BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G10.305.2
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AT&T Co Standard

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 The following tests will provide important information in addition to that obtained in the visual examination described in G10.305.1, and such of these tests shall be made before climbing as are required to determine whether the pole can safely be climbed and worked on.

1.03 **If, in any case, 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.

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:

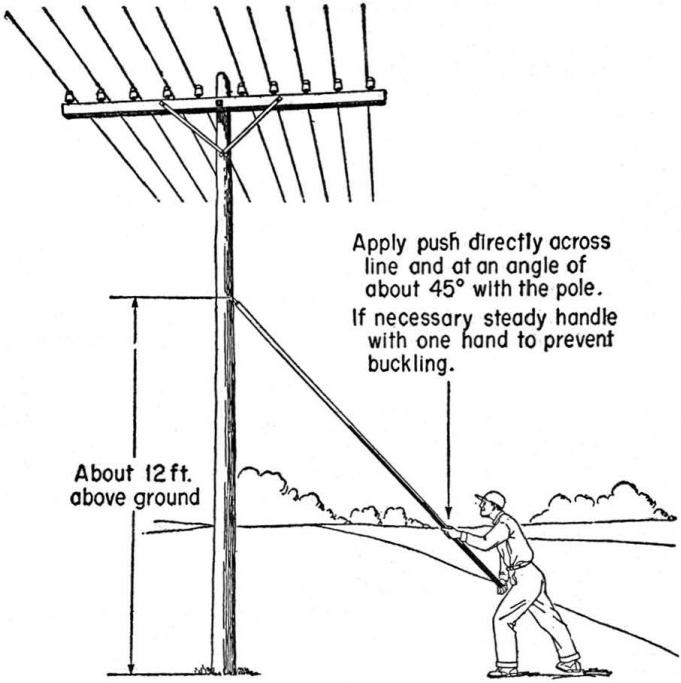
(a) Pike Pole Test
(b) Prod Test
(c) Sounding Test
(d) Boring Test
(e) Hand Line Test

2.02 As pointed out in Section G10.305.1, 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, or,
(d) Where the line is carrying a small number of telephone wires or both power and telephone wires.

3. PIKE POLE TEST

3.01 The pike pole test is applied by making a vigorous effort to rock the pole back and forth in a direction at right angles to that of the line by pushing the pole with a 12-foot or longer pike pole. If practicable, the pike pole should be held at an angle of about 45° ($\frac{\text{Lead}}{\text{Height}} = 1$) with the pole, as shown in the following illustration. If the pole cracks or breaks, the test should be discontinued immediately and the pole should be regarded as unsafe for climbing. The pole should not be rocked so hard as to cause the wires to swing together and thus introduce trouble in the circuits.



3.02 If, in certain cases, (particularly in connection with the longer spans of telephone open wire and power wires) it is found impracticable to rock the pole without causing the wires to swing together, the pole should be given a steady push with the pike pole, applying as heavy a push as possible. If the pole withstands such a push, it should also be subjected to the prod test and sounding test before being climbed.

3.03 If a 16-foot pike pole is available, its use is preferred to that of a shorter size, inasmuch as it enables the push to be applied at a higher point on the pole and is therefore more effective. In those cases, however, where a 16-foot pike pole is not available, use may be made of a standard 14-foot or 12-foot pike pole or a standard 1-3/4" test-pike, fitted with two exten-

sion sections of the large tree pruner handle. As an alternative to the 1-3/4" test-pike, a standard 1-1/4" test-pike may be used, and it should be fitted with a tapered section and one extension section of a large tree pruner handle.

3.04 The pike pole test can not effectively be applied to poles that have attachments such as wires, guys, push braces, etc., arranged in such a manner as to take the thrust of the pike, rather than permitting the thrust to be transferred directly to the pole. Some locations at which such conditions are encountered are guyed corner poles, junction poles, side storm guyed poles, etc.

3.05 Many of the small poles in suburban or rural leads, carrying eight wires or less have sufficient strength from a service standpoint, but can be broken by applying the pike pole test too vigorously. In applying the test to such poles, exercise reasonable care to prevent breaking those which are in serviceable condition and can safely be climbed. (See Paragraph 4.04)

3.06 Pavement or frozen ground surrounding poles sometimes tends to hold poles firmly, even though they may be badly deteriorated. Where such conditions exist, it is usually desirable to apply temporary supports to the pole, if there is any question as to the soundness of the pole.

3.07 The pike pole test should not be applied to poles which, if they were to break off, might cause damage to nearby property or result in contact between telephone plant and electric light or power wires, or introduce some other hazardous situation.

4. PROD TEST

4.01 The prod test may be used in some cases where it is impracticable to apply the pike pole test. It consists of exploring the condition of the pole at or below the ground line, by means of a tool such as a pole inspector's prod or a screwdriver having a 6" or longer blade. It is undesirable to use a heavy, pointed tool, such as a digging bar, because of the damage which such a tool can cause to the treated sap wood of a sound pole, thus reducing the effectiveness of the preservative treatment and exposing the interior of the pole to decay attack.

4.02 Inasmuch as the section of maximum decay is normally encountered between the ground line and a point about 12" 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° with the pole and completely around the pole. The presence of general sapwood decay or decay pockets will usually be evident from this test.

4.03 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 G10.305.1, no supports are required.

4.04 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.

4.05 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. It should always be associated with the sounding test described in Part 5.

5. SOUNDING TEST

5.01 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. If the sounding test reveals a questionable condition, a further exploration of the condition should be made by boring the pole in the manner described in Part 6.

6. BORING TEST

6.01 The boring test consists of boring a hole in the pole at a questionable point by means of a 3/8″ 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.

6.02 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 3/8″ wooden plug.

7. HAND LINE METHOD

7.01 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″ 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° 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.

8. REPORTING POLES FOUND TO BE UNSAFE FOR CLIMBING

8.01 Poles found to be unsafe for climbing as a result of the tests described above, should be marked immediately with a conspicuous mark, and they should be reported promptly to your supervisor as being in an unsafe condition.

8.02 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.