



PUMP OWNER'S MANUAL

Read and understand the owner's manual completely before using this pump.
Assemble, test, and use only in accordance with the owner's manual instructions.

SAVE THIS MANUAL FOR FUTURE REFERENCE.

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CONTENTS

- IMPORTANT SAFETY INFORMATION2
- COMPONENT & CONTROL LOCATIONS3
- BEFORE OPERATION4
 - Is the Pump Ready to Go?4
 - Check the Pump4
 - Check the Hoses4
- OPERATION5
 - Pump Placement5
 - Suction Hose Installation6
 - Discharge Hose Installation7
 - Priming the Pump7
- SERVICING THE PUMP9
 - Maintenance Safety9
 - Safety Precautions9
 - Maintenance Schedule10
 - Refueling10
 - Fuel Recommendations10
- STORING THE PUMP11
 - Cleaning11
 - Storage Precautions12
 - Removal from Storage12
 - Transporting12
- TROUBLESHOOTING12

IMPORTANT SAFETY INFORMATION

Most accidents can be prevented if you follow all instructions in this manual and on the pump. The most common hazards are discussed below, along with the best way to protect yourself and others.



WARNING!

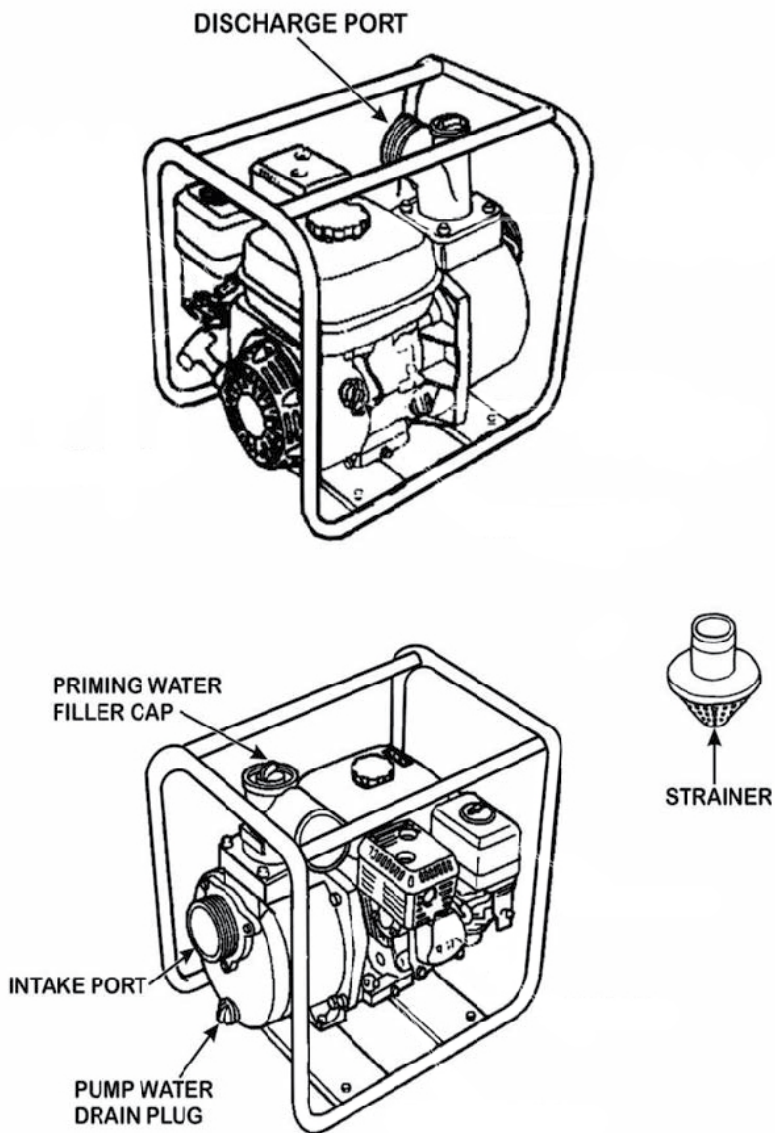
The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO THIS PRODUCT, BUT MUST BE SUPPLIED BY THE OPERATOR.

- Read and understand this owner's manual before operating the pump. Failure to do so could result in personal injury or equipment damage.
- This pump is designed to pump only water that is not intended for human consumption. Other uses can result in injury to the operator or damage to the pump and other property. Pumping flammable liquids, Such as gasoline or fuel oils, can result in a fire or explosion, causing serious injury. Pumping sea water, beverages, acids, chemical solutions, or any other liquid that promotes corrosion can damage the pump.
- Know how to stop the pump quickly, and understand the operation of all controls. Never permit anyone to operate the pump without proper instructions.
- Do not allow children to operate pump. Keep children and pets away from the area of operation.
- Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, and long hair can be caught in moving parts.
- Do not operate pump in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. The engine creates sparks, which may ignite the dust or fumes.
- Gasoline is extremely flammable, and gasoline vapor can explode. Refuel outdoors, in a well-ventilated area, with the pump stopped. Never smoke near gasoline, and keep other flames and sparks away. Always store gasoline in an approved container . If any fuel is spilled, make sure the area is dry before starting the pump.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the pump indoors.
- To prevent fire hazards and to provide adequate ventilation for stationary equipment applications, keep the pump at least 3 feet away from building walls and other equipment during operation. Do not place flammable objects close to the pump.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the pump in a closed garage or confined area.
- Do not overload the pump. Use the correct pump for your application. The correct pump will do the job better and safer at the rate for which it is designed.

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep you invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

PUMP COMPONENTS



BEFORE OPERATION

IS THE PUMP READY TO GO?

For your safety, and to maximize the service life of your equipment, it is very important to take a few moments before you operate the pump to check its condition. Be sure to take care of any problem you find, or have a qualified mechanic correct it, before you operate the pump.



Improperly maintaining this pump . or failing to correct a problem before operation, could cause a malfunction in which you could be seriously injured.

Always perform a pre-operation inspection before each operation inspection before each operation, and correct any problem.

Before beginning your pre-operation checks, be sure the pump is level and the engine switch is on the OFF position.

CHECK THE GENERAL CONDITION OF THE PUMP

- Look around and underneath the pump for signs of oil or gasoline leaks .
- Remove any excessive dirt or debris, especially around the engine muffler and recoil starter.
- Check that all nuts, bolts, screws, hose connectors and clamps are tightened.
- Look for signs of damage.

CHECK THE SUCTION AND DISCHARGE HOSES

- Check the general condition of the hoses. Be sure the hoses are in serviceable condition before connecting them to the pump. Remember that the suction hose must be reinforced construction to prevent hose collapse.
- Check that the sealing washer in the suction hose connector is in good condition.
- Check that the hose connectors and clamps are securely installed.
- Check that the strainer is in good condition and is installed on the suction hose.

CHECK THE ENGINE

REFER TO ENGINE OWNERS MANUAL.



Carbon monoxide gas is toxic. Breathing it can cause unconsciousness and even kill you. Avoid any areas or actions that expose you to carbon monoxide.

OPERATION

Before operating the engine for the first time, please review the *IMPORTANT SAFETY INFORMATION* and *BEFORE OPERATION*.

Pump only water that is not intended for human consumption. Pumping flammable liquids, such as gasoline or fuel oils, can result in a fire or explosion, causing serious injury. Pumping sea water, beverages, acids, chemical solutions, or any other liquid that promotes corrosion can damage the pump.

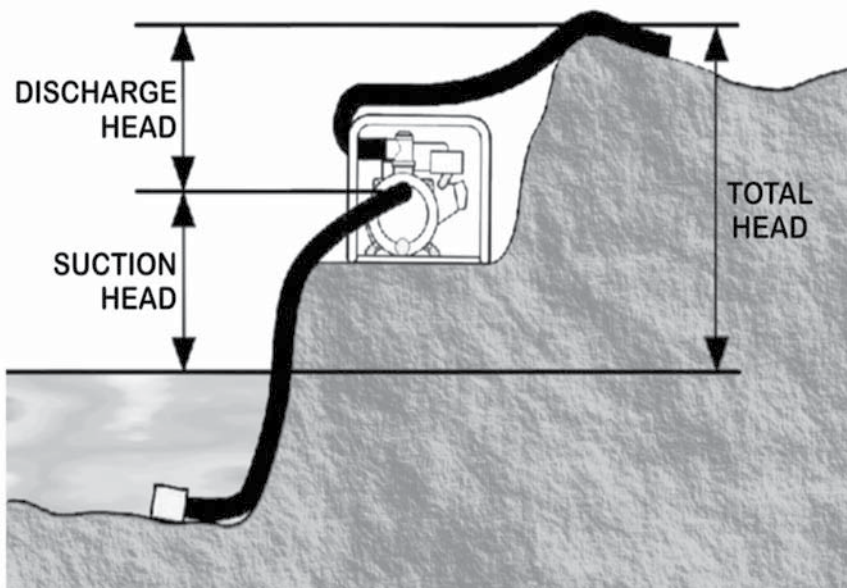
PUMP PLACEMENT

For best pump performance, place the pump near the water level, and use hoses that are no longer than necessary. That will enable the pump to produce the greatest output.

As head (pumping) increases, pump output decreases. Maximum head specifications and pump performance curves are shown in the table on page 2. The length, type, and size of the suction and discharge hoses can also significantly affect pump output.

Discharge head capability is always greater than suction head capability, so it is important for suction head to be the shorter part to total head.

Minimizing suction head (placing the pump near the water level) is also very important for reducing self-priming time. Self-priming time is the time it takes the pump to bring water the distance of the suction head during initial operation.



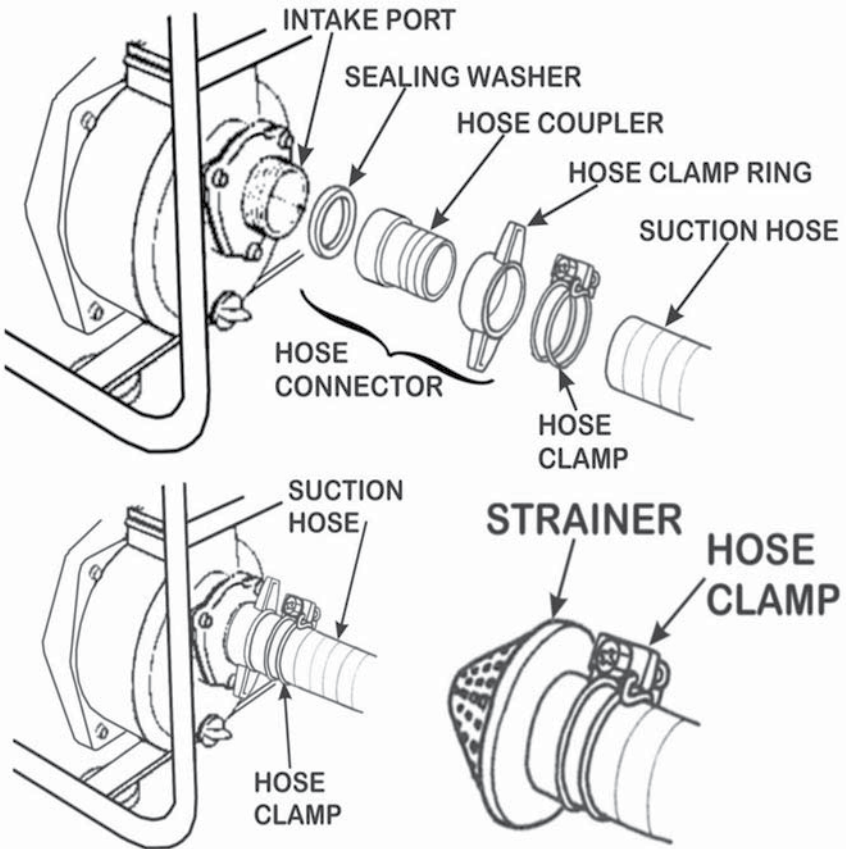
SUCTION HOSE INSTALLATION

Use the commercially available hose connector with the hose clamp provided with the pump. The suction hose must be reinforced with a non-collapsible wall or braided wire construction.

The suction hose should be no longer than necessary. Pump performance is best when the pump is near the water level, and the hoses are short.

Use a hose clamp to securely fasten the hose connector to the suction hose in order to prevent air leakage and loss of suction. Verify that the hose connector sealing washer is in good condition.

Install the strainer (provided with the pump) on the other end of the suction hose, and secure it with a hose clamp. The strainer will help to prevent the pump from becoming clogged or damaged by debris. Securely tighten the hose connector on the pump suction port.

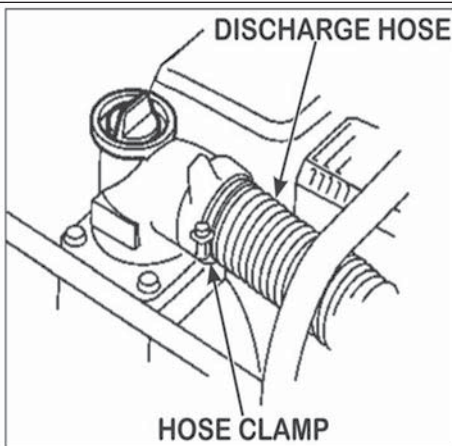


DISCHARGE HOSE INSTALLATION

Use a commercially available hose and hose connector.

It is best to use a short, large-diameter hose, because that will reduce fluid friction and improve pump output.

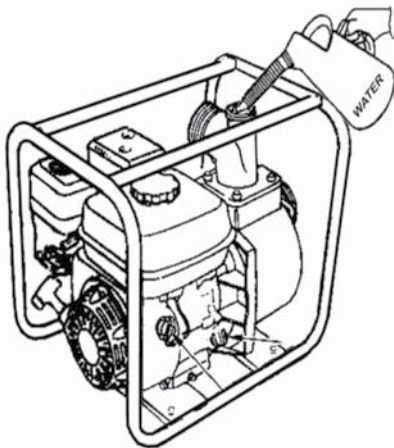
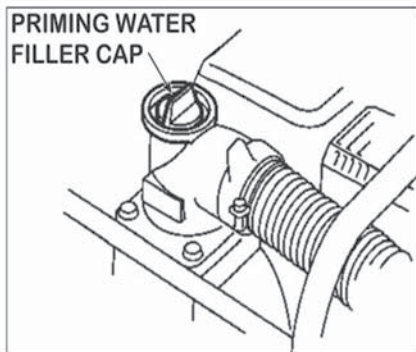
Tighten the hose clamp securely to prevent the discharge hose from disconnecting under high pressure.



PRIMING THE PUMP

Before starting the engine, remove the filler cap from the pump chamber, and completely fill the pump chamber with water. Reinstall the filler cap, and tighten it securely.

NOTICE: *Operating the pump dry will destroy the pump seal.*



SETTING ENGINE SPEED

REFER TO ENGINE OWNERS MANUAL FOR ENGINE SPEED ADJUSTMENT

Pump output is controlled by adjusting engine speed.



WARNING!

Carbon monoxide gas is toxic. Breathing it can cause unconsciousness and even kill you. Avoid any areas or actions that expose you to carbon monoxide.

STOPPING THE ENGINE

REFER TO ENGINE OWNERS MANUAL FOR STOPPING THE ENGINE

After use, remove the pump drain plug, and drain the pump chamber. Remove the filler cap, and flush the pump chamber. Remove the filler cap, and flush the pump chamber with clean, fresh water. Allow the water to drain from the pump chamber, then reinstall the filler cap and drain plug.

SERVICING THE PUMP

THE IMPORTANCE OF MAINTENANCE

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution.



WARNING!

Improperly maintaining this pump, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your pump, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a qualified mechanic.

The maintenance schedule applies to normal operating conditions. If you operate your engine under unusual conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

Maintenance, replacement or repair of emission control devices and systems may be done by any engine repair establishment or individual, using parts that are "certified" to EPA standards.

MAINTENANCE SAFETY

Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

SAFETY PRECAUTIONS

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from engine exhaust.**
Be sure there is adequate ventilation whenever you operate the engine.
 - **Burns from hot parts.**
Let the engine and exhaust system cool before touching.
 - **Injury from moving parts.**
Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks and flames away from all fuel-related parts.

To ensure the best quality and reliability, use only new, original replacement parts or their equivalents for repair and replacement.

MAINTENANCE SCHEDULE

Items should be serviced by a qualified mechanic, unless you have the proper tools and are mechanically proficient.

REFUELING

REFER TO ENGINE OWNERS MANUAL FOR REFUELING

OIL RECOMMENDATIONS

REFER TO ENGINE OWNERS MANUAL FOR OIL RECOMMENDATIONS

OIL CHANGE

REFER TO ENGINE OWNERS MANUAL FOR OIL CHANGE INFORMATION

AIR FILTER INSPECTION&SERVICE

REFER TO ENGINE OWNERS MANUAL FOR AIR FILTER INFORMATION

SPARK PLUG SERVICE

REFER TO ENGINE OWNERS MANUAL FOR SPARK PLUG INFORMATION

STORING THE PUMP

Proper storage preparation is essential for keeping your pump trouble free and looking good. The following steps will help to keep rust and corrosion from impairing your pump's function and appearance, and will make the pump easier to start when you use the pump again.

CLEANING

1. If the engine has been running, allow it to cool for at least half an hour before cleaning.
2. Wash the engine and pump.

Wash the engine by hand, and be careful to prevent water from entering the air cleaner or muffler opening. Keep water away from controls and all other places that are difficult to dry, as water promotes rust.

NOTICE:

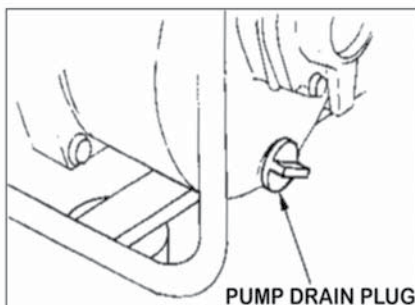
- *Using a garden hose or pressure washing equipment can force water into the air cleaner or muffler opening. Water in the air cleaner will soak the air filter, and water that passes through the air filter or muffler can enter the cylinder, causing damage.*
- *Water contacting a hot engine can cause damage. If the engine has been running, allow it to cool for at least half an hour before washing.*

3. *Wipe dry all accessible surfaces.*

4. Fill the pump chamber with clean, fresh water, start the engine outdoors, and let it run until it reaches normal operating temperature to evaporate any external water.

NOTICE: *Dry operation will damage the pump seal. Be sure the pump chamber is filled with water before starting the engine.*

5. Stop the engine, and allow it to cool.
6. Remove the pump drain plug, and flush the pump with clean, fresh water. Allow the water to drain from the pump chamber, then reinstall the drain plug.
7. After the pump is clean and dry, touch up any damaged paint, and coat areas that may rust with a light film of oil. Lubricate controls with a silicone spray lubricant.



FUEL

REFER TO ENGINE OWNERS MANUAL FOR FUEL INFORMATION

STORAGE PRECAUTIONS

If your pump will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition. Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

Unless all fuel has been drained from the fuel tank, leave the fuel valve lever in the OFF position to reduce the possibility of fuel leakage.

Position the pump so that it is level. Tilting can cause fuel or oil leakage.

With the engine and exhaust system cool, cover the pump to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the engine, promoting rust and corrosion.

REMOVAL FROM STORAGE

Check your pump as described in the BEFORE OPERATION chapter of this manual.

If the fuel was drained during storage preparation, fill the tank with fresh gasoline. If you keep a container of gasoline for refueling, be sure that it contains only fresh gasoline. Gasoline oxidizes and deteriorates over time, causing hard starting.

If the cylinder was coated with oil during storage preparation, the engine may smoke briefly at startup. This is normal.

TRANSPORTING

If the pump has been running, allow it to cool for at least 15 minutes before loading the pump on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

Keep the pump level when transporting to reduce the possibility of fuel leakage. Move the fuel valve lever to the OFF position.

TROUBLESHOOTING

REFER TO ENGINE OWNERS MANUAL FOR ENGINE TROUBLESHOOTING PROCEDURES

