

## JOINT USE CLEARANCES AND SEPARATIONS GENERAL

Contents	Page
1. General .....	1
2. Locating Attachments .....	1
3. Vertical Runs .....	1
4. Climbing Space .....	3

### 1. GENERAL

1.01 This group of sections contains the MINIMUM clearance and separation requirements applying generally to the construction and maintenance of jointly used plant. Requirements pertaining to aerial plant generally are contained in the G10.303 group of sections.

1.02 The clearances and separations recommended are based on the Fifth Edition of the National Electrical Safety Code and are minimum requirements when no other values are shown on the work prints, detail plans, etc. Voltages indicated in the tables and illustrations refer to the voltage between supply wires unless otherwise specified. Telephone attachments to poles carrying supply circuits or equipment should only be made when called for in the detailed work plans or by specific authorization.

1.03 The clearances and separations specified are those which should exist at 60°F. with no wind. The clearances and separations for wires and cables placed at temperatures other than 60°F. should be adjusted for temperature differences. For information regarding effects of temperature changes on sags refer to the sections of the Practices covering sags of wire, cable, etc., and make proper allowance for changes in sags and clearances due to temperature changes.

1.04 The clearance and separation values shown in these sections should not be regarded as requiring the rearrangement of existing plant to meet minimum clearances and separations. If conditions are found which appear to require the rearrangement of plant for clearance or separation reasons notify your Supervisor so that the case can be handled in accordance with established local procedures.

1.05 These sections shall be supplemented by locally prepared instructions covering any changes required to meet—

- (a) the lawful requirements of state, municipal, or other authorities, and
- (b) specific local conditions not covered herein.

### 2. LOCATING ATTACHMENTS

2.01 Attachments to joint use poles shall be located at the proper level so that telephone wires, cables, etc., will have (a) the clearances required above ground, streets, tracks, etc., and (b) the separations from supply wires, cables, etc., required in the span and at the pole, as shown in the tables and illustrations.

2.02 The separations required in the span at the pole are based on the assumption that telephone attachments are placed below supply attachments, except that street light span wires, vertical runs, and lamp brackets may be located above or below telephone attachments. Where trolley construction is involved, it is usually located below the telephone attachments.

2.03 Where practicable, locate suspension strand so that terminals located in accordance with standard practice will have one foot or more vertical separation from lamp brackets or trolley span wires. Where this is impracticable locate the terminal so as to have at least 4 inches separation from lamp brackets or trolley span wires, including all supporting screws, bolts and washers of both classes of attachments. The terminal in all cases should be so located that the terminal cover can be raised without coming in contact with supply attachments.

2.04 If the required clearances and separations cannot be provided, refer the case to your Supervisor immediately.

### 3. VERTICAL RUNS

3.01 The location of vertical runs shall conform with the following:

- (a) Telephone and supply vertical runs shall not be made on the same pole if it is practicable to place them on separate poles.
- (b) Where both power and telephone vertical runs are located on the same pole, they shall be at least 2 inches apart and preferably on opposite sides of the pole.

3.02 Vertical Runs Installed on the Pole Surface: The clearance and separation requirements applying to telephone and supply vertical runs installed on the pole surface are as follows:

- (a) Vertical runs shall be at least 3 inches from pole steps, and shall be so arranged as not to interfere with the safe use of pole steps.
- (b) Vertical runs shall be separated from span or guy wires, cable suspension strands, vertical runs, or other metal parts of the equipment of another company (including through bolts and washers), by 1/8 of the circumference of the pole where practicable, but in all cases by at least 2 inches measured in any direction from the nearest part of the vertical run (including staples or other devices by which the run or its covering is attached to the pole).

Note: For drive hooks, drive screws, pole steps, etc., this minimum separation can be met in most cases by locating such metal parts at least 2 inches above or below the attachment level of the staples or other devices by which the vertical run or its covering is attached to the pole.

- (c) With the following exceptions, all vertical runs of cables, conductors, and grounding wires shall be protected up to a point 8 feet above ground by a covering which gives suitable mechanical protection. For grounding conductors from supply lightning arrestors, this covering shall consist of wood molding or other insulating material giving equivalent protection.

Exceptions—This covering may be omitted from

- Armored cables or cables installed in grounded metal conduit.
- Grounding conductors in rural areas where such conductors have a weather-resistant covering.
- Grounding conductors metallically connected to a conductor which forms part of an effective grounding system.
- Wires which are used solely to protect poles from lightning.

- (d) Vertical runs of telephone drop wires, ground wires, and cables that pass trolley feeders shall be provided with an insulating covering such as wood molding or fiber conduit from a point 40 inches above the highest trolley feeders to a point 6 feet below the lowest trolley feeders, but need not extend below the top of any mechanical protection which may be provided within 8 feet of the ground.

- (e) Vertical runs of supply cables or conductors, ground wires, and trolley feeders that pass telephone space and are installed on the surface of the pole (and any metal pipe or conduit in which such cables or conductors are enclosed) shall be provided with an insulating covering such as wood molding or fiber conduit, from a point 40 inches above the highest telephone attachment to the lowest point of the vertical run, with the following exceptions.

—The insulating covering need not extend below a point 8 feet above ground.

—If the pole has no trolley attachments, the insulating covering may be omitted if the supply cables or conductors have an effectively grounded metallic sheath or are enclosed in effectively grounded continuous metal pipe.

—Wood molding or fiber conduit may be omitted in the case of secondary supply conductors of not more than 300 volts to ground run in multiple conductor cable and attached to the pole surface. In the case of aerial supply services, the point where such supply cables leave the pole shall be at least 40 inches above the highest or 40 inches below the lowest, telephone attachment.

—An insulating covering is not required on vertical runs of ground wires that bond telephone plant (cables, guys, protective devices, etc.) to supply multi-grounded neutral systems.

3.03 Vertical Runs Not Installed on the Pole Surface: Vertical supply cables or conductors not installed on the pole surface require clearances, as follows:

(a) Supply service leads of not over 750 volts and lamp leads of street lighting circuits run in paired wire or multiple conductor cable on the street side of the pole on suitable insulators supported on pins or brackets shall be held taut at a distance of approximately 5 inches from the surface of the pole or from any pole steps.

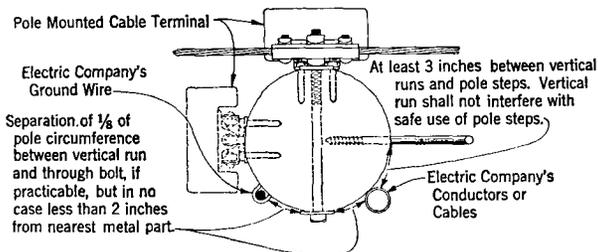
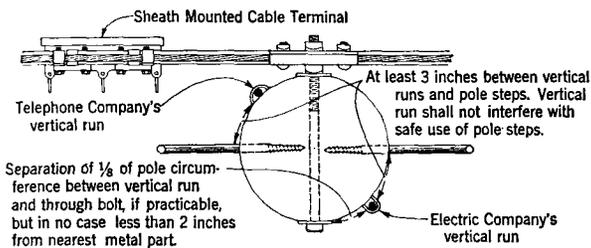
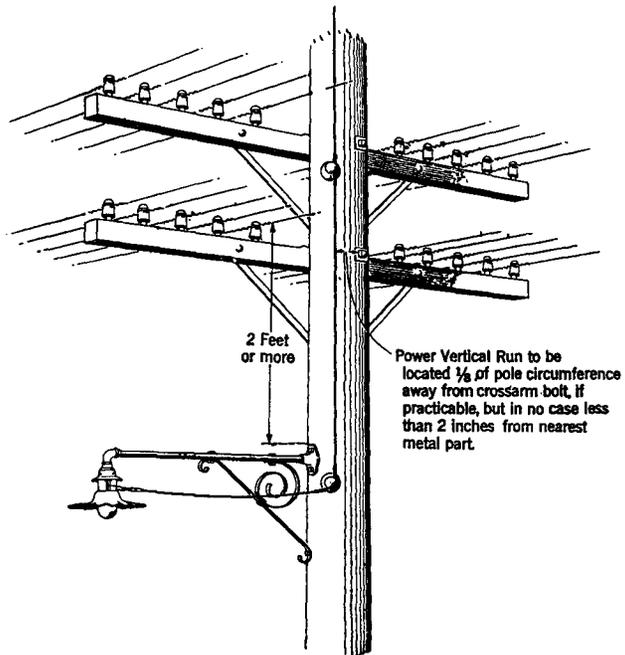
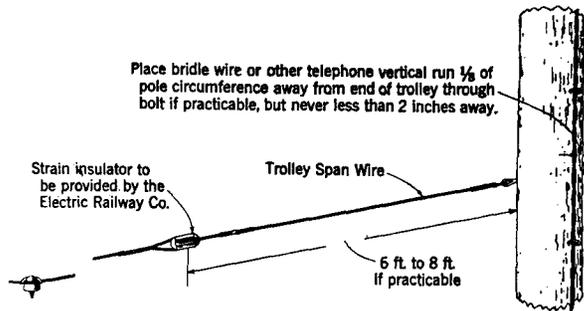
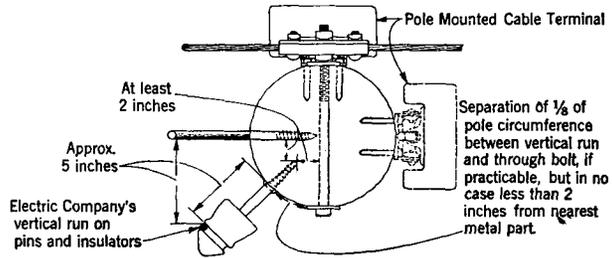
(b) When supply circuits are run as described in sub-paragraph (a) above, they shall clear telephone conductors or cables as follows:

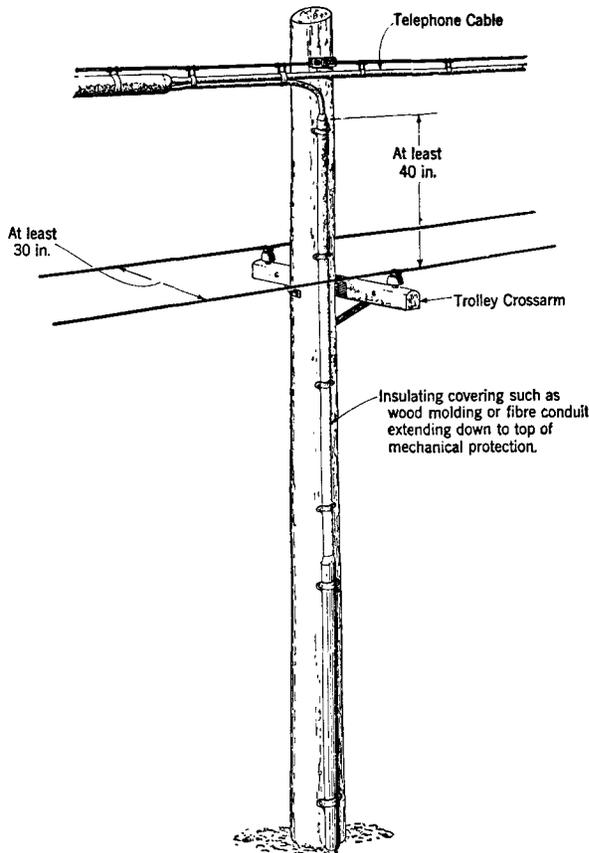
1. Lamp leads of street light circuits or other supply conductors of 750 volts or less; by 6 inches if practicable, but not less than 3 inches.
2. Lamp leads of street light circuits exceeding 750 volts; by at least 6 inches.

If supply conductors of over 750 volts other than street light leads are run as described in sub-paragraph (a) above, report the matter to your Supervisor. Supply conductors of over 750 volts which are not street lighting leads should be run on the surface of the pole in conduit or metal sheath cable protected by molding or other covering.

(c) Lamp leads that pass into or through the telephone space and are run from a supply crossarm directly to a street lamp or lamp bracket shall consist of paired wire or multiple conductor cable securely attached at both ends to suitable brackets and insulators. The leads shall be held taut at least 40 inches from the surface of the pole, at least 12 inches beyond the end of a telephone crossarm, and at least 6 inches from telephone drop wires.

3.04 The following illustrations show typical locations for vertical runs and clearances required.





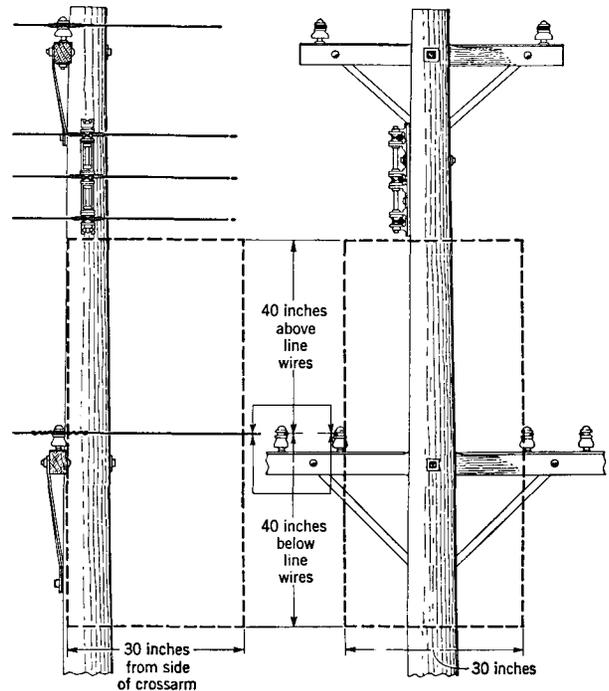
**4. CLIMBING SPACE**

4.01 The required climbing space shall be provided and maintained on every jointly used pole so that workmen can go up or down the pole, and can perform work operations aloft with reasonable safety and convenience.

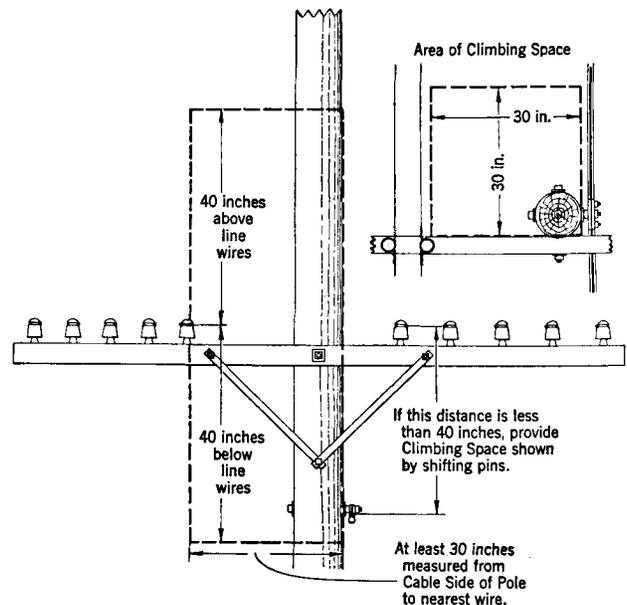
4.07 The full width of climbing space shall be provided past longitudinal runs of cables, drop wires, etc., and shall be measured from the longitudinal run concerned. Where telephone cable is less than 40 inches from telephone wires on jointly used poles, respacing pins to provide the 30-inch climbing space.

4.08 Open wire may be placed on wooden pole brackets attached to one side of the poles if the power company using the poles jointly has no objection. It is important that the bracket type of construction be discussed with the power company concerned before it is used. Where wooden pole brackets are located below a telephone crossarm on a joint pole and the wire on the upper bracket is less than 40 inches from the telephone wires, on the crossarm, respacing pins to provide the 30-inch climbing space (see 4.07).

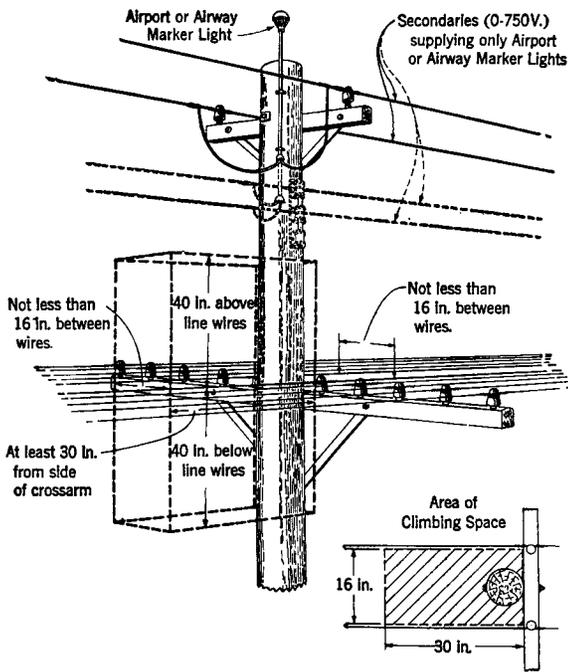
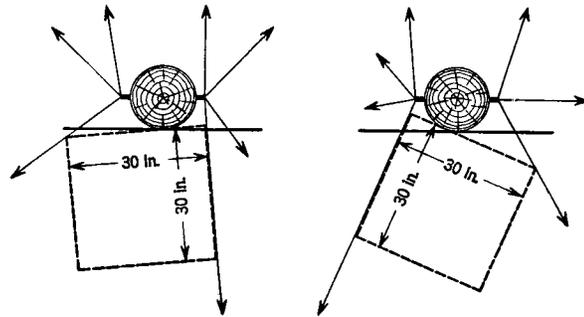
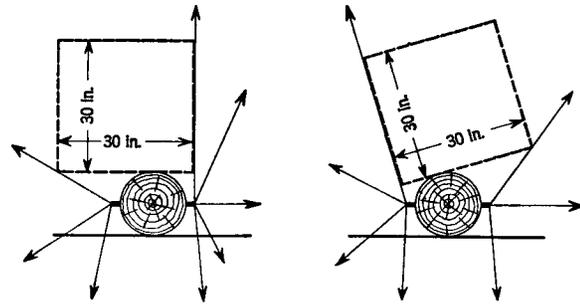
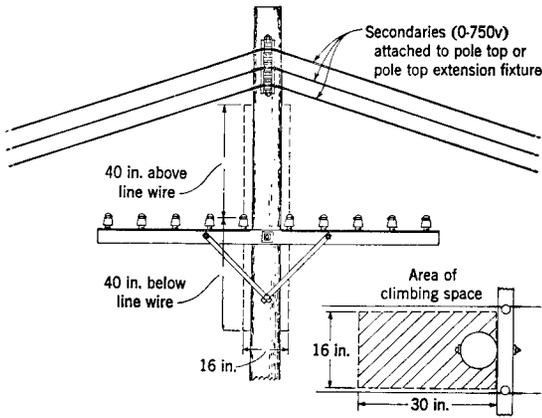
4.02 Climbing space is defined as the vertical space reserved along the side of a pole to permit access to equipment and conductors located on the pole structure. It consists of a horizontal area 30 inches square, extending vertically not less than 40 inches above and below the cables, conductors, crossarms, or other attachments.



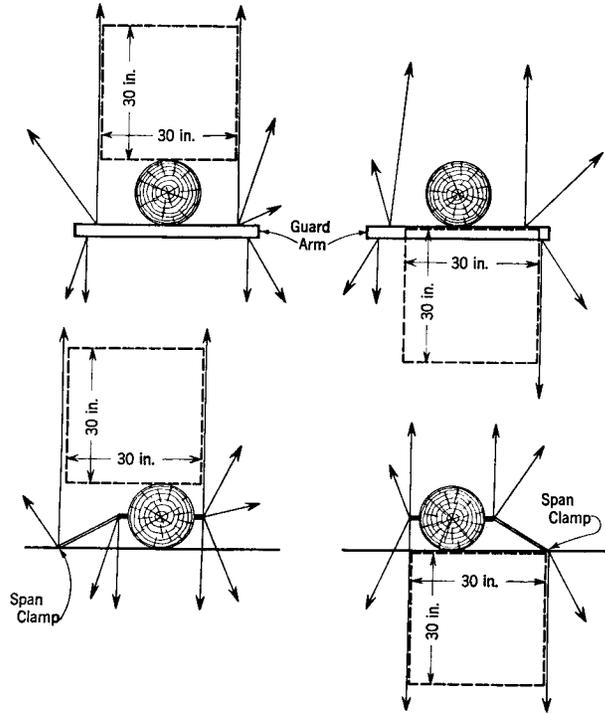
4.03 Climbing space is required only on one side or corner of the pole. Portions of the pole when included in one side or corner of the climbing space, and vertical runs incased in conduit (or other protective covering) and securely attached to the surface of the pole are not considered to obstruct the climbing space.



4.04 If the only supply conductors at a level above telephone cables, conductors, etc., are secondaries (0-750 volts between conductors) supplying airport or airway marker lights, or crossing over the telephone line and attached to the pole top or to a pole top extension fixture, the width of the climbing space measured across the line may be reduced to 16 inches.



4.06 Where climbing space cannot otherwise be obtained on either the field or street side of the pole, place a guard arm and distribute from it, or place span clamps on the suspension strand.



4.05 When drop wire fixtures are attached directly to a jointly used pole, distribute from the face or back of the pole. Examples of how climbing space should be measured in typical cases of drop wire distribution are shown in the following illustrations.