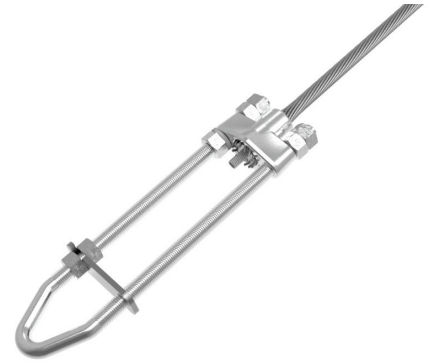




VARI-GRIP® GEN2 DEAD-END

INSTALLATION INSTRUCTIONS



IMPORTANT SAFETY INFORMATION

READ AND COMPLETELY UNDERSTAND ALL INSTRUCTIONS BEFORE INSTALLING PRODUCT. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.

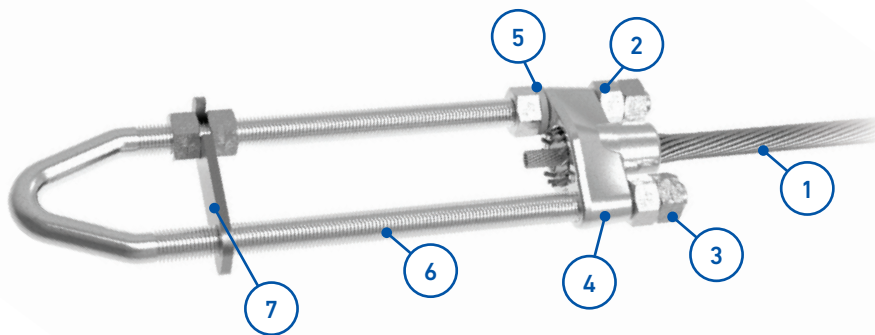
This product is intended for use by trained technicians only. This product should not be used by anyone who is not familiar with and not trained to use it. When working in the area of energized lines, extra care should be taken to prevent accidental electrical contact. Be sure to wear proper safety equipment per your company protocol. These instructions are not intended to supersede any company construction or safety standards. These instructions are offered only to illustrate safe installation for the individual. PLP products are intended for the specified application only. Do not modify this product under any circumstances. Do not reuse or reinstall any PLP product unless that capability is expressly indicated in the product's Installation Instructions. For proper performance and personal safety, be sure to select the proper PLP product before installation. PLP products are precision devices. To ensure proper performance, they should be stored in cartons under cover and handled carefully.



WARNING

PLP Products are not designed or tested for uses other than those set forth herein. This includes, but is not limited to, rope/challenge courses, aerial adventures, canopy tours, and zip line applications. If PLP Products are used in such applications, they may be subjected to forces and stresses for which they are not designed, and which could result in **SERIOUS INJURY OR DEATH**.

PACKAGE COMPONENTS



1. Retaining Rods
2. Hex Nuts
3. Anti-Tamper Nut
4. Housing
5. Spring Lock Washer
6. U-Bolt

7. Space Bar (supplied with all models using 1-1/8" and smaller U-Bolts)
8. Conformal Casting (not pictured [supplied with all models using 1-1/2" and 1-3/4" U-Bolts])
9. Anchor or Fitting (not pictured)

INSTALLATION GUIDELINES

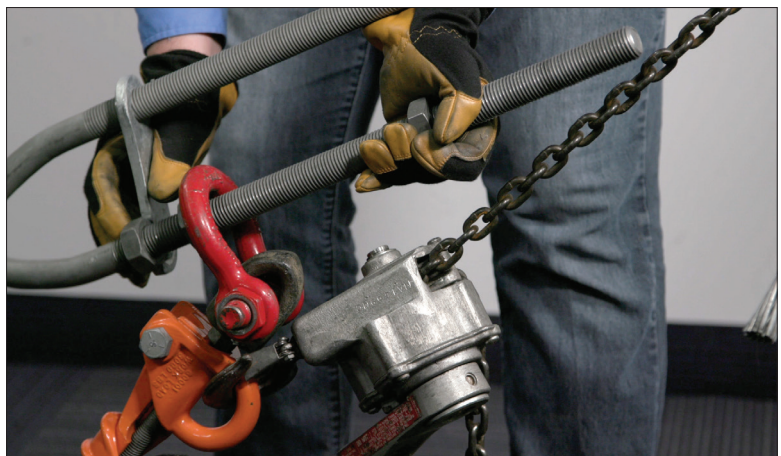
CAUTION

Failure to follow the precautions, notes, and steps contained within these Installation Instructions represents a misapplication of the product.

- This procedure is an aid to installation and does not imply any line design recommendations.
- VARI-GRIP™ Dead-Ends should be used only on the size and type of strand for which they are designed. Lay direction of both the VARI-GRIP Dead-End retaining rods and the guy strand should be the same.
- When installing VARI-GRIP Dead-Ends to a pin-type fitting, refer to **Table 1 Acceptable Pin Diameters** for recommended diameters of the pin. Refer to **Table 2 Dimensional Data** for hex nut dimensions when using sockets or wrenches to tighten nuts. Table 2 also provides housing dimensions to be considered in placement of multiple guying.
- VARI-GRIP™ Dead-Ends should be applied on smoothly-contoured hardware. Minimum pin diameters is listed in **Table 1**; however, the hardware manufacturer should be consulted for other dimensions and hardware strength. PLP offers suitable attachment hardware for all guy sizes. Reach out to PLP for more information.
- Guy Tensions can be approximated by measuring the nut torque of the U-Bolt. If desired, consult PLP for the torque/ guy tension relationship.
- Care should be taken to avoid gouging or damaging the corrosion-preventative coating on the VARI-GRIP Dead-End components and on aluminum coated or galvanized steel strand.
- VARI-GRIP Dead-Ends are precision devices and should be installed as illustrated herein to prevent distortion and damage.
- VARI-GRIP Dead-Ends should only be used for the purpose for which they were designed and should not be used as tools, come-alongs, pulling-in grips, etc.
- The U-Bolt, housing, washers, nuts, wedges, and spacer bar (where applicable) may be reused provided no damages have been sustained. The retaining rods may be removed and reapplied twice, provided they are not distorted or damaged, within 90 days after initial tensioning. New rods must be used after 90 days.
- PLP recommended guy tension should be maintained at approximately 10% of the Rated Breaking Strength of the strand.
- VARI-GRIP Dead-Ends are **NOT ACCEPTABLE** for use on Wire Rope applications.
- If in doubt about fittings or application, contact your factory representative for an engineering recommendation.

1 Pretension guy strand with hoist attached high enough to permit installation of retaining rods.

2 Insert U-Bolt through the anchor of suitable fitting. Installation of adjustable sizes may require removal and replacement of the spacer bar and associated hex nuts.



- 3 Place housing on the U-Bolt at the desired location, with the larger opening of the tapered bore facing the fitting. Mark strand at lower end of the housing and cut strand at least 2" (50 mm) beyond the mark.

NOTE: Move the housing on the strand and temporarily fasten it far enough away to permit installation of the retaining rods.



- 4 Attach both wedges on strand with a single wrap of tape near the mark and at least 2" (50 mm) from the end of the strand. The larger end of the wedges should face the anchor.



- 5 Install the retaining rods by placing the straight, color-coded rod ends in the notches of the wedges with at least 1/8" (3 mm) extending beyond the wedge. Wrap the subset on the strand completely and repeat with the other subsets. All rods should be placed into a groove on the wedge. A screwdriver can be used to equalize the gap between the wedge halves.



- 6 Slide the housing over the wedge and rods and onto the U-Bolt until it is firmly seated over the wedge.

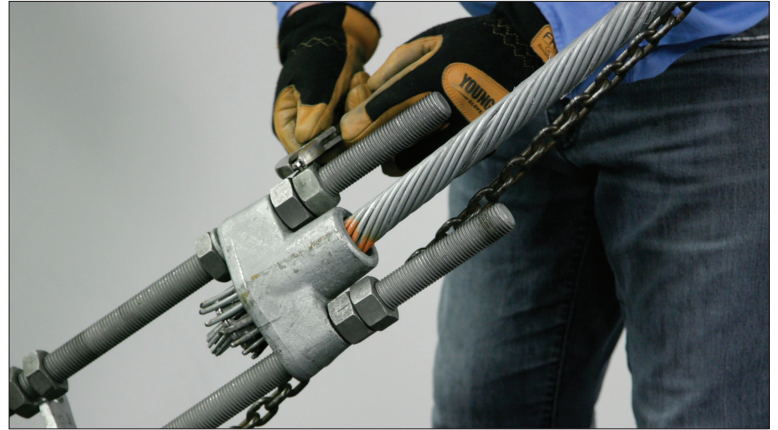


- 7 Secure the nuts and washers onto the U-Bolt. Tighten the (4) hex nuts equally so the housing is square on the U-Bolt.



8

After final tensioning, secure the anti-tamper nut by tightening the set screw with a crescent wrench.



9

Tighten the hex nut below the housing until the lock washer is flat. If retensioning is required, reverse, and repeat **Steps 7, 8, and 9**. To aid in disassembly, strike the bottom of the housing with a hammer.



10

Completed application.



SPECIFICATIONS

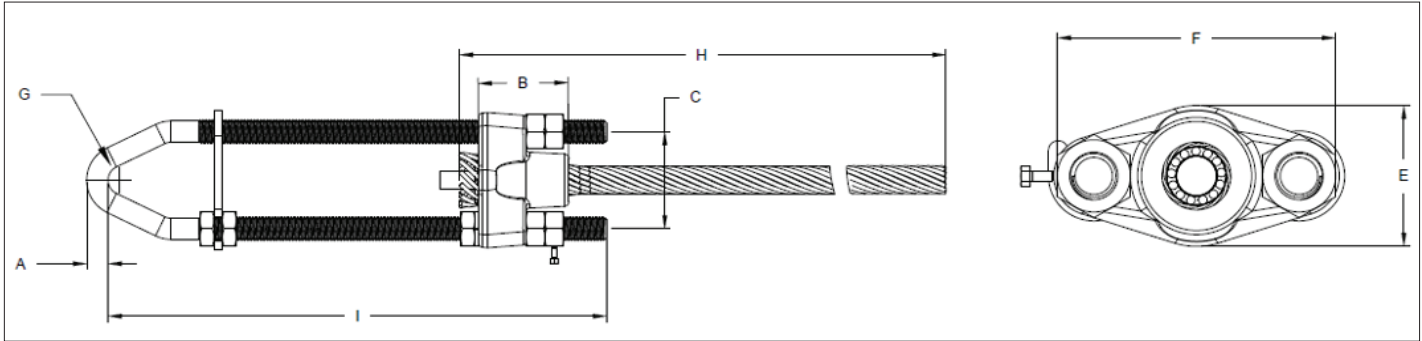


Table 1: Acceptable Pin Diameters

Strand Range	U-Bolt Thread Diameter	Minimum Pin Diameter	Maximum Pin Diameter
0.744" – 0.888"	1"	1"	1-1/4"
1.0" – 1.125"	1-1/8"	1-1/8"	1-1/2"

Table 2: Dimensional Data

Strand Range	A	B	C	D	E	F	G	H	I (0")	I (18")
3/4", 7/8"	1"	4-1/8"	4-1/2"	1-5/8"	3-1/8"	6-1/4"	11/16"	Refer to the VARI-GRIP™ Dead-End section of the PLP catalog to determine rod lengths for specific designs.	11-1/32"	23-7/8"
1", 1-1/8"	1-1/8"	4-1/3"	5-1/2"	1-31/32"	3-3/4"	7-5/8"	7/8"		13-3/8"	27-15/16"



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