

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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BURIED WIRE

SPlicing B SERVICE WIRE

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1. GENERAL

1.01 This section describes the methods and materials used in splicing B Service Wire. This is a 2 pair, quadded, polyethylene insulated wire, intended for use in providing underground service connections.

1.02 The insulation of the conductors is colored for purposes of identification. The opposite wires of the quad, red-green and yellow-black, are the pairs. The red wire and the yellow wire are the ring conductors of the two pairs.

1.03 B Service Wire carries a spiral wrapping of 4-mil by 1/2-inch aluminum tape. At splices this tape is restored over the joined and insulated conductors to make it electrically continuous across the splice.

2. TOOLS AND MATERIALS

2.01 The following tools and materials are used in splicing B Service Wire.

Sleeves : 032-025 S Brass Sleeves

For splicing No. 20 AWG copper-steel conductors.

- Tape** : **3/4-inch DR Tape**
For insulating conductors and wrapping completed splice.
- Pliers** : **Diagonal Pliers**
Long Nose Pliers
- Presser** : **B Sleeve Presser**
For compressing 032-025 S Brass Sleeves.
- Scissors** : **C Splicer's Scissors**
For skinning insulation from conductors.
- Slitter** : **C Sheath Slitter**
For removing jackets from wire.

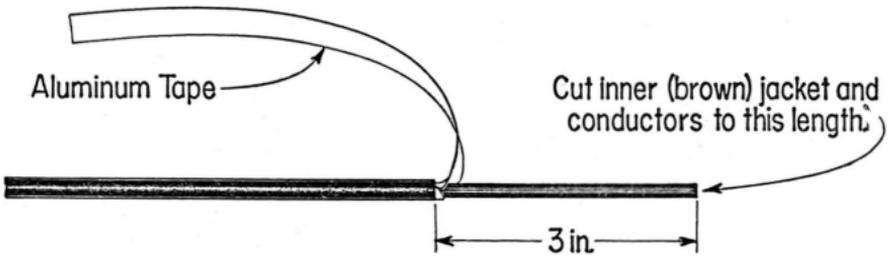
3. PREPARING WIRE ENDS

- 3.01 In preparation for splicing the conductors, remove the outer (black) polyvinyl-chloride jacket as follows:
- (1) Measure about 5 inches from the end of one wire and at that point puncture the jacket with diagonal pliers or splicer's scissors. Cut only deep enough to pierce the jacket without cutting the aluminum.
 - (2) Place the wire on a flat surface and insert the toe of the C Sheath Slitter in the cut in the jacket with the toe toward the end of the wire.

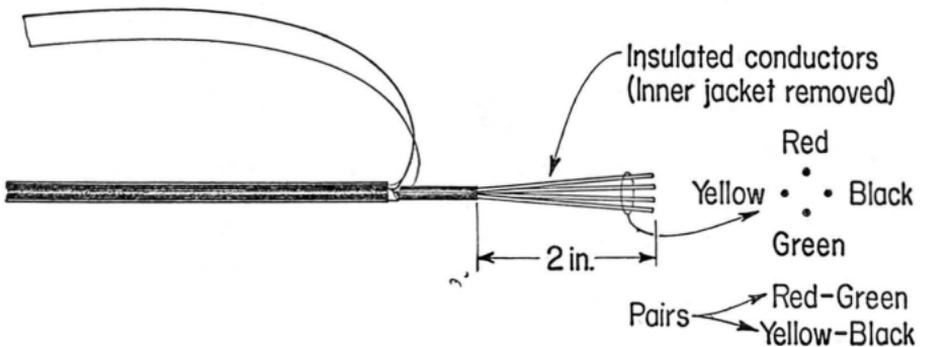


- (3) Hold the slitter so the toe is slightly raised to avoid catching the tape. Slit the jacket to the end of the wire and remove the jacket.

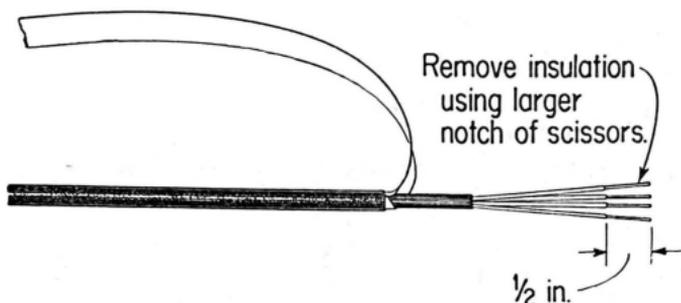
- (4) Unwind the aluminum tape to the end of the outer jacket. If the free end of the tape lies under the preceding wrap, it can be released by twisting the entire wire opposite to the lay of the tape near the free end. This will cause the tape to bulge so that it can be grasped with long nose pliers.
- (5) Cut the inner (brown) jacket and the conductors to about 3 inches.



- (6) Remove the inner jacket for a distance of about 2 inches from the end of the wire. This can be done using the sheath splitter as before or by cutting the jacket with diagonal pliers, starting at the open end of the jacket. Exercise care not to damage the conductor insulation.



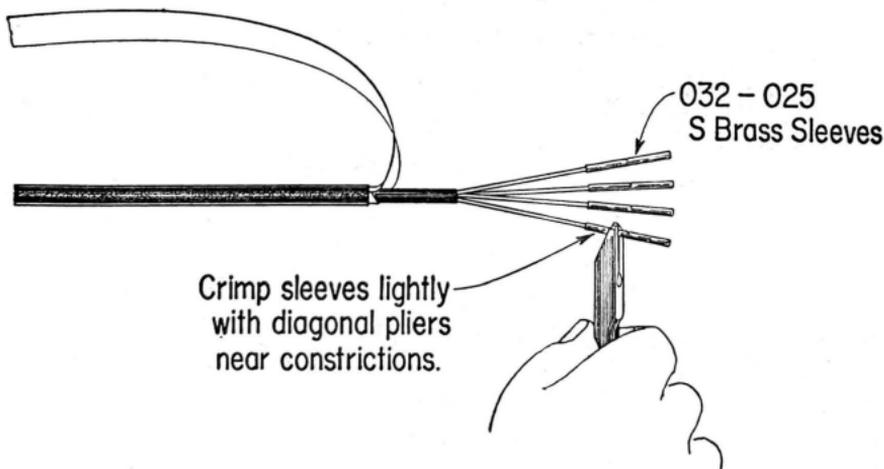
(7) Using the larger skinning notch of the C Splicer's Scissors, remove 1/2 inch of insulation from the end of each conductor.



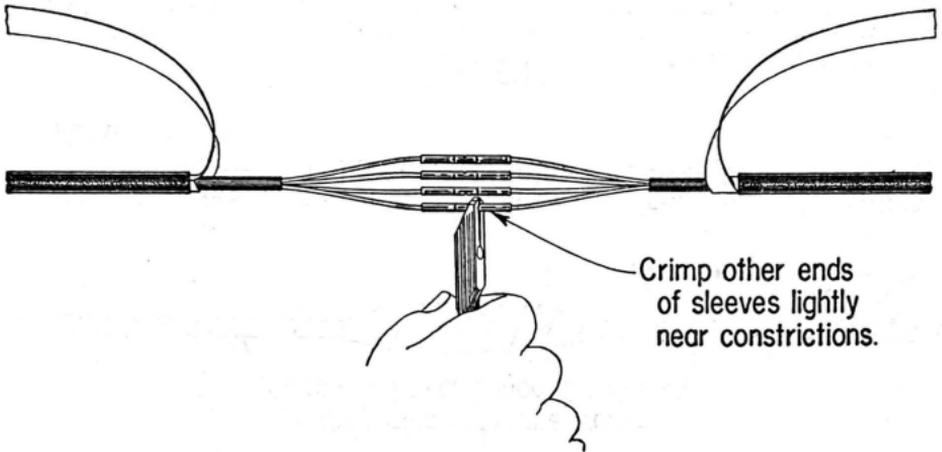
3.02 Repeat the above operations with the end of the other wire to be spliced.

4. SPLICING CONDUCTORS

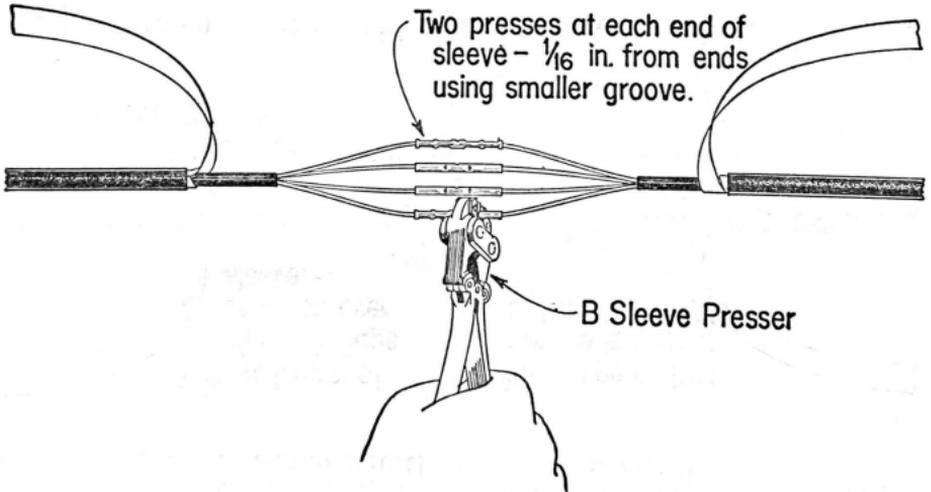
4.01 Place 032-025 S Brass Sleeves on the bared end of each conductor of one wire. Make certain that each sleeve is pushed fully onto its conductor, then crimp the sleeve lightly to hold it in place.



4.02 Insert the conductors of the other wire end in the sleeves, matching the wires, color to color. Again crimp the sleeves lightly to hold the conductors.

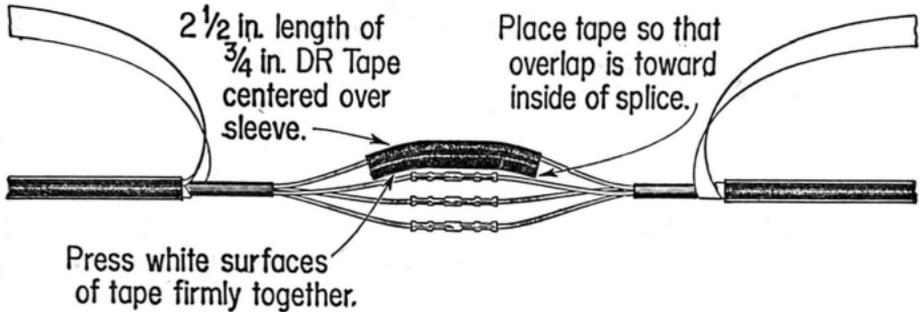


4.03 Complete the wire joints by pressing the sleeves in the smaller groove of the B Sleeve Presser.



5. INSULATING CONDUCTORS

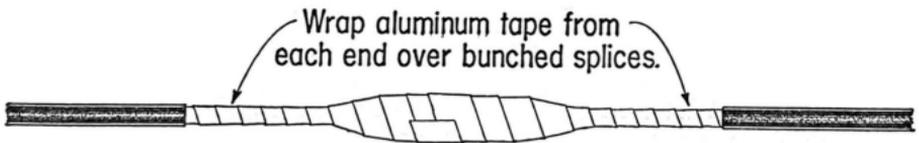
5.01 Spread the joined conductors, as shown, to provide clearance for applying the insulation. Over each pressed sleeve fold a 2-1/2-inch length of 3/4-inch DR Tape.



5.02 Bunch the insulated sleeves closely together.

6. RESTORING ALUMINUM SHIELD

6.01 Spiral the aluminum tape from each end of the splice back over wires and insulated sleeves. Make certain that the tapes from each end overlap at the center of the splice for a full turn.



6.02 Starting at the midpoint of the splice, cover the splice with two half-lapped wrappings of 3/4-inch DR Tape, as shown below.

