

## SAFEGUARDS TO BE TAKEN BEFORE CLIMBING POLES TESTING POLES

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### 1. GENERAL

**1.01** This section covers methods of testing poles to determine whether or not they are capable of withstanding the loads to which they will be subjected in climbing and working on them.

**1.02** This section is reissued to update the information. It also adds the Hazard Signal Bands previously contained in Section 620-131-910 which is hereby cancelled. As it is a general revision marginal arrows normally used to show changes have been omitted.

**1.03** The following tests will provide important information in addition to that obtained in the visual examination described in 620-131-010. The necessary tests shall be made to determine whether the pole can be climbed safely.

**1.04** *In any case where suitable means for determining the condition of a pole and bracing it when necessary are not available and there is any question about the pole being sufficiently*

*strong to permit safe climbing and safe working, do not climb the pole.* Inform your supervisor about the condition and request the necessary assistance to enable the work to be done safely. (refer to V61.026).

### 2. METHODS OF TESTING POLES

**2.01** Each of the methods of testing listed below has certain limitations and may not be applicable under the conditions existing at certain locations. It is important, therefore, to make a selection of the tests that are applicable and most suitable under the existing conditions. The tests are as follows:

- (a) Pike Pole Test
- (b) Prod and Sounding Test
- (c) Boring Test
- (d) Hand Line Test

**2.02** As pointed out in Section 620-131-010, the necessity for testing occurs principally under *any* of the following conditions.

- (a) At dead-end poles.
- (b) In longer span cable or open wire construction.
- (c) Where there is a downward change in grade at a pole.
- (d) Where the line is carrying a small number of telephone wires or both power and telephone wires.
- (e) Where drop wires are attached, especially where the pull from them is unbalanced.

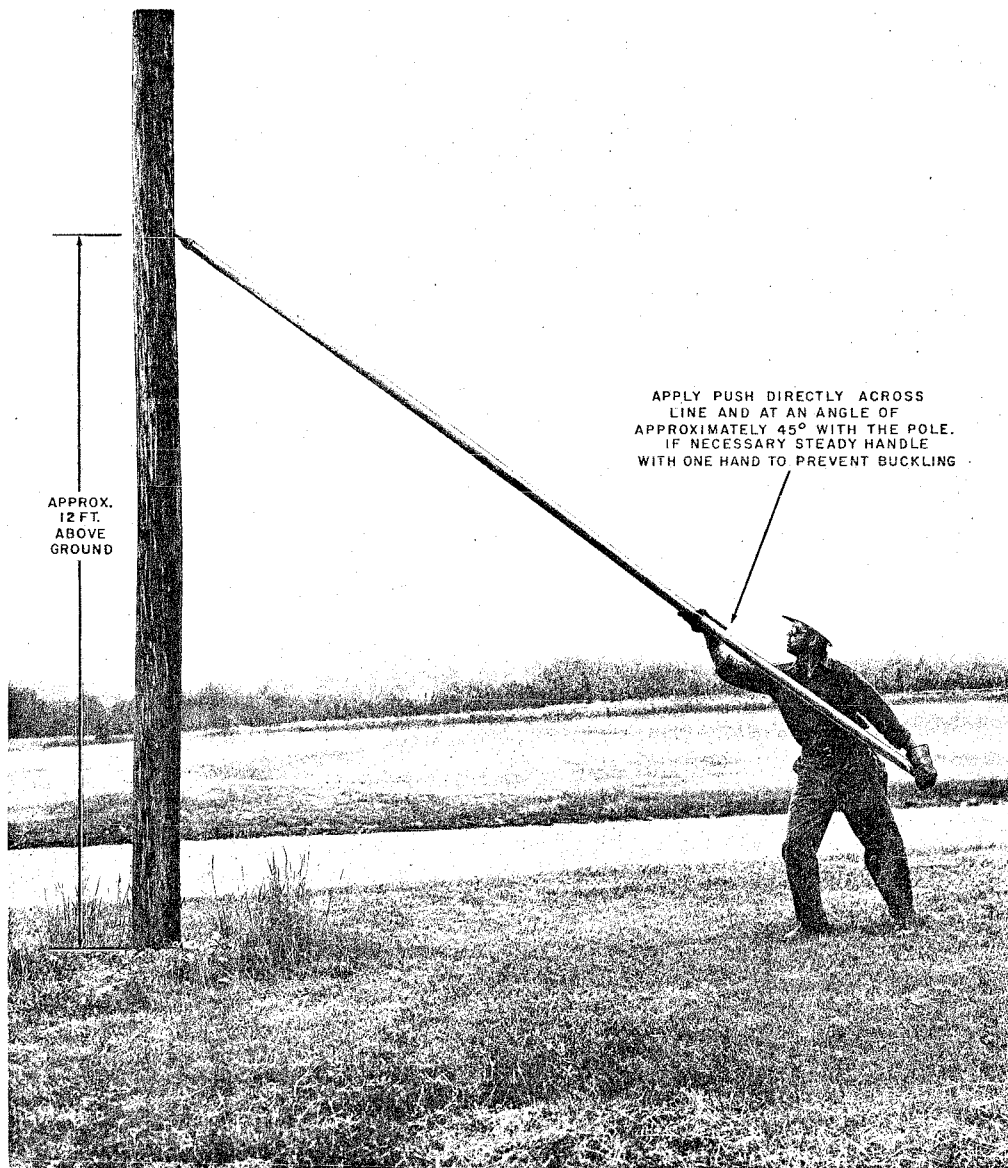


Fig. 1 — Pike Pole Test

**2.03** Inasmuch as the section of maximum decay is normally encountered between the ground-line and a point about 12 inches below the ground-line, it is desirable, if conditions permit, to excavate sufficient earth from around the pole to permit a more satisfactory examination of the pole. If, however, the pole is set in pavement, or for other reasons, it is impracticable to remove any earth, the prod should be applied as close to the ground-line as practicable, at an angle of approximately 45 degrees with the pole and completely around the pole. The presence of general sapwood decay or decay pockets will usually be evident from this test.

**2.04** If the prod test indicates the presence of extensive decay, it is desirable to apply temporary supports, regardless of the original circumference of the pole, unless in accordance with Section 620-131-010, no supports are required.

**2.05** If there is no indication of decay or other reduction of strength in the prod and sounding tests and the pole has been subjected to a moderate pike pole test where conditions permit its use, *25-foot or shorter poles* in straight sections of rural lines carrying eight or less 104 copper or stronger wires with no downward change in grade, and measuring 13 inches or more in circumference at the ground-line, may be climbed without placing temporary supports.

**2.06** The prod test is not considered as satisfactory as the pike pole test and it should not be completely depended upon to furnish information as to the soundness of the pole.

#### ABOVE GROUND-LINE

**2.07** The sounding test consists of applying blows with a hammer, such as a drilling hammer, or the back of a hand axe, to the pole surface completely around the pole from points close to the ground-line to as high as can conveniently be reached. The presence of a hollow heart condition or advanced internal decay can usually be recognized by the characteristic hollow or dull sound resulting from the blows on the wood. A pole free from decay usually sounds clear and the hammer usually rebounds noticeably when the pole is struck sharply and squarely. Wet surfaces due to recent rains, wet interior near the ground-line due to high soil moisture,

wide checks, or shakes in the pole near the surface may change the sound of a solid pole. Care must be taken not to mistake the altered sound due to these causes for the sound associated with internal decay.

### 3. BORING TEST

**3.01** The boring test consists of boring a hole in the pole at a point where internal decay is suspected by means of a 3/8 inch wood boring bit or by means of an increment borer. The condition of the wood can be determined by an examination of the chips or core brought out by the bit. The presence of a hollow heart condition is, of course, revealed by the bit breaking through the wood.

**3.02** If a hole is bored in a pole and it is concluded that the pole is in sound condition and the pole is to be left in plant, the hole should be filled by means of a wooden plug. (Ordering information is as follows: Plug, Wooden. Plugs come in 3-inch lengths.

### 4. HAND-LINE METHOD

**4.01** The hand-line method consists of applying a series of pulls to a pole with the object of rocking the pole back and forth. In applying this test, use should be made of a 3/8 inch or larger rope, attached to the pole at such a height that the pull can be applied at right angles to the direction of the line and at an angle of about 45 degrees with the pole. The same use limitations and precautions applying to the pike pole test, apply also to this method of testing. In attaching the rope to the pole, the pole should not be climbed, but the rope should be thrown over a fixed attachment, such as a pole step or a crossarm, or a loop should be made at the base of the pole and moved into position by means of a convenient tool, such as a wire raising tool.

### 5. REPORTING POLES FOUND TO BE UNSAFE FOR CLIMBING

**5.01** Poles found by the previously described tests to be unsafe for climbing should be marked immediately with a Hazard Signal Band as described in Part 6. If a Band is not readily available, report the hazard promptly to the supervisor on Form 732, as per V61.026 so that necessary action can be taken.

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**5.02** If the pole has been broken, resulting in an unsafe condition and requiring immediate support, temporary supports should, if practicable, be applied immediately to prevent the pole from falling. If suitable bracing means are not available, steps should be taken to warn passers-by or traffic away from the location until a safe condition can be restored and a report of the condition should be made promptly to your supervisor.

### 6. MARKING DEFECTIVE POLES

**6.01** All poles which are recommended for replacement on account of deterioration or mechanical damage should be plainly marked to indicate that they are defective. Because of the transfer of personnel during storm breaks or other restoration work, the method for marking poles should be uniform throughout the Company.

**6.02** Three types of Hazard Signal Bands have been made available, namely Red, Yellow and Blue. Each of these types serve the purpose indicated below:

Type	Purpose
Red	To indicate a hazardous electrical condition overhead.
Yellow	To indicate a hazardous physical condition in the pole itself.
Blue	To serve the same purpose as the yellow band in municipalities where other utilities use yellow markings for other purposes.

**6.03** These bands consist of a piece of plastic-coated leatherette fabric 4 ft. long and 4 in. wide.

**6.04** Whenever a hazard is found to exist at a pole due to overhead clearances from power wires being less than specified in the 620 Division, or to the condition of the pole itself or an associated brace or guy, install the appropriate Hazard Signal Band when the hazard will not be cleared promptly by work in progress at that location. The presence of such a band serves as a warning to any employee who may be required to climb or work on the pole, as outlined in Section 620-131-010.

**6.05** When the appropriate Hazard Signal Band is not readily available and cannot be installed without delay, it should be installed as soon as practical after Part 5 has been followed.

**6.06** Locate the Hazard Signal Band around the pole with the bottom edge about 5 ft. above ground level.

**6.07** Attach the band near its top and bottom edges with Roofing Nails, or tacks to be obtained locally. Three or four nails or tacks per edge are recommended.

**6.08** When hazards which are marked by Hazard Signal Bands are cleared, remove the bands promptly.