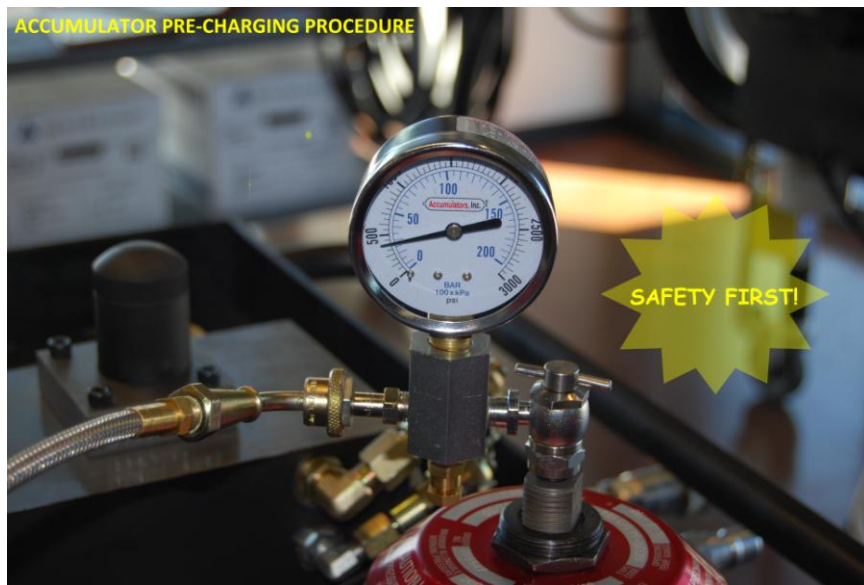


# Job Task Procedural Documentation

August 2011

## Task

Hydraulic Accumulator Gas Pre-charging



### Safety First!

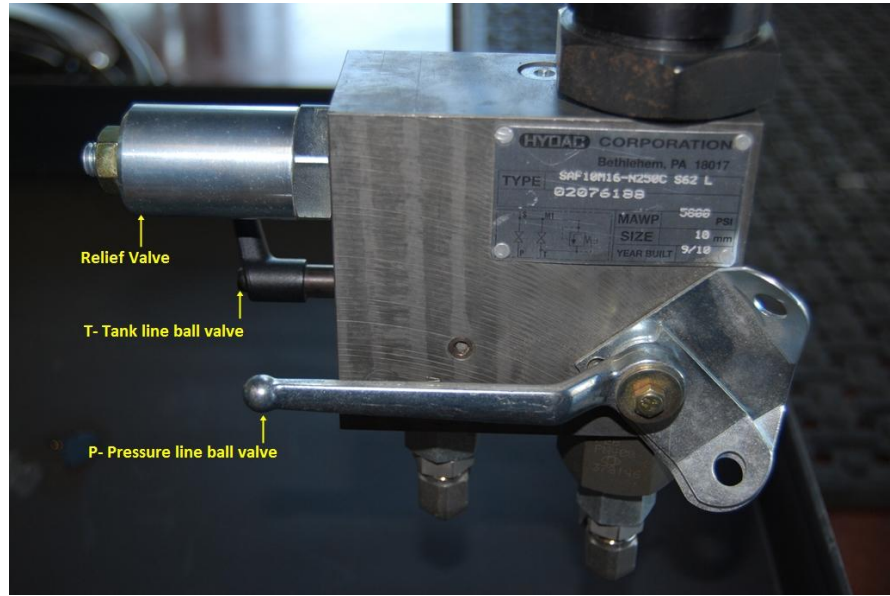
Accumulators, gas bottles, and hydraulic systems are inherently dangerous, due to high pressure gases and fluids. **DO NOT ATTEMPT** to maintain these systems unless adequately trained, have experience with the items and systems in question, and can

recognize the potential risks involved, if mishandled. Always wear appropriate safety equipment. **Read and understand all instructions prior to servicing and maintaining accumulators!**

## Tools required

1. Standard hand tool set
2. Accumulator charging kit HYDAC-8456-SAE-08
3. Accumulator charging gauge set ACC-3000-SAE-351A

The accumulator isolation and safety bleed-off assembly is located at the base of the accumulator assembly. It consists of a pressure line ball valve, a tank line ball valve, and a safety relief valve to protect against over-pressurization of the hydraulic pressure in the vessel.



### Step 1.

Isolate the accumulator from the main hydraulic system by *closing* the pressure line ball valve.



### Step 2.

Bleed off any residual hydraulic pressure trapped in the accumulator by *opening* the tank line ball valve.

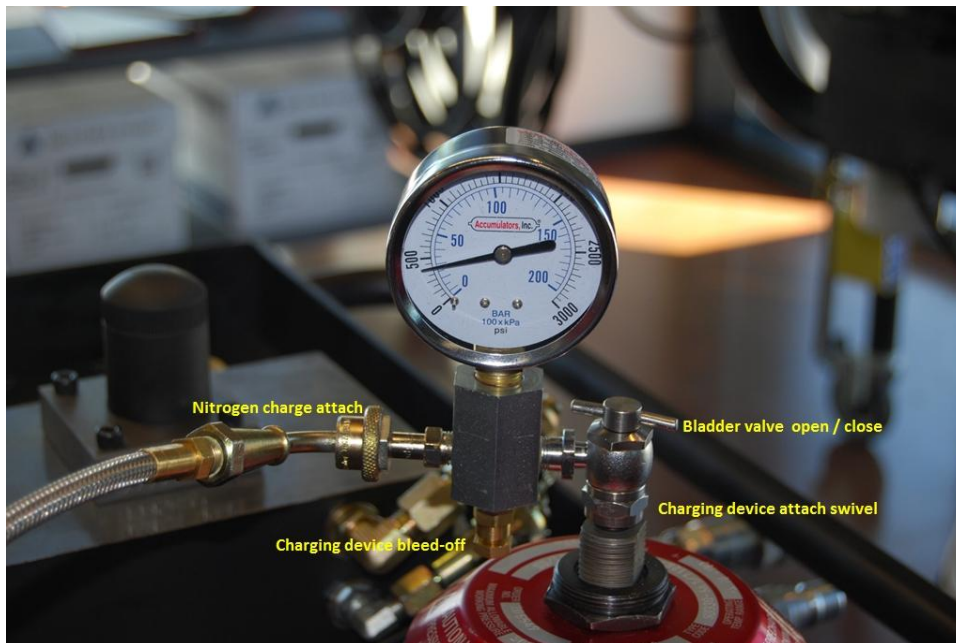
### Step 3.

Perform the required safety lockout-tagout on the accumulator, according to safety procedures.



#### Step 4.

Remove the gas valve protection guard and valve cap cover from the accumulator bladder valve located on the top side of the vessel.



#### Step 5.

To charge the accumulator, you will need to attach the accumulator charging gauge set ACC-3000-SAE-351A (or equivalent). The accumulator charging kit consists of an assembly with

integral 0-3000psi pressure gauge, bladder open/close valve, attaching swivel, charging device bleed off, and nitrogen charging hose male end (see illustration).

### Step 6.

Attach the accumulator charging gauge set by screwing the attachment swivel onto the accumulator bladder valve.

### Important!

**The assemble must be tightened with a hand wrench and**

**caution must be taken to avoid overtightening. Overtightening the swivel assembly may result in damage to the bladder valve assembly, causing it to leak.**



### Step 7.

Once the accumulator charging valve set is attached to the bladder valve assembly, attach the accumulator charging kit HYDAC 8456-SAE-08 (or equivalent).



## Step 8.

Turn the open/close bladder valve clockwise, depressing the valve stem, opening the valve for bladder charging.



(This open/close valve is used to isolate or connect the nitrogen charge bottle to the accumulator bladder, by opening or closing the bladder valve.)

## Step 9.

Close the charging device bleed-off valve by turning the valve head clockwise. This will close the valve.

**Caution!**  
**Do not overtighten.**  
**This will result in damage to the valve seat.**

(This valve is used to release any trapped gas pressure in the charging hose after the bladder is charged and prior to removing the hose.)





### Step 10.

With the accumulator charging kit connected to both the charging gauge set and the nitrogen bottle, slowly open the gas valve on the nitrogen bottle. The gas should be flowing to the accumulator.

**Note: It is important to fill the accumulator slowly. Filling it quickly will result in the gas temperature changing, which will affect the correct precharge pressure.**

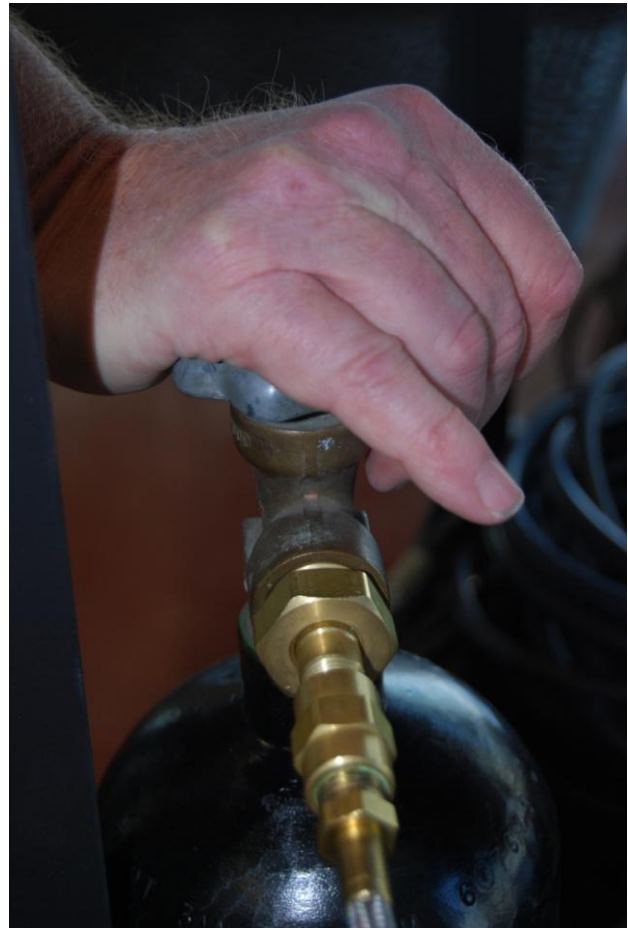
### Step 11.

Watch the gauge as the accumulator continues to charge, insuring that the charging process is slow. Occasionally close the bottle valve, and let the gas pressure settle. This will insure that the gas temperature remains stable.



### Step 12.

Once the correct precharge gas pressure has been reached, close the valve on the charging bottle.



### Step 13.

Close the open/close bladder valve by turning the T-handle counterclockwise. This will release the bladder valve to the close position.

You have now isolated the charged bladder from the charging assembly, which can be removed without loss of gas pressure.







#### Step 14.

Open the charge device bleed-off valve by turning the head counterclockwise. This will relieve all trapped gas pressure in the charging assembly.

#### Step 15.

Remove the accumulator charging gauge set from the bladder valve assembly.



### Step 16.

Replace the protective cap.

(Now is a good time to check the integrity of the bladder valve assembly with a soap-water solution, to see if the valve stem is leaking.)



### Step 17.

Remove the lockout-tagout assembly from the accumulator safety bleed-off assembly.



**Step 18.**

Open the pressure line ball valve, connecting the accumulator back into the main hydraulic system.

**Step 19.**

Close the tank line ball valve. This closes the bypass from the accumulator to the tank, allowing system pressure.

**Caution!**

**This step is often overlooked, causing lack of pressure to build in the hydraulic system.**

**Accumulator is now ready to use.**

