

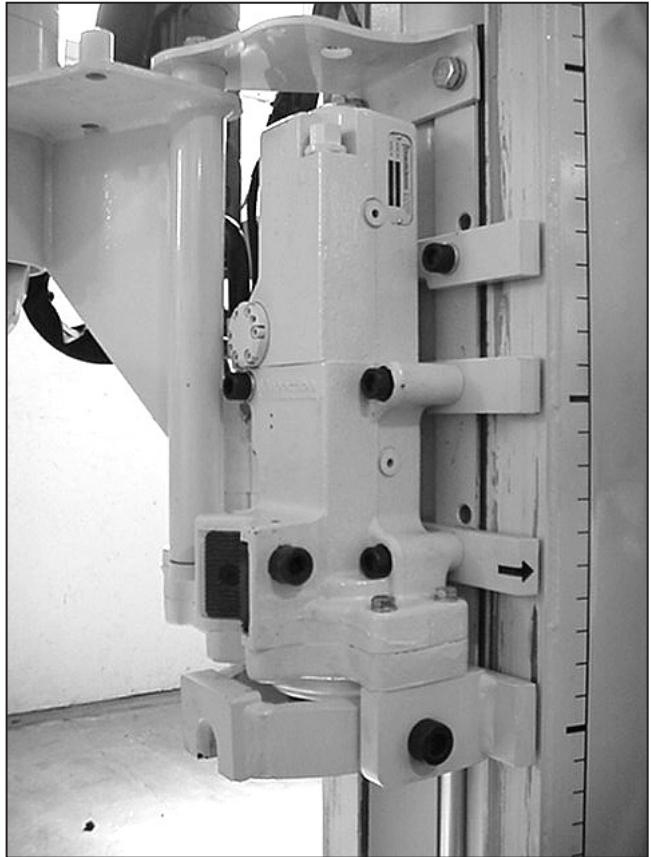
# **GH60/GH62 Hydraulic Hammer**

## **Nitrogen Gas Charge Instructions**

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# Instructions for Charging a GH60 or GH62 Hammer with Nitrogen Gas

## 1.0 Objective

The GH60 and GH62 hydraulic hammers utilize nitrogen gas accumulators and pressurized hydraulic fluid to provide percussion for advancing probe rods and sampling devices. To maintain optimal hammer performance, a nitrogen gas charge of 350 psi (2413 kPa) is needed for the TE (top) accumulator while the SE (side) accumulator requires an 800-psi (5516 kPa) charge. This document describes use of a GH60 Gas Charge Kit to provide the recommended nitrogen charges.

## 2.0 Required Equipment

GH60 Nitrogen Charge Kit, Geoprobe® P/N 15341  
Combination wrench, 5/8-inch  
Combination wrench, 1-1/8-inch or  
Breaker bar, 1/2-inch drive and Socket, 1-1/8-inch  
Combination wrench, 1-1/2-inch  
Allen wrench, 3/16-inch

**Note that the nitrogen gas cylinder is empty upon arrival. Shipping regulations do not allow transport of filled gas cylinders by commercial carriers. See your local gas supplier to fill the empty cylinder or exchange it for a filled cylinder.**

## 3.0 GH60 vs GH62

GH60 hydraulic hammers utilize a single accumulator while GH62 hammers are equipped with two accumulators. Both have a TE accumulator at the top of the hammer (Fig. 1) that is charged to 350 psi (2413 kPa). GH62 hammers also have an SE accumulator located on the side of the hammer (Fig. 1). The SE accumulator is charged to 800 psi (5516 kPa).

## 4.0 Charging the Hammer

1. Fold the probe derrick into the vertical position, lower the foot onto the ground, and raise the hammer to approximately waist level. Shut off the engine.
2. If the unit is equipped with an augerhead attachment, swing the auger out away from the hammer (Fig. 2).
3. Thread the regulator into the valve housing of the nitrogen gas cylinder and tighten with a 1-1/8-inch combination wrench as shown in Figure 3. Make sure the regulator adjusting screw is backed out (turned counterclockwise) until resistance is no longer felt.
4. Remove the cap from the nitrogen charge valve assembly for the TE accumulator using a 3/16-inch Allen wrench (Fig. 4).

### Important Step!

5. Using a blunt object such as a screwdriver, Allen wrench, or punch, discharge the accumulator by depressing the plunger on the charge assembly (Fig. 5).

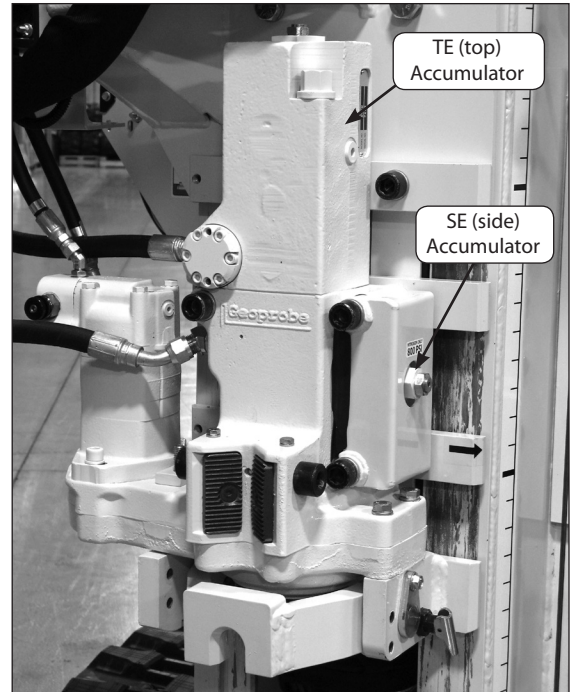


Figure 1: The GH62 hammer has two accumulators.

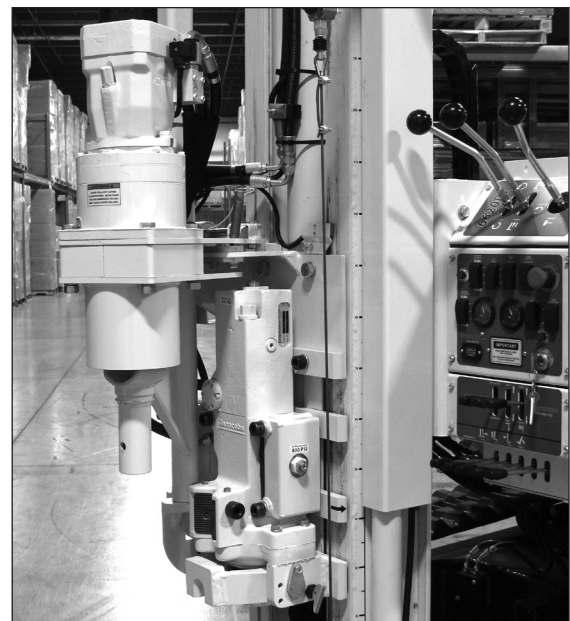


Figure 2: Augerhead pivoted out to access hammer.

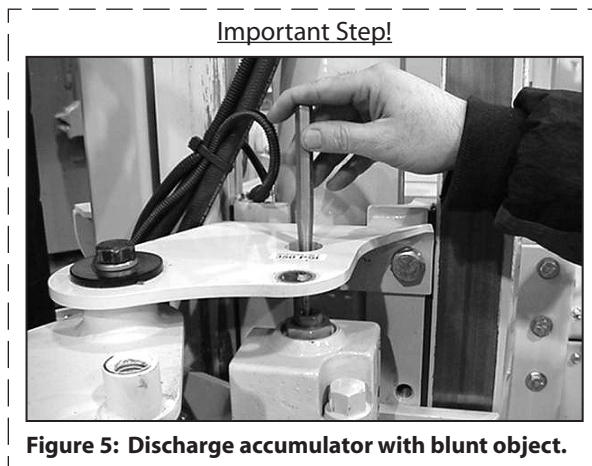
6. Thread the quick connect nipple (included with charge kit) into the charge valve assembly (Fig. 6). Tighten the fitting using a 5/8-inch combination wrench.
7. Attach the quick-connect coupler on the fill hose to the quick-connect nipple that was installed on the hammer in Step 6. Refer to Figure 7.
8. Open the valve on the nitrogen cylinder several turns to let pressurized gas flow to the regulator.
9. Adjust nitrogen pressure in the fill hose to 350 psig by turning the regulator adjusting screw in (clockwise) as shown in Figure 8.
10. Wait for the nitrogen pressure to stabilize in the hammer. Once the pressure has stabilized, close the 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 psig. If line pressure decreases, open the cylinder valve and allow more time for the pressure to stabilize before again closing the valve.
11. Turn the regulator adjusting screw out (counterclockwise) a few turns until no resistance is felt



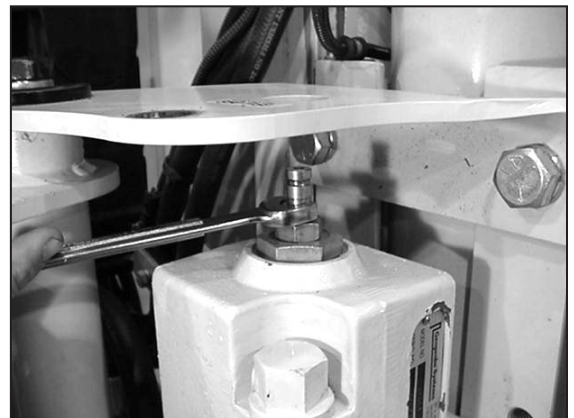
**Figure 3: Attach regulator to cylinder.**



**Figure 4: Remove cap from nitrogen charge valve.**



**Figure 5: Discharge accumulator with blunt object.**



**Figure 6: Install quick connect nipple.**

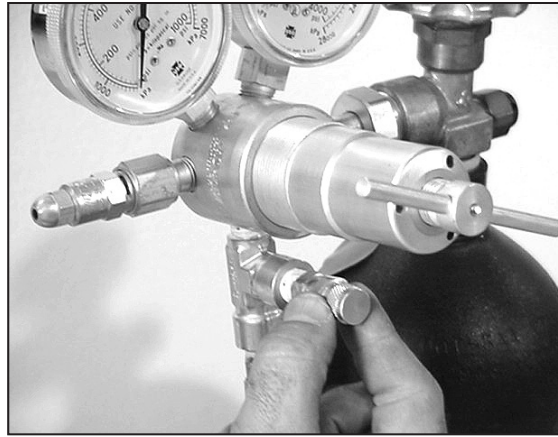


**Figure 7: Push coupler onto quick connect nipple.**



**Figure 8: Adjust fill line pressure with the regulator.**

12. Detach the fill hose quick-connect coupler from the charge valve quick-connect nipple
13. Relieve nitrogen pressure from the fill hose by unthreading the bleeder valve on the regulator assembly as shown in Figure 9. The valve need only be turned approximately 1/8 turn. Retighten the bleeder valve when pressure is relieved.
14. 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 Geoprobe Systems® for troubleshooting suggestions if the gas release seems excessive.



**Figure 9: Unthread bleeder valve to purge fill line.**

15. Replace the cap on the fill assembly using the 3/16-inch Allen wrench.
16. Repeat Steps 4 - 15 for the SE accumulator. Remember to charge the SE accumulator to **800 psig**.

**NOTE: When repeating the charge procedure for the SE accumulator, it may be necessary to tap on the blunt object specified in Step 5 in order to depress the charge assembly plunger. The higher nitrogen pressure within the SE accumulator may not allow simply pushing the plunger in by hand to discharge the accumulator.**

17. 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 may be propelled at a high rate of speed if the regulator or valve were to be damaged during transport.**

18. Swing the augerhead back into the carrying position if necessary.

The hydraulic hammer is now fully charged.



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