Power Climber® INNOVATING SINCE 1972

Topic of Interest

Bolts

One of the most basic items that we use in this industry is often the most overlooked. The screws, bolts and nuts that we use, connect our hoists to the stirrups, put our hoists together, and are used in our platforms and our rigging devices.

A "fastener" is the general term for all nuts, bolts, screws and washers. Fasteners are also called hardware.

They go into everything that we use. Beyond size and color most would be hard pressed to give you any other information about a bolt. Some might tell you that it is grade 5. Some might think that as long the bolt or screw fits that it ought to be just fine. This is not true and not knowing could be disastrous. Power Climber like other manufacturers takes great care in making decisions about what fasteners to use when and where.

Many things such as type, length, grade, diameter and plating identify fasteners. These characteristics were all evaluated before the decision to use any individual fastener. When parts are changed on any product it is important to make sure that you are replacing these items with the same part. Substitutions should not be made.

If you are servicing a Power Climber hoist it is very easy to make sure that you are using the correct fasteners. Consult your service manual for the particular hoist that you are working on for fastener descriptions.

Fastener Replacements

In the course of servicing equipment many decisions must be made. When is a part worn out? Can this screw be used again? Should this part be lubricated or not? What lubricants should you use? Much of this information is covered in the Power Climber Service School training course that is offered to Power Climber customers.

When it comes to the replacement of fasteners, some shops tend to differ. Although many fasteners can be reused, some shops elect to change the smaller fasteners at each service interval. This is typically done to insure against unseen fatigue that might be present in a particular fastener. Since most small fasteners are inexpensive this may be good insurance.

Some shops may elect to reuse certain fasteners and not others as routine. Some shops would only replace fasteners when they are no longer in good condition.

Whichever approach you or your shop uses when it comes to fastener replacement, it is important to know what any fastener should look like in good condition.

Screws, bolts and nuts should have threads in good condition. The thread of any of these items contributes to the holding strength.

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Fastener Inspection

Corrosion of any fastener is a reason for replacement. Generally there is no advantage gained by trying to clean one of these items. Although it may be possible on some items to remove rust or other types of corrosion, it is rarely cost effective. Replacement is a cost-effective strategy for hardware when the cost for new is minimal.

Threads that have been damaged need to be replaced. Threads that are damaged could show signs of:

- Corrosion
- Galling
- Cross-threading
- Missing
- Rolled
- Cut
- Stripped

When the threads of a fastener are damaged it is also important to check the part(s) that it was threaded into for damage. If a bolt has been threaded into an aluminum part incorrectly it may take some aluminum with it when removed. When this occurs the aluminum part is likely damaged beyond repair and should be replaced.

Corrosion on fasteners is probably the most often cited reason for replacement. Corrosion could affect these parts in several ways. Over time corrosion can reduce the strength of these items if left unchecked. Corroded fasteners are harder to extract when threaded into other parts. Sometimes this can lead to damage when extra effort is required. This could lead to the replacement of other parts that would normally not have to be replaced.

The improper use or installation of fasteners is a leading reason for the replacement of other parts. When installing any fastener it is important to start these by hand. The use of power/air tools such, as drills should be discouraged. Improper use of power tools could easily cross thread or over-torque a fastener. Over-torque can strip out the internal threads of an aluminum part.

General rules for Fasteners

1. Fasteners without a lockwasher or locknut should use loctite compound to secure against vibration.
2. Fasteners with a lockwasher or locknut should use antiseize compound to combat corrosion.
3. Plated Fasteners resist corrosion better than non-plated fasteners.
4. Cleaning a corroded and plated fastener typically also removes any residual plating. This will subject it to fastener corrosion later.

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Did You Know?

- Some fasteners on a Power Climber hoist are installed with a torque wrench.
- Some bolts are not required to be tight. An example of this type would be a bolt that uses a “castle nut”.
- A special stirrup bar adapter has been created to accept Tirak® hoists into the Power Climber walk-thru stirrups. (P/N 8-0278)

Tips and Tricks

- By hitting the head of a corroded fastener first, that is difficult to remove, with a hammer and flat punch, the removal process is easier.
- Buy your salesperson a multi-meter and teach them how to use it. Using a multi-meter as a part of every job walk is cheap insurance against future service calls.
- To see if an electro-magnetic brake is producing a magnetic field, touch a screwdriver to the outside of the brake coil when you operate the UP/DOWN controls. You will feel the screwdriver become attracted to the coil.

For questions or comments, contact Customer Service at 1-800-560-CLIMB (2546) or customerservice@safeworks.com.

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