

Rittenhouse D30-5.5HP

Hypro Diaphragm Pump D30GRGI with GX160QH Gas Engine

Model: D30-5.5HP

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your Hypro Diaphragm Pump D30GRGI with GX160QH Gas Engine. Please read this manual thoroughly before operating the unit to ensure proper function and longevity. This pump/motor assembly is designed for professional spraying operations, featuring a Hypro D30 diaphragm pump, gear reduction, pressure regulator, and a GX160QH gas engine.

2. SAFETY INFORMATION

Always prioritize safety when operating machinery. Failure to follow safety instructions can result in serious injury or equipment damage.

- **Read the Manual:** Understand all instructions and warnings before use.
- **Personal Protective Equipment (PPE):** Wear appropriate PPE, including eye protection, gloves, and hearing protection.
- **Ventilation:** Operate the gas engine in a well-ventilated area to prevent carbon monoxide poisoning.
- **Fuel Handling:** Handle fuel with extreme care. Refuel in a well-ventilated area with the engine off and cool.
- **Hot Surfaces:** Engine and pump components can become very hot during operation. Avoid contact.
- **Pressure Release:** Always relieve system pressure before performing any maintenance or adjustments.
- **Secure Placement:** Ensure the pump assembly is on a stable, level surface during operation to prevent tipping.

3. COMPONENTS OVERVIEW

The Hypro Diaphragm Pump D30GRGI with GX160QH Gas Engine is a complete assembly designed for efficient fluid transfer.



Figure 3.1: Front view of the Hypro D30GRGI Diaphragm Pump assembly. This image shows the integrated pump and gas engine unit, highlighting the compact design and primary components from the front perspective.



Figure 3.2: Side view of the Hypro D30GRGI Diaphragm Pump assembly. This image provides a different angle, showcasing the engine's exhaust and air filter, along with the pump's various ports and the pressure regulator.

- **Hypro D30 Diaphragm Pump:** The core pumping unit, designed for high pressure and chemical resistance.
- **GX160QH Gas Engine:** Provides reliable power to the pump, rated at 4.8-5.5 HP.
- **Gear Reduction:** Connects the engine to the pump, optimizing RPM for efficient operation.
- **Pressure Regulator (9910-GS40GI):** Controls and maintains desired system pressure.
- **AR1636 Gearbox:** Facilitates the connection between the pump and the 3/4" shaft of the gas engine.

4. SETUP

The pump-motor combination arrives almost fully assembled. The pressure regulator is detached to prevent damage during shipment.

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any shipping damage.
2. **Engine Mounting:** Securely bolt the GX160QH gas engine to a stable, level surface or mounting frame. Ensure all mounting bolts are tightened to manufacturer specifications.
3. **Pressure Regulator Attachment:** Attach the 9910-GS40GI Pressure Regulator to the designated port on the pump. Ensure all connections are tight to prevent leaks. Refer to the regulator's specific instructions for proper orientation and sealing.
4. **Hose Connections:**
 - Connect your 1" inlet hose to the 1" hose barb inlet port.
 - Connect your 1/2" spraying hose to the 1/2" hose barb outlet port.

Ensure all hose clamps are secure to prevent disconnections under pressure.

5. **Fluid Fill:** Fill the engine with the recommended type and amount of engine oil. Check the pump's oil level and fill if necessary, according to the pump manufacturer's guidelines.
6. **Fuel Fill:** Fill the engine's fuel tank with fresh, clean gasoline. Do not overfill.

5. OPERATING INSTRUCTIONS

Follow these steps for safe and effective operation of your pump assembly.

5.1. Pre-Operation Checklist

- Check engine oil level.
- Check fuel level.
- Inspect all hose connections for tightness and leaks.
- Ensure the pump and engine are securely mounted.
- Verify that the intake hose is submerged in the fluid to be pumped.

5.2. Starting the Engine

1. Open the fuel valve.
2. Move the choke lever to the 'CHOKE' position (if engine is cold).
3. Move the throttle lever slightly open.
4. Pull the starter rope firmly until the engine starts.
5. Once the engine starts, gradually move the choke lever to the 'RUN' position.
6. Allow the engine to warm up for a few minutes before applying load.

5.3. Pump Operation

1. Once the engine is running smoothly, slowly increase the throttle to achieve the desired pump RPM.
2. Adjust the pressure regulator to set the desired operating pressure. Turn the adjustment knob clockwise to increase pressure, counter-clockwise to decrease.
3. Monitor the pressure gauge to ensure stable operation.
4. Begin your spraying operation.

5.4. Shutting Down

1. Reduce engine speed to idle.
2. Close the fuel valve.
3. Turn the engine switch to the 'OFF' position.
4. Allow the engine to cool down.
5. Relieve any remaining system pressure by opening a valve or trigger.

6. MAINTENANCE

Regular maintenance is crucial for the longevity and performance of your pump assembly.

6.1. Engine Maintenance

- **Oil Change:** Change engine oil after the first 20 hours of operation, then every 50-100 hours or annually. Refer to the GX160QH engine manual for specific oil type and capacity.
- **Air Filter:** Clean or replace the air filter regularly, especially in dusty conditions.
- **Spark Plug:** Inspect and clean the spark plug annually. Replace if worn.
- **Fuel System:** Drain the fuel tank and carburetor if storing for extended periods. Use a fuel stabilizer for stored fuel.

6.2. Pump Maintenance

- **Diaphragm Inspection:** Periodically inspect the diaphragms for wear or damage. Replace as needed.
- **Valve Inspection:** Check inlet and outlet valves for debris or wear. Clean or replace if necessary.
- **Oil Level:** Check the pump's oil level regularly and maintain it at the recommended mark.
- **Flushing:** After each use, especially with corrosive chemicals, flush the pump with clean water to prevent residue buildup and corrosion.
- **Winterization:** If operating in freezing temperatures, drain all fluids from the pump and hoses, or use an appropriate antifreeze solution to prevent damage.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your pump assembly.

Problem	Possible Cause	Solution
Engine will not start	No fuel; clogged fuel filter; faulty spark plug; incorrect choke position	Add fuel; clean/replace fuel filter; clean/replace spark plug; adjust choke
Low pump pressure	Worn diaphragms; clogged inlet filter; air leak in suction line; faulty pressure regulator	Inspect/replace diaphragms; clean inlet filter; check and tighten suction connections; inspect/adjust/replace regulator
Pump not priming	Air leak in suction line; clogged inlet; insufficient fluid in tank	Check all suction connections; clear inlet; ensure adequate fluid supply
Excessive vibration/noise	Loose mounting bolts; worn bearings; cavitation	Tighten bolts; inspect/replace bearings; ensure adequate fluid supply and proper hose sizing

8. SPECIFICATIONS

Feature	Specification
Pump Type	Hypro D30 Diaphragm Pump
Engine Type	Honda GX160QH Gas Engine
Engine Horsepower	4.8-5.5 HP
Maximum Flow Rate	9.6 GPM (Gallons Per Minute)
Maximum Pressure	580 PSI

Feature	Specification
Maximum RPM	3600 RPM
Maximum Fluid Temperature	140°F
Inlet Port	1" Hose Barb
Outlet Port	1/2" Hose Barb
Weight	65 lbs (approximate)
Pressure Regulator	9910-GS40GI (Included)
Gearbox	AR1636 (Included)

9. WARRANTY AND SUPPORT

For warranty information and technical support, please contact the manufacturer or authorized dealer. Keep your purchase receipt as proof of purchase for warranty claims.

Manufacturer: Rittenhouse

Model Number: D30-5.5HP

For further assistance, refer to the contact information provided with your purchase documentation or visit the official Rittenhouse website.

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Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question