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NorthStar 109163

NorthStar Semi-Trash Pump User Manual

Model: 109163

Introduction

This manual provides essential information for the safe and efficient operation, maintenance, and troubleshooting of your NorthStar Semi-Trash Pump. Please read this manual thoroughly before operating the pump to ensure proper usage and longevity of the product.
The NorthStar Semi-Trash Pump is designed for various water transfer applications, including draining ponds, irrigating fields, and other heavy-duty tasks involving contaminated or abrasive fluids.

Important Safety Information

Always follow safety precautions to prevent injury or damage to the equipment. Keep this manual for future reference.

- Ensure the pump is placed on a stable, level surface before operation.
- Do not operate the pump in enclosed spaces without proper ventilation due to exhaust fumes.
- Always wear appropriate personal protective equipment (PPE) when operating or maintaining the pump.
- Never touch hot surfaces during or immediately after operation.
- Disconnect the spark plug wire before performing any maintenance or inspection.
- Keep children and pets away from the operating area.
- Refer to the engine manufacturer's manual for specific engine safety guidelines.

Product Overview

The NorthStar Semi-Trash Pump (Model #109163) is engineered for demanding water transfer tasks. Key components include:

- **Engine:** Quiet, dependable 163cc Honda GX engine.
- **Pump Body:** Features FCD45 cast iron impeller and volute for reduced vibration and wear, suitable for semi-trash operations.
- **Seals:** Silicon carbide mechanical seals resist corrosion, wear, and heat, offering superior durability compared to standard seals.

- **Frame:** Fully welded industrial 1-inch steel roll cage provides robust protection for the entire unit, finished with a durable electrostatic coating.
- **Ports:** Standard NPT threads for flexible attachment of hoses.
- **Suction Lift:** Capable of a maximum suction lift of 23 feet.
- **Flow Rate:** Up to 10,010 GPH (166.83 Gallons Per Minute).



Figure 1: NorthStar Semi-Trash Pump, showing the Honda GX160 engine and the protective roll cage.



Figure 2: The pump highlighting its high flow capacity of 10,010 Gallons Per Hour.

Setup

1. Unpacking and Inspection

Carefully remove the pump from its packaging. Inspect all components for any signs of damage during shipping. Ensure all parts listed in the packing list are present.

2. Placement

Place the pump on a firm, level surface near the water source. Ensure adequate ventilation around the pump.

3. Connecting Hoses

Attach the suction hose to the inlet port and the discharge hose to the outlet port. Ensure all connections are tight to prevent air leaks, which can affect priming. The pump uses standard NPT threads for attachment flexibility.



Figure 3: Close-up view of the pump's FCD45 cast iron components, designed for durability.



Figure 4: The pump's inlet and outlet ports, ready for hose connections.

4. Adding Fuel and Oil

Refer to the Honda GX160 engine manual for specific fuel and oil requirements. Use fresh, clean fuel and the recommended type of engine oil. Do not overfill.

5. Priming the Pump

Before starting, the pump must be primed. Remove the priming plug on top of the pump housing and fill the pump with clean water until it overflows. Replace the priming plug securely. The built-in check valve helps hold the prime when the pump is not running.

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Video 1: Demonstrates the setup and priming process for the NorthStar Semi-Trash Water Pump. This video shows how to connect hoses, add fuel, and prime the pump before starting operation.

Operating Instructions

1. Starting the Engine

1. Ensure the fuel valve is open and the engine switch is in the "ON" position.
2. If the engine is cold, apply choke.
3. Pull the recoil starter handle firmly until the engine starts.
4. Once started, gradually open the choke.



Figure 5: The NorthStar pump actively discharging water from a body of water, demonstrating its operational capability.

2. Pumping Operation

Once the engine is running smoothly, the pump will begin to draw water. Monitor the flow and ensure there are no air leaks in the suction line. The pump offers multi-directional discharge, allowing you to direct fluids as needed.

3. Stopping the Engine

To stop the pump, move the engine switch to the "OFF" position and close the fuel valve.

Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your NorthStar Semi-Trash Pump. Always ensure the engine is off and cool before performing any maintenance.

1. Engine Maintenance

- **Oil Change:** Change engine oil after the first 20 hours of operation, then every 50 hours or annually.
- **Air Filter:** Clean or replace the air filter regularly, especially in dusty conditions.
- **Spark Plug:** Inspect and clean the spark plug annually. Replace if necessary.
- Refer to the Honda GX160 engine manual for detailed engine maintenance schedules.

2. Pump Maintenance

- **Clean Strainer:** Regularly check and clean the suction strainer to prevent blockages and ensure efficient flow.
- **Impeller and Volute:** Periodically inspect the FCD45 cast iron impeller and volute for wear or damage.
- **Seals:** While silicon carbide seals are highly durable, inspect them for any signs of leakage or wear during pump disassembly.
- **Storage:** For long-term storage, drain all fuel from the tank and carburetor. Drain water from the pump housing. Store in a dry, protected area.

Troubleshooting

Problem	Possible Cause	Solution
Engine will not start	No fuel; Engine switch OFF; Choke not applied (cold engine); Fouled spark plug	Add fuel; Turn engine switch ON; Apply choke; Clean/replace spark plug
Pump does not prime or loses prime	Pump not filled with water; Air leak in suction line/connections; Suction hose too long or too high; Clogged strainer	Fill pump with water; Check and tighten all connections; Shorten suction hose or lower pump; Clean strainer
Low water flow	Clogged strainer; Worn impeller/volute; Air leak in suction line; Engine running at low RPM	Clean strainer; Inspect/replace impeller/volute; Check connections; Increase engine RPM
Excessive vibration or noise	Loose components; Debris in pump housing; Worn bearings or impeller	Check and tighten all bolts; Clear debris; Inspect/replace worn parts

Specifications

Brand: NorthStar

Model: 109163

Engine: 163cc Honda GX160

Ports: 2-inch NPT

Maximum Flow Rate: 10,010 GPH (166.83 Gallons Per Minute)

Maximum Suction Lift: 23 feet

Solids Capacity: 5/8 inch

Impeller/Volute Material: FCD45 Cast Iron

Seal Material: Silicon Carbide

Frame Material: 1-inch Steel Roll Cage

Item Weight: 62.1 pounds

Product Dimensions: 20 x 16 x 16 inches

Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or visit the official NorthStar website. Keep your purchase receipt and model number handy when contacting support.

Manufacturer: NorthStar

Contact: Refer to NorthStar Store on Amazon for additional information and support resources.

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