

BURIED PLANT

TERMINATIONS OF BURIED WIRE

AT JUNCTIONS WITH BURIED PLANT

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1. GENERAL

1.01 This section describes methods used for terminating service wires at junctions with other types of buried plant and at customer locations.

1.02 This section is reissued to include new information on the 700-type connectors.

1.03 Section 629-720-200 covers the termination of buried wire at the junction with aerial plant. Section 629-030-115 describes the various types of service wires.

Caution: The metallic shield or armor of service wires must always be grounded at the customer's protector when the protector is fed from buried plant. The grounding is required at customer locations to protect against lightning damage and to minimize shock or fire hazards caused by sustained power contact. The metallic shield or armor of service wires must always be bonded to the terminal housing at the junction with buried cable.

1.04 At the older buried wire installations where a shield wire was used, the shield wire can be terminated in the same manner as recommended for metallic shields or armor.

1.05 Those stations which use fuseless protectors, and are served from buried distribution cable

of 19- or 22-gauge, that is exposed to possible contact with power of over 300 volts, such as in random separation construction, require a fusible link in the circuit between the exposed cable and the station. This fusible link can be provided at junctions of buried cable and buried service wire by terminating the buried service wire on 6A2-3 Terminal Block installed in a buried cable pedestal. The 24-gauge wire leads which are connected to the cable pair provide the fusible link. The 6A2-3 Terminal Blocks can be used only in K-type, E, and J Cable Closures.

1.06 ♦The 700-type connectors are used to join conductors in any combination of gauges without stripping the insulation (see note) as follows:

- **700-2A Connectors**—19-through 26-gauge: Used to splice two wires or bridge one wire to one through wire.
- **700-3A Connector**—17-through 26-gauge: Used to splice three wires or bridge up to two wires to one through wire.

Section 632-205-215 covers the complete description and use of the 700-type connectors.♦

Note: ♦Where 700-type connectors are used to splice E Buried Wire or D Underground Wire, the insulation must be removed.♦

1.07 ♦The E Connector Presser is the only approved tool for pressing the 700-type connectors. Use of other tools may result in improperly made connections.♦



♦THE 700-TYPE CONNECTORS SHALL NOT BE EXPOSED TO SOLVENT OR SOLVENT FUMES, SUCH AS B CLEANING FLUID, ACETONE, ETC. SUCH SOLVENTS CAN DAMAGE OR DESTROY THE PLASTIC CONNECTOR PARTS.♦

1.08 Where B Wire Connectors are used to join 19-gauge wire to 26-gauge wire, place a short length (approx. 8 inches) of 24-gauge PIC wire between the 19-gauge and 26-gauge conductors. Section 632-205-201 lists the conductor combinations that can be joined with B Wire Connectors.

1.09 When joining E Buried Wire to a cable pair with B Wire Connectors, split apart the conductors for approximately 2 inches. Where the service wire insulation joins the B Wire Connector, place vinyl tape over the joint.

1.10 Buried wires can be identified at terminations by means of tags made from B Glass Tape. Cut about 5 inches of glass tape and wrap it around the wire, pressing the sticky side against itself to make the tag. It can be readily marked with pencil or pen to show the customer or to identify the route of the buried wire, as shown in Fig. 1.

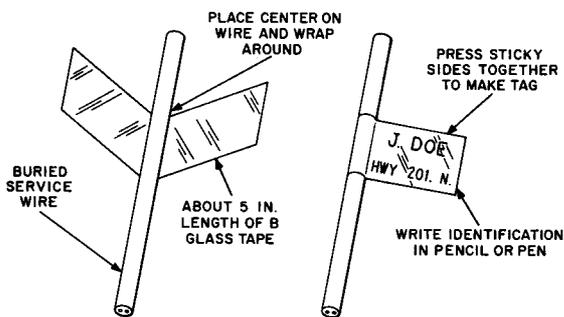


Fig. 1—Identifying Tags

1.11 The B and D Cable Closures have been rated "Manufacture Discontinued".

1.12 Section 631-604-203 covers the description and installation of the K-type closures, Section 631-600-205 covers the description and installation of the E Cable Closure, and Section 631-601-201 covers the description and installation of the J Cable Closure.

2. DISPOSITION OF UNTERMINATED PAIRS

2.01 Buried wire not in use may include new installations when some time may elapse before the buried wire is placed in service or where existing service is being disconnected. To avoid differences in potential between conductors and

the metallic shield or armor, buried wire which is not in use should be protected as follows:

(a) **New installations** where the wire is not being terminated on a station protector at time of placing.

(1) At station end, twist the bare conductors and metallic shield together and wrap with vinyl tape.

(2) At end toward central office, bridge metallic shield or armor and conductors to a common ground post, or if not available, follow instructions in (1).

(b) **Service disconnections** where the wire has been terminated and existing service is being disconnected.

(1) At station end, leave all terminations as they are, but where the station protector is being removed, twist the metallic shield or armor and bare conductors together and wrap with vinyl tape.

(2) At end toward central office, when the wire terminates on a protector, leave the terminations as they are. Under "Dedicated Plant" conditions, leave the terminations as they are. Under all other conditions follow the instructions in (a)(2).

3. JUNCTIONS WITH BURIED CABLE

3.01 The metallic shield or armor of service wires, or the separate shield wire occasionally used with buried wire must be terminated on the ground bracket of each type of buried cable closure.

3.02 Buried service wires can be terminated in the K-type closure, E Cable Closure, and J Cable Closure. They can also be terminated in 9-type closures as outlined in Section 631-600-215.

K-Type Cable Closure

3.03 To terminate service wires in the K-type cable closure, pull slack from the service wire and mark the outer jacket 1/4 inch below the AT-7796X Connector. Prepare the ends of B Service Wire or F-44541 Service Wire and E Buried Wire as illustrated in Fig. 2 and 3, respectively.

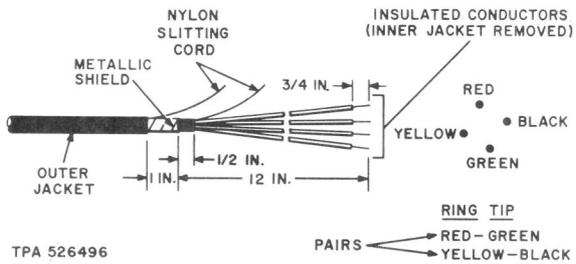


Fig. 2—Preparation of B Service Wire or F-44541 Service Wire

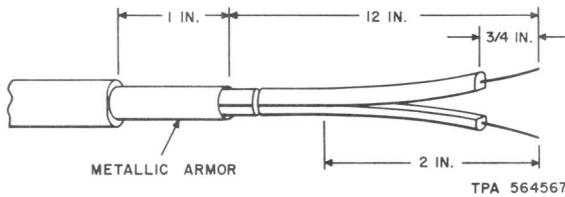


Fig. 3—Preparation of E Buried Wire

Note: The metallic tape of F-44541 Service Wire is stainless steel. After the excess tape has been removed, round the edges to prevent injury.

3.04 Insert the metallic tape into the AT-7796X Connector and tighten securely (Fig. 4). Do not crush the conductor insulation by too great a pressure.

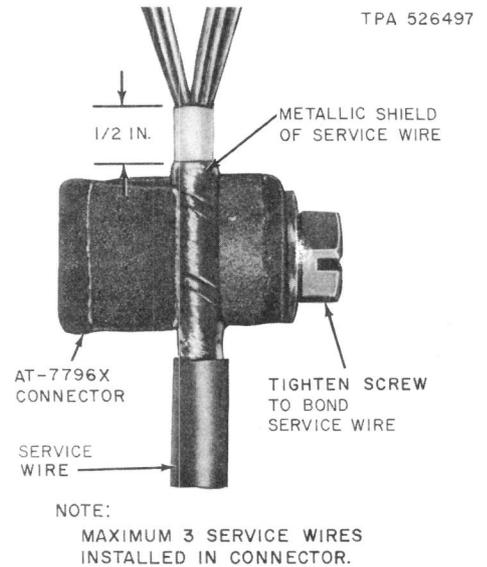
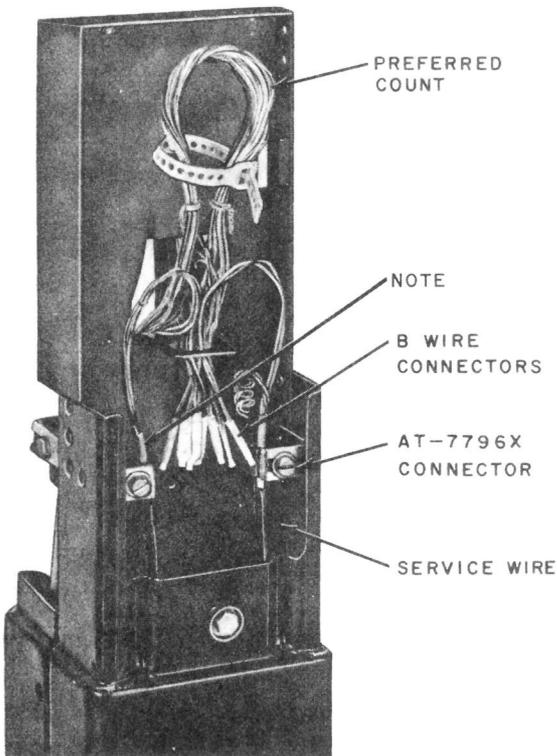


Fig. 4—Service Wire Installed in AT-7796X Connector

3.05 Push any slack in the service wire down into the closure. Arrange the identifying tags so they can be easily read.

3.06 The service wire run for the K-type closure is as follows:

- (a) **Nonprotected (Fig. 5):** Run the service wire through the wire bracket. Run the cable pair through the wire bracket. Cut the



NOTE:

THE SPARE SERVICE WIRE IS SPIRALED AROUND A PENCIL AND STORED TOWARD THE BASE OF THE CLOSURE

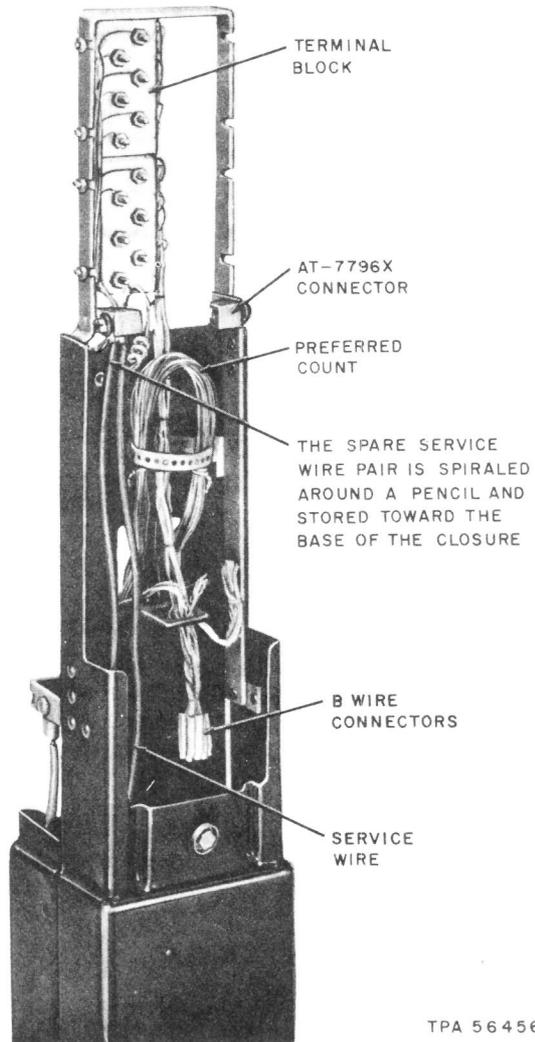
Fig. 5—Service Wire Installed in KA-Type Closure

service wire and cable pair even, approximately 1-1/2 inches below the wire bracket. Skin the insulation from the service wire conductors (Fig. 2 and 3) and connect the cable pair conductors to the service wire conductors with B Wire Connectors. Where 700-type connectors are used, the insulation must be removed from E Buried Wire (see 1.06).

(b) **Protected:** Terminate the service wire conductors on the assigned binding posts of a 6A4B-3 Terminal Block for cable protection or a 6A2-3 Terminal Block for fuse wire protection. Run the leads from the terminal block:

KB-type closure (Fig. 6)—through the wire bracket. Run the cable pair through the wire bracket. Cut the terminal block leads

and cable pair even, approximately 1-1/2 inches below the wire bracket.



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Fig. 6—Service Wire Installed in KB-Type Closure

KC-type closure (Fig. 7)—into the center section of the closure. Cut the terminal block leads and cable pair even, approximately 1/2-inch above the ground bracket.

Join the terminal block leads to the cable pair conductors with B Wire Connectors or 700-type connectors.

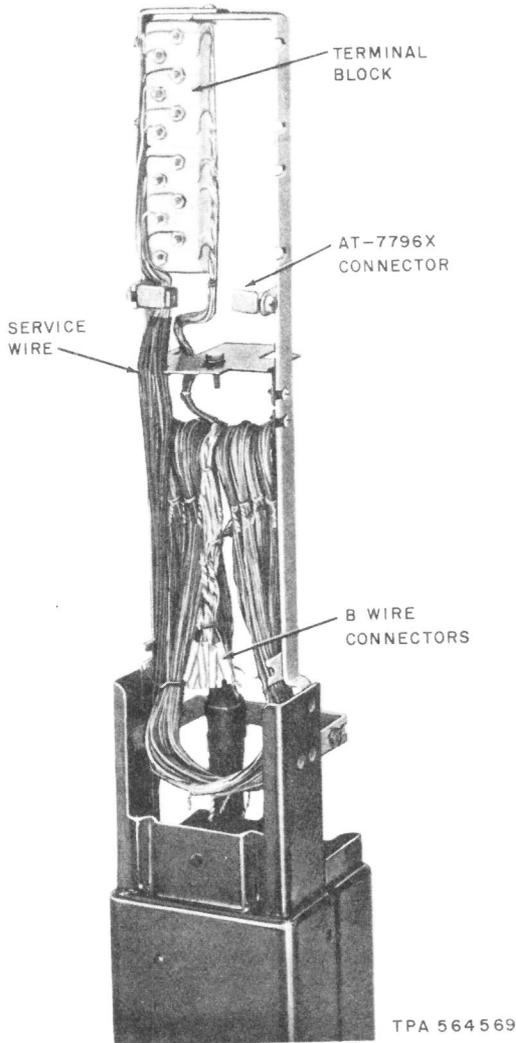


Fig. 7—Service Wire Installed in KC-Type Closure

E or J Cable Closure

3.07 To terminate service wires in the E or J Cable Closure, pull slack from the service wire and mark the outer jacket 1/4-inch below the AT-7796X Connector. Prepare the ends of B Service Wire or F-44541 Service Wire and E Buried Wire as illustrated in Fig. 8 and 9, respectively.

Note: The metallic tape of F-44541 Service Wire is stainless steel. After the excess tape has been removed, round the edges to prevent injury.

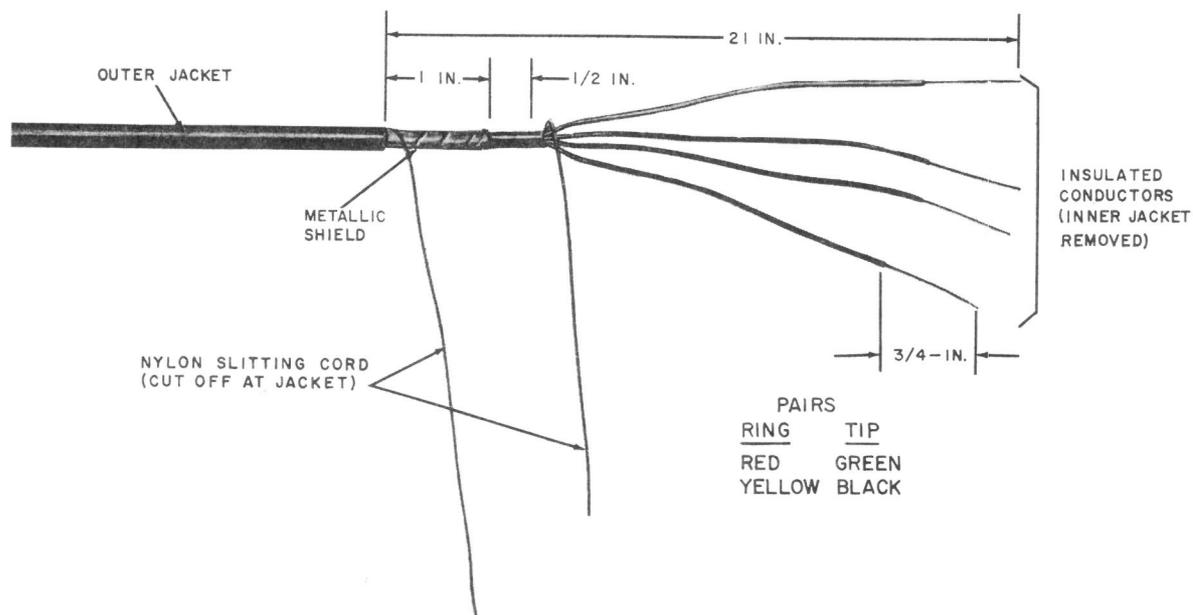
3.08 Insert the metallic tape into the AT-7796X Connector and tighten securely (Fig. 4). Do not crush the conductor insulation by too great a pressure.

3.09 Push any slack in the service wire down into the closure. Arrange the identifying tags so they can be easily read.

3.10 The service wire run for E or J Cable Closures is as follows:

- (a) **Nonprotected (Fig. 10):** Run the service wire through the plastic clips on the bracket assembly, across the top, and through the plastic clip on the backplate. Cut the service wire and cable pair even, approximately 1-1/2 inches below the plastic clip. Join the service wire conductors to the cable pair conductors with B Wire Connectors. Where 700-type connectors are used, the insulation must be removed from the E Buried Wire (see 1.06).

Note: When B Wire Connectors are used to join the conductors, the insulation must be removed from the ends of the service wire as illustrated in Fig. 8 or 9.



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Fig. 8—Preparation of B Service Wire or F-44541 Service Wire—E or J Cable Closure

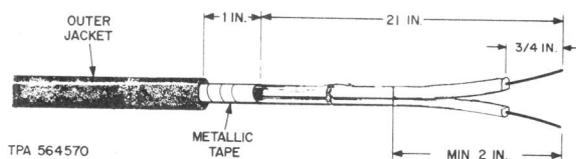
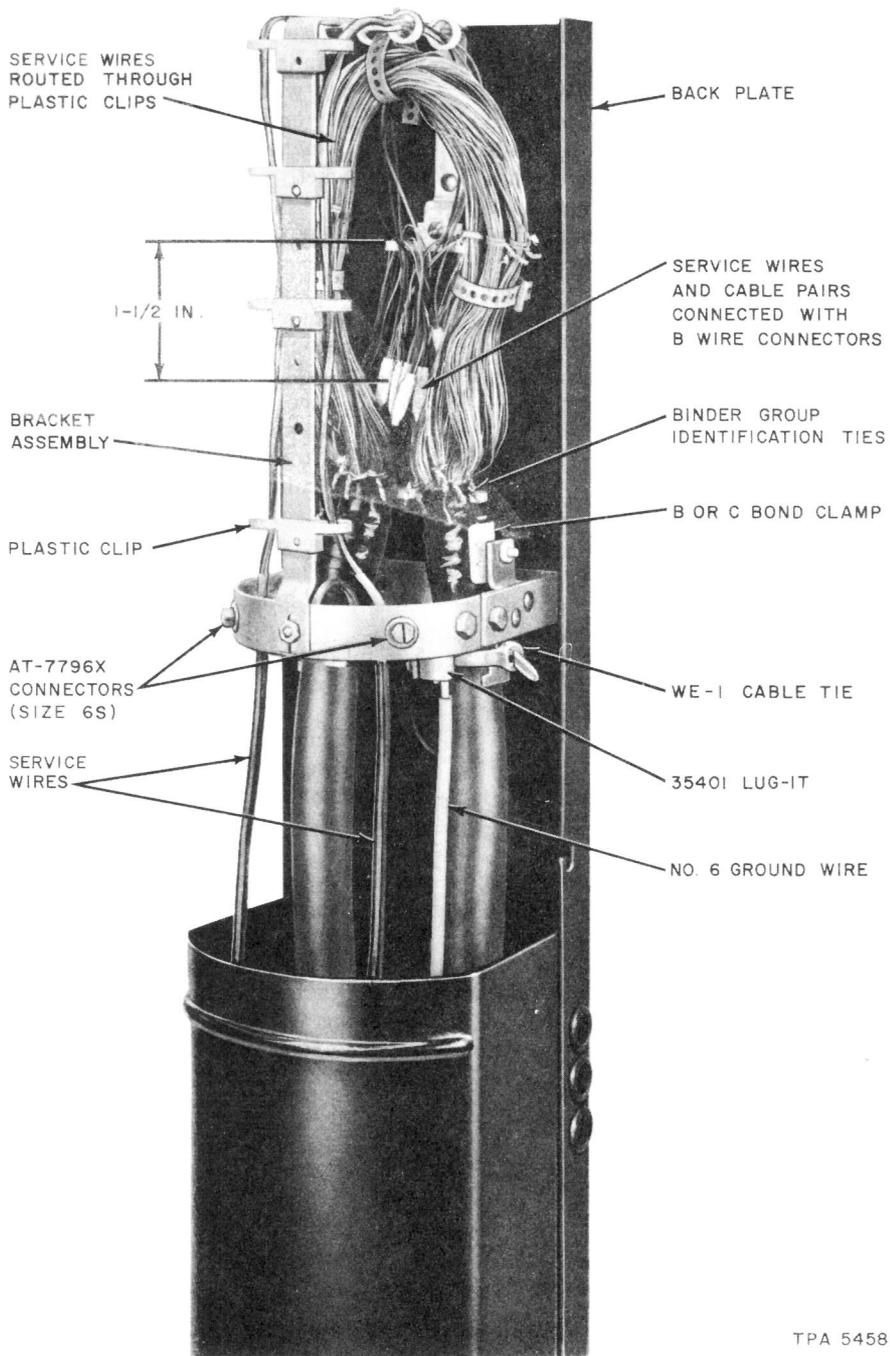


Fig. 9—Preparation of E Buried Wire—E or J Cable Closure



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Fig. 10—Service Wire Installed in E Cable Closure (nonprotected)

(b) **Protected (Fig. 11):** Run the service wire through the plastic clips on the bracket assembly and terminate the conductors on the assigned binding posts of a 6A4B-3 Terminal Block for cable protection or a 6A2-3 Terminal Block for fuse wire protection. Run the leads from the terminal block through the plastic clips across the top of the bracket assembly and down through the plastic clip on the backplate. Run the cable pair through the plastic clip on the backplate. Cut the terminal block leads and cable pair even, approximately 1-1/2 inches below the plastic clip. Join the terminal block leads to the cable pair conductors with B Wire Connectors or 700-type connectors.◀

4. JUNCTIONS WITH BURIED WIRE

4.01 At junctions of buried wire with buried wire, place a D or E Buried Wire Terminal as described in Section 629-720-215. Bridge the branch buried wires in the terminal as required. Each wire can be identified with a suitable designation by placing a tag made from glass tape as covered in 1.10. The metallic shield of buried service wires must be connected to the ground post of each terminal.

5. TERMINATIONS AT CUSTOMER LOCATIONS

5.01 An F Connector is used to bond the metallic shield of B Service Wire, F-44541 Service Wire, or E Buried Wire to a 123A1A Protector or 128A1A Protector. (Do not attempt to bond the metallic shield otherwise.) The F Connector has a tongue which can be placed under the washer of the protector ground post without removing the nut.

B, F-44541 Service Wire, or E Buried Wire

5.02 Mount the 123- or 128-type protector on the wall and mark the location of the F Connector on the service wire. Cut off the wire about 5 inches beyond this point. Remove the outer jacket.

5.03 Remove the metallic shield as shown in Fig. 12.

5.04 Remove the inner jacket of the B or F-44541 Service Wire up to the metallic shield. Position the F Connector on the service wire or buried wire as shown in Fig. 13, and tighten firmly with a C, D, or 4-inch E Screwdriver.

5.05 Terminate the service or buried wire on a protector as illustrated in Fig. 14. Place the tongue of the F Connector under the prong washer. Place the ground wire between the prong washer and brass washer. Tighten the nut securely.

5.06 Cover the protector with a 150A Cover as illustrated in Fig. 15.

5.07 Where a protector is not required, a service wire can be terminated on a 42A Connecting Block mounted on a 168-type backboard as shown in Fig. 16.

5.08 The armor wires of D Underground Wire are terminated in a No. 31589 Solderless Connector as illustrated in Fig. 17. The tongue of the solderless connector is placed under the prong washer. Place the ground wire between the prong washer and brass washer. Tighten the nut securely. Terminate the conductors on a protector as illustrated in Fig. 14.

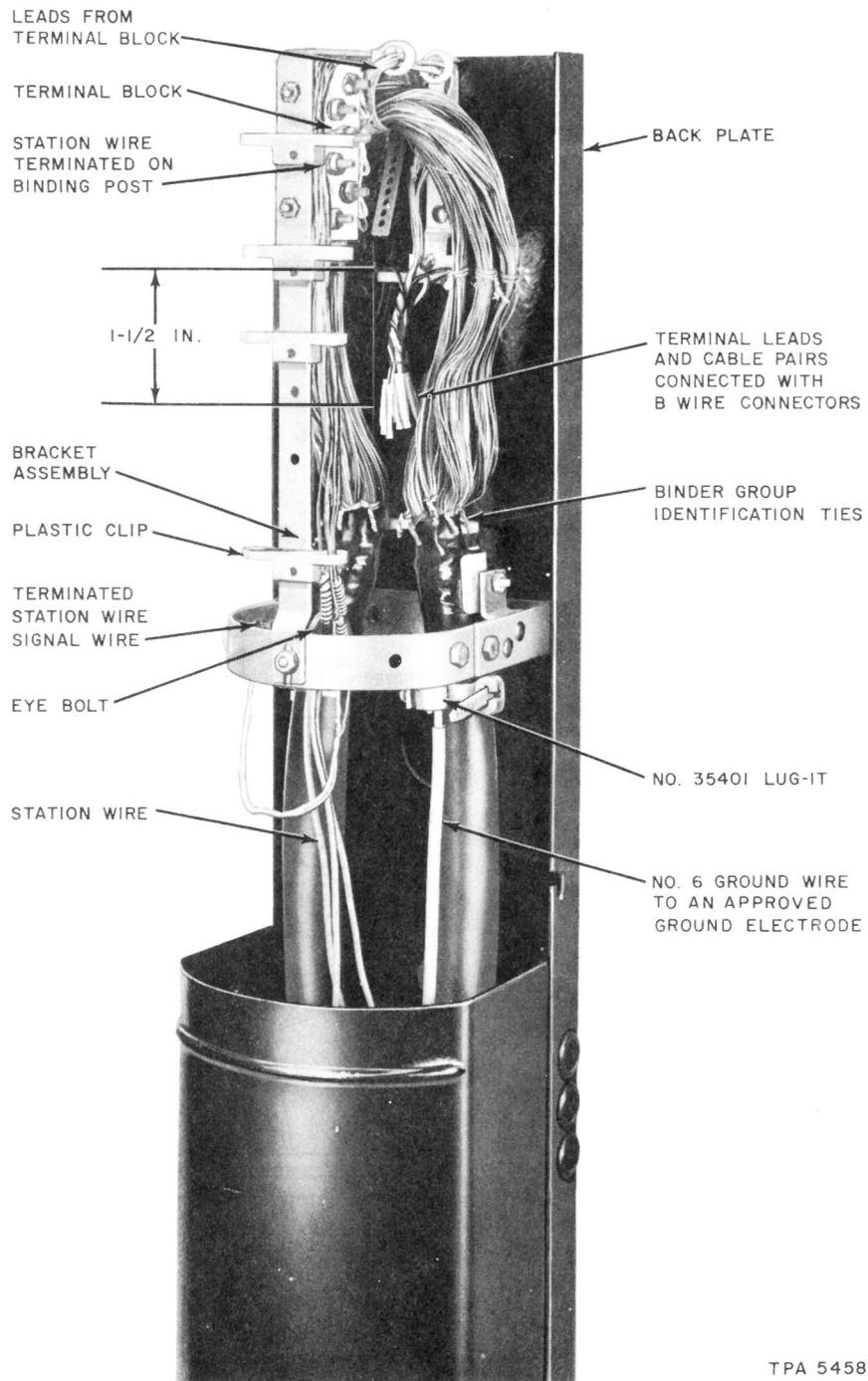


Fig. 11—Service Wire Installed in E Cable Closure (station protection)

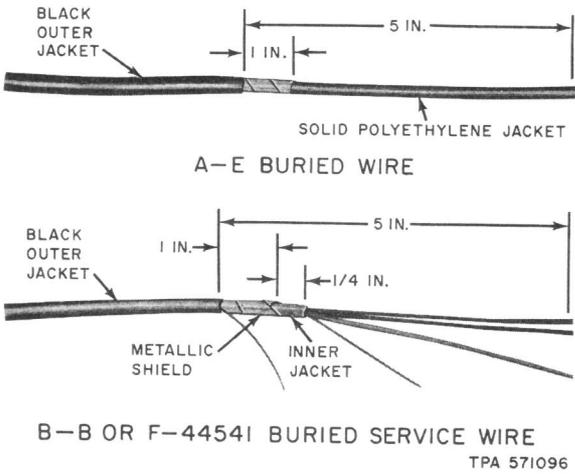


Fig. 12—Sheath Preparation for Placing F Connector

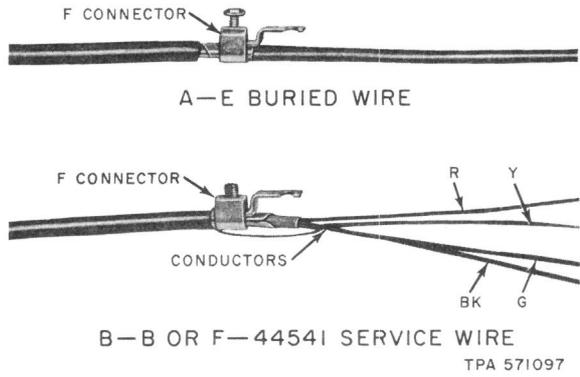


Fig. 13—F Connector on Service Wire

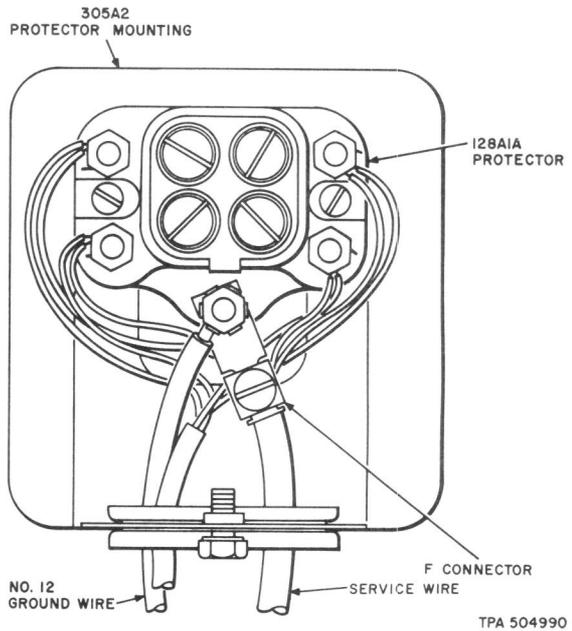
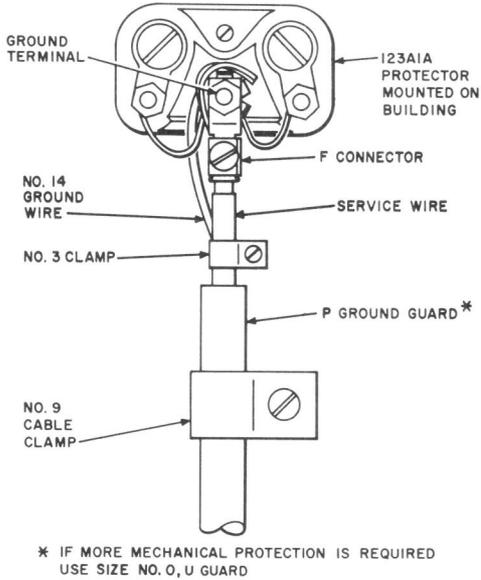


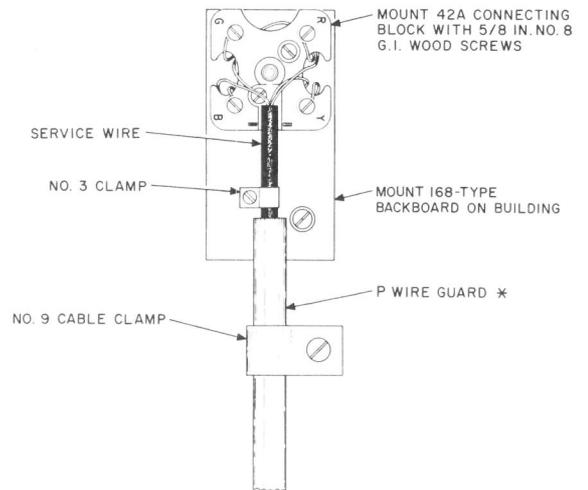
Fig. 14—Service Wire on Protector

* IF MORE MECHANICAL PROTECTION IS REQUIRED USE SIZE NO. 0, U GUARD

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Fig. 15—Protector with Cover in Place



* IF MORE PROTECTION IS REQUIRED, USE A SIZE NO. 0, U GUARD.

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Fig. 16—Service Wire on 42A Connecting Block

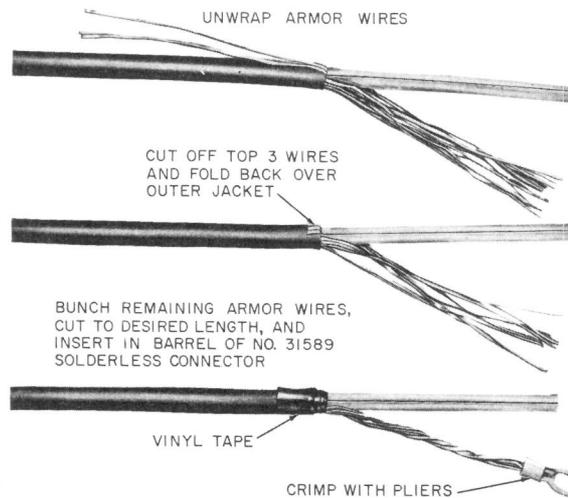


Fig. 17—Preparation of D Underground Wire for Protector