

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G51.205.1**  
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**AT&T Co Standard**

## TESTING SUSPENSION STRAND

<b>Contents</b>	<b>Page</b>
1. General .....	1
2. Mechanical Test in Span .....	2
3. Power, Railroad and Highway Crossing Spans....	4
4. Maintenance and Repair .....	5

### 1. GENERAL

1.01 This section covers the methods to be followed in testing the soundness of aerial cable suspension strand.

1.02 Before placing a cable car, ladder, or splicing platform in a span, or before performing any work operation which involves shifting the strand or varying the strand tension in the span, the entire span should be checked from the ground and, except as indicated in Part 3, the strand given a mechanical test to determine its soundness.

1.03 Persons, vehicles or other objects which might suffer injury or damage as a result of breakage of the strand should not be permitted under the strand at the time it is tested.

1.04 In spans crossing over power lines and in other spans in which a mechanical test cannot be made, the strand adjacent to the pole should be given a close visual inspection to determine its soundness.

1.05 Spans crossing railroad tracks which have been used by coal burning locomotives are subject to corrosion over the tracks which may not be seen by an inspection at the poles. Special precautions must be observed in these cases.

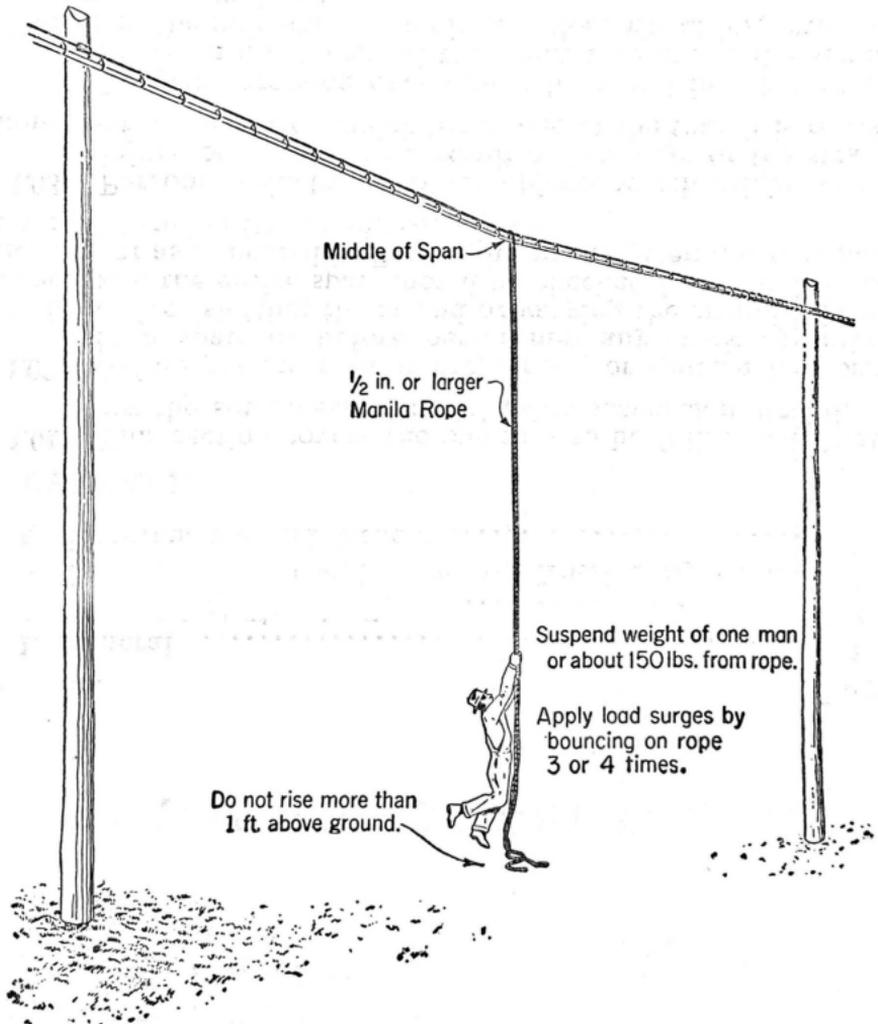
1.06 On joint lines, or at power crossings, the rope used for testing shall not be thrown over the strand. It should be passed over by means of a tree pruner handle or placed over at the pole and moved along the strand to midspan.

## 2. MECHANICAL TEST IN SPAN

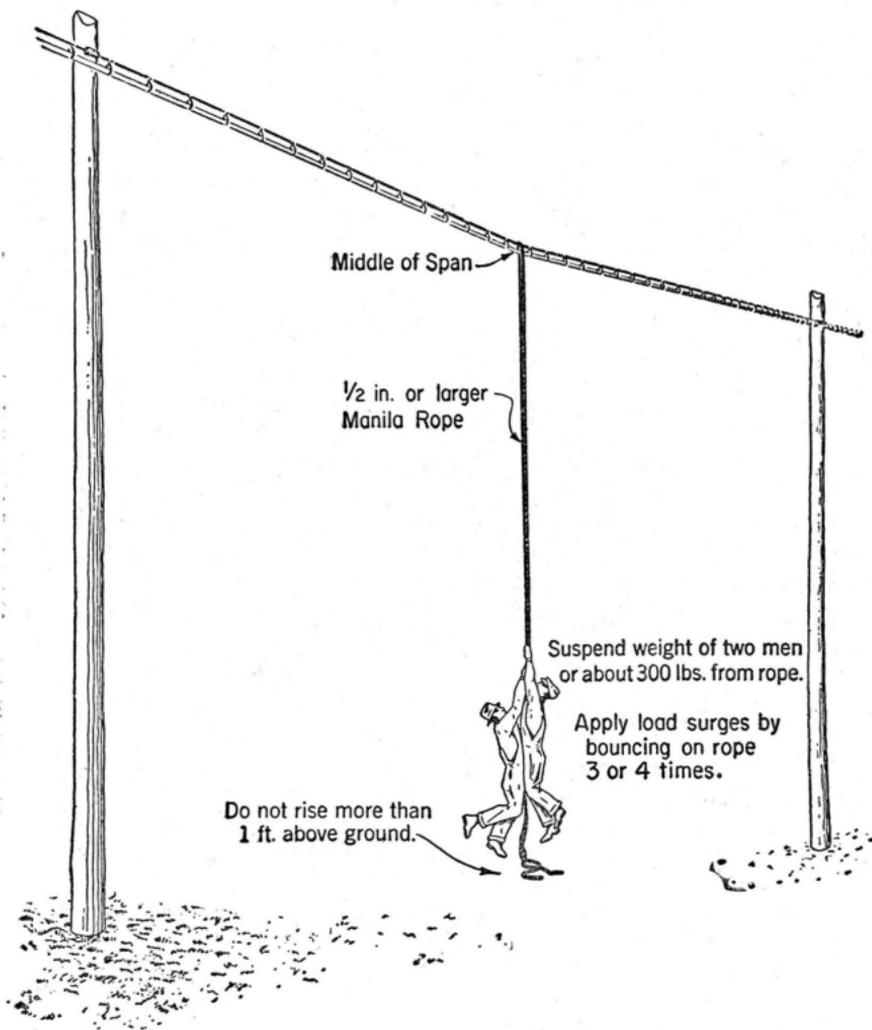
2.01 Examine the span from the ground for :

- (a) The presence of power crossings, power clearances, etc., which may prevent a mechanical test of the strand.
- (b) Localized strand abrasion or corrosion, particularly at points of possible tree interference, strand splices and dead-ends, tree guards, strand attachments, etc., or for any other irregularities of the strand, cable, or lashing wire or rings which may require attention.

2.02 Where **work operations in the span are to be performed from a ladder** a one man test should be performed as follows.



2.03 At spans which are to be ridden, or on which an aerial platform is to be placed, or where work operations such as shifting the strand are to be performed, make the mechanical test as follows.



2.04 The equivalent of the two-man test may be made by one man. Attach one end of a rope to a tree, truck bumper, or other suitable anchorage, pass the rope over the strand and suspend one man's weight on the free end of the rope. The anchorage should be at mid-span and under the strand or nearly so.

### 3. POWER, RAILROAD AND HIGHWAY CROSSING SPANS

3.01 Do not make a mechanical test in a span crossing over electric light, power or trolley wires. In these spans, examine the strand adjacent to each of the crossing poles, from a position on the pole, looking particularly for:

(a) **Corrosion of the strand wires.** If the strand has rusted to the point where no galvanizing remains, do not ride the strand, place a splicing platform or ladder, or perform any work operation which will impose an additional load on the strand until its soundness has been determined by a thorough inspection in accordance with the procedures covered in the section on the inspection of corroded suspension strand. If work operations must be performed prior to the strand inspection, use a ladder platform truck or place and work from an auxiliary strand.

(b) **Strand wire breaks.** If one or more broken strand wires are found do not perform any work operations which will impose an additional load on the strand until the breaks have been repaired as covered in Part 4. If work operations must be performed prior to the strand repair, use a ladder platform truck, or place and work from an auxiliary strand.

(c) **Excessive strand wear** from rings, tree interference, cable guards, etc. If any doubt exists as to the condition of the strand, proceed as outlined in (a) above.

(d) **The secureness of all attachments** within reach. Check the tightness of bolts of cable suspension clamps, of any guy clamps at strand splices, dead-ends and guys, and of any other attachments affecting the structure.

3.02 Spans over main line railroads should not be tested mechanically. The date of placing of the strand should be determined from the records. If the strand has been in place less than one year or if it is known that no coal-burning locomotives have been in use under the strand since it was placed, examine the strand as prescribed in Paragraph 3.01. **If the strand has been exposed to coal-burning locomotive smoke and is more than one year old it shall not be ridden.** All work operations shall be performed from a ladder platform truck or from an auxiliary strand. A truck shall not be used within 10 feet of the railroad track.

3.03 Spans over spur railroad tracks may be given a mechanical test provided signal men are posted along the tracks in both directions and at a sufficient distance from the work location to give ample warning of approaching trains.

3.04 Strand crossing streets and highways where no power crossings are involved may be given a mechanical test provided proper warning signs are posted and all traffic is stopped during the test. For those locations where the traffic cannot be stopped, do not make a mechanical test, but follow the procedures as in 3.01 above.

#### 4. MAINTENANCE AND REPAIR

4.01 Conditions found during the inspection or test which may necessitate repairs include:

- (a) Shifted protecting guards.
- (b) Loosened suspension clamps, grade clamps, cable lashing clamps, ground clamps, etc.
- (c) Shifted or corroded cable rings.
- (d) Loose or broken lashing wire.
- (e) Loose or shifted aerial or lashed cable supports or broken wire ties.
- (f) Broken wires in the strand.

4.02 Where corrosion of the strand is not serious, but one broken wire is found, the strand should be spliced with a strandlink or reinforced by placing a piece of strand of the same size across the broken portion. This piece of strand should be of sufficient length to permit placing one guy clamp each side of the break for 6,000 and 10,000 pound strands and two clamps each side for 16,000 pound strand. Where two wires or more are broken and the general condition of the strand is such that it is to be continued in service, the broken section should be spliced with a strandlink or removed by cutting in a new piece of strand at that point.