

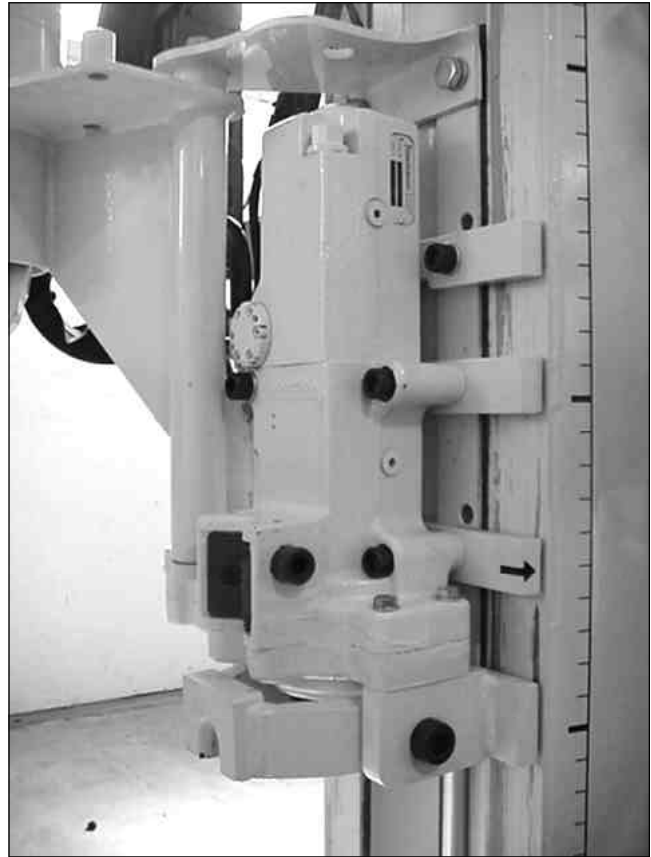
# GH60 Hydraulic Hammer

## Nitrogen Gas Charge Instructions

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# Instructions for GH60 Nitrogen Gas Charge

## 1.0 Objective

The GH60 hydraulic hammer utilizes a nitrogen gas accumulator and pressurized hydraulic fluid to provide percussion for advancing probe rods and sampling devices. A nitrogen gas charge of 350 psi is needed to maintain optimal hammer performance. This document describes the use of a GH60 Gas Charge Kit to provide the recommended 350 psi nitrogen charge.

## 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 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 GH60 Hammer.**

## 3.0 Charging the GH60 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 power unit engine.
2. If the unit is equipped with an augerhead attachment, swing the auger out away from the hammer (Fig.1). This requires a 1/2-inch drive breaker bar with 1-1/8-inch socket, or a 1-1/8-inch combination wrench.
3. Locate the nitrogen charge valve assembly on the GH60 Hammer. This will be either on the top of the hammer (as shown in Figure 2) or on the side nearest to the control panel.
4. Remove the cap from the charge valve assembly with a 3/16-inch allen wrench (Fig. 2).

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. 3).



Figure 1. Augerhead rotated to access hammer.

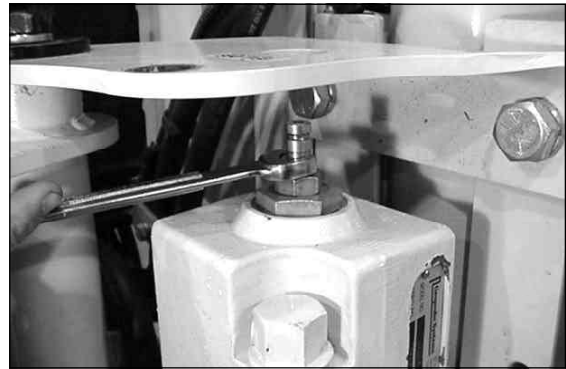


Figure 2. Remove cap from nitrogen charge valve.

**Important Step!**



**Figure 3. Discharge accumulator with blunt object.**



**Figure 4. Install quick connect nipple.**

6. Thread the quick connect nipple (included with charge kit) into the charge valve assembly (Fig. 4). Tighten the fitting using a 5/8-inch combination wrench.
7. 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 5. Make sure the regulator adjusting screw is backed out (turned counterclockwise) until resistance is no longer felt.
8. 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 6.
9. Open the valve on the nitrogen cylinder a several turns to let pressurized gas flow to the regulator.
10. Adjust the nitrogen pressure in the fill hose to 350 psig by turning the regulator adjusting screw in (clockwise) as shown in Figure 7. Note that fill hose pressure is shown on the left regulator gauge.
11. 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.



**Figure 5. Attach regulator to cylinder.**



**Figure 6. Push coupler onto quick connect nipple.**



Figure 7. Adjust fill line pressure to 350 psig.

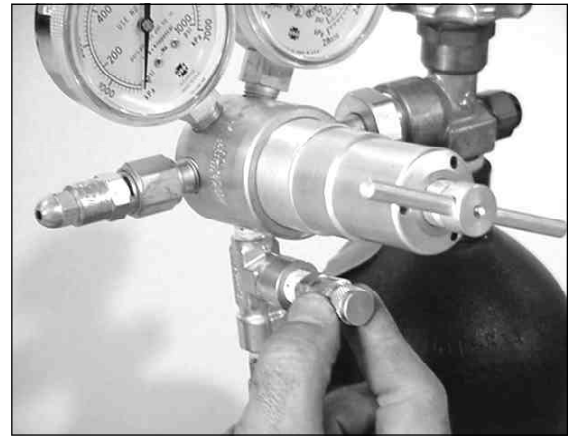


Figure 8. Unthread bleeder valve to purge fill line.

12. Detach the fill hose quick connect coupler from the hammer quick connect nipple
13. Relieve nitrogen pressure from the fill hose by unthreading the bleeder valve on the regulator assembly as shown in Figure 8. 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 seem excessive.
15. Replace the cap on the fill assembly using the 3/16-inch Allen wrench.
16. Turn the regulator adjusting screw out (counterclockwise) a few turns until no resistance is felt.
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 can 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. Lock it in place using the 1-1/8-inch combination wrench.

**The GH60 Hammer is now fully charged.**



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