

# Hinged Spring and Rigid Vertical Hangers

## for 3-1/8" Rigid Transmission Line

Types RLA300-11A and RLA300-13A

### Notice

The installation, maintenance, or removal of antenna systems requires qualified, experienced personnel. ERI installation instructions are written for such personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. ERI disclaims any liability or responsibility for the results of improper installation practices.

### Description

Type RLA300-13A rigid vertical hanger is designed for anchoring 3-1/8 inch rigid coaxial transmission line. One hanger will support up to 300 ft (90 m) of transmission line. One additional hanger should be used on the top section of the vertical run for every additional 300 ft (90 m) of line or portion thereof.

Type RLA300-11A hinged spring vertical hanger is used to support the weight, provide lateral restraint, and accommodate the differential expansion of the rigid transmission line.

### Rigid Hanger Installation

With 3/4 inch socket, attach rigid hanger to tower and tighten to specified torque. Hanger should have 2 inch minimum clearance from any transmission line flange. Use additional rigid hanger on top most section of vertical run for every additional 300 ft (91 m) of line or portion thereof. If another rigid hanger is required, secure 5 ± 3 feet below top rigid hanger.

**Note:** If no holes are available, contact the tower manufacturer for applicable safety regulations regarding the drilling of any holes in tower sections.

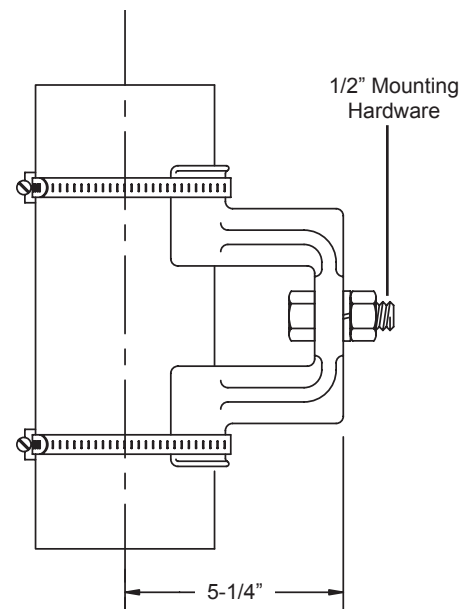
Transmission line installation may begin at either end of the proposed vertical run. Installations originating at the top (antenna end) of the vertical run will require at least one rigid hanger at the top (depending on the length) and will require proper positioning of the bottom elbow to allow for both expansion and contraction of the rigid line over the anticipated operational temperature range.

Installations originating at the bottom (transmitter end) of the vertical run must utilize one or more rigid hangers for support.

**Note:** Rigid hangers used at the bottom portion of the vertical run for increased support during installation must be removed immediately after installation of top rigid hanger(s) to prevent serious damage to antenna and/or transmission line.

### Hardware Torque Specifications

Hardware Size	Socket Size (not included)	Torque Value
1/8"	5/16"	50 in-lb (6 N-m)
3/8"	9/16"	21 ft-lb (28 N-m)
1/2"	3/4"	46 ft-lb (62 N-m)
5/8"	15/16"	76 ft-lb (103 N-m)

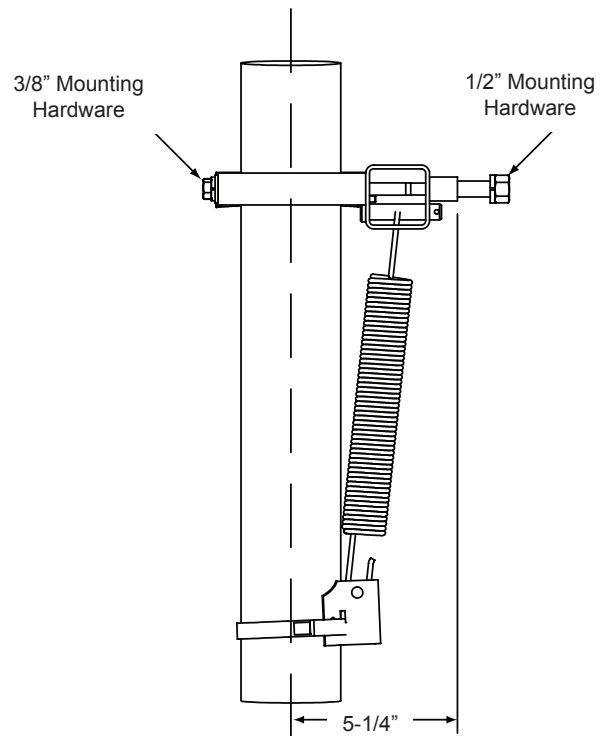


RLA300-13A Rigid Hanger

## Spring Hanger Installation to Tower

First install rigid hanger(s) followed by spring hangers. Mount spring hangers directly to tower member provided, at 10 ft (3 m) intervals as follows:

1. With 3/4" socket, attach each hanger to tower using outer 1/2" nuts and tighten to specified torque.
2. With 9/16" socket, loosen both 3/8" captive bolts enough to free the clamp halves and link on the top of each spring hanger.
3. Rotate the link and clamp halves outwardly on each spring hanger so that they all swing downward. The spring hangers are now ready to receive the rigid transmission line.
4. **Insert rigid line section**, Swing the clamp halves and link closed to retain the transmission line, and tighten clamp half 3/8" bolts to specified torque using 9/16" socket.
5. Repeat step 4 for all spring hangers.
6. After all spring hangers have been properly installed to the tower and have the top clamps halves secured, set springs in accordance with the Spring Settings table to below and tighten the bottom clamps using 5/16" socket to specified torque. The table gives the distance "D" for the spring setting based on both the total line length from the rigid hanger at the top of the transmission line and on the air temperature, when the springs are set. To ensure uniform settings, a setting guide may be made from a suitable material cut to the lengths specified in the table.



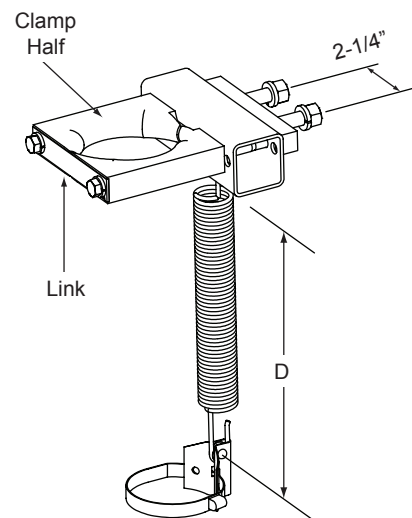
RLA300-11A Spring Hanger

The Spring Setting Distance, dimension "D", is measured from the top of the lower clamp body to the underside of the upper channel for each spring hanger. Required setting accuracy is  $\pm 1/16"$  ( $\pm 2\text{mm}$ ). Set spring hangers must have 1 foot minimum clearance above and below any transmission line flange.

**Note:** To avoid large variations in tension, all spring hangers should be set within a few hours of each other.

### Spring Settings - "D", in (mm)

Total Line Length, ft (m)	Ambient Temperature				
	10 °F	30 °F	50 °F	70 °F	90 °F
200 (61)	15-3/4 (400)	15-13/16 (401)	15-7/8 (403)	15-15/16 (404)	16 (406)
400 (122)	15-5/8 (397)	15-3/4 (400)	15-7/8 (403)	16 (406)	16-1/8 (409)
600 (183)	15-1/2 (394)	15-11/16 (398)	15-7/8 (403)	16-1/16 (407)	16-1/4 (412)
800 (244)	15-3/8 (390)	15-5/8 (397)	15-7/8 (403)	16-1/8 (409)	16-3/8 (415)
1000 (305)	15-1/4 (387)	15-9/16 (395)	15-7/8 (403)	16-3/16 (411)	16-7/16 (418)
1200 (366)	15-1/8 (384)	15-1/2 (394)	15-7/8 (403)	16-1/4 (412)	16-9/16 (421)
1400 (427)	15 (381)	15-7/16 (392)	15-7/8 (403)	16-5/16 (414)	16-11/16 (424)
1600 (488)	14-7/8 (378)	15-3/8 (390)	15-7/8 (403)	16-3/8 (415)	16-13/16 (427)
1800 (549)	14-3/4 (375)	15-5/16 (389)	15-7/8 (403)	16-3/8 (417)	16-15/16 (431)
2000 (610)	14-5/8 (372)	15-1/4 (387)	15-7/8 (403)	16-7/16 (418)	17-1/16 (434)



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