

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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CABLE DANCING—SINGLE CABLE LINES

B CABLE DAMPER

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1. GENERAL

1.01 This section covers the use of the B cable damper for reducing or preventing dancing on single aerial cable lines. B cable dampers are for use on lines carrying either lead or polyethylene covered cables.

1.02 Dancing of single aerial cables may occur in spans of any length depending upon the exposure, wind velocity, direction of wind, cable sag and weight, and other factors.

2. LOCATION OF B CABLE DAMPER

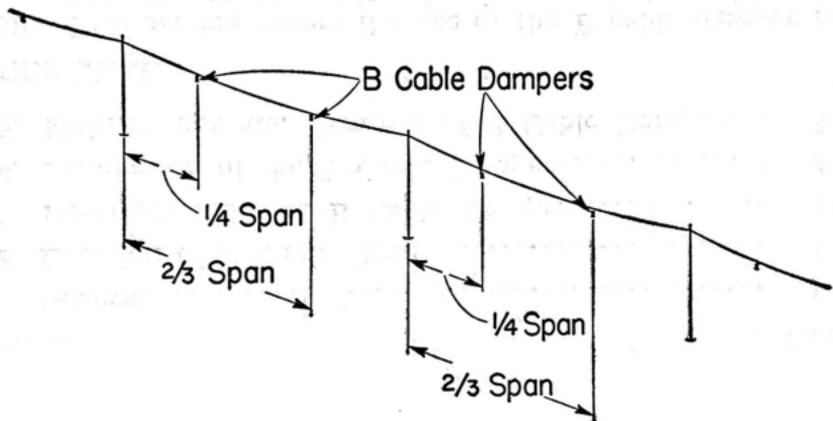
2.01 On new construction where conditions are known to be favorable to dancing, B cable dampers should be installed when specified on detailed construction plans.

2.02 On existing lines where dancing has been observed or where inspections reveal that dancing has occurred and conditions are indicative of plant damage if preventive measures are not taken, B dampers should be installed.

2.03 An effective arrangement for reducing or preventing cable dancing requires the installation of B dampers as indicated in the following table:

<u>Span Length</u>	<u>Number and Location of B Damper</u>
150 feet or less	1 damper at $2/3$ point of span
Between 150 and 600 feet	1 damper at $1/4$ and $2/3$ points of span

Where exposure of a cable is unusually severe it may be necessary to use an additional damper. For spans of 150 feet or less, the additional damper should be placed at the $1/4$ point in the span, and for longer spans at the $1/2$ point. Where consecutive spans are to be equipped the progressive arrangement on the line should be $2/3, 2/3, 2/3$, etc., for 150-foot spans or less and $1/4-2/3, 1/4-2/3, 1/4-2/3$, etc., for longer spans. This arrangement is illustrated as follows:



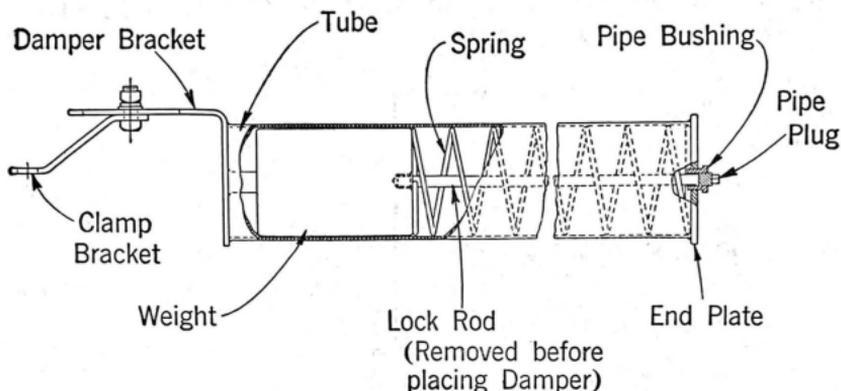
Note: It is important that these distances be as exact as practicable otherwise the effectiveness of the dampers will be lost.

3. DESCRIPTION OF THE B CABLE DAMPER

3.01 The damper consists of a spring supported weight encased in an airtight housing equipped with a bracket for attaching the damper to the strand. Damping results from the action of the weight on the spring located at the lower end of the damper and by the movement of the air back and forth through the passage between the weight and the cylindrical

housing. The weight thus behaves as a double acting piston as it moves up and down in response to cable vibration. The over-all height of the damper is approximately 30 inches and its weight about 35 pounds.

3.02 The damper, when assembled for shipment, has a 3/8-inch lock rod inserted between the weight and lower end of the housing to prevent movement of the weight during transportation and handling. This is illustrated as follows:



3.03 To place the damper in an operating condition remove the rod as follows:

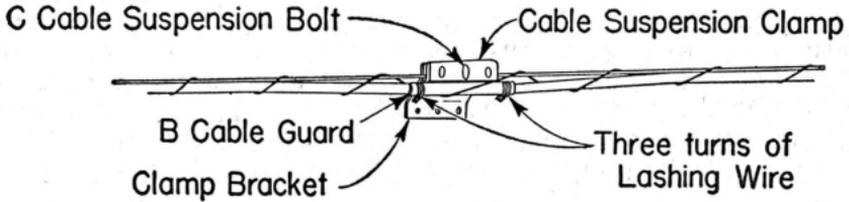
- (1) Place the damper in a horizontal position to prevent sudden release of the weight.
- (2) Remove the 3/8-inch pipe plug and lock rod.
- (3) Replace the pipe plug tightly, applying pipe joint compound to the threads to maintain an airtight condition of the housing.
- (4) Raise the damper slowly to the vertical position.

4. INSTALLATION OF THE B CABLE DAMPER

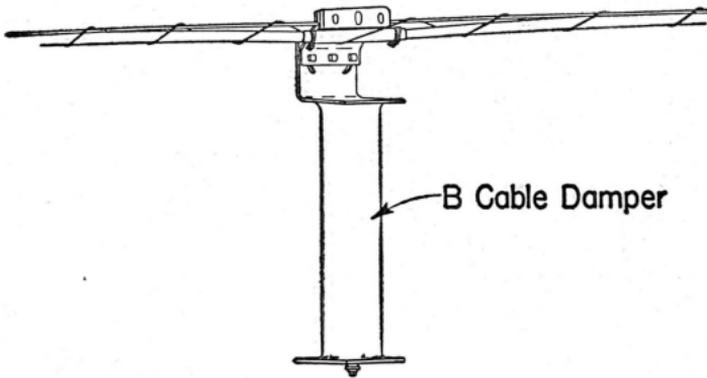
4.01 Determine the location where the damper is to be installed by measuring. Should the lashing wire at this point interfere with the attachment of the three-bolt cable suspension clamp from which the damper is to be suspended, select the closest point on either side where the suspension clamp can be installed between turns of the lashing wire without rearranging it.

4.02 Using a C cable suspension bolt in the center hole of a cable suspension clamp, attach the suspension clamp and the clamp bracket of the damper to the strand. To protect

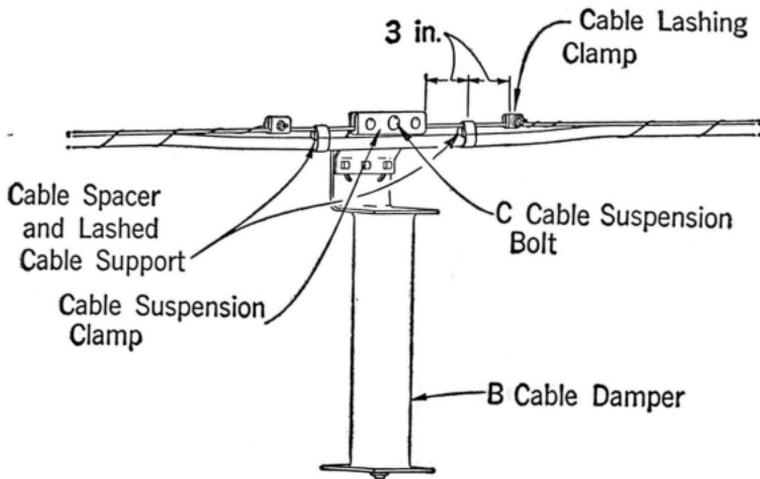
the cable sheath, place a B cable guard on the cable and secure it with lashing wire. Tighten all nuts securely.



4.03 Raise the cable damper into position, secure it to the clamp bracket by inserting the center bolt and run up the nut and lockwasher sufficiently to hold the assembly. Allow the damper to assume its normal vertical position. Insert the outer bolts, lockwashers and nuts and tighten the assembly securely. For proper operation, it is important that the damper be in a vertical position regardless of the grade of the line.



4.04 If it is impracticable to install the damper as shown above, an alternative method of installing B cable dampers is illustrated below. This method consists essentially of cutting the lashing wire and installing C cable lashing clamps, lashed cable supports, and cable spacers. The cable sheath at the cable suspension clamp need not be protected.



5. MAINTENANCE AND REMOVAL OF B CABLE DAMPER

5.01 B cable dampers should be inspected periodically to determine the condition of the lashing wire and cable and check the tightness of the bolts. The suspension strand at the edges of the cable suspension clamp should be inspected for evidence of strand fatigue.

5.02 When B cable dampers are removed from the line they should be lowered slowly to the horizontal position to ease the impact of the weight against the top of the housing. Dampers should be kept in this position until the lock rod has been installed to prevent movement of the weight during handling and transportation.