

## 4.5 GH64 Hydraulic Hammer

The Geoprobe® Model 7822DT is equipped with a GH64 Hydraulic Hammer. Instructions for maintaining the GH64 are provided in this section.

### 4.5.1 GH64 Hammer - Nitrogen Gas Charge

The GH64 hammer utilizes two nitrogen-filled accumulators as shown in Figure 4.30. The TE (top) accumulator is charged to 350 psi (2400 kPa) while the SE (side) accumulator carries an 800 psi (5500 kPa) charge.

Without a sufficient nitrogen charge, the hammer will not function properly and service life may be shortened. Geoprobe Systems® recommends charging the accumulators with nitrogen gas once a month. It may also be beneficial to check the charges before projects where tough probing conditions are expected.

Refer to the procedures below to provide an appropriate nitrogen charge to the GH64 TE and SE accumulators.

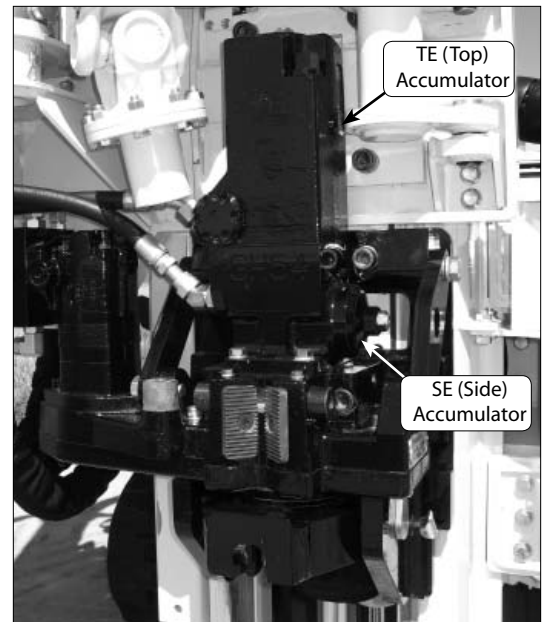
#### **Required Equipment**

Nitrogen Charge Kit, GH60/GH64 Series, Geoprobe® P/N 15341  
Combination wrenches, 5/8-inch and 1-1/8-inch  
Allen wrench, 3/16-inch or 1/4-inch

Note that the nitrogen gas cylinder is empty upon arrival. Shipping regulations do not allow the transport of filled gas cylinders by commercial carriers. You must see your local gas supplier to fill the empty cylinder or exchange it for a filled cylinder before you can charge the GH64 Hammer.

#### **Charging the GH64 Hammer TE Accumulator**

1. Fold the probe derrick into the vertical position, lower the foot onto the ground, and raise the GH64 hammer until the top of the hammer is approximately at waist level. Shut off the engine.
2. Thread the regulator from the nitrogen charge kit into the valve housing of the nitrogen gas cylinder and tighten with a 1-1/8-inch combination wrench as shown in Figure 4.31. Make sure the regulator adjusting screw is backed out (turned counterclockwise) until resistance is no longer felt.
3. Locate the nitrogen charge valve assembly for the GH64 TE accumulator. Remove the plug from the charge valve assembly with a 3/16- or 1/4-inch Allen wrench (sizes vary) as shown in Figure 4.32.



**Figure 4.30: The GH64 Hydraulic Hammer utilizes two nitrogen-filled accumulators.**



**Figure 4.31: Install the regulator on the nitrogen cylinder.**



**Figure 4.32: Remove the plug from the nitrogen charge valve of the TE accumulator with an Allen wrench.**

## **IMPORTANT!**

4. Using a blunt object such as a screwdriver, Allen wrench, or punch, discharge the accumulator by depressing the plunger on the charge assembly (Fig. 4.33).
5. Thread the nitrogen charge adapter (included with charge kit) into the charge valve assembly (Fig. 4.34). Tighten the fitting using a 5/8-inch combination wrench.
6. Attach the quick-connect coupler on the nitrogen fill hose to the nitrogen charge adapter that was installed on the hammer in Step 5. Refer to Figure 4.35.
7. Open the valve on the nitrogen cylinder several turns to let pressurized gas flow to the regulator.
8. Adjust the nitrogen pressure in the fill hose to 350 psi (2400 kPa) by turning the regulator adjusting screw (Fig. 4.34) clockwise. Note that fill hose pressure is shown on the left regulator gauge.
9. Wait for the nitrogen pressure to stabilize in the hammer. Once the pressure has stabilized, close the main valve on the nitrogen cylinder. Observe the line pressure gauge for a few moments after closing the cylinder valve. Line pressure should remain at a steady 350 psi (2400 kPa). If line pressure decreases, open the cylinder valve and allow more time for the pressure to stabilize before again closing the valve.
10. Turn the regulator adjusting screw counterclockwise a few turns until resistance is no longer felt.
11. Detach the fill hose quick connect coupler from the hammer quick connect nipple.
12. Relieve nitrogen pressure from the fill hose by unthreading the bleeder valve on the regulator assembly as shown in Figure 4.36. The valve need only be turned approximately 1/8 turn. Retighten the bleeder valve when pressure is relieved.
13. Unthread the quick connect nipple from the hammer charge valve assembly while listening for escaping gas. A quick release of a small amount of nitrogen is normal. A slow, extended release of nitrogen signals that something is wrong. Contact the Geoprobe® Service Resource Center (1-800-GEOPROBE) for troubleshooting suggestions if the gas release seems excessive.
14. Replace the cap on the charge valve assembly using the 3/16- or 1/4-inch Allen wrench.

The TE accumulator is now charged. Continue to Charging the SE Accumulator on the following page.



**Figure 4.33: Depress the charge valve with a blunt object to discharge the accumulator.**



**Figure 4.34: Install the nitrogen charge adapter in the charge valve assembly.**



**Figure 4.35: Connect the fill hose coupler to the nipple installed in the nitrogen charge valve.**

### **Charging the GH64 Hammer SE Accumulator**

Charge the SE accumulator to 800 psi (5500 kPa) in the same manner as described on the previous page for the TE accumulator. Refer to Figure 4.37 for the location of the SE accumulator charge valve.

After charging both accumulators, remove the regulator assembly from the nitrogen gas cylinder and replace the transport cap.

**IMPORTANT:** Do not transport the nitrogen gas cylinder without first removing the regulator. Always secure the cylinder during transport to prevent shifting or rolling while the vehicle is in motion. These are safety issues as the cylinder can be propelled at a high rate of speed if the regulator or valve were to be damaged during transport.



**Figure 4.36:** Relieve pressure from the nitrogen fill hose by slightly unthreading the bleeder valve.



**Figure 4.37:** Remove the plug from the nitrogen charge valve of the SE accumulator with an Allen wrench.