Solutions in motion

Single stage - **Holeless Threaded**
Installation guide
Product presentation
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Technical drawing - Head

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Single Stage Holeless Jack - Threaded
Technical drawing - Bottom

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Product characteristics

Capacity & standard dimensions

Capacity
Up to 100,000 lbs

Piston
From 3 1/2" to 19 3/4 " (diameter)

Casing
From 6 1/2" to 24" (diameter)

Note. Non-standard sizes are available upon request.

Fabrication
Conception and fabrication of the products are in accordance with the CSA B44-13 and ASTM A17.1-2013 standards.
Our welding procedures are certified according to the CSA W47.1 standard by the Canadian Welding Bureau (CWB).

Scope
- Dumb-waiter lift
- Lift for disabled people
- Any other utilisation to suit your needs

Further information
Our cylinders are perfectly adapted to any type of elevator (passenger or merchandise).

This cylinder is proudly made in Quebec (Canada) or South Carolina (United States). It can be delivered to the destination of your choice, anywhere in the world.
"1 piece" jack installation

Hardware

For the cylinder installation
- 1x Bleeder (1/8" NPT)
- 1x Straight coupling (for oil return) (1/8" NPT)
- 1x 90° coupling (for oil return)
- 1x Clear tubing ø3/8", 8' longer than the closed length
- 1x Roll of Teflon tape
- 1x Attachment bolt piston

How to remove the protecting rings
To keep the pistons, which have a travel that exceeds 20 feet, centered in the casing, the manufacturer install protection rings (rubber or bronze). Rubber rings must be removed whereas the bronze rings are left in the cylinder. It should be clearly specified on the instructions envelope AND on the cylinder itself if the rings must be removed or not.

1. Unscrew the jack head
2. Remove the piston head

Note *Take good care of not damaging the seal and the O'ring.*

3. Remove the piston from the casing

Note *It is best to manipulate the piston by the attachment bolt, using an appropriate size bolt.*

4. Remove the plastic protecting rings
5. Reinsert the piston inside the casing
6. Replace the head on the joint flange

Note *It is important to replace the O'ring to insure the tightness of the set.*

7. Screw the head back on the jack
“Multi-pieces” jack installation

Casing assembly

Hardware

- 1x Bleeder
- 1x Straight coupling (for oil drip)
- 1x 90° coupling (for oil drip) (1/8 NPT)
- 1x Clear tubing Ø3/8", 8' longer than the closed length
- 1x Roll of Teflon tape

Tools

- Chain hoist
- Clamp piston
- Chain wrench
- Hydraulic oil or anti-seize (ex. Loctite # C5-A)
- Sand paper (320 or 400 grit)
Procedure

“Screw” casing joints (Important needs to be WELD)

1. Install the bottom of the casing near its final location
2. Unpack the ends to install
3. Apply the anti-seize grease on the threads
4. Place the casing section to screw over the assembly

5. Make sure that the section is lined up with the bottom assembly before trying to screw the pieces together
6. Screw the piece of the casing to align the screw indicators

**Note** The maximal distance between the two screwing indicator is 1/2”

7. **Weld** the joint to assure tightness
8. Repeat steps 2 to 7 until the installation of the upper part
“No weld” casing joints

1. Install the bottom of the casing near the jack’s final location
2. Unpack the ends to install
3. Check O-rings’ conditions
4. Apply the anti-seize grease on the threads
5. Place the casing section to screw over the assembly

6. Make sure that the section is lined up with the bottom assembly before trying to screw the pieces together
7. Screw the piece of casing in place to align the screw indicators

Note  *The maximal distance between the two screwing indicator is 1/2”.*

8. Repeat steps 2 to 6 until the installation of the upper piece
“Multi-pieces” piston assembly

Hardware

- 1x Attachment bolt piston

Tools

- Chain hoist
- Clamp piston
- Strap wrench
- Hydraulic oil or anti-seize (ex. Loctite # C5-A)
- Sand paper (320 o 400 grit)

Procedure

Before proceeding to the piston assembly in “multi-sections”, it is best to place the sections in the order taking into account the direction (up/down) of the sections. To protect the sections, it is important to rest them horizontally on pieces of wood, to avoid thread damages. Ribbons of colour are applied to the ends of the piston for easy identification.

1. Unpack only the lower part of the top section (3” long)

   **Note** It is very important to keep the sponge in the tube

2. Unpack the top of the bottom corresponding section (3” long)

   **Note** It is important to check carefully if the joint is not damaged (contact surfaces, threads, outside of the tube, edges...)

3. Clean contact surfaces and the threads on the ends of 2 sections to screw
4. Check O-rings’ conditions
5. Apply anti-seize on the threads and contact surface of the two sections
6. Align the two sections
Note: The bolt on the top section can be used to handle and lift sections. If the bolt of the upper section is inconsistent with the drilling of the joint, a proper size bolt will be supplied with the bottom section’s piston joint.

7. Screw the sections until the screw marks are lined up

Note: The maximum difference between the two screw marks is 1/4”. Be careful that the weight of the top section doesn’t lie on the threads of the bottom section when screwing the parts together.

8. Use sandpaper to smooth out the joint surface

Note: To check the surface quality of the joint, just run a nail over the joint. The joint is considered to be good when you are no longer able to feel a bump at the joint location.

9. Repeat steps 1 to 8 for each of the joints to the top of the piston assembly
10. Unwrap the protective paper being careful not to damage the piston
Loctite application instructions

1) Add Anti-seize on the thread of the union joint and screw the plunger piece until there is a gap of 1” between the two plunger faces.

2) Clean Anti-seize from the faces and the union joint. These parts need to be clean and dry before applying the Loctite 620.

3) Apply the provided Loctite on piston joint, creating a 1/4” cord. Apply once above the o’ring and once on the black wear ring guide. See image below.

4) Sand the joint.

5) Let dry for 60 minutes. Cure time before piston operation is 24 hours.

6) Continue screwing the pieces until the gap between faces has been eliminated and the arrow scratch marks are aligned.

Note A Loctite bottle will last for approx. 45” worth of 1/4” cord.
Whenever two jacks are used for a single elevator, the oil inlet should divide into identical sections. Otherwise, the difference of friction (or restriction) between the sections could cause an unbalance of the loads between the cylinders. If for some reason, it is impossible to have identical paths, the use of an oil divider is to be considered. Increasing the diameter of the pipe used also helps.
Maintenance program

Monthly verification
- Verify the seals
- Verify the oil level
- Verify the oil quality
- Verify if there are leaks on the line

**Note** If the seals need to be replaced often, the surface of the piston should be carefully inspected as it can be damaged, wearing the seals prematurely.

Annual verification
- Verify the line strainer
- Verify the piston surface

Seal replacement
1. Attach the cabin as high as possible, high enough to be able to remove the head and change the joints.
2. Once the car is held securely, close the main switches.
   **Note:** take all protection you are trained to before going forward
3. Unscrew the bolt above the piston retaining the cabin.
4. Open the manual valve to relieve pressure until the cylinder fully collapses.
5. Close the ball valve on the power unit to keep the oil in the tank.
6. Disconnect the hose on the head (return to the tank).
7. Remove the head by using two chain wrenches, one on the head and one on the flange. Just turn the head counter clockwise.
8. Remove the old joint and O’ring.
9. Install the new joint and O’ring and apply oil on every surface.
10. Reinstall the head.
11. Close the manual valve.
12. Reconnect the hoses on the head.
13. Open the ball valve on the power unit and open the main switches.
14. Get the piston to lift slightly to rate a pressure inside the jack.
15. Open the bleeder until the oil drips out and then close it.
16. Attach the piston to the cabin with the bolt.
17. Test the cylinder by making it go up and down 5 times.

**Note** Insure you did not damage the O’ring when you installed the head.
A ONE-YEAR warranty is applicable on all our products, starting on shipping day, from our plant. This warranty is applicable on all manufacturing defaults, which include material and the workers, as long as the product is being used for the purposes it has been designed and recommended for, and has been properly installed by qualified personnel.

Any request for warranty will require an authorization from the ITI HYDRAULIK (Industries Tournebo Inc.) Sales Department. Following our written authorization, a return date will be established. The customer will be responsible for the shipping of the product to our factory as well as his return. The same wrapping precautions, as the original reception, will have to be respected. Any material judged defective, will, pending our decision, either be repaired or replaced at no cost.

Claims for indirect damages, loss of time, modification or adjustment unapproved by ITI HYDRAULIK (Industries Tournebo Inc.), interrupted maintenance, vandalism and improper handling during transport will not be applicable. Our responsibility is limited to defective material only.

Notices, technical support and recommendations are supply for free by the manufacturer. They are intended to help people who possess skills and knowledge in the domain and who will use them at their own risk. The manufacturer will not assume any responsibility for damages, which occurs while equipment is in use by the customer.

Upon receipt of the jack, the elevator company will assume all responsibilities and charges, from delivery date and after, regarding to injuries, diseases, deaths, damages and destruction of property caused from misusage of the equipment sold by ITI HYDRAULIK (Industries Tounebo Inc.).
Since 20 years, the ITI engineers had access to tools and to state-of-the-art formations of the industry. It is this continues training that allows us to provide you with quality products that will meet your needs. Furthermore, we are the leaders regarding delivery deadlines.