

# INSTRUCTIONS MANUAL

## Precharge Maintenance Instructions for 3000 PSI Top & Bottom Repairable Bladder Accumulators

SFP Hydraulics does not authorize the use of non-approved parts or automotive type valve cores or gas valves. Only use SFP Hydraulics approved parts.

### Information

SFP Hydraulics recommends regular maintenance of precharge pressure for optimum performance of accumulators in the hydraulic system. Incorrect or loss of precharge pressure will reduce the performance of the accumulator as well as potentially damage the bladder.

Our charging & gauging kits will allow this maintenance process easy to follow. Servi always recommends DRY NITROGEN to precharge the accumulator. Do not use Oxygen or Shop air to avoid any risk of explosion. Typically accumulators are precharged with minimal pressure of 25 psi(1.7 bar) for shipping purpose only unless otherwise specified on the purchase order. Before putting into operation, accumulators must be precharged to the required pressure. This precharge pressure varies by application. Consult SFP Hydraulics for any technical assistance in determining the precharge pressure if unsure. Incorrect precharge pressure can reduce the life expectancy of the bladder and or lead to a potential bladder failure in addition to reduced performance. Precharge pressure must not drop below 25% of the maximum system operating pressure including any pressure spikes. Servi recommends to use a pressure regulator valve on the nitrogen gas bottle to avoid any over pressurization of accumulator above its rated pressure. It is also important to ensure the bladder is thoroughly lubricated inside the accumulator with system fluid before precharging. This lubrication process is very important especially if the accumulator has been stored for a long time before commissioning or if the system fluid is water based and could have dried up over a period of time. Ensure lubrication fluid is compatible with bladder compound to avoid damage to bladder or premature failure.

Our general recommendations for nitrogen precharge varies by application and are as follows.

- **Energy Storage** – 90% of the minimum system operating pressure.
- **Shock Absorption** – 60%-75% of the normal working pressure.
- **Pulsation Dampening** – 60%-80% of the normal working pressure

### Checking Precharge Pressure

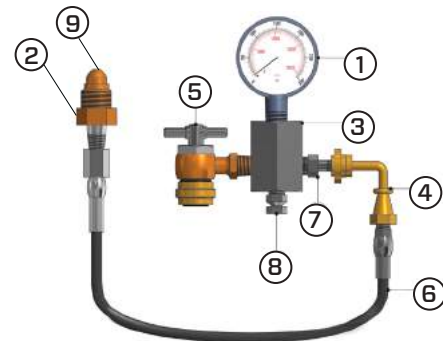
Before checking precharge pressure, ensure the hydraulic pressure has been released completely to get an accurate reading of gas pressure in the accumulator. When a new accumulator is installed, check the precharge pressure within first week of operation. Subsequent checks must be conducted every 6 months at a minimum. High cycling and high temperature applications may require precharge maintenance every 3 months or less.

Charging & gauging kits are designed to fit on a commercially available nitrogen bottles. Charging instructions are provided with charging kit for safe operation.

### Recommended Accessories

Part #	Description
CKT-0030	C&G kit - Bottom Repairable - 3000 PSI
CKT-T-0030	C&G kit - Top Repairable - 3000 PSI

Item #	Description	Part Number
1	Gauge -3000 PSI	CKT-0030
2	Gland Nut - CGA 580	CK-008
3	Manifold	CK-002
4	Swivel Connector	CK-004
5	Air Chuck	CK-005
6	Hose Assy - 3000 PSI	CK-006
7	Tank Valve	CK-010
8	Bleeder Valve	CK-011
9	Gland - CGA 580	CK-009



C&G Kit P/N: CKT-0030



C&G Kit P/N: CKT-T-0030



C&G Kit P/N: CKM-0030



Hose Assembly P/N: CK-014



Valve Extension  
P/N: CK-013



Tank Valve  
P/N: CK-010



Air Chuck  
P/N: CK-005



Bleed Valve  
P/N: CK-011

## Precharge Maintenance Instructions for 3000 PSI Bottom Repairable Bladder Accumulators



**CAUTION:** Always wear safety glasses before conducting any precharge maintenance to avoid risk of eye injury. Maintenance to be performed by trained personal only.



1) Remove the protective cap and valve seal cap.



2) Ensure the bleed valve is fully closed and the T-handle on the air chuck is fully retracted by turning in the counter clockwise direction.



3) Install the C&G hose on the gas valve by screwing the air chuck on the valve thread and tighten to prevent any leakage. Turn the T-handle on the air chuck to depress the valve core. Connect the charging hose to the nitrogen bottle regulator(not shown).



4) Install the swivel connector on the hose on to the tank valve. Tighten to prevent any leakage. Do not over-tighten. Accumulator is now ready to be filled with nitrogen pressure.

5) Slowly open the regulator on the nitrogen gas bottle to allow gas to flow at a very slow rate (minimum 80 psi precharge is required to depress the core in the tank valve) into the accumulator until the desired precharge pressure is reached by monitoring the pressure gauge. Close the regulator valve and allow the pressure to stabilize. Adjust the pressure if necessary by opening the regulator valve to fill more gas or bleed excess pressure by opening the bleed valve.



6) Retract the T-handle on the air chuck to close the valve core.



7) Bleed any excess nitrogen by opening the bleed valve.



8) Check any potential leaks from the gas valve with soap water. If there is a leak, tighten the valve core to 4 in-lbs. If necessary, replace the valve adaptor.



9) Replace the valve seal cap and protective cap.

**Recommended torque values after precharging:**  
Lock Nut 240 Ft-Lbs +/- 10 Ft-Lbs  
Jam Nut 50 Ft-Lbs +/- 5 Ft-Lbs

## Precharge Maintenance Instructions for 3000 PSI Top Repairable Bladder Accumulators



1) Remove the protective cap and valve seal cap.



2) Ensure the bleed valve is fully closed and the T-handle on the air chuck is fully retracted by turning in the counter clockwise direction. Screw in the valve extension to the air chuck.



3) Screw in the extension to the gas valve. Turn the T handle on the air chuck clockwise to depress the core. Connect the charging hose to the gas bottle regulator(not shown).



4) Install the swivel connector on the hose on to the tank valve. Tighten to prevent any leakage. Do not over-tighten. Accumulator is now ready to be filled with nitrogen pressure.



5) Same as above description.



7) Bleed any excess nitrogen in the hose by opening the bleed valve.



8) Check for any potential leaks from the gas valve with soap water. If there is a leak, tighten the valve core to 4 in-lbs. If necessary, replace the valve adaptor.



9) Replace the seal cap and protective cap.

**Recommended torque values after precharging:**  
Lock Nut 240 Ft-Lbs +/- 10 Ft-Lbs  
Jam Nut 50 Ft-Lbs +/- 5 Ft-Lbs