Instruction Manual for the Accumulator

INSPECTING THE CONDITION OF DELIVERY

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

1. Inspect the Locknut and the Jamnut and bleeder plug for tightness.
2. Check the precharge tag. The accumulator is either precharged to 25psi (1.7 bar) for shipping purpose or charged to a pressure specified on the purchase order.
3. Check that the working pressure stamped on the accumulator shell is equal to, or greater than, the maximum pressure of the system.

PROTECTION & PRECAUTIONS

1. Protective Gloves:
   Use chemical resistant gloves, if needed, to avoid prolonged or repeated skin contact from the cleaning solutions or solvents.
2. Eye protection:
   Use safety glasses before performing any maintenance on the accumulator.

OTHER PRECAUTIONS:

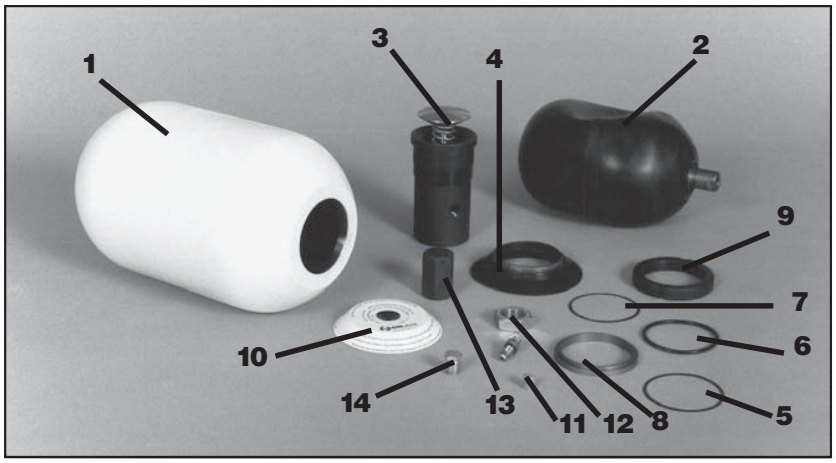
DO NOT operate the accumulator beyond the allowable working pressure and temperature limitations stamped or attached to the product.
Use only the tools recommended in this manual to perform the maintenance procedures.
Use only DRY NITROGEN for charging accumulator. NEVER USE OXYGEN OR AIR, due to risk of explosion. Use only valve cores approved for accumulator service and NEVER USE AN AUTOMOTIVE TYPE VALVE CORE.

PRECHARGING:

1. Use DRY NITROGEN ONLY to precharge the accumulator.
2. Use the charging assembly recommended in this manual to charge the accumulator to the required precharge if it is not already charged at the factory.
3. Check the charging valve for leaks using snoop or soap water.
4. Tighten the jamnut at the gas valve stem and also the locknut on the fluid port with a wrench.
5. Tighten the protective cap on the gas valve stem to hand tight.
6. 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 or every month during high cycling or high temperature condition.

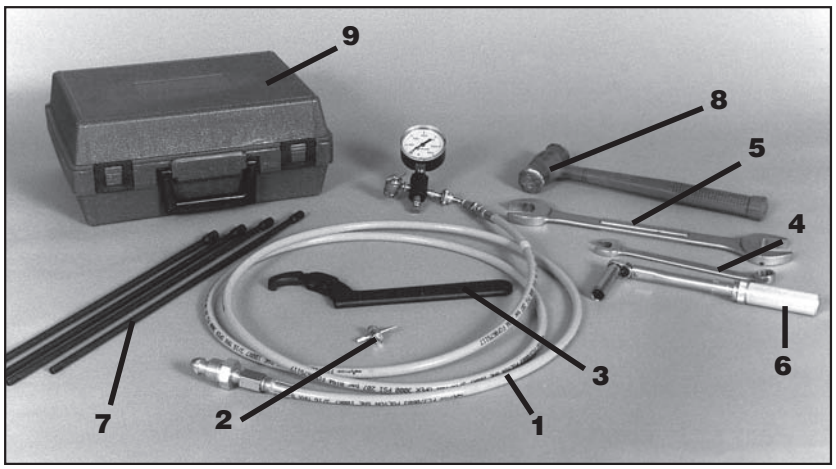
INSTALLATION:

The accumulator should be mounted vertically with fluid port on bottom and gas valve on top with supporting brackets and saddles specifically designed for accumulator mounting. For other type of mounting, consult factory.
Fluid port must not be used to support the accumulator. Do not weld any support to the accumulator. For ease of maintenance and periodic checking of the precharge, an automatic discharge valve fitted between the accumulator and the system pressure line is recommended.



SPARE PARTS

1. Shell
2. Bladder
3. Plug & Poppet Assembly
4. Anti Extrusion Ring
5. Metal Back Up Ring
6. "O" Ring
7. Rubber Back Up (Not available for 1 quart and 1 gallon sizes)
8. Spacer
9. Locknut
10. Name Plate
11. Valve Cap
12. Hex Jamnut
13. Protective Cap
14. Bleeder Plug



TOOLS

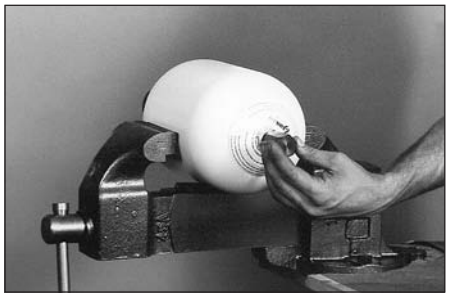
1. Charging & Gauging Assy - P.N. CG-3000
2. Valve Core Tool - P.N. 11-501
3. Spanner Wrench - P.N. 11-502
4. Open End Box Wrench (Corresponds to valve stem wrench flats width)
5. Open End Box Wrench (Corresponds to hex jamnut size)
6. Ratchet Wrench (Corresponds to elastic stop nut and bleeder plug size)
7. Bladder Pull Rod - P.N. 11-503
8. Rubber Mallet
9. Tool Box

DISASSEMBLY

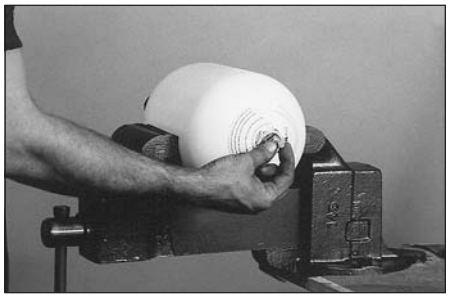
OILAIR maintenance

Instructions for disassembling the accumulator.

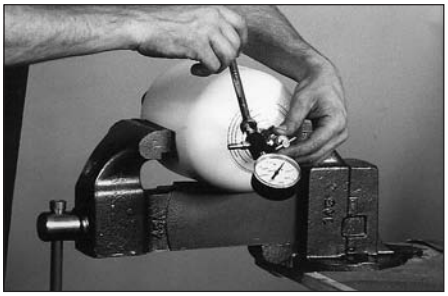
Release all the hydraulic system pressure in a safe manner (eg: bleed valve or automatic discharge valve installed in the system). Remove the accumulator from the hydraulic system and place it horizontally in a vice or a clamping device. Protect the clamping jaws with wood or rubber so as not to damage the accumulator shell.



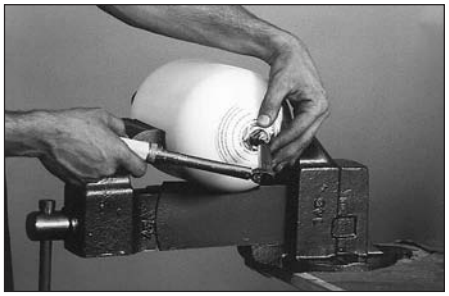
1. Remove the protective cap on the gas valve.



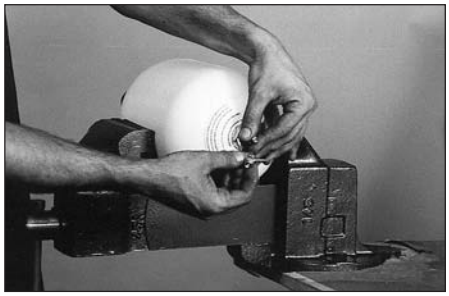
2. Remove the valve sealing cap from the valve adaptor.



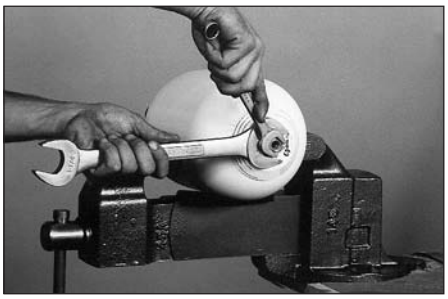
3. Connect a suitable charging & gauging assembly to the valve adaptor and release all the nitrogen precharge pressure from the accumulator until the gauge reads zero.



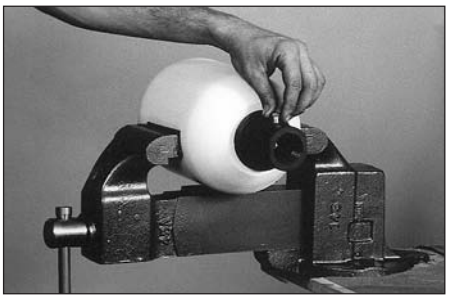
4. Remove the valve adaptor from the gas valve body. (2 piece valve stem design)



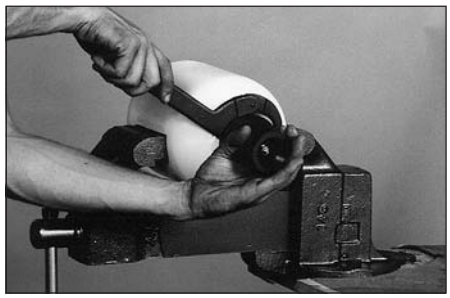
5. Remove the valve core if the gas valve body has a core inside. (1 piece valve stem design)



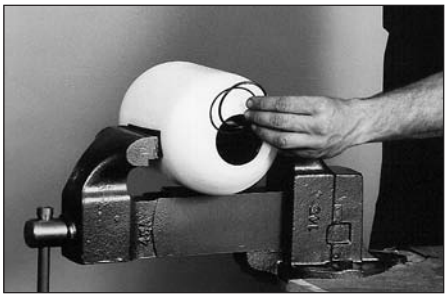
6. Remove the jamnut and the name plate from the gas valve body. While removing the jamnut hold the gas valve body with a wrench so that the bladder will not rotate.



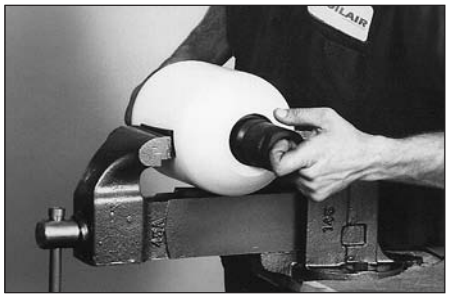
7. Remove the bleeder plug from the fluid port. Loosen locknut with a spanner wrench by turning 2 or 3 threads, then push the fluid port body into the accumulator shell if there is no hydraulic pressure. *



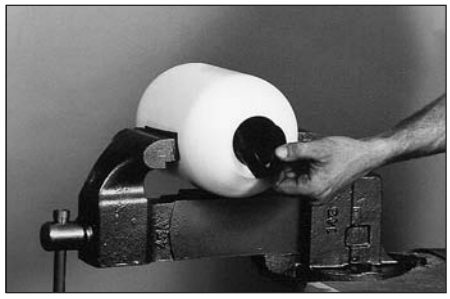
8. Remove the locknut and then remove the spacer.



9. Push the fluid port body into the shell and remove the back-up ring , “O” ring and the metal back-up ring.



10. Slide the anti-extrusion ring off of the fluid port. Carefully fold the anti-extrusion ring until it's sufficiently folded to allow removal from the shell and remove fluid port from the shell.



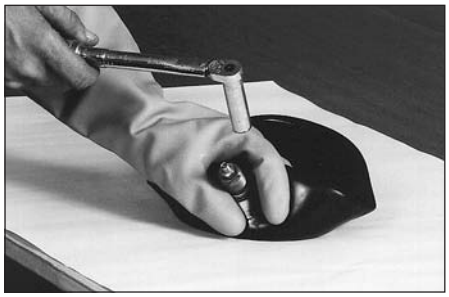
11 . By squeezing the bladder discharge as much air as possible by hand, then pull the bladder out slowly through the fluid port opening of the shell.

* 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.

Cleaning & Inspection

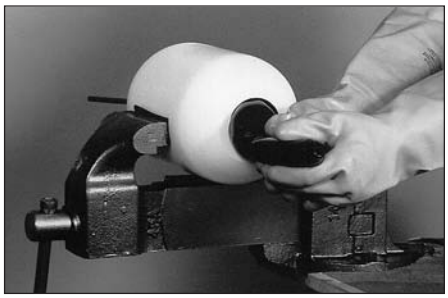
Clean all the metallic parts of the accumulator with an organic solvent. Avoid exposing the rubber parts to the solvent to prevent any attack on the rubber. Inspect the condition of the metallic components of the fluid port (poppet, spring, stop nut and piston) and replace the complete fluid port assembly if any of the components are damaged. Push the poppet valve head to make sure it slide freely through the guide in the fluid port. Clean the bladder with isopropyl alcohol or equivalent. Inspect the bladder for any visual damages. Replace if necessary. Check that there is no corrosion inside or outside of the shell. Replace all parts considered defective. The "O" Rings and back up rings must be replaced.

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

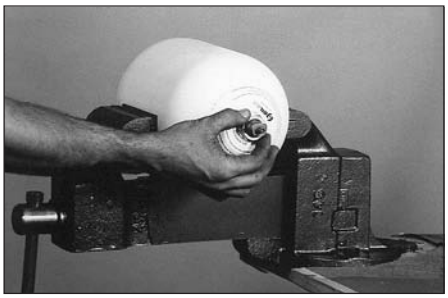


2. Then install the valve adaptor to a torque value of 90 in.lbs (10 Nm). (For the two piece valve stem design).

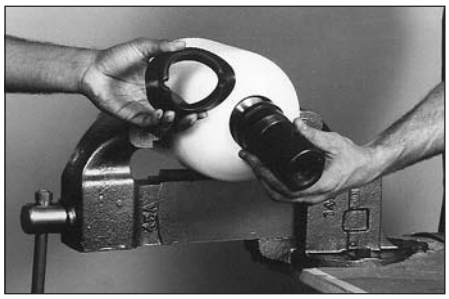
3. Then install the valve core to a torque value of 4 in.lbs. (.45 Nm). (For the one piece valve stem design).



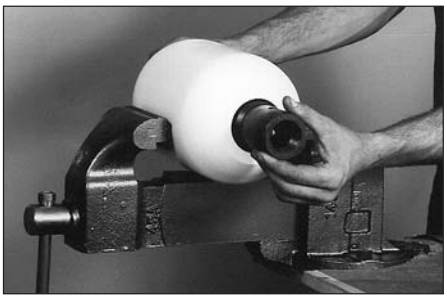
4. Lubricate the accumulator shell and the bladder either with the medium used in the system or a similar product. Attach the bladder pull rod to the valve and fold the bladder and pull into the shell. Avoid twisting the bladder while pulling it into the shell.



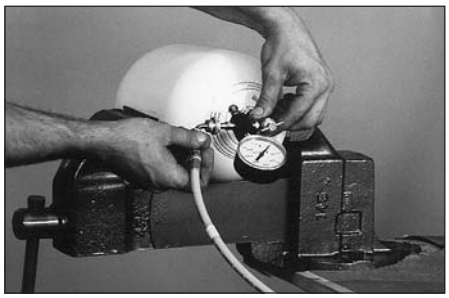
5. Reinstall the name plate and the jamnut. Do not tighten the jamnut.



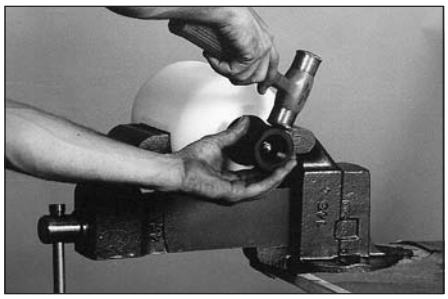
6. Insert the fluid port and the anti-extrusion ring into the shell.



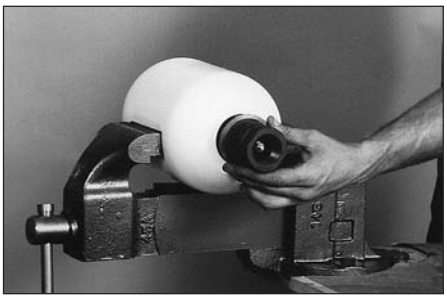
7. Slide the anti-extrusion ring over the fluid port. Pull the fluid port through the port opening.



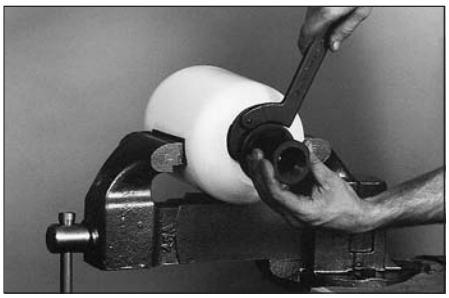
8. Install a charging and gauging assembly on the gas valve and put a low precharge of 30 psig (2 bar) to seat the fluid port and the anti-extrusion ring in place.



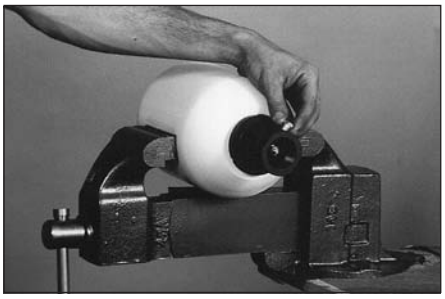
9. Hammer slightly the fluid port body at various angles using plastic hammer.



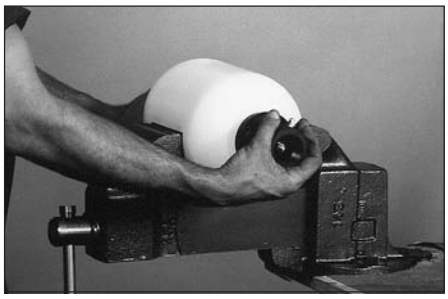
10. Install the metal back up, O-ring, rubber back up and spacer in that order.



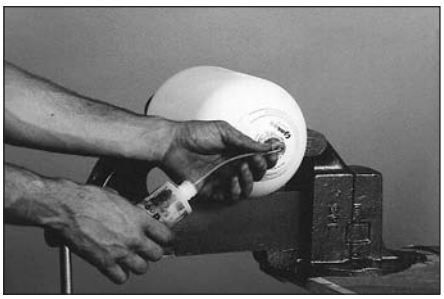
11. Tighten the locknut .



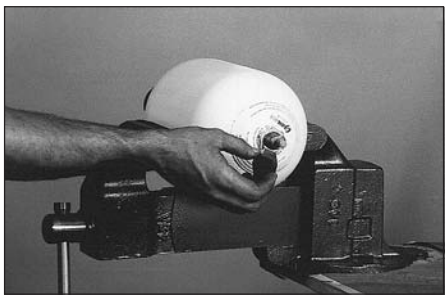
12. Install the bleeder plug and tighten it.



13. Rotate the accumulator shell around its axis to lubricate its inner wall evenly all around.



14. Using a charging and gauging assembly, precharge to the desired pressure at a moderate rate, using DRY NITROGEN only. Check the valve for leaks with snoop or soap water.



15. Remove charging and gauging assembly, install valve cap and protective cap. Retighten the Assembly locknut & jamnut.

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 in the plastic bag must be stored in a cool (preferably below 72^0 F), dry and dark place out of direct sunlight, fluorescent light, ultraviolet light and away from electrical and welding 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.

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