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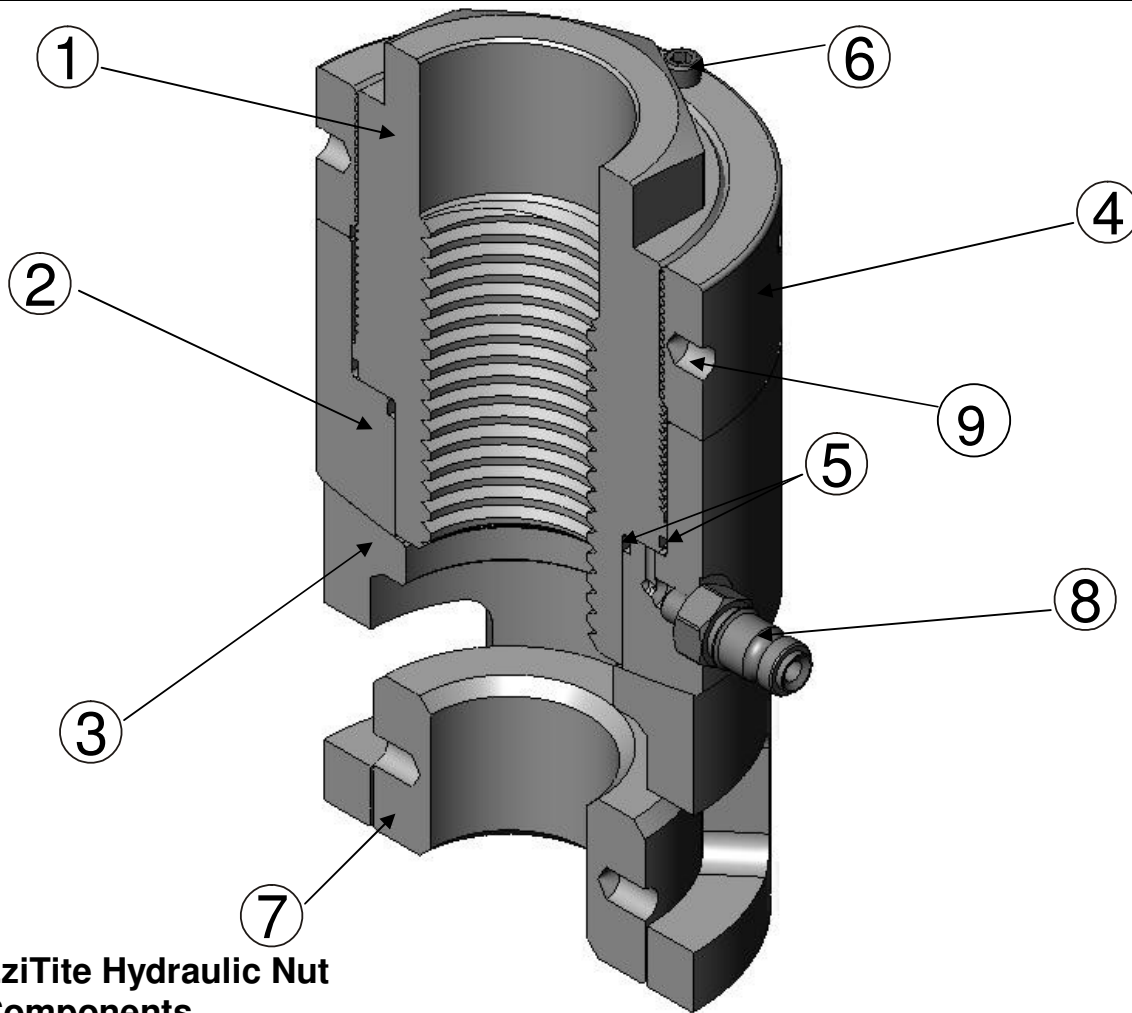
Operating Instructions **EziTite IBS Hydraulic Nut**



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EziTite IBS Hydraulic Nut Fitting Instructions



EziTite Hydraulic Nut Components

1. **Nut Body:** screws onto the boom rope thread.
2. **Piston:** contains hydraulic pressure and seals.
3. **Spherical Washer:** designed to self-correct seating and misaligned bolts, also works as a bridge to allow the locknut to be wound down.
4. **Lock-Ring:** to retain the load when hydraulic pressure is released.
5. **High Pressure Seals:** Seals.
6. **SHCS:** Used to deform the thread of the locking to stop from releasing load when dragline is in operation.
7. **Locknut:** used to hold tension whilst the hydranut is returned to the home position
8. **High Pressure Inlet:** 1/8" BSPP port with male hydraulic nipple.
9. **C Spanner/Tommy Bar Hole:** to nip up lock ring.

YOUR EziTite HYDRAULIC NUT COMES ASSEMBLED AND READY FOR FITTING

Safety

Before attempting installation of EziTite Hydraulic Nuts it is imperative operators understand the installation and tensioning procedures contained in this manual.

DO NOT ALLOW UNTRAINED STAFF ATTEMPT INSTALLATION!!

DO NOT allow personnel into the installation area without firstly instructing them on the safety hazards of hydraulic components.

PRE-INSTALLATION SAFETY CHECKLIST.

1. Are all persons in the installation area aware of safety procedures contained in this manual?
2. Have all persons in the installation area been issued with adequate eye and hearing protection devices?
3. Have all persons in the installation area been issued with suitable protective clothing?
4. Are installation personnel trained in the dangers of misuse of high-pressure hydraulic equipment?
5. Is the installation area free of unnecessary obstructions, which could endanger personnel, performing their assigned tasks?
6. No person should be allowed in close proximity to hydraulic components while pressurising the system.
7. When pressurising the system the pump operator must remain at their station, at the pressurising pump, in case of emergency.
8. Set air regulator to achieve the correct oil pressure for the product **before** coupling and tensioning begins.

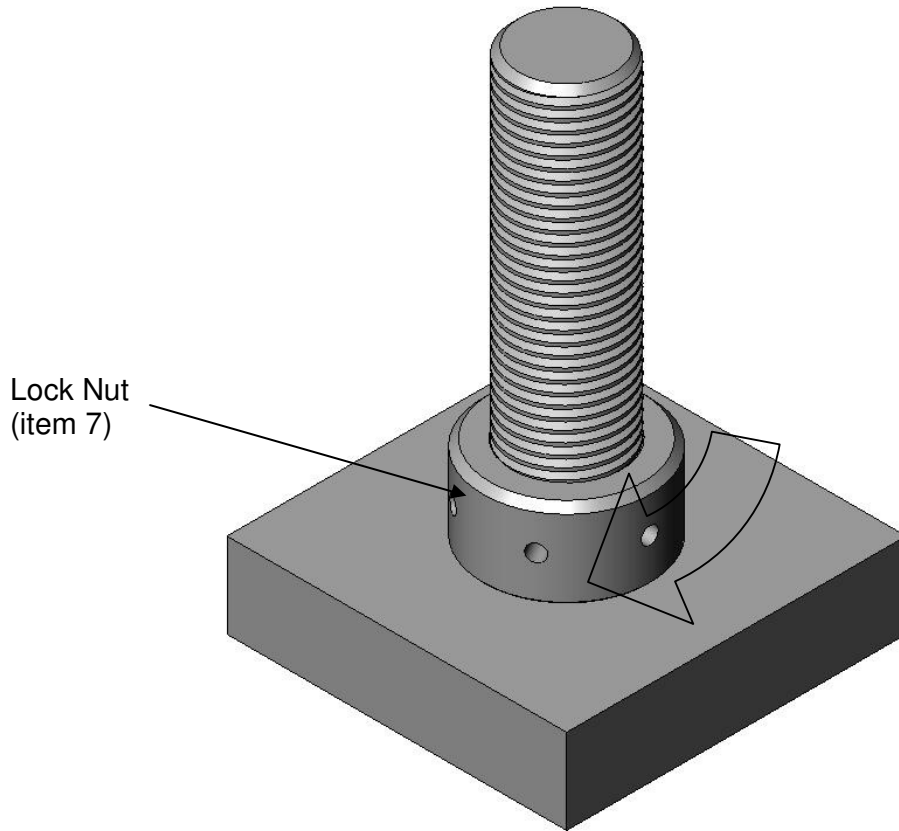
REMEMBER!

Fluids under high pressure can cause damage or injury if the device is improperly used.

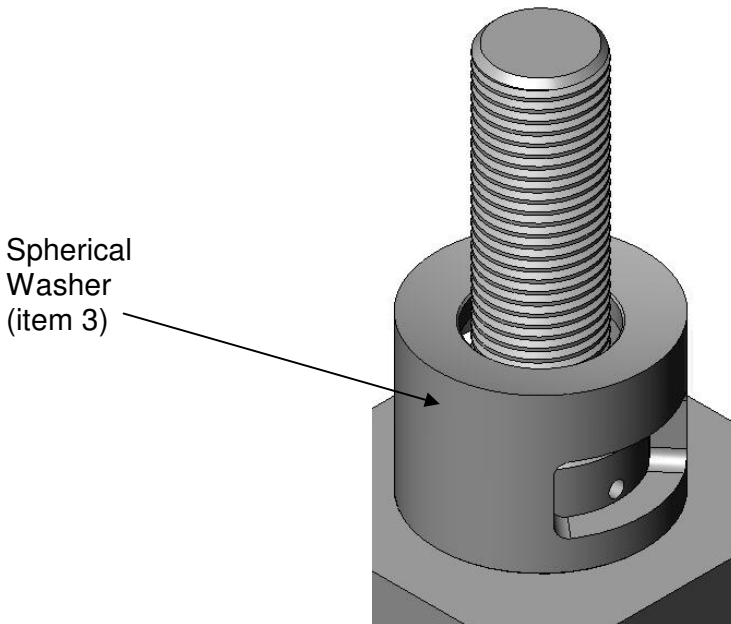
Incorrect installation procedures can lead to major safety problems & void warranty.

Fitting EziTite IBS Hydraulic Nut

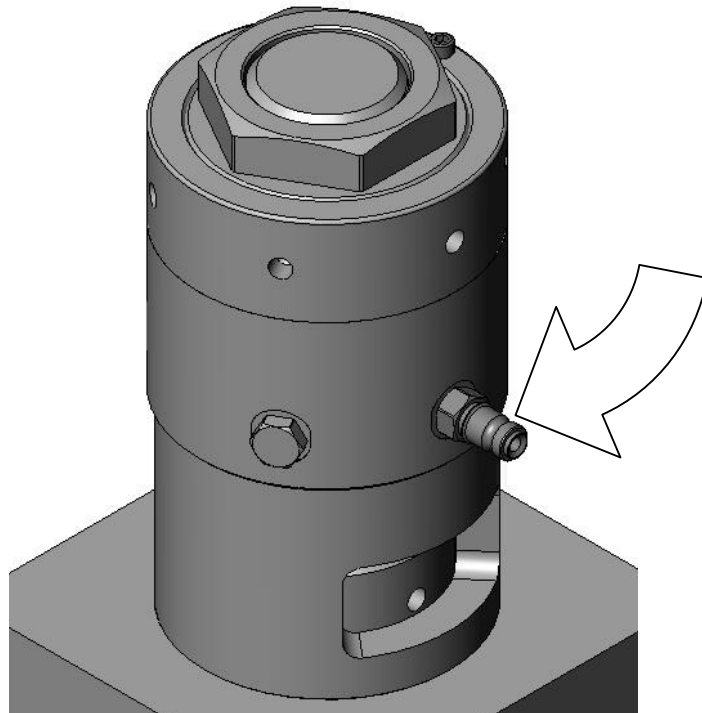
1. The “EziTite IBS Hydraulic Nut” is supplied with a **Locknut (item 7)**. It should be wound into position on the bolt with the large chamfer side facing the outwards.



2. Place the Spherical Washer (item 3) over the stud and nut.

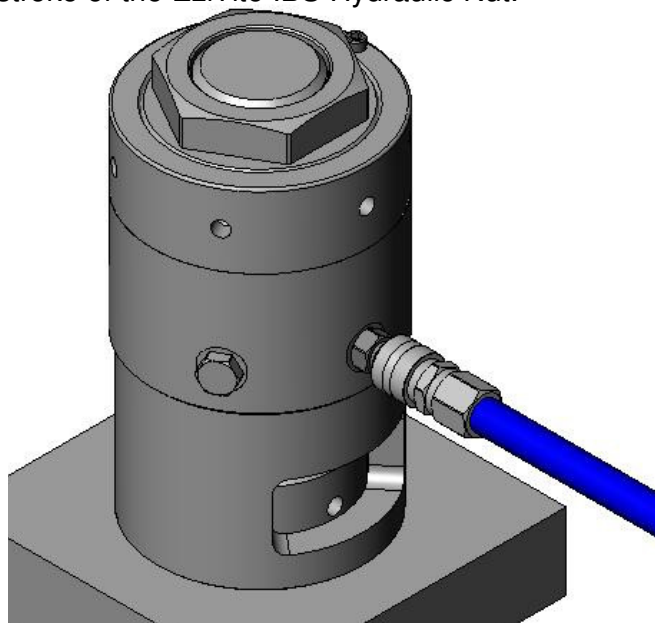


3. Using the machined hex on the top of the EziTite IBS Hydraulic Nut assembly wind the assembly onto the stud until it is engaged with the spherical washer.



4. Nip up the assembly with a spanner to take up any slack from the joint.

5. Connect the pressure pumping apparatus hose to the hydraulic male coupler provided. To ensure the EziTite Hydraulic Nut has a full working stroke open the pressure relief port of the pump when connected. The Screw action downwards will easily reset the stroke of the EziTite IBS Hydraulic Nut.



6. Ensure that the lock ring remains free from the piston.

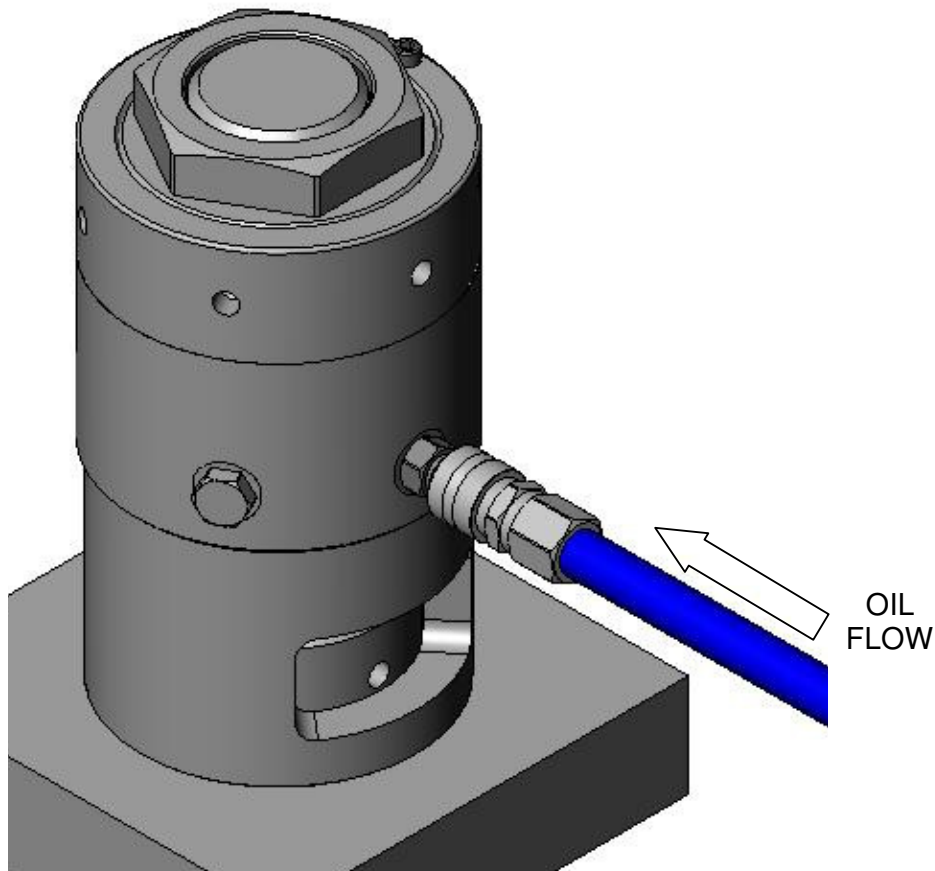
7. *Close the pressure relief port.*

The EziTite IBS Hydraulic Nut is now ready for tensioning!!

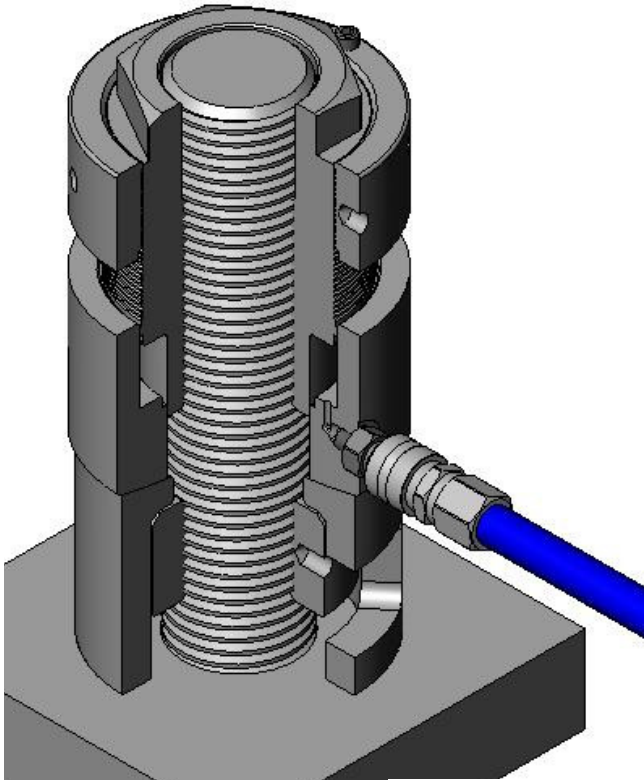
Tensioning EziTite hydraulic nut

8. Operate the pumping apparatus and slowly charge the EziTite Hydraulic Nut to required pressure (refer to load pressure graph supplied with EziTite Hydraulic Nut and the dragline manufacturers specifications).

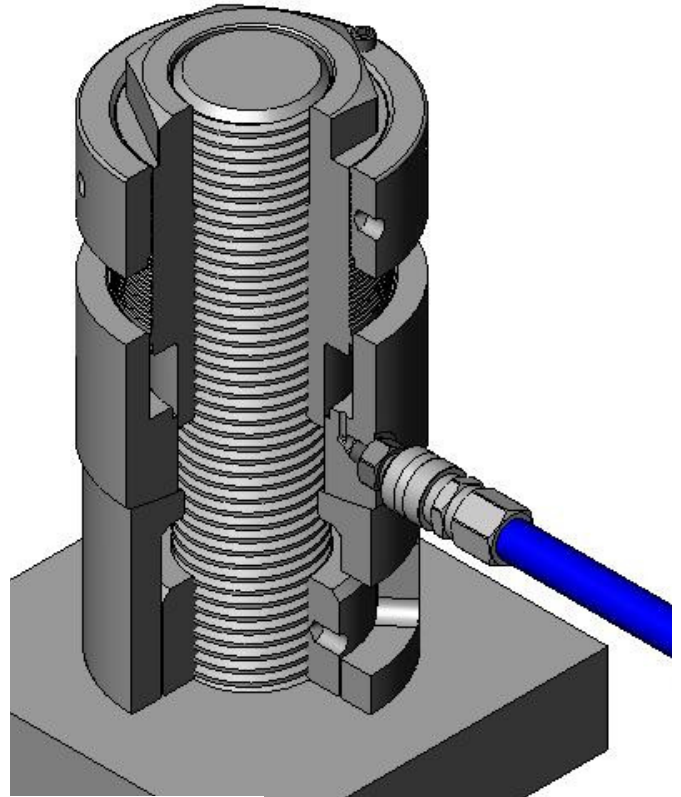
Do not advance the Nut Body too far out of the Piston or seal damage will occur. Maximum Stroke is 30mm.



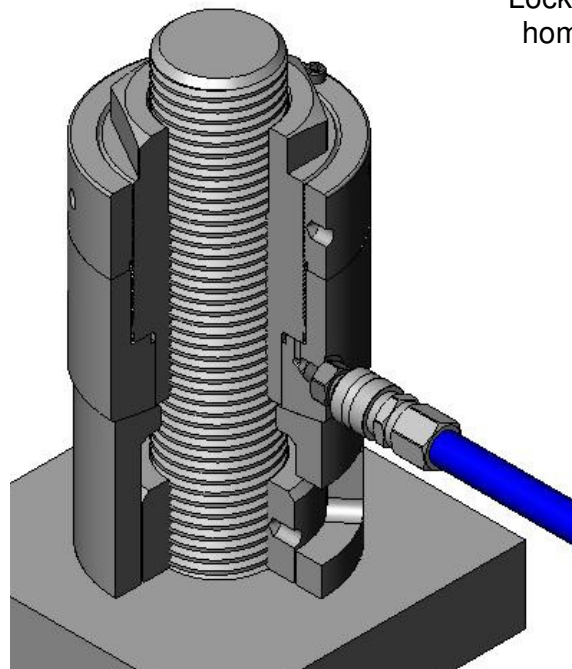
10. Due to the limited amount of stroke which the EziTite Hydraulic Nut has you may be required to screw the locknut down and return the EziTite Hydraulic Nuts to their home position (as below)



EziTite at full stroke



Locknut wound home to hold load

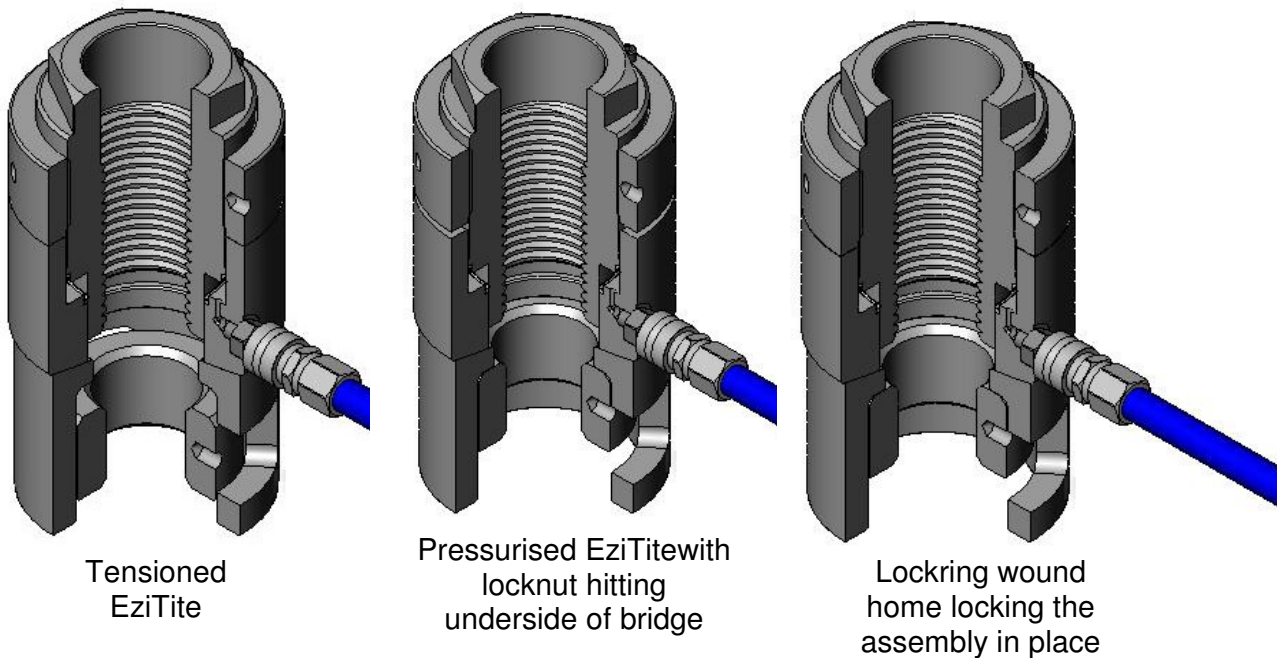


EziTite in home position

10. Keep Repeating steps 9 & 10 until the boom rope is tensioned to the required level.

11. Once the required load is reached screw the locking down so it is touching the face of the piston. If the locking is not contacting the face evenly repeat steps 9 & 10 as this is because the piston is misaligned. Once alignment is correct nip up the locking. Do not over tighten the locking as this will make removal difficult.

12. To prevent the EziTite IBS Tensioner from moving when the dragline is in operation the locknut is to be locked onto the base of the EziTite. To do this wind the Locknut up to the base of the EziTite so that it contacts the Bridge. Now pressurise the EziTite to 200 bar and wind the locking down so that it contacts the piston as in the previous step.



12. Tighten the SHCS (**item 6**). This will deform the thread on the locking to ensure that it does not become loose during operation.

13. Your EziTite IBS Hydraulic Nut is now ready for service.

IMPORTANT

1. Ensure that the base or washer face of the EziTite Hydraulic Nut contacts the joint face evenly and is fully supported across its full diameter.
2. DO NOT EXCEED indicated pressure or working stroke as damage to equipment may occur.
3. The Lock-Ring must contact the abutting face of the **Piston** evenly when tightened. If not, repeat the tensioning procedure. DO NOT over tighten Lock-Ring with excessive force, only nip tight.

Removal

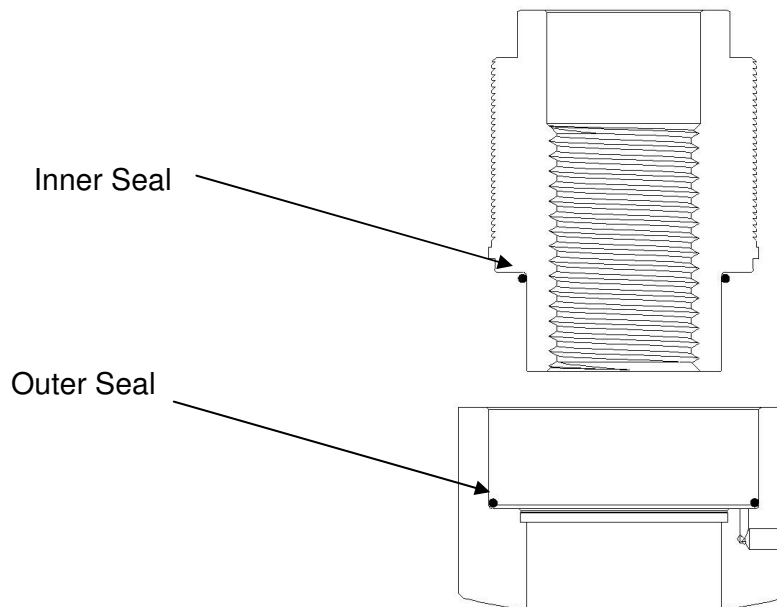
To remove the EziTite IBS Hydraulic Nut from service, a procedure much the reverse of that for tensioning, is carried out.

1. Couple the Pressure pumping apparatus to the EziTite IBS Hydraulic Nut.
2. Charge the EziTite IBS Hydraulic Nut to approximately 300 bar or until the Lockring loosens.
3. Unscrew the Lock-Ring sufficiently to allow the bolt/stud to return to its un-tensioned length when Hydraulic pressure is released this will also allow the Locknut to release from the underside of the Bridge.
4. Relieve the pressure in the Pumping apparatus and in the EziTite IBS Hydraulic Nut.
5. Whilst the Hydraulic hoses are still connected the EziTite Hydraulic Nuts, the piston should be returned to a closed position by inserting the pin spanner and winding it in a clockwise direction to push the piston home.
6. Disconnect Hydraulic hose and fit protective covers to hose and fittings.
7. Unscrew the EziTite IBS Hydraulic Nut from the bolt.

SEAL REPLACEMENT

Before seals are replaced the EziTite IBS Hydraulic Nut must be disassembled. Remove the EziTite Hydraulic Nut from operation and follow these instructions:

1. Attached an air supply to the male coupler and blow air into the EziTite Hydraulic Nut to separate the Nut Body from the Piston. **Note: Do not use excessive pressure or sudden burst of air as this may cause the piston to fly off with excessive force.**
2. Remove old or damaged seals and clean all parts.
3. Inspect the internal seal contact surfaces and repair where necessary. *That is, polish off burrs and pick-up marks.*
4. Lightly oil the two surfaces.
5. Place the ID O-ring over the spigot end of the Nut Body.
6. Place the OD O-ring inside the Piston at the bottom of the seal surface.



7. Carefully place the Nut Body inside the piston and push together.
8. Inspect the nipple for wear or damage and replace if needed. **NOTE: The nipple is to be tensioned to 50Nm.**
9. Screw the assembly onto a test stud with an appropriate thread size, with the spherical washer in place. Tighten only lightly against the seals. **Note: if a test stud is unavailable this can be done on the studs being tensioned.**
10. Apply a quick charge of hydraulic pressure of between 1000 to 1500 psi to set the internal seals into place.
11. Relieve the internal pressure.

Screw the EziTite IBS Hydraulic Nut to fully closed position. This should be easy to do. If not the seals may be trapped. Therefore repeat all of the procedure.

EziTite Hydraulic Nut Maintenance And Repair

If the EziTite IBS Hydraulic Nut should be damaged in service, for example by overheating, which may destroy the unit's seals, it may be removed as a last resort by carefully splitting the Lock-Ring. When the Lock-ring is removed, the piston will retract normally. If the outer thread of the **Nut Body** has not been damaged during removal, new seals and lock-ring can normally be fitted and the unit returned to service.

In most applications EziTite Hydraulic Nuts are unlikely to require any further care other than to ensure that they remain free from rust and deposits, which could affect the operation of, machined threads.

Replacement parts are available by request.



Limited Warranty

Technofast manufactured products are warranted free of original defects in material and workmanship for a period of one year from the date of shipment to the first user. This warranty does not include seals nor failures caused by lack of proper maintenance; in-compatible fluids; foreign materials in the driving media; in the pumped media; or application of pressures beyond specified ratings. Products believed to be originally defective may be returned, freight prepaid, for the repair and/or replacement to the distributor, authorised service representative, or to the factory. If upon inspection by the factory or authorised service personnel, the problem is found to be originally defective material or workmanship, repair or replacement will be made at no charge for labour or materials. F.O.B. the point of repair or replacement. Any claim for Warranty must be addressed to Technofast, which shall at its' discretion issue an Authority to Return in respect of such goods. This Authority must be received before return shipment and include the following: the original purchase date, purchase order number, model number and other pertinent data to establish a warranty claim, and to expedite the return or replacement to the owner.

Any such warranty is void if;

the product has been disassembled and reassembled in a facility other than Technofast or a facility suitably and currently qualified by Technofast in conformance with its Quality Standards,

or

substitute parts have been used at any time in place of factory manufactured parts

or

the product has been used in any manner not in accordance with the manufacturer's directions.

or,

where any modifications not qualified by Technofast in writing have been made to the product

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Points To Note

The EziTite IBS Hydraulic Nut and all related intellectual property disclosed herewith is covered by Australian and International Patents.

Due to the nature of applications of these fasteners, the manufacturer can accept no responsibility for their performance.

For Technical Advice, please contact your nearest TechnoFast agent or contact Technofast directly.

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