

MEASURING CLEARANCES  
AND SEPARATIONS FOR  
AERIAL PLANT

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1. GENERAL

1.01 This section covers the methods and tools that shall be used to measure clearances and separations in aerial plant.

1.02 It is reissued to make it adaptable for use in all California areas of the Pacific Company.

1.03 At no time may contact be made with a foreign conductor or insulator regardless of the measuring device used.

2. MEASURING SEPARATIONS AT THE POLE

For safety reasons, the methods and tools to be employed in determining or measuring separations should not expose the workman to foreign potentials. In connection with selecting the proper location for telephone attachments on jointly used poles, be guided by the above as well as by the following.

2.01 If 0-750 volt supply circuits are in place, use a standard measuring rule or approved equivalent free from metallic strips or edging. Insulating gloves must be worn in wet weather, or when the surface of the pole is damp. Measure from non-metallic parts of the supply structure such as a wood crossarm, or measure along the surface of the wood pole, and make adjustments for the difference in elevation or position of the foreign wires, metallic parts of the structure, etc.

2.02 If supply circuits of more than 750 volts are in place, separations from circuits should be measured as outlined in Paragraph 2.01 except that insulating gloves must be worn.

2.03 If supply circuits are not in place at the time telephone attachments are to be placed, obtain from your Supervisor the location of the lower limit of the supply company's space and the separation to be provided from that point to the telephone attachments. Measurements may be made with measuring rules, linen tapes, etc., if no supply circuits are present.

3. MEASURING CLEARANCES AND SEPARATIONS IN THE SPAN

3.01 For safety reasons, the methods and tools to be employed in determining or measuring clearances and separations in the span should not expose the workman to foreign potentials.

3.02 The tools that can be used to measure clearances and separations are of four general groups depending on the plant involved and the manner in which the tool is used.

Group 1:

Tools that are either attached to or passed over the telephone wire, strand, etc., being measured such as clearance measuring lines, linen tapes, and ropes. When these tools are used, contact is made with the item of telephone plant being measured and their use is, therefore, confined to measuring the height of telephone wires, cables, strands, etc., on which hazardous voltages are ordinarily not present; they are not to be used to measure the height of supply wires or other foreign wires.

All lines, linen tapes, ropes, etc., used for this purpose must be dry and free from metallic strands or threads.

Group 2:

Tools that are raised adjacent to the line and are used as reference markers such as tree pruner handles, pike poles, sectional rods of wood, bamboo, etc. While such tools are not intended to make contact with the item of plant being measured,

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the possibility of a contact due to a swinging conductor or an unsteady measuring pole makes it necessary to confine the use of these measuring poles to the following -

- (a) Measuring the height of telephone wires, cables, strands, etc., and
- (b) Measuring the vertical clearance or separation between telephone wires, cables, strands, etc.

**Group 3:**

Tools specifically intended and approved for use in measuring clearances and separations where supply conductors are con-

cerned. The B Clearance Rod is intended for this purpose.

**Group 4:**

Tools of the optical type such as a transit, teleheight, sextant, hand level, range finder, hitemeter, clearance meter, etc. Tools of this type may be used in determining and computing the height of telephone and supply wires, cables, strands, etc., as well as the vertical clearance and separation between telephone wires, cables, strands, etc., as well as the vertical clearance and separation between telephone wires, cables, strands, etc., and supply wires, cables and guys of all voltages.

3.03 The following reference table summarizes the above recommendations:

**TOOLS RECOMMENDED FOR USE WHEN MEASURING  
CLEARANCES AND SEPARATIONS IN THE SPAN**

Tools (By Groups)	Telephone line wires, cables, guys, and drop wires	Supply cables, multi-grounded neutral wires, guys, and 0-750 volt supply wires	All other supply wires	Remarks
Group 1 Clearance measuring lines, non-metallic linen tapes, ropes, etc.	Yes	Must not be used	Must not be used	Tools must be dry and free of metal- lic strands or threads
Group 2 Tree pruner handles, pike poles, rods of wood, bamboo, etc.	Yes	No	Must not be used	-
Group 3 B Clearance Rod	Yes	Yes	Yes	-
Group 4 Transits, sextants, range finders, hand levels, tele- heights, hitemeters, etc.	Yes	Yes	Yes	-