
Instruction Manual for the Top Repairable Accumulator



11 Reinstall the OilAir Charging & Gauging Assembly * (OAH Part Number - T-CG-3000) and precharge the accumulator with DRY NITROGEN ONLY, to its required level, at a moderate rate of speed. **It is a good idea to check for leaks around the valve stem using "snoop" or some other water based solution which does not promote rusting.**

12 Remove the Charging & Gauging Assembly and firmly install the yellow valve cap and the protective cap. Retighten the jamnut and the locknut on the fluid and the gas ends.

* CG-5000 for 5000 PSI Accumulators

STORAGE:

Accumulator storage instructions

If after reassembly, the accumulators are stored, they must be charged with a low nitrogen pressure of 25 psi (1.5 bar) and store in a cool and dry area. The fluid port must be sealed. The accumulator can be stored in any position. The protective cap on the gas charging valve must be securely tightened to protect it from any shock.

Attach a label to the accumulator stating that they must be precharged before installing in the system.

If the accumulator is stored for longer than 6 years, all the elastomeric components (bladder, seals etc.) must be replaced.

BLADDER STORAGE INSTRUCTIONS:

DO NOT OPEN PLASTIC BAG UNTIL READY FOR INSTALLATION.
DO NOT USE RAZOR OR SHARP OBJECTS TO OPEN THE PLASTIC BAG.

Bladder plastic bag must be stored in a cool (preferably 72° F), dry and dark place out of direct sunlight, fluorescent light, ultraviolet light and away from electrical equipment.

Direct sunlight or fluorescent light may cause the bladder to weather check and/or dry rot, which appears on the bladder surface as cracks.

OILAIR ORIGINAL EQUIPMENT LIMITED WARRANTY

OILAIR warrants each of its products against original defects in materials and/or workmanship and will repair or replace any product which is determined by OILAIR, within one (1) year of its installation, to be defective or below the manufacturing standards of OILAIR, including warranty of merchantability, fitness for the purpose intended, consequential and incidental damage of liability. This Original Equipment Warranty which anticipates installation by third parties, expressly excludes warranty of merchantability, fitness for the purpose and consequential or incidental damage liability.

OPERATION OF ANY OILAIR ACCUMULATOR OR COMPONENT BEYOND THE MANUFACTURER'S WORKING PRESSURE LIMITATIONS, OR IN VIOLATION OF ANY OPERATING OR SERVICE INSTRUCTION STAMPED OR ATTACHED TO THE PRODUCT, EXPRESSLY VOIDS THIS WARRANTY AND MAY BE DANGEROUS TO LIFE AND PROPERTY.

INSPECTING THE CONDITION AFTER DELIVERY

After unpacking the accumulator, inspect it for possible damage caused during transit.

1. Inspect the Locknut, Jamnut and Beeder Plug for tightness.
2. Check the precharge tag. The accumulator is either precharged to 25 psig (1.7 bar) for shipping purposes (indicated by a red tag) or it is charged to the pressure specified on the purchase order (indicated by a green tag).
3. Check that the working pressure stamped on the accumulator shell is greater than or equal to the maximum system pressure of the system.

PROTECTION & PRECAUTIONS

Hand Protection

Always use chemical resistant gloves, when needed, to avoid prolonged or repeated exposure to cleaning solutions or solvents.

Eye Protection

Always use safety glasses while performing any maintenance on the accumulator!

OTHER PRECAUTIONS:

DO NOT operate the accumulator beyond the allowable working pressure and temperature limitations stamped or attached to the product.

Use only the tools recommended in this manual to perform maintenance procedures.

Use only DRY NITROGEN when charging the accumulator. NEVER USE OXYGEN OR AIR, as this may result in an explosion. Use only valve cores approved for accumulator service. NEVER USE AN AUTOMOTIVE TYPE VALVE CORE.

PRECHARGING:

1. Use DRY NITROGEN ONLY to precharge the accumulator.
2. Use the OilAir Hydraulics' charging assembly [T-CG-3000 for 3 KPSI or CG-5000 for 5 KPSI] to charge the accumulator to the required precharge if it does not already been precharge by the factory.
3. Check the charging valve for leaks using snoop or a soapy solution.
4. Tighten the Jamnut at the gas valve stem and also the Locknut on the fluid port with a wrench.
5. Tighten the valve cap on the gas valve stem and the protective cap on the bladder stem to the hand-tight position.
5. Check the gas precharge pressure periodically. This must be done after all the hydraulic system pressure is released. The precharge must be checked once in the first week of operation, and then every six months during normal working conditions (or every month during high cycling or high temperature conditions).

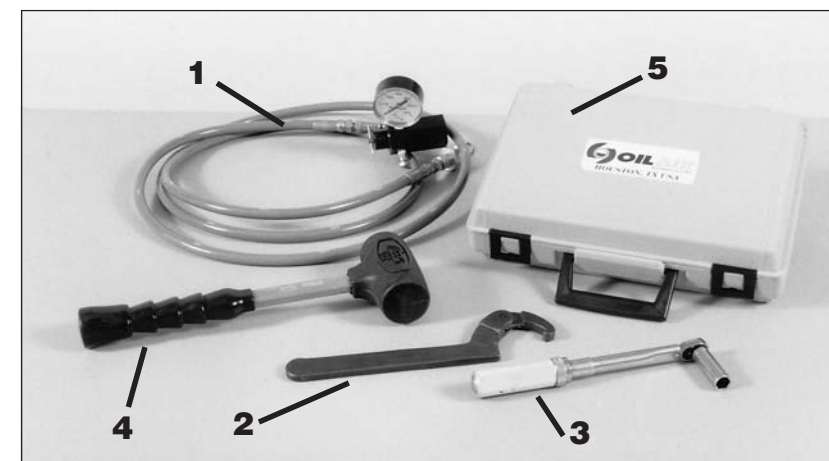
INSTALLATION:

The accumulator should be mounted vertically with fluid port on bottom and gas valve on top using supporting brackets and saddles specifically designed for accumulator mounting. For other mounting configurations, consult the factory. Do not weld any supports to the accumulator. Doing so will void its pressure vessel certification! To facilitate periodic maintenance and precharge checking, an accumulator dump valve (ADV) should be installed between the accumulator and system pressure line.



SPARE PARTS

- | | |
|--|--------------------|
| 1. Shell | 8. Spacer |
| 2. Bladder | 9. Lock Nut |
| 3. Plug | 10. Valve Cap |
| 4. Anti Extrusion Ring | 11. Hex Jam Nut |
| 5. Metal Back Up Ring | 12. Protective Cap |
| 6. "O" Ring | 13. Bleeder Plug |
| 7. Rubber Back Up (Not available for 1 quart and 1 gallon sizes) | |



TOOLS

1. Charging & Gauging Assy - P.N. T-CG-3000
2. Spanner Wrench - P.N. 11-502
3. Ratchet Wrench (Corresponds to elastic stop nut and bleeder plug size)
4. Rubber Mallet
5. Tool Box

DISASSEMBLY



1 Removal from the system After removing all hydraulic pressure from the system, remove the protective cap from the valve stem.



2 Remove the yellow cap from the valve stem.



3 Discharge any pressure in the accumulator using the OilAir Hydraulics charging and gauging assembly, OAH Part number TCG-3000 (or CG-5000 for 5 kpsi models).



4 Once the remaining nitrogen has been discharged, remove the valve adapter using a socket wrench. (*If accumulator is mounted vertically, perform steps 5 through 12 before performing this step).



5 **Disassembly** Remove the jamnut (attached to the valve stem), using a socket wrench, to free the bladder from the accumulator.



6 Remove the locknut (the larger nut) using a spanner wrench (OAH Part Number 11-502).



7 Remove the spacer washer located directly underneath the lock-nut.



8 Push the plug assembly (bladder and top-repairable adapter) into the accumulator shell.



9 Remove the O-ring, O-ring back-up and metal back-up rings (**avoid letting these items fall into the shell; it will be difficult to retrieve these items, especially if your accumulators are vertically mounted**).



10 Slide the anti-extrusion ring off of the adapter. Fold the ring and carefully pull it out of the shell. Be very careful not to pinch your fingers as you are performing this operation. [Be sure to keep a firm grasp on the port adapter to prevent it from falling inside the shell.]



11 Remove the port adapter from the shell.



12 Squeeze out any residual Nitrogen and gently remove the bladder from the shell.

ASSEMBLY



Cleaning & Inspection

Clean all the metallic parts of the accumulator with an organic solvent. Avoid exposing rubber components to the solvent. **Doing so may cause them to decompose!** Inspect the condition of the port adapter and replace it if damaged. Clean the bladder with isopropyl alcohol or equivalent. Inspect the bladder for any signs of visual damage. Replace if necessary. Check that there is no corrosion inside or outside of the shell. Replace any part which you may suspect of being defective. The "O" ring and back up rings must be replaced.



1 Squeeze the bladder to discharge gas from it by rolling it up from the bottom.



2 Install the valve adapter; tighten to 90 inch-pounds of torque.



3 Lubricate the accumulator shell and the bladder with system fluid or similar product, then insert the bladder into the shell. Rotate the shell around its axis several times to lubricate the bladder uniformly. **ALWAYS WEAR GLOVES! ***



4 Insert the port adapter carefully into the shell. **Be careful not to drop the port adapter into the shell!** Slide the valve stem of the bladder through the port adapter.



5 Squeeze the anti-extrusion ring and insert it into the shell.



6 Carefully pull the port adapter through the anti extrusion ring and on through the port opening of the shell.



7 Install the OilAir Charging & Gauging assembly on to the valve adapter and fill the accumulator with Nitrogen up to 30 psig (2 bar). **This helps to seat the port adapter and anti-extrusion ring into the shell opening.** Remove the C & G assembly.



8 Slide the metal back-up ring, "O"ring and rubber back-up ring, in this order, on at a time, over the port adapter and all the way into the port opening, firmly against the anti-extrusion ring. **(The "O"ring may require some force to get it into position.)**



9 Slide the spacer over the port adapter until it touches the shell. Screw the locknut onto the port adapter and tighten it using a spanner wrench (**OAH Part Number - 11-502**).



10 Using a socket wrench, install the Jamnut onto the valve stem of the bladder.

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* If the fluid port body does not go inside, then there is some hydraulic pressure left inside the accumulator. If this happens, do not attempt to do any maintenance. Consult the factory.
* If the accumulator is mounted vertically, step 4 should be delayed until steps 5 through 12 are completed. Additionally, a bladder pull rod (not shown, OAH Part Number 11-503-4) should be attached to the valve adapter after step 3 is complete, to prevent parts from falling into the shell.

* For accumulators mounted vertically, pull rods (OAH Part Number 11-503-4) should be attached to the valve stem following step 2, to prevent from falling into the accumulator. Some hydraulic oils are known to contain carcinogenic or cancer causing additives! After step 6 install the jamnut and outer locknut to hold the bladder and adapter in place, then the pull rod can be repaired. Then proceed with step 7.