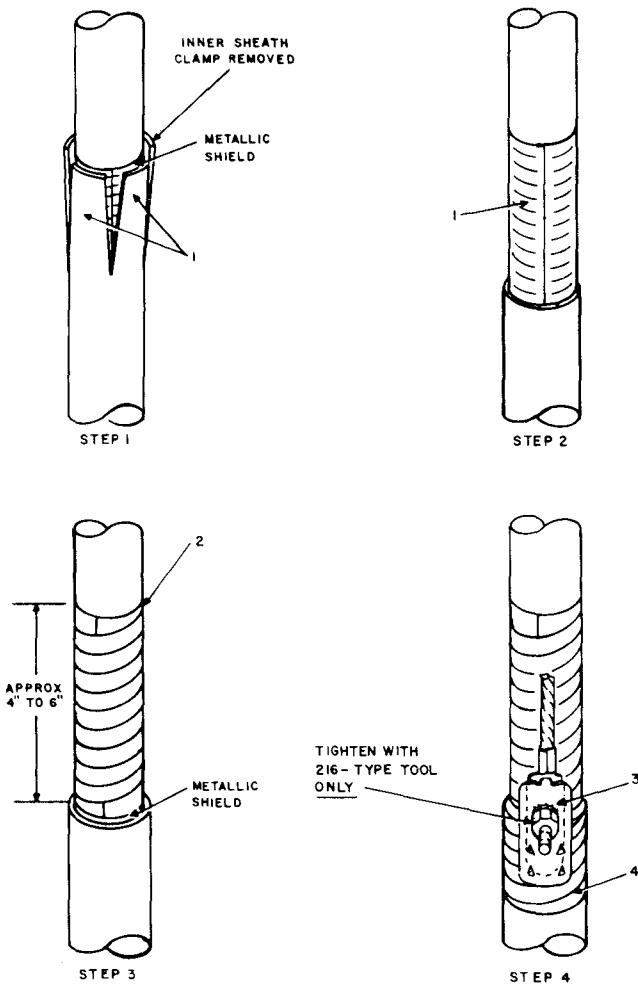
cable and attach B temporary bond to metallic shield on each side of cable sheath opening.

6.02 Remove the closure cover to gain access to the cable sheath.

6.03 Remove enough vinyl tape from butt of cable sheath to gain access to metallic shield of

WARNING: Cable sheath continuity must be maintained at all times.

6.04 Remove the inner sheath clamp and replace with D bond assembly as outlined in Steps 49 or 51.

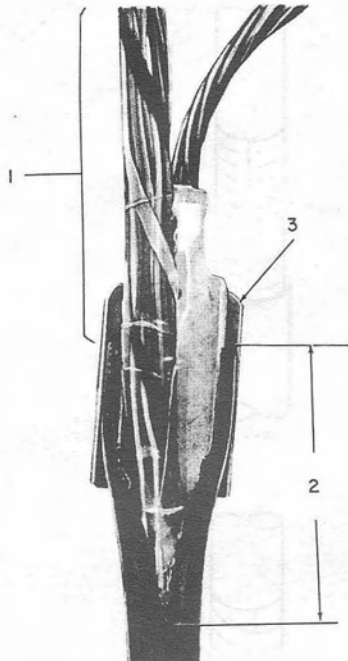


Step 49—Installing D Bond Assembly

1. Remove the old polyethylene sheath tabs and metallic shield.
2. Wrap the section of cable where the polyethylene sheath and metallic shield were removed with two half-lapped layers of vinyl tape to protect newly exposed conductors.

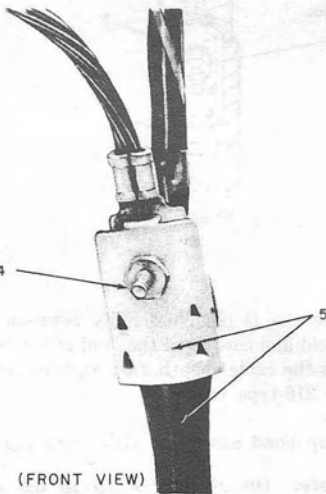
3. Slide the D bond assembly between the cable shield and core until the stud of the bond clamp hits the cable sheath, then tighten the nut with the 216-type tool.
4. Wrap bond assembly with vinyl tape.

Note: On all cables up to 0.9 inches in diameter or on DEPIC cable, slit the cable sheath and install D bond assembly as outlined in Step 50.



(REAR VIEW)

1. Remove the old polyethylene sheath and metallic shield from cable.
2. Cut a 2-inch long slit in cable sheath.
3. Install D bond assembly on cable 180 degrees opposite slit in cable.
4. Tighten nut with 216-type tool *only*.
5. Wrap bond assembly and cable sheath with vinyl tape.



(FRONT VIEW)

Step 50—Installing D Bond Assembly on Cable (0.9 Inch and All DEPIC)

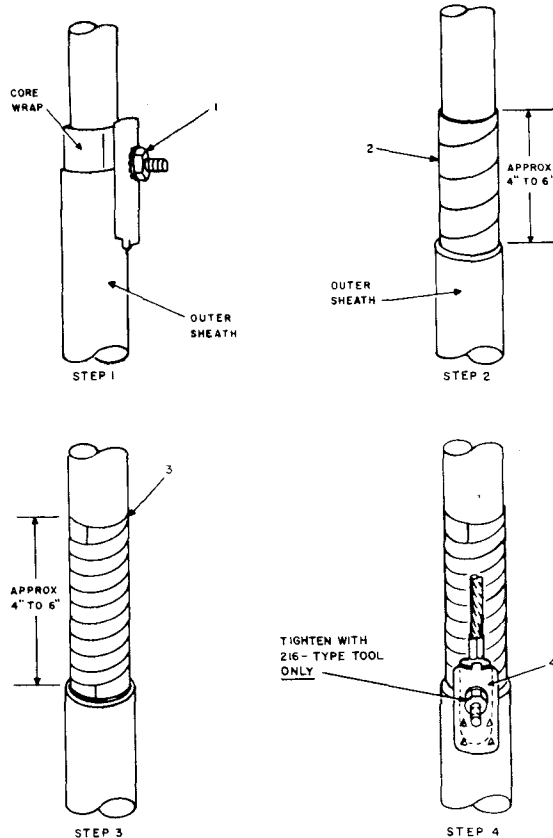
B. Replacing B, C, or D Bond Clamp With D Bond Assembly

- 6.05 Remove closure cover to gain access to cable sheath.
- 6.06 Attach B temporary bond to metallic shield on each side of cable sheath opening.

WARNING: *Cable sheath continuity must be maintained at all times.*

- 6.07 Replace the old bond clamp with D bond assembly as outlined in Step 51.

Note: On all cables up to 0.9 inches in diameter or on DEPIC cable, slit the cable sheath and install D bond assembly as outlined in Step 50.



Step 51—Replacing D Bond Clamp

- Loosen nut with 216-type tool and remove old bond clamp.
- Measure down 4 to 6 inches from the butt of the cable, then remove the outer polyethylene jacket and metallic shield.
- Wrap cable core with two half-lapped layers of vinyl tape to protect newly exposed conductor.
- Slide the D bond assembly between cable shield and core until the stud of the bond clamp hits the cable sheath, then tighten with 216-type tool **only**.

6.08 Figures 8 through 18 illustrate the D bond assembly installed in pedestal-type closures.

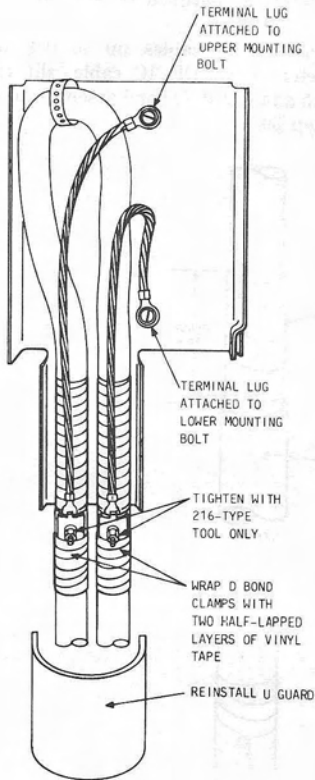


Fig. 8—D Bond Assembly Installed in 3A1 Cable Closure

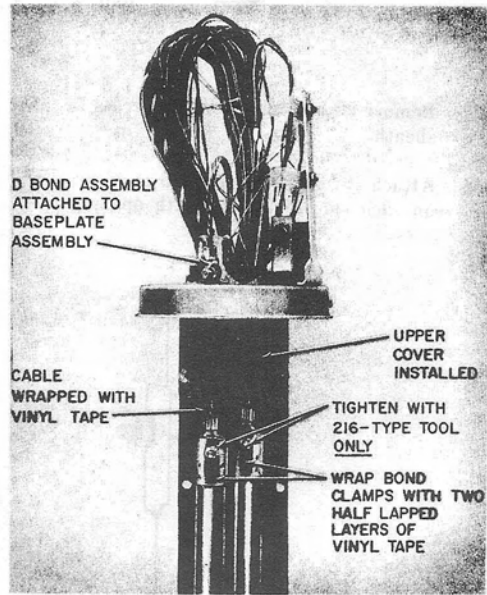


Fig. 9—D Bond Assembly Installed in B Cable Closure

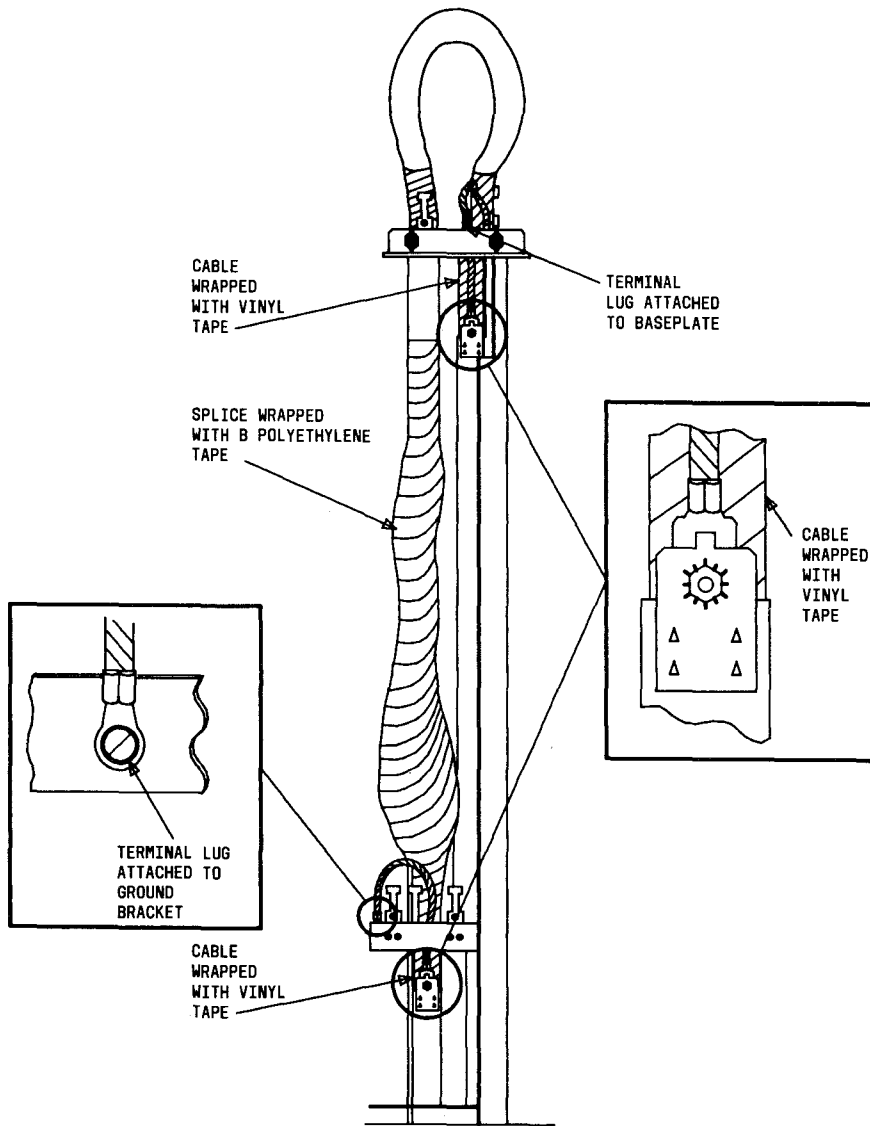


Fig. 10—D Bond Assembly Installed in C Cable Closure

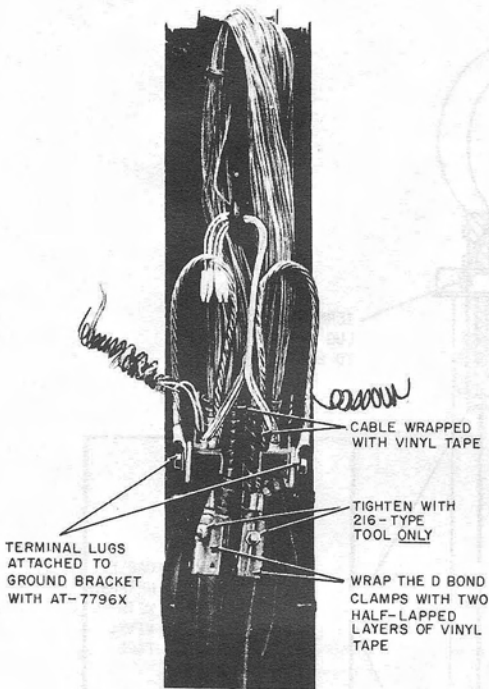


Fig. 11—D Bond Assembly Installed in D Cable Closure

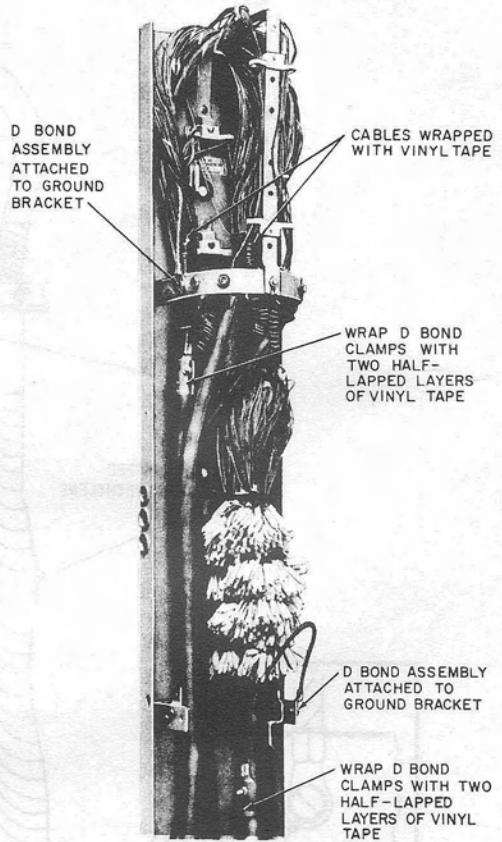


Fig. 12—D Bond Assembly Installed in E Cable Closure

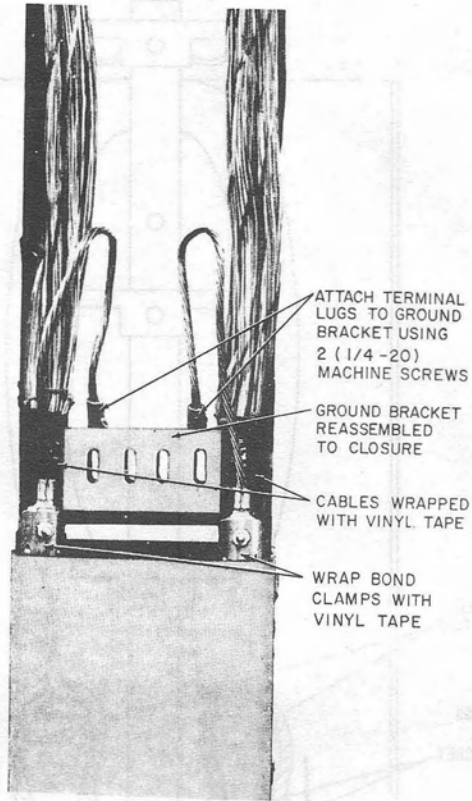


Fig. 13—D Bond Assembly Installed in G or H Cable Closure

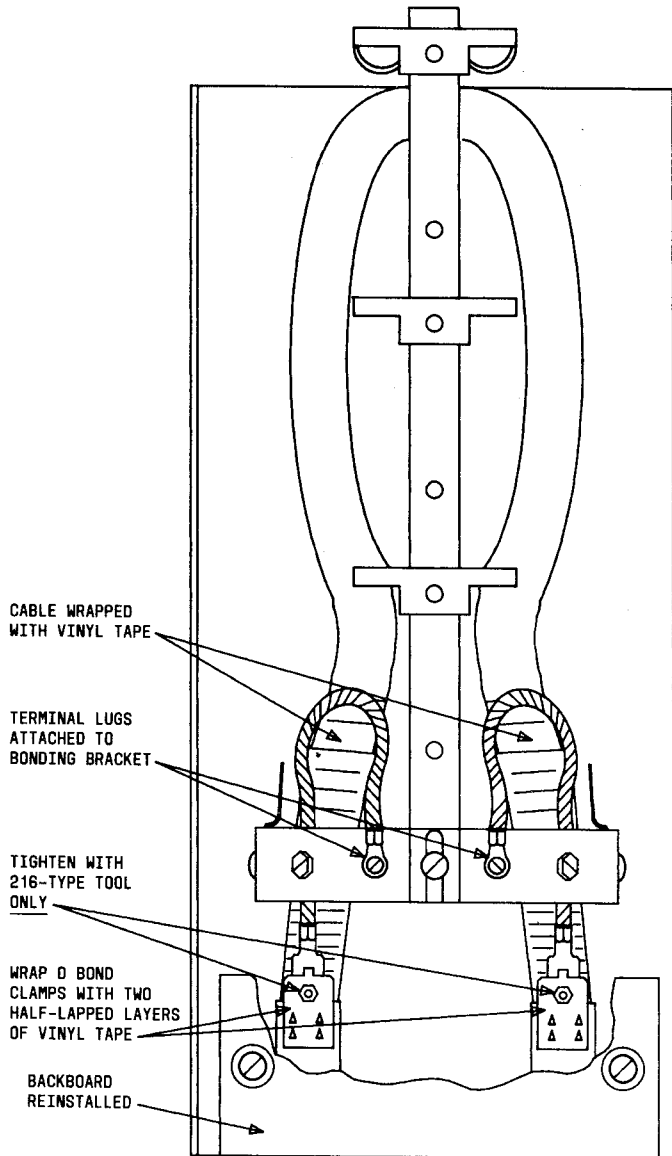


Fig. 14—D Bond Assembly Installed in J Cable Closure

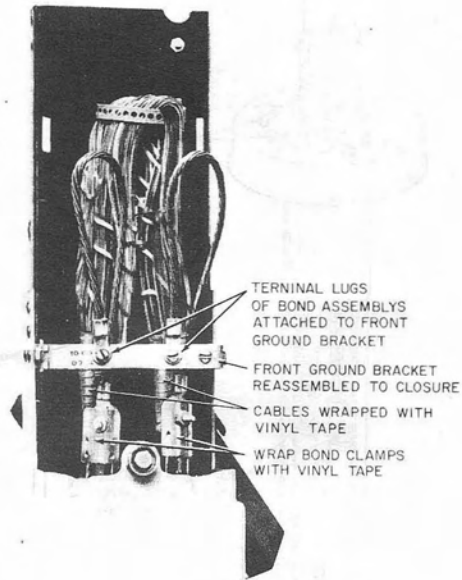


Fig. 15—D Bond Assembly Installed in K-Type Cable Closure

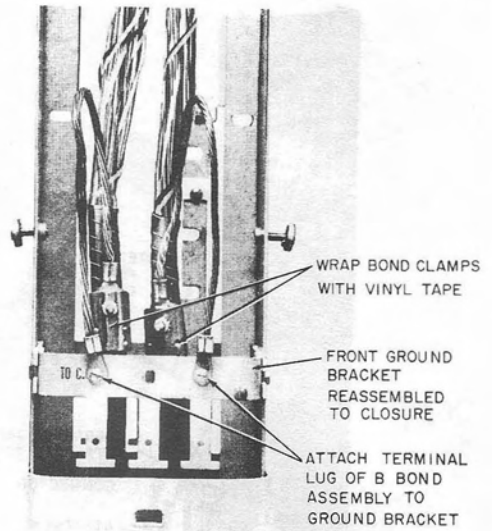


Fig. 16—D-Bond Assembly Installed in L-type Cable Closure

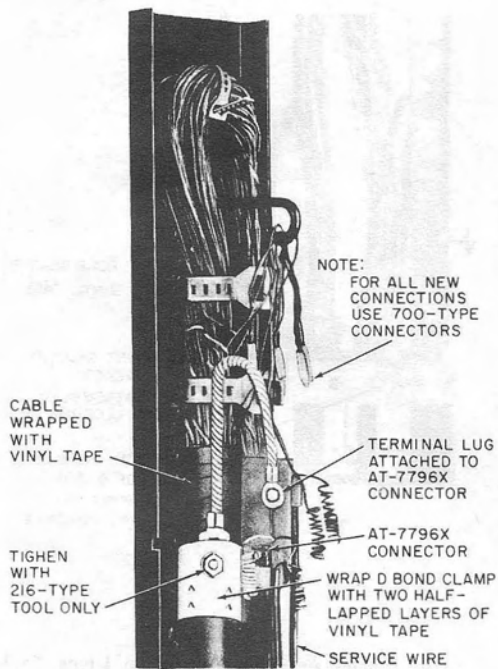


Fig. 17—D Bond Assembly Installed in UP-200 or UP-200S Cable Closure

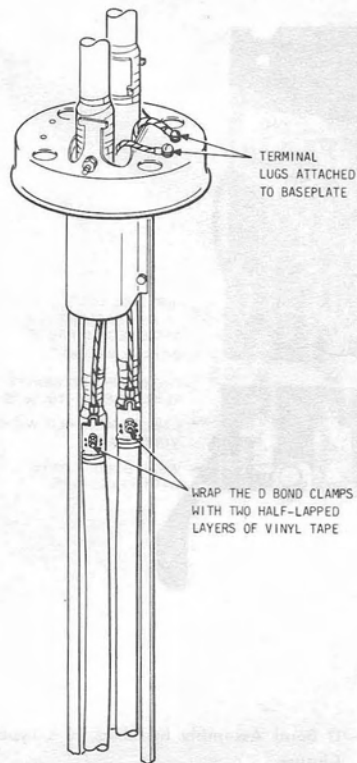


Fig. 18—Bonding Clamp to Pedestal Housing

7. REPLACEMENT OF CLOSURES USED IN BURIED PLANT

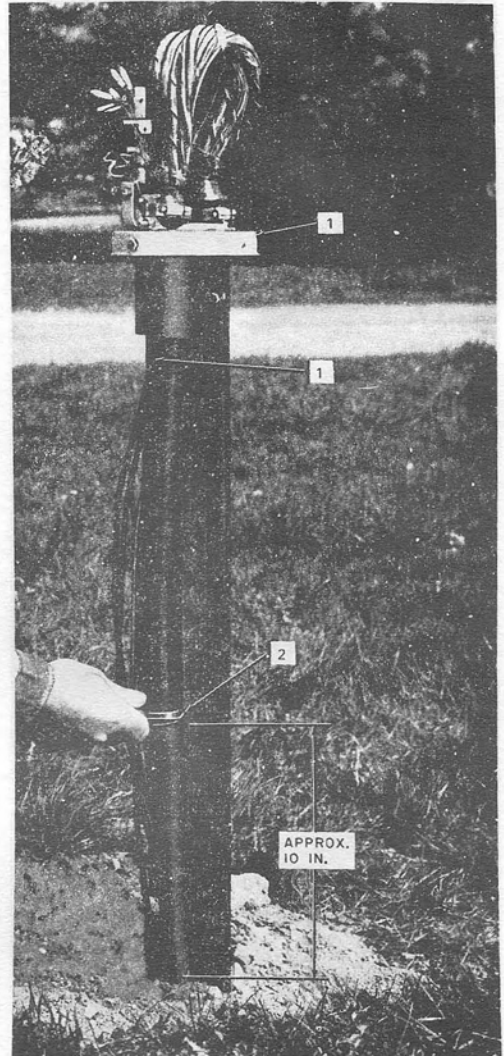
7.01 When cable closures have been damaged or deteriorated to the extent that they must be replaced, the appropriate PC-type closure listed in Table B must be used.

TABLE B
CLOSURE REPLACEMENT

CLOSURES RATED MANUFACTURE DISCONTINUED	REPLACED BY
B Cable Closure B Closure Post D Cable Closure UP-200 Cable Closure	PC6/48
B Cable Closure B Closure Post	PC6/48
B Cable Closure C Cable Closure D Cable Closure	PC6/48
E Cable Closure F-Type Cable Closure	PC6/48
G Cable Closure	PC12/55
H Cable Closure	PC6/48
KA5 Cable Closure KB5 Cable Closure KC5 Cable Closure KD5 Cable Closure	PC6/48
LD/6 Cable Closure LE/6 Cable Closure	PC6/48
LD/10 Cable Closure LE/10 Cable Closure	PC12/55
UP-200 Cable Closure UP-200S Cable Closure	PC6/48
UP-1200 Cable Closure	PC12/55

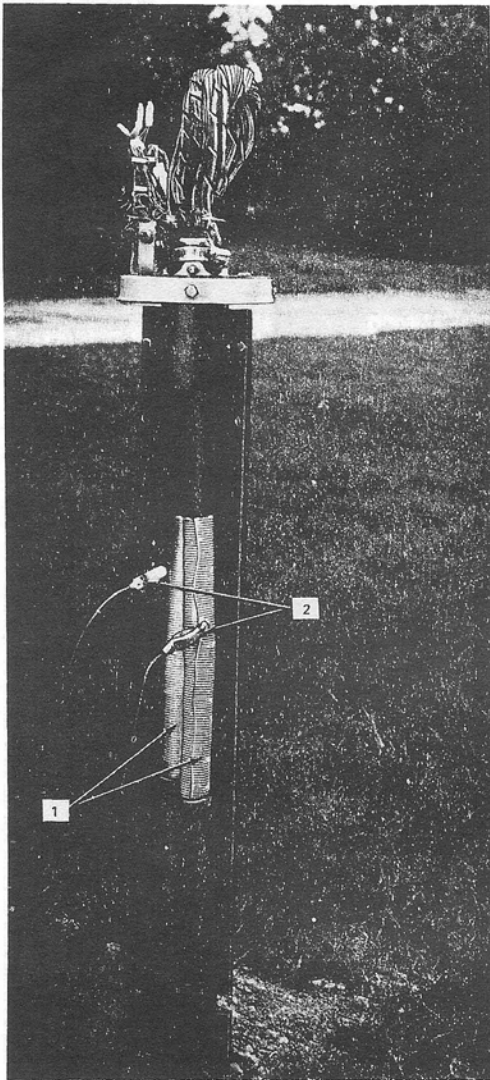
A. Replacing B Cable Closure Mounted On B Closure Post

7.02 The procedures for replacing the B cable closure mounted on B closure post with a PC6/48 cable closure are outlined in Steps 52 through 59.



Step 52—Marking Cable Sheath

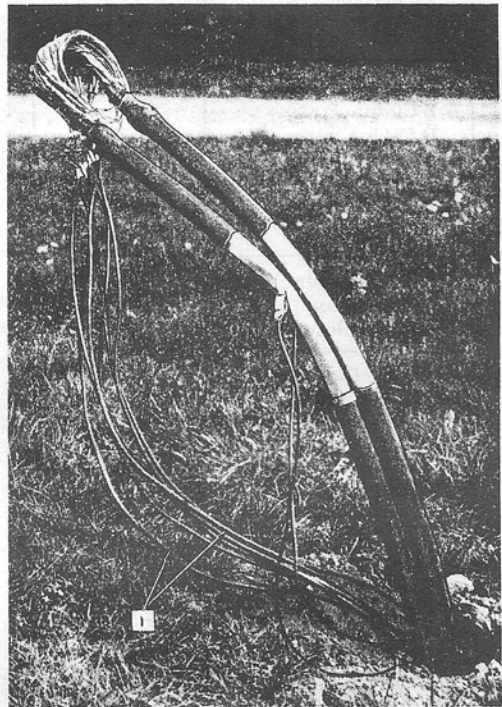
1. Remove dome cover from B cable closure and bottom section of B closure post.
2. Measure up to a point approximately 10 inches above grade mark and ring the outer polyethylene jacket on each cable. **Exercise care not to damage the underlying metallic shield.**



Step 53—Removed Cable Sheath

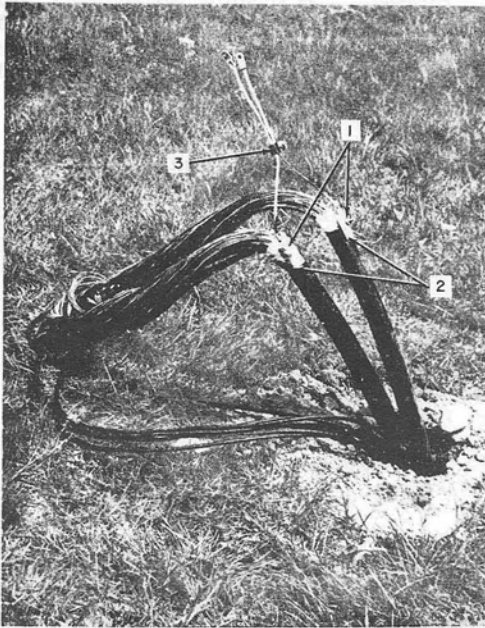
1. Remove a section of outer polyethylene jacket from each cable.
2. Using the B temporary bond AT-7781, install a bond across all cable shields to provide cable shield continuity while removing closure.

DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.



Step 54—Removed Cable Closure and Mounting Post

1. Remove service wires from AT-7796X connectors, loosen sealing clamps and remove baseplate and associated parts of B cable closure from B closure post, then remove post.
2. Disassemble PC6/48 cable closure.
3. Obtain D bond assembly from the PC6/48 cable closure.

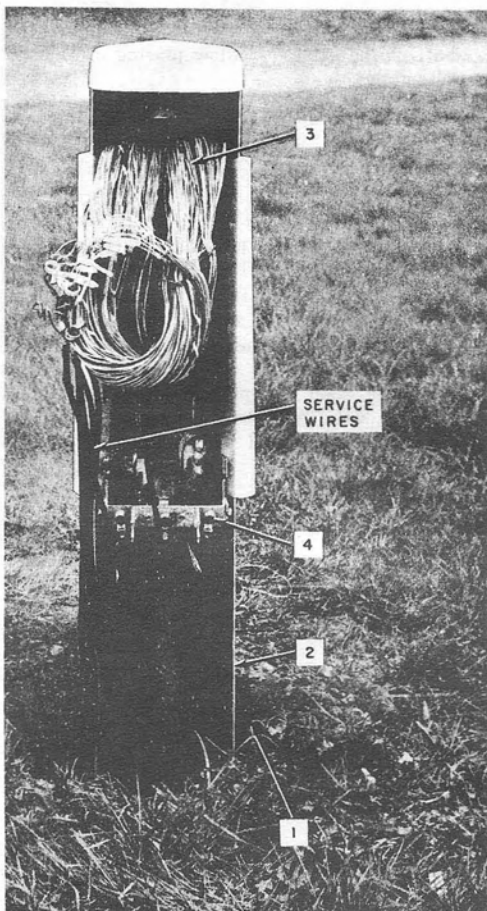


Step 55—Prepared Cables

1. Tear away enough of metallic shield at the butt of the cables to allow placing of D bond assemblies.

DANGER: Do not interrupt cable shield continuity.

2. Loosen the nuts on the studs of the D bond assemblies and install as outlined in Step 49 or 51. Position each D bond assembly so that they are 180 degrees out of phase with each other on the cable sheaths.
3. Strap the bond clamps and strap assemblies together with AT-7796X connector. Remove the temporary bond and cable sheath from the cable loop.

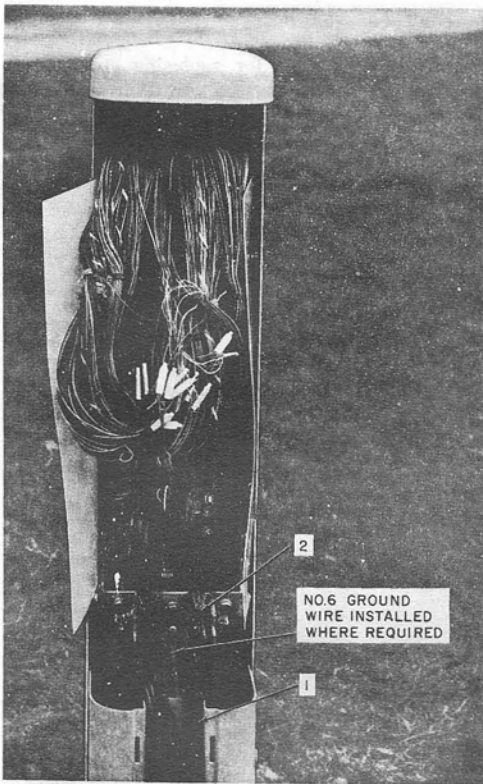


Step 56—Installed Back Half of Cable Closure

1. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. Exercise care while digging to prevent damaging cable and service wires.

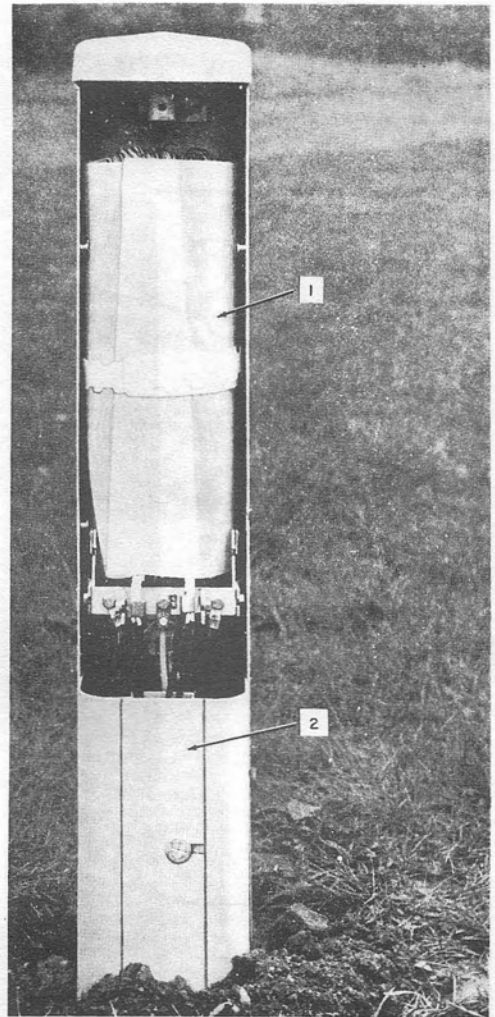
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

2. Carefully note the direction of the cable run and drive the anchor post so the cables are not damaged, then place the back of closure in the hole and attach to post with hardware provided with post.
3. Form the cable loop over the splice support bracket.
4. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket. Attach ground wire, if present.



Step 57—Positioned Service Wire

1. Install lower front cover and place service wires in channel as shown. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.*
2. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector.

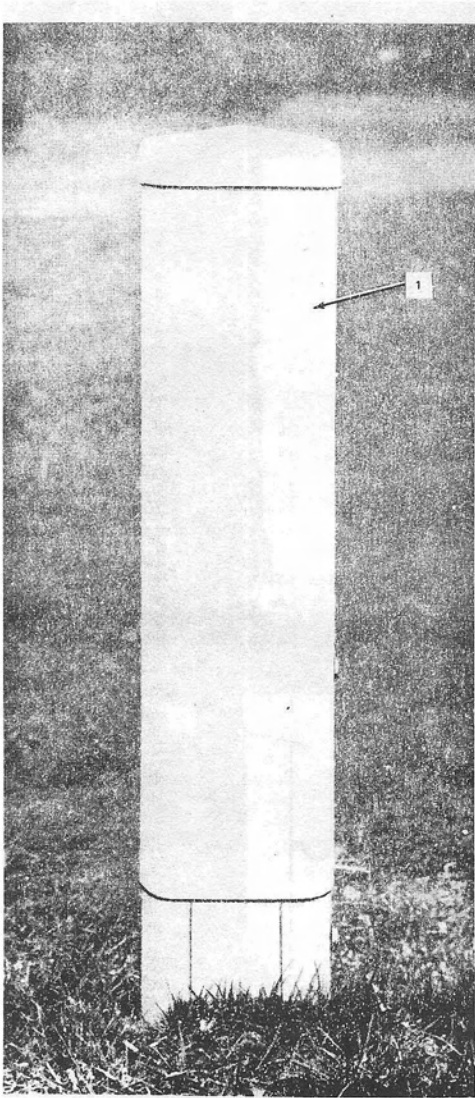


Step 58—Installed Closure

1. Wrap and secure the cable loop and service wire connections with the plastic shield.

Note: Since the PC6/48 is a direct replacement for a damaged ready access B cable closure, place the backboard in accordance with company practices.

2. Install channel cover on lower front cover, then backfill excavation.

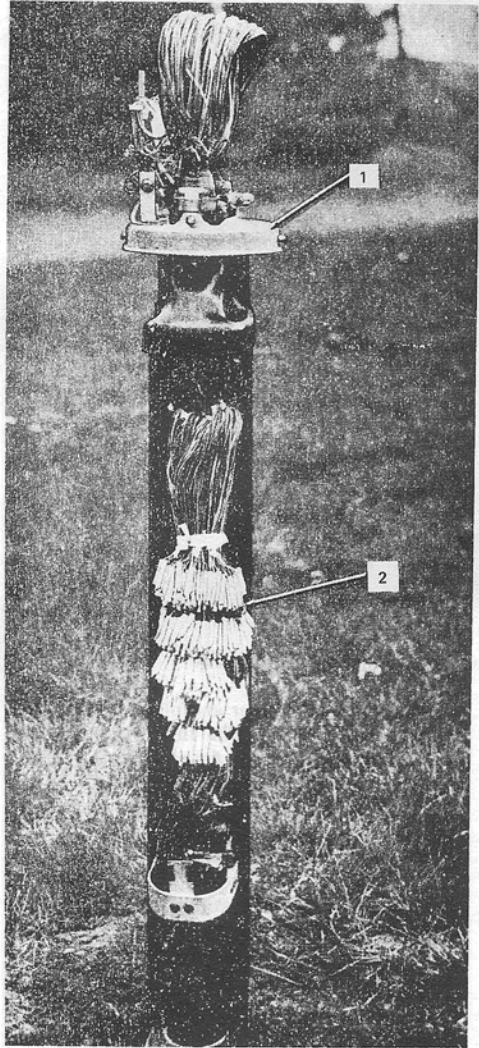


Step 59—Completed Installation

1. Install upper front cover on the closure.

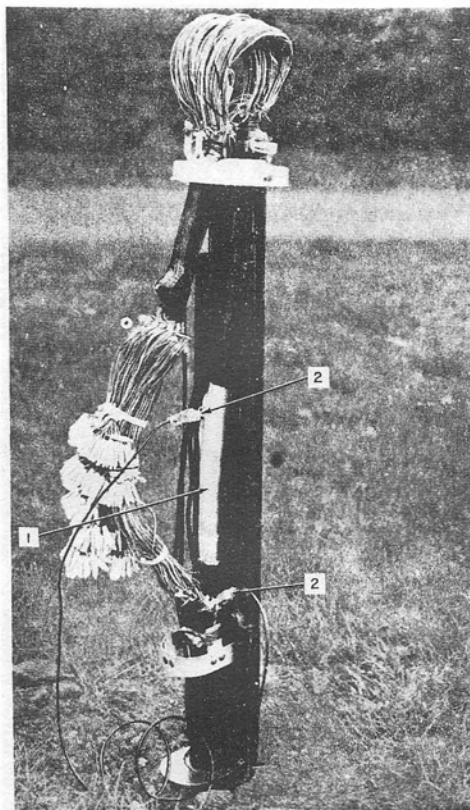
B. Replacing Combination B and C Cable Closure

7.03 The procedures for replacing combination B and C cable closure are outlined in Steps 60 through 65.



Step 60—Cover Removed From B and C Closures

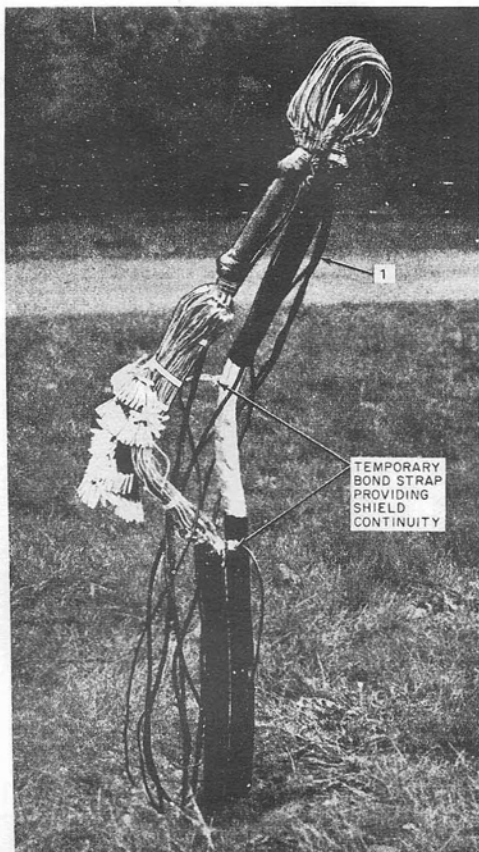
1. Remove B cable closure dome and front cover from C cable closures.



Step 61—Bonding Access Sheath Opening

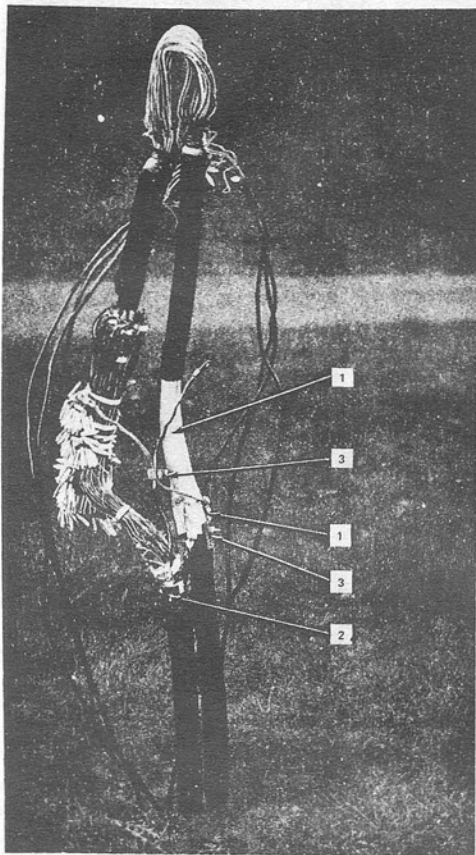
1. Remove a section of outer polyethylene jacket from cable.
2. Attach the clips of the temporary bond straps between the metallic shield and ears of inner sheath clamp. This provides cable shield continuity during replacing operation.

DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.



Step 62—Removed Cable Closure

1. Remove service wires from AT-7796X connectors and loosen sealing clamps. Remove baseplate and associated parts of B cable closure from C cable closure, then remove closure.
2. Disassemble PC6/48 cable closure.
3. Obtain the D bond assembly from the PC6/48 cable closure.



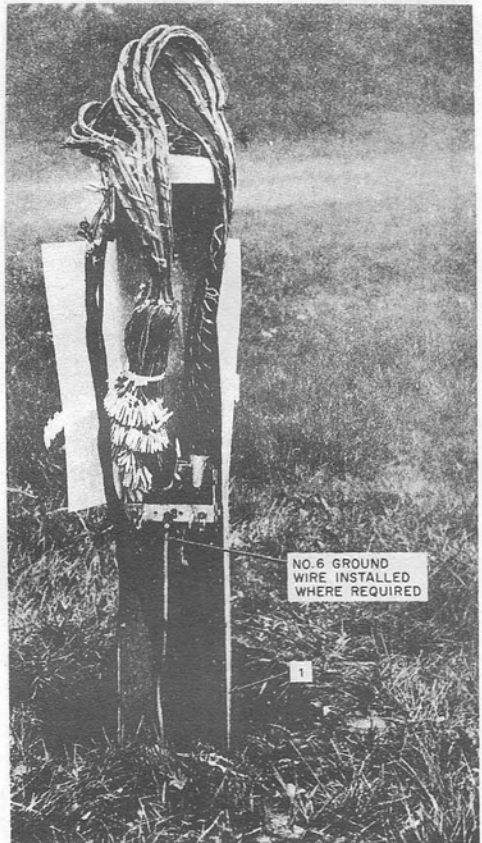
Step 63—Bonded Cable Sheath

1. Tear away enough of metallic shield at the butt of the cables to allow placing of D bond assembly.

DANGER: Do not interrupt cable shield continuity.

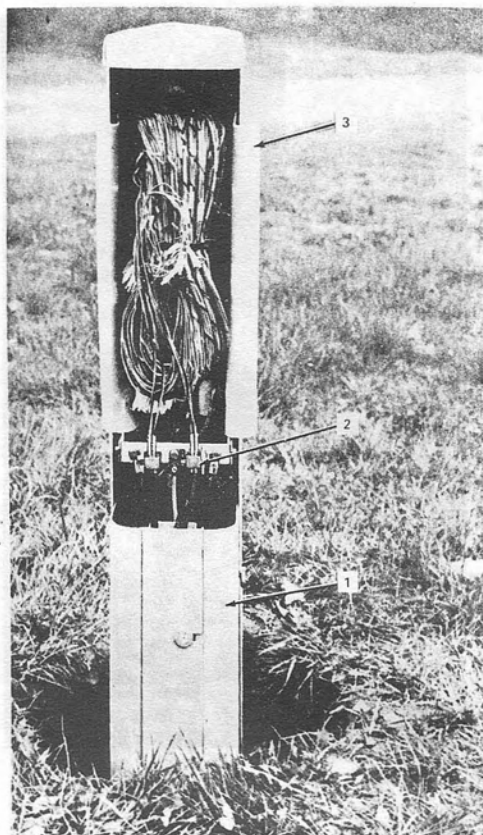
2. Loosen the nuts on the studs of the D bond assembly and install as outlined in Step 49 or Step 51. Position each D bond assembly so that they are 180 degrees out of phase with each other on the cable sheath. Tighten nut with 216-type tool.

3. Strap the bond clamps and strap assemblies together with AT-7796X connector. Remove the temporary bonds and cable sheath from the cable loop.



Step 64—Installed Back Half of Closure

1. Install back half of closure as outlined in Step 56.



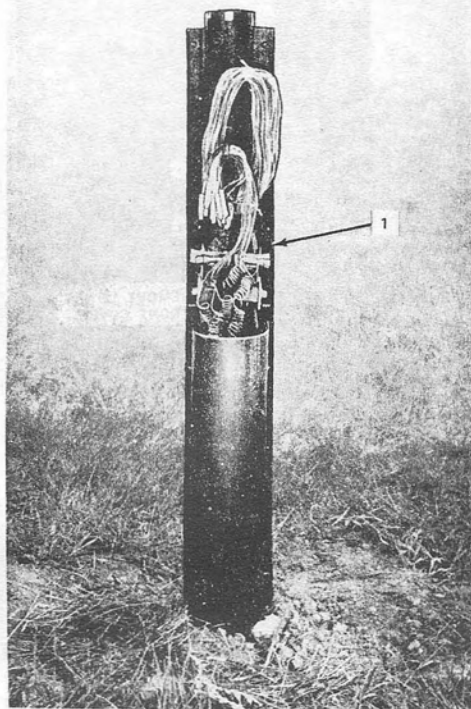
Step 65—Installed Closure

Install lower front cover, place service wires in channel, and fill base with crushed stone, gravel, or approved equivalent as outlined in Step 57.

2. Remove the outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector.
3. Wrap the cable loop and service wire connection with plastic shield and install covers as outlined in Steps 58 and 59.

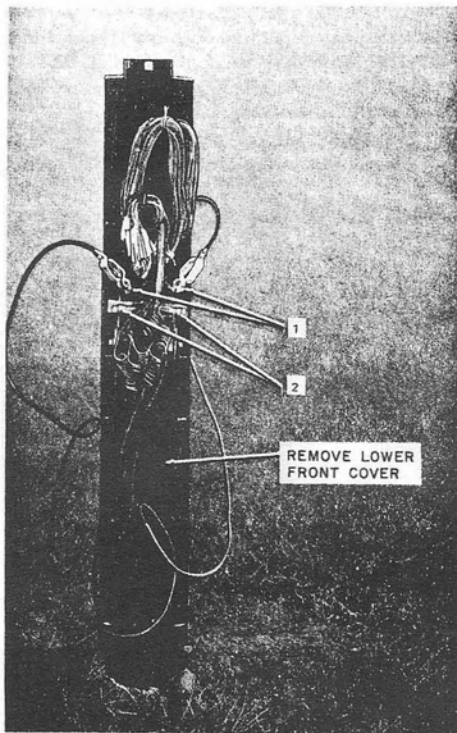
C. Replacing D Cable Closure

7.04 The procedures for replacing D cable closure are outlined in Steps 66 through 70.



Step 66—D Cable Closure—Upper Front Cover Removed

1. Remove upper front cover from cable closure.

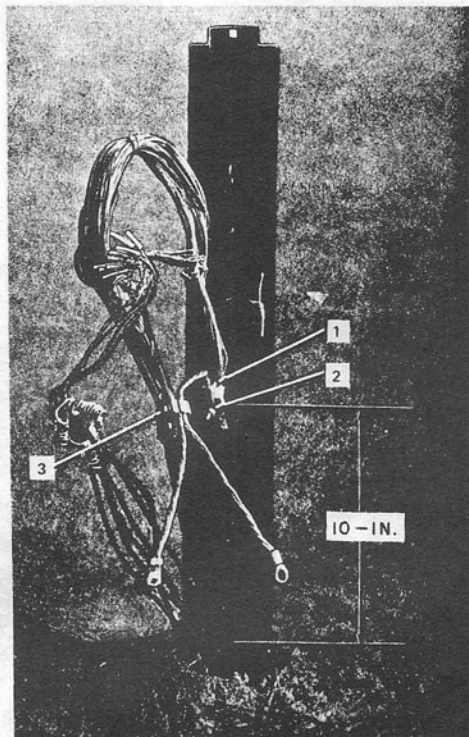


Step 67—Covers Removed and Cable Shields Bonded

1. Attach temporary bond strap AT-7781 to cable shield on each side of sheath opening, then remove lower front cover from closure.

DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.

2. Remove sealing clamp securing cables to closure tabs, and remove connectors securing service wires to closure.

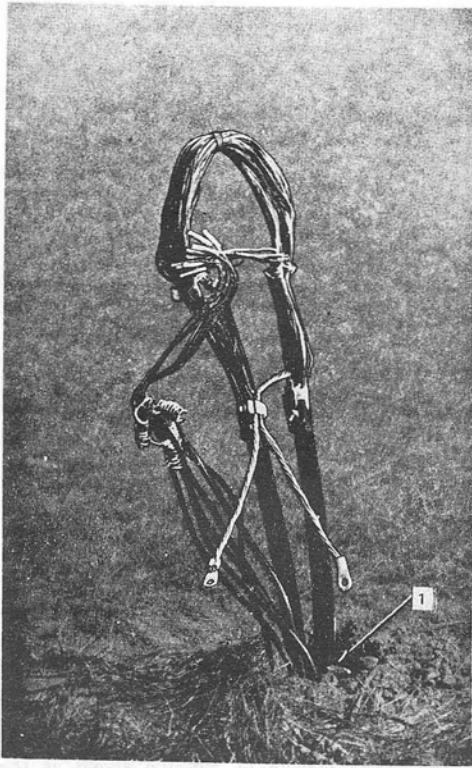


Step 68—Bonded Cable Sheath

1. Tear away enough of metallic shield at the butt of the cables to allow placing of D bond assemblies.

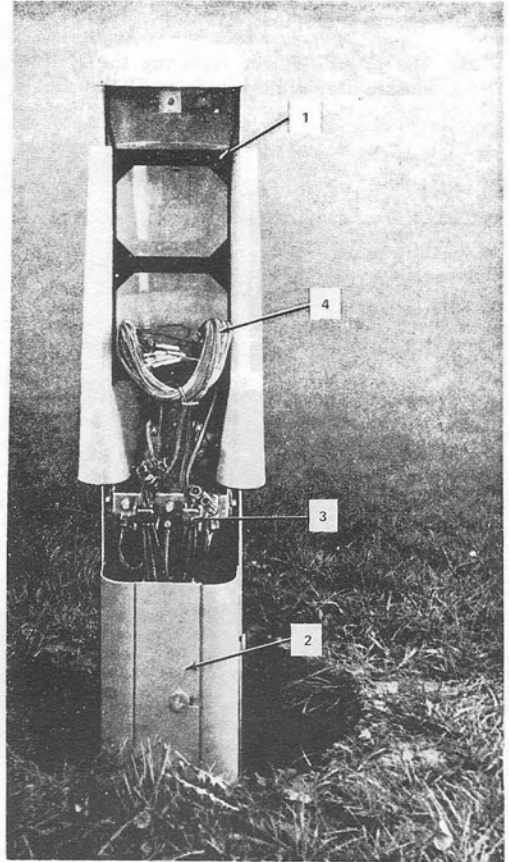
DANGER: Do not interrupt cable shield continuity.

2. Loosen the nuts on the studs of the D bond assembly and install as outlined in Step 49 or Step 51. Position each D bond assembly so that they are 180 degrees out of phase with each other on the cable sheath. Tighten nut with 216-type tool.
3. Strap the bond assemblies together with AT-7796X connector. Remove the temporary bonds and cable sheath from the cable loop.



Step 69—Removed Cable Closure

1. Remove D cable closure.

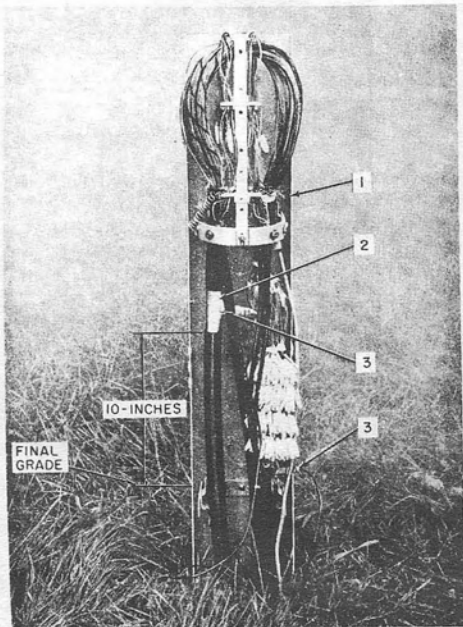


Step 70—Installed Closure

1. Install back of closure as outlined in Step 56.
2. Install lower front cover, place service wires in channel and fill. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent as outlined in Step 57.*
3. Remove the outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector.
4. Wrap the cable loop and service wire connection with plastic shield and install covers as outlined in Steps 58 and 59.

D. Replacing E Cable Closure

- 7.05 The procedures for replacing the E cable closure are outlined in Steps 71 through 76.

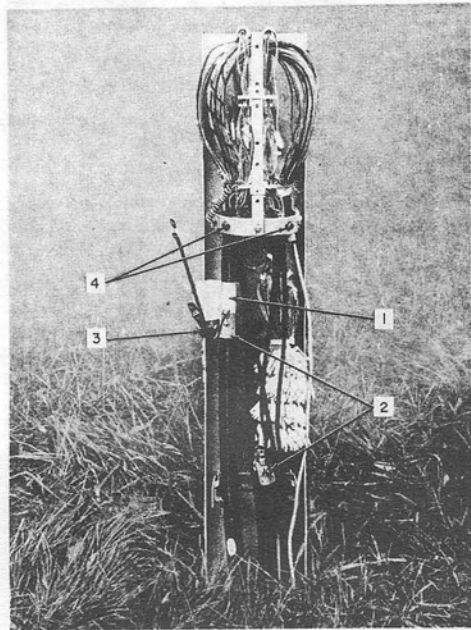


Step 71—Front Covers Removed From E Cable Closure

1. Remove the front covers from the closure.
2. At a point approximately 10 inches above final grade, mark and ring the polyethylene jacket **exercising care not to damage the underlying metallic shield**. Then remove a section of the outer polyethylene jacket.
3. Attach B temporary bond AT-7781 across cables to provide cable shield continuity while removing closure.

DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.

4. Disassemble PC6/48 cable closure and obtain bond straps to be used with PC6/48 cable closure.

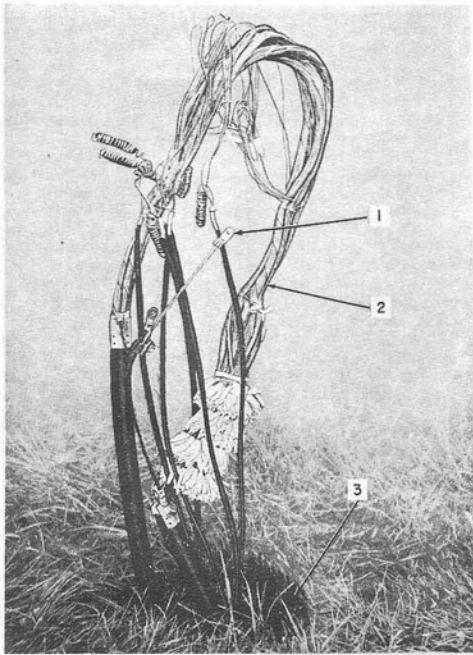


Step 72—Installed Bond Clamps

1. Tear away enough of metallic shield at the butt of the cables to allow placing of B bond assemblies.

DANGER: Do not interrupt cable shield continuity.

2. Loosen the nuts on the studs of the D bond assembly and install as outlined in Step 49 or Step 51. Position each D bond assembly so that they are 180 degrees out of phase with each other on the cable sheath. Tighten nut with 216-type tool.
3. Strap the D bond assemblies together with AT-7796X connector. Remove the temporary bond and cable sheath from the cable loop.
4. Remove all AT-7796X connectors securing service wires.

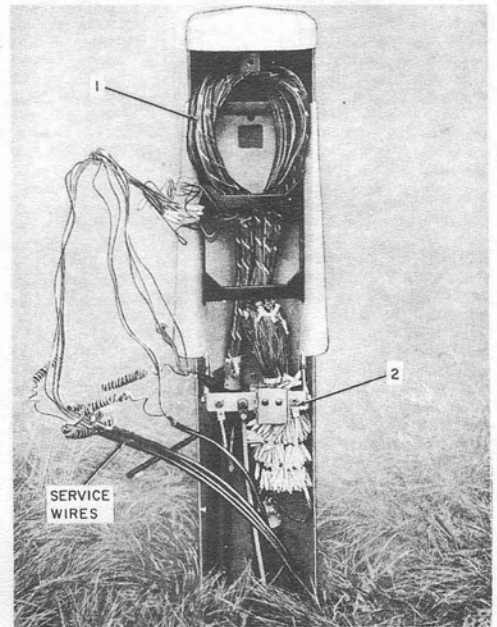


Step 73—Removed E Cable Closure

1. Disconnect the bond clamps, bond straps, or inner sheath clamps from ground bracket, then remove E cable closure.
2. Remove outer polyethylene jacket and metallic shield between bond clamps.
3. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. **Take care while digging to prevent damaging cable and service wires.**

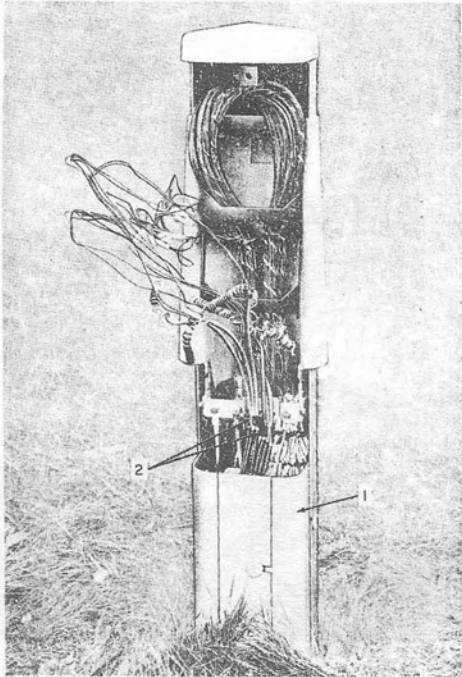
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

4. Carefully note the direction of the cable run and drive and anchor post so cables are not damaged, then place the back of closure in the hole and attach post with hardware provided with post.



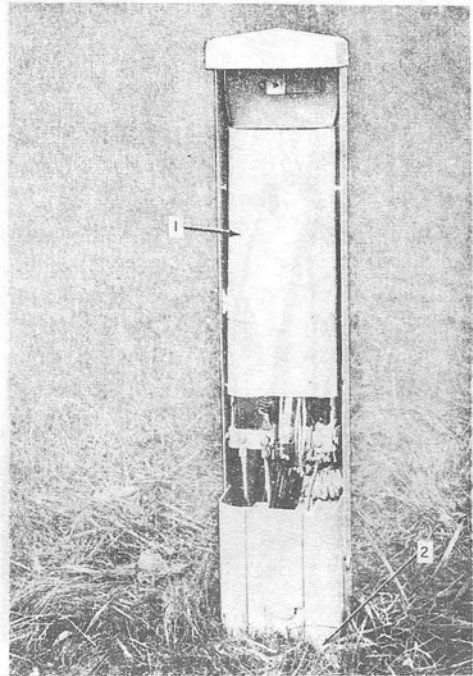
Step 74—Installed Back Part of PC6/48 Cable Closure

1. Form the cable loop behind the splice support.
2. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket.



Step 75—Installed Cover

1. Install lower front cover and service wires in channel, then install channel cover on lower front cover. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.*
2. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector provided with PC6/48 cable closure or B service wire clamp AT-8771 attached to bonding bracket.



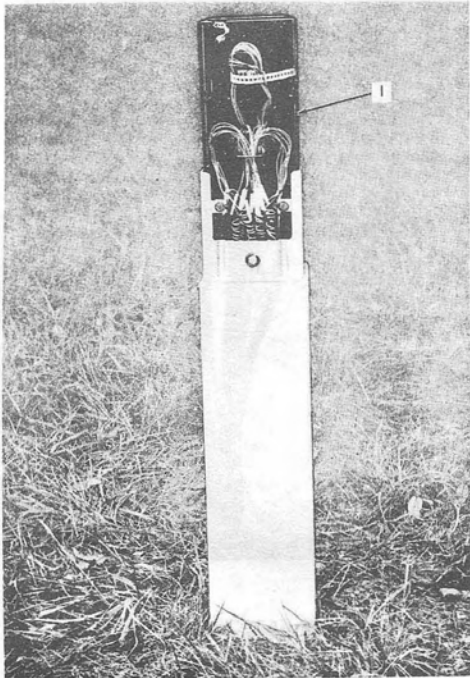
Step 76—Installed PC6/48 Cable Closure

1. Wrap and secure the cable loop and service wire connections with the plastic shield.
2. Backfill excavation and install upper front cover on the closure.

Note: Since the PC6/48 is a direct replacement for a damaged E cable closure used as a ready access terminal, place the backboard in accordance with company procedures.

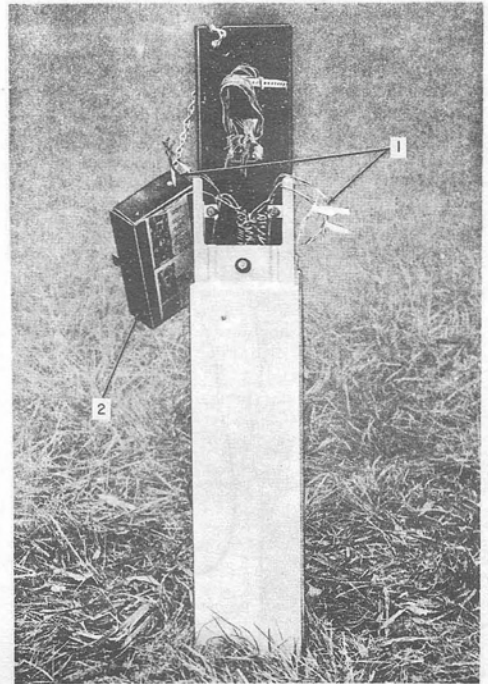
E. Replacing KA5 Cable Closure

7.06 The procedures for replacing the KA5 cable closure are outlined in Steps 77 through 85.



Step 77—KA5 Cable Closure—Top Removed

1. Remove the top from closure.

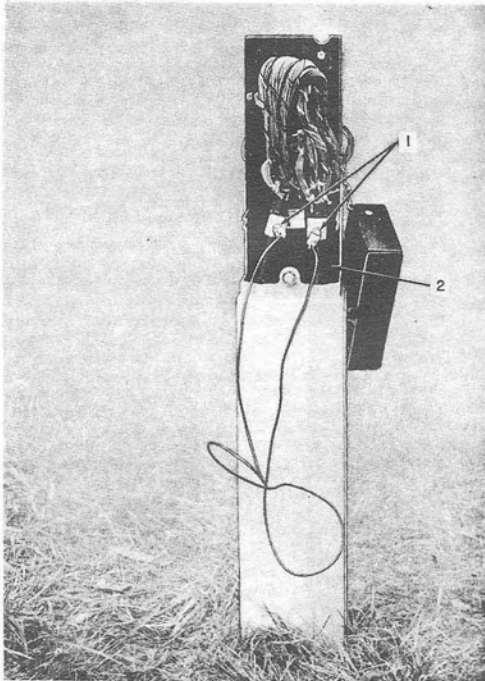


Step 78—Disconnected Service Wire

1. Tag, identify, and disconnect service wire pairs.

Note: Notify subscriber that service is to be temporarily interrupted for repair.

2. Remove the shield from cable side of the closure.

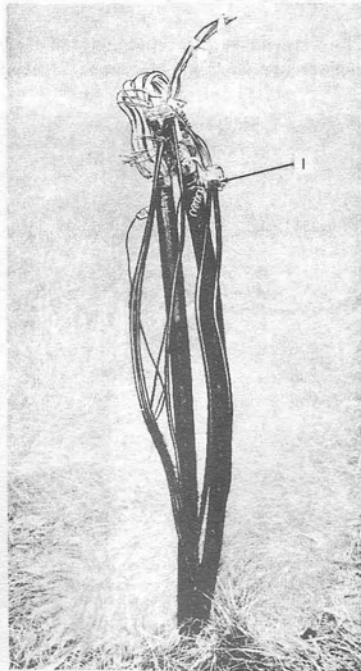


Step 79—B Temporary Bond Installed to Provide Cable Sheath Continuity

1. Remove bond clamps from ground bracket and attach B temporary bond AT-7781 between bond clamps. This provides cable shield continuity.

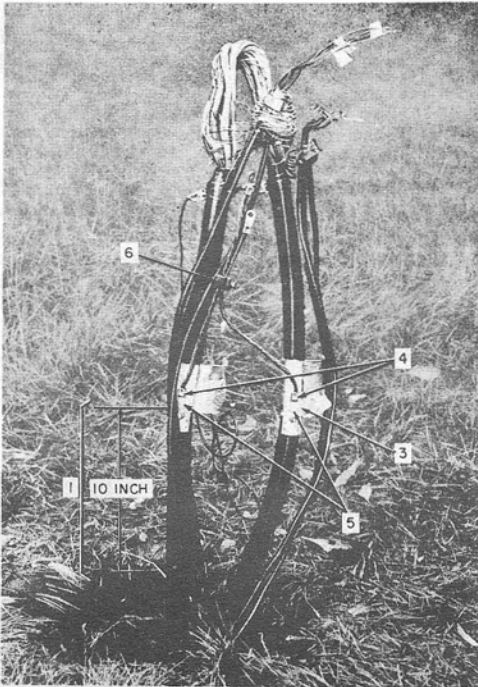
DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.

2. Remove ground bracket from cable side of closure.



Step 80—Removed KA5 Closure Closure

1. Remove connectors AT-7796X securing service wires to closure, then remove closure from cable.



Step 81—Installed Bond Assemblies

1. At a point approximately 10 inches above final grade, mark and ring the polyethylene jacket. **Exercise care not to damage the underlying metallic shield.** Then remove the outer polyethylene jacket.
2. Disassemble PC6/48 cable closure.
3. Tear away enough of metallic shield at the butt of the cables to allow placing of D bond assemblies.

DANGER: Do not interrupt cable shield continuity.

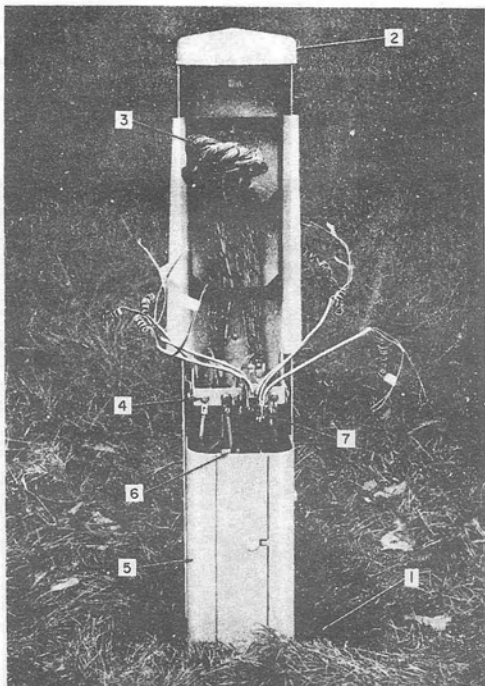
4. Loosen the nuts on the studs of the D bond assemblies and install as outlined in Step 49 or Step 51.
5. Position each D bond assembly so that they are 180 degrees out of phase with each other on the cable sheaths.

6. Strap the bond clamps and strap assemblies together with AT-7796X connector. Remove the temporary bond and cable sheath from the cable loop.



Step 82—Additional Cable Sheath Removed From Cable

1. Remove outer polyethylene jacket and metallic shield between bond clamps.



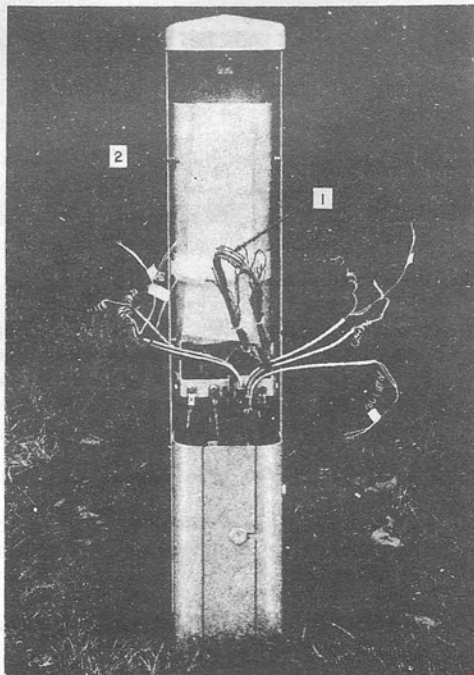
Step 83—PC6/48 Cable Closure Placed Over Cable

1. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. Exercise care while digging to prevent damaging cable.

DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

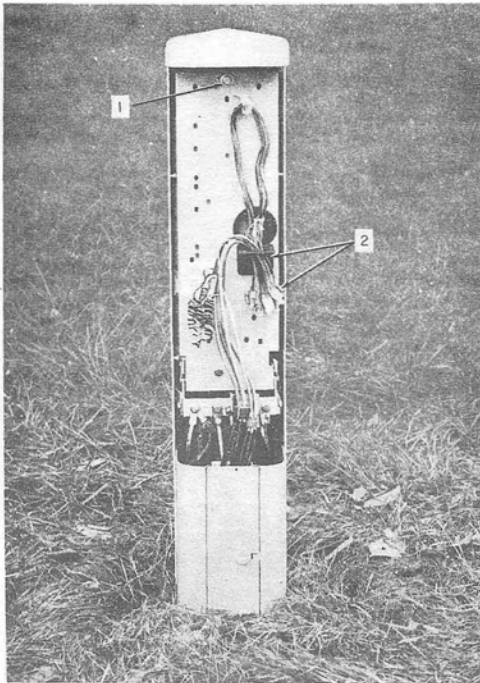
2. Carefully note the direction of the cable run and drive the anchor post so that cables are not damaged, then place the back of closure in the hole and attach to post with hardware provided with post.
3. Form the cable loop over the splice support bracket.

4. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket. Attach ground wire, if present.
5. Install lower front cover.
6. Place service wires in channel. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.*
7. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire clamp.



Step 84—Installed Closure

1. Remove the preferred count from the cable loop.
2. Wrap and secure cable loop with plastic shield.

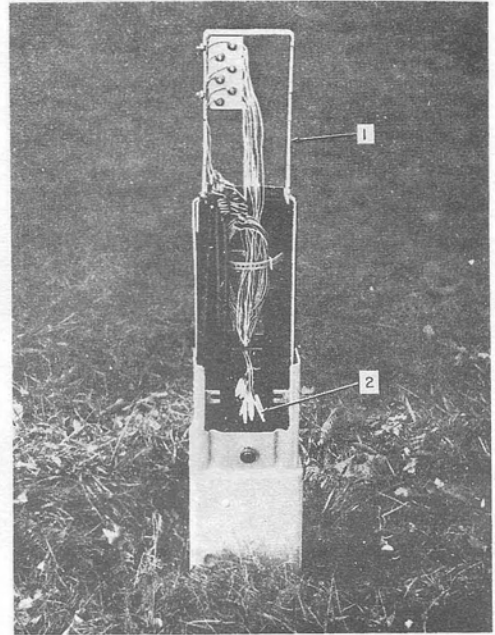


Step 85—Completed Installation

1. Attach backboard to bonding bracket, then route the preferred count through window in backboard. Secure backboard to closure.
2. Route the assigned preferred count pairs and the service wire pairs through the preferred count bracket and terminate with 700-type connectors.
3. Backfill excavation and install upper front cover on the closure.

F. Replacing KB5 Cable Closure

- 7.07 The procedures for replacing the KB5 cable closure are outlined in Steps 86 through 91.

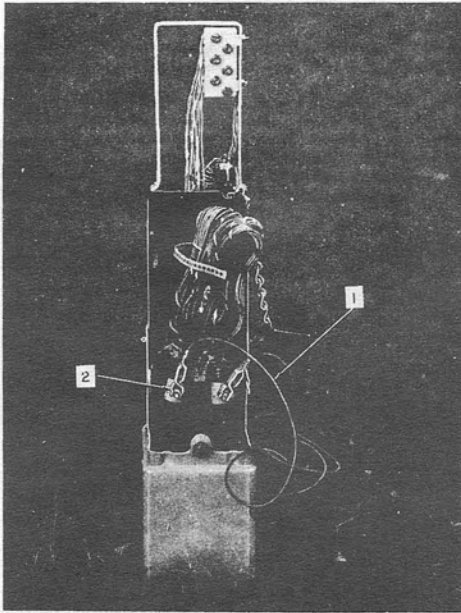


Step 86—KB5 Cable Closure—Top Removed

1. Remove the top from the KB5 cable closure.

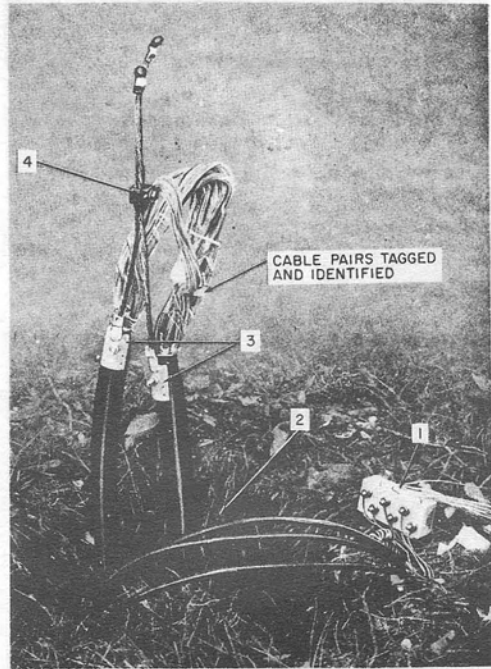
Note: Notify subscriber that service is to be temporarily interrupted for repair.

2. Tag, identify, and disconnect terminal block leads from cable pairs.



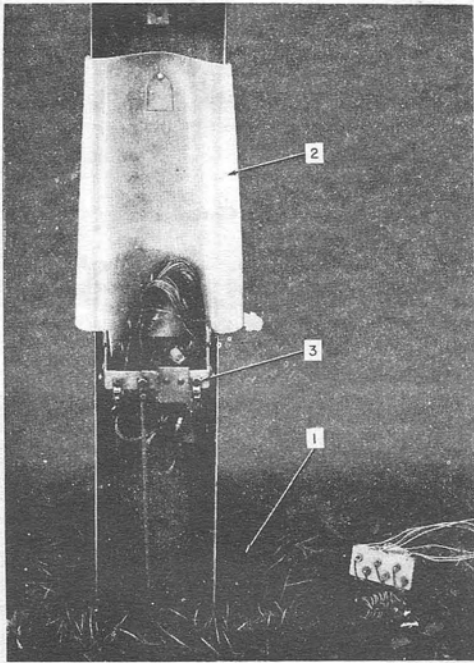
Step 87—Installation of Temporary Bond

1. Remove the shield from cable side of closure, then remove the bond clamps from the bonding bracket, then **immediately** connect B temporary bond AT-7781 across cable sheath.
2. Remove bonding bracket from closure. **Do not interrupt cable shield continuity.**



Step 88—Removed KB5 Cable Closure

1. Remove the terminal block and the AT-7796X connectors from the closure, then remove closure from cable.
2. Disassemble PC6/48 cable closure.
3. Install D bond assembly as outlined in Step 49 or Step 51. **Do not interrupt cable shield continuity.**
4. Strap the D bond assemblies together with AT-7796X connector.

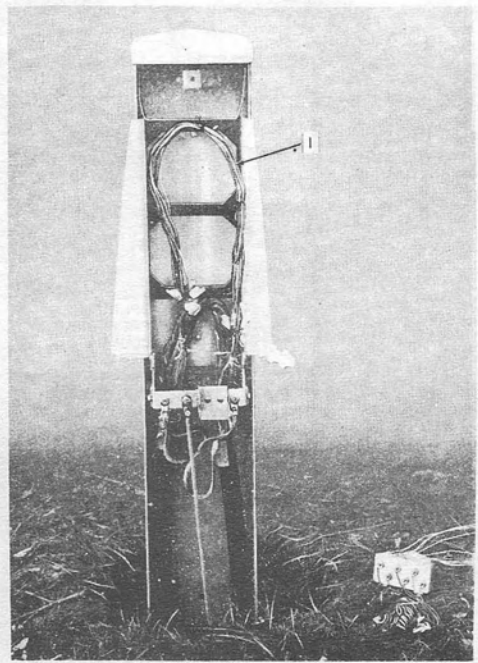


Step 89—Installed Back Part of PC6/48 Cable Closure

1. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. **Take care while digging to prevent damaging cable and service wire.**

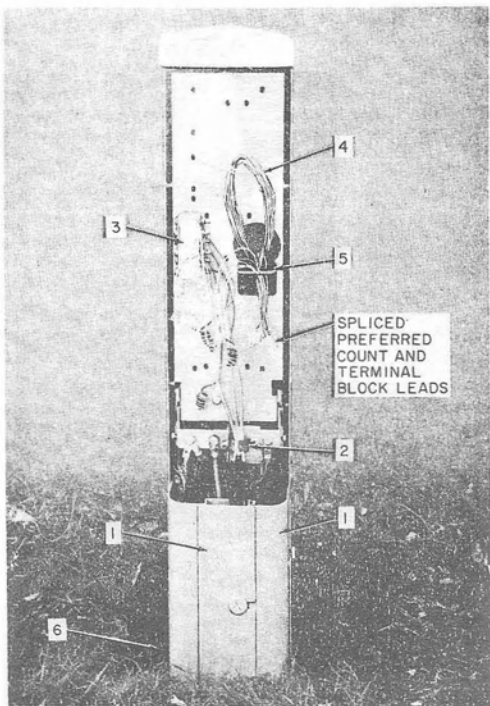
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed.

2. Carefully note the direction of the cable run and drive the anchor post so cables are not damaged, then place the back of closure in the hole and attach post with hardware provided with post.
3. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket.



Step 90—Pieced Out Preferred Count

1. Due to the short cable loop provided in the KB5 closure, it will be necessary to piece out the preferred count using wire having the same colored insulation and gauge as the cable pair to be pieced out. Wrap the express pairs with plastic shield.



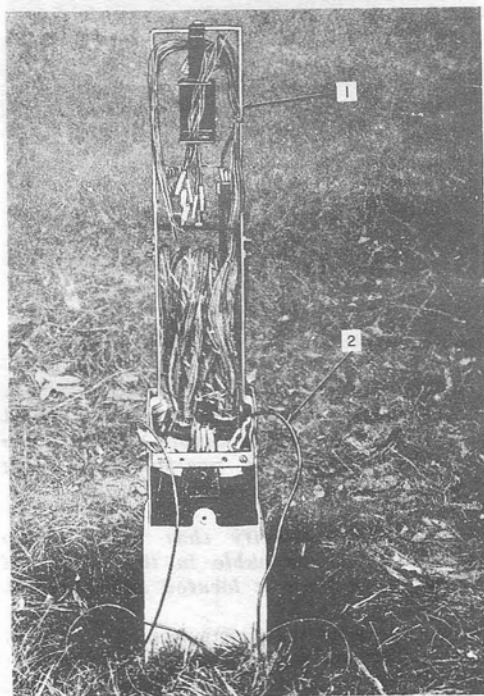
Step 91—Completed Installation

1. Install lower front cover and service wires in channel, then install channel cover on lower front cover. *Fill the lower section to about 1 inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduce moisture condensation inside the closure.*
2. Remove the required outer polyethylene jacket and underlying metallic shield from service wire and install in C service wire connector attached to bonding bracket.
3. Install backboard on bonding bracket, then attach terminal block to backboard. Place preferred count group through window in backboard and secure backboard to closure.
4. Cut the assigned preferred count pairs in the center of the loop and route through the preferred count bracket.

5. Route the terminal block leads through the preferred count bracket and splice to the cable pair.
6. Backfill excavation and install upper front cover.

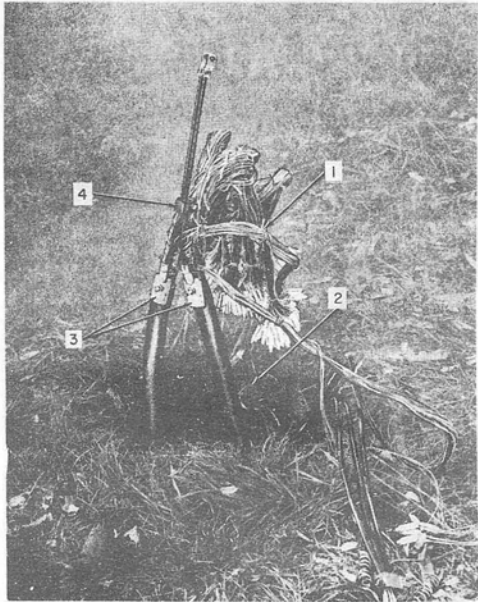
G. Replacing KC5 Cable Closure

- 7.08 The procedures for replacing the KC5 cable closure are outlined in Steps 92 through 97.



Step 92—Top and Center Section Removed From KC5 Cable Closure

1. Remove the top and center section from closure.
2. Attach B temporary bond AT-7781 to maintain cable shield continuity while replacing closure.



Step 93—Removed KC5 Cable Closure

1. Remove bonding bracket and AT-7796X connectors from closure, then remove closure.
2. Disassemble PC6/48 cable closure and obtain D bond assembly from PC6/48 cable closure.
3. Install D bond assembly on each cable as outlined in Step 49 or 51. **Do not interrupt cable shield continuity.**
4. Strap the bond assembly together with AT-7796X connector.

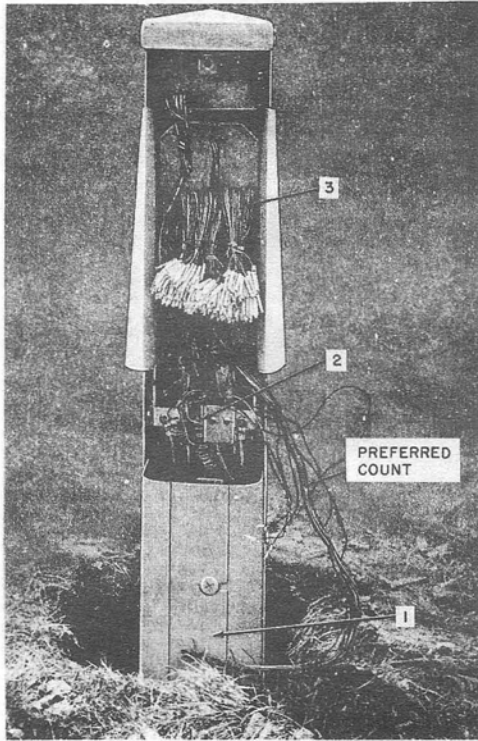


Step 94—Place Back Section of PC6/48 Cable Closure Placed In Excavation

1. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. **Take care while digging to prevent damaging cable.**

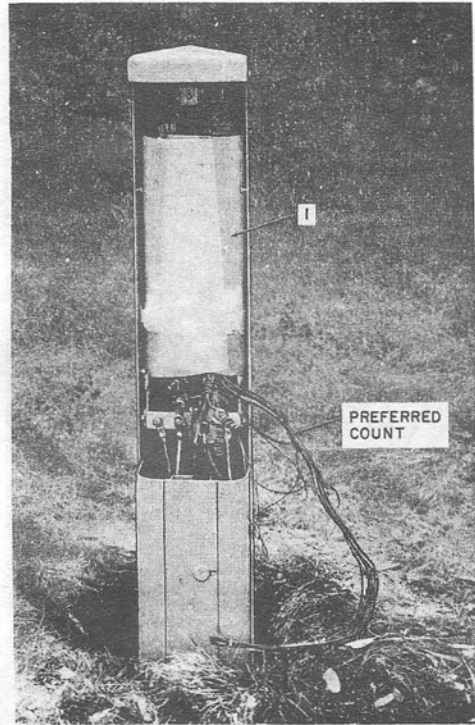
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

2. Carefully note the direction of the cable run and drive the anchor post so cables are not damaged, then place the back of closure in the hole and attach post with hardware provided with post.
3. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket.



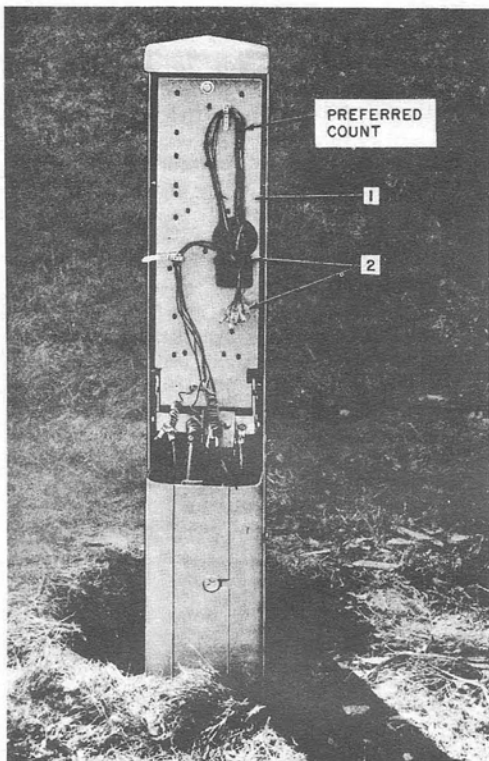
Step 95—Installed Closure

1. Install lower front cover and service wires in channel, then install channel cover on lower front cover. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.*
2. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector attached to bonding bracket.
3. Place the splice over the splice support.



Step 96—Splice Wrapped With Plastic Shield

1. Separate the express pairs and preferred count, then wrap the express pairs with plastic shield.

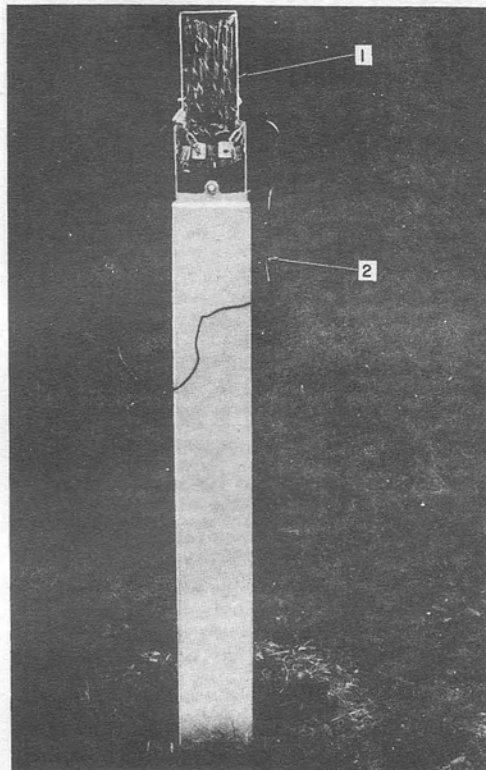


Step 97—KC5 Cable Closure Replaced With PC6/48 Cable Closure

1. Install backboard on bonding bracket, then route the preferred count through window on backboard.
2. Place preferred count pair and service wire pair through preferred count bracket and splice using 700-type connectors.
3. Backfill excavation and install upper front cover.

H. Replacing KD5 Cable Closure

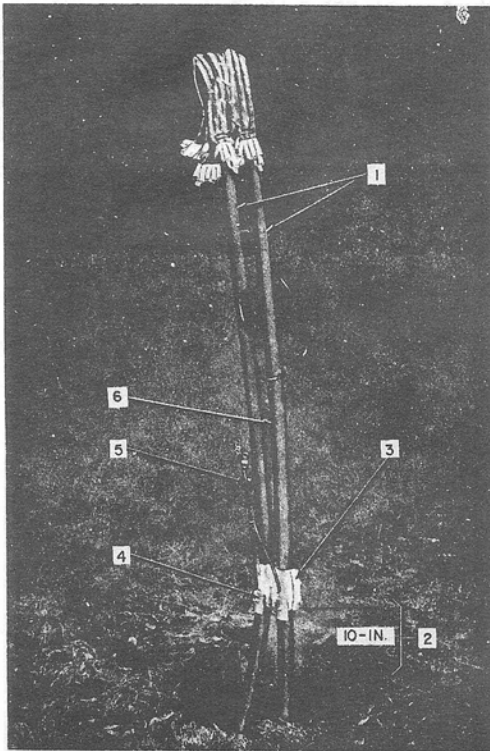
7.09 Procedures for replacing the KD5 cable closure are outlined in Steps 98 through 101.



Step 98—Top Removed and Temporary Bond Installed

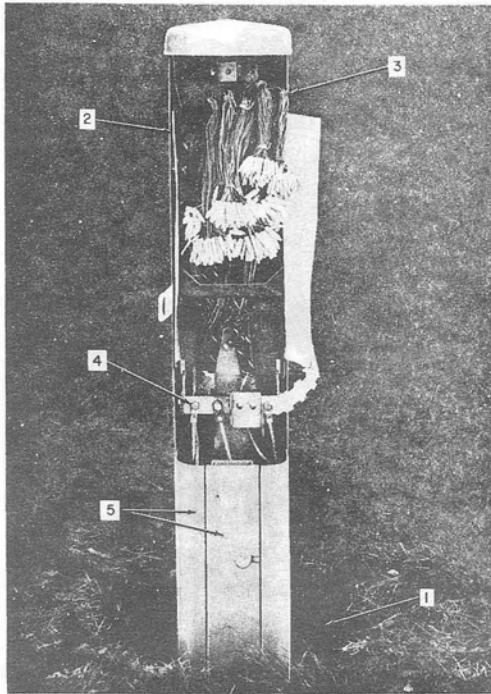
1. Remove the top from the closure.
2. Attach B temporary bond AT-7781 across cables to provide cable shield continuity while removing closure.

DANGER: Cable shield continuity must be maintained at all times regardless of number of cables involved.



Step 99—Preparing Cable for Installation of P6/48 Cable Closure

1. Remove KD5 cable closure from cable. Disassemble PC6/48 cable closure and obtain D bond assembly from PC6/48 cable closure.
 2. At a point approximately 10 inches above final grade, mark and ring the polyethylene jacket **exercising care not to damage the underlying metallic shield**, then remove a section of the outer polyethylene jacket
 3. Tear away enough of metallic shield at the butt of the cables to allow placing of D bond assembly.
- DANGER: Do not interrupt cable shield continuity.**
4. Install D bond assembly on each cable as outlined in Step 49 or Step 51. Position each bond assembly so that they are 180 degrees out of phase with each other on the cable sheath.
 5. Strap the bond clamps and strap assemblies together with AT-7796X connector.
 6. Remove the temporary bond and the outer polyethylene jacket and metallic shield between the bond straps.



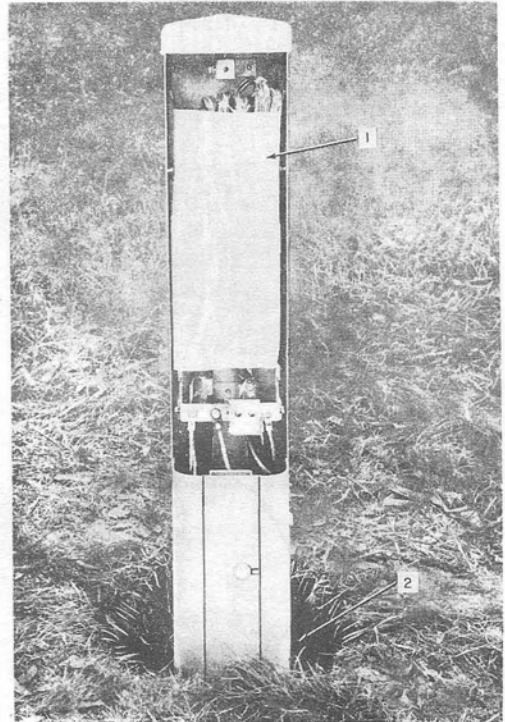
Step 100—Installed Closure

1. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. **Take care while digging to prevent damaging cable.**

DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed.

2. Carefully note the direction of the cable run and drive the anchor post so cables are not damaged, then place the back of closure in the hole and attach post with hardware provided with post.
3. Form the cable loop behind the splice support.
4. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket

5. Install lower front cover and service wires in channel, then install channel cover on lower front cover. **Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.**

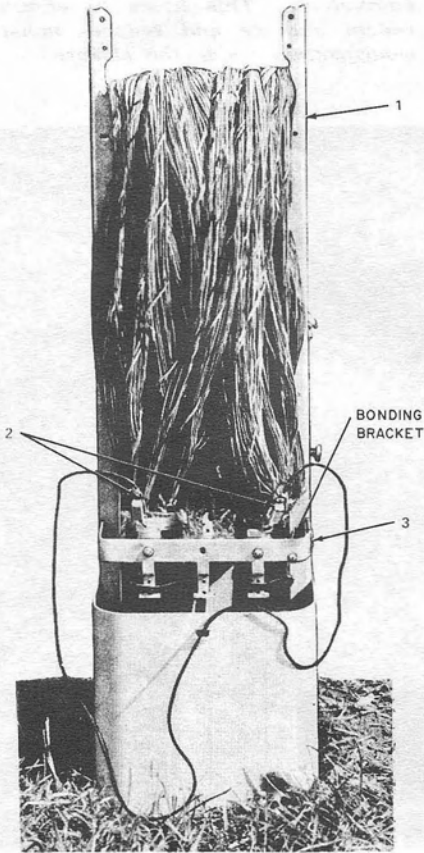


Step 101—Completed Installation

1. Wrap the splice with plastic shield.
2. Backfill excavation and install upper front cover on closure.

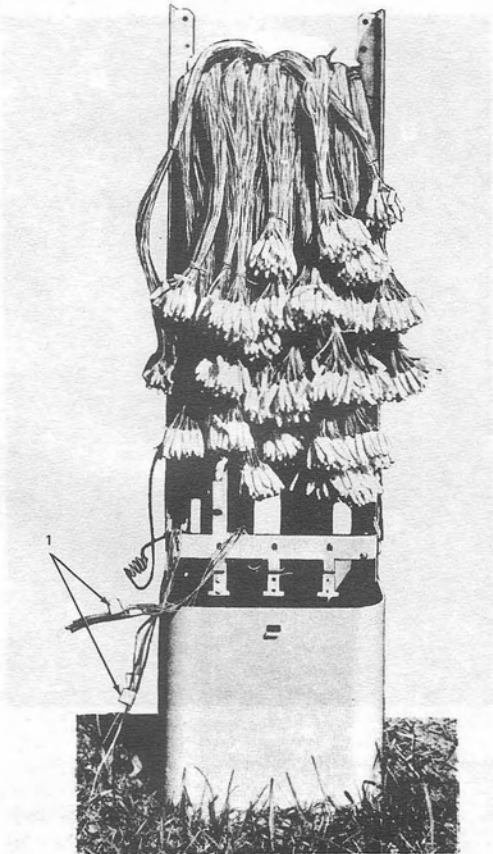
I. Replacing G Cable Closure

7.10 Procedures for replacing the G cable closure are outlined in Steps 102 through 109.



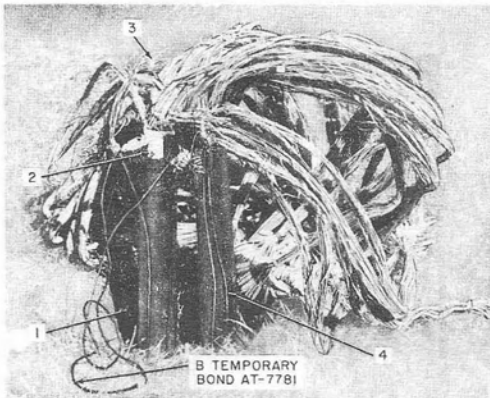
Step 102—G Cable Closures With Covers Removed

1. Remove the front and back covers from the closure.
2. Attach B temporary bond AT-7781 to metallic shield of cable *to maintain cable shield continuity while replacing closure.*
3. Disconnect the bonding arrangement from ground bracket, then disconnect bonding bracket from closure.



Step 103—Service Wires Tagged and Disconnected

1. Tag and temporarily disconnect service wires from cable pairs.

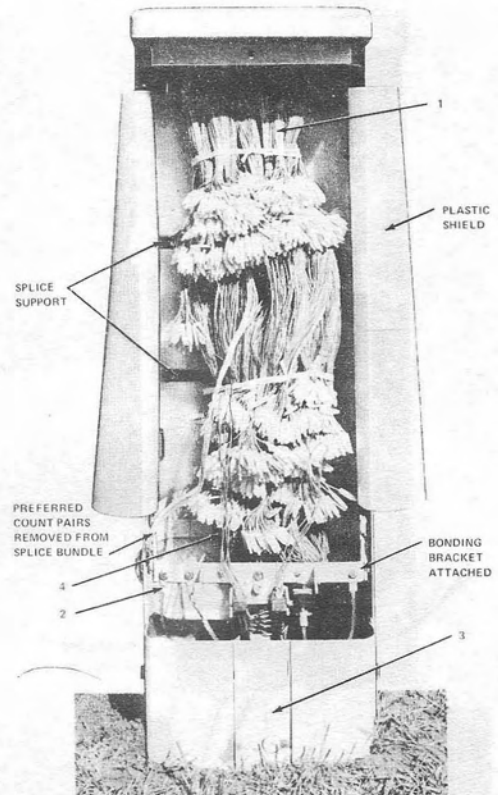


Step 104—Removed G Cable Closure

1. Remove G cable closure. Disassemble PC12/55 cable closure and obtain D bond assembly from PC12/55 cable closure.
2. Install D bond assembly on each cable as outlined in Step 49 or Step 51.
3. Strap the cable together with AT-7796X connector to maintain sheath continuity until PC12/55 cable closure is installed so bond straps can be attached to bond bracket. **Do not interrupt cable shield continuity.** Remove B temporary bond.
4. Excavate a hole approximately 16 inches deep and approximately 16 inches in diameter around the cable for placing closure. **Exercise care when digging to prevent damaging cable.**

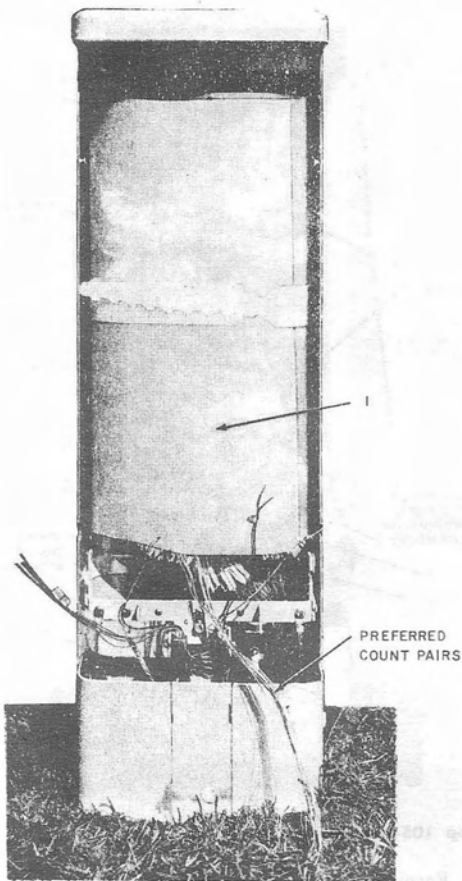
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed as outlined in Section 629-100-010.

5. Carefully note the direction of the cable run and drive the anchor posts so cables are not damaged, then place the back of closure in the hole and attach posts with hardware provided with posts.



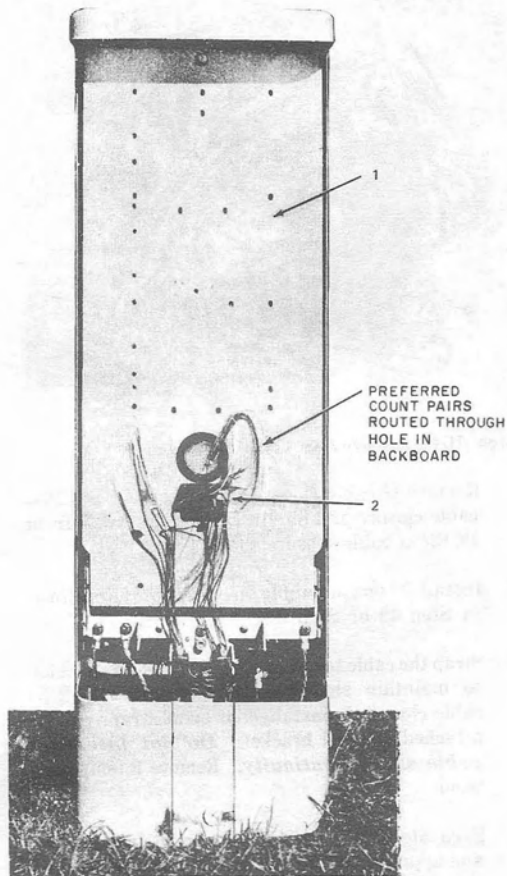
Step 105—Installed PC12/55 Cable Closure

1. Form the cable loop behind the splice support.
2. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket.
3. Install lower front cover and service wires in channel, then install channel cover on lower front cover. **Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.**
4. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire connector attached to bonding bracket.



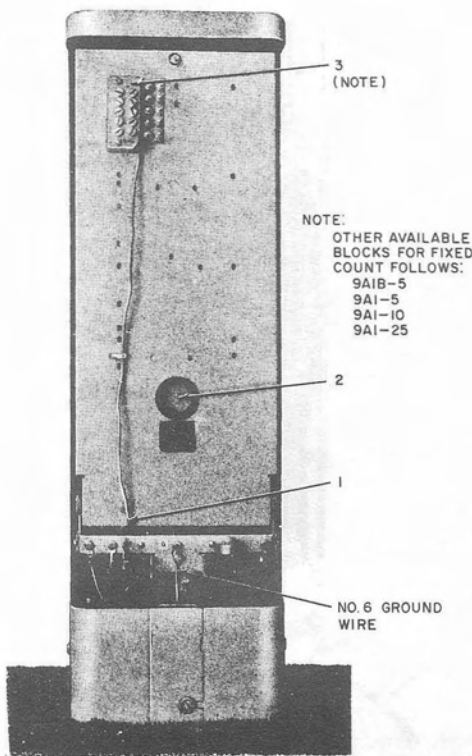
Step 106—Wrapped Splice

1. Remove the preferred count pairs from the splice bundle, then wrap the remainder of the splice bundle with the plastic shield.



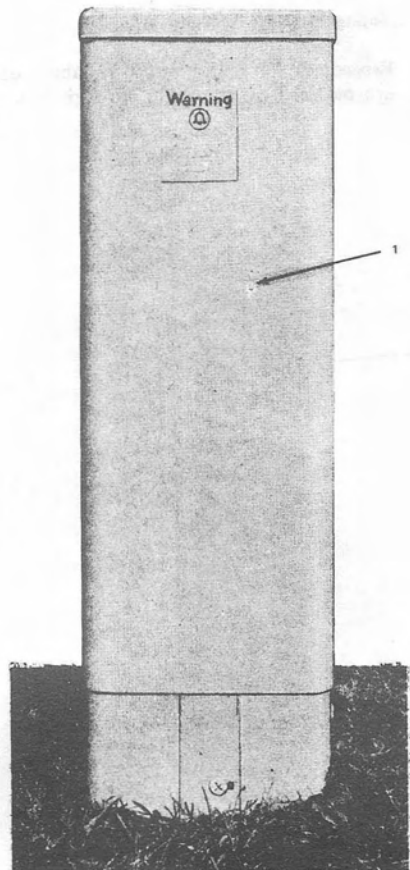
Step 107—Preferred Count Pairs Routed Through Hole in Backboard

1. Install the backboard on the ground bracket, then route the preferred count pairs through the hole in the backboard.
2. Using 700-type connectors, splice the service wires to the assigned preferred count pairs.



Step 108—Fixed Count Terminal

1. 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.
2. Wrap the splice with the plastic shield.
3. 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.

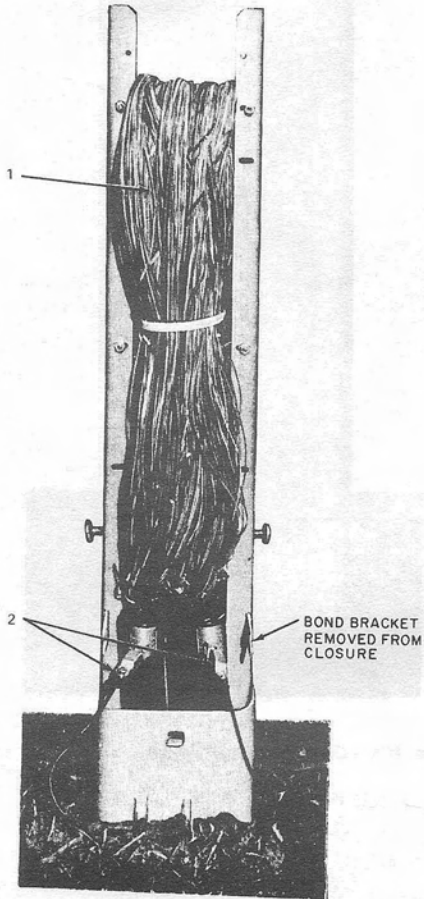


Step 109—Completed Installation

1. Install the front cover.

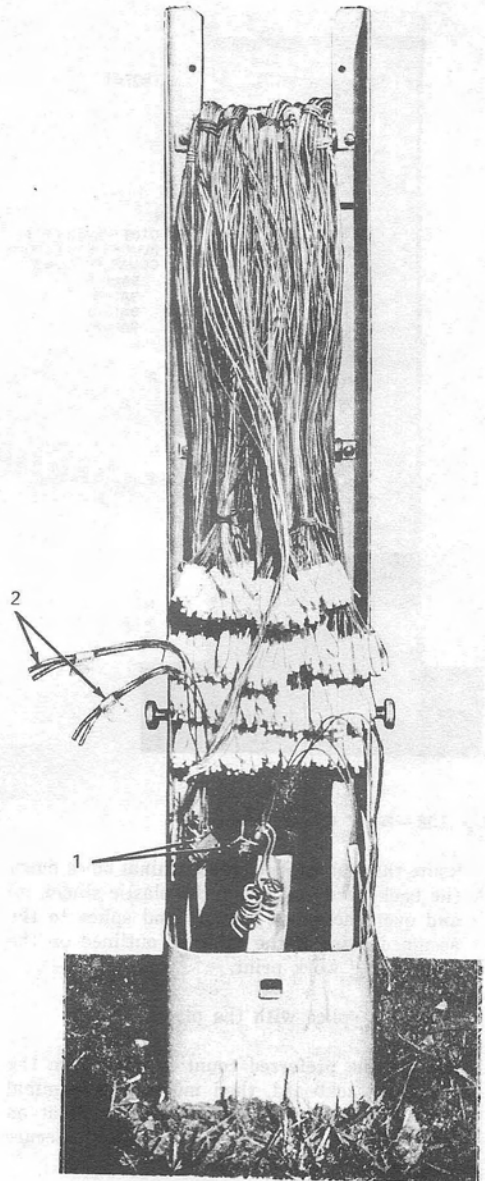
J. Replacing H Cable Closure

7.11 Procedures for replacing the H cable closure are outlined in Steps 110 through 115.



Step 110—Remove Covers and Install Temporary Bond

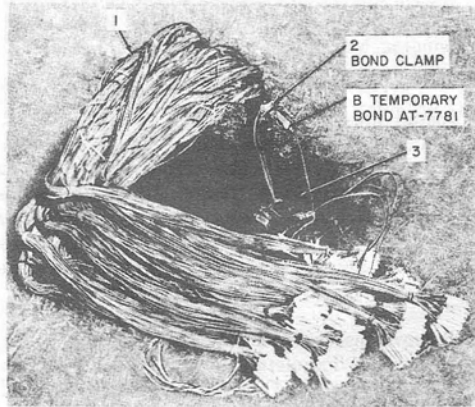
1. Remove the front and back covers and bond bracket from the closure.
2. Attach B temporary bond AT-7781 to metallic shield of cable to maintain cable shield continuity while replacing closure.



Step 111—Service Wires Tagged and Disconnected

1. Disconnect the bond clamps, bond straps, or inner sheath clamps from ground bracket.

2. Tag and temporarily disconnect service wires from cable pair.

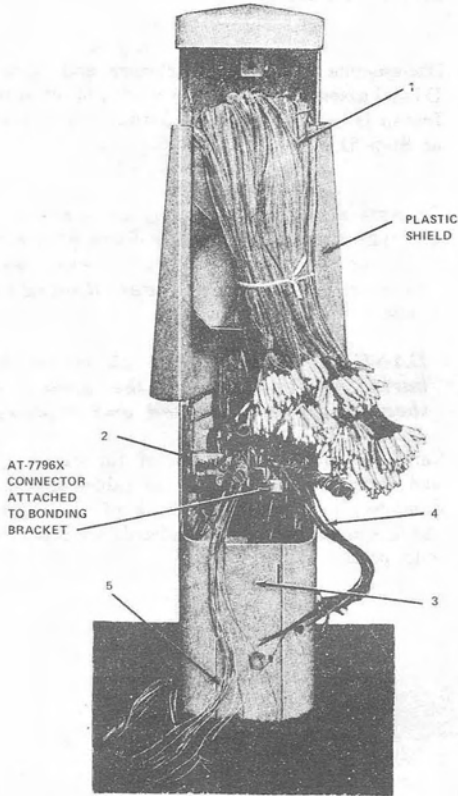


Step 112—Removed H Cable Closure

1. Remove H cable closure.
2. Disassemble PC6/48 cable closure and obtain D bond assembly from the PC6/48 cable closure. Install D bond assembly as outlined in Step 49 or Step 51.
3. Excavate a hole approximately 16 inches deep and approximately 12 inches in diameter around the cable for placing closure. **Take care while digging to prevent damaging cable.**

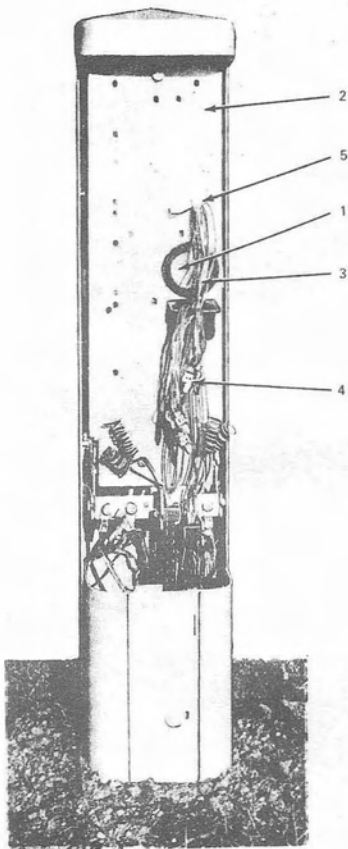
DANGER: Verify that there is no buried power cable in the area. If there is, have it located and exposed.

4. Carefully note the direction of the cable run and drive the anchor post so cables are not damaged, then place the back of closure in the hole and attach post with hardware provided with post.



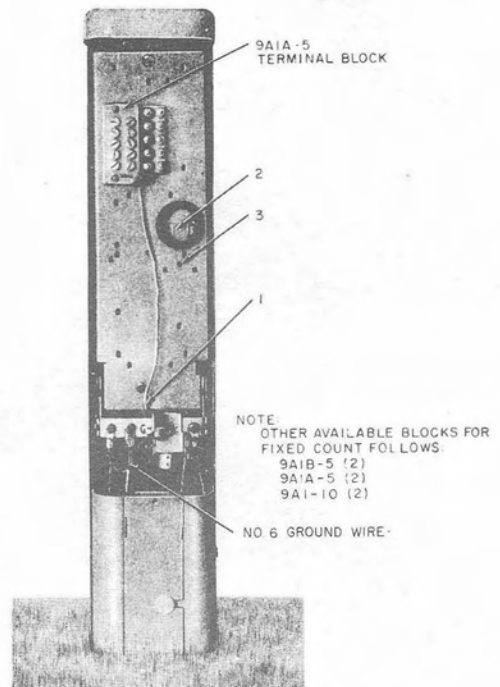
1. Route the cable splice over the splice support .
2. Attach the bonding bracket to the closure, then secure bond straps from cables to front of bonding bracket.
3. Install lower front cover and service wires in channel, then install channel cover on lower front cover. *Fill the lower section to about one inch from the top with crushed stone, gravel, or approved equivalent. This helps to eliminate rodent damage and reduces moisture condensation inside the closure.*
4. Remove the required outer polyethylene jacket and underlying metallic shield from the service wire and install in C service wire clamp attached to bonding bracket.
5. Remove the preferred count pairs from the splice bundle.

Step 113—Installed PC6/48 Cable Closure



Step 114—Service Wires Spliced to Preferred Count

1. Wrap splice bundle with plastic shield.
2. Install the backboard on the ground bracket.
3. Route the preferred count pairs through the hole in the backboard.
4. Using 700-type connectors, splice the service wire to the assigned preferred count pairs.
5. Secure service wires with wire guides.



Step 115—Fixed Count Terminal

1. 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.
2. Wrap the splice with the plastic shield.
3. 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.
4. Connect service wires to assigned binding post.
5. Install front cover.