

OPEN WIRE
R TYPE TRANSPOSITIONS
PLACING WIRE

Contents	Page
1. GENERAL	1
2. PRECAUTIONS	1
3. STRINGING WIRE	2
4. TENSIONING	3
5. TYING	3
6. TRANSPOSING ON TANDEM BRACKETS	6
1. GENERAL	
1.01 This Section covers certain details of wire placing operations peculiar to rural and exchange open wire lines transposed by means of the R1 Transposition System. General instructions for stringing wire are contained in other sections of the Practices.	
2. PRECAUTIONS	
2.01 The placing of open wire requires strict observance of all precautions necessary to protect both the workman and the public from mechanical and electrical hazards.	
2.02 Great care should be exercised to avoid accidental contacts of telephone wires with power circuits and to prevent the accumulation of static voltage on telephone conductors which may occur when telephone wires are in the vicinity of high voltage power circuits.	

- 2.03 Safety precautions to be observed during wire stringing operations are contained in other sections of the practices.

3. STRINGING WIRE

- 3.01 On joint use lines and wherever practicable wires should be strung on the ground and then raised to the crossarms or brackets.

- 3.02 Where necessary the wires may be placed directly on the crossarms or brackets during the wire placing operation. When using this method extreme caution should be exercised to avoid contact with power circuits.

Note: On jointly used lines and at power crossings, where there is an upward change in grade, the wire should not be placed over the line arm at the low pole until after the wire has been tensioned to its approximate sag and preventive measures against flip-ups taken, if required.

- 3.03 Left over right transpositions may be introduced at proper points during the placing operation. However a simpler method of stringing and transposing wire is outlined below.

- (1) Pull the wires in straight without transpositions.
- (2) Transpose each pair by placing two successive left over right transpositions followed by two successive right over left transpositions.
- (3) To prevent the necessity of passing ahead a maximum of two twists in a pair, place an initial left over right transposition at the first transposition point in each pair, follow it with two right over left transpositions at the next two points and then two left over right transpositions at the following two points. The effect of this is to twist and untwist the wires of a pair with a maximum of only one twist appearing in a pair at any one time.

Note: Transmission requirements prevent the use of alternate single left over right and right over left transpositions and also will not permit the above system of introducing transposition to be used when transposing wire to any other type transposition system.

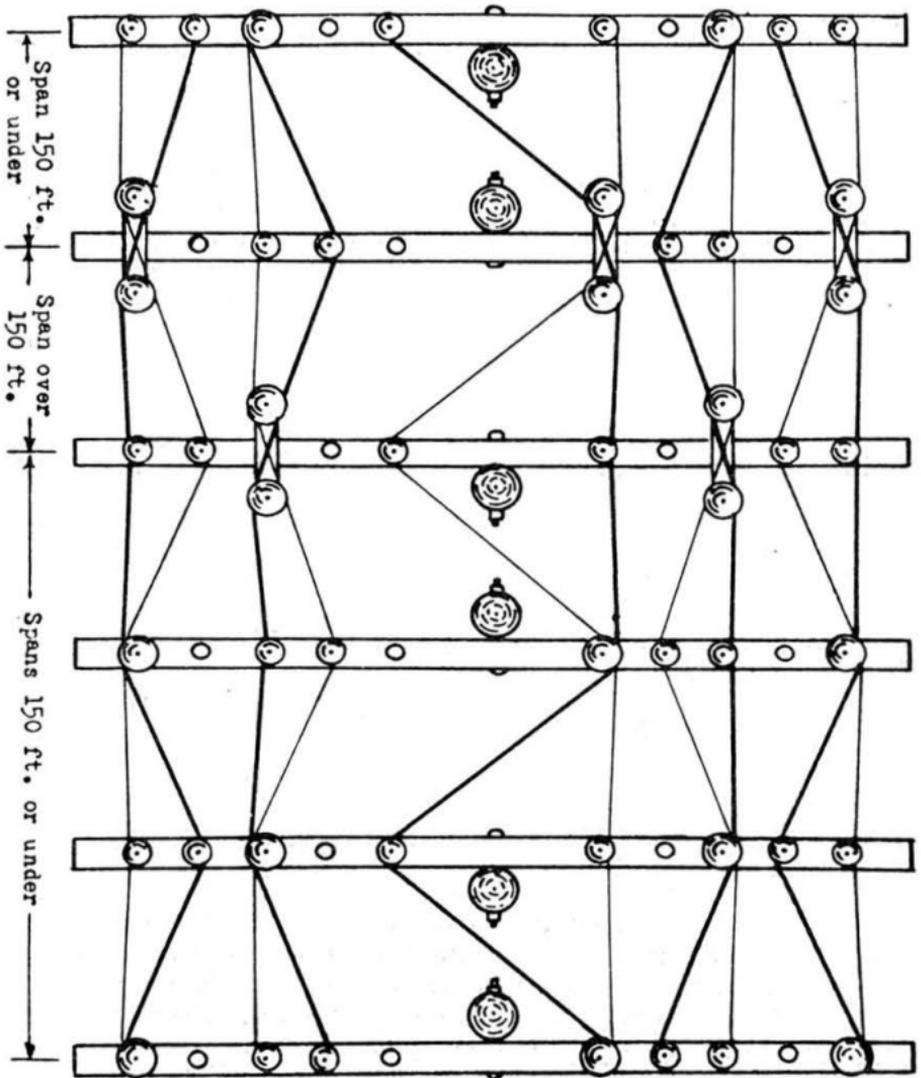
4. TENSIONING

4.01 The tensioning of all wires should conform as nearly as practicable to the proper values indicated in the sag tables.

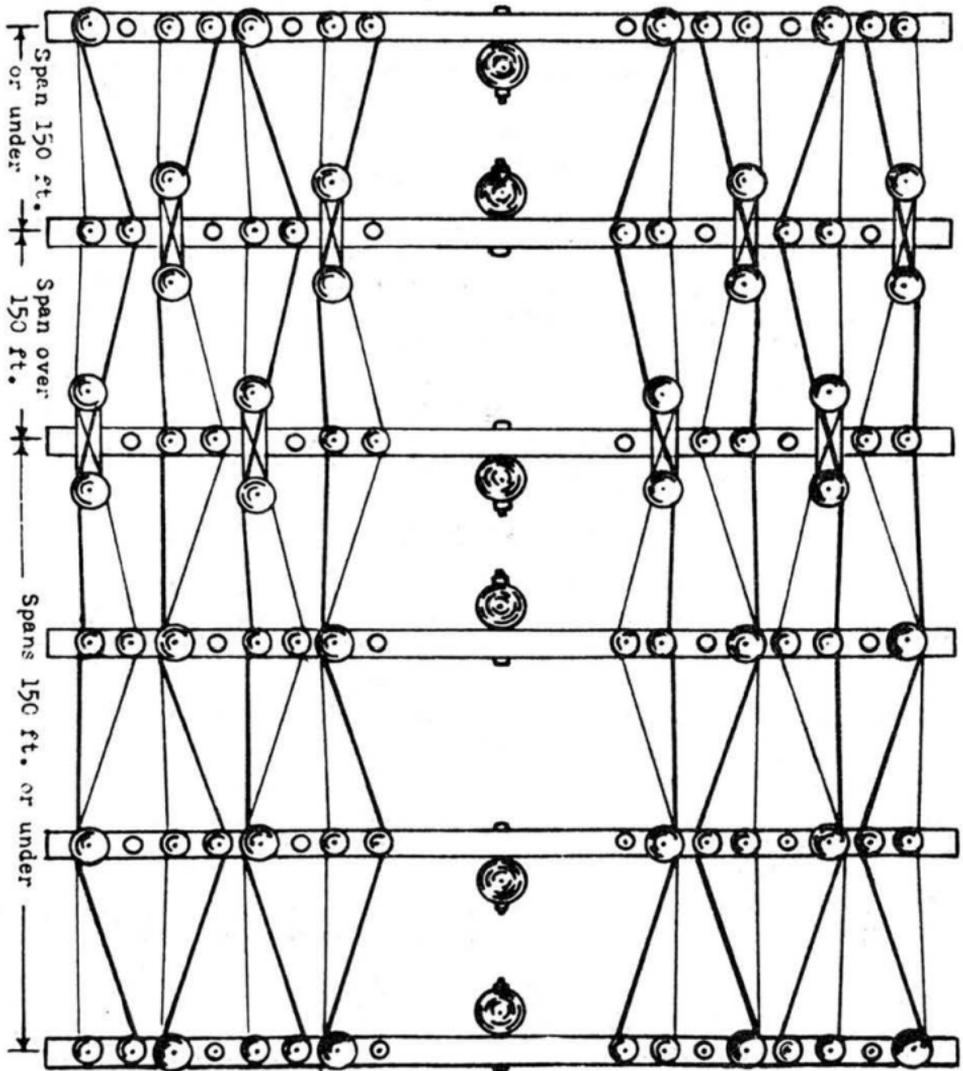
5. TYING

5.01 All wires should be tied so the pull of a corner in the wires will bear against the insulator. The following diagrams indicate the method of tying line wires in the R1 system. In general, line wires at non-transposed points are tied so that maximum separation between wires of a circuit is obtained.

(a) Typical example with pole pair.



(b) Typical example without pole pair.

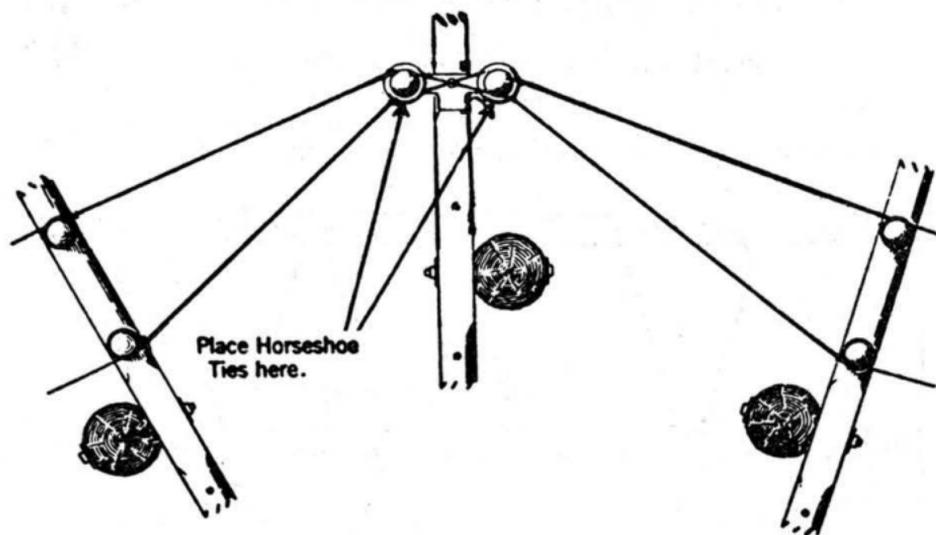


5.02 In general, the wires should be tied in accordance with standard practices.

5.03 No ties are required at tandem brackets except:

- (a) At corner poles where the pull is between 20 and 25 feet, tie each wire once at different insulators on the tandem brackets.

as shown in the following diagram.



- (b) At all highway crossings, tie each wire on each insulator of tandem brackets.
- (c) At all railroad crossings, tie each wire on each insulator of tandem brackets.

6. TRANSPOSING ON TANDEM BRACKETS

6.01 After the wires have been tensioned, place the wires in the proper grooves of the TW insulators on tandem brackets. The left wire in the left over right transpositions is placed in the top grooves. Likewise, the right wire in right over left transpositions is placed in the top grooves. After positioning the wires the tandem brackets should still be free to swing. After the bracket has adjusted to the tension of the wires, it should be approximately at right angles to the crossarm. The bracket should then be secured to the crossarm.

6.02 Considerable sag difference between wires of a pair results in improper alignment of the bracket with respect to the crossarm. This condition should be corrected by adding or removing wire as required to equalize the sag in the wires.

6.03 At heavy corners, it may be necessary to use wire grips to obtain sufficient slack in the wires to place them on tandem brackets.