

PEI Evaluation Service® is an accredited ISO Standard 17065 Product Certifier, accredited by the IAS. This **Product Evaluation Report** represents a product that **PEI ES** has Evaluated. This product has a Product Evaluation Service Agreement & Follow-up Inspection Service Agreement. This **Product Evaluation Report** in no way implies warranty for this product or relieves **Titan Products, Inc.** of their liabilities for this product. This **PER** is an official document if it is within one year of the Initial or Re-Approved date.

Initial Approval
April, 2020

Re-Approved

See all **PEI ES** reports at: www.p-e-i.com

Report Owner

Titan Products, Inc.
2111 Boat Factory Road
Pleasant View, TN 37146

Approved Manufacturing Location

Titan Products, Inc.
2111 Boat Factory Road
Pleasant View, TN 37146

Product

Titan Adjustable Crawl Jack

Evaluation Report Information

www.titanproductsinc.com

Titan contact: Matthew Chance - (615) 746-6876

General Details

The following described support columns are evaluated for vertical compression load only. The support columns are intended for interior use in wood frame or light steel frame construction. These columns have a rust-inhibitive coating.

Product Description

The **Titan Adjustable Crawl Jack** columns are a steel tube column with a loose bottom plate at one end and an adjustable screw assembly at the other end. The Crawl Jack columns are constructed of a Steel Tube, Base Plate, Intermediate Plate, Threaded Rod and Top Plate. The Crawl Jack columns have a maximum 3-1/2" adjustability using the threaded rod.

Component Description

Steel Tube - 3-1/2" outside diameter by .165" thick made from ASTM A500 Steel, Grade 1010HR, $F_y \geq 50\text{ksi}$, $F_u \geq 55\text{ksi}$. The exterior has a galvanized coating.

Base Plate - The base plate is an assembly made from 7-3/4" x 7-3/4" x 1/4" or 5/8" thick steel made from ASTM A36 steel and a 1" long piece of 3" outside diameter tube welded to the plate. The thickness of the plate is determined by the required load and foundation. The base Plate has a powder coat finish.

Threaded Rod Assembly- The threaded rod is 1-1/4"-7 x 7" long. The threaded rod is made from ASTM A193, Grade B7 Steel. A 1-1/4"-7 Heavy Hex Nut made from ASTM A194, Grade 2H steel is welded to the Threaded rod.

Top Plate - The top plate is an assembly made from a 7" x 4-1/2" x 1/2" thick steel plate made from ASTM A36 steel and a 1" long piece of 1-3/4" outside diameter tube welded to the center of the plate. The Top Plate has a powder coat finish.

Intermediate Plate Assembly - The intermediate plate is an assembly made from a 3" outside diameter tube welded to a 1/2" thick plate made from ASTM A36 steel that has a 3-7/8" outside diameter with a 1-1/4" diameter hole cut in the center of the plate. A 1-1/4"-7 Heavy Hex Nut, ASTM A194, Grade 2H is welded to the top of the plate. The Plate Assembly is welded to the Steel Tube. The Intermediate Plate Assembly has a powder coat finish.

Code Compliance

Adjustable Crawl Jack Support Columns	
2012 International Residential Code Section R407.2 and R407.3	2012 International Building Code Section 104.11 and 2205.1
2015 International Residential Code Section R407.2 and R407.3	2015 International Building Code Section 104.11, 2205.1 and 2205.2
2018 International Residential Code Section R407.2 and R407.3	2018 International Building Code Section 104.11, 2205.1 and 2205.2

Compliance with the following Standards

- AISC-360-10** - Specification for Structural Steel Buildings-Allowable Stress Design
- AISC-360-16** - Specification for Structural Steel Buildings-Allowable Stress Design
- ICC-ES AC335** - Acceptance Criteria for Adjustable Steel Columns

General Product Use

1. All columns shall be installed vertically plumb and bear on a footing capable of carrying the imposed load. The Base Plate and Top Plate shall be restrained to prevent lateral movement except where exempt by the Building Code.
2. These columns are intended for vertical compression load only. They have not been evaluated for any other load direction or type.
3. For applications where the construction is to be permanent, the threads of the lifting rod shall be damaged with a cold chisel after adjustment to the desired length. One screw thread immediately above the Hex Nut shall be damaged for at least half its depth and for a length of 1-1/2" to prevent loosening of the threaded rod.
4. The **Crawl Jack** nominal length is the column at its shortest adjustment and must not be adjusted to a longer length by more than 3-1/2".
5. The bearing capacity of the top and bottom plates and their attachment to load carrying members are outside of the scope of this evaluation report.
6. If concrete is poured around the Crawl Jack, a corrosive resistant coating must be applied to the parts of the Crawl Jack that will be in contact with the concrete.

Items Requiring Verification

The following items are related to the use of **Crawl Jack** columns, but not within the scope of this evaluation specification. However these items are related to the determination of code compliance.

1. Design, calculations, and details for the building system verifying compliance with this report.
2. Connections of the columns to the footing and supported structure.
3. Footing design and calculations for supporting the columns and the imposed load.
4. The bearing capacity of the beam/member supported.

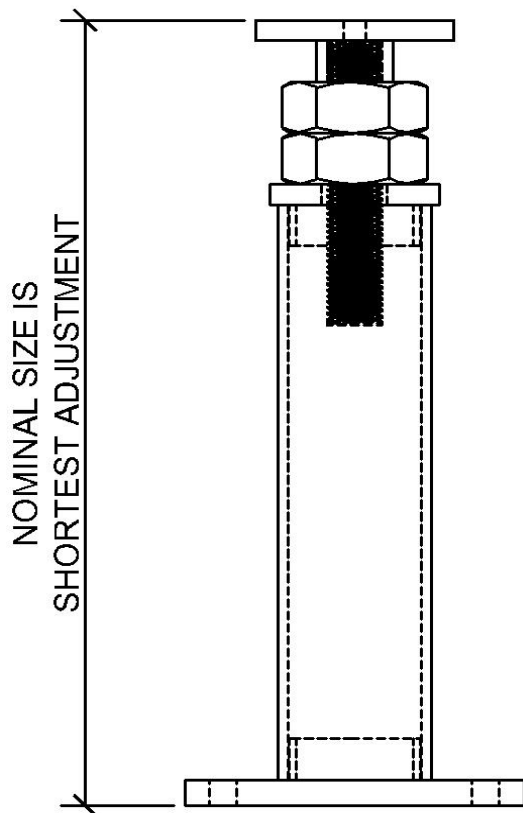


Figure 1 - Titan Crawl Jack Assembly

Table 1

Load Ratings for **Titan Crawl Jack**

Nominal Size	3-1/2" O.D. Tube	
	Allowable Load for ASD (lbs.)	Design Strength for LRFD (lbs.)
84"	23,640	35,460
105"	23,640	35,460
108"	23,440	35,230
111"	22,660	34,060
114"	21,890	32,910
117"	21,130	31,760
120"	20,380	30,630
123"	19,640	29,520
126"	18,910	28,420
129"	18,190	27,330
132"	17,480	26,270
135"	16,750	25,180
138"	16,070	24,150
141"	15,430	23,190
144"	14,820	22,280

Notes:

1. All steel tube to be ASTM A500 $F_y \geq 50\text{ksi}$, $F_u \geq 55\text{ksi}$
2. Nominal size is the column at its shortest adjustment
3. Designed per AISC-360-16 - ASD
4. LRFD Design Strength must be compared to factored loads

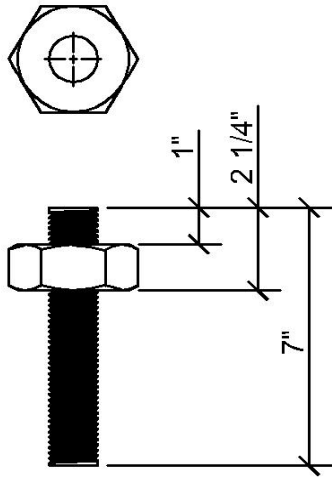


Figure 2 - Threaded Rod Assembly

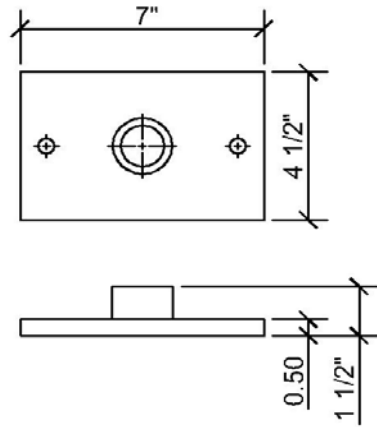


Figure 3 - Top Plate

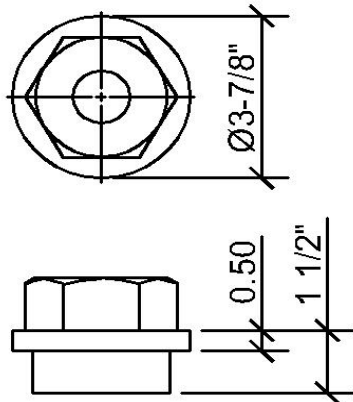


Figure 4 - Intermediate Plate assembly

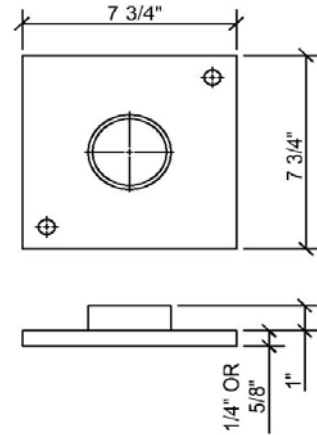


Figure 5 - Base Plate

Product Labeling

All columns manufactured by **Titan Products Inc.** that are covered by this **PER** must have a label attached with at least the following information:

1. Manufacturer Name
2. Load Capacity of Column
3. This **PER** Number & **Pei ES** Logo
4. A 3-1/2" Maximum Column adjustment note

Acceptable Evaluation Marks



Product Documentation

A Product Evaluation Service Agreement between **Pei Evaluation Service®** and **Titan Products Inc.**

An Follow-up Inspection Service Agreement between **Progressive Engineering Inc.** and **Titan Products Inc.**

A **Titan products Inc.** - Titan Adjustable Crawl Jack Quality Control Manual - Dated: **12/1/2019**

A **Titan Products Inc.** - Crawl Jack Components Drawings - **Dated: 12/1/2019**

Pei Calculations No. 2019-6069 - Adjustable Crawl Jack Calculations - Dated: 7/12/2019 - stamped by a Professional Engineer

Pei Test Report 2019-6069 - Dated: 6/7/2019 - stamped by a Professional Engineer