

TWPUMP

2-Inch (50mm) Semi Trash / Water Pump Assembly & Operating Instructions



READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.

This manual provides important information on proper operation & maintenance. Every effort has been made to ensure the accuracy of this manual. These instructions are not meant to cover every possible condition and situation that may occur. We reserve the right to change this product at any time without prior notice.

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE,
DO NOT OPERATE THIS PRODUCT!

HAVE QUESTIONS OR PROBLEMS? DO NOT RETURN THIS PRODUCT TO THE
RETAILER - CONTACT CUSTOMER SERVICE.

If you experience a problem or need parts for this product, visit our website
<http://www.buffalotools.com> or call our customer help line at **1-888-287-6981, Monday-Friday,
8 AM - 4 PM Central Time**. A copy of the sales receipt is required.

FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE.

KEEP THIS MANUAL, SALES RECEIPT & APPLICABLE WARRANTY FOR FUTURE
REFERENCE.

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THIS ENGINE MEETS U.S. EPA EMISSION STANDARDS UNDER 40 CFR 1054.120

The emission-related warranty is valid for two (2) years. Keep the purchase receipt and mail in the product registration card for proof of purchase. Buffalo Corp limits emission-related warranty repairs to authorized service centers for owners located within 100 miles of an authorized service center. For owners located more than 100 miles from an authorized service center, Buffalo Corp will, in its sole discretion, either pay for shipping costs to and from an authorized service center, provide for a service technician to come to the owner to make the warranty repair, or pay for the repair to be made at a local non-authorized service center. The provisions of this paragraph apply only for the contiguous states, excluding the states with high-altitude areas identified in 40 CFR part 1068, Appendix III.

To exercise this warranty, DO NOT RETURN TO RETAILER. Instead, call Customer Service toll free at 1-866-460-9436 (email address info@buffalotools.com) and you will be instructed on where to take the engine for warranty service. Take the generator and proof of purchase (your receipt) to the repair facility recommended by the Customer Service Representative. The warranty does not extend to generators damaged or affected by fuel contamination, accidents, neglect, misuse, unauthorized alterations, use in an application for which the product was not designed and any other modifications or abuse.

90 DAY LIMITED WARRANTY

This item is warranted to be free from defects in materials and workmanship for a period of 90 days from date of original purchase. Buffalo Corp. is not liable for any indirect, incidental or consequential damages from the sale or use of this product. Any implied warranties are limited to 90 days as stated, or as otherwise stated, in this written limited warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages. Some states do not allow limitation on the length of an implied warranty. Buffalo Corp will repair or replace, at its discretion, any part that is proven to be defective in materials or workmanship under normal use during the 90 day warranty period. Warranty repairs or replacements will be made without charge for parts or labor. Parts replaced during warranty repairs will be considered as part of the original product and will have the same warranty period as the original product. This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

RECOGNIZE SAFETY SYMBOLS, WORDS & LABELS

WHAT YOU NEED TO KNOW ABOUT SAFETY INSTRUCTIONS

Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when operating or cleaning tools and equipment.

Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



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



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



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



CAUTION used without the safety alert symbol indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

WARNING

GASOLINE IS HIGHLY FLAMMABLE AND EXPLOSIVE. YOU COULD BE BURNED OR SERIOUSLY INJURED IF THE GASOLINE IS IGNITED. Before refueling, stop the engine and keep heat, sparks and flame away. Handle fuel only outdoors. Do not fill the fuel tank above the upper limit line. Wipe up spills immediately.

DANGER

EXHAUST CONTAINS POISONOUS CARBON MONOXIDE GAS THAT CAN BUILD UP TO DANGEROUS LEVELS IN CLOSED AREAS. BREATHING CARBON MONOXIDE CAN CAUSE UNCONSCIOUSNESS OR DEATH. Never run the generator in a closed or even partly closed area where people may be present.

Notice Regarding Emissions:

Engines certified to comply with California and U.S. EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline and may include the following emission control systems: Three-Way Catalyst (TWC) (if equipped), and Engine Modifications (EM).

IMPORTANT SAFETY INSTRUCTIONS

STOP!

Before using this product, if you have any questions regarding the hazard and safety notices listed in this manual and/or on this product, call 1-888-287-6981, Monday - Friday, 8 AM - 4 PM Central Time.

DANGER

Carbon Monoxide Gas: When in operation, the exhaust from this product contains poisonous carbon monoxide gas. Carbon monoxide gas is both odorless and colorless AND may be present even if you do not see or smell gas. Breathing this poison gas can lead to headaches, dizziness, drowsiness, loss of consciousness and eventually death.

- Use this product ONLY outdoors in non-confined areas.
- Keep at least several feet of clearance on all sides to allow proper ventilation for this product.

WARNING

Chemicals: According to the State of California, the exhaust from this product contains chemicals known to cause cancer, birth defects, or other reproductive harm.

WARNING

Flammable Gasoline: This product may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death. A nearby open flame can lead to an explosion even if not directly in contact with gasoline.

- Do not operate this product near open flame.
- Do not smoke near this product.
- Always operate this product on a firm, level surface.
- **Gasoline is highly flammable and explosive. Handling fuel can result in serious injury or burns.**
- Always shut down this product before refueling. Refuel in a well-ventilated area. Keep heat, sparks and flame away while refueling and away from the location where gasoline is stored. Never refuel indoors where gasoline fumes may reach flames and/or sparks.
- Allow this product to cool for at least 2 minutes before removing the fuel tank cap. Loosen the cap slowly to relieve pressure in the fuel tank. Avoid spilling fuel.
- Do not fill the fuel tank above the upper limit line. Gasoline may expand during operation. Do not fill to the top of the tank.
- Always check for spilled gasoline and immediately wipe it up before starting this product.
- Empty the fuel tank before storing or transporting this product.
- Always handle fuel outdoors.
- Before transporting, turn the fuel valve to the "OFF" position and disconnect the spark plug.

⚠ DANGER

High Temperatures: This product produces heat when in operation. Temperatures near the exhaust can exceed 150 Degrees Fahrenheit (65 Degrees Celsius).

- Do not touch hot surfaces. Observe all warning placards on this product denoting hot surfaces.
- Allow this product to cool for several minutes after use before touching the engine, muffler or other areas that are hot during operation and before storing indoors.
- Hot exhaust may ignite some materials. Keep flammable materials away from this product.
- Keep at least several feet of clearance on all sides of this product during operation. Do not enclose this product in any structure.

In addition to the previously described safety information, familiarize yourself with all safety and hazard placards on this product.

⚠ DANGER POISONOUS GAS

Engine exhaust contains toxic carbon monoxide gas. Breathing exhaust can cause loss of consciousness and shortness of breath. NEVER operate in poorly ventilated areas.



⚠ DANGER

Using a gas powered engine indoors CAN KILL YOU IN MINUTES. Engine 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.

⚠ CAUTION! HOT EXHAUST

🚫 DO NOT TOUCH

⚠ 🚫 CAUTION! HIGH TEMPERATURE DO NOT TOUCH

⚠ WARNING

READ AND UNDERSTAND ALL INSTRUCTIONS. Failure to follow all instructions may result in serious burns, fire and/or serious personal injury.

WHAT YOU NEED TO KNOW ABOUT SAFETY INSTRUCTIONS

The warning and safety instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when operating or cleaning tools and equipment. Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand before operating the product.

GENERAL PRODUCT SPECIFICATIONS

PACKAGE CONTENTS

- 1) 2-Inch (50mm) Semi Trash / Water Pump

SPECIFICATIONS

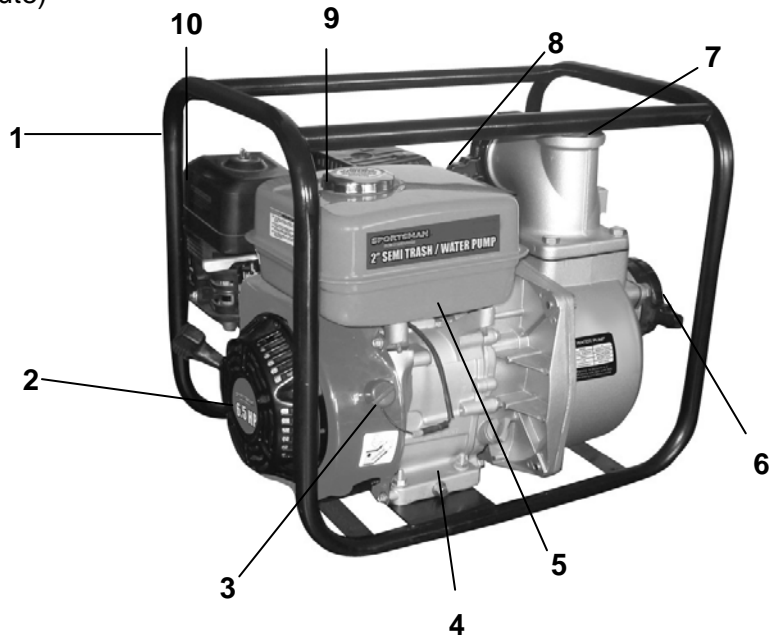
Engine	4-Stroke
Engine Type	Gasoline, 87 Octane
Engine Displacement	196cc
Gasoline Capacity	0.95 Gallons (3.6 liters)
Engine Oil	SAE 5W-30
Engine Oil Capacity	18.5 oz. (0.55 liters)
Horsepower	7.0 HP
Displacement	145 Gal/Minute (550 L/minute)

FEATURES

2-Inch (50mm) Inlet & Outlet
Max. Lift Head: 85 Ft (26m)
Max. Suction Head: 26 Ft. (8m)
Pump Speed 3,600 RPM
Flow : 10,950 x 85% GPH @ 0 Lift
3,000 x 85% GPH @ 70 Ft. Lift
Cast Iron Propeller

COMPONENTS

- 1) Tube Frame
- 2) Pull Start Handle
- 3) On/Off Switch
- 4) Oil Reservoir
- 5) Fuel Tank
- 6) Water Inlet
- 7) Priming Cap
- 8) Water Outlet
- 9) Fuel Cap
- 10) Air Filter Assembly



ASSEMBLY

The Intake Filter (A) prevents damaging particles from “entering” the Water Pump. Connect the Intake Filter (A) to the end of a 2-inch hose with a Hose Clamp (B).

Place the Hose Coupling (D) and secure it to the other end of the hose with a Hose Clamp (B). Then connect the entire assembly to the pump intake Joint (H) with a Gasket (F).

The Outlet Side discharges water as it “exits” the Pump.

To attach the outlet hose to the Joint (H), connect the hose to the pump outlet using a Hose Clamp (B) and Gasket (F).

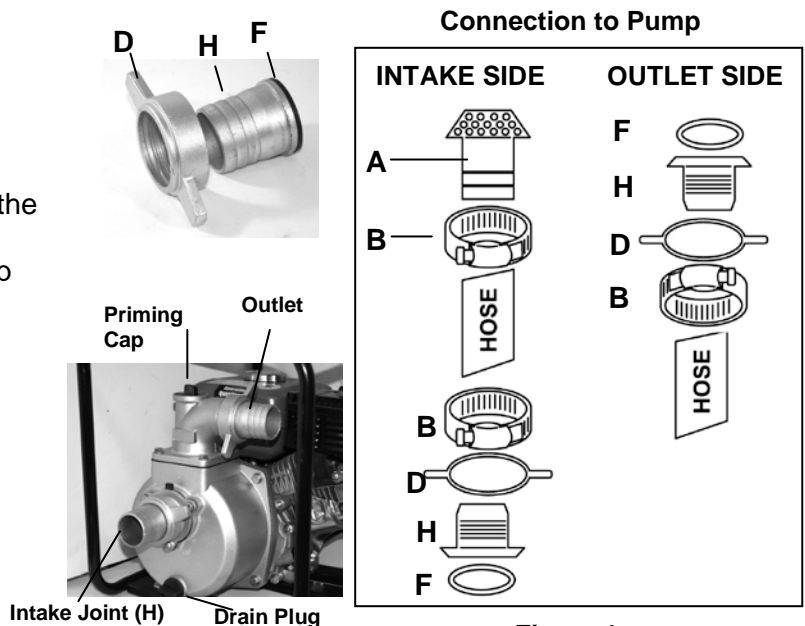


Figure 1

PREPARING THE SEMI TRASH / WATER PUMP FOR USE

If this Gasoline Water Pump is being used for the first time, the following few steps are required to prepare it for use.

STEP 1 – ADD OIL

When new from the package, this Water Pump contains no oil in the engine crankcase. Add the correct quantity of oil before operating this Water Pump for the first time. This Water Pump requires engine oil to function. Engine oil is a major factor affecting engine performance and service life. The correct quantity of oil is equal to the oil capacity of the engine crankcase and is listed below. Always determine that this Water Pump has the correct quantity of oil before use.

Oil Capacity (fluid oz.)	18.5
Oil Type Recommended	SAE 5W-30

To add oil:

1. Confirm that this Water Pump is on a level surface.
2. Open the Oil Cap (A, Figure 2).
3. Using a funnel, add oil to fill the engine crankcase to the correct quantity as stated above.
4. Replace Oil Cap.

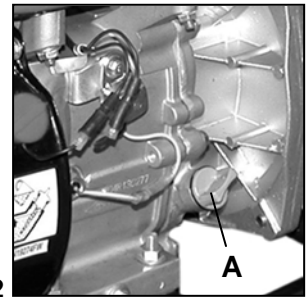


Figure 2

STEP 2 – ADD GASOLINE

⚠ WARNING

Gasoline and gasoline fumes are highly flammable and explosive. Handling fuel can result in serious injury or burns.

- Do not fill the fuel tank near a heat, sparks or an open flame. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.
- Do not overfill the fuel tank. Always check for fuel spills and immediately wipe them up. Spilled fuel is a fire hazard and causes environmental damage.

To ensure that this Water Pump runs smoothly, use only FRESH, UNLEADED GASOLINE WITH AN OCTANE RATING OF 87 OR HIGHER. Unleaded gasoline produces fewer engine and spark plug deposits and extends the life of the exhaust system.

1. Confirm that this Water Pump is on a level surface.
2. Unscrew fuel tank cap and set aside. (NOTE: The fuel tank cap may be tight and difficult to unscrew.)
3. Slowly add fresh, unleaded gasoline to the fuel tank. Be careful not to fill the fuel tank above the upper limit line. The fuel tank capacity for this Water Pump is listed below. NOTE: Because gasoline can expand, do not fill the fuel tank to the very top.
4. Securely tighten the fuel tank cap and immediately wipe up any spilled gasoline with a dry cloth.

Fuel Tank Capacity (gals)	0.95
Fuel Type	Fresh, Unleaded Gasoline Octane Rating 87 or Higher

STARTING THE SEMI TRASH / WATER PUMP

To start this Water Pump:

1. Confirm that Oil has been properly added.
2. Confirm that Gas has been properly added.
3. Turn the fuel valve to the “on” position.
4. Move the choke lever to the “closed” position.
5. Set the engine switch to the “on” position. (Figure 3)
6. Slowly pull on the recoil starter handle until a slight resistance is felt. Then pull briskly to start the engine.
7. Gently return the cord into the Water Pump to avoid damage to the starter or housing. Never allow the cord to snap back.
8. If the engine fails to start, repeat step 6. NOTE: After repeated attempts to start the engine, consult the troubleshooting guide before attempting again. If problems persist, **call 1-888-287-6981, Monday - Friday, 8 AM - 4 PM Central Time.**
9. Once the engine has started and runs for about a minute, move the choke lever approximately half way towards the “open” position. Wait an additional 30 seconds and then move the choke lever completely over to the “open” position.
10. Allow this Water Pump to run for several minutes before beginning the project.

BREAK-IN PERIOD

Breaking in an engine of any size is important to the life of the engine. The first twenty hours of operation is considered the break-in period for this Water Pump. For best results and an engine with fewer problems, it is suggested that you:

- Avoid heavy loads during the first twenty hours.
- Not run the engine at its highest speeds for extended periods.
- Change the engine oil after ten hours of operation during the break-in period only.

OPERATION

⚠ WARNING

Wear eye and hearing protection when using this Gasoline Water Pump.

CAUTION

Moisture can condense in a unit, so it is extremely important to drain the tank after each use. If left in the tank, moisture could cause rust and weaken the tank.

PRIMING THE SEMI TRASH / WATER PUMP

Be certain that hoses have been attached to BOTH the Intake and Outlet joints.

(Follow instructions on page 6). Now the Water Pump is ready to be primed before use. Priming forces air out of the pump allowing it to pump water more efficiently.

1. Place the Water Pump on a solid, level surface as close to the water source as possible.
2. Remove the Priming Plug (A, Figure 3)
3. Fill the Water Pump with water by filling through the opening.
4. Replace the Priming Plug.
5. Start the engine.
6. The Water Pump is now primed and ready for use.

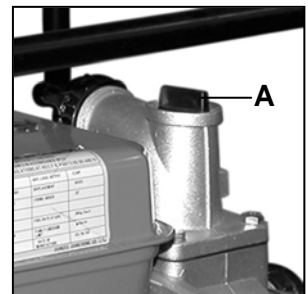


Figure 3

MAINTENANCE

Routine maintenance of this Water Pump is essential for safe, economical, and trouble-free operation. It will help prolong the life of this Water Pump as well as help reduce air pollution.

⚠ CAUTION

Never perform maintenance procedures while this Water Pump is running. Allow this Water Pump to cool before commencing any maintenance procedures. Keep heat, sparks and flame away.

⚠ WARNING

Improper maintenance and/or failure to correct any problems prior to operating this Water Pump can cause a malfunction, which could cause death or serious injury. Always follow the inspection and maintenance recommendations and schedules in this manual.

During colder temperatures, icing may build in the carburetor. If this develops, the engine may run rough, lose power and possibly stall. This temporary condition can be overcome by deflecting some of the hot air from the engine over the carburetor area.

Another method of reducing risks of freeze damage is to completely drain the Water Pump before placing it in storage.

CHECKING THE OIL LEVEL

It is important to check the oil level in the engine crankcase before each use to ensure that there is a sufficient quantity.

To check the oil level:

1. Verify that this Water Pump is shut down and on a level surface.
2. Unscrew the oil cap from the engine.
3. There should be oil in the engine. If there is no oil, add oil until the engine crankcase is filled.
4. Confirm that the oil cap is properly in place when finished verifying the oil level.

NOTE: Never dispose of used motor oil in the trash, down a drain or on the ground. Put oil in a sealed container and contact your local recycling center or auto garage to arrange oil disposal.

Oil Capacity (fluid oz)	18.5
Oil Type Recommended	SAE 5W-30

CHANGING THE OIL

⚠ WARNING

Oil is very hot immediately after use. Use extreme caution when working with a gasoline-powered engine and its components such as engine oil. Serious burns can result if proper care is not taken.

The engine oil should be changed every fifty hours on this Water Pump.

To change the oil:

1. Place the Gasoline Water Pump on a solid, level surface.
2. Remove the oil drain plug. (A, Figure 4)
3. Place an oil pan beneath the oil drain.
4. Tilt the Water Pump to drain the engine oil into the oil pan.
5. Replace the oil drain plug.
6. Refill the engine with new oil.
7. Dispose of used oil properly.

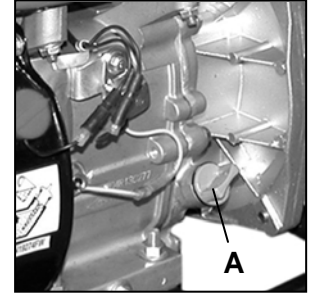


Figure 4

AIR FILTER MAINTENANCE

⚠ WARNING

Wear ANSI-approved safety gear, including safety goggles and heavy-duty work gloves when servicing this Water Pump.

This Water Pump will work more efficiently with a clean air filter. The air filter should be checked every 25 hours of use, regardless of workload, and replaced every 100 hours regardless of workload.

To clean or replace the air filter:

1. Remove the air filter cover, which is held in place by a wing nut and is located on top of the Water Pump. (A, Figure 5)
2. Remove the air filter.
3. If the air filter is paper, use a vacuum to remove any trapped dirt. If this doesn't work, replace with a new filter.
4. If the air filter is foam, wash the filter in warm water and a mild detergent before rinsing thoroughly.
5. Squeeze out excess moisture and dry completely.
6. Briefly soak the filter in lightweight oil, squeezing out the excess, before replacing it in the Water Pump.

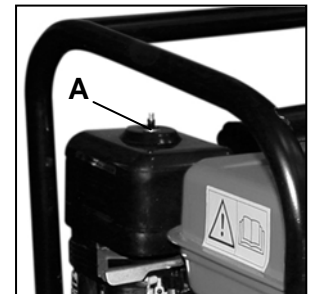


Figure 5

SPARK PLUG MAINTENANCE

This Water Pump will work more efficiently with a properly functioning spark plug. The spark plug should be replaced every 100 hours of use.

To check or replace the spark plug:

1. Disconnect the spark plug wire from the spark plug.
2. Clean around the spark plug using a wire brush before removing the plug using a spark plug wrench.
3. Check the spark plug for foreign substances. If moisture is present, wipe it off using a clean shop towel. If there are deposits present (A, Figure 6), use a fine grit sand paper to remove them. If there is structural damage to the spark plug, replace it with a new one (B, Figure 6).
4. When installing the new plug, replace it with a Type F6TC and set the gap to 0.60 – 0.80mm.

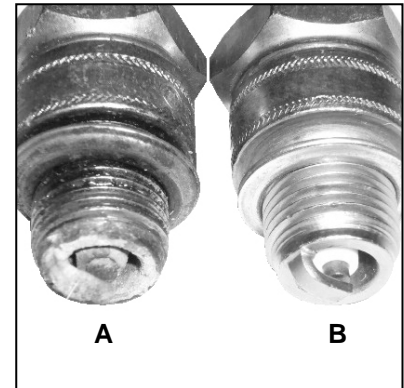


Figure 6

STORAGE

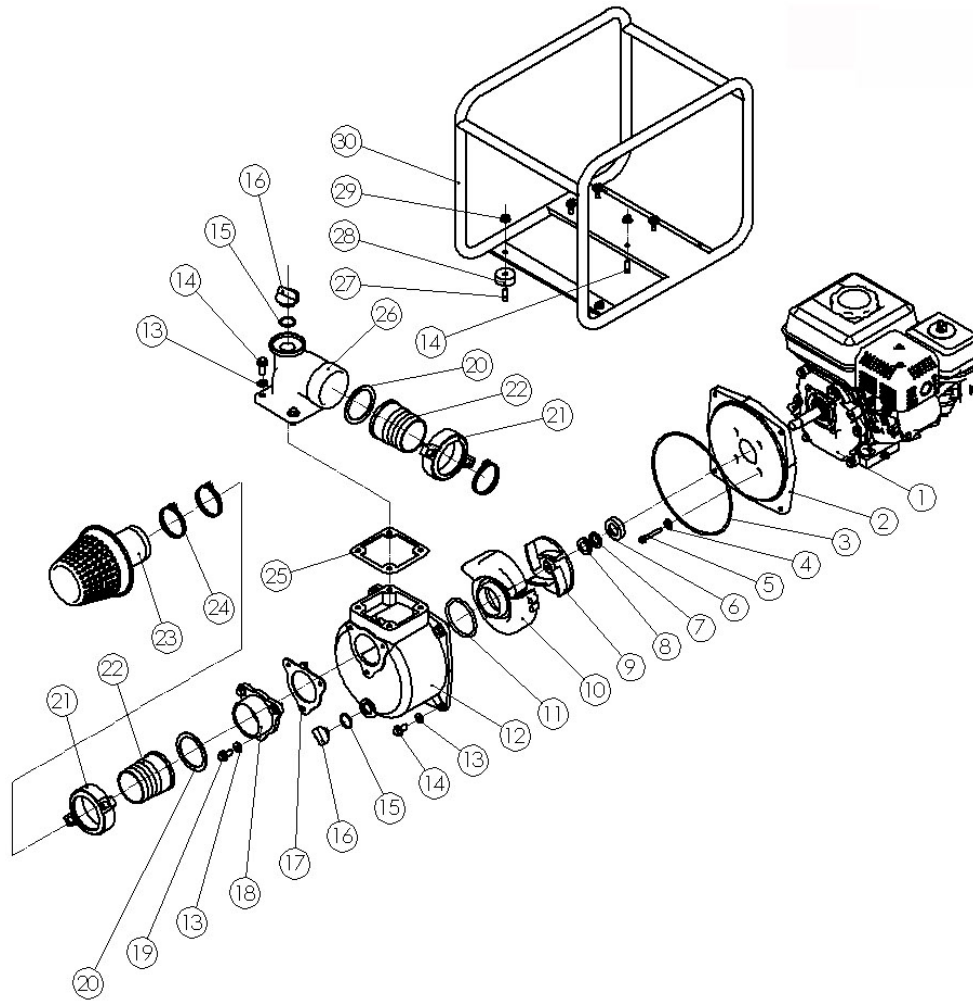
⚠ CAUTION

**Do not store gasoline for more than 3 months.
Never place any type of storage cover on this Water Pump while it is still hot.
Prior to restarting, thaw out any possible ice from the Water Pump.**

The life of this Water Pump can be extended through proper maintenance procedures. When placing this Water Pump in storage for over fourteen days, following these procedures will increase its service life.

1. Allow engine to cool completely, and then clean the Water Pump using a cloth and mild detergent.
2. Remove any fuel from the fuel tank.
3. Disconnect the spark plug wire and remove the spark plug.
4. Pour one teaspoon of engine oil into spark plug hole and replace the spark plug but do not reconnect the spark plug wire.
5. Gently, but firmly pull the starter cord to distribute the oil inside the cylinder, stopping when you feel resistance.
6. Remove all water from the primer water tank.
7. Wipe all metal components with an oil-soaked rag to inhibit rust and corrosion.
8. Cover the Water Pump with a tarp and store in a cool, dry, well-ventilated space out of the reach of children.

PARTS DIAGRAM



PARTS LIST

Part No.	Description	Part No.	Description
1	Engine	16	Priming Plug
2	Pump Cover	17	Non-Return Valve
3	O-Ring	18	Flume
4	Washer	19	Flange Bolt
5	Hex Screws	20	Gasket
6	Casing Wear Ring	21	Joint
7	Impeller Wear Ring	22	Hose Coupling
8	O-Ring	23	Filter
9	Impeller	24	Hose Clamp
10	Impeller Cover	25	Gasket
11	O-Ring	26	Elbow Draft Tube
12	Pump Body	27	Flange Bolt
13	Washer	28	Rubber Foot
14	Flange Bolt	29	Nut
15	O-Ring	30	Tube Frame

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