BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G31.148.2
Issue 1, April, 1953
AT&T Co Standard

OPEN WIRE SPAN TRANSPOSITIONS
SPAN TRANSPOSITION BRACKET

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1. GENERAL

1.01 This section describes a method of making a left-over-right 8-inch point transposition within a span of open wire, away from the cross-arm, by installing a Span Transposition Bracket in the wire pair near the crossarm and then pulling it to the specified location in the span by means of a handline.

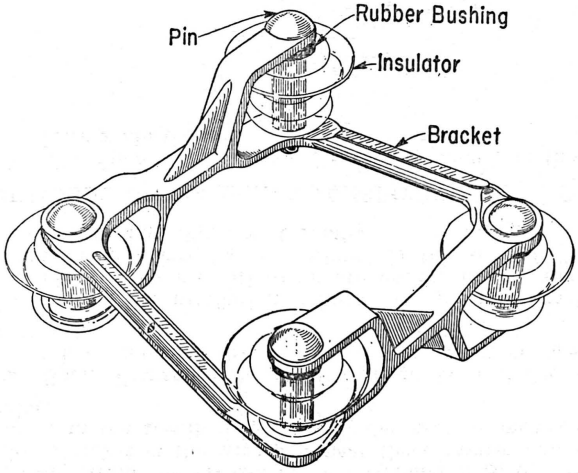
1.02 Span Transposition Brackets shall be installed only when indicated by detailed plans or other specific instructions.

1.03 During the installation of Span Transposition Brackets, observe the precautions for preventing service interruptions on working circuits, as outlined in the section, "Open Wire—Transposing Working Circuits."

2. DESCRIPTION OF SPAN TRANSPOSITION BRACKET

2.01 The Span Transposition Bracket is shown in the following illustration.

SPAN TRANSPOSITION BRACKET



2.02 The bracket is made of heat treated aluminum. Aluminum alloy pins, equipped with cotter pins, are furnished with the bracket for assembling the insulators. Four rubber bushed glass insulators are required for each bracket and must be ordered separately.

3. INSTALLATION OF SPAN TRANSPOSITION BRACKET

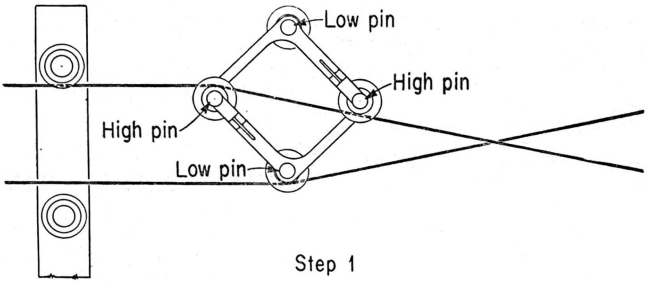
3.01 Install the span transposition bracket as outlined in the following steps:

(1) Untie the pair to be transposed at the pole where the work can be performed most conveniently. For example, if a transposition is to be installed in a span adjacent to a corner pole, it will usually be desirable to cut in the transposition at the pole away from the corner.

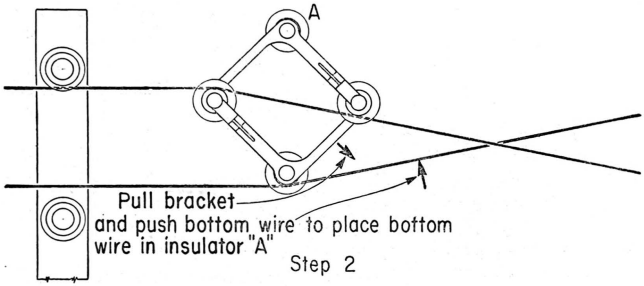
(2) Place slack blocks, cut the wires and throw the transposition in the usual manner.

(3) Place the bracket in the position shown in Step 1. The wire shall be placed in the lower groove of the insulator.

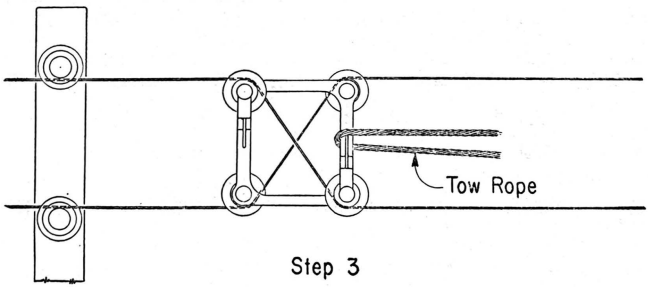
(4) By pulling on the transposition bracket and pushing on the bottom wire (see Step 2), place the bottom wire in insulator "A". The wires should be slack enough to permit this operation without too much effort.



Step 1



Step 2



Step 3

(5) Tension the wires just enough to hold the bracket in position.

(6) Place a handline around the crosspiece of the bracket toward the span (see Step 3) to serve as a tow line. The line ought to be at least three times as long as the

distance from the line wire to the ground and should be free of knots.

(7) Using the doubled handline, pull the transposition bracket to the specified location in the span. Remove the handline from the bracket.

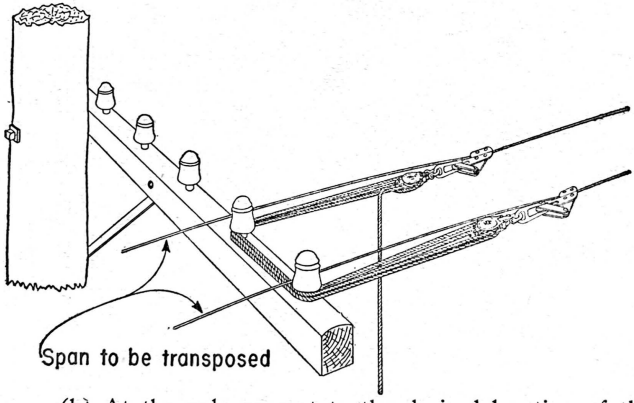
Note: Do not attempt to pull the bracket past sleeves in the line wire. If there are any sleeves in the section of wire along which the bracket is to be towed, that portion of the line wire should be replaced before the transposing operation is begun.

(8) After the bracket has been pulled to the specified position, tension the line wires to the proper sag and splice. Place spiral ties at each end of the span containing the span bracket.

(9) If there are other wires on the line, beneath the wires being transposed, it is possible that the towing operation might pull the bracket downward enough to interfere with working circuits. This condition may be avoided by passing the handline over the crossarm at the far end of the span and thus towing at the same level as the bracket.

(10) If the bracket can not be towed into place by the above methods, use the method outlined below:

(a) Snub wires in spans adjacent to span in which transposition is to be placed (see illustration).



(b) At the pole nearest to the desired location of the transposition bracket, cut the line wires and splice enough wire to the ends to reach to the transposition location.

(c) Throw the transposition, place the transposition bracket in the wires, and place standard ties on the insulators of the bracket.

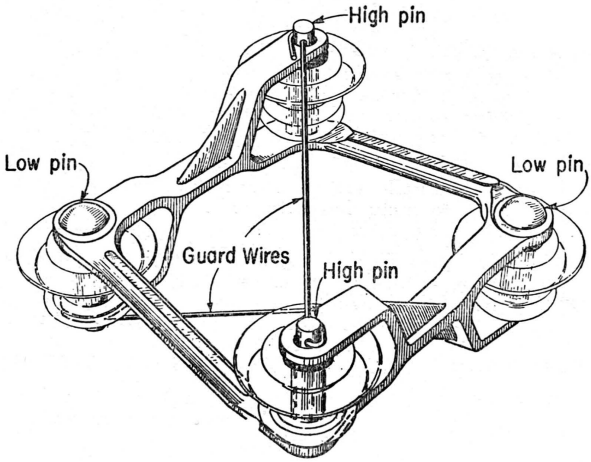
(d) Cut the line wires at the other end of the span and place handlines on the wires at each end of the span.

(e) The transposition bracket can then be towed to the proper location. During the towing operation, the wires must be held tight enough to prevent interference with other circuits.

(f) Splice the wires through and place spiral ties at each end of the span.

3.02 If the bracket is to be installed in a span crossing over a highway, a walkway, or any other location where a broken wire might allow the bracket to fall on a vehicle or pedestrian, install guard wires as shown in the following illustration.

SPAN TRANSPOSITION BRACKET



Reverse the two "high" pins and place a guard wire through the cotter pin holes. Remove cotter pins from the "low" pins and replace with a guard wire. Guard wires may be made of 109 Steel Construction Wire, 109 Steel Line Wire, or 109 Steel Tie Wire (12" length). Do not use copper or copper-steel wire.