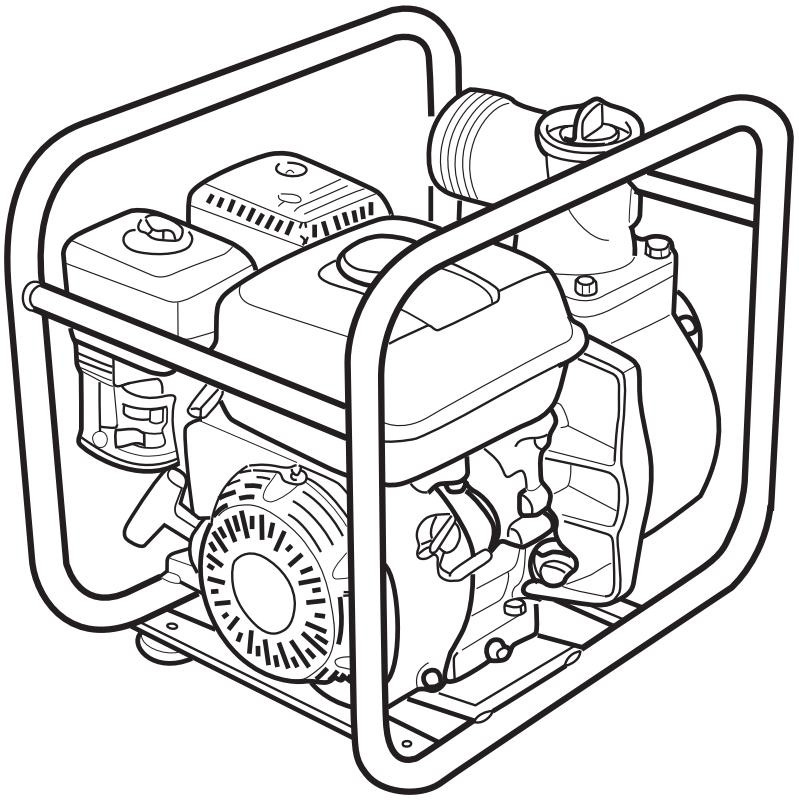
PAVLIŠ A HARTMANN
Výroba požární techniky

# PH □ PROGRESS 1000 and 1400
# Sewage Pump



## OWNER'S MANUAL

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# SAFETY

## SAFETY INFORMATION

For your safety and the safety of others, pay special attention to these precautions:

### Operator Responsibility

- Know how to stop the pump quickly in case of emergency. Understand the use of all controls. If you leave the pump for any reason, always turn the engine off. Understand the use of all controls and connections.
- Be sure that anyone who operates the pump receives proper instruction. Allowing anyone, especially children, to operate the pump without proper instruction may result in serious injury.

### Pump 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.

### Fire and Burn hazards

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handing gasoline. KEEP OUT OF REACH OF CHILDREN.

- Refuel in a well-ventilated area with the engine stopped. keep flames and sparks away, and do not smoke in the area.
- Refuel carefully to avoid spilling fuel. Avoid overfilling the fuel tank (there should be no fuel in the filler neck). After refueling, tighten the filler cap securely. If any fuel is spilled, make sure the area is dry before starting the engine.
- After use, turn the fuel valve OFF, and store the pump on a level surface. Be sure the storage area is well-ventilated, and away from appliances, such as water heaters and clothes dryers.

### Hot Exhaust

The engine and exhaust system become very hot during operation and remain hot for a while after stopping. Contact with hot engine components can cause burns and may ignite some materials.

- Avoid touching a hot engine or exhaust system.
- Allow the engine to cool before performing maintenance, transporting the pump, or storing the pump in doors.

#### Carbon Monoxide Poisoning Hazard

Exhaust gas contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.

If you run the engine in an area that is confined, or even partially enclosed, the air can become contaminated with a dangerous amount of exhaust gas. To keep exhaust gas from building up, provide adequate ventilation.

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# LABEL INSTRUCTION

## LABEL LOCATION

Some of these labels warn you of potential hazards that can cause serious injury, and other labels is the relative information of the pump. Read them carefully. If a label comes off or becomes hard to read, contact your Generator dealer for a replacement.

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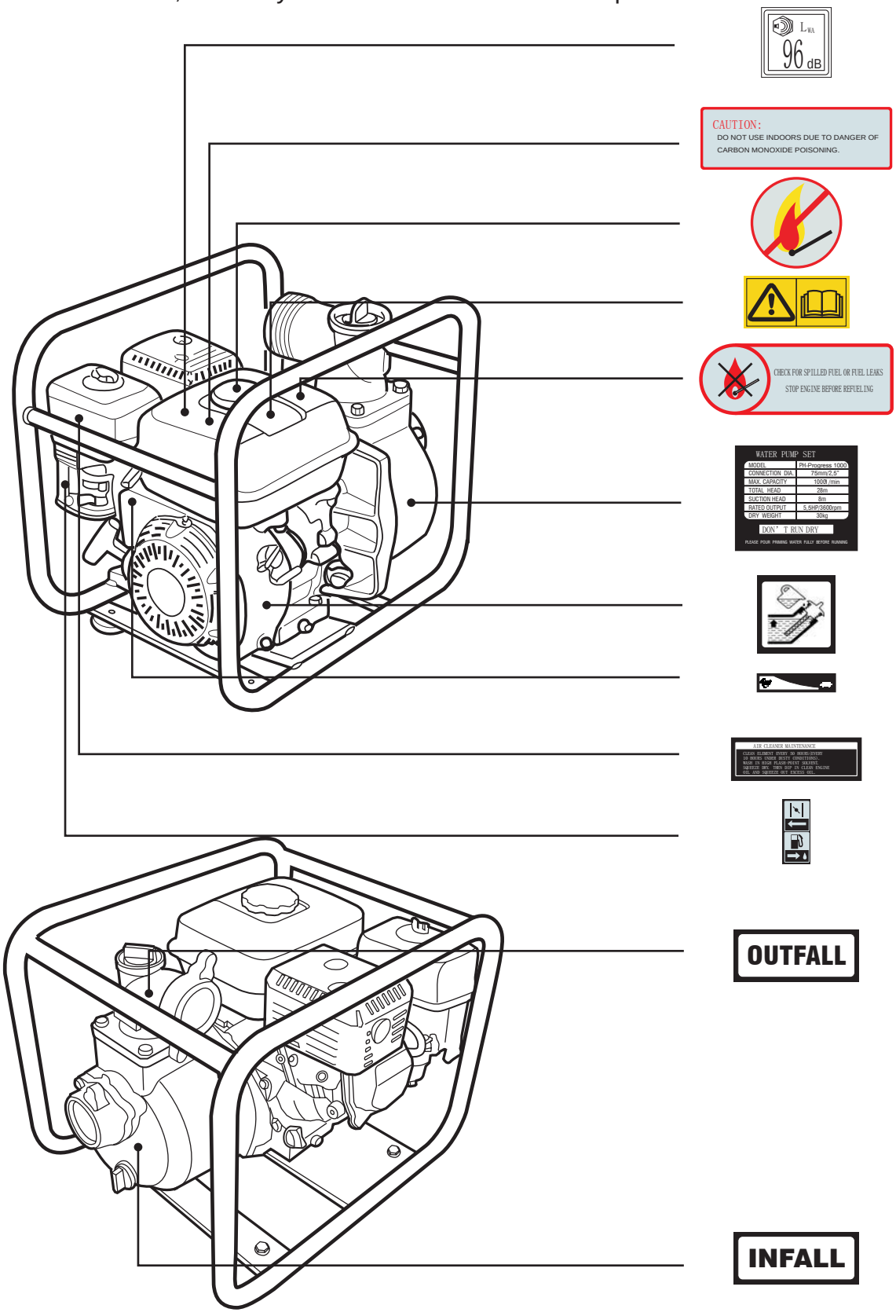


## THE INSTRUCTION OF LABELS

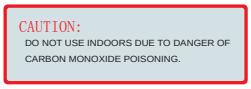
Gasoline is extremely flammable, and gasoline vapor can explode.
Use extreme care when handing gasoline.

Air cleaner maintenance
Clean element every 50 hours(every 10 hours under dusty conditions).
Wash in high flash-point solvent. Squeeze dry. Then dip in clean engine
Oil and squeeze out excess oil.

Read the owner's manual before operating. Failure to follow instructions could result in serious injury or death.

Check the oil level by inserting the dipstick into the filler neck without screwing it in. If the level is low, fill to the top of the oil filler neck with the recommended oil.


Check for spilled fuel or fuel leaks
Stop engine before refueling




Caution:
Do not use indoors due to danger of Carbon monoxide poisoning.


It's the specifications of water pump set.
(Don't run dry
Please pour priming water fully before running)

Moving the throttle lever left makes the engine run faster.
moving the throttle lever right makes the engine run slower.


Show the position of infall

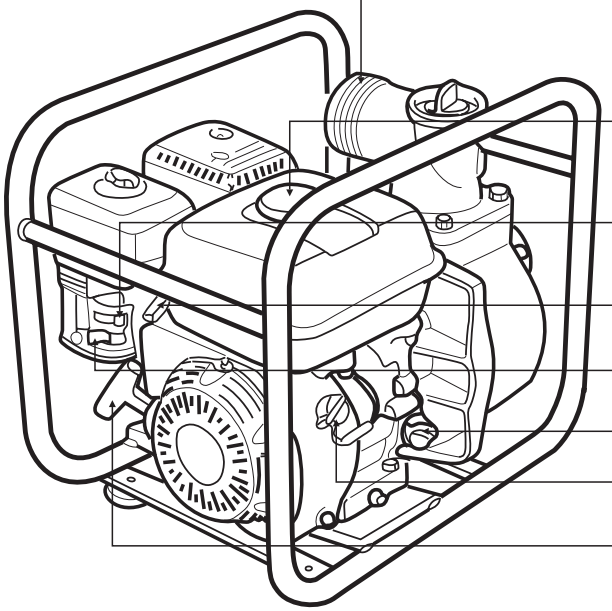

Show the position of outfall

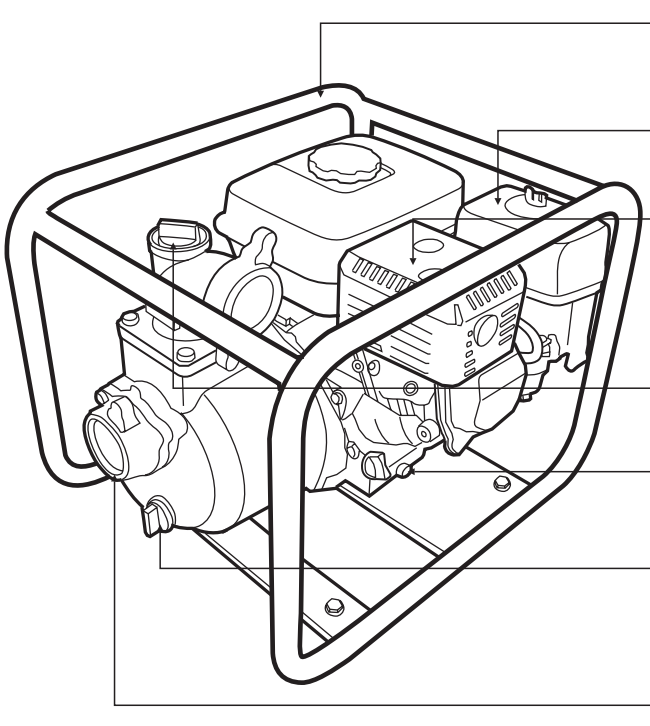

It's noise level lable.

Show the position of choke lever (upper one) and fuel valve(lower one).

# COMPONENT INSTRUCTION

## COMPONENT IDENTIFICATION



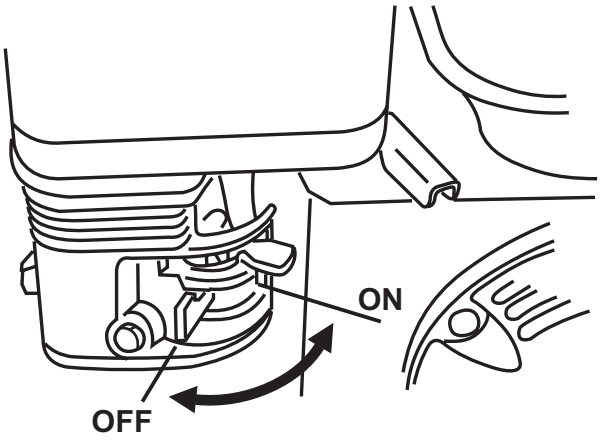



## DESCRIPTION OF CONTROLS

### Fuel Valve Lever

The fuel valve opens and closes the connection between the fuel tank and the carburetor. The fuel valve lever must be in the **ON** position for the engine to run, When the engine is not in Use, leave the fuel valve lever in the **OFF** position to prevent carburetor flooding and to reduce the possibility of fuel leakage.

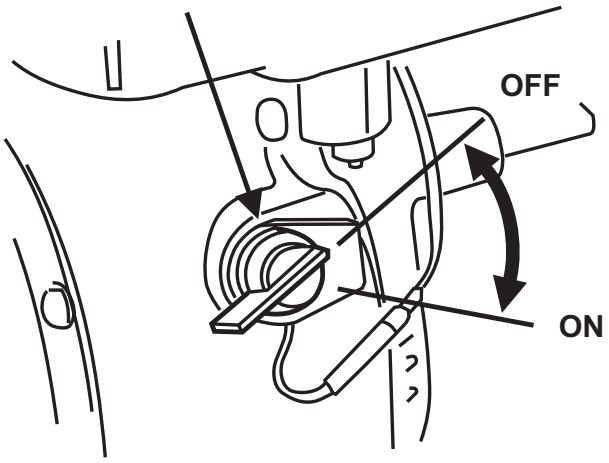
**FUEL VALVE LEVER**




### Ignition Switch

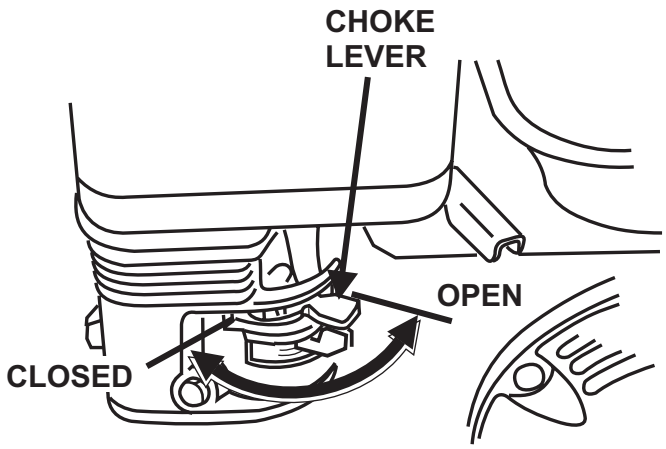
The ignition switch controls the ignition system. The ignition switch must be in the **ON** position for the engine to run, Turning the ignition switch to the **OFF** position stops the engine.

**FUEL VALVE LEVER**



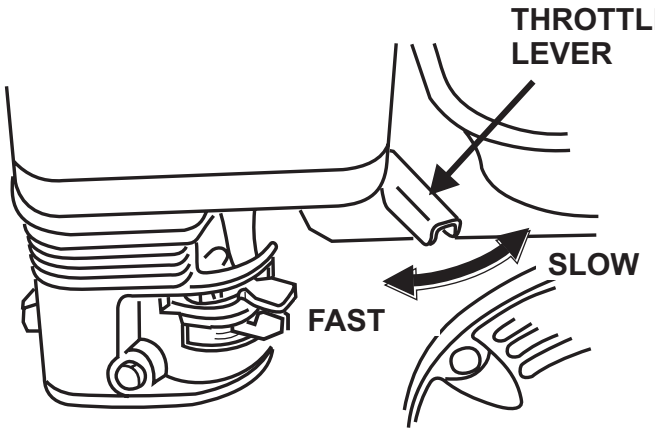
**Choke Lever**

The choke lever opens and closes the choke valve in the carburetor.
The **CLOSED** position enriches the fuel mixture for starting a coldengine.
The **OPEN** position provides the correct fuel mixture for operation after starting, and for restarting a warm engine.

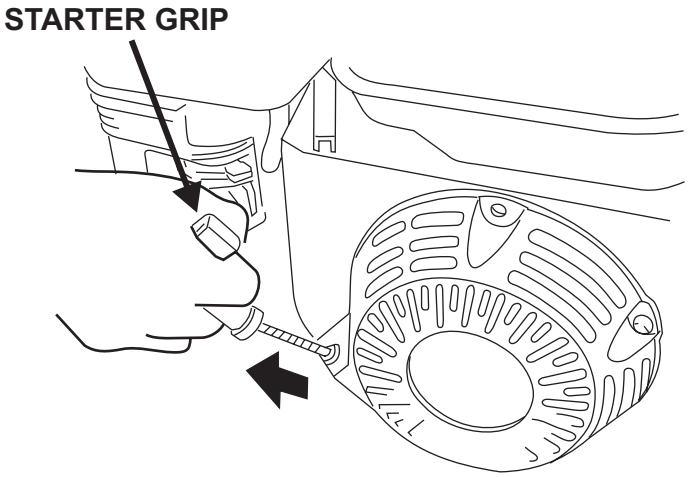



**Throttle Lever**

The throttle lever controls engine speed.
Moving the throttle lever in the directions shown makes the engine run faster or slower.
Pump output is controlled by adjusting the throttle lever. At maximum throttle position, the pump will deliver the highest output volume. Moving the throttle lever toward the idle position will decrease the output volume of the pump.



**Recoil Starter Grip**
Pulling the starter grip operates the recoil starter to crank the engine.




**Oil Alert System**
The Oil Alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the Oil Alert system will automatically stop the engine (the ignition switch will remain in the **ON** position).
If the engine stops and will not restart, check the engine oil level before troubleshooting in other areas.

# BEFORE OPERATION

## BEFORE OPERATION

Read and understand this manual. Know what the controls do and how to operate them. Familiarize yourself with the pump and its operation before you begin pumping. Know what to do in case of emergencies. Be sure of what you are pumping. This pump is designed to pump only water that is not intended for human consumption.

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 your servicing dealer correct it, before you operate the pump.

**WARNING:** 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 preoperation inspection before each operation, and correct any problem.

Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the engine in a closed garage or confined area.
To prevent fire hazards, keep the pump at least 3 feet (1 meter) away from building walls and other equipment during operation. Do not place flammable objects close to the engine.
Before beginning your preoperation checks, be sure the pump is on a level surface and the ignition switch is in 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.
Look for signs of damage.
Check that all nuts, bolts, screws, hose connectors and clamps are tightened.

### 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

Check the oil level. To avoid the inconvenience of an unexpected shutdown by the Oil Alert system, always check the engine oil level before startup.
Check the air filter. A dirty air filter wilt restrict air flow to the carburetor, reducing engine and pump performance.
Check the fuel level. Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

# OPERATION

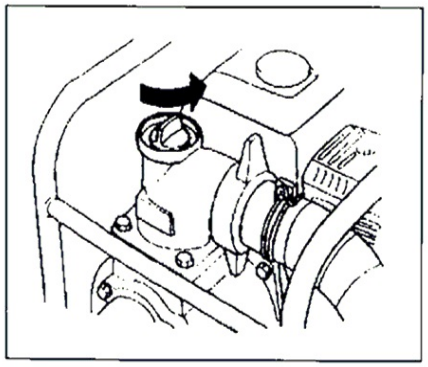
## 1 CONNECT HOSE

1) INSERT

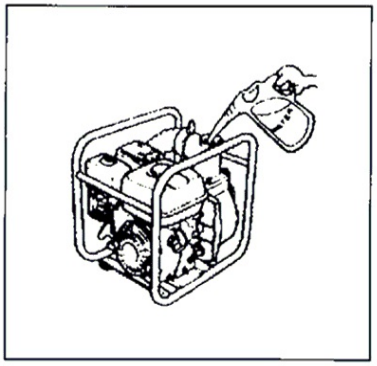
3) TIGHTEN

## 2. FILL PRIMIG WATER

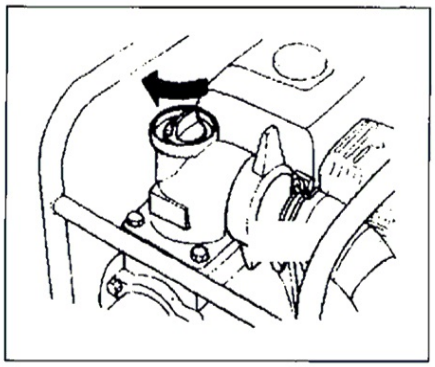
1.REMOVE PLUG



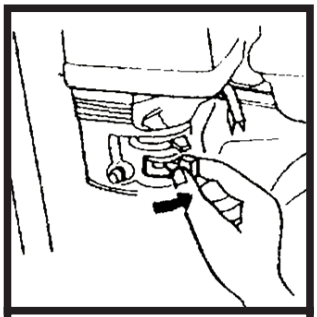
2.FILL WATER



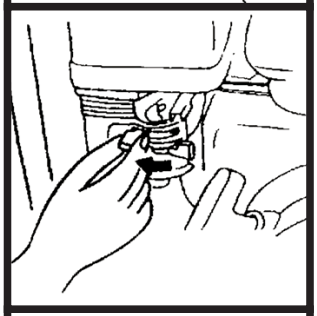
3.INSTALL PLUG



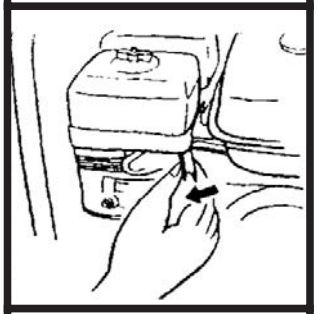
## 3 START ENGINE



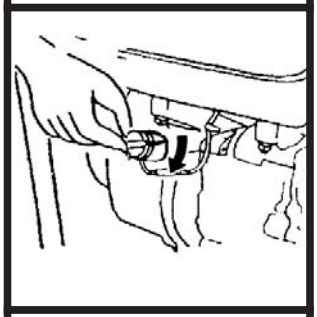
1) Move the fuel valve lever to the ON position.



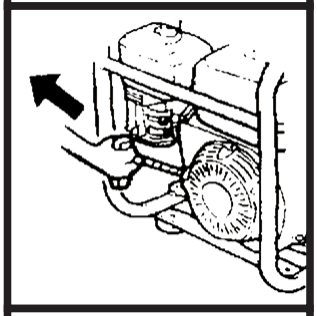
2) to start a cold engine, move the choke lever to the CLOSED position. To restart a warm engine, leave the choke lever in the OPEN position.



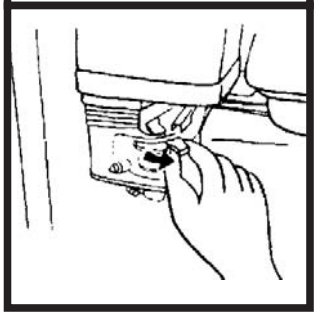
3) Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.



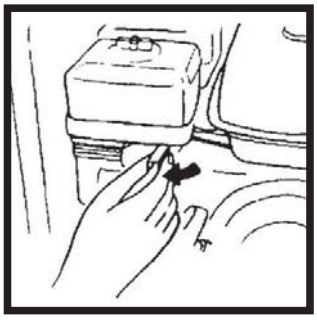
4) Turn the ignition switch to the ON position.



5) Pull the starter grip lightly until resistance is felt, then pull it briskly.
Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.



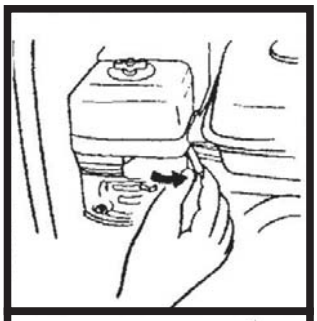
6) If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.



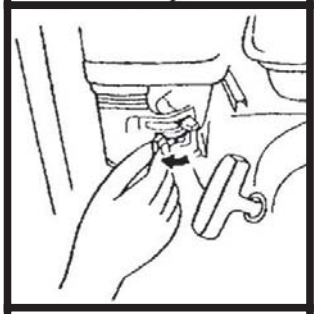
7) After starting the engine, move the throttle lever to the FAST direction will increase pump output, and moving throttle lever in the SLOW direction will decrease pump output.

## 4 STOP ENGINE

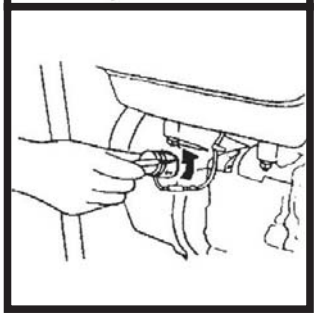
To stop the engine in an emergency, simply turn the ignition switch to the OFF position. Under normal conditions, use the following procedure.



1) Move the throttle lever to the SLOW position.



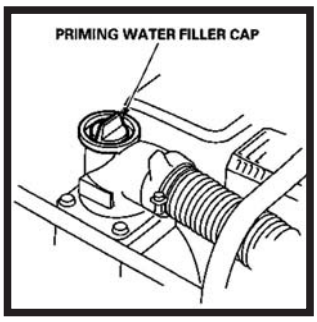
2) Turn the ignition switch to the OFF position.



3) Turn the fuel valve lever to the OFF position.

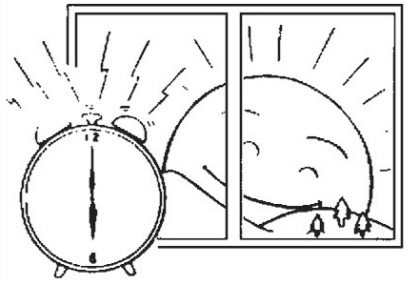
After use, remove the pump drain plug, and drain the pump chamber. Remove the filler cap, and flush the pump chamber with clean, fresh water. Allow the water to drain from the pump chamber, then reinstall the filler cap and drain plug.

## 5 DISCHARGE HOSE INSTALLATION

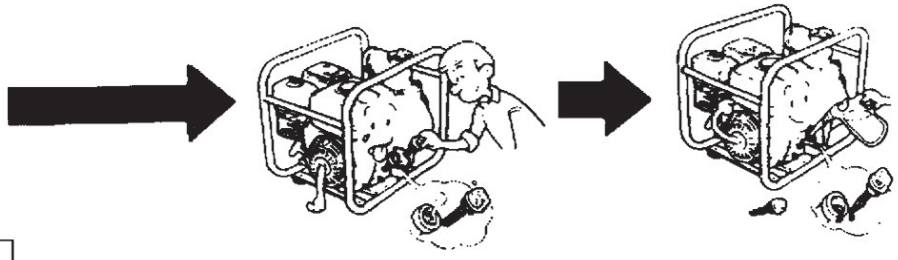



Use a commercially available hose and hose connector, and clamp provided with the pump. It is best to use a short, large-diameter hose, because that will reduce fluid friction and improve pump output. A Long or small-diameter hose will increase fluid friction and reduce pump output. Tighten the hose clamp securely to prevent the discharge hose from disconnecting under high pressure.

# MAINTENANCE



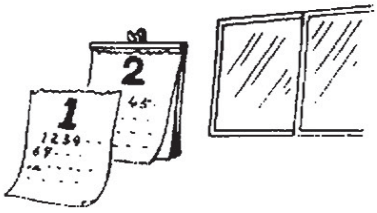
CHECK OIL EVERY MORNING

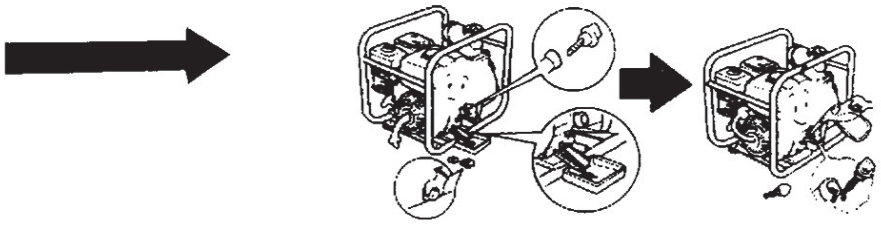


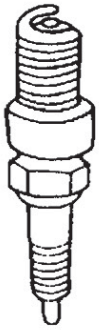

SAE10W-30 OR
EQUIVALENT
MOTOR OIL

CHANGE THE OIL
AFTER THE FIRST
MONTH OR 20HOURS.

DRIAN FILL 0.6L /1.1L

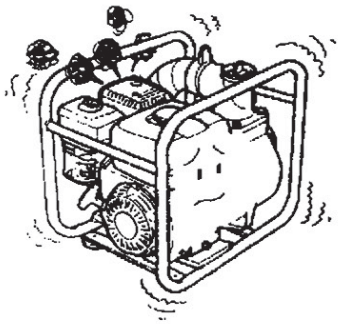


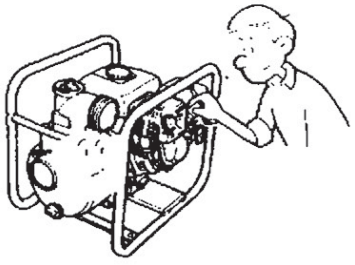



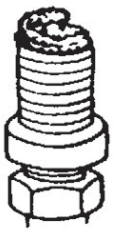


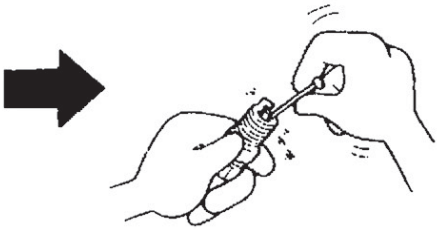
SPARK PLUG

NO GOOD CONDITION







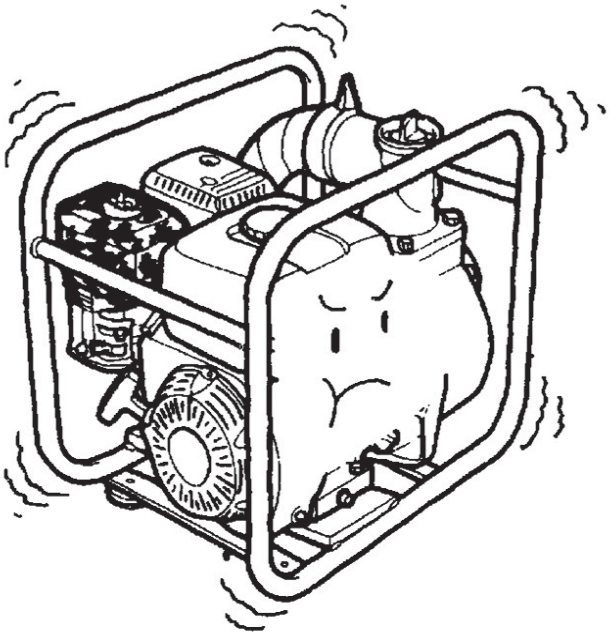


0.7~0.9mm

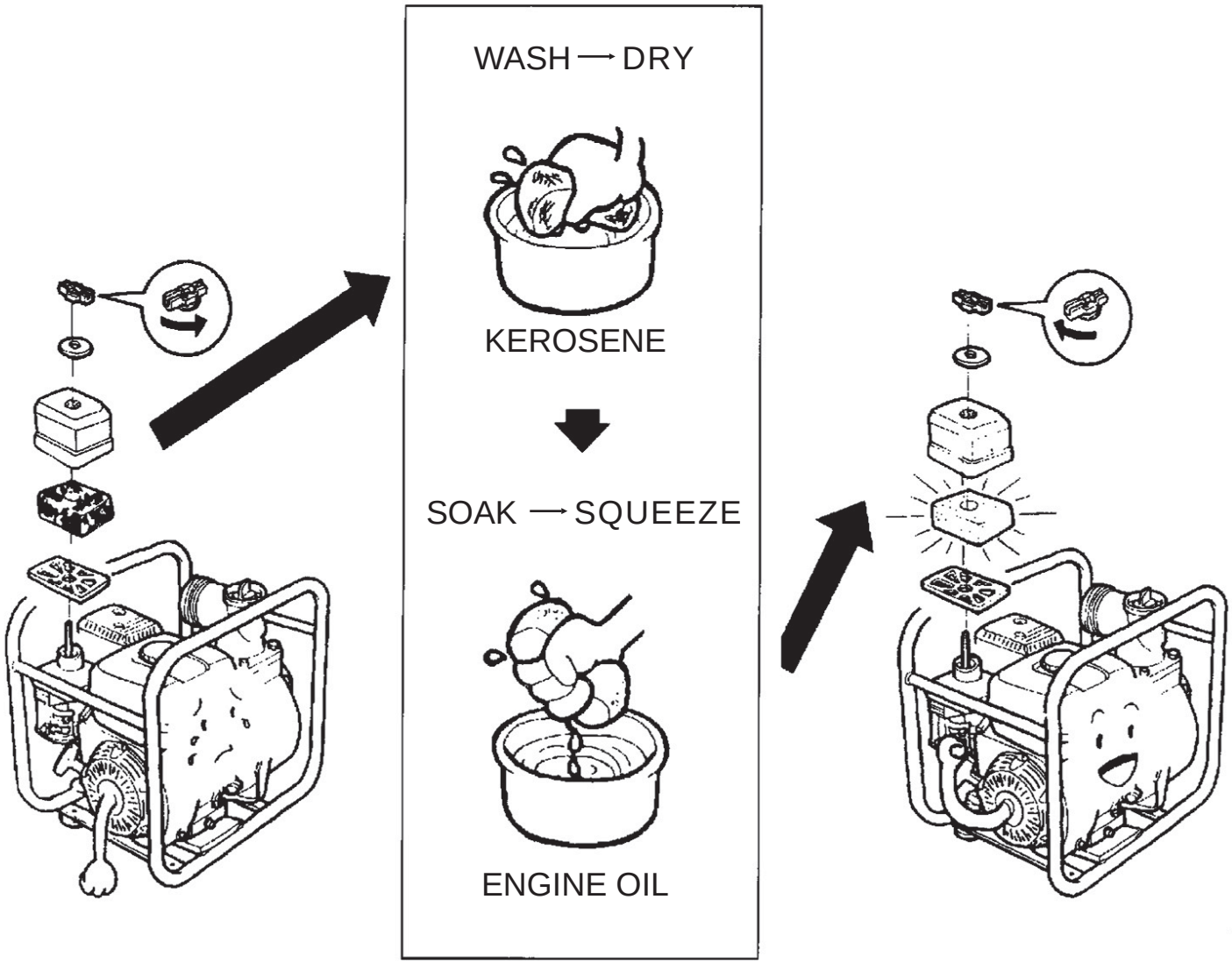
REMOVE SPARK PLUG

CLEAN

## AIR CLEANER



NO GOOD CONDITION



Periodic maintenance and adjustment are necessary to keep the pump in good operating condition. Service and inspect according to the MAINTENANCE SCHEDULE.

WARNING
- To avoid carbon monoxide poisoning, shut the engine off before performing maintenance.
- To avoid serious burns, let the engine cool for at least 15 minutes before performing maintenance.

**Maintenance Schedule**

| **REGULAR SERVICE PERIOD** / **ITEM** Perform at every indicated operating hour interval | | BEFORE EACH USE | FIRST 20 HRS (3) | EVERY 50 HRS (3) | EVERY 100 HRS (3) | EVERY 300 HRS (3) |
|---|---|---|---|---|---|---|
| Engine oil | Check level | ● | | | | |
| | Change | | ● | | ● | |
| Air filter | Check | ● | | | | |
| | Clean | | | ● (1) | | |
| Spark plug | Check&clean | | | | ● | |
| Throttle lever | Adjust | | ● | | ● | |
| Valve clearance | Adjust | | | | | ● (2) |
| Fuel tank and filter | Clean | | | | | ● (2) |
| Fuel line | Check | Every 2 years (2) | | | | |

NOTE:
(1) Service more frequently when used in dusty area.
(2) These items should be serviced by an authorized lower dealer, unless you have the proper tools and mechanically proficient. Refer to the owner's manual.
(3) For professional commercial use, log hours of operation to determine proper maintenance intervals.

# STORAGE

**STORAGE PREPARATION**

Proper storage preparation is essential for keeping your pump troublefree 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 engine easier to start when you use the pump again.

## Cleaning

1. 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.

2. Wipe dry all accessible surfaces.

3. 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.

4. Stop the engine, and allow it to cool.

5. 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.

6. 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

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that clog the fuel system. If the gasoline in your engine deteriorates during storage, you may need to have the carburetor and other fuel system components serviced or replaced.

The length of time that gasoline can be left in your fuel tank and carburetor without causing functional problems will vary with such factors as gasoline blend, your storage temperatures, and whether the fuel tank is partially or completely filled. The air in a partially filled fuel tank promotes fuel deterioration. Very warm storage/temperatures accelerate fuel deterioration. Fuel deterioration problems may occur within a few months, or even less if the gasoline was not fresh when you filled the fuel tank.

You can extend fuel storage life by adding a fuel stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining the fuel tank and carburetor.

**Engine Oil**

1. Change the engine oil.
2. Remove the spark plug.
3. Pour a tablespoon (5-10 cc) of clean engine oil into the cylinder
4. Pull the starter grip several times to distribute the oil in the cylinder.
5. Reinstall the spark plug
6. Putl the starter grip slowly until resistance is felt and the notch on the starter pulley aligns with

the hole at the top of the recoil starter cover. This will close the valves so moisture cannot enter the engine cylinder. Return the starter grip gently.

## 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 beater, 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.

Place the pump on a level surface. Tilting can cause fuel or oil leakage.

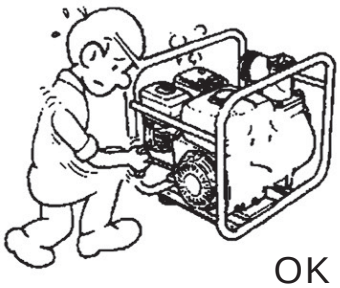
With the engine and exhaust system cool, cover the pump to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the pump, promoting rust and corrosion.

## REMOVAL FROM STORAGE

Check your pump as described in the BEFORE OPERATlON 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.

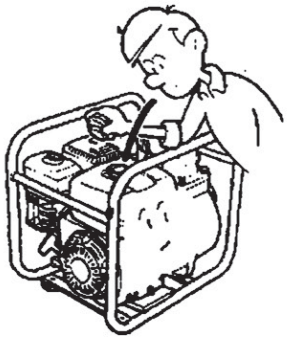
# TROUBLE SHOOTING

ENGINE NOT START



OK

CHECK FUEL

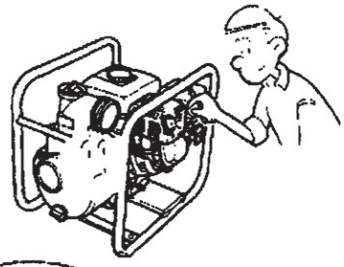


START

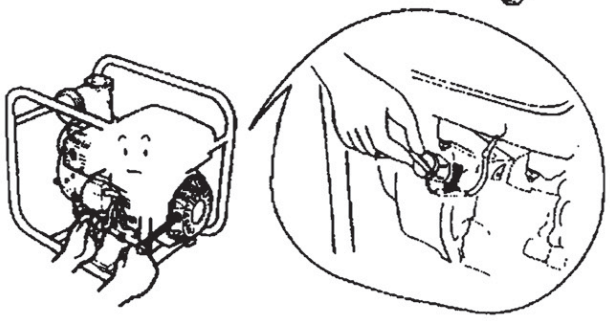
NO

2 CHECK SPARK

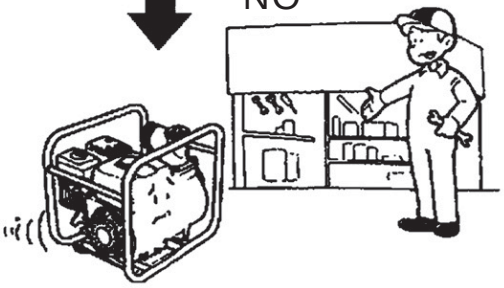
1 REMOVE PLUG



2 CHECK SPARK



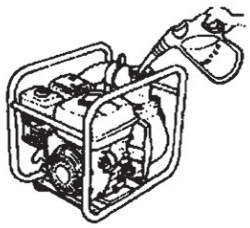
NO



OK

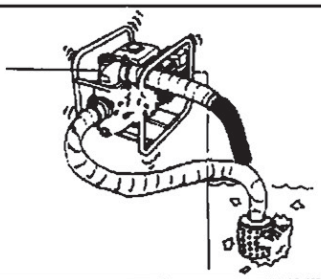
NOT PUMP UP

1 CHECK PRIMING WATER



OK

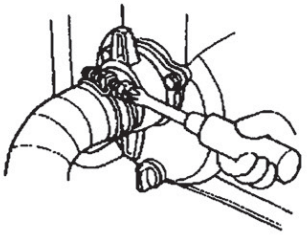
2 CHECK STRAINER FOR CLOGING



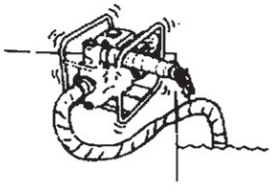
OK

3 CHECK FOR AIR SUCTION

CHECK HOSE CLAMPS



CHECK HOSE FOR DAMAGE



## ENGINE

| ENGINE WILL NOT START | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| Check control positions. | Fuel valve OFF.<br>Throttle lever in wrong position. | Turn fuel valve ON.<br>Move throttle lever to CHOKE position unless the engine is warm.<br>Engine switch must be ON to use recoil starter. |
| Check fuel | Out of fuel.<br>Bad fuel; pump stored without treating or draining gasoline, or refueled with bad gas. | Refuel.<br>Drain fuel tank and carburetor.<br>Refuel with fresh gasoline. |
| Check engine oil level. | Low oil level caused Oil Alert to stop engine. | Add oil |
| Remove and inspect spark plug. | Spark plug faulty, fouled, or improperly gapped.<br>Spark plug wet with fuel. | Clean, gap, or replace spark plug.<br>Dry spark plug and clean flooded engine. |
| Take pump to dealer for service or repair | Fuel filter clogged, carburetor malfunction, ignition malfunction, valve stuck, etc. | Take pump to dealer, or refer to shop manual. |

| LOSS OF POWER | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| Check air filter. | Air filter clogged | Clean or replace air filter. |
| Check fuel. | Bad fuel; pump stored without treating or draining gasoline, or refueled with bad gas. | Drain fuel tank and carburetor.<br>Refuel with fresh gasoline. |
| Check vent inside fuel tank cap. | Fuel tank cap vent clogged. | Clean fuel tank cap vent. |
| Take pump to dealer for service or repair. | Fuel filter clogged, carburetor malfunction, valve clearance out of adjustment, low compression, etc. | Take pump to dealer,<br>or refer to shop manual. |

## PUMP

| NO PUMP OUTPUT | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| Check pump chamber | Pump not primed | Prime pump |
| Check suction hose. | Hose collapsed, cut or puncture. | Replace suction hose. |
| | Strainer not completely underwater. | Sink the strainer and the end of a suction hose completely underwater. |
| | Air leak at connector. | Replace sealing washer if missing or damaged. Tighten hose connector and clamp. |
| | Strainer clogged. | Clean debris from strainer. |
| Measure suction and discharge head. | Excessive head. | Relocate pump and/or hoses to reduce head. |
| Check engine. | Engine lacks power. | See front page. |

| LOW PUMP OUTPUT | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| Check suction hose. | Hose collapsed, damaged, too long, or diameter too small. | Replace suction hose. |
| | Air leak at connector. | Replace sealing washer if missing or damaged. Tighten hose connector and clamp. |
| | Strainer clogged. | Clean debris from strainer. |
| Check discharge hose. | Hose damaged, too long, or diameter too small. | Replace discharge hose. |
| Measure suction and discharge head. | Marginal head. | Relocate pump and/or hoses to reduce head. |
| Check engine. | Engine lacks power. | See front page. |