BURIED PLANT

TERMINATIONS OF BURIED WIRE

AT JUNCTIONS WITH BURIED PLANT

CONTENTS PAGE

1. GENERAL

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

1.02 This section is reissued to delete detailed information on the B Wire Connector which is covered in other practices, and to include information on the F Connector presently being furnished which was formerly known as the Thomas and Betts Company Lug-It No. 264-30489-38. The F Connector is used to ground the alumnimum shield of B Service Wire. This section also includes use of the 128A1A Protector and termination of service wire in an E Cable Closure.

1.03 ▶Section 629-720-200 covers the termination of buried wire at the junction with aerial plant.◀

1.04 ▶The armor wire of D Underground Wire or the aluminum tape of B Service Wire must ***always*** be grounded at the subscriber's protector when the protector is fed from buried plant. The grounding is needed at subscriber locations to protect against lightning damage and to minimize shock or fire hazards caused by sustained power contact. The aluminum tape of B Service Wire or the armor wire of D Underground Wire should always be bonded to the terminal housing at the junction with buried cable.

1.05 ▶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 aluminum tape or armor wire.◀

1.06 ▶Those stations which use fuseless protectors, and which 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 3A3-6 (P-18A782) 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 3A3-6 terminal blocks can be used only in B and E Cable Closures.◀

1.07 ▶The B Wire Connector should be used to join B Service Wire to PIC cable, as covered in Section 632-205-201.◀

1.08 ▶The 19-gauge conductors of D Underground Wire can be joined to PIC cable as covered in Section 632-205-201 if the conductors are split apart for about 2 inches.◀

1.09 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 subscriber or to identify the route of the buried wire, as shown in Fig. 1.

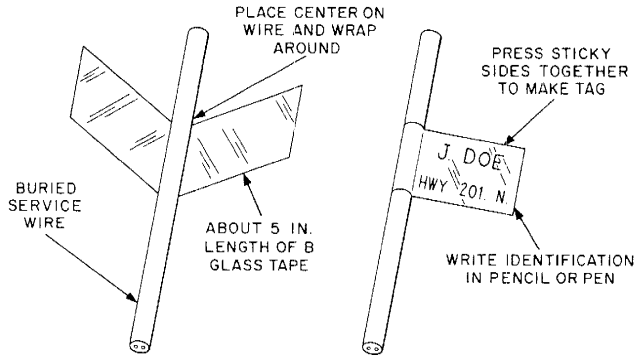


Fig. 1—Identifying Tags

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 armor wire or aluminum tape, 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 armor wires together and wrap with vinyl tape.

(2) At end toward central office, bridge armor wires 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 armor wires 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 armor wire of D Underground Wire, the aluminum tape of B Service Wire, or the separate shield wire occasionally used with buried wire should be terminated on a common ground as outlined in the paragraphs which follow.

B Cable Closure

3.02 The termination of B Service Wire in a B Cable Closure is described in Section 631-600-201.

3.03 To terminate D Underground Wire, pull slack from the wire and mark the outer jacket about 6 inches above the baseplate. Prepare the end as shown in Fig. 2.

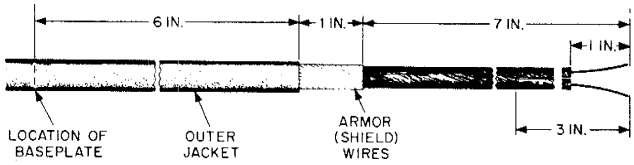


Fig. 2—Preparation of D Underground Wire for B Cable Closure

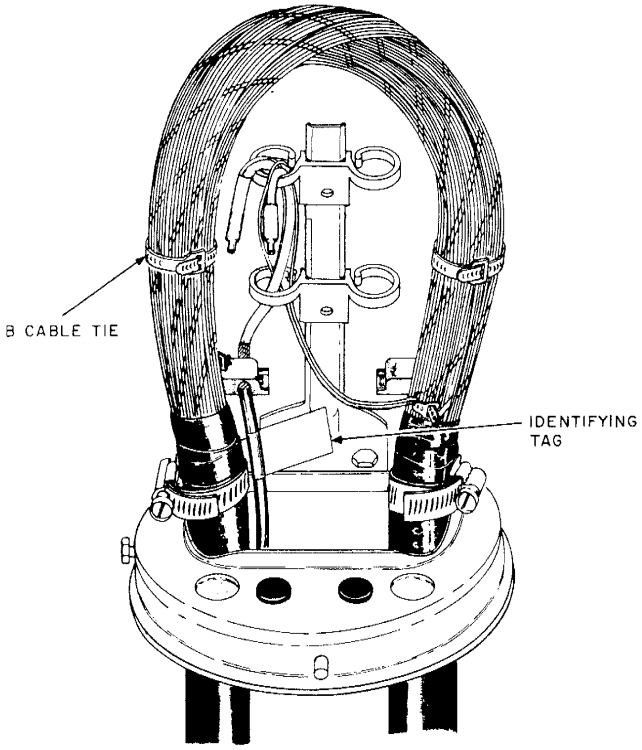
3.04 Insert the armor wire in the ground connector of the closure and tighten securely. Do not crush the conductor insulation by too great a pressure.

3.05 Push any slack in the underground wire down into the terminal post. Arrange the identifying tags so they are most easily read.

3.06 Run the D Underground Wire through the plastic clamps and bend down over the top clamps. Run the cable pair through the same route as the D Underground Wire. Bend the cable pair over the top plastic clamp and cut off wires about 1-1/2 inches below the bend.

3.07 Skin the insulation from the D Underground Wire and connect the cable pair to the wire by using B Wire Connectors as covered in Section 632-205-201. Where these 19-gauge conductors are

to be joined to 26-gauge cable conductors, place a short length (about 8 inches) of 24-gauge PIC wire between the 19- and 26-gauge conductors, thus allowing the use of the B Wire Connector. A completed installation is shown in Fig. 3.



NOTE:
WHEN BURIED WIRE IS EXPOSED AND A FUSELESS PROTECTOR IS USED AT THE SUBSCRIBERS STATION AND IF CABLE IS 19-OR 22-GAUGE, PLACE A 3A3-6 TERMINAL BLOCK AND TERMINATE THE BURIED SERVICE WIRE.

Fig. 3—D Underground Wire in B Cable Closure

3.08 Where the binding posts on a connecting block installed for loading are not all used for loading, they should be used for any terminations required. Insert the armor wire into the ground connector and terminate the conductors of the D Underground Wire on the binding posts of the blocks in the usual manner. The installation should be similar to that shown in Section 631-600-201.

D Cable Closure

3.09 The termination of B Service Wire in a D Cable Closure is described in Section 631-600-203.

3.10 To join D Underground Wire directly to a cable conductor in a D Cable Closure, prepare the wire as shown in Fig. 4.

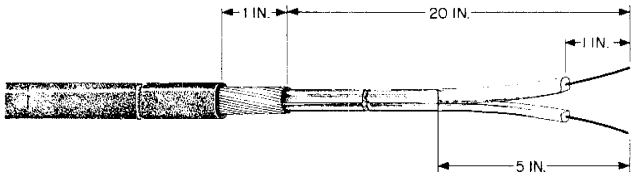


Fig. 4—Preparation of D Underground Wire for D Cable Closure

3.11 Insert the armor wire of the D Underground Wire in the ground connector and tighten securely. Run the underground wire and the cable pair to be connected through the plastic eyebolt and bend down over it.

3.12 Skin the insulation from the D Underground Wire and connect to the cable pair by using B Wire Connectors as covered in Section 632-205-201. Where these 19-gauge conductors are to be joined to 26-gauge cable conductors, place a short length (about 8 inches) of 24-gauge PIC wire between the 19- and 26-gauge connectors, thus allowing the use of the B Wire Connector. After the splice is made, the end of the connector and the wire should be wrapped with a short piece of vinyl tape to insulate the bare conductor. A completed installation is shown in Fig. 5.

3.13 ▶The termination of B Service Wire in an E Cable Closure is covered in Section 631-600-205. Fig. 6 illustrates the service wire terminated in the E Cable Closure.◀

3.14 ▶Terminate D Underground Wire in the E Cable Closure as covered in 3.11 and 3.12.◀

3.15 ▶The 38-Y-D and 38-Y-DB Cable Closures have been replaced by the E Cable Closure.◀

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 1.09. The armor wire or aluminum tape of buried wire should be connected to the ground post of each terminal.

5. TERMINATIONS AT SUBSCRIBER LOCATIONS

5.01 ▶An F Connector is used to bond the aluminum tape of B Service Wire to a 123A1A or 128A1A protector. (Do not attempt to bond aluminum tape otherwise.) The F Connector has a tongue which can be placed under the washer of the protector ground post without removing the nut.◀

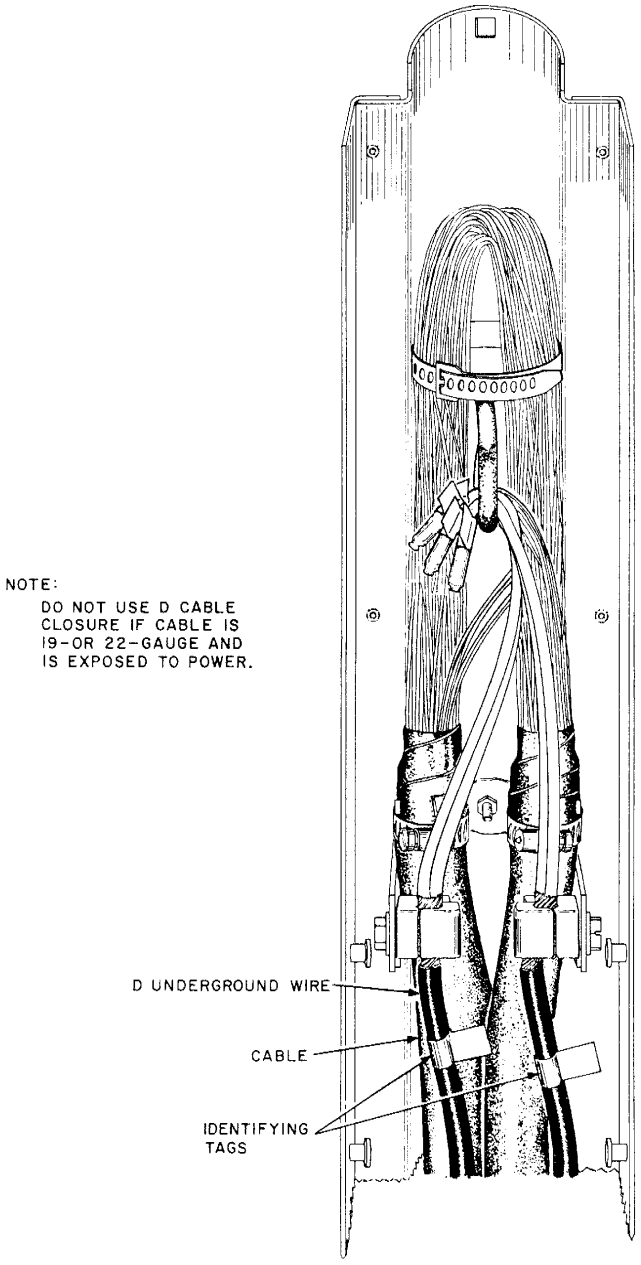
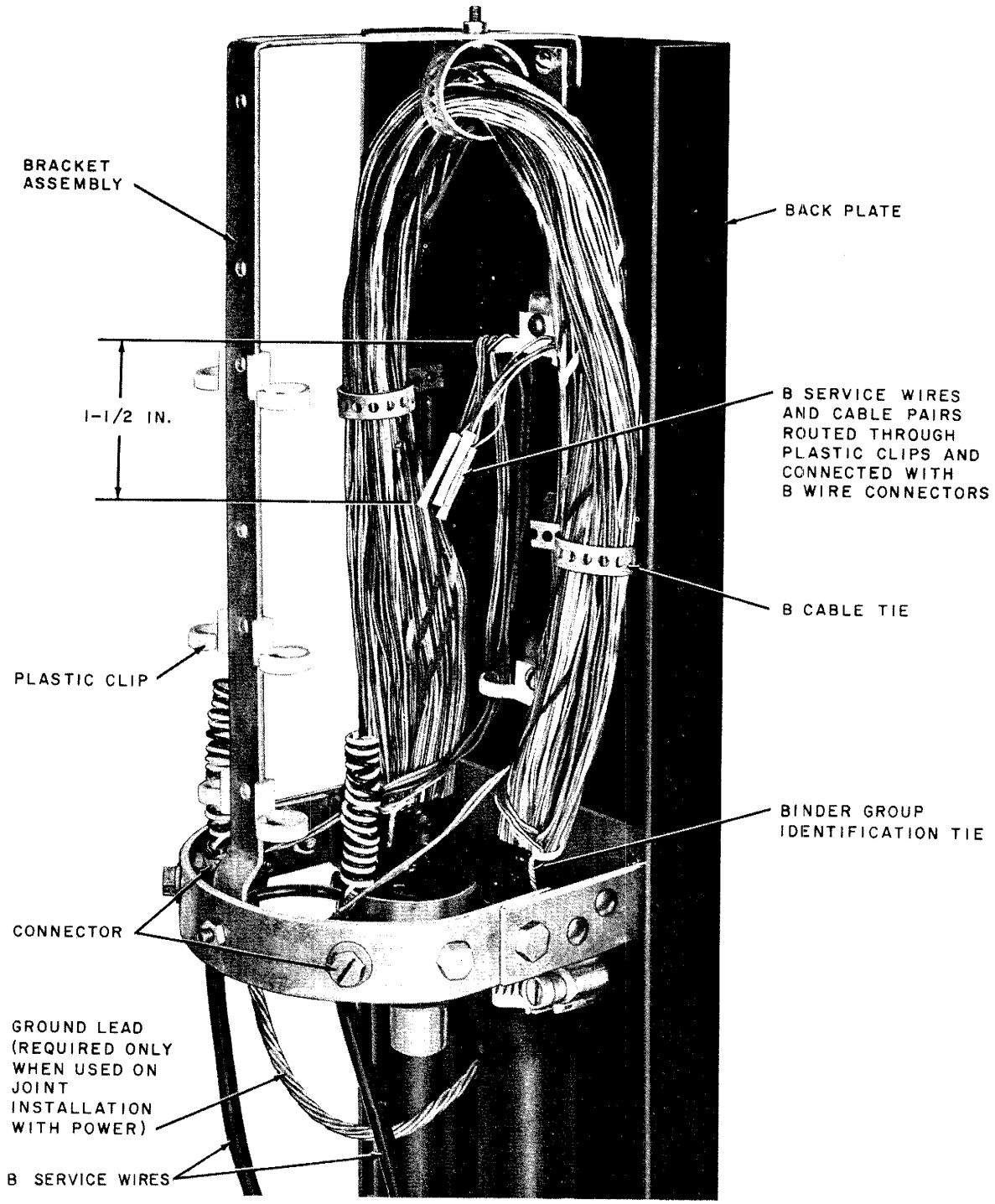


Fig. 5—D Underground Wire in D Cable Closure



NOTE:

IF CABLE IS 22-OR 19-GAUGE AND EXPOSED TO POWER, AND BURIED SERVICE WIRE IS TERMINATED ON A FUSELESS STATION PROTECTOR, PLACE A 3A3-6 TERMINAL BLOCK AND TERMINATE THE SERVICE WIRE ON IT.

Fig. 6—B Service Wire Terminated in E Cable Closure

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 aluminum as shown in Fig. 7.

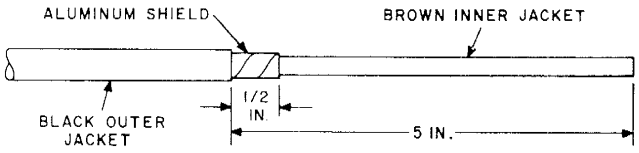


Fig. 7—Strip Outer Jacket and Aluminum Tape

5.04 Remove the inner jacket up to the aluminum tape. Position the F Connector on the wire as shown in Fig. 8, and tighten firmly with a C, D, or 4-inch E screwdriver.

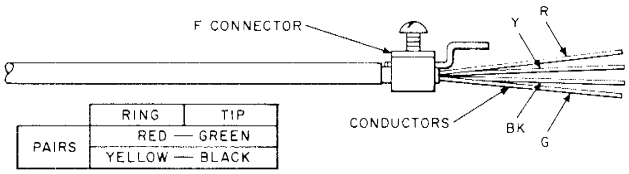
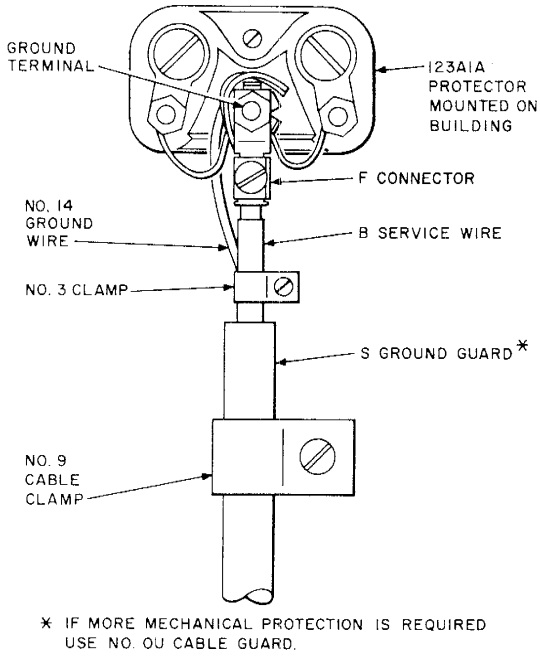


Fig. 8—F Connector on Service Wire

5.05 ▶Terminate service wire on a protector as illustrated in Fig. 9. 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.◀



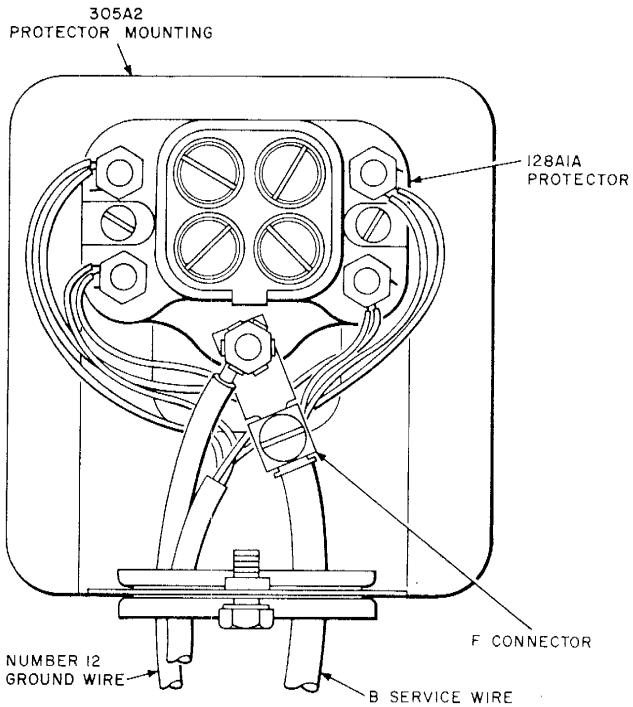


Fig. 9—Service Wire on Protector

5.06 Cover the protector with a 150A Cover as illustrated in Fig. 10.

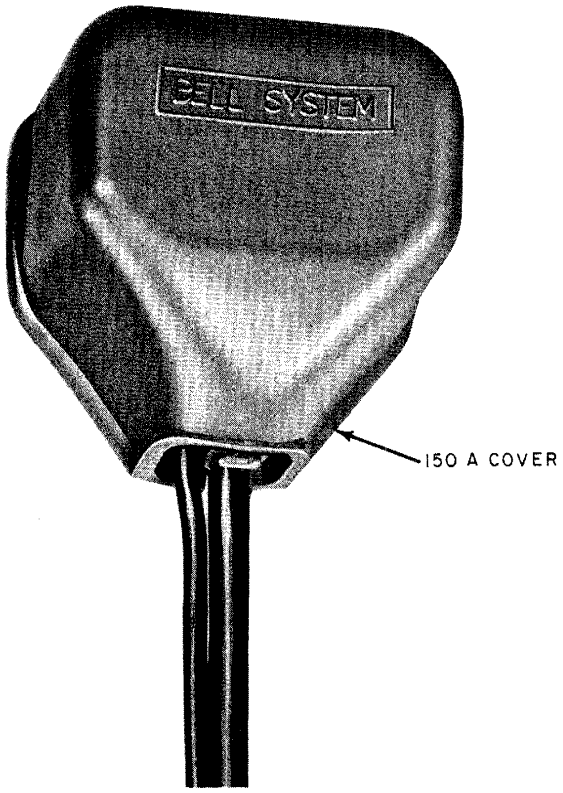


Fig. 10—Protector With Cover in Place

5.07 Where a protector is not required, a service wire can be terminated on a 42A Connecting Block on a 168-type backboard as shown in Fig. 11.

5.08 D Underground Wire can be terminated in a protector by preparing the end as shown in Fig. 12. The solderless connector can be placed on the ground post in a manner similar to placing the F Connector (on service wire) on the ground post as described in 5.05.

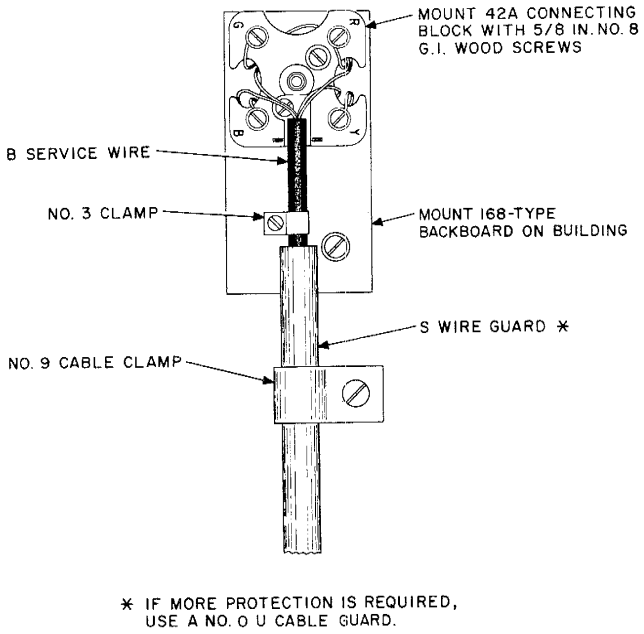


Fig. 11—Service Wire on 42A Connecting Block

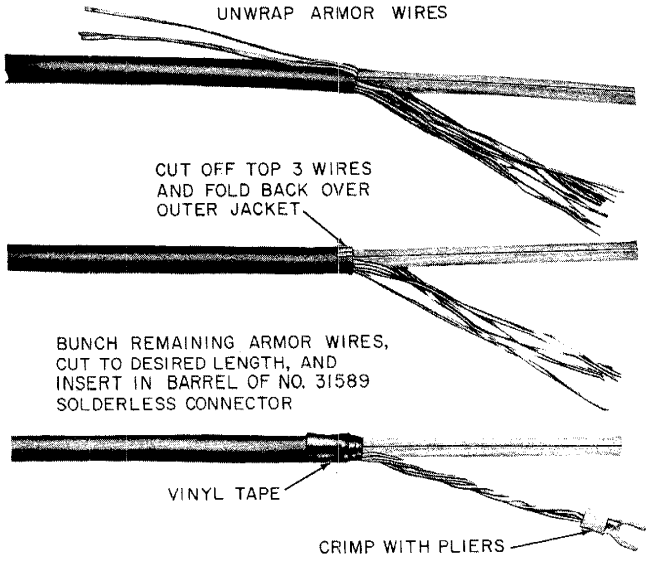


Fig. 12—Preparation of D Underground Wire for Protected Terminal