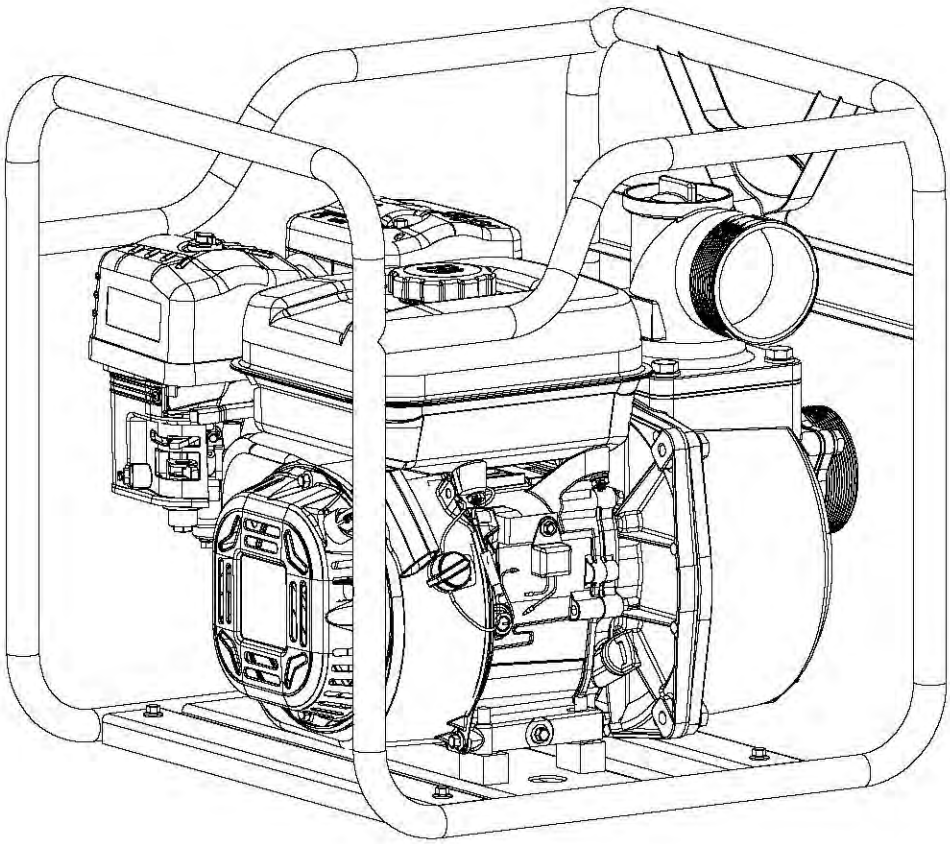
MODEL#:FPX20 FPX20E
FPX30 FPX30E
FPX30TE

Water Pump

# OPERATOR'S MANUAL
# ORIGINAL INSTRUCTIONS



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Rev 09 /2017

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## SAVE THIS MANUAL FOR FUTURE REFERENCE

This manual contains important information regarding safety, operation, and maintenance.

# INTRODUCTION

*Thank you for purchasing this superior quality general purpose water pump from Ford Power Equipment. When operating and maintaining this product as instructed in this manual, your water pump will give you many years of reliable service.*

**Product Applications:**

This water pump has many applications and is designed to pump water and non-corrosive liquids. Common applications include irrigation and the drainage of pools, hot tubs, floods, ponds, sewage, construction sites, utility pits, and mines.

**Product Specifications:**

| Item | Type | FPX20<br>FPX20E | FPX30<br>FPX30E | FPX30TE |
|---|---|---|---|---|
| Pump | Length (mm) | 443 | 473 | 561 |
| | Width (mm) | 450 | 450 | 479 |
| | High (mm) | 470 | 470 | 482 |
| | Weight (kg) | 25.3 | 26.4 | 37.8 |
| | Suction port diameter | 49mm(2 inch) | 77mm(3 inch) | 74mm(3 inch) |
| | Discharge port diameter | 48mm(2 inch) | 76mm(3 inch) | 74mm(3 inch) |
| | Max. suction Head (m) | 7 | 7 | 7 |
| | Max. Discharge head (m) | 32 | 30 | 25 |
| | Max. capacity ($m^3/h$) | 28 | 58 | 60 |
| Engine | Model | DJ170F | | |
| | Type | 4-Stroke | | |
| | Displacement ($cm^3$) | 208 | | |
| | Power (kW/3600/min) | 4.1 | | |
| | Fuel tank capacity (L) | 3.6 | | |
| | Oil capacity (L) | 0.4 | | |
| Measured sound pressure lever | | 90dB(A) | 90dB(A) | 90dB(A) |
| Guarantee sound power lever | | 103dB(A) | 103dB(A) | 103dB(A) |
| Uncertainty k | | 2dB(A) | | |

# SAFETY RULES

## Safety Symbols

**WARNING!** Indicates a potentially hazardous situation which could result in serious injury or death if not avoided.

**CAUTION!** Indicates a potentially hazardous situation which could result in damage to equipment or property.


Hot surface


Risk of fire


Risk of explosion


Lifting hazard

## Safety Instructions

Most accidents can be prevented by following the instructions in this manual. However, the manufacturer cannot anticipate every possible hazardous circumstance that the user may encounter. Therefore, the Warnings in this manual, on tags, and on affixed decals are not all-inclusive. To avoid accidents, the user must understand and follow all manual instructions, use common sense and make sure you have the tools and skills required.

**WARNING!** **Read and understand this manual in its entirety before operating this water pump.**

- Improper use of this water pump could result in serious injury or death.
- Know how to stop this pump quickly in case of an emergency.
- Never leave the pump running while unattended to for any reason.
- Keep children and pets away from the pump when it is running.

**WARNING!** **Only use this pump to pump water not intended for consumption**

- Do not use pump to pump water to be consumed by humans or animals.
- Do not pump flammable liquids such as gasoline or engine oil which could cause an explosion or flames.
- Do not pump sea water, chemical solutions, or any other fluids that could corrode or damage the pump.
- Do not operate on a liquid at a temperature of more than 60°.

**WARNING!** **Only use this unit as it is intended or serious injury or death could result.**

- Do not bypass any safety device. Moving parts are covered with guards. Make sure all protective covers are in place.
- Inspect hoses and connections making sure they are secure before starting engine.
- Use only recommended accessories to avoid damage to this unit.
- Never transport or make adjustments to this unit while it is running.

# SAFETY RULES

**WARNING!** **Do not operate indoors or in a confined space preventing dangerous carbon monoxide gas from dissipating.**

- Carbon monoxide gas is a poisonous, odorless gas that can cause headache, confusion, fatigue, nausea, fainting, sickness, seizures, or death. If you start to experience any of these symptoms, **IMMEDIATELY** get fresh air and seek medical attention.
- Never use indoors, in a covered area, or in a confined space, even if doors and windows are open.
- Keep exhaust from this unit from entering a confined area through windows, doors, vents, or other openings.
- When working in areas where vapors could be inhaled, use a respirator mask according to all of its instructions.

**WARNING!**  **Keep engine away from sparks and flammables.**

- The fuel and its vapors used to power this unit are highly flammable and could explode resulting in serious injury or death. Always refuel outdoors in a well ventilated area with the engine off and the pump on a level surface.
- Never overfill fuel tank. If fuel spills, move the unit at least 30 feet away from the spill and wipe up any remaining fuel on the unit before starting the engine.
- Never smoke while operating or fueling this unit.
- Never operate or store this unit near an open flame, heat, or any other ignition source.
- Keep engine free of grass, leaves, or grease which are flammable.
- When adding or draining fuel, unit should be turned off for at least 2 minutes to cool before removing fuel cap. If unit has been running the fuel cap is under pressure, remove slowly. To keep fuel from spilling, secure unit so it cannot tip while opperating or transporting.
- When transporting unit, disconnect the spark plug wire and make sure the fuel tank is empty with the fuel shutoff valve turned to the "OFF" position.
- Keep pump at least 3 feet (1 meter) away from equipment , outlets, or buildings.

**WARNING!** **Pull cord recoils rapidly and pulls arm towards engine faster than you can let go which could result in injury.**

- To avoid recoil, pull starter cord slowly until resistance is felt, then pull rapidly.

**WARNING!** **Never operate this unit if there are any broken or missing parts and only use Ford Equipment replacement parts specifically designed for this unit.**

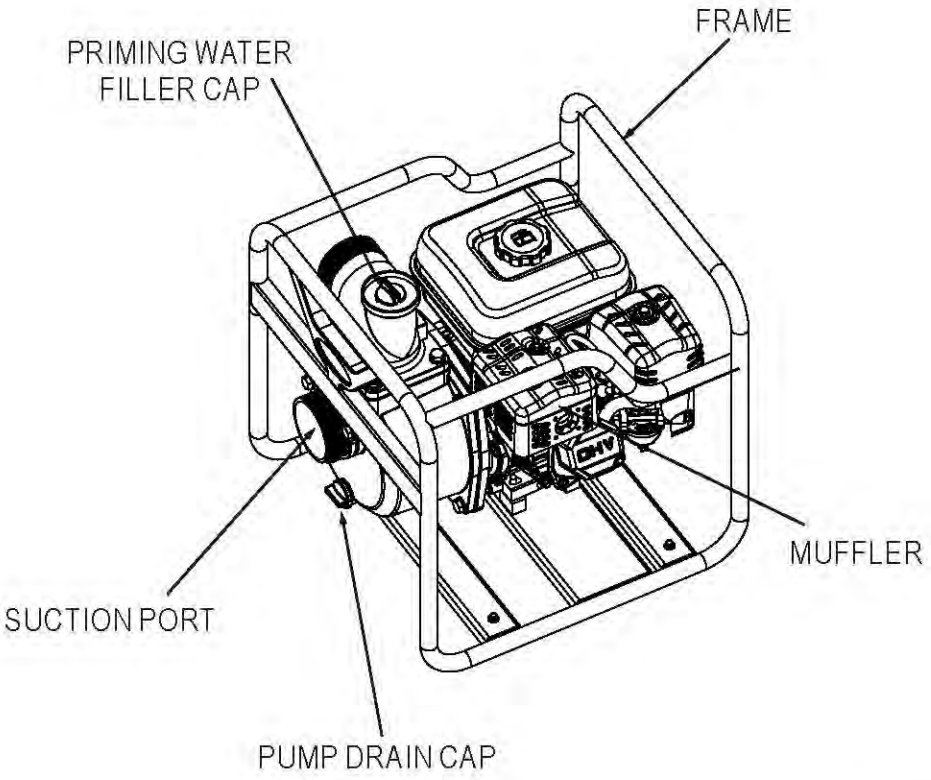
- Improper treatment of water pump can damage the unit and shorten it's life.
- Always repair this unit as specified in this manual. If you have any questions contact your dealer or consult a qualified service center.
- Never modify governed speed.

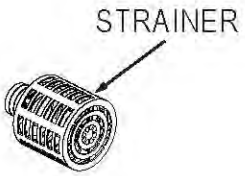
**WARNING!**  **Avoid contacting hot areas of this unit**

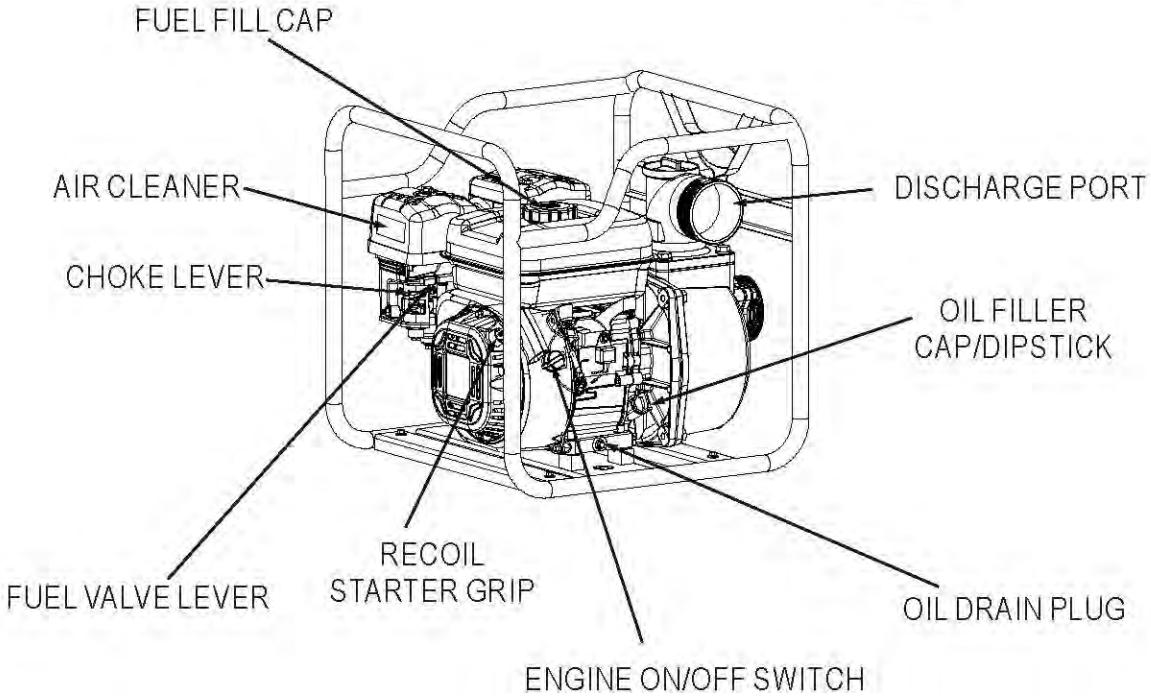
- Use caution around the muffler and other engine parts as they can be extremely hot.
- Allow hot components to cool before touching.

**WARNING!**  **To reduce the risk of serious injury, avoid attempting to lift the pump alone.**

# WATER PUMP FEATURES



# ASSEMBLY

## Packing List

- Water Pump
- Quick Start Guide
- Operator's manual, warranty sheet and CE sheet
- Spark Plug Wrench
- Funnel
- Strainer
- Hose Fitting Wing Nuts (2)
- Gaskets (2)
- Hose Barb Fittings (2)
- Hose Clamps (3)

**WARNING!** **Do not attempt to assemble or operate this water pump until you have read and understood this entire manual. If you have any problems assembling or operating this unit contact your dealer or a qualified service center.**

**WARNING!** **Do not operate this water pump if any of the parts are damaged or missing until the part is replaced. Using this product with damaged or missing parts can cause damage to the machine or result in serious injury or death.**

## Unpacking

1. Carefully open product by cutting down the sides of the box if you feel the equipment is too heavy to lift out. Be careful not to cut the machine or accessonies.
2. Remove the product, parts, and all accessories. Make sure all items listed on the packing list are included and not damaged.

## Suction Hose Installation (See Fig 1)

- Select a commercially available hose (not included) that is larger than the pump's suction port.
  Minimum hose size: FPX20(E) = 2in. (49 mm), FPX30(E) = 3in. (77 mm), FPX30TE=3in. (74 mm)
  To maximize the pump's power, the pump should be placed as close to the water level as possible and the hose should be as short as possible. Avoid using a long hose as it increases fluid friction.
- At the pump's Suction Port connect the gasket, hose barb fitting, hose wing nut, hose clamp, and suction hose as shown in figure 1.
- To prevent leakage, veify the gasket is in good condition and the hose wing nut and hose clamp are tightly secured.
- Connect a hose clamp and the Zinc plated Steel Strainer at the opposite end of the hose as shown in figure 1. The stainer helps prevent debris from clogging the pump.

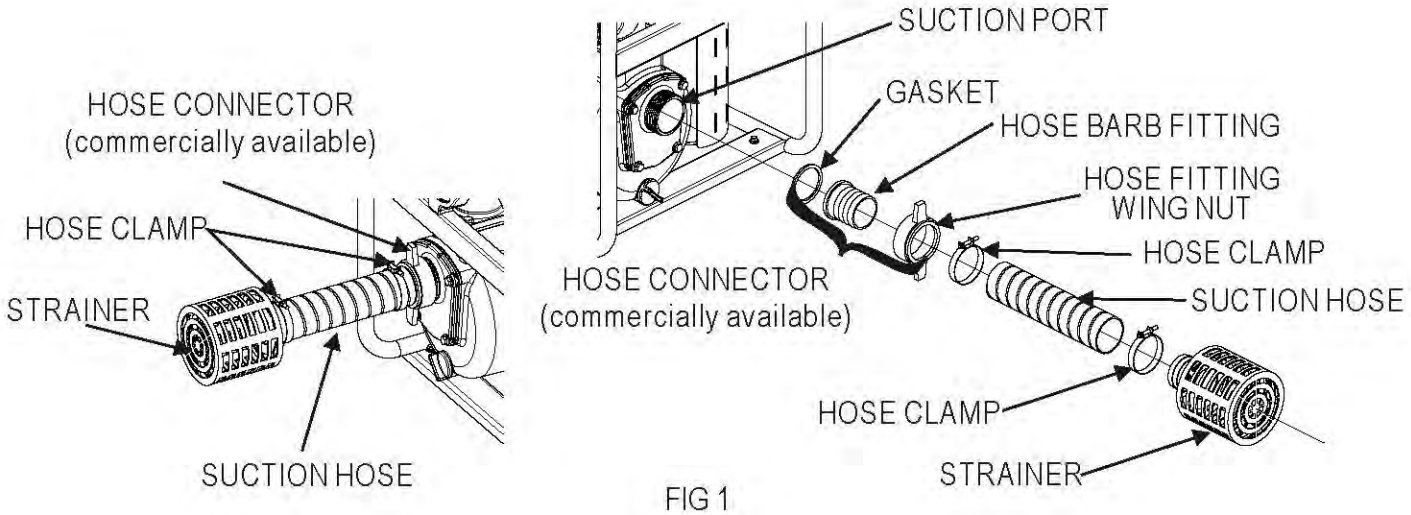



FIG 1

# ASSEMBLY

## Discharge Hose Installtion (See Fig 2)

- Select a commercially available hose (not included) that is larger than the pump's Discharge Port.
  Minimum hose size: FPX20(E) = 2in. (49 mm), FPX30(E) = 3in. (77 mm), FPX30TE=3in. (74 mm)
  To reduce fluid friction, selected a larger diameter hose that is as short as possible.
- At the pump's Discharge Port connect the gasket, hose barb fitting, hose wing nut, hose clamp, and discharge hose as shown in figure 2.
- To prevent leakage, veify the gasket is in good condition and the hose wing nut and hose clamp are tightly secured.

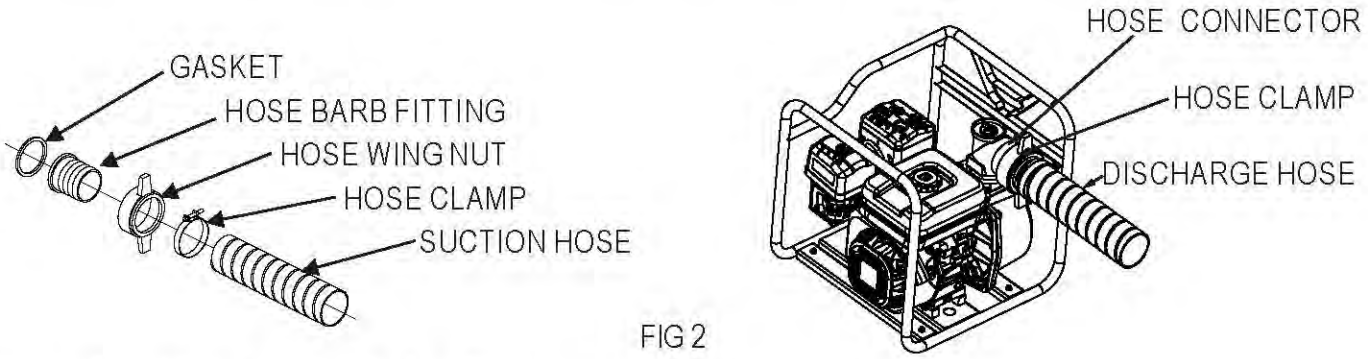



FIG 2

## Adding / Checking Engine Oil (See Fig 3)

- To check oil, set water pump on a level surface, wipe dipstick clean, then reinsert dipstick without rethreading.
- To add oil, set water pump on a level surface. Remove the crankcase dipstick to ensure you do not overfill the engine.
- Carefully add 600ml (20oz) of 4-Cycle engine oil (SAE 10W-30) to empty reservoir until oil reaches the outer edge of the oil fill hole (Crankcase Dipstick hole).
- Be sure oil level is correct and replace dipstick before attempting to start the engine.

| CAUTION! | **Oil must be added to unit prior to first use. Running the engine without enough oil can cause engine damage.** |
|---|---|

## Adding Fuel (See fig 4)

- Set water pump on a clean and level surface in an area that is well ventilated.
- Remove fuel cap.
- Insert a funnel into the fuel tank and carefully pour fresh, unleaded gasoline, with an octane rating of 86 or higher, into the tank until fuel level reaches 1 1/2 inches below the top of the neck.

| CAUTION! | **To avoid spillage, do not overfill fuel tank as gasoline expands. Never use gasoline that is stale, contaminated or mixed (oil/gasoline). Keep water and dirt from entering fuel tank.** |
|---|---|

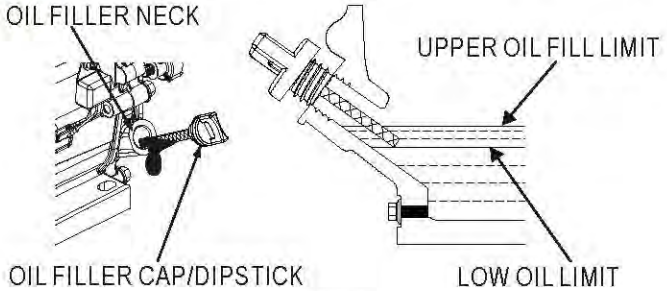



FIG 3

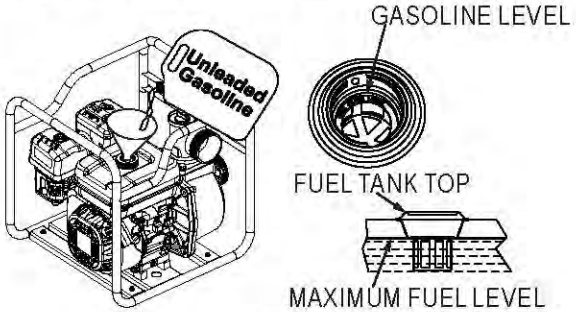



FIG 4

# OPERATION

**WARNING!** **Read and understand this manual in its entirety before operating this water pump.**

- Improper use of this water pump could result in serious injury or death.
- Know how to stop this pump quickly in case of an emergency.
- Never leave the pump running while unattended to for any reason.
- Keep children and pets away from the pump when it is running.

## Pre-Operation Check List

- Read and understand this operator manual in its entirety before operating water pump.
- Check oil level and add oil to the proper level if low.
- Check fuel level and add fuel if needed. Inspect underneath the pump for fuel or oil leakage.
- Check all gaskets and hoses for kinks and damage.
- Check connections of all hoses to make sure they are secure. Make sure all nuts, bolts, and screws are tightened.
- Remove any debris, especially around recoil starter and muffler.
- Look for any signs of damage. Provide any necessary maintenance.

**WARNING!** **Do not operate indoors or in a confined space preventing dangerous carbon monoxide gas from dissipating.**

- Carbon monoxide gas is a poisonous, odorless gas that can cause headache, confusion, fatigue, nausea, fainting, sickness, seizures, or death. If you start to experience any of these symptoms, **IMMEDIATELY** get fresh air and seek medical attention.
- Never use indoors, in a covered area, or in a confined space, even if doors and windows are open.
- Keep exhaust from this unit from entering a confined area through windows, doors, vents, or other openings.
- When working in areas where vapors could be inhaled, use a respirator mask according to all of its instructions.

## Priming the Water Pump (See Fig 5)

**The water pump must be primed prior to starting the engine.**

- Remove the filler cap from the pump chamber.
- Add water to the pump chamber until it is completely full.
- Reinstall filler cap, secure tightly.

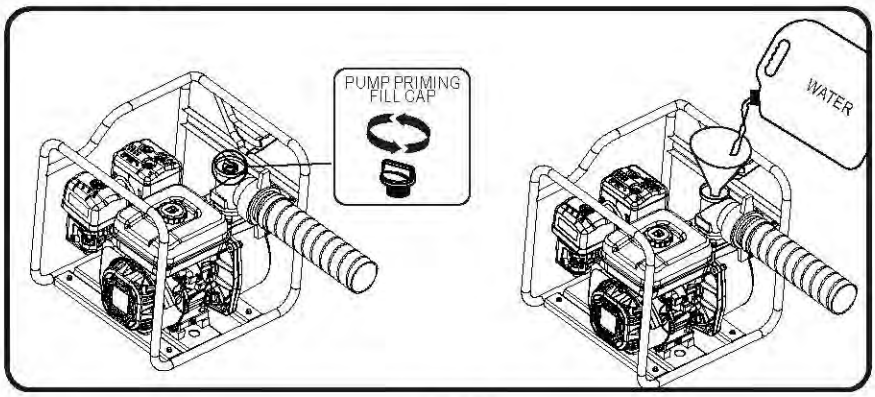



FIG 5

**CAUTION!** **Do not operate the pump dry or you will destroy the pump seal. If the pump is opperating dry, stop the engine immediately and allow engine to cool before priming the water pump.**

# OPERATION

## Placing the Water Pump (See Fig 6)

To maximize the pump's power, the pump should be placed as close to the water level as possible and the hose should be as short as possible.

- As hose length increases, pump output decreases.
- The Total Head is the total pumping height. As Total Head increases the pump's output decreases.
- The Discharge Head capacity is greater than the Suction Head capacity. Therefore, the Suction Head should always be shorter than the Discharge Head.

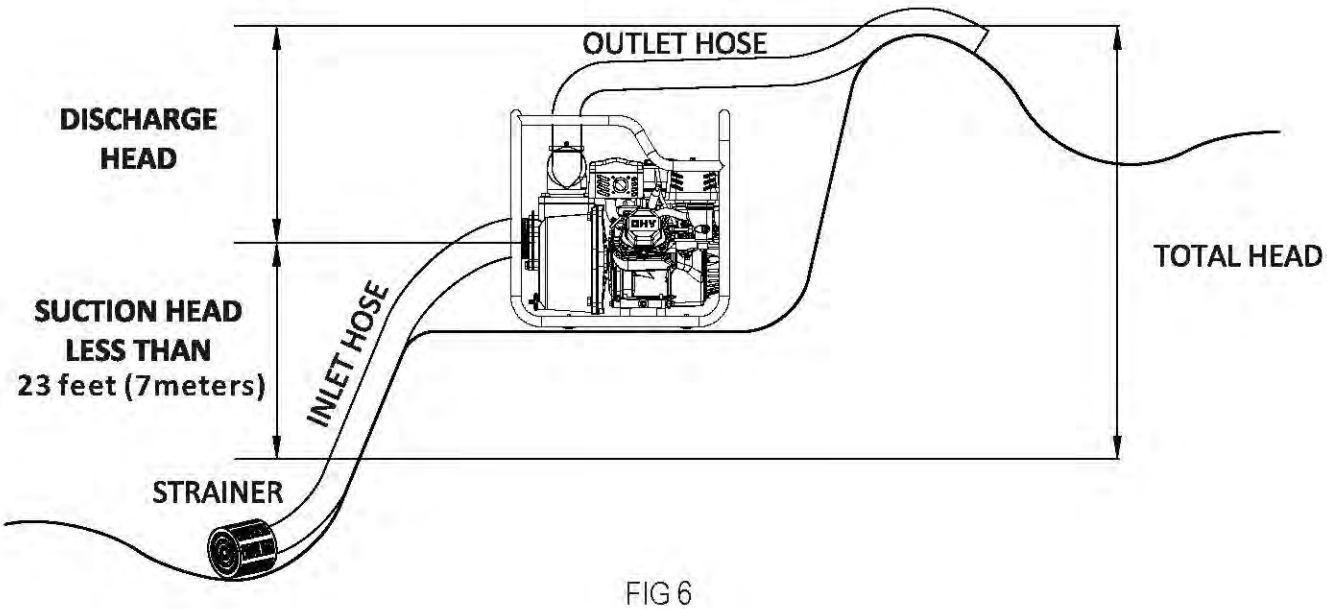



FIG 6

## Protect the Discharge Hose from Hazards (See Fig 7)

If the discharge hose must be placed across a path or road, the hose should be run across the road perpendicular to the traffic flow. Place two heavy duty boards parallel to the hose on each side to protect the hose from being run over or crushed. Crushing or driving over the discharge hose restricting water flow while the pump is running could cause pump damage.

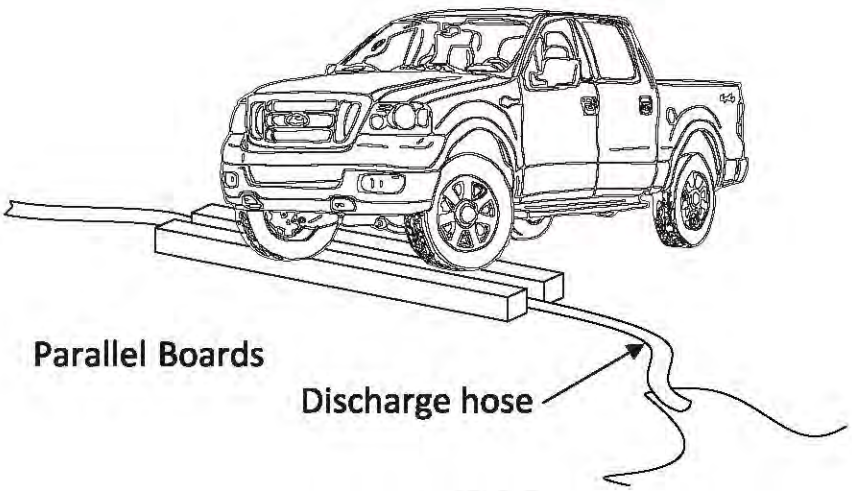



FIG 7

# OPERATION

## Starting Water pump (See Fig 8A-8C)

- Place water pump on a level surface near the water level. Keep the pump at least 3 feet away from walls or equipment.
- Prime water pump. (see page 10)
- Turn fuel valve to the ON position.
- If engine is cold, slide choke lever to the "CHOKE" position. If engine is warm, leave choke lever on "RUN" position.
- Slide the throttle lever about ⅓ of the way past the "SLOW" position.

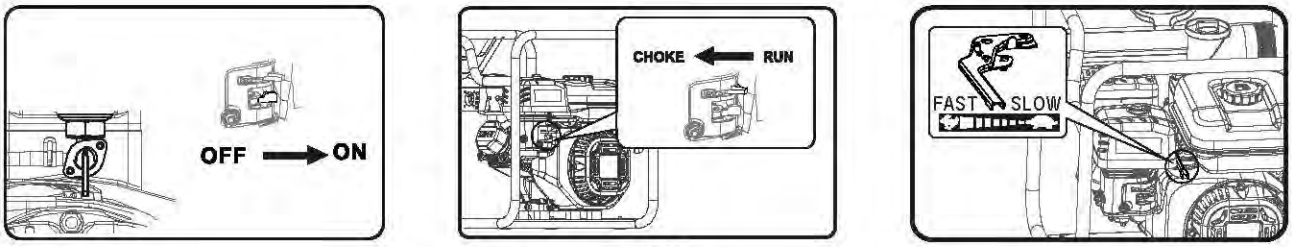



FIG 8A

- Turn the engine OFF/ON switch to the "ON" position.
- Pull the recoil handle (starter cord) slowly until resistance is felt, then pull rapidly.
- Let engine run for several seconds and then gradually slide the choke lever to the "RUN" position as the engine warms up until the choke is fully slid to the "RUN" position.

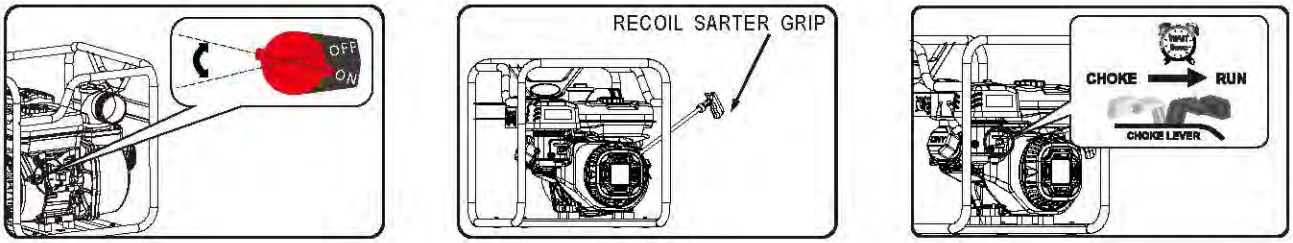



FIG 8B

**WARNING!** **Pull cord recoils rapidly and pulls arm towards engine faster than you can let go which could result in injury.**

- To avoid recoil, pull starter cord slowly until resistance is felt, then pull rapidly.

- Slide the throttle lever to the "FAST" postition. Adjust throttle lever as needed. The higher the throttle setting, the faster the engine speed and the greater the pump's output volume.

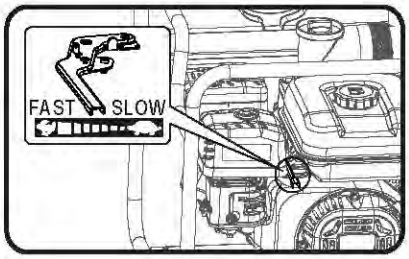



FIG 8C

# OPERATION

## Stopping Water Pump (See Fig 9)

**For an emergency stop:**

- Turn the OFF/ON switch to the "OFF" position.

**For normal conditions:**

- Slide the throttle lever to the "SLOW" position
- Turn the OFF/ON switch to the "OFF" position.
- Turn the fuel valve to the "OFF" position.
- After use drain the pump chamber.

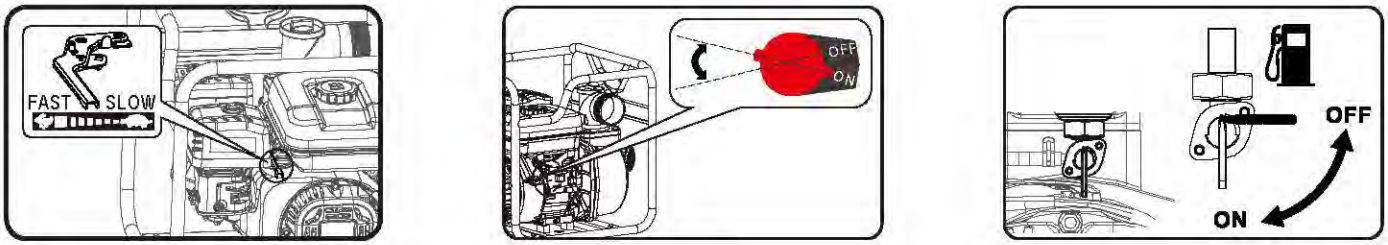



FIG 9

**CAUTION!** **Slide the fuel valve to the "OFF" postion whenever engine is not running to prevent carburetor flooding and fuel leakage.**

## Draining Pump Chamber (See Fig 10)

- Remove Drain Plug and drain Pump Chamber.
- Remove Filler Cap and flush Pump Chamber with clean, fresh water.
- Let Pump Chamber drain again.
- Reinstall Filler Cap.
- Reinstall Drain Plug.

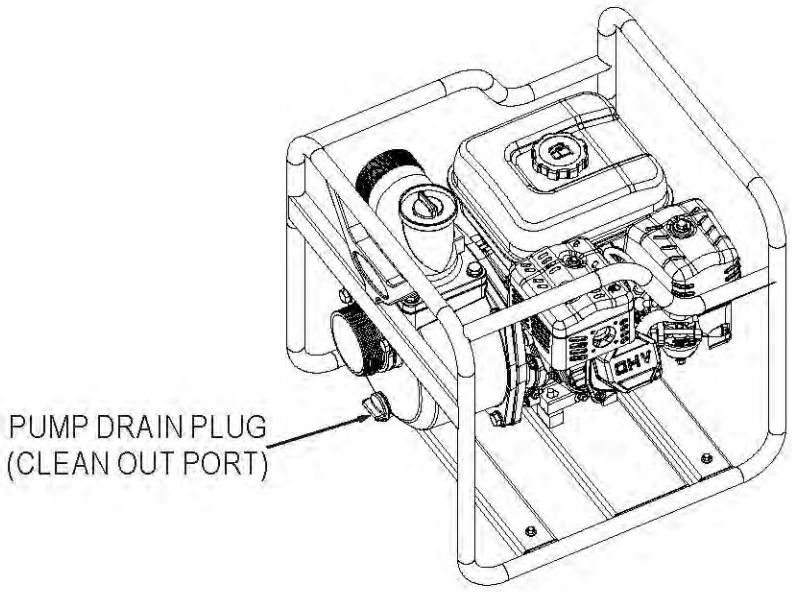



FIG 10

# MAINTENANCE

This section of the manual includes a maintenance schedule, routine inspection procedures, and basic maintenance procedures using basic hand tools. Some complex service procedures require special tools and are best handled by a qualified service technition. Regular maintenance will extend the life of this water pump and improve its performance. The warranty does not cover items that result from operator negligence, misuse, or abuse. To receive full value from the warranty, operator must maintain the water pump as instructed in this manual, including proper storage.

**WARNING!** **Before inspecting or servicing this machine, make sure the engine is off and no parts are moving. Disconnect the spark plug wire and move it away from the spark plug.**

## Pre-operation Steps

Before starting the engine, perform the following pre-operation steps:

- Check engine oil level and the fuel tank level.
- Make sure the air filter is clean. Remove any debris that has collected on the water pump.
- Check all gaskets and hoses for kinks and damage. Make sure all hose connections are secure.
- Provide any necessary maintenance.
- Inspect the work area for hazards.

## Remove Debris

- Clean any debris that has collected around or behind the muffler, recoil starter, and controls.
- Use a damp cloth to wipe exterior surfaces. If dirt is caked on, use a soft bristle brush.

## After Each Use

Follow the following procedure after each use:

- Shut off engine.
- Drain Pump Chamber
- Store unit in a clean and dry area.

## Maintenance Schedule

| | |
|---|---|
| **After First 5 Hours** | Change Oil |
| **After Each Use** | Clean Debris |
| | Check Engine Oil Level |
| | Check Air Cleaner |
| **Annually (20 hr Use)** | Change Engine Oil (Service more often under dirty or dusty conditions) |
| **Annually (50 hr Use)** | Check and Clean Air Cleaner |
| | Check muffler |
| **Annually (100 hr Use)** | Service Spark Plug |
| | * Clean fuel tank and filter |
| **Anually (300 hr Use)** | Replace Spark Plug |
| | * Check Valve Clearance |
| | * Check Idle Speed |
| **Every 2 yrs (500 hr Use)** | * Clean Combustion Chamber |
| | * Check Fuel Tube |

(*) Items should be performed by your certified Ford power Equipment technician.

# MAINTENANCE

## Changing Engine Oil (See Fig 11)

Engine oil will drain better if the engine is still warm, but not hot.

- Shut off engine.
- Clean the area around the oil fill cap / dipstick to keep out debris then remove oil fill cap / dipstick.
- Place an oil pan on the ground to catch oil. Remove oil plug and completly empty out the oil from the crankcase.
- Once oil is completely drained, replace oil plug and refill with new oil as instructed earlier in this manual under Adding / Checking Oil (See pg 9).
- Reinstall oil fill cap / dipstick.

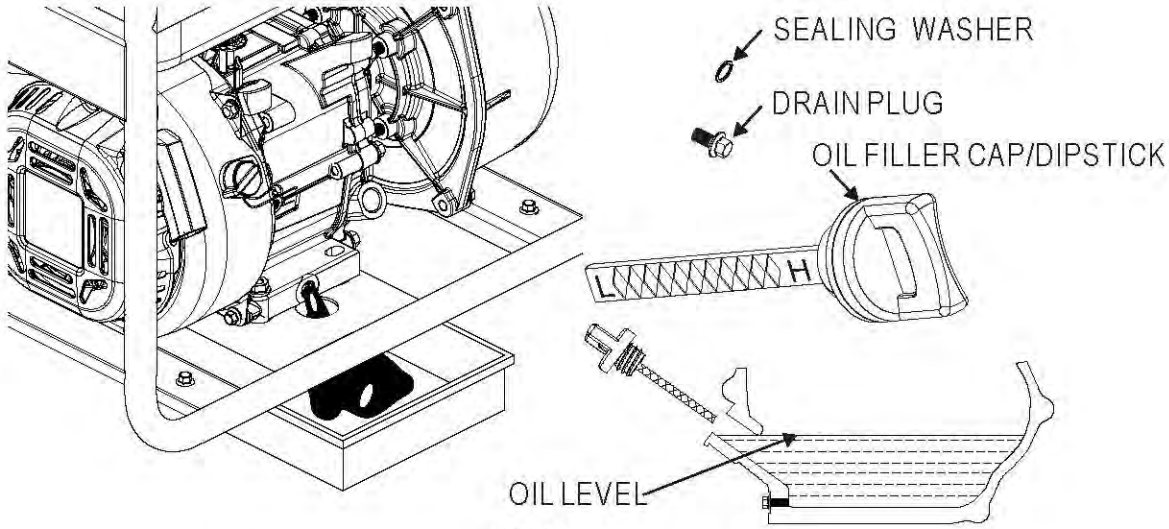



FIG 11

## Engine Oil Recommendations (See Fig 12)

- Use SAE 10W-30 for general use. Other viscosities may be used based on the average temperature chart as shown.

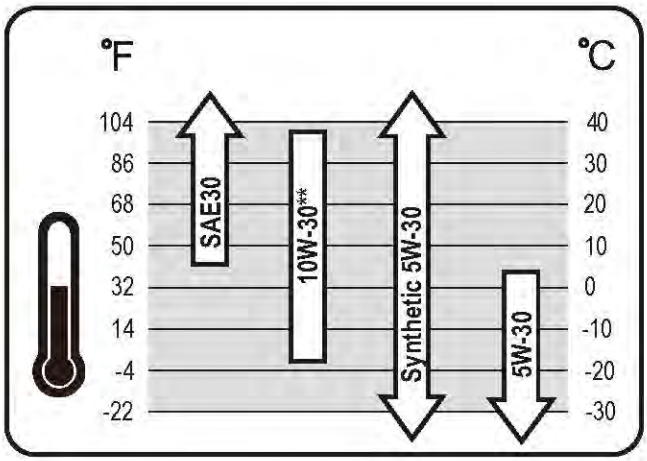



FIG 12

*Note: *Below 40°F (4°C) the use of SAE 30 will result in hard starting. **Above 80°F (27°C) the use of SEA 10W-30 may cause increased oil consumption. Check oil level more frequently.*

# MAINTENANCE

## Air Cleaner (See Fig 13)

A dirty air filter will reduce the life span of the engine, make starting the engine difficult, and reduce the unit's performance. If operating pump in dusty conditions, clean air filter more frequently then specified in the maintenance schedule.

- To clean, remove the air cleaner cover.
- Carefully pull the air cleaner out by lifting up along the edges.
- Remove dirt from filter by tapping on it or having it blown out.
- Wipe air cleaner base and cover with a damp rag. Be careful that dirt does not enter air duct leading to the carburetor.
- Reinstall air cleaner so that it seals and replace air cleaner cover.

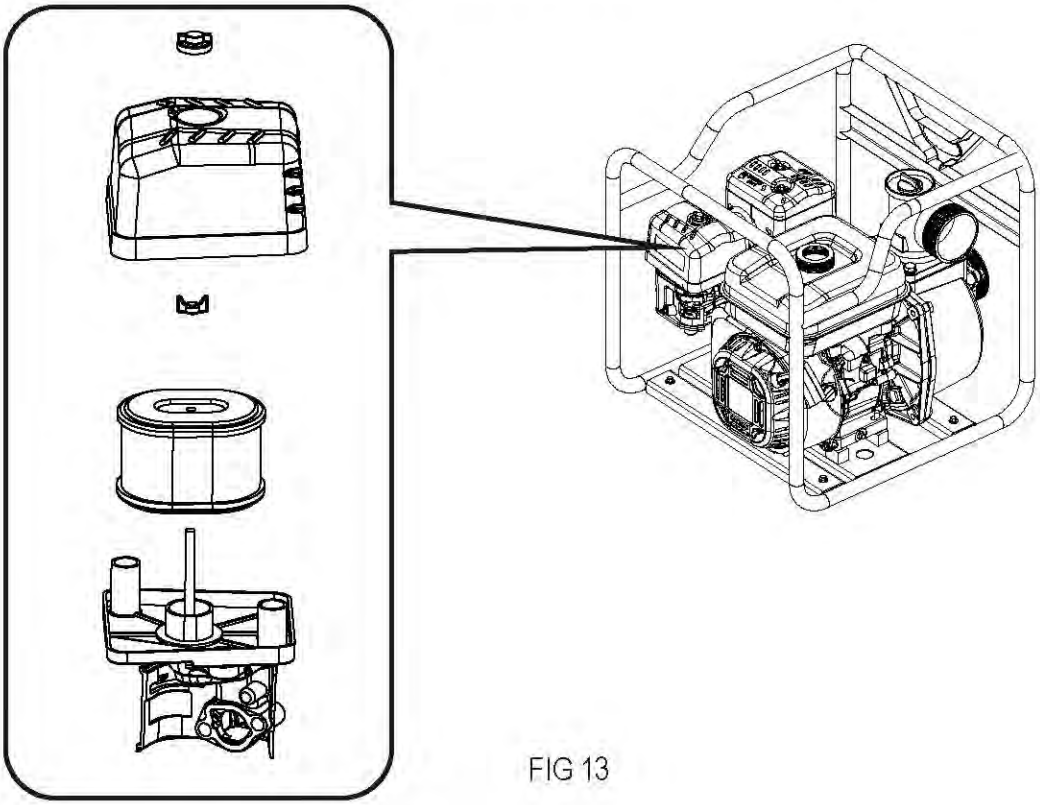


FIG 13

**CAUTION!** **Operating Pump without an air filter or with a damaged air filter can cause dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the warranty.**

# MAINTENANCE

## Checking Spark Plug (See Fig 14)

- Disconnect the spark plug cap from the spark plug.
- Before removing the spark plug, clean the area around its base to prevent debris from entering the engine.
- Remove the spark plug with a comerically available13/16 spark plug wrench
- Inspect spark plug. Replace if electrodes are worn or if the insulator is cracked or chipped.
- Clean carbon deposits off the electrode with a wire brush.
- Check the electrode gap with a suitable gauge and slowly adjust to 0.7 - 0.8 mm if necessary.
- Reinstall spark plug and tighten to Torque 22.0 – 26.9 Nm (16-20 ft-lb).
- Reconnect spark plug cap.
- If spark plug is worn replace only with an equivalent replacement part. **Recommended spark plug: F7TC / F7RTC.**
- Spark plug should be replaced annually.

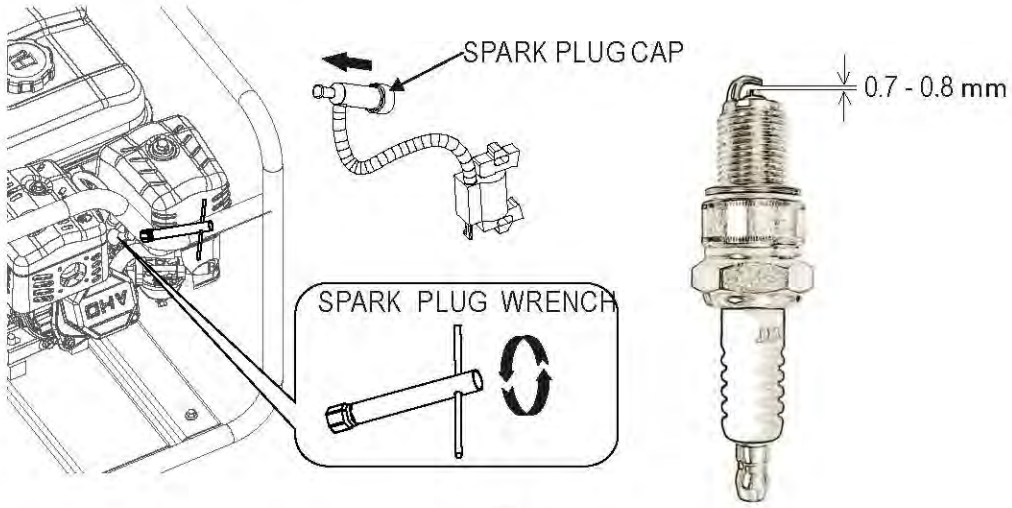



FIG 14

| | |
|---|---|
| CAUTION! | **A spark plug that is too loose can overheat and damage engine. A spark plug that is too tight can damage threads of the cylinder head.** |

# STORAGE

## Storing Water pump

Proper storage prevents the development of rust and corrosion which affects the pumps performance and appearance. Proper storage also makes it easier to start the engine when using the pump again. If storing water pump for 30 days or more follow the below procedures:

| | |
|---|---|
| ⚠ CAUTION! | If pump has been running, allow engine to cool for at least 30 minutes before taking the steps mentioned below to avoid damage to pump. |

## Clean Pump

- If pump has been running, allow engine to cool to avoid damage to engine.
- Hand wash pump and engine. Keep water from areas difficult to dry, from controls, and from muffler or air cleaner openings. Avoid using a garden hose or pressure washer as it could cause water to enter the air filter or muffler and can damage the cylinder and filter.
- Wipe dry all accessible surfaces to prevent rust.

## Fuel Stabilizer

- For short term storage (30-90 days) add a fuel stabilizer to the gasoline to keep gasoline from going stale and to prevent gum deposits from forming on the carburetor. Run engine for about 10 minutes to circulate the fuel stabilizer.
- If fuel stabliizer is not used, drain fuel tank and carburetor (See pg. 19).

| | |
|---|---|
| ⚠ WARNING! | Warranty does not cover engine damage caused by failing to properly store pump. Gasoline can deteriorate in months. Failure to drain fuel or use a fuel stabilizer may require you to service or replace the carburetor or other fuel system components. |

## Flush Pump (See Fig 15)

- Place the pump outdoors on a level surface.
- Fill the pump with fresh, clean water and start the engine. Let pump run several minutes to allow the external water to evaporate.
- Once the engine is warm, turn engine off and allow it to cool.
- Remove Drain Plug and flush pump with fresh, clean water.
- Let water drain from the pump chamber then reinstall Drain Plug.

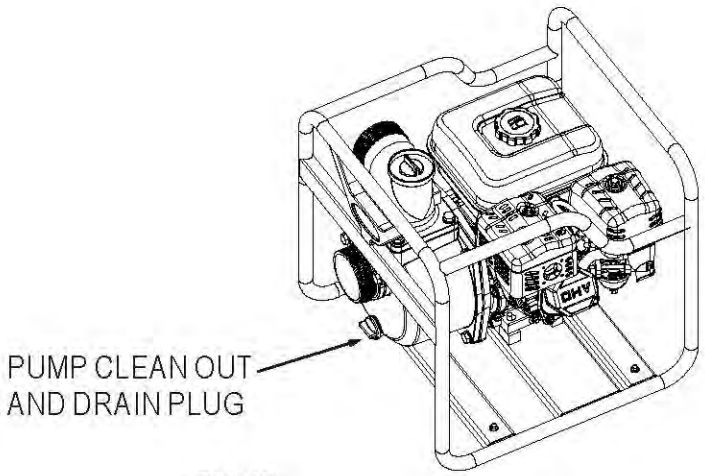



FIG 15

# STORAGE

## Lubercate Pump

Coat areas of pump that might rust, such as areas with damaged paint, with a light film of oil. Use a silicone spary lubricant and lightly lubricate controls.

## Drain Fuel Tank and Carburetor

- For long term storage (over 90 days) drain fuel from fuel tank and carburetor.
- Place a funnel and a leak proof gasoline container under the carburetor to avoid spills.
- Remove carburetor drain bolt and sediment cup.
- Slide the Fuel Valve lever to the "ON" position.
- Once all the fuel has drained, reinstall drain bolt and sediment cup. Tighten securely.

## Drain Fuel Tank and Carburetor (See Fig 16)

- For long term storage (over 90 days) drain fuel from fuel tank and carburetor.
- Place a funnel and a leak proof gasoline container under the carburetor to avoid spills.
- Remove carburetor drain bolt and sediment cup.
- Slide the Fuel Valve lever to the "ON" position.
- Once all the fuel has drained, reinstall drain bolt and sediment cup. Tighten securely.

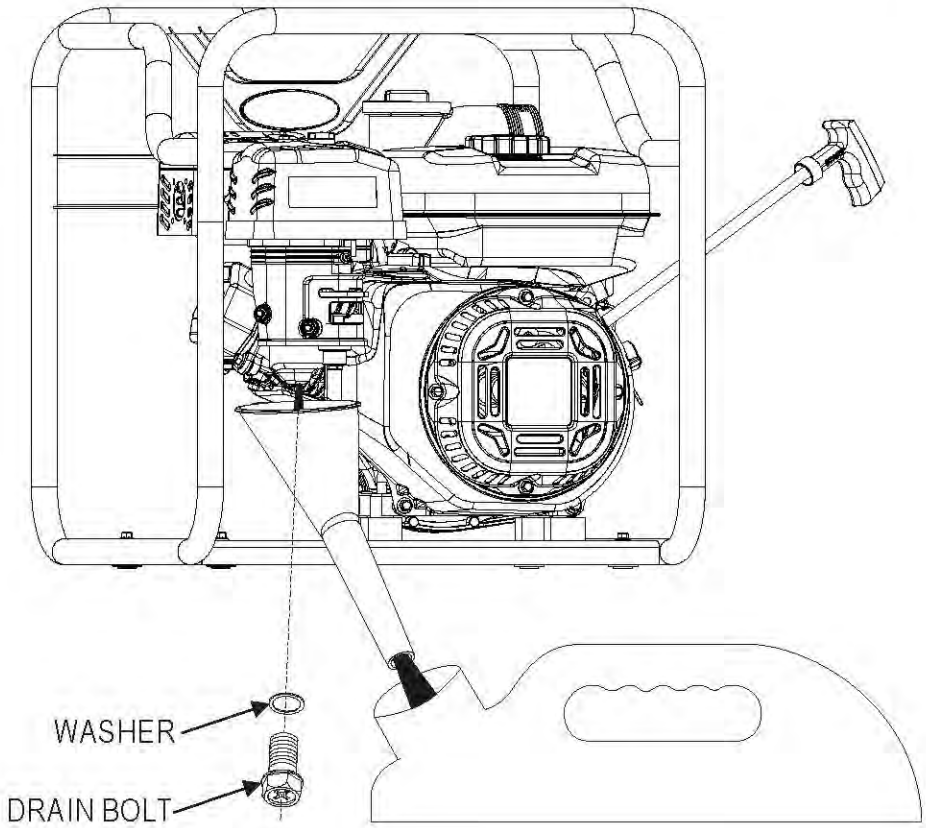



FIG 16

# STORAGE

## Engine Oil (See Fig 17)

- For long term storage (over 90 days) change engine oil (See pg 15)
- Remove spark plug (See pg 17) and pour 1 tablespoon of clean engine oil into cylinder.
- To distribute oil in the cylinder, pull the recoil starter several times.
- Reinstall spark plug (See pg 17)
- Slowly pull recoil starter grip until the the top hole of the recoil starter cover aligns with the notch on the pulley. This keeps the valve closed during storage so that moisture cannot enter the engine cylinder.

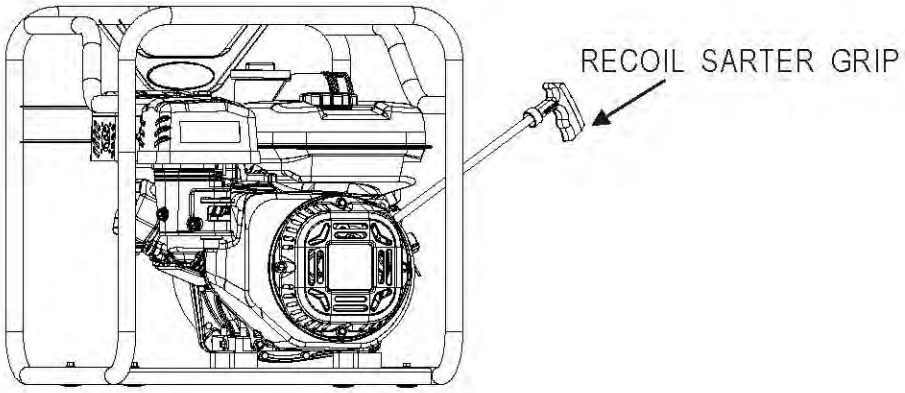



FIG 17

## Storage Location

- If pump is stored with gasoline, store pump in a well-ventilated area away from anything that operates with an open flame or generates sparks. To prevent leakage, store pump on a level surface with the Fuel Valve lever in the "OFF" position.
- To prevent rust, avoid storing pump in areas with high humidity.
- To protect from dust, cover with a tarp or plastic sheet.

| WARNING! | **Storage cover could be flammable. Let engine cool before covering pump.** |
|---|---|

## Remove from Storage

See pg 10 Pre-Operation Checklist

## Transporting Pump

- Turn the fuel valve to the "OFF" postion.
- To prevent fuel leakage, keep pump level while transporting.

# TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **Engine Does Not Start** | | |
| Check controls | OFF/ON switch is in the "OFF" position | Turn OFF/ON switch to the "ON" position |
| | Fuel valve in "OFF" position | Turn Fuel valve to "ON" position |
| | Choke is in "RUN" position | Turn Choke to "Choke" position |
| Check fuel | Out of fuel | Fill fuel tank |
| | Stale fuel or water in fuel | Drain fuel tank and carburetor. Replace with fresh fuel. |
| Faulty spark plug | Spark plug wire disconnected from spark plug | Connect spark plug wire |
| | Spark plug wet from fuel (flooded) | Remove and dry spark plug. Reinstall spark plug and start engine with throttle lever in the fastest setting. |
| | Spark plug incorrectly gapped | Correct spark plug gap |
| | Bad spark plug | Replace spark plug |
| | Spark plug wire has shorted | Contact service center |
| Check Engine Oil | Engine oil low | Add engine oil |
| Contact service center | Ignition inoperative | Contact service center |
| **Engine Lacks Power** | | |
| Check air filter | Air filter is dirty | Clean air filter |
| Check Fuel | Stale fuel or water in fuel | Drain fuel tank and carburetor. Replace with fresh fuel. |
| Check Fuel filter | Clogged fuel filter | Replace fuel filter |
| Contact service center | Carburetor or ignition malfunction | Contact service center |
| | Valve stuck | Contact service center |
| **Engine Quits During Operation** | | |
| Check fuel | Out of fuel | Fill fuel tank |

# TROUBLESHOOTING

## No Pump Output

| | | |
|---|---|---|
| Check Pump Chamber | Pump was not primed | Prime pump |
| | Hose is kinked or damaged | Unkink hose, replace damaged hose |
| | Strainer is clogged | Remove debris to unclog strainer |
| | Strainer is not submerged underwater | Completely submerge strainer |
| | Gasket is damaged | Replace Gasket |
| | Wing nut and hose clamp are loose | Tighten wing nut and hose clamp |
| Measure Suction & Discharge Head | Head distance is excessive | Relocate pump and / or hoses to shorten head. |
| Check Engine | Engine Lacks Power | See pg 20 |

## Low Pump Output

| | | |
|---|---|---|
| Check Suction Hose | Hose is too long or diameter to small | Replace hose |
| | Hose is kinked or damaged | Unkink hose, replace damaged hose |
| | Strainer is clogged | Remove debris to unclog strainer |
| | Gasket is damaged | Replace Gasket |
| | Wing nut and hose clamp are loose | Tighten wing nut and hose clamp |
| Check Discharge Hose | Hose is too long or diameter to small | Replace hose |
| | Hose is kinked or damaged | Unkink hose, replace damaged hose |
| Measure Suction & Discharge Head | Head distance is excessive | Relocate pump and / or hoses to shorten head. |
| Check Engine | Engine Lacks Power | See pg 20 |

# MODIFICATIONS

## High Altitude Operation

If operating pump regularly at altitudes over 5,000 feet, the carburetor's air-fuel mixture will be too rich and emmissions may increase. On Engines not built for the United States the carburetor can be adjusted to operate under this condition. The carburetor should be returned to its normal setting if regular operation becomes less than 5,000 feet. Contact your service center to modify the carburetor.

## Oxygenated Fuels

To help reduce emissions, the following oxygenated fuels may be used if unleaded and meets the minimum octane rating requirment.

Ethanol - gasoline which contains up to 10% ethanol by volume, also called "Gasohol".
MTBE - gasoline which contains up to 15% MTBE by volume.
Methanol - gasoline which contains up to 5% methanol may be used, but it is not recommended as it can damage the fuel system, affect performance, and make it difficult to start the engine.

**WARNING!** **Damage to fuel system caused by the use of oxygenated fuels is not covered under the warranty**

## Emissions Control System

The emissions control system for this water pump is compliant with all standards set by the Environmental Protection Agency. To keep emissions from exceeding the legal limit, do not alter or remove any part of the emissions system including the intake, fuel, or exhaust systems. Contact your service center if the engine stalls or is hard to start, idles rough, misfires, or backfires.

**WARNING!** **Never operate this unit if there are any broken or missing parts and only use Ford replacement parts specifically designed for this unit.**

- Improper treatment of water pump can damage the unit and shorten it's life.
- Always repair this unit as specified in this manual. If you have any questions contact your dealer or consult a qualified service center.
- Never modify governed speed.

# SERVISE

**WARRANTY:**
Please see the separate sheet in accessories.

**CE DECLARATION:**
Please see the separate sheet in accessories.

**HOW TO CONTACT US:**
To order parts, receive warranty assistance, or other services inquiries, please see the warranty sheet.
Record the following information bellow for service or warranty assistance.

| | |
|---|---|
| Date of Purchase: | |
| Model Number: | |
| Series Number: | |
| UPC Number: | |