

## OPTICAL & METALLIC LASHED AERIAL CABLE ARRANGEMENT OF SUPPORTS

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#### 1. GENERAL

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- **1.01** This section covers the arrangement of permanent supports on lashed aerial cable.
- 1.02 This section is reissued to:
- Add information on the support arrangements for optical cable.
- Add Fig. 1A support arrangement for optical cable at in-line pole.
- Add Fig. 8A support arrangement for optical cable when overlashed to an existing metallic conductor cable.
- Add Fig. 17A Loop-Back Arrangement for optical cable splice in the span (more than 10 feet from pole).
- Add Fig. 19A Loop-Back support arrangement for optical cable splice at dead end pole.
- Add Fig. 26A support arrangement for optical cable lashed to existing metallic conductor cable were 49 type terminal is present.
- Add Fig. 29A support arrangement for optical cable lashed to existing metallic conductor cable where 105 type terminal is present.
- Add recommendation for the use of optical cable warning tag and mechanical protection at pole locations.
- Add support arrangement where optical cable manufacturer requires slack at the pole.

Since this is a general revision, arrows ordinarily used to emphasize changes have been omitted.

- 1.03 If no splice is present and it is possible to lash past the pole, supports and spacers may be omitted on metallic conductor cables weighing 2.3 pounds per foot or less. Lashing past the pole is not recommended for optical cables.
  - **1.04** Metallic Conductor Cable should not be lashed to an existing optical cable.
  - 1.05 At sheath opening locations:
  - (1) Temporarily terminate the lashing wire.
  - (2) Support the unlashed portion of cable with temporary ties of houseline, lashing wire, or other suitable material.
  - (3) After work operations have been completed, install lashed cable supports in accordance with this section.
  - 1.06 When it is necessary to cut a lashing wire, secure the wire to the strand with a lashing wire grip before cutting. For proper termination of lashing wire, refer to Sect. 627-330-202.
  - 1.07 When the cable is to be supported permanently, lashed cable supports and spacers should be used. If greater clearance is required, use B lashed cable supports with wire hangers as covered in 627-340-101.
  - 1.08 For arrangement of supports for metallic conductor self-supporting cable, see Practice 627-700-020.

### 2. ARRANGEMENT OF SUPPORTS

2.01 The arrangements described in this section are designed to hold the cable in a smooth curve and to keep it away from contact with hardware and abrasion points.

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Note: When conditions not covered by this section occur, support the cable in a smooth curve free from contact with hardware and abrasion points.

**2.02** The illustrations listed in Table A show the plastic type cable support unless otherwise noted; however, metal lashed cable supports may be installed, if desired. (See 627-340-101.)

Note: The plastic type lashed cable support should not be used on sleeves greater than 2-1/2 inches in diameter or on cables heavier than 8 pounds per foot.

2.03 When optical cable is lashed to an existing metallic conductor cable and strand or to individual strand, it is recommended that mechanical protection be placed in the T-Zone to protect the optical cable from damage.

**2.04** When supporting optical cable at splice points < where slack exists and a loop-back is involved, and the manufacturer has not specified a specific radius the minimum No Load bending radius at the loop-back is 10 times the diameter of the cable. Example: 1/2 inch dia. cable,  $10 \times .50 = 5$  inch minimum radius.

2.05 The use of a warning tag is recommended for optical cable at pole locations to prevent accidental mishandling during routine work operations.

**2.06** When optical cable manufacturers require a slack loop at pole locations and the manufac-

turer does not specify a minimum radius, a minimum 9 inch bending radius should be used. A smooth sweeping transition should be made to the support strand at all bends that will not exceed minimum no load bending radius.

**2.07** Figures 1A and 8A can be used as a guide for making slack loops at locations not shown in this practice.

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## TABLE A

### ILLUSTRATION REFERENCE

	FIG.	
APPLICATION	NO.	ILLUSTRATION
	1	Arrangement of Supports at In-Line Pole or Corner Pole With Pull Not More Than 10 Feet on 6M or 6.6M strand and Not More Than 5 Feet on 10M, 16M, and 25M Strand.
	1A	Optical cable lashed to strand
IN-LINE POLES AND CORNER POLES	2	Arrangement of Supports at Corner Poles With Pulls Greater Than 10 Feet on 6M or 6.6M Strand and Greater Than 5 Feet on 10M, 16M, and 25M Strand
	3	Corner Pole Dead Ended Both Ways With B Strand Grip
	4	Corner Pole Dead Ended Both Ways With Strandvises
	5	Pole Strand Connector -6M, 6.6M, and 10M Strand (Separation Less Than 1 Inch)
POLE STRAND CONNECTOR	6	Pole Strand Connector - 6M, 6.6M, and 10M Strand (Separation Greater Than 1 Inch)
TWO CABLES LASHED TO A SINGLE SUSPENSION STRAND	7	Two Metallic Conductor Cables Lashed With Single Lashing Wire
	8	New Metallic Conductor Cable Lashed to Exist- ing Strand and Cable
	8A	Optical cable lashed to existing metallic conduc- tor cable

> NOTE: Support arrangements in TABLE A for Metallic Conductor Cables also apply to optical cable unless noted otherwise. (See Par. 2.03 on mechanical protection and 2.06 for bending radius) where a slack loop is required FIG. 1A & 8A can be used as a guide.

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	FIG.	
APPLICATION	NO.	ILLUSTRATION
	9	Arrangement of Supports at B False Dead End
	10	Arrangement of Supports at False Dead End Strandvise
FALSE DEAD ENDS	11	False Dead End Using Guy Clamps (6M, 6.6M, 10M and 16M Strand)
	12	False Dead End Using Guy Clamps (25M Strand)
	13	False Dead End Using Guy Clamps and Pole Strand Connector (25M Strand)
DEAD-END POLE	14	Arrangement of Supports at Dead-End Pole
	15	Dead-End Pole Using Guy Clamps (6M, 6.6M, and 10M Strand)
	16	Arrangement of Supports at Splice in Midspan
SPLICE CASES AND LEAD SLEEVES	17	Splice in Span (Less Than 10 Feet From Pole or Crossover)
	17A	Loop-Back Optical Splice in Span
	18	Splice at Dead-End Pole (B Strand Grip)
	19	Splice at Dead-End Pole (Strandvise)
	19A	Loop-Back Optical Cable Splice at Dead End Pole

# Table A (Contd)

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# ILLUSTRATION REFERENCE

	FIG.	
APPLICATION	NO.	ILLUSTRATION
SPLICE CASES	20	Arrangement of Supports at a Branch Splice
AND LEAD		
SLEEVES		
	21	Arrangement of Supports at Aerial Crossover
METALLIC CON-	22	In-Line Pole
DUCTOR		
CABLE		
STRAND-MOUNTED		
TEDMINALS	l	
IERMINALS	00	D. I.E. I.D.I.
	23	Dead-End Pole
	24	In-Line Pole (Metallic Conductor)
49-TYPE	25	Dead-End Pole (Metallic Conductor)
CABLE		
TERMINALS		
	26	Two Metallic Conductor Cables Lashed to Single
		Strand
	26A	Optical cable lashed to existing metallic conduc-
	0.	
	21	In-Line Pole (Metallic Conductor Cable)
105-TYPE	28	Dead-End Pole (Metallic Conductor Cable)
TERMINALS		
	29	Two Metallic Conductor Cables Lashed to Single
		Strand
	29A	Optical cable lashed to existing metallic conduc-
141 101 4310 101		
TAL, IBL, AND ICL	30	Arrangement of Supports at IAI, IBI, or ICI
IERMINAL SUBS	-	Terminal Stub (Metallic Conductor Cable)
6-TYPE	31	bui Cable Closure (In-Line Splice Metallic Con-
CLOSURE		ductor Cable
CLOSORE	20	CD1 Cable Cleanne (In Line Splice Metallie Con
	32	ductor Cable

APPLICATION	FIG.	ILL USTRATION
	33	Branch Splice (Metallic Conductor Cable)
18-TYPE CABLE CLOSURE	34	Lateral Pole (Metallic Conductor Cable)
	35	Dead-End Pole (Metallic Conductor Cable)
	36	Pole Mounted (Metallic Conductor Cable)
COIL CASES	37	Strand Mounted (Metallic Conductor Cable)
	38	Strand Mounted (Alternate Method) (Metallic Conductor Cable)
H LOADING FIXTURE	39	Arrangement of Supports (Metallic Conductor Cable)









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NOTES

- 1. USE LASHED CABLE SUPFORTS AND CABLE SPACERS OF PROPER SIZE TO OBTAIN MINIMUM SEPARATION BETWEEN CABLE AND HARDWARE. (SEE PARA. 2.06)
  - TEMPORARILY HOLD CABLE ABOUT 1 IN. AWAY FROM POLE UNTIL SPAN ON
    - EACH SIDE IS LASHED AND SUPPORTS HAVE BEEN PLACED.





### Fig. 5 - Pole Strand Connector - 6M, 6.6M, and 10M Strand (Separation Less Than 1 Inch)

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Fig. 6 - Pole Strand Connector - 6M, 6.6M, and 10M Strand (Separation Greater Than 1 Inch)



Fig. 7 - Two Metallic Conductor Cables Lashed With a Single Lashing Wire

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Fig. 8A - Optical Cable Lashed to Existing Metallic Conductor Cable

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# Fig. 10 - Arrangement of Supports at False Dead-End Strandvise

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Fig. 12 - False Dead End Using Guy Clamps (25M Strand)

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### Fig. 14 - Arrangement of Supports at Dead-End Pole

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#### NOTES:

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1. AT POINTS A, USE LASHED CABLE SUPPORTS AND 1/4 IN. CABLE SPACERS ON LEAD SLEEVES.

2. AT POINTS B, USE LASHED CABLE SUPPORTS AND CABLE SPACERS OF PROPER SIZE TO POSITION CABLE PARALLEL TO STRAND BETWEEN SUPPORT AND SPLICE.







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Fig. 17A Optical Cable Loop-Back Splice in Span

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Fig. 19A Optical Cable Loop-Back Splice at Deadend Pole

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NOTES:

- 1. USE LASHED CABLE SUPPORTS AND 1/4 INCH CABLE SPACERS ON LEAD SLEEVES.
- 2. USE APPROPRIATE SIZE CABLE SPACERS TO KEEP CABLES PARALLEL TO STRAND
- AND AT THE SAME LEVEL OR SLIGHTLY LOWER THAN CLOSURE ENTRANCE. 3. MAXIMUM SPAN OF 20 IN. BETWEEN SUPPORTS.
- 4. APPROXIMATELY 48 INCHES TO SHEATH OPENING.
- 5. LOCATE 1 INCH FROM START OF BEND BUT
- NOT LESS THAN 10 IN. FROM THRU BOLT.





## Fig. 21 - Arrangement of Supports at Aerial Crossover

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Fig. 22 - Metallic Conductor Cable Strand Mounted N-Type Cable Terminal (In-Line Pole)



Fig. 23 - Metallic Conductor Cable Strand Mounted N-Type Cable Terminal (Dead-End Pole)

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Fig. 24 - Metallic Conductor Cable 49-Type Cable Terminal - In-Line Pole

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Fig. 25 - Metallic Conductor Cable 49-Type Cable Terminal - Dead-End Pole

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Fig. 26 - 49-Type Cable Terminal - Two Metallic Conductor Cables Lashed to a Single Strand





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Fig. 27 - Metallic Conductor Cable 105-Type Cable Terminal - In-Line Pole

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Fig. 28 - Metallic Conductor Cable 105-Type Cable Terminal - Dead-End Pole

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Fig. 29A - 105-Type Cable Terminal-Optical Cable Lashed to Existing Metallic Conductor Cable

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Fig. 32 - Metallic Conductor Cable 6D1 Cable Closure - In-Line Splice

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Fig. 34 - Metallic Conductor Cable 18-Type Cable Closure - Lateral Pole

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Fig. 35 - Metallic Conductor Cable 18-Type Cable Closure - Dead-End Pole



Fig. 36 - Metallic Conductor Cable Pole Mounted Load Coil Case

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 LASHED CABLE SUPPORT AND CABLE SPACER TO HOLD STUB PARALLEL T CABLE BETWEEN SUPPORT AND SPLICE.







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NOTES:

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- 1. AT POINTS A, USE LASHED CABLE SUPPORTS AND 1/4 INCH CABLE SPACER. AT POINTS B AND C, USE LASHED CABLE SUPPORT AND CABLE SPACER OF PROPER SIZE TO POSITION CABLE PARALLEL TO STRAND BETWEEN SUPPORT AND SPLICE.
- WHERE SEPARATION BETWEEN STRAND AND CABLE IS MORE THAN 2-1/2 INCHES, USE B LASHED CABLE SUPPORTS EQUIPPED WITH WIRE LOOPS. 2.
- IF THIS DISTANCE IS MORE THAN 20 INCHES, USE ADDITIONAL SUPPORTS AS NECESSARY, SO THAT THE CABLE IS SUPPORTED AT LEAST EVERY 20 INCHES.
- AT POINTS D, USE LASHED CABLE SUPPORT AND CABLE SPACER OF PRUPER SIZE TO HOLD STUB PARALLEL TO CABLE BETWEEN SUPPORT AND SPLICE. AT POINTS E, USE LASHED CABLE SUPPORT AND CABLE SPACER ON STRAIGHT PORTION OF STUB I INCH FROM START OF BEND. 4.
- 5.



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