

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G36.140.1**  
**Issue 1, June, 1954**  
**AT&T Co Standard**

## **BURIED WIRE**

### **SPLICING ONE-PAIR**

### **B UNDERGROUND WIRE**

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#### **1. GENERAL**

1.01 This section describes the methods and materials used in splicing one-pair B Underground Wire. It includes the restoration of the armor at splices which, to be fully effective as lightning protection, must be made electrically continuous across splices.

1.02 This section replaces G36.141.1 which covered armoring splices in the superseded UG Distribution Wire. Splicing other types and sizes of buried wire is covered in sections relating to the particular wire.

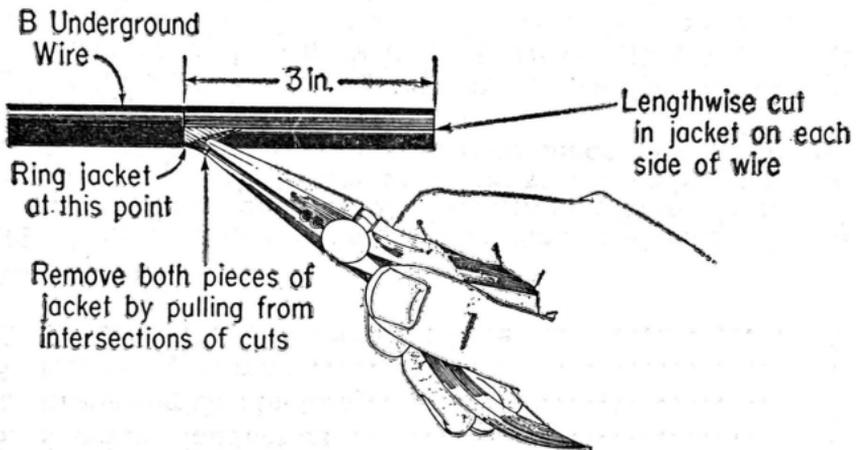
1.03 In wet weather, splicing should be done under a shelter, such as a splicer's tent, to keep the surfaces of the wires dry, as satisfactory splices cannot be made otherwise.

1.04 Splicing should follow as soon as practicable after placing, but not before the wire has been tested and reported free of faults. The splice locations will be found marked by stakes placed upright to one side of the wire and indicating the distance in feet to the splice. On completion of the splice, the excavation made in uncovering the wire should be cleaned out and the splice buried at the depth of the original plowing.

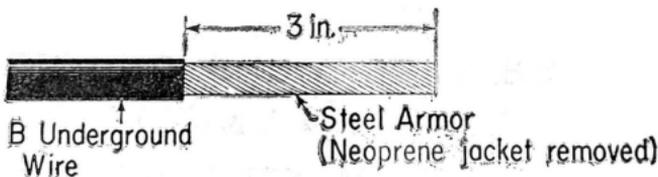
## 2. PREPARING WIRE ENDS

2.01 In preparation for splicing the conductors, remove the neoprene jacket as follows:

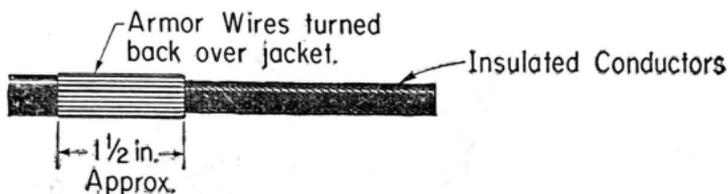
- (1) Measure 3 inches from the end of one wire and at that point ring the jacket with diagonal pliers. The jacket should be cut through to the armor, but care should be taken not to nick or cut the armor itself.
- (2) Using the large groove of the braid stripper, make two lengthwise cuts from the ring to the end of the wire, one on each side.



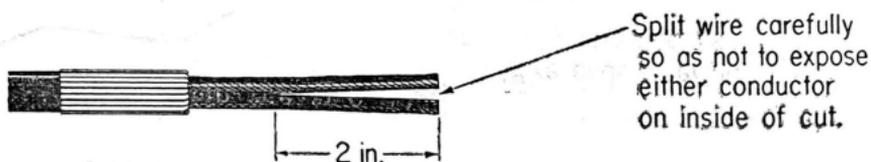
- (3) Remove both pieces of jacket, as shown.



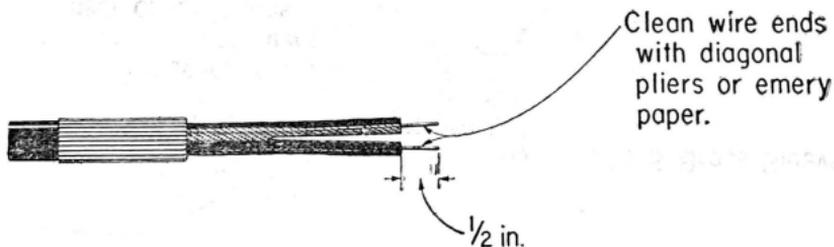
- 2.02 Free the armor wires from the insulation. With diagonal pliers or scissors cut all armor wires to leave ends about 1-1/2 inches long. Turn these ends back over the jacket.



- 2.03 Using diagonal pliers split the insulation between the conductors to separate them, as shown.



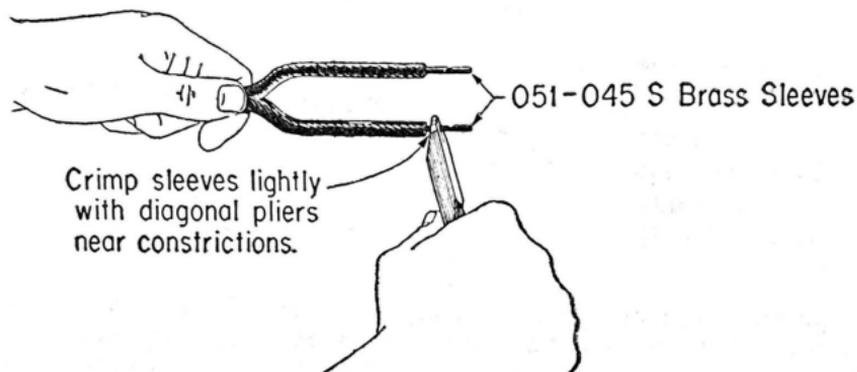
- 2.04 Remove the insulation from the ends of both wires to expose 1/2 inch of conductor. Be careful not to nick the conductors. The insulation can be removed more readily if the bond between the rubber and the conductor is broken by crushing the insulation in the crotch of the pliers handles.



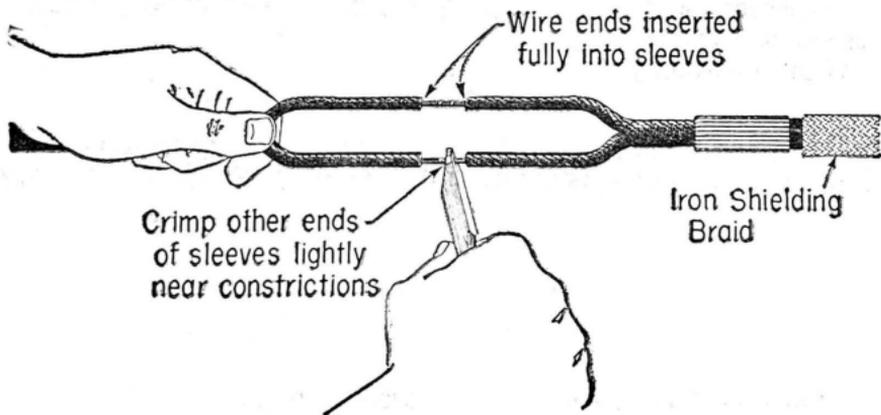
- 2.05 Repeat the above operations with the end of the other wire to be spliced.
- 2.06 **Before joining the conductors** shape a 10-inch length of Iron Shielding Braid into a tube and slip it over one of the wires.

### 3. SPLICING CONDUCTORS

3.01 Place 051-045 S Brass Sleeves on the bared ends 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.

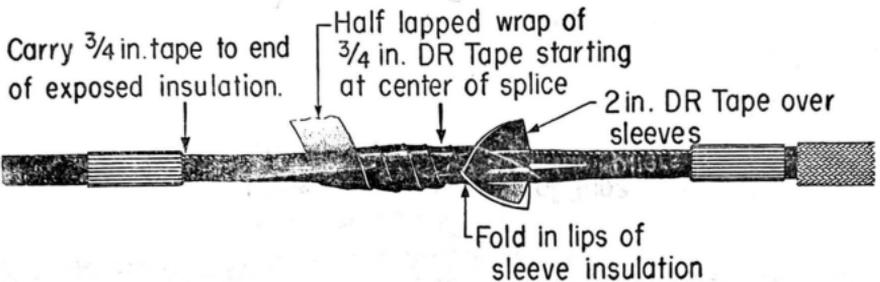


3.02 Insert the conductors of the other wire end in the sleeves and join the two ends temporarily, as shown.

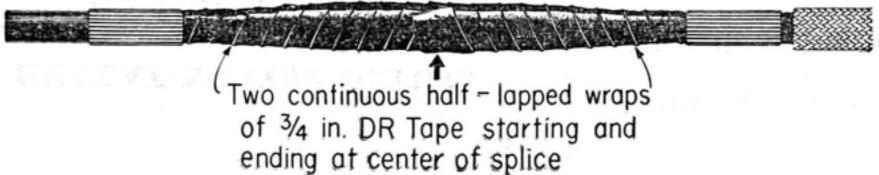




4.02 Fold in the surplus tape to reduce bulkiness and start a half-lapped wrapping of  $\frac{3}{4}$ -inch DR Tape at the midpoint of the splice to include both conductors.



4.03 Continue the wrapping of  $\frac{3}{4}$ -inch tape to cover the exposed insulation at one end of the splice. Reverse the wrapping direction and wrap to the other end of the splice. Complete the wrapping as shown.

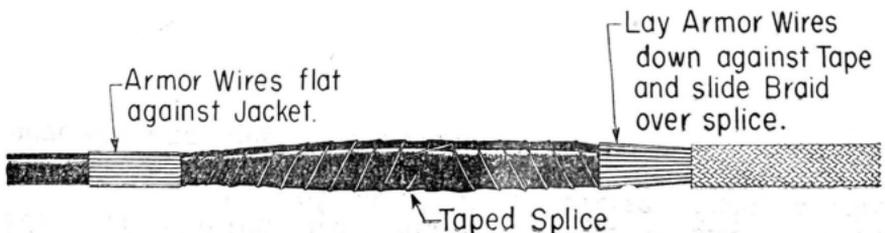


## 5. RESTORING ARMOR

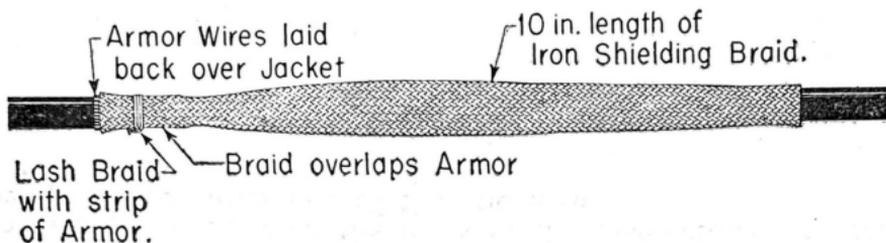
5.01 The covering placed over the insulated splice is intended to serve a double purpose; (1) the braid makes the armor electrically continuous over the splice, and (2) the completed covering provides mechanical protection against cuts and punctures comparable with that of the wire itself.

5.02 Apply the splice covering as follows:

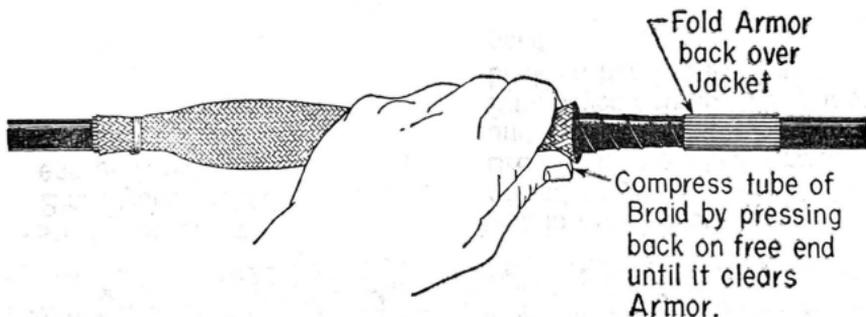
- (1) Straighten out the armor wires at the end over which the braid was placed and lay them over the taped splice.



- (2) Slip the braid over the splice so that the braid overlaps the armor at the other end of the splice. Lash the braid to the armor with a strip of armor wire to hold it in place and improve the electrical contact.



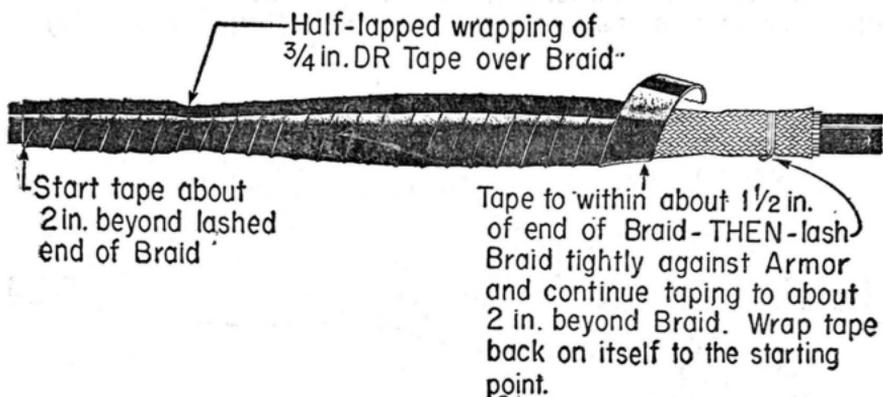
- (3) Shorten the tube of braid by pressing against the free end until it clears the ends of the armor lying against the tape. Lay these ends back over the jacket.



- (4) Release the braid and pull it down snugly over the length of the splice until it overlaps the turned back armor ends.



5.03 Using the carding brush, lightly scour the jacket for about 2 inches beyond the armor at each end of the splice. Then, starting about 2 inches beyond the lashed end of the braid, apply two half-lapped wrappings of 3/4-inch DR Tape over the jacket and braid. As the first wrapping progresses, the braid will elongate under the tape. When this wrapping has been carried to about 1-1/2 inches from the free end of the braid, lash the braid as in 5.02 (2). Complete the tape wrapping, as shown.



## 6. SPLICING 154A LOADING COIL CASE

6.01 The 154A Loading Coil Case is furnished with one-pair B Underground Wire leads of a length suitable for splicing to the line wire. The splices required to insert a 154A Case in a one-pair B Underground Wire line are made in the same manner as described in the foregoing. It is not necessary to distinguish between the leads of the case—either lead may be spliced to either end of the line wire.