



OPERATOR'S MANUAL

MODEL #100166

1 IN. (2.5 CM) WATER PUMP WITH HOSE KIT



ACTIVATE YOUR WARRANTY

by registering your product:
championpowerequipment.com

SERIAL NO.



  **1-877-338-0999**

or visit championpowerequipment.com

SAVE THESE INSTRUCTIONS. This manual contains important safety precautions which should be read and understood before operating the product. Failure to do so could result in serious injury. This manual should remain with the product.

Specifications, descriptions and illustrations in this manual are as accurate as known at the time of publication, but are subject to change without notice.

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INTRODUCTION

Congratulations on your purchase of a Champion Power Equipment (CPE) product. CPE designs, builds, and supports all of our products to strict specifications and guidelines. With proper product knowledge, safe use, and regular maintenance, this product should bring years of satisfying service.

Every effort has been made to ensure the accuracy and completeness of the information in this manual at the time of publication, and we reserve the right to change, alter and/or improve the product and this document at any time without prior notice.

CPE highly values how our products are designed, manufactured, operated, and serviced as well as providing safety to the operator and those around the water pump. Therefore, it is **IMPORTANT** to review this product manual and other product materials thoroughly and be fully aware and knowledgeable of the assembly, operation, dangers and maintenance of the product before use. Fully familiarize yourself, and make sure others who plan on operating the product fully familiarize themselves too, with the proper safety and operation procedures before each use. Please always exercise common sense and always err on the side of caution when operating the product to ensure no accident, property damage, or injury occurs. We want you to continue to use and be satisfied with your CPE product for years to come.

When contacting CPE about parts and/or service, you will need to supply the complete model and serial numbers of your product. Transcribe the information found on your product's nameplate label to the table below

CPE TECHNICAL SUPPORT TEAM
1-877-338-0999
MODEL NUMBER
100166
SERIAL NUMBER
DATE OF PURCHASE
PURCHASE LOCATION

SAFETY DEFINITIONS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

🗨 NOTICE

NOTICE indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING

Cancer and Reproductive Harm – www.P65Warnings.ca.gov

⚠ DANGER

Water pump engine exhaust contains carbon monoxide, a colorless, odorless, poisonous gas. Breathing carbon monoxide will cause nausea, dizziness, fainting or death. If you start to feel dizzy or weak, get to fresh air immediately.

OPERATE WATER PUMP OUTDOORS ONLY IN A WELL VENTILATED AREA AND POINT EXHAUST AWAY.

DO NOT operate the water pump inside any building, including garages, basements, crawlspaces and sheds, enclosure or compartment.

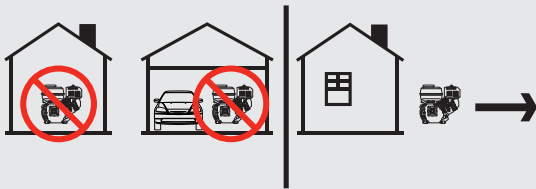
DO NOT allow exhaust fumes to enter a confined area through windows, doors, vents or other openings.

⚠ DANGER

Using an engine indoors **CAN KILL YOU IN MINUTES**. Water pump exhaust contains carbon monoxide. This is a poison you cannot see or smell.

NEVER use inside a home or garage, **EVEN IF** doors and windows are open.

ONLY use **OUTSIDE** and far away from windows, doors, and vents.



Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions.

⚠ DANGER

Rotating parts can entangle hands, feet, hair, clothing and/or accessories. Traumatic amputation or severe laceration can result.

Keep hands and feet away from rotating parts.

Tie up long hair and remove jewelry.

DO NOT wear loose-fitting clothing, dangling drawstrings or items that could become caught.

⚠ DANGER

The water pump develops powerful force.

DO NOT move the water pump when it is in use. DO NOT use hoses or connectors that are worn, damaged or frayed. DO NOT allow children or unqualified persons to operate or service the water pump. DO NOT open top plug or drain plug.

⚠ WARNING

DO NOT immerse this unit in water.

⚠ WARNING

Spark from removed spark plug wire can result in fire or electrical shock.

When servicing the water pump:

Disconnect the spark plug wire and place it where it cannot contact the plug or any other metal object.

DO NOT check for spark with the plug removed.

Use only approved spark plug testers.

⚠ WARNING

Running engines produce heat. Severe burns can occur on contact. Combustible material can catch fire on contact.

DO NOT touch hot surfaces.

Avoid contact with hot exhaust gases.

Allow equipment to cool before touching.

Maintain at least 3 ft. (91.4 cm) of clearance on all sides to ensure adequate cooling.

Maintain at least 5 ft. (1.5 m) of clearance from combustible materials.

⚠ WARNING

Rapid retraction of the recoil cord will pull hand and arm towards the engine faster than you can let go. Broken bones, fractures, bruises or sprains could result. Unintentional startup can result in entanglement, traumatic amputation or laceration.

When starting engine, pull the recoil cord slowly until resistance is felt and then pull rapidly to avoid kickback.

⚠ WARNING

DO NOT pump salt, sludge, sewer, sea, or any other type of water containing solid material.

⚠ WARNING

Water pumped through this unit shall not be used as drinking water.

⚠ CAUTION

Pumping solids through the pump, impeller or hoses is not recommended.

⚠ CAUTION

Exceeding the water pump's specification for maximum head can damage the water pump and/or hose kits connected to it.

DO NOT modify the water pump in any way.

DO NOT attempt to exceed the rated flow. Attempting to increase the rated flow may damage the unit and/or shorten its life.

⚠ CAUTION

Improper treatment or use of the water pump can damage it, shorten its life or void the warranty.

Use the water pump only for intended uses.

Operate only on level surfaces.

DO NOT expose water pump to excessive moisture, dust, or dirt.

DO NOT allow any material to block the cooling slots.

DO NOT use the water pump if:

- Equipment sparks, smokes or emits flames
- Equipment vibrates excessively

Fuel Safety**⚠ DANGER**

GASOLINE AND GASOLINE VAPORS ARE HIGHLY FLAMMABLE AND EXPLOSIVE.

Fire or explosion can cause severe burns or death.

Gasoline and gasoline vapors:

- Gasoline is highly flammable and explosive.
- Gasoline can cause a fire or explosion if ignited.
- Gasoline is a liquid fuel but it's vapors can ignite.
- Gasoline is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.
- Gasoline has a distinctive odor, this will help detect potential leaks quickly.
- Gasoline expands or contracts with ambient temperatures. Never fill the gasoline tank to full capacity, as gasoline needs room to expand when temperatures rise.
- In the case of any petroleum gasoline fire, flames should never be extinguished unless the fuel supply valve can be turned OFF. By not doing so, if a fire is extinguished and the supply of fuel is not turned OFF, an explosion hazard could be created.

When adding or removing gasoline:

DO NOT light or smoke cigarettes.

Turn the water pump off and let cool for at least two minutes before removing the gasoline cap. Always loosen the cap slowly to relieve pressure in the tank.

Only fill or drain gasoline outdoors in a well-ventilated area.

DO NOT pump gasoline directly into the water pump at the gas station. Always use an approved container to transfer the fuel to the water pump.

DO NOT overfill the gasoline tank.

Always keep gasoline away from sparks, open flames, pilot lights, heat and other sources of ignition.

When starting the water pump:

DO NOT attempt to start a damaged water pump.

Always check that the gasoline cap, air filter, spark plug, fuel lines and exhaust system are properly in place.

Always allow spilled gasoline to evaporate fully before attempting to start the engine.

Always be certain that the water pump is resting firmly on level ground.

When operating the water pump:

DO NOT move or tip the water pump during operation.

When transporting or servicing the water pump:

Always check that the fuel valve is in the OFF position and the gasoline tank is empty.

Disconnect the spark plug wire.

When storing the water pump:

Store away from sparks, open flames, pilot lights, heat and other sources of ignition.

Do not store water pump or gasoline near furnaces, water heaters, or any other appliances that produce heat or have automatic ignitions.

⚠ DANGER

NEVER place a gasoline container, gasoline tank, or any combustible material in the path of the exhaust stream during operation of the engine.

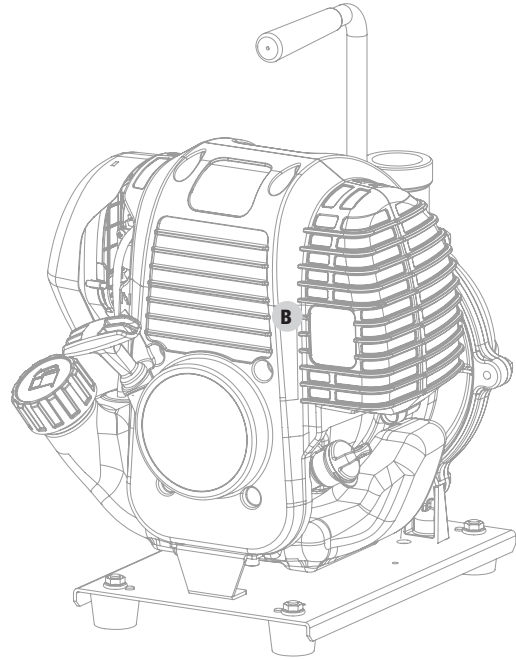
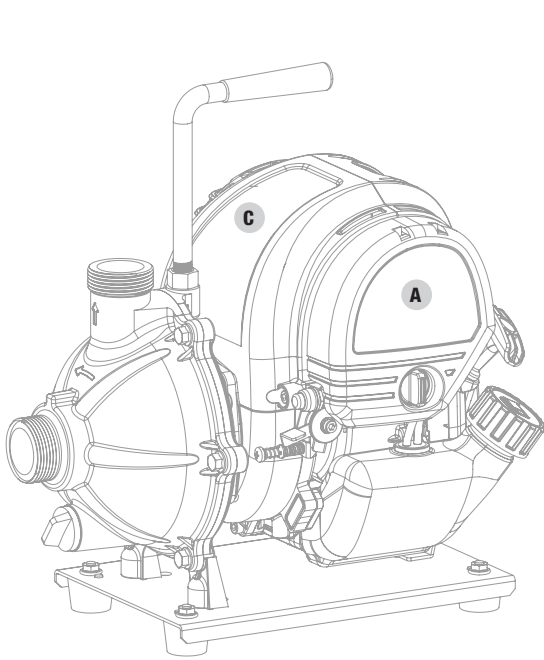
⚠ WARNING

Never use a gasoline container, gasoline tank, or any other fuel item that is broken, cut, torn or damaged.

Safety and Dataplate Labels

These labels warn you of potential hazards that can cause serious injury. Read them carefully.

If a label comes off or becomes hard to read, contact Technical Support Team for possible replacement.

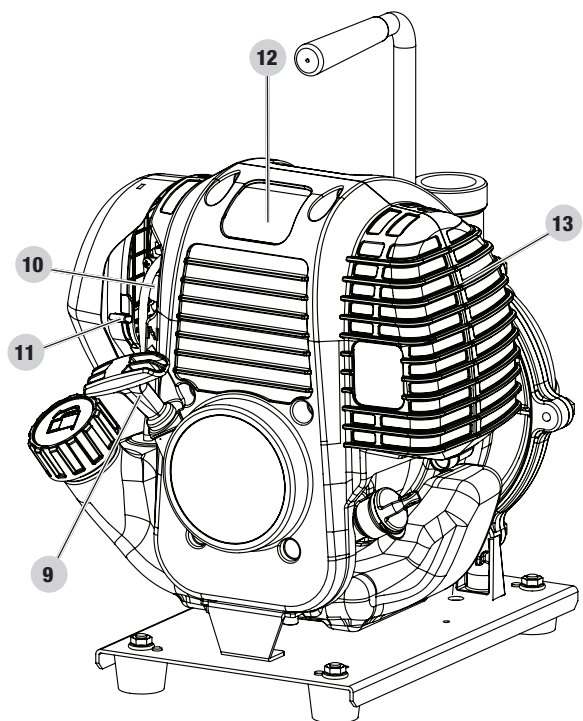
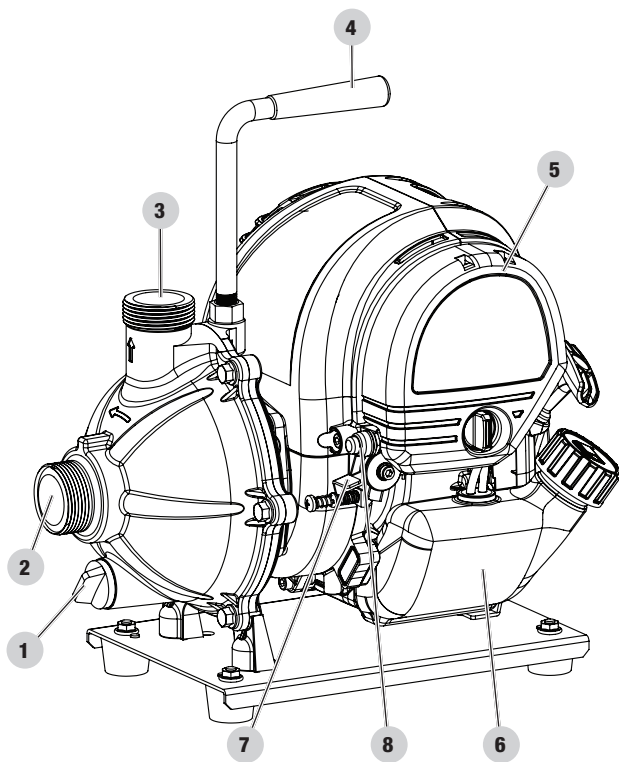


	LABEL	DESCRIPTION
A		Safety Symbols/ CO Danger
B		Hot Surface
C		Dataplate

CONTROLS AND FEATURES

Read this operator's manual before operating your water pump. Familiarize yourself with the location and function of the controls and features. Save this manual for future reference.

Water pump



1. **Drain Plug**
2. **1 in. (2.5 cm) Inlet** – 1 in. (2.5 cm) inlet connector.
3. **1 in. (2.5 cm) Outlet** – 1 in. (2.5 cm) outlet connector.
4. **Handle**
5. **Air Filter** – Protects the engine by filtering dust and debris from the air intake.
6. **Fuel Tank** – 0.145 gal. (550 mL)
7. **Throttle Lever** – Used to adjust engine speed.
8. **Off Button** – Press to stop the unit.
9. **Recoil Starter** – Used to start the engine.
10. **Priming Button** – Used to prime fuel for starting.
11. **Choke lever** – Used to start the engine.
12. **Spark Plug and Connector Wire**
13. **Muffler**

Parts Included

Accessories

Hose Kit

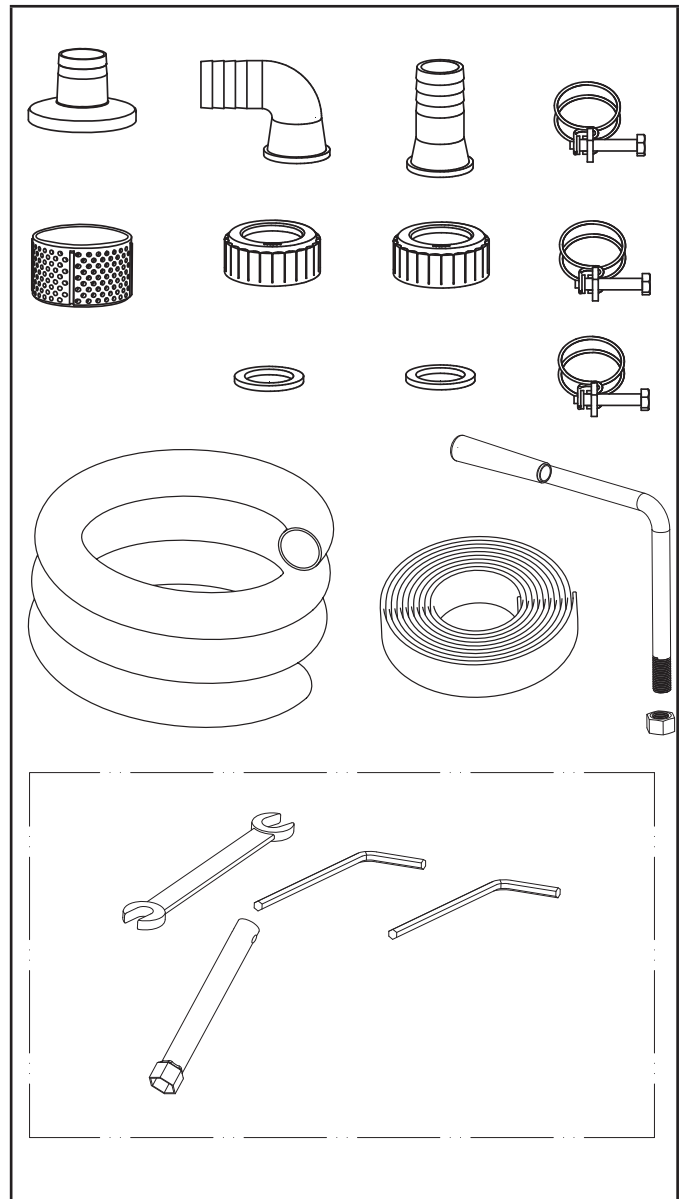
- 16.4 ft. x 1 in. (5 meter x 25mm) Intake Hose 1
- 26.2 ft. x 1 in. (8 meter x 25mm) Discharge Hose 1
- Hose Connector with Rubber gasket (Straight) 1
- Hose Connector with Rubber gasket (90°) 1
- Intake Filter Screen 1
- Hose Clamps 3

Assembly Parts

- Handle 1
- Nut, M12x1.25 (for handle) 1

Tools Included

- Tool Kit 1



ASSEMBLY

Your water pump requires some assembly. This unit ships from our factory without oil. It must be properly serviced with fuel and oil before operation.

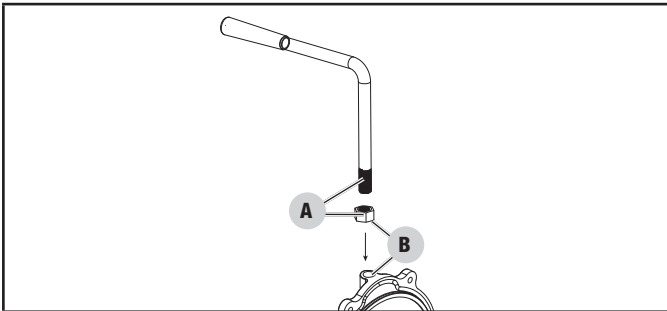
If you have any questions regarding the assembly of your water pump, call our Technical Support Team at 1-877-338-0999. Please have your serial number and model number available.

Unpacking

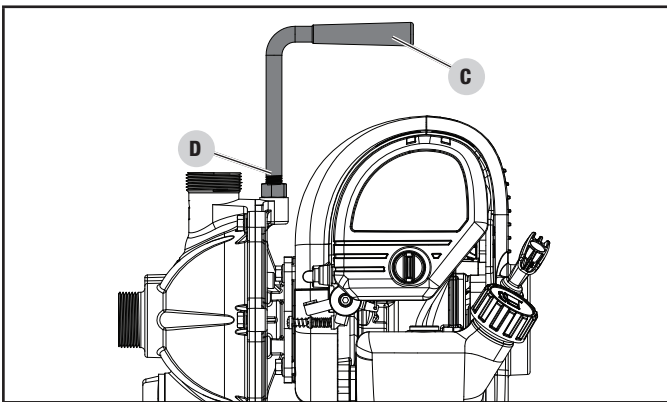
1. Set the shipping carton on a solid, flat surface.
2. Remove everything from the carton except the water pump.
3. Carefully cut each corner of the box from top to bottom. Fold each side flat on the ground to provide a surface area to work with the water pump.

Install the Handle

1. Hand thread the M12 x 1.25 nut onto the handle base, up to a point where it naturally stops. (A)
2. DO NOT try to thread the nut after that stop point with any wrench, pliers, or other device.
3. Hand thread the handle/nut combo into the threaded hole on the pump side cover top. (B)



4. Once securely tightened the handle should face away from the outlet and towards the engine. (C)



⚠ CAUTION

Hand tighten the nut and handle only. Any excess force, with tools or otherwise, may strip or break the threads on the handle or side cover hole.

🗨 NOTICE

There will be some threading left on the handle that will stick out of the nut after installation is secured. This is normal and should be left unthreaded. (D)

Add Engine Oil

⚠ WARNING

DO NOT attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil. Damage to the water pump as a result of failing to follow these instructions will void your warranty.

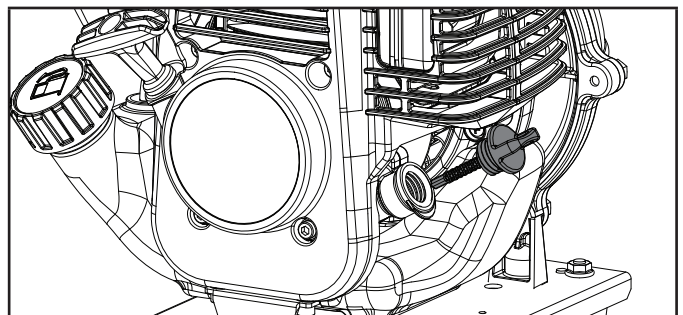
🗨 NOTICE

The recommended oil type for typical use is **10W-30 automotive oil**. However, using the listed conventional oils shown in the “Recommended Engine Oil Type” chart may be used for typical use including the first 5 hours of the break-in run time period of the engine.

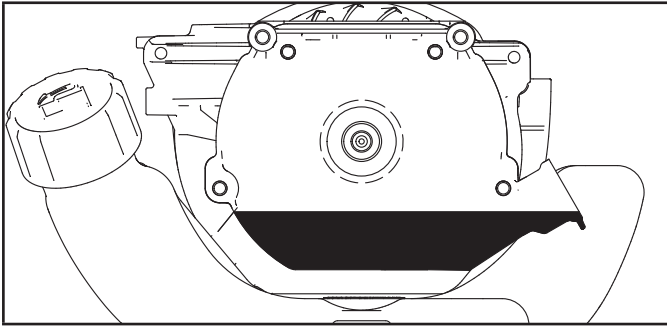
If running water pump in extreme temperatures, refer to the “Recommended Engine Oil Type” chart.

		Recommended Engine Oil Type							
		10W-30							
		5W-30				10W-40			
		5W-30 Full Synthetic							
°F		-20	0	20	40	60	80	100	120
°C		-28.9	-17.8	-6.7	4.4	15.6	26.7	37.8	48.9
		Ambient temperature							

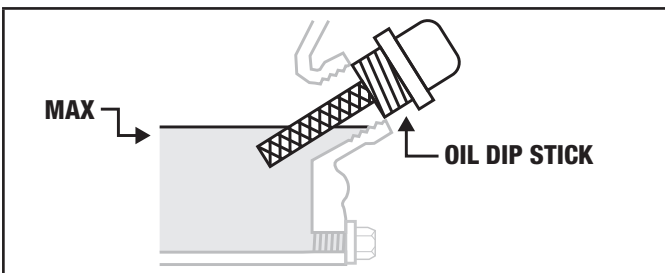
1. Place the water pump on a flat, level surface.
2. Remove oil fill cap/dipstick to add oil.



3. Using a funnel, add up to 2.4 fl. oz. (70 ml) of oil (not included) and replace oil fill cap/dipstick. It is recommended to only fill to the base of the oil fill hole. **DO NOT OVERFILL.**



4. Check engine oil level at every use and add as needed.



NOTICE

Once oil has been added, a visual check should show oil about 1-2 threads from running out of the fill hole.

When using the dipstick to check oil level, **DO NOT** screw in the dipstick while checking.

NOTICE

Check oil level often during the break-in period. Refer to the Maintenance section for recommended service intervals.

CAUTION

This engine is **NOT** equipped with a low oil shut-off and will **NOT** stop when the oil level in the crankcase falls below the threshold level.

NOTICE

The first 5 hours of run time are the break-in period for the unit. During the break in period stay at or below 50% of the running watt rating and vary the load occasionally to allow stator windings to heat and cool. Adjusting the load will also cause engine speed to vary slightly and help seat piston rings. After the 5 hour break-in period, change the oil.

NOTICE

Synthetic oil may be used after the 5 hour initial break-in period. Using synthetic oil does not decrease the recommended oil change interval. Full synthetic 5W-30 oil will aid in starting in cold ambient < 41° F (5° C) temperatures.

Add Fuel

DANGER




Gasoline vapors are highly flammable and extremely explosive.

DO NOT light or smoke cigarettes. Fire or explosion can cause severe burns or death.

Only fill or drain fuel outdoors in a well-ventilated area. **DO NOT** pump gasoline directly into the water pump. Use an approved container to transfer the fuel to the water pump.

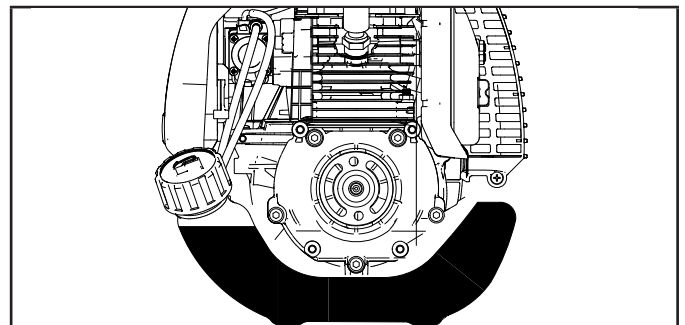
Never use a gasoline container, gasoline tank, or any other fuel item that is broken, cut, torn or damaged.

DO NOT overfill the gasoline tank. Always keep fuel away from sparks, open flames, pilot lights, heat and other sources of ignition.

Use clean, fresh, regular unleaded gasoline with a minimum octane rating of 87 and an ethanol content of 10% or less by volume.   

DO NOT mix oil with gasoline.

1. Remove the gasoline cap.
2. Slowly add gasoline to the tank. **DO NOT OVERFILL.** Gasoline can expand after filling. A minimum of ¼ in. (6.4 mm) of space left in the tank is required for gasoline expansion, although more than ¼ in. (6.4 mm) is recommended. Gasoline can be forced out of the tank as a result of expansion if overfilled, and can affect the stable running condition of the water pump.



3. Screw on the gasoline cap and wipe away any spilled fuel.

⚠ CAUTION

Use unleaded gasoline with a minimum octane rating of 87 and an ethanol content of 10% or less by volume.

DO NOT light cigarettes or smoke when filling the tank.

DO NOT mix oil and gasoline.

DO NOT overfill the tank. Fill tank to approximately ¼ in. (6.4 mm) below the top of the tank to allow for gasoline expansion.

DO NOT pump gasoline directly into the water pump at the pump. Use an approved fuel container to transfer the gasoline to the water pump.

DO NOT fill tank indoors.

DO NOT fill tank when the engine is running or hot.

⚠ WARNING

Pouring gasoline too fast through the fuel screen may result in gasoline splashing over the water pump and operator while filling.

🗨 NOTICE

The water pump engine works well with 10% or less ethanol blended gasoline. When using ethanol-gasoline blends there are some issues worth noting:

- Ethanol-gasoline blends can absorb more water than gasoline alone.
- These ethanol blends can eventually separate, leaving water or a watery goo in the tank, fuel valve and carburetor. The compromised gasoline can be drawn into the carburetor and cause damage to the engine and/or create potential hazards.
- If a fuel stabilizer is used, confirm that it is formulated to work with ethanol-gasoline blends.
- Any damages or hazards caused by using ethanol blended gasoline higher than 10% by volume, improperly stored gasoline, and/or improperly formulated stabilizers, are not covered by manufacturer's warranty.

It is advisable to always shut off the gasoline supply and run the engine to starvation after each use. See Storage instructions for extended non-use.

OPERATION**Water Pump Location****⚠ WARNING**

Place the water pump in a well ventilated area. NEVER place the water pump near vents or intakes where exhaust fumes could be drawn into occupied or confined spaces. Carefully consider wind and air currents when positioning water pump.

Water pumps should always be operated on a flat, level surface at all times (even when not in operation).

Water pumps must have a minimum of 5 feet (1.5 m) of clearance from all combustible material.

Water pumps must also have a minimum of 3 feet (91.4 cm) of air flow clearance on all sides to allow for adequate performance cooling, maintenance and servicing.

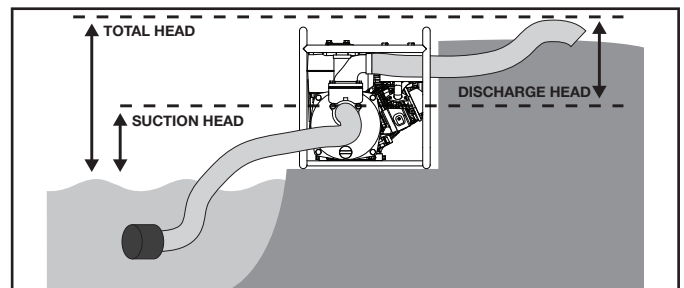
Place the pump on a level surface free from any obstructions or potential hazards. The pump should be placed close to the water level to ensure maximum pump performance.

Always allow water pumps to properly cool before transport or for storage purposes.

Failure to follow proper safety precautions may result in personal injury, damage to the water pump and void the manufacturer's warranty.

Pump output will be affected by the type, length, and size of the suction and discharge hoses. The pumping height, also known as the total head, is the distance from the water level to the point of discharge. As this distance increases, pump output decreases. The discharge capacity is greater than the suction capacity. Therefore, it is important that the suction head is less than the discharge head.

The time required to draw water from the source to the pump (self-priming time) can be decreased by minimizing the suction head.



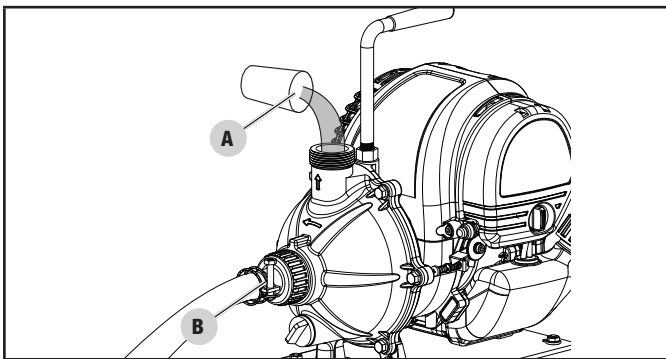
Priming the Pump

⚠ WARNING

DO NOT run the pump dry.

Running the pump dry can destroy the pump seals and will void the warranty. If the pump was running while dry, stop the engine and allow it to cool thoroughly before filling the chamber with water.

Pour water into the outlet located on top of the pump housing. (A) Make sure to fill the pump body to the very top of the outlet with water. Connect the outlet hose to the outlet. (See section Connecting the Outlet Hose) Make sure hose connection is secure. As the engine starts up, this will start the draw of liquid into the pump. Located within the pump assembly is the one-way valve. As you prime the pump housing this one-way flap valve shuts off the opening to the suction hose. The priming process is only required when the pump housing is not full of water.



🗨 NOTICE

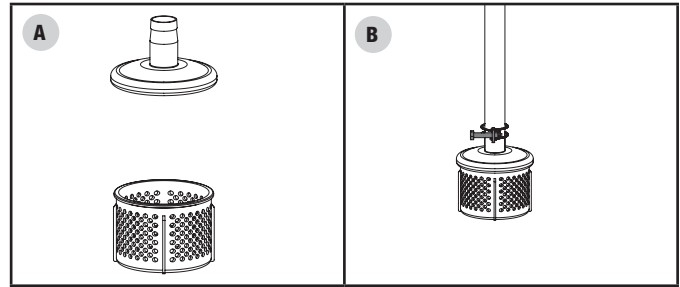
Ensure the drain plug is secure before pump priming and operation. (B) If not secure the pump will not hold water and prime correctly.

Connecting the Inlet Hose

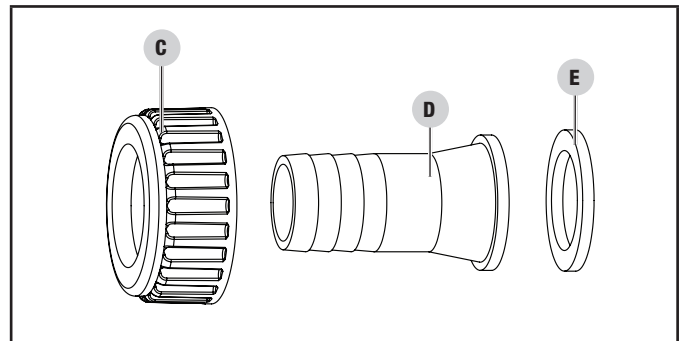
🗨 NOTICE

Both the intake and outlet ports are 1 in. (2.5 cm). Please insure the connectors to the suction and discharge hose are 1 in. (2.5 cm) threaded.

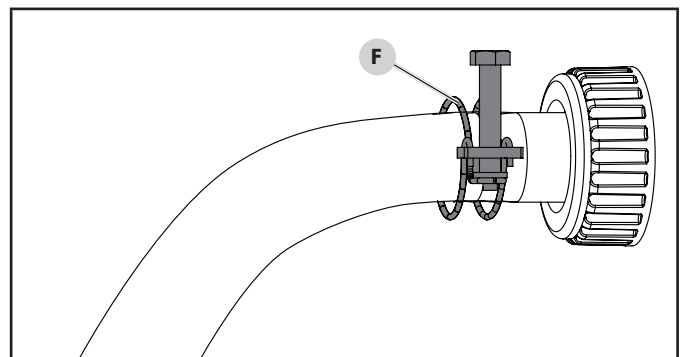
1. Attach the water filter shield to the water filter. (A)
2. Connect them to the intake hose with a hose clamp. (B)
3. Tighten the screw on the hose clamp to secure. Do not overtighten.



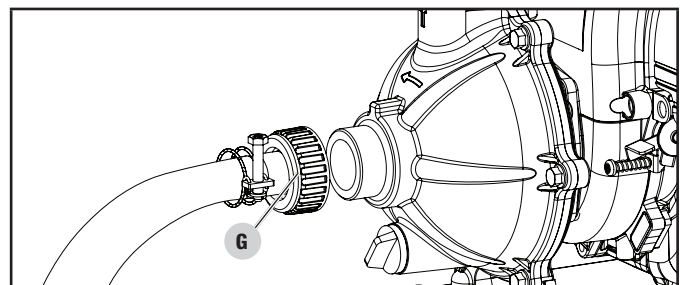
4. Slide the pipe joint (C) over the straight outlet joint (D) and then place the rubber gasket (E) into the base of the pipe joint.



5. Connect the intake hose to the straight outlet joint with a hose clamp. (F)
6. Tighten the screw on the hose clamp to secure. Do not overtighten.



7. Connect the straight outlet joint to the pump. (G)
8. Hand tighten the joint to the pump. Do not over tighten.



NOTICE

The once connected to the pump, there may be some threading left after hand tightening. This is normal. **DO NOT** overtighten the pipe joint with any wrench, tool, or otherwise.

NOTICE

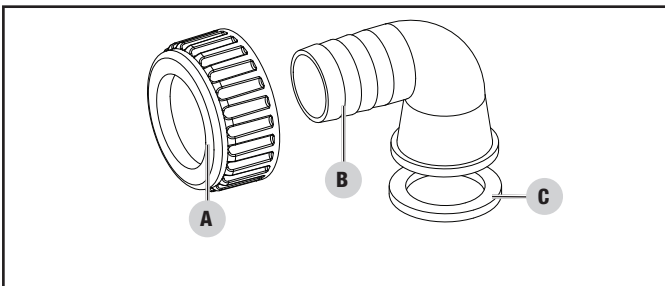
Telfon tape or other sealers are not needed for a water tight connection. The rubber gasket should help to make the connection more water tight.

Connecting the Outlet Hose

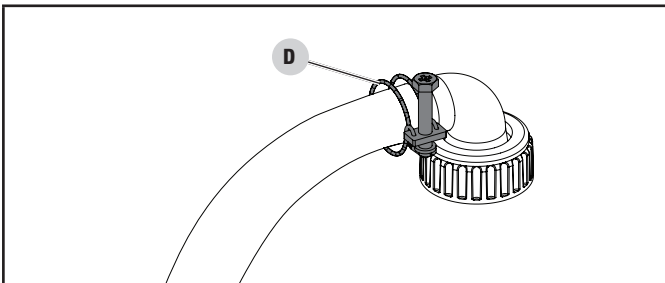
NOTICE

Both the intake and outlet ports are 1 in. (2.5 cm). Please insure the connectors to the suction and discharge hose are 1 in. (2.5 cm) threaded.

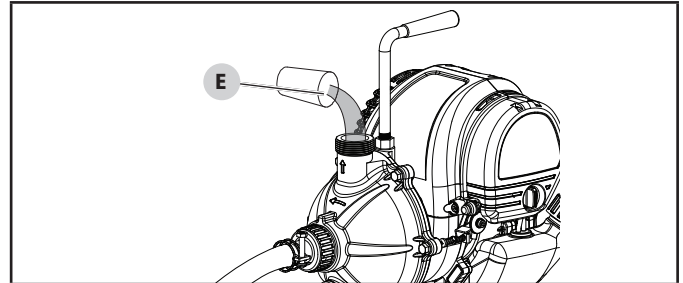
1. Slide the pipe joint (A) over the 90° outlet joint (B) and then place the rubber gasket (C) into the base of the pipe joint.



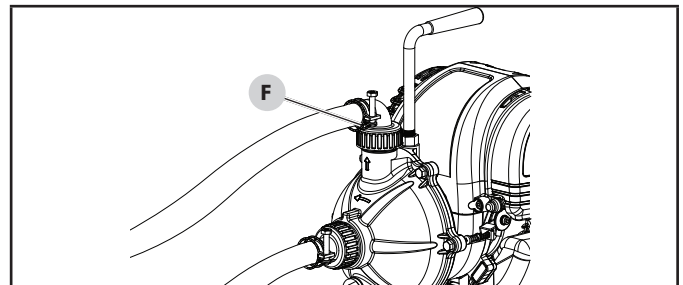
2. Connect the outlet hose to the 90° outlet joint with a hose clamp. (D)
3. Tighten the screw on the hose clamp to secure. Do not overtighten.



4. Prime the pump. (E) See priming the pump section



5. Connect the 90° outlet joint to the pump. (F)
6. Hand tighten the joint to the pump. Do not over tighten.



NOTICE

The once connected to the pump, there may be some threading left after hand tightening. This is normal. **DO NOT** overtighten the pipe joint with any wrench, tool, or otherwise.

NOTICE

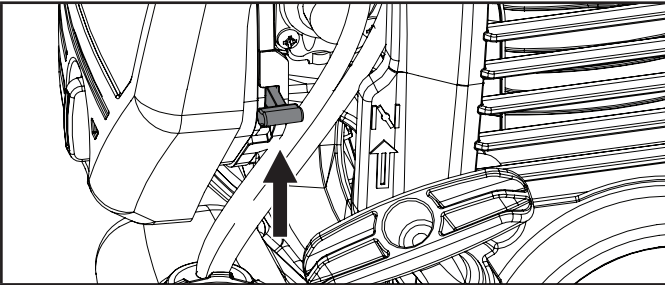
Telfon tape or other sealers are not needed for a water tight connection. The rubber gasket should help to make the connection more water tight.

Starting the Engine

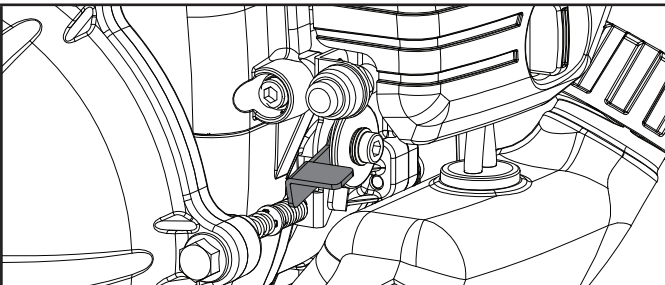
⚠ WARNING

Before attempting to start the engine, the oil level must be checked and engine oil added if needed.

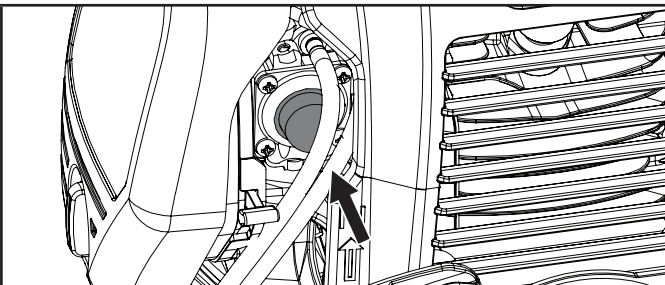
1. Make certain the water pump is on a flat, level surface.
2. Check engine oil level. Add oil if needed. (see add engine oil section)
3. Check fuel level. Add fuel if needed. (see add fuel section)
4. Move the choke lever to the "CHOKE" position.



5. Move the throttle level to the idle position.



6. Push and release the primer bulb 5 times to prime the carburetor. You should see the bulb start to fill up with fuel and fuel traveling through the fuel line.



7. Pull the starter cord slowly until resistance is felt and then pull rapidly.
8. As engine warms up, move the choke lever to "RUN".
9. Move the throttle lever to the desired RPM position.

🗨 NOTICE

Pump performance can be adjusted using the throttle. To decrease pump output, slide the throttle down. To increase it, slide the throttle up.

⚠ WARNING

DO NOT remove the drain plug while the water pump is on and running

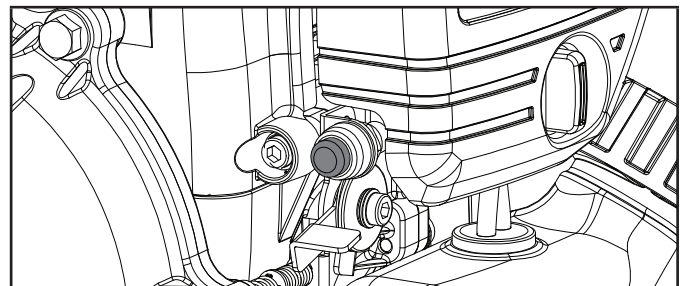
Loss of pressure and suction will occur. Injury may also occur.

🗨 NOTICE

Keep choke lever in "CHOKE" position for 2 pulls of the recoil starter. After 2 pulls, move choke lever to the "RUN" position for up to the next 3 pulls of the recoil starter. Too much choke leads to spark plug fouling/engine flooding due to the lack of incoming air. This will cause the engine not to start.

Stopping the Engine

There is a stop engine button located next to the air filter cover, above the throttle level. Simply press the button and the unit should turn off.



🗨 NOTICE

If the engine will not be used for a period of two (2) weeks or longer, please see the Storage section for proper engine and fuel storage.

MAINTENANCE

Make certain that the water pump is kept clean and stored properly. Only operate the unit on a flat, level surface in a clean, dry operating environment. DO NOT expose the unit to extreme conditions, excessive dust, dirt, moisture or corrosive vapors.

⚠ WARNING

Never operate a damaged or defective water pump.

⚠ WARNING

Improper maintenance will void your warranty.

🗨 NOTICE

For Emission control devices and systems, read and understand your responsibilities for service as stated in the Emission Control Warranty Statement of this manual.

The owner/operator is responsible for all periodic maintenance.

Complete all scheduled maintenance in a timely manner.

Correct any issue before operating the water pump.

For service or parts assistance, contact our Technical Support Team at 1-877-338-0999.

Cleaning the Water pump

⚠ CAUTION

DO NOT spray water pump directly with water.

Water may cause unsuspected damage.

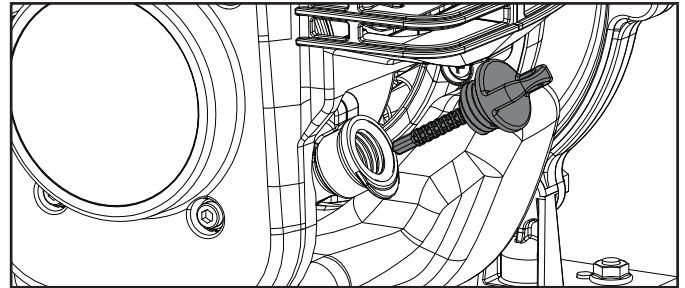
1. Use a damp cloth to clean exterior surfaces of the water pump.
2. Use a soft bristle brush to remove dirt and oil.
3. Use an air compressor (25 PSI) to clear dirt and debris from the water pump.
4. Inspect all air vents and cooling slots to ensure that they are clean and unobstructed.

To prevent accidental starting, remove and ground the spark plug wire before performing any service.

Changing the Engine Oil

Change oil when the engine is warm. Refer to the oil specification to select the proper grade for your operating environment.

1. Remove oil fill cap/dipstick to drain and add oil.



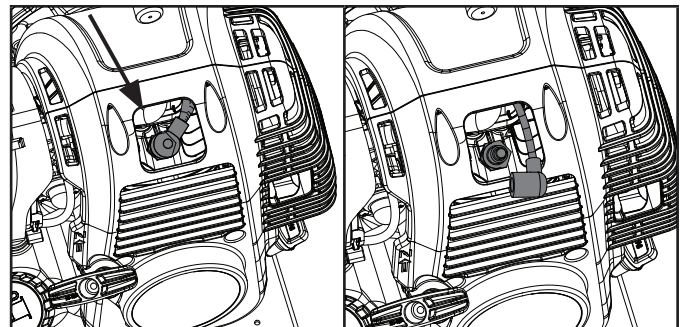
2. Tip the pump on its side to drain all oil into an approved container.
3. Add oil according to *Add Engine Oil* in *Assembly* section. DO NOT OVERFILL. Oil not included for routine maintenance.
4. Replace the oil fill cap/dipstick.
5. Dispose of used oil at an approved waste management facility.

🗨 NOTICE

Once oil has been added, a visual check should show oil about 1-2 threads from running out of the fill hole. If using the dipstick to check oil level, DO NOT screw in the dipstick while checking.

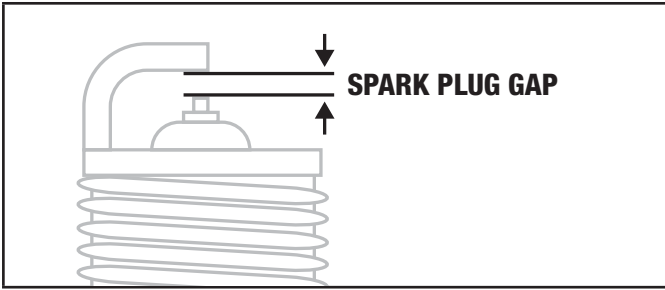
Cleaning and Adjusting the Spark Plug(s)

1. Locate and remove the spark plug cable from the top of the spark plug.
2. Use the spark plug tool that is in the tool kit to remove the spark plug.



3. Inspect the electrode on the plug. It must be clean and not worn to produce the spark required for ignition.

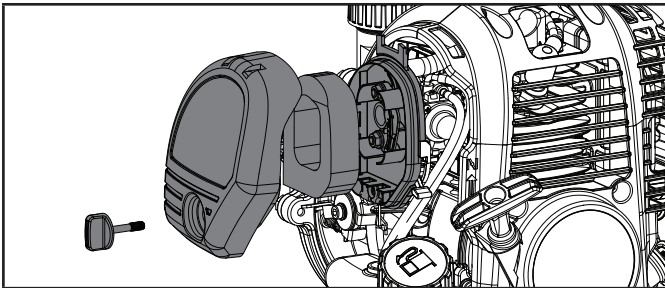
4. Make certain the spark plug gap is 0.6 - 0.8 mm (0.024 - 0.031 in.).



5. Refer to spark plug section on specifications page.
6. Carefully thread the plug into the engine for replacement spark plug. (if needed)
7. Use the spark plug tool to firmly re-install the plug.
8. Re-attach the spark plug wire to the plug.

Cleaning the Air Filter

1. Unscrew the air filter wing nut to remove the air filter cover.



2. Remove the foam element.
3. Wash in liquid detergent and water. Squeeze thoroughly dry in a clean cloth.
4. Saturate in clean engine oil.
5. Squeeze in a clean, absorbent cloth to remove all excess oil.
6. Reassemble the element.
7. Reattach the air filter cover and tighten wing nut.

Adjusting the Governor

⚠ WARNING

Tampering with the factory set governor will void your warranty.

The air-fuel mixture is not adjustable. Tampering with the governor can damage your water pump and your electrical devices and will void your warranty. Contact our Technical Support Team at 1-877-338-0999 for all other service and/or adjustment needs.

Maintenance Schedule

Follow the service intervals indicated in the following maintenance schedule.

Service your water pump more frequently when operating in adverse conditions.

Contact our Technical Support Team at 1-877-338-0999 to locate the nearest CPE certified service dealer for your water pump or engine maintenance needs.

EVERY 8 HOURS OR PRIOR TO EACH USE

- Check oil level
- Clean around air intake and muffler

FIRST 5 HOURS (BREAK IN)

- Change oil

EVERY 50 HOURS OR ANNUALLY

- Clean air filter
- Change oil if operating under heavy load or in hot environments

EVERY 100 HOURS OR ANNUALLY

- Change oil
- Clean/adjust spark plug
- Clean spark arrestor
- Clean fuel valve filter*

EVERY 250 HOURS

- Clean combustion chamber*
- Check/adjust valve clearance*

EVERY 3 YEARS

- Replace fuel line*

*To be performed by knowledgeable, experienced owners or CPE certified service centers.

STORAGE

For longer term storage, please follow these guidelines.

Engine Storage

1. Allow the engine to cool completely before storage.
2. Clean the engine according to the instructions in the Maintenance section.
3. Drain all fuel completely from the fuel line and carburetor to prevent gum from forming.
4. Add a fuel stabilizer into the fuel tank.
5. Change the oil.
6. Remove the spark plug and pour about ½ ounce (14.8 ml) of oil into the cylinder. Crank the engine slowly to distribute the oil and lubricate the cylinder.
7. Reattach the spark plug.

Water pump Storage

1. Allow the water pump to cool completely before storage.
2. Turn off the fuel supply at the fuel valve.
3. Drain the pump chamber thoroughly.
4. Clean the water pump according to the instructions in the Maintenance section.
5. Once the pump is dry, spray WD-40 or similar product into the pump housing through all ports and drainage hole.
6. Store in a clean, dry place out of direct sunlight.

⚠ DANGER

Engine exhaust contains odorless and colorless carbon monoxide gas.

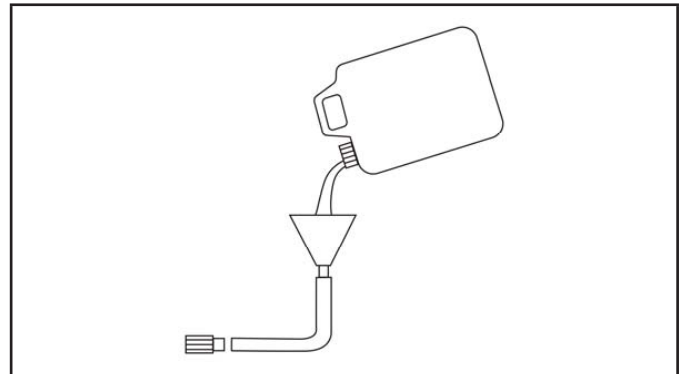
To avoid accidental or unintended ignition of your product during periods of storage, the following precautions should be followed:

- When storing the unit for short or extended periods of time make sure that the spark plug wire is disconnected.

Winter Storage

Protect your water pump parts from freezing.

1. Apply all storage instructions from previous sections.
2. Make sure water pump hose is free of all water before storing for winter.
3. In order to prevent the pump from freezing you will need to insert RV antifreeze.
4. You will need approximately 6 ounces (177.4 ml) of RV Antifreeze, a funnel, and approximately 12 in. (30.5 cm) of garden hose or equivalent. See diagram below.



5. Pour the antifreeze into the funnel, then pull on the engine recoil starter to create suction in the pump housing. Pull the recoil several times until antifreeze comes out of the pump outlet. **DO NOT START THE ENGINE WHEN DO THIS.** Only pull the recoil cord if the fuel valve and engine switch are in the OFF position.

SPECIFICATIONS

Water pump Specifications

Model	100166
Inlet Diameter	1 in. (2.5 cm)
Outlet Diameter	1 in. (2.5 cm)
Total Head	95 ft. (29 m)
Suction Head	16 ft. (5 m)
Max Delivery Volume	30 gal/min (114 L/min)
Weight	20.5 lb. (9.3 kg)
Length	13.1 in. (33.2 cm)
Width	9.7 in. (24.6 cm)
Height	14.2 in. (36.0 cm)

Engine Specifications

Model	S35-02
Displacement	31 cc
Type	4-Stroke OHV

Spark Plug

OEM Type	CMR5H
Gap	0.024-0.031 in. (0.6-0.8 mm)

Valve

Intake Clearance	0.002 – 0.003 in. (0.05 – 0.08 mm)
Exhaust Clearance	0.003 – 0.005 in. (0.08 – 0.12 mm)

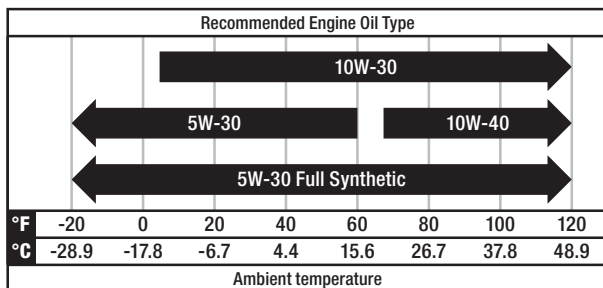
NOTICE

A technical bulletin regarding valve adjustment procedures is available at www.championpowerequipment.com.

Oil Specifications

DO NOT OVERFILL.

Type	*See following chart
Capacity	2.4 fl. oz. (70 ml)



NOTICE

Temperature will affect engine oil and engine performance. Change the type of engine oil used based on temperature shown in the "Recommended Engine Oil Type" table.

Fuel Specifications

Use unleaded gasoline with a minimum octane rating of 87 and an ethanol content of 10% or less by volume. DO NOT USE E15 or E85. DO NOT OVERFILL.

Gasoline Capacity	0.145 gal. (550 mL)
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Temperature Specifications

Starting Temperature Range (°F/°C)	5 to 104/-15 to 40
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NOTICE

An important message about temperature: Your product is designed and rated for continuous operation at ambient temperatures up to 104°F (40°C). When needed, it may be operated at temperatures ranging from 5°F (-15°C) to 122°F (50°C) for short periods of time. If exposed to temperatures outside this range during storage, it should be brought back within this range before operation. In any event, the product must always be operated outdoors, in a well-ventilated area and away from doors, windows and vents.

TROUBLESHOOTING

Problem	Cause	Solution
Water pump will not start	No fuel	Add fuel
	Faulty spark plug	Replace spark plug
Water pump will not start; Water pump starts but runs roughly	Low oil level	Fill crankcase to the proper level; place water pump on a flat, level surface
	Choke in the wrong position	Adjust choke
	Spark plug wire loose	Attach wire to spark plug
Water pump shuts down during operation	Out of fuel	Fill fuel tank
	Low oil level	Fill crankcase to the proper level; place water pump on a flat, level surface
Water pump overheating or performing poorly	Strainer or hose clogged	Remove debris from strainer or hose
	Pump not primed	Re-prime pump
	Suction hose out of water	Place suction hose under the surface of the water
	Head limit exceeded	Relocate pump so suction head is less than discharge head (maximum 98 feet)
	Air leak	Tighten connectors and clamps or replace seal packing, and or apply more telfon tape as needed.

For other issues and technical support:

Technical Support Team

Toll Free 1-877-338-0999

support@championpowerequipment.com

WARRANTY*

CHAMPION POWER EQUIPMENT
2 YEAR LIMITED WARRANTY

Warranty Qualifications

To register your product for warranty and FREE lifetime call center technical support please visit:

<https://www.championpowerequipment.com/register>

To complete registration you will need to include a copy of the purchase receipt as proof of original purchase. Proof of purchase is required for warranty service. Please register within ten (10) days from date of purchase.

Repair/Replacement Warranty

CPE warrants to the original purchaser that the mechanical and electrical components will be free of defects in material and workmanship for a period of two years (parts and labor) from the original date of purchase and 180 days (parts and labor) for commercial and industrial use. Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.

Do Not Return The Unit To The Place Of Purchase

Contact CPE's Technical Service and CPE will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, CPE will, at its option, authorize evaluation, repair or replacement of the defective part or component at a CPE Service Center. CPE will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

Warranty Exclusions

This warranty does not cover the following repairs and equipment:

Normal Wear

Products with mechanical and electrical components need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

Installation, Use and Maintenance

This warranty will not apply to parts and/or labor if the product is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond the product's limits, modified, installed improperly or connected incorrectly to any electrical component. Normal maintenance is not covered by this warranty and is not required to be performed at a facility or by a person authorized by CPE.

Other Exclusions

This warranty excludes:

- Cosmetic defects such as paint, decals, etc.
- Wear items such as filter elements, o-rings, etc.
- Accessory parts such as hoses, hose fittings, etc.
- Failures due to acts of God and other force majeure events beyond the manufacturer's control.
- Problems caused by parts that are not original Champion Power Equipment parts.

When applicable, this warranty does not apply to products used for prime power in place of a utility.

Limits of Implied Warranty and Consequential Damage

Champion Power Equipment disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this product. THIS WARRANTY AND THE ATTACHED U.S. EPA and/or CARB EMISSION CONTROL SYSTEM WARRANTIES (WHEN APPLICABLE) ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

A unit provided as an exchange will be subject to the warranty of the original unit. The length of the warranty governing the exchanged unit will remain calculated by reference to the purchase date of the original unit.

This warranty gives you certain legal rights which may change from state to state or province to province. Your state or province may also have other rights you may be entitled to that are not listed within this warranty.

Contact Information

Address

Champion Power Equipment, Inc.
6370 S Pioneer Way, Unit 101
Las Vegas, NV 89113 USA
www.championpowerequipment.com

Customer Service

Toll Free: 1-877-338-0999
info@championpowerequipment.com
Fax no.: 1-562-236-9429

Technical Service

Toll Free: 1-877-338-0999
tech@championpowerequipment.com
📞 EMERGENCY 24 HOUR SUPPORT: 1-562-204-1188

*Except as otherwise stipulated in any of the following enclosed Emission Control System Warranties (when applicable) for the Emission Control System: U.S. Environment Protection Agency (EPA) and/or California Air Resources Board (CARB).

**CHAMPION POWER EQUIPMENT, INC. (CPE)
AND THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA.)
EMISSION CONTROL SYSTEM WARRANTY**

Your Champion Power Equipment (CPE) engine complies with U.S. EPA emissions regulations.

YOUR WARRANTY RIGHTS AND OBLIGATIONS:

The U.S. EPA and CPE are pleased to explain the Federal Emission Control Systems Warranty on your 2025 small off-road engine and engine powered equipment. New equipment that use small off-road engines must be designed, built and equipped to meet U.S. EPA regulations.

CPE must warrant the exhaust and evaporative emission control system on your small off-road engine for the period listed below, provided there has been no abuse, neglect, unapproved modification, or improper maintenance of your equipment.

Your emission control system may include parts such as: carburetors, fuel tanks, fuel lines, (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps, connectors, and other associated components. Also included may be the fuel-injection system, the ignition system, catalytic converter and other emission related assemblies. Where a warrantable condition exists, CPE will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

This emission control system is warranted for two years, subject to provision set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by CPE.

OWNER WARRANTY RESPONSIBILITIES:

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. CPE recommends that you retain all your receipts covering maintenance on your small off-road engine, but CPE cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine owner, you should be aware that CPE may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine to an Authorized CPE distribution center, service center or alternate service outlet as described in (3)(f) below or CPE dealer or CPE, Las Vegas, NV. as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty coverage, you should contact:

Champion Power Equipment, Inc.
Customer Service
6370 S Pioneer Way, Unit 101
Las Vegas, NV 89113
1-877-338-0999
tech@championpowerequipment.com

EMISSION CONTROL SYSTEM WARRANTY

The following are specific provisions relative to your Exhaust and Evaporative Emission Control System (ECS) Warranty Coverage.

- 1. APPLICABILITY:** This warranty shall apply to 1997 and later model year small off-road engines. The ECS Warranty Period shall begin on the date the new engine is delivered to its original, end-use purchaser, and shall continue for 24 consecutive months thereafter.
- 2. GENERAL EMISSIONS WARRANTY COVERAGE**

CPE warrants to the original, end-use purchaser of the new engine or equipment and to each subsequent purchaser that each of its small off-road engines is:

 - 2a. Designed, built and equipped to conform to U.S. EPA emissions standards for spark-ignited engines at or below 19 kilowatts.
 - 2b. Free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for a period of two years.
- 3. THE WARRANTY ON EMISSION-RELATED PARTS WILL BE INTERPRETED AS FOLLOWS:**
 - 3a. Any warranted part that is not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by CPE according to Subsection "d" below. Any such part repaired or replaced under the ECS Warranty shall be warranted for any remainder of the ECS Warranty Period.
 - 3b. Any warranted, emissions-related part which is scheduled only for regular inspection as specified in the Owner's Manual shall be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary", shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.
 - 3c. Any warranted, emissions-related part which is scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part shall be repaired or replaced by CPE according to Subsection "d" below. Any emissions-related part repaired or replaced under the ECS Warranty, shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.
 - 3d. Repair or replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a CPE Authorized Service Outlet.
 - 3e. The owner shall not be charged for diagnostic labor which leads to the determination that a part covered by the ECS Warranty is in fact defective, provided that such diagnostic work is performed at a CPE Authorized Service Outlet.
 - 3f. CPE shall pay for covered emissions warranty repairs at non-authorized service outlets under the following circumstances:
 - i. The service is required in a population center with a population over 100,000 according to U.S. Census 2000 without a CPE Authorized Service Outlet AND
 - ii. The service is required more than 100 miles from a CPE Authorized Service Outlet. The 100 mile limitation does not apply in the following states: Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, Texas, Utah and Wyoming.
 - 3g. CPE shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of an emission-related part covered by the ECS Warranty.
 - 3h. Throughout the ECS Warranty Period, CPE shall maintain a supply of warranted exhaust and evaporative emission-related parts sufficient to meet the expected demand for such exhaust and evaporative emission-related parts.
 - 3i. Any CPE Authorized and approved emission-related replacement part may be used in the performance of any ECS Warranty maintenance or repair and will be provided without charge to the owner. Such use shall not reduce CPE's warranty obligation.
 - 3j. Unapproved add-on or modified parts may not be used to modify or repair a CPE engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. CPE shall not be liable hereunder for failures of any warranted parts of a CPE engine caused by the use of such an unapproved add-on or modified part.

EMISSION-RELATED PARTS INCLUDE THE FOLLOWING: (using those portions of the list applicable to the engine)

Systems covered by this warranty	Parts Description
Fuel Metering System	Carburetor and internal parts (and/or pressure regulator or fuel injection system) Air/fuel ratio feedback and control system. Cold start enrichment system.
Air Induction System	Controlled hot air intake system. Air Filter, Intake manifold.
Ignition System	Spark plug. Magneto or electronic ignition system. Spark advance/retard system.
Exhaust Gas Recirculation (EGR) System	EGR valve body, and carburetor spacer if applicable. EGR rate feedback and control system.
Air Injection System	Air pump or pulse valve. Valves affecting distribution of flow. Distribution manifold.
Catalyst or Thermal Reactor System	Catalytic converter. Thermal reactor. Exhaust manifold.
Particulate Controls	Traps, filters, precipitators, and any other device used to capture particulate emissions.
Miscellaneous Parts	Vacuum, temperature, and time sensitive valves and switches. Electronic controls. Hoses, belts, connectors, and assemblies.
Evaporative Controls	Fuel Tank, Fuel Cap, Fuel Lines (for liquid fuel & fuel vapors), Fuel Line Fittings, Clamps, Pressure Relief Valves, Control Valves, Control Solenoids, Electronic Controls, Vacuum Control Diaphragms, Control Cables, Control Linkages, Purge Valves, Gaskets, Liquid/Vapor Separator, Carbon Canister, Canister Mounting Brackets, Carburetor Purge Port Connector.

TO OBTAIN WARRANTY SERVICE:

You must take your CPE engine or the product on which it is installed, along with your warranty registration card or other proof of original purchase date, at your expense, to any Champion Power Equipment dealer who is authorized by Champion Power Equipment, Inc. to sell and service that CPE product during his normal business hours. Alternate service locations defined in Section (3)(f) above must be approved by CPE prior to service. Claims for repair or adjustment found to be caused solely by defects in material or workmanship will not be denied because the engine was not properly maintained and used.

If you have any questions regarding your warranty rights and responsibilities, or to obtain warranty service, please write or call Customer Service at Champion Power Equipment, Inc.

Champion Power Equipment, Inc.
 6370 S Pioneer Way, Unit 101
 Las Vegas, NV 89113
 1-877-338-0999
 Attn.: Customer Service
tech@championpowerequipment.com