

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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CABLE DANCING—

SINGLE CABLE LINES

AUXILIARY STRAND METHOD

Contents	Page
1. General	1
2. Selection, Location and Stringing Tension of Auxiliary Strand	2
3. Installation of Strand Tie Straps	3
4. Riding Strand Containing Strand Tie Straps	4

1. GENERAL

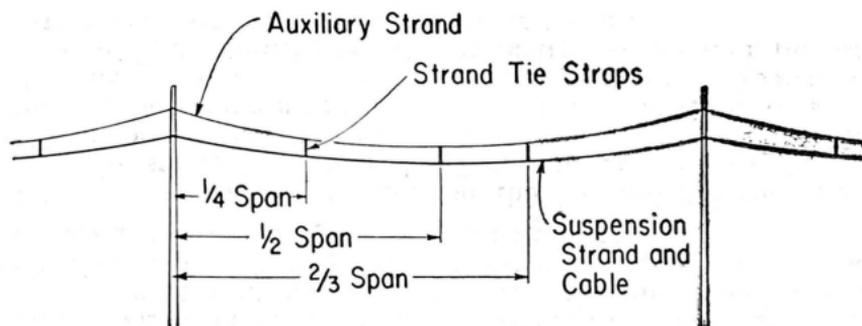
1.01 This section covers a method of reducing or preventing dancing on single aerial cable lines by means of an auxiliary strand placed as a catenary to partially support the cable suspension strand.

1.02 This method is applicable for use on lines where the cable is supported by 6000-pound or 10,000-pound suspension strand.

1.03 The auxiliary strand is located at sufficient height above the suspension strand so that when they are joined in the span with strand tie straps, part of the cable weight will be supported by the auxiliary strand.

1.04 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, an auxiliary strand may be placed as authorized.

1.05 Tie straps are required at the $1/4$ and $2/3$ span points in spans less than 200 feet and at the $1/4$, $1/2$ and $2/3$ span points in spans of 200 feet and over. If dancing continues to be experienced, it may later be found necessary to add a tie strap at the $1/2$ point in the shorter spans. The following figure illustrates the auxiliary strand and tie strap arrangement for spans of 200 feet and over.



1.06 Check existing corner and dead-end guying and make any additions necessary to support the load imposed by the auxiliary strand. A 6000-pound auxiliary strand should be considered as adding 2000 pounds to the loading and a 10,000-pound auxiliary strand as adding 3000 pounds. At auxiliary strand dead ends where it is necessary to head guy for the auxiliary strand only, use the same size guy strand as is used for the auxiliary strand.

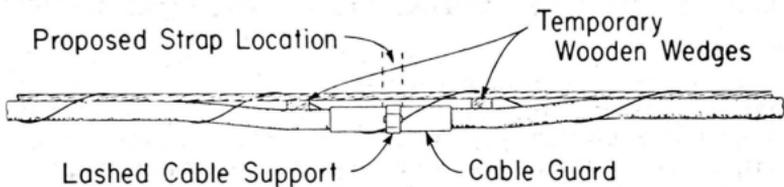
2. SELECTION, LOCATION AND STRINGING TENSION OF AUXILIARY STRAND

- 2.01 The auxiliary strand to be placed should be the same size as the strand supporting the cable.
- 2.02 Place the auxiliary strand at least 24 inches above the bolt supporting the suspension strand and cable and on the same side of the pole. Greater separation is desirable where it can be obtained.
- 2.03 Place the auxiliary strand at the tension shown in the following table:

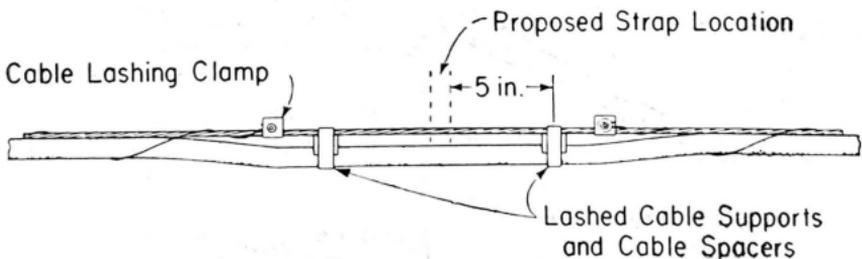
Temperature (Degrees Fahr.)	Stringing Tension (Pounds)	
	6M Strand	10M Strand
-20	1700	2800
0	1550	2600
20	1400	2450
40	1250	2250
60	1100	2100
80	1000	1950
100	900	1800
120	800	1650

3. INSTALLATION OF STRAND TIE STRAPS

- 3.01 Use 14-inch strand tie straps at the locations indicated in Part 1.
- 3.02 For lashed cable, it is necessary to protect the sheath from abrasion by the tie strap as follows:
- (a) Separate the strand and cable at the attachment point with soft wooden wedges and install a cable guard under the lashing wire. Place a lashed cable support around the guard under the tie strap location. Make one wrap of the support around the guard under the lashing wire and two wraps including the wire. Remove the wedges after the strand tie strap is installed.

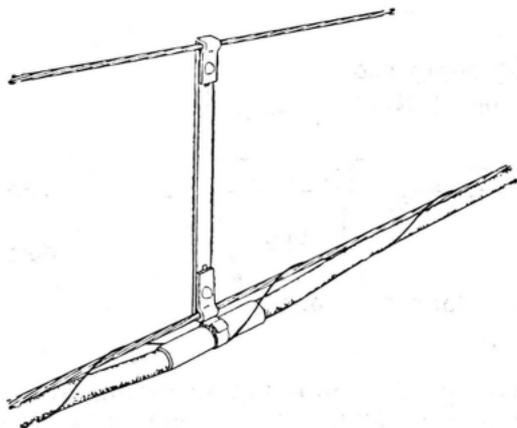


- (b) If necessary, the lashing wire may be cut and terminated on cable lashing clamps and spacers and lashed cable supports used as shown in the following illustration.



- 3.03 Install the strand tie strap as follows:
- (1) Remove nut, lock washer and carriage bolt.
 - (2) Place clamping detail under strand and position strand in the groove.
 - (3) Place the strap. The tongue on the clamping detail should be inserted in the second hole from the end of the strap.

- (4) Place carriage bolt, lock washer and nut. The head of the bolt should be on the underside of the strap. Turn nut down finger tight.
- (5) Attach clamping detail and strap to other strand.
- (6) Position the strap properly and tighten both nuts securely.



3.04 For ease of installation, it is advisable to attach the strand tie strap to the cable suspension strand first and then to the auxiliary strand. When the strand separations are large it may be necessary to loop a handline around the strands so that they may be pulled together and held while the strap is being installed.

4. RIDING STRAND CONTAINING STRAND TIE STRAPS

4.01 The cable car will not pass a strand tie strap. When it is necessary to ride a cable suspension strand on which these straps are installed, proceed as follows:

- (1) When the car reaches the strap, remove the clamping detail from the strand being ridden.
- (2) Raise the free end of the strap sufficiently to allow the car to pass.
- (3) Reinstall the strap.

4.02 It will usually be found advisable to loop a handline around the strands behind the car prior to releasing the tie strap and hold the strands until the car passes the strap and it is again connected.