BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G61.601.1
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CABLE SPLICING— DISTRIBUTION TERMINALS

GENERAL

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1. GENERAL

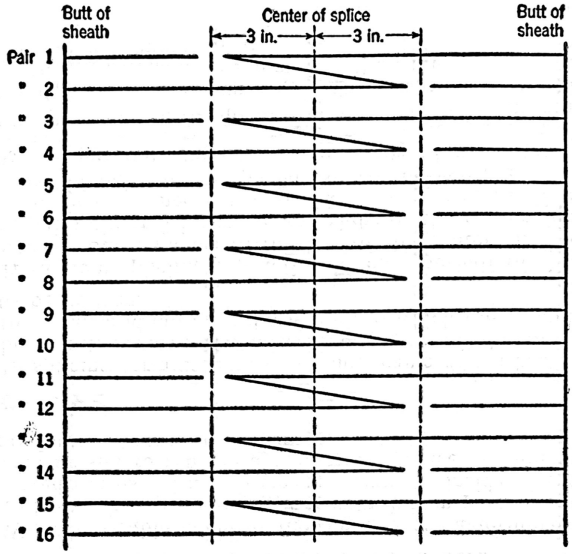
1.01 This section outlines the general rules to be followed in splicing distribution terminals to non-working cable.

1.02 When the cable is cut at the point where a terminal is to be cut in, a lead sleeve is usually left in place on the cable to avoid the use of a split sleeve. Clean the inside of such sleeves with muslin to remove any dirt, oil, grease or moisture which may have collected in the sleeve.

2. PROCEDURE

2.01 In splicing terminal stubs to a new cable which has not been cut, remove the necessary length of sheath for making the splice and cut only those pairs to which the terminal stub is to be spliced.

2.02 If random splicing is practicable, cut one-half of these pairs about 3 inches to the left of the center, and the remaining pairs about 3 inches to the right of the center. This arrangement makes it necessary to piece out only one-half the total number of pairs to be spliced. Splice the short ends together by piecing out the pairs with insulated wire. Bridge splice the pairs of the terminal stub to the proper pairs in the main cable. The method of cutting the pairs in the main cable is illustrated on the following page. This diagram shows the arrangement for a 16 pair terminal, but the same method may be followed for a terminal of any size.



Note: Piece out and splice short ends of pairs 1,3,5,7,9,11,13, and 15 on the left to short ends of pairs 2,4,6,8,10,12,14, and 16 on the right.

2.03 The procedure in splicing terminals to a cable depends on whether the tests are made from the feeder end of the cable or from the distant end. If the cable is short, time may be saved by testing from the feeder end. However, if the feeder end is not readily accessible, as for example if the cable is very long, if the feeder end falls where it is not practicable to leave a ladder in position to reach it, or if all the pairs in the cable are brought out in a few terminals at the distant end, it may be advisable to test from the terminals at the distant end. The procedure to be followed in each case is as follows:

(1) **Testing from Feeder End of Cable:** If there is a cross-connecting terminal at the feeder end, splice the cable to this terminal at random. If the cable is a branch which is to be spliced direct to a main cable, board the feeder end at random. Then have the helper go to the feeder end and test the pairs in the cable to which the nearest distributing terminal is to be spliced. After the splicer has identified and boarded these pairs, the helper bunches and grounds both sides of all the pairs to which the second terminal is to be spliced. The stub of the terminal is tested and boarded by the splicer after he has finished boarding the pairs in the cable to which the stub cable is to be spliced, or while he is

waiting for the helper to give him a test from the feeder end of the cable. He then proceeds to make the splice.

When the first terminal has been cut in, both splicer and helper move to the location of the next terminal and prepare for splicing. As soon as these preparations are made, so that the helper can be released, the helper goes to the feeder end. While the helper is on his way to the feeder end, the splicer picks out and cuts the pairs which the helper has previously bunched and grounded at the feeder end. These are the pairs to which the second terminal is to be spliced. When these pairs have been picked out and cut, and the helper has reached the feeder end, the helper removes the bunching and ground wire from these pairs and tests with the splicer, who identifies and boards each pair at the splice. The helper then bunches and grounds both sides of all the pairs to which the third terminal is to be spliced. The splicer boards the end of the stub cable and proceeds to make the splice. This procedure is continued until all the terminals have been cut in. Delays will be avoided if the helper is careful not to allow solder to become cold between moves.

(2) **Testing from Distant End of Cable:** The cable is first cleared at the feeder end but is not terminated at this end. The distributing terminal at the other end of the cable is then cut in at random. After cutting in this terminal, all the pairs appearing in it which are not to be multipled at the next terminal, are bunched and grounded on both sides, and the multiple pairs are grounded on one side only. The next terminal is then cut in by testing from the first terminal, to pick out the pairs which are multipled and then splicing the remaining pairs at the second terminal at random, checking each of these pairs to make sure that it is not one of the pairs which was bunched and grounded at the first terminal. The pairs in the second terminal which are not multipled at the third terminal are then bunched and grounded on both sides and the multiple pairs are grounded on one side.

The third terminal is then spliced in the same manner as the second terminal. This procedure is followed until all the terminals have been spliced to the cable. At each of these splices it is desirable to pick the pairs consecutively around the layers in the cable, to facilitate testing. When all the terminals have been cut in, all the pairs in the cable must be identified at the feeder end, so that this end can be spliced to the main cable or to the cross-connecting terminal. In doing this, the helper removes the bunching and ground wires and tests from each terminal with the splicer to identify the pairs.