

DROP AND BLOCK WIRING

LOWERING AND REPLACING DROP WIRE

VOLTAGES OF 300 TO 750 INVOLVED

1. GENERAL

1.01 This section covers the methods of lowering and replacing drop wire under the conditions usually encountered where the drop wire crosses over trolley or trolley-bus contact wires or over power wires or power cables operating at 300 to 750 volts.

1.02 This information was formerly covered in Section 625-800-312 (G32.415.2) which is cancelled.

1.03 The basic principles presented in this section should also be observed in those cases where conditions necessitate a departure from the usual procedures.

Note: If, for any reason, it is necessary to lower or replace a drop wire crossing over any power wires or power cables operating at more than 750 volts, refer the case to your supervisor for specific instructions.

1.04 The methods outlined herein are such that the drop wire is lowered by means of a handline while the employees remain on the ground and so perform the work that the drop wire does not come in contact with the trolley contact or power wires or power cables during the entire lowering operation. These methods are also intended to avoid the possibility of accidents caused by releasing tension from a building or strand attachment while working from a ladder or as the result of vehicles striking the wire or the handline as it is being lowered to the ground.

1.05 Refer to Section 462-800-311 for the methods of lowering or replacing a drop wire where no trolley or trolley-bus contact wires, or power wires or power cables operating at 300 volts or more are involved. The methods of placing drop wire are covered in Sections 462-400-205 and 462-400-206.

2. PRECAUTIONS

2.01 In general, two men shall be employed when lowering or replacing a drop wire over trolley or trolley-bus contact wires, or over power wires or power cables operating at 300 to 750 volts. Obtain additional assistance before lowering or replacing a drop wire over streets, highways, or elsewhere if traffic, tree, or other conditions are such that two men cannot do the work safely.

2.02 Rubber gloves shall be worn by all employees when lowering or replacing a drop wire over trolley or trolley-bus contact wires, or over power wires or power cables and until the crossing span has been completely removed or replaced in a standard manner.

2.03 The handline used for lowering or replacing a drop wire under the conditions outlined in this section shall be free from metallic strands and shall be dry. A wet handline must not be used in the vicinity of power circuits operating at 300 volts or more, except as indicated below.

Exception: When it is necessary to maintain service or establish emergency service during rainstorms, a wet handline may be used over trolley or trolley-bus contact wires and other power circuits operating at 300 to 750 volts, provided that rubber gloves, rubber boots, and rubber raincoats are worn.

2.04 When it is necessary to carry a handline up a pole or ladder, double the end of the handline back on itself for a distance of approximately 1 foot and place this loop under the right or left side or back of the body belt or in such other position that the handline will be released readily if it is placed under tension while the employee is climbing the pole or ladder.

2.05 Never release the drop wire supports from a wire span while working inside the angle formed by the wire.

2.06 Avoid working from a ladder placed against a building with the side rails crossing a wire run or in any other position where movement of the wire, due to loosening of the attachments, would cause an accident.

2.07 When a drop wire attached to a span clamp is to be lowered or replaced, place the foot of the extension ladder on the field side of the suspension strand and not in the street or highway. If there is no street or highway adjacent to the span clamp, place the ladder against the opposite side of the strand from the drop wire run to the building.

2.08 If conditions are such that the handline, or the drop wire to which it is attached, may become disengaged from a drive hook or crossarm or may slide along the strand or guard arm while doing the work outlined in this section, the handline or drop wire shall be enclosed with a temporary guide loop. This loop shall consist of a short length of wire or houseline placed over the handline or drop wire with the ends of the guide securely tied as follows.

- (a) Drive Hook: Tie one end to the vertical portion of the drive hook and lash the other end to the pole.
- (b) Crossarm: Tie the ends to adjacent pins or insulators.
- (c) Guard Arm: Tie the ends to the guard arm on each side of the handline or drop wire.
- (d) Strand: Tie the ends to the strand or the strand and lashed cable on each side of the handline or drop wire, or place the handline or drop wire through the hook of a D span clamp.

3. LOWERING WIRE OVER TROLLEY CONTACT OR POWER WIRES OR POWER CABLES

3.01 The procedure outlined below shall be followed when the drop wire span is to be permanently removed from plant, or lowered for inspection, repair, or replacement. Lower only one wire span at a time.

- (1) Man No. 1: Loops one end of the handline under the body belt as described in 2.04 and climbs the pole or, if at a span clamp, the ladder. The handline shall be of a sufficient length to reach from the ground to the strand, guard arm, drive hook, or crossarm and then horizontally to about 25 feet beyond the trolley contact or power wires or power cables to ensure that the end of the drop wire can be pulled at least 10 feet beyond the power circuits.

Caution: If a span clamp is involved, bear in mind that the strand is forced out of line by the ladder resting against it and take any steps that are necessary to prevent the drop wire from sagging onto the trolley contact or power wires or power cables while climbing and working on the ladder. Care should also be taken to ensure that there will be adequate clearance between the employee and power wires or cables when the strand is deflected by the weight of the employee on the ladder.

- (2) Man No. 1: Places a temporary drop wire clamp on the wire to be lowered, about 1 foot out in the span; seats the clamp firmly on the wire.
- (3) Man No. 1: Places the handline over the strand, guard arm, drive hook, or crossarm and ties the end securely to the tail of the temporary drop wire clamp.
- (4) Man No. 2, standing on the ground, grasps the free end of the handline and pulls it sufficiently taut to remove the tension from the original drop wire clamp and then lashes the handline securely to the base of the pole or, if at a span clamp, to the lower rungs of the ladder (see note). Man No. 1 on the pole or ladder then cuts the drop wire approximately 6 inches behind the temporary drop wire clamp, thereby leaving the drop wire span supported by means of the temporary clamp and the lashed handline.

Note: If a taut drop wire span is involved, Man No. 2 on the ground grasps the free end of the handline and pulls it sufficiently taut to support the wire span, snubbing the handline if necessary. Man No. 1 cuts the tail of the original drop wire clamp with pliers. Man No. 2 slowly eases off the handline, thereby releasing excess tension in the taut

wire span and then lashes the handline to the base of the pole or the lower rungs of the ladder.

(5) Man No. 1 and Man No. 2 both go to the opposite or building end of the drop wire span.

(6) Man No. 1 cuts the drop wire in the building run at a point where the end of the wire can be reached from the ground and then frees the wire from all intermediate attachments between the cut end of the wire and the first building attachment.

(7) Man No. 2 removes the C knob or the SC wire clip at the first building attachment and then places a temporary guide loop at the first building attachment, around the drop wire, such as shown in Fig. 1, to prevent the wire from becoming accidentally disengaged from the building attachment as it is being pulled over the power circuits.

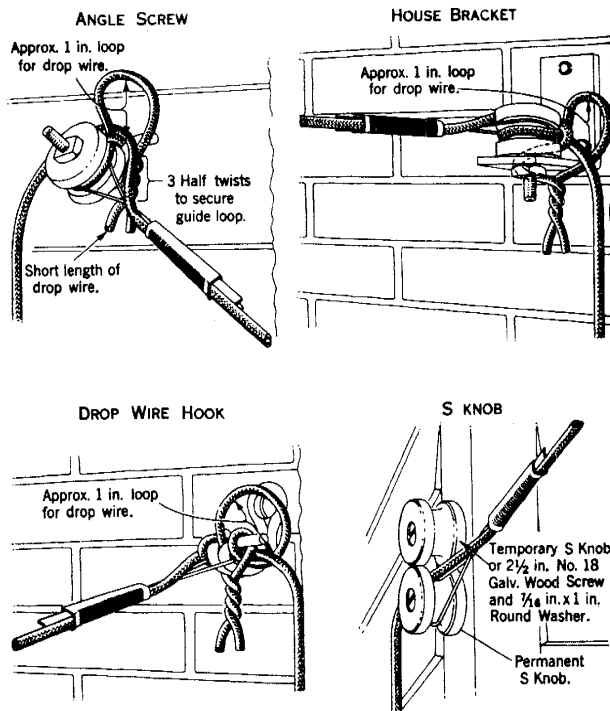


Fig. 1 — Temporary Guide Loop

(8) Man No. 1 on the ground holds tension in the drop wire while Man No. 2 removes the original drop wire clamp from the first building attachment. Man No. 1 continues to hold tension in the wire span to prevent it from coming in contact with the trolley contact or power wires or power cables.

(9) Man No. 2 returns to the other end of the wire span, unties the handline and keeps the drop wire taut while feeding it to Man No. 1 who pulls it over the power circuits and coils the drop wire as it is pulled out of the span.

(10) When the end of the drop wire has been pulled at least 10 feet beyond the trolley contact or power wires or power cables, and no traffic is approaching, Man No. 2 carefully releases the handline, allowing it to fall on the power circuits and then immediately goes into the street or highway to control traffic, assisted by the police if necessary.

(11) Man No. 1 pulls the remainder of the drop wire and the handline to the building end of the span and away from the street or highway.

4. REPLACING WIRE OVER TROLLEY CONTACT OR POWER WIRES OR POWER CABLES

4.01 When a drop wire crossing over trolley or trolley-bus contact wires or over power wires or power cables operating at 300 to 750 volts is lowered for inspection, repair, or replacement, it shall not be reused in the crossing span. Place new wire in the crossing span in accordance with the methods outlined in Section 462-400-206. If the wire that has been removed from the crossing span is in good condition, splice it to the end of the wire on the drop wire reel for reuse at a location where the wire will not cross over trolley or trolley-bus contact wires, or over power wires, or power cables.