



TITAN
TECHNOLOGIES INTERNATIONAL, INC

SUPERIOR TECHNOLOGIES • SUPERIOR SOLUTIONS™

OPERATING INSTRUCTIONS

HYDRAJAC *TF-A2 Style*

Safety

BEFORE ATTEMPTING INSTALLATION OF HYDRAJACKS 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.

IMPORTANT!

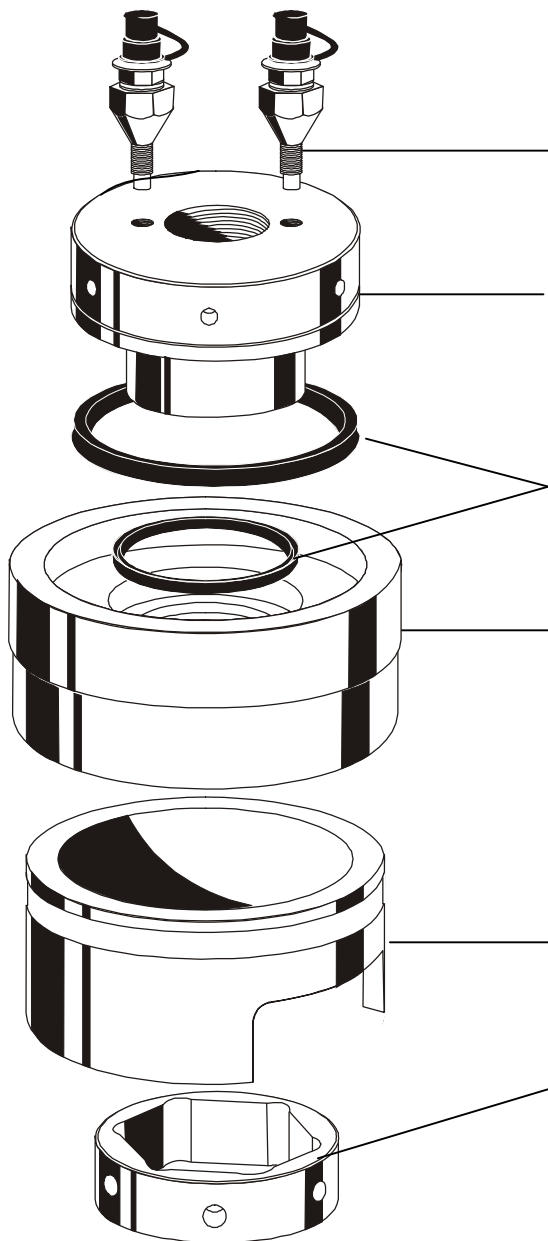
Do Not back pressurise male nipples on hydraulic tensioning equipment. If the second nipple is fitted it must be connected to another hydraulic hose, not used as the terminus of the harness!

REMEMBER!

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

Incorrect installation procedures may cause safety hazards & void warranty.

HYDRAJAC COMPONENTS:



1. **Hydraulic Charge Nipples. (x 1)**
2. **Nut Body (Thread Puller).** This is threaded to match the stud or bolt to be tensioned.
3. **Nylon Seals.** Designed to seal the pressure area within the Piston.
4. **Piston.** Contains the annular area of the HydroJac and houses the Nut Body and fitted Seals.
5. **Load Cell.** This is the assembly of the Nut Body, Nylon Seals and Piston combined.
6. **Bridge.** This is a separate component that fits under the Load Cell and has an 80° included angled access slot.
7. **Nut Rotator.** This is a machined socket to fit the nut to be tightened, once the load has been applied to the bolt/stud.
8. **HydraJac.** The complete bolt tensioner unit ready to use.

OPERATING PROCEDURE:

1. Clear the surrounding surface around the nut and washer assembly to be tensioned.
Make sure there are no intrusions that may prevent an even tension.
2. Place the **Nut Rotator** over the nut on the bolt to be tensioned.
3. Locate the **Bridge** and **Load Cell** assembly over the **Nut Rotator**.
4. Fit the Thread Puller onto the bolt and screw down until it bottoms inside the **Load Cell**.
5. The **Thread Puller** is then tightened up with a tommy bar, to take up any slack from the joint (*ensure that the Load Cell is at the starting position to allow a full working stroke*).
6. Attach the Air / Hydraulic pump (*Tensioning pump*) to the **Hydraulic Charge nipple**.
7. Using the Air / Hydraulic pump, pressurize the **Load Cell Assembly** to the required pressure (refer to load /pressure chart. **DO NOT OVER STROKE BEYOND STATED CAPACITY.**
In multiple bolting situations, it may be desirable to apply this tensioning force in a number of steps.
8. Wind the nut down the bolt using the **Nut Rotator**, and nip tight with a tommy bar.
9. Open the release valve on the Pump and screw the **Thread Body** down the stud into the Piston Cell using a tommy bar until it is fully home. This will reset the HydraJac for its next operation.
10. If further tensioning of the stud is required the tensioning procedure may be repeated again.
11. After completion of the bolt tensioning, disconnect the Pump, unscrew **Thread Puller** from the Stud and remove the **Bridge** and **Load Cell Assembly**.
12. The Operation Procedure for the HydraJac is now complete.

IMPORTANT NOTES ON USE

1. DO NOT EXCEED indicated maximum pressure or the maximum stroke of the “HydraJAC” as damage to the equipment may occur.
2. Ensure that the HydraJAC is at the starting position (The **Thread Puller** is completely returned to the home position) before tensioning to allow a full working stroke.

MAINTENANCE AND REPAIR

- ◆ Ensure that the “HydraJAC” remains free of rust and deposits, which could affect the operation of the machined threads.
- ◆ Seals are serviceable. *Please see Seal Replacement Instructions.*
- ◆ Replacement parts are available by request.
- ◆ *Use a recommended Hydraulic Oil suitable for the Pump being used.*

SEAL REPLACEMENT INSTRUCTIONS

1. Isolate the **Load Cell** from the rest of the components.
2. Place the Load Cell in a container, connect it to a pump and pressurize to separate the **Cell Body** from the **Cell Piston**.
3. Remove old or damaged Seals and clean all surfaces of the **Cell Body** and **Cell Piston**.
4. Inspect the internal seal contact surfaces and repair where necessary (that is polish off burrs and pick-up marks).
5. Lightly oil the two surfaces
6. Place the ID Nylon Whisper Seal over the spigot end of the **Cell Piston**.
7. Place the OD Nylon Whisper Seal inside the **Cylinder Cell** at the bottom of the outer seal surface.
8. Carefully place **Cell Piston** inside the **Cell Body** and push together.
9. Place the **Load Cell** over a suitably sized test stud.
10. Screw the **Thread puller** inside the Load Cell until it is hand tight.
11. Wind the **Thread Puller** into the **Load Cell** to the retracted position.
12. The Seal replacement procedure is now complete.

Points To Note

The HydraNut 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 warrants performance only when used in the prescribed manner.

For technical Advice, please contact your nearest Titan agent.



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