



2018 Journeyman Event

Pin Insulator Change out

Outside Phase Insulator Change for Voltage Conversion on an Energized Circuit
Using Live Line Tools
Mean Time: 20 minutes
Drop Dead Time: 25 minutes

This event consists of changing a Pin Insulator on a straight line pole that is considered to be energized. Live line tools will be used to untie and tie in the conductor as well as support the conductor during the insulator change. The cross arm will be covered using a hard cover up during the process of untying and tying the conductor. The neutral conductor must be covered, removed from the pole, and tied out to the side, with the rope provided, during the insulator replacement. All special tools will be provided.

Rubber Gloves will be required at all times.

Teams will have five minutes to set up and ask questions. The team will signal when they are ready.

The first Lineman shall sound the pole with a hammer prior to climbing.

Time starts when the first lineman's gaff hits the pole.

All tools not in use and materials shall remain on the tarp.

Groundman will be responsible for obtaining and starting the proper length of tie wire from the spool provided.

While the neutral will be treated as energized, incidental contact with the gloved hand will be allowed.

Positive control of the conductors must be maintained at all times.

The conductor shall be tied in as shown on the attached Specifications.

Time stops when the last man on the pole has both feet on the ground.

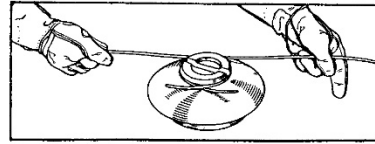
NOTE: Every attempt will be made to run the event exactly as described above. In the event of unforeseen circumstances or conditions, the Rodeo Event Committee reserves the right to alter the event as needed

2. INSTALLING SINGLE "HOT" TIE ON SINGLE INSULATOR.

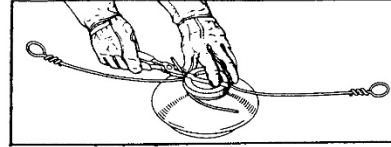
NOTE

On both single and double ties, tie wires should be attached to the insulator with a clockwise twist. The ties should also be wrapped around the conductor in a clockwise direction on each side of the insulator to prevent untwisting the tie wire where it is attached to the insulator.

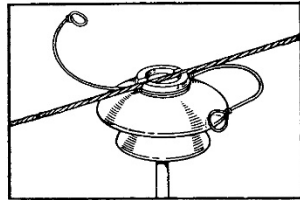
a. Form a loop in the end of the tie wire approximately one inch in diameter, and make two complete turns around the tie wire at the base of the loop. These turns must be tight enough to prevent slippage, which would alter the size of the



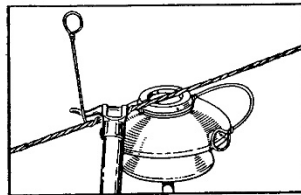
Pulling the Ties Tight Around the Insulator



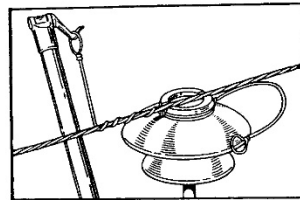
Wrapping One of the Ties With Lineman's Pliers



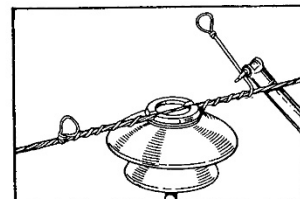
Both Single Ties in Place Ready for Tying In



Starting the Tying-In Process With a Rotary Prong



Rotary Prong Hooked Into Tie Wire Loop



Tying at Opposite Side of Insulator

loop. Determine the length of tie wire required for a minimum of six full turns around the conductor plus the length required around the insulator, and allow for two or more turns to secure the tie to the insulator. After the proper length has been determined, cut the tie wire at the unlooped end.

b. Prepare a second tie wire in the same manner.

c. Form a "U" in each tie wire to fit around the insulator and place the tie wires in position on the insulator. Be sure to form the loop so that the wire will fit closely around the insulator, and pull both tie wires tightly into position.

d. Using linemen's pliers, tie each tie wire to the insulator with at least two turns at the unlooped ends of the tie. Make certain that the ties are tight around the insulator.

e. Shape the ties to form a letter "S" to prevent their extending too far from the insulator.

f. With the conductor transferred to and held securely in the groove of the insulator, the tie wires are ready to be wrapped around the conductor. This job can be done with whatever tie sticks the linemen prefer. The rotary-prong stick is employed by many for faster tying of looped ties.

g. Engage the tie wire with the rotary prong and begin the wrapping operation. Two or three turns can usually be performed with the prong acting against the tie wire near the conductor. After the first few turns, the prong should be hooked into the loop at the end of the tie wire and wrapping continued until the end of the tie wire is reached. The tie wire must be turned at least six times around the conductor. A greater number of turns will result if extra length of tie wire has been allowed. When the tie is complete, only the loop should extend out from the conductor.

NOTE

The tie wire should be rotated in opposite directions at each side of the insulator.

h. The tie wire should be wrapped around the conductor evenly as a neat job is always the one having greater strength.