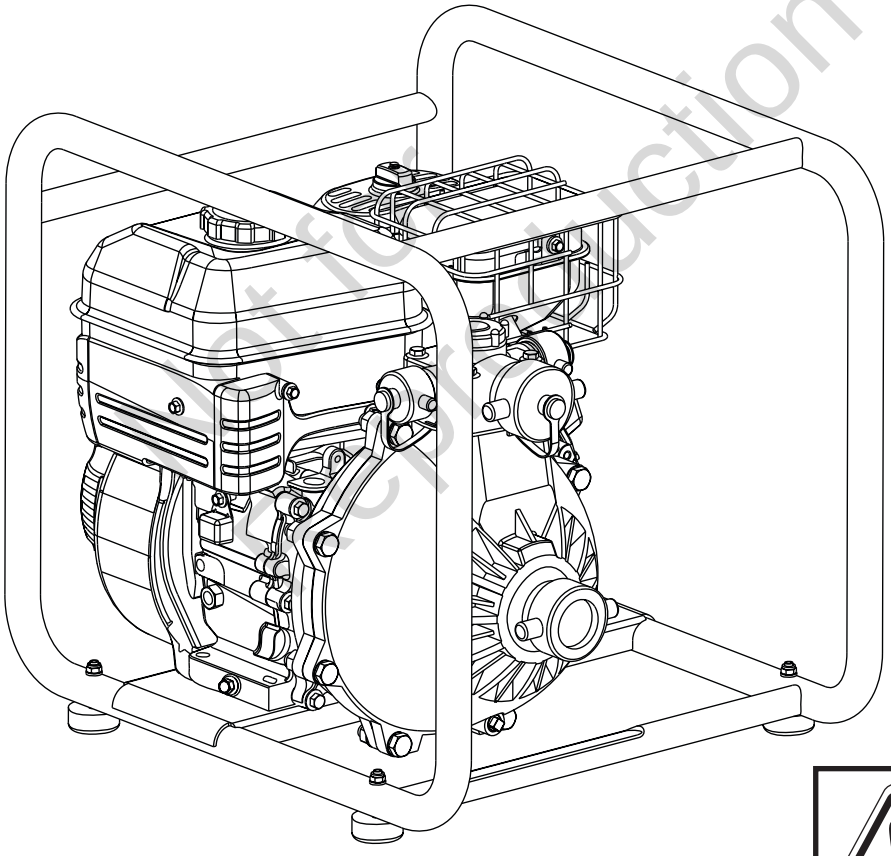
High Pressure Water Pump

Operator's Manual



Product may vary from images shown.

BRIGGS & STRATTON POWER PRODUCTS GROUP, LLC
MILWAUKEE, WISCONSIN, U.S.A.

Original Instruction

Manual No. 80012091 Revision A

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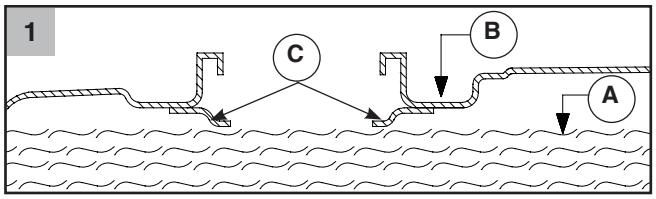

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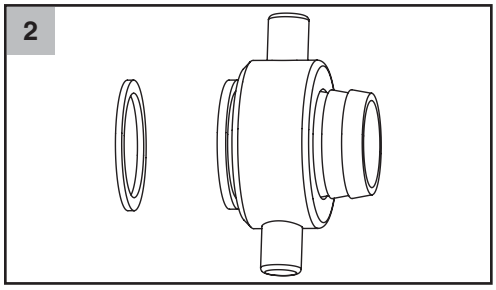

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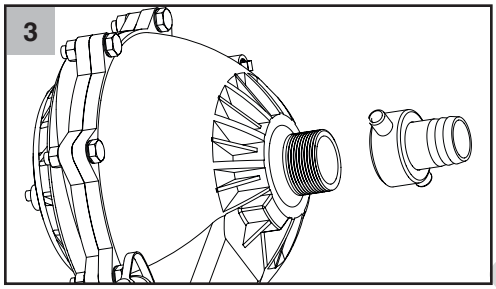

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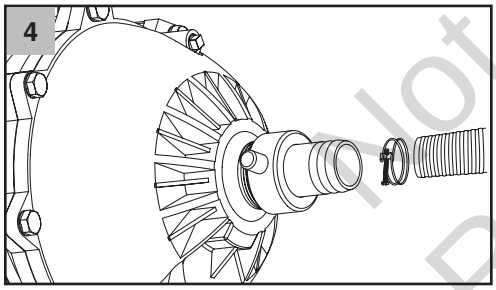

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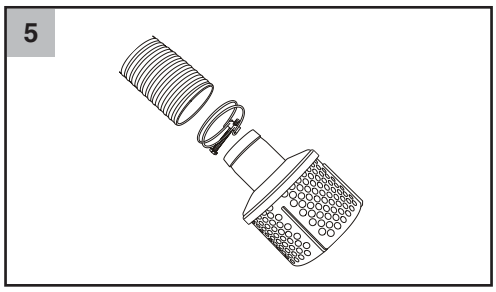

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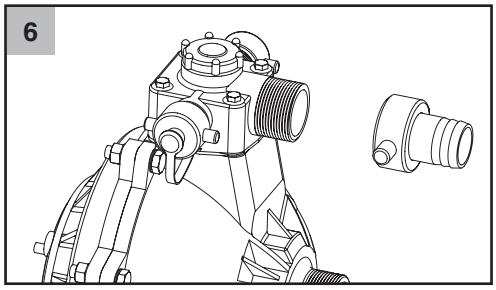

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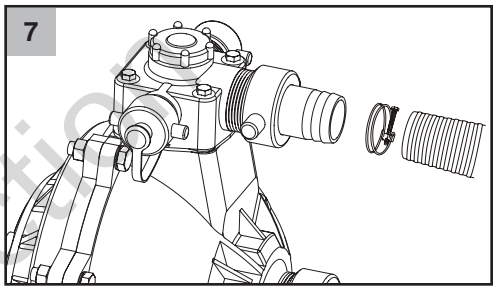

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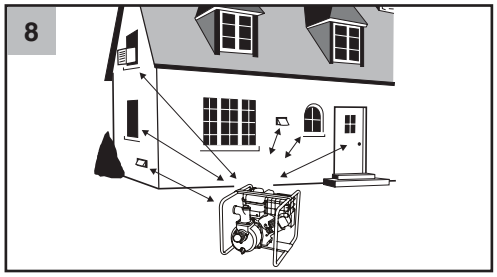

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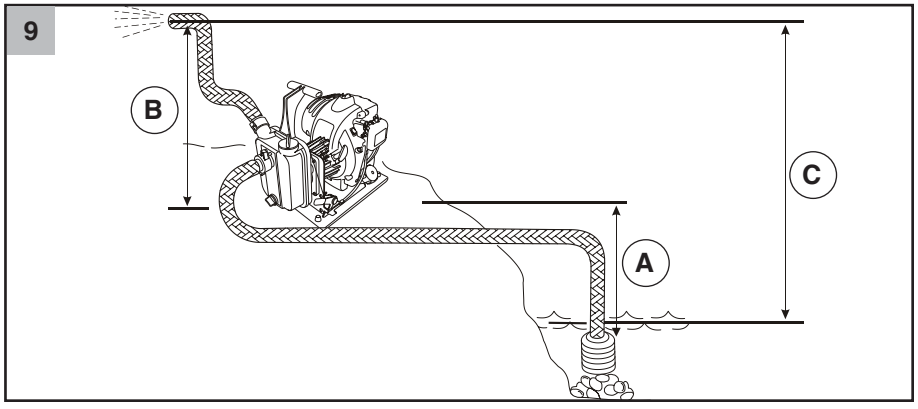

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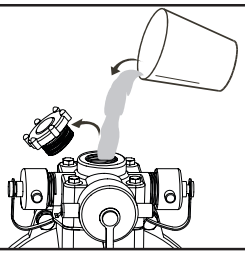

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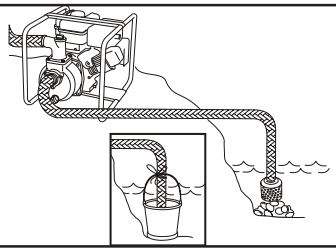

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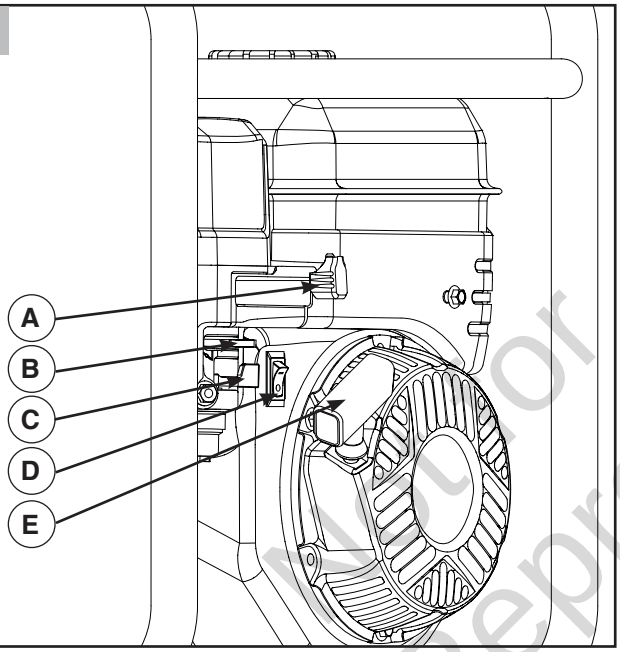

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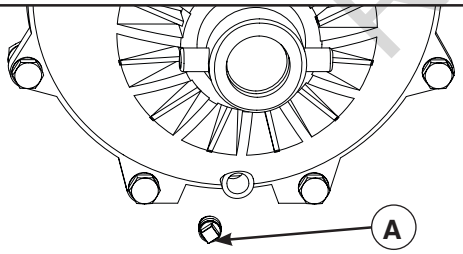

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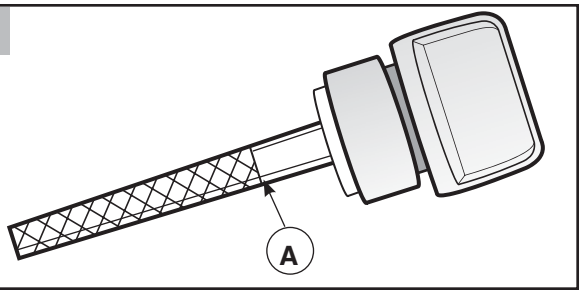

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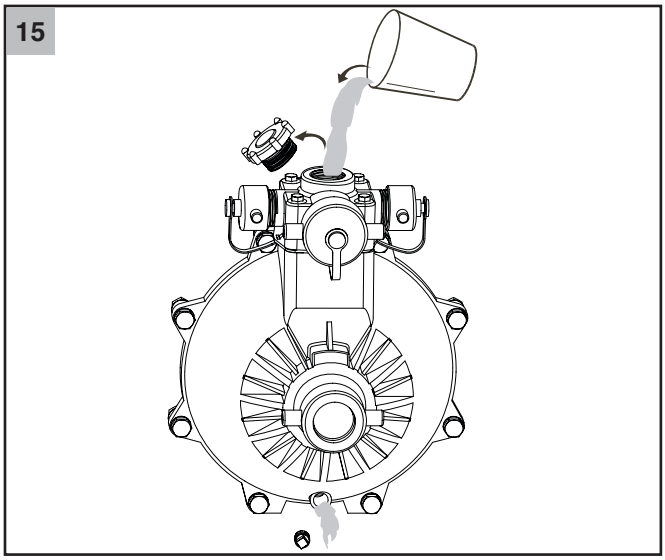

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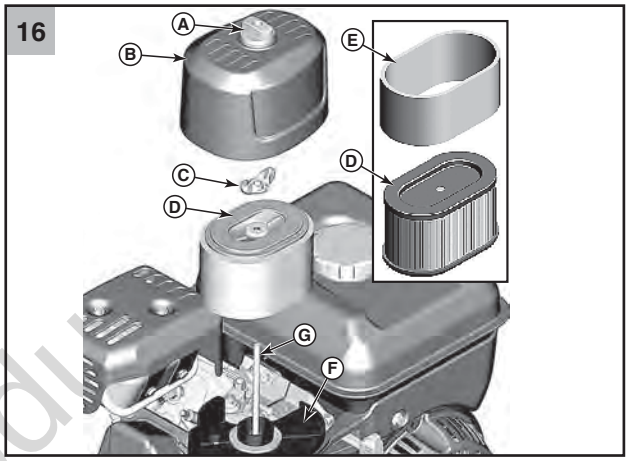

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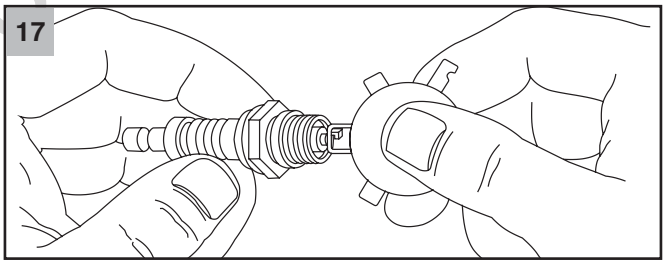

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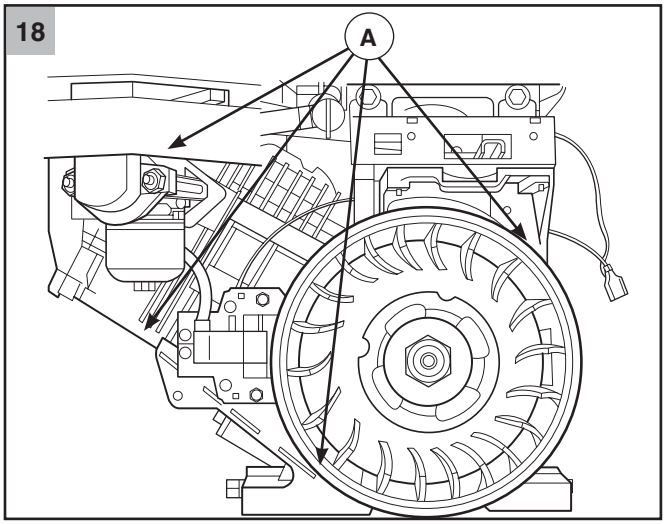


Table of Contents

Thank you for purchasing this quality-built Briggs & Stratton® water pump. We are pleased that you've placed your confidence in the Briggs & Stratton brand. When operated and maintained according to the instructions in this manual, your Briggs & Stratton water pump will provide many years of dependable service.

This manual contains safety information to make you aware of the hazards and risks associated with water pumps and how to avoid them. This water pump is designed and intended only for transferring water that may contain sand or silt. It is not intended for any other purpose. It is important that you read and understand these instructions thoroughly before attempting to start or operate this equipment. **Save these original instructions for future reference.**

This water pump requires final assembly before use. Refer to the *Assembly* section of this manual for instructions on final assembly procedures. Follow the instructions completely.

Product Reference Data

Please fill out the information below and keep with your receipt to assist in unit identification for future purchase issues. These numbers can be found in locations shown on the Features and Controls page.

Date of Purchase ☐☐ ☐☐ ☐☐☐☐

Water Pump

Model Number ☐☐☐☐☐☐

Model Revision ☐☐

Serial Number ☐☐☐☐☐☐☐☐☐☐

Engine

Model Number ☐☐☐☐☐☐☐☐☐☐☐☐

Serial Number ☐☐☐☐☐☐☐☐☐☐☐☐

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during water pump operation.

Safety Symbols and Meanings

⚠ The safety alert symbol indicates a potential personal injury hazard. A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to designate a degree or level of hazard seriousness. A safety symbol may be used to represent the type of hazard. The signal word NOTICE is used to address practices not related to personal injury.

⚠ **DANGER** indicates a hazard which, if not avoided, *will* result in death or serious injury.

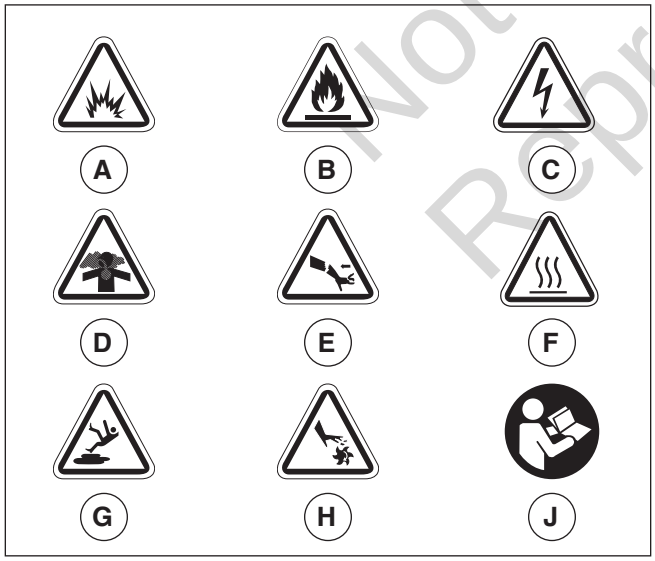
⚠ **WARNING** indicates a hazard which, if not avoided, *could* result in death or serious injury.

⚠ **CAUTION** indicates a hazard which, if not avoided, *could* result in minor or moderate injury.

NOTICE addresses practices not related to personal injury.

The manufacturer cannot possibly anticipate every possible circumstance that might involve a hazard. The warnings in this manual, and the tags and decals affixed to the unit are, therefore, not all-inclusive. If you use a procedure or operating technique that the manufacturer does not specifically recommend, you must satisfy yourself that it is safe for you and others. You must also make sure that the operating technique that you choose does not render the water pump unsafe.

Hazard Symbols and Meanings



A - Explosion

B - Fire

C - Electric Shock

D - Toxic Fumes

E - Kickback

F - Hot Surface

G - Slippery Surface

H - Moving Parts

J - Read Manual

⚠ **WARNING** POISONOUS GAS HAZARD. Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy or weak while using this product, get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawls paces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after the product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

⚠ **WARNING** Fuel and its vapors are extremely flammable and explosive which could cause burns, fire or explosion resulting in death or serious injury.

WHEN ADDING OR DRAINING FUEL

- Turn water pump OFF and let it cool at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.
- Fill or drain fuel tank outdoors.
- DO NOT overfill tank. Allow space for fuel expansion.
- If fuel spills, wait until it evaporates before starting engine.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- DO NOT light a cigarette or smoke.

WHEN STARTING EQUIPMENT

- DO NOT start unless spark plug, muffler, fuel cap, and air cleaner are in place.
- DO NOT crank engine with spark plug removed.

WHEN OPERATING EQUIPMENT

- DO NOT pump flammable liquids, such as fuel or fuel oils.
- This water pump is not for use in mobile equipment or marine applications.
- DO NOT tip engine or equipment at angle which causes fuel to spill.
- Secure water pump. Loads from hoses may cause tipover.
- DO NOT stop engine by moving choke control to CHOKE (↾) position.

WHEN TRANSPORTING OR REPAIRING EQUIPMENT

- Transport/repair with fuel tank EMPTY or with fuel shutoff valve OFF.
- Disconnect spark plug wire.

WHEN STORING FUEL OR EQUIPMENT WITH FUEL IN TANK

- Store away from furnaces, stoves, water heaters, clothes dryers, or other appliances that have pilot light or other ignition source because they can ignite fuel vapors.

⚠ **WARNING** Use of water pump could create puddles and slippery surfaces causing you to fall resulting in death or serious injury.

- Operate water pump from a stable surface.
- The area should have adequate slopes and drainage to reduce the possibility of a fall due to slippery surfaces.

⚠ **WARNING** Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury. Contact with muffler area could cause burns resulting in serious injury.

- Do not touch hot parts and AVOID hot exhaust gases.
- Allow equipment to cool before touching.
- Keep at least 1.5 m (5 ft) of clearance on all sides of water pump including overhead.

⚠ **WARNING** Unintentional sparking could cause fire or electric shock resulting in death or serious injury.

WHEN ADJUSTING OR MAKING REPAIRS TO YOUR WATER PUMP

- Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.

WHEN TESTING FOR ENGINE SPARK

- Use approved spark plug tester.
- Do not check for spark with spark plug removed.

⚠ **WARNING** Starter and other rotating parts could entangle hands, hair, clothing, or accessories resulting in serious injury.

- NEVER place hands or body parts inside of running pump or hoses.
- NEVER operate water pump without protective housing or covers.
- DO NOT wear loose clothing, jewelry or anything that may be caught in the starter or other rotating parts.
- Tie up long hair and remove jewelry.

⚠ **WARNING** Starter cord kickback (rapid retraction) will pull hand and arm toward engine faster than you can let go which could cause broken bones, fractures, bruises, or sprains resulting in serious injury.

- When starting engine, pull cord slowly until resistance is felt and then pull rapidly to avoid kickback.
- Keep hands and body clear from discharge of pump.
- Secure discharge hose to avoid whipping.

⚠ **CAUTION** Excessively high operating speeds could result in minor injury.

Excessively low speeds impose a heavy load.

- DO NOT tamper with governor spring, links or other parts to increase engine speed. Water pump supplies correct rated pressure and flow when running at governed speed.
- DO NOT modify water pump in any way.

NOTICE Any attempt to crank or start the engine before it has been properly serviced with the recommended oil will result in equipment failure.

- Refer to *Maintenance* for oil fill information.
- Damage to equipment resulting from failure to follow this instruction will void engine and water pump warranty.

NOTICE This water pump is manufactured to pump ONLY water that is not intended for human consumption.

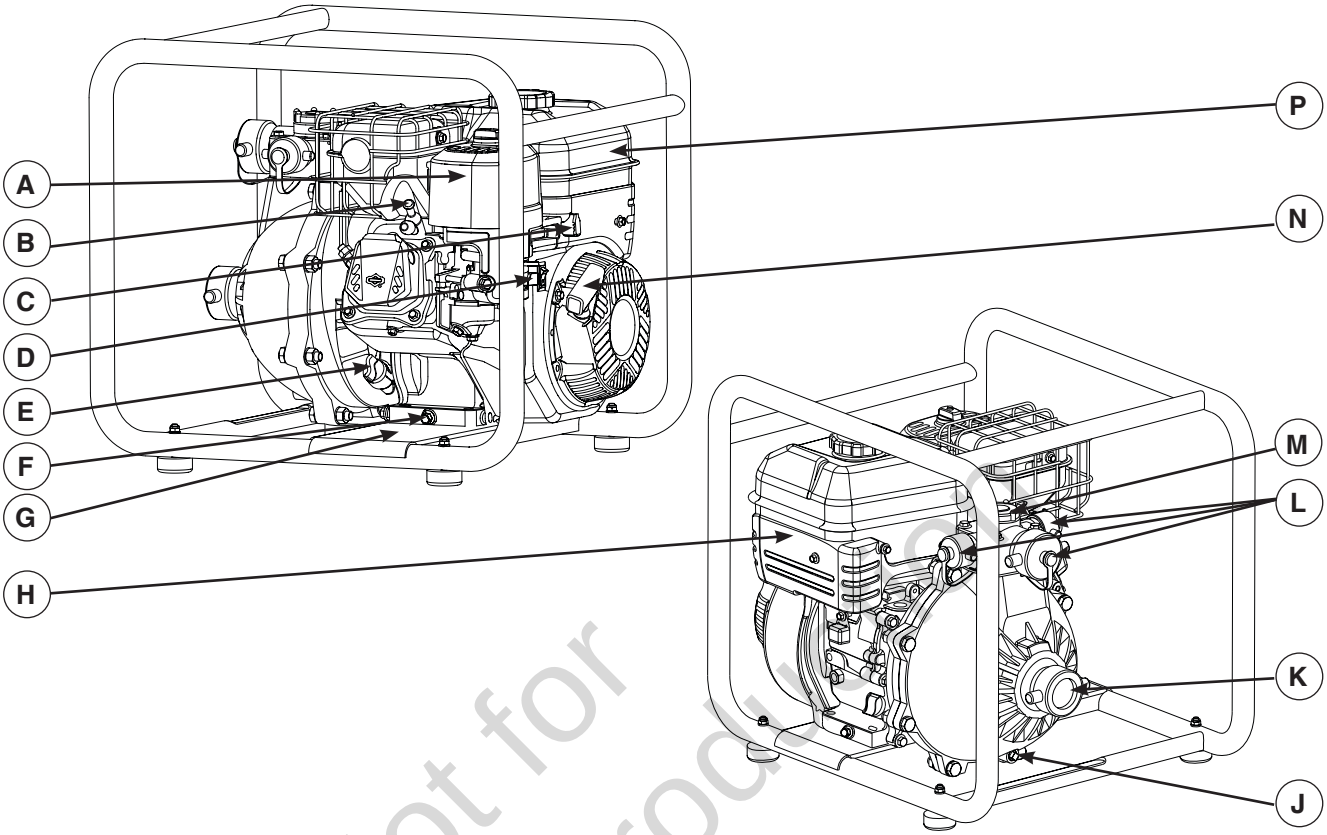
NOTICE Improper treatment of water pump could damage it and shorten its life.

- If you have questions about intended use, ask dealer or contact qualified service center.
- Be sure pump chamber is filled with water before starting the engine. Never run pump without priming.
- Use a non-collapsible hose on the suction side of pump.
- Use water pump only for intended uses.
- Pumping sea water, beverages, acids, chemical solutions, or any other liquid that promotes corrosion can damage the pump.
- Ensure all connections are air tight.
- DO NOT obstruct suction or discharge hose in any way.
- NEVER operate pump without strainer basket connected to end of suction hose.
- DO NOT exceed suction head maximum and total head (see *Specifications*). Use shortest suction head possible.
- NEVER allow vehicles to drive over hoses. If a hose must be positioned across a roadway, use planking on each side of hose to allow vehicles to pass over without obstructing or collapsing hose.
- Anchor pump to avoid “walking” or equipment movement, especially if located near a ditch or edge of open ravine. The equipment could fall in.
- Keep equipment away from edge of river or lake where it could cause the bank to collapse.
- DO NOT insert any objects through cooling slots.
- NEVER operate units with broken or missing parts, or without protective housing or covers.
- DO NOT by-pass any safety device on this machine.
- NEVER move machine by pulling on hoses - use frame on unit.
- DO NOT allow unqualified persons or children to operate or service water pump.
- Check fuel system for leaks or signs of deterioration, such as chafed or spongy hose, loose or missing clamps, or damaged tank or cap. Correct all defects before operating water pump.
- This equipment is designed to be used with Briggs & Stratton Power Products authorized parts only. If equipment is used with parts that DO NOT comply with minimum specifications, user assumes all risks and liabilities.

Features & Controls

Read entire operator's manual before you attempt to assemble or operate your new water pump.

Compare the illustrations with your water pump, to familiarize yourself with the locations of various controls and adjustments. Save this manual for future reference.



A - **Air Cleaner** — Protects engine by filtering dust and debris out of intake air.

B - **Spark Plug** — Always disconnect spark plug wire when servicing water pump.

C - **Engine Controls** — Used for starting, stopping, and setting engine speed.

D - **Fuel Valve** — Used to turn fuel supply on and off to engine.

E - **Oil Fill Cap/Dipstick** — Check and add engine oil here.

F - **Oil Drain Plug** — Drain engine oil here.

G - **ID Label** — Provides model and serial number of water pump.

H - **Engine Information** — Stamped on the side of the fuel tank. Provides model, type and code number of engine.

J - **Water Drain Plug** — Remove to drain water from pump and to flush internal components with clean water.

K - **Suction Inlet** — Connect reinforced suction hose here.

L - **Discharge Outlets** — Connect discharge hose here.

M - **Priming Plug** — Fill pump with water here to prime pump before starting.

N - **Recoil Starter** — Used for manually starting the engine.

P - **Fuel Tank** — Fill tank with regular unleaded fuel here. Always leave room for fuel expansion.

Assembly

Read entire operator's manual before you attempt to assemble or operate your new water pump.

Every effort has been made to ensure that information in this manual is accurate and current. However, we reserve the right to change, alter or otherwise improve the product and this document at any time without prior notice.

Your water pump requires some assembly and is ready for use after it has been properly serviced with the recommended oil and fuel.

If you have any problems with the assembly of your water pump, please contact the store at which you purchased the unit or any authorized dealer. If calling for assistance, please have the model, revision, and serial number from the ID label available.

Unpack Water Pump

1. Remove everything from carton except water pump.
2. Open carton completely by cutting each corner from top to bottom.
3. Ensure you have all included items prior to assembly.

Items in the carton include:

- Water pump
- Parts bag (which includes the following):
  - Operator's manual
  - Coupler assembly kit
  - Vibration mount kit

To prepare your water pump for operation, you will need to perform these tasks:

1. Add oil to engine crankcase.
2. Add fuel to fuel tank.
3. Move water pump to safe operating location.
4. Assemble and connect hoses.
5. Locate strainer basket into water source.
6. Prime the water pump.

Add Engine Oil

1. Place water pump on a flat, level surface.
2. Add engine oil as described in *Adding Engine Oil* of the *Engine Maintenance* section.

NOTICE Improper treatment of water pump could damage it and shorten its life.

- DO NOT attempt to crank or start the engine before it has been properly serviced with the recommended oil. This could result in an engine failure.

Add Fuel *Figure* 1

Fuel must meet these requirements:

- Clean, fresh, unleaded petrol.
- A minimum of 87 octane/87 AKI (91 RON). For high altitude use, see *High Altitude.*
- Petrol with up to 10% ethanol (gasohol) is acceptable.

NOTICE Use of unapproved fuels will damage the engine components and void the engine warranty.

- DO NOT use unapproved petrol, such as E15 and E85.
- DO NOT mix oil in petrol or modify the engine to run on alternate fuels.

To protect the fuel system from gum formation, mix in a fuel stabilizer when adding fuel. See Storage. All fuel is not the same. If you experience starting or performance problems after using fuel, switch to a different fuel provider or change brands. This engine is certified to operate on gasoline. The emission control system for this engine is EM (Engine Modifications).

⚠ WARNING Fuel and its vapors are extremely flammable and explosive which could cause burns, fire or explosion resulting in death or serious injury .

WHEN ADDING FUEL

- Turn water pump OFF and let it cool at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.
- Fill or drain fuel tank outdoors.
- DO NOT overfill tank. Allow space for fuel expansion.
- If fuel spills, wait until it evaporates before starting engine.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- Check fuel lines, tank, cap and fittings frequently for cracks or leaks. Replace if necessary.
- DO NOT light a cigarette or smoke.

1. Make sure water pump is on a level surface.
2. Clean area around fuel fill cap and remove cap.
3. Slowly add unleaded gasoline (**A**) to fuel tank (**B**). Be careful not to fill above the baffle (**C**). This allows adequate space for fuel expansion as shown.
4. Install fuel cap and let any spilled fuel evaporate before starting engine.

Fresh fuel prevents gum from forming in the fuel system or on essential carburetor parts. Purchase fuel in quantity that can be used in 30 days.

High Altitude

At altitudes over 1524 meters (5,000 feet), a minimum 85 octane / 85 AKI (89 RON) gasoline is acceptable. To remain emissions compliant, high altitude adjustment is required. Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. See an Authorized Briggs & Stratton dealer for high altitude adjustment information. Operation of the engine at altitudes below 762 meters (2,500 feet) with the high altitude kit is not recommended.

Assemble and Attach Hoses

You will need the following tool to install the hoses to the water pump:

- 10mm nut driver

Connect Suction Hose to Pump *Figure* 2 3 4

Use a commercially available hose. The suction hose must be reinforced with a non-collapsible wall or braided material. DO NOT use a hose with an inside diameter smaller than the pumps suction port size.

1. Slide barb cuff over hose barb. Insert rubber seal (**2**) into end of barb cuff.
2. Screw hose barb assembly (**3**) onto pump in clockwise rotation until hose barb assembly is tightened securely.
3. Slide hose clamp over end of hose. Slide suction hose onto hose barb. Tighten hose clamp securely using a standard 10mm nut driver (**4**).

Attach Suction Hose to Strainer Basket *Figure* 5

Slide hose clamp over hose. Attach open end of suction hose to strainer hose barb. Tighten hose clamp securely using a standard 10mm nut driver.

Connect Discharge Hose (Optional) *Figure* 6 7

If desired, use a commercially available hose. DO NOT use a hose with an inside diameter smaller than the pump's discharge port size.The pump has two 1" and one 1.5" diameter discharge ports.

1. Slide barb cuff over hose barb. Insert rubber seal into end of barb cuff.
2. Screw hose barb assembly (**6**) onto pump in clockwise rotation until hose barb assembly is tightened securely.
3. Slide hose clamp over end of discharge hose. Slide discharge hose onto hose barb. Tighten hose clamp securely using a standard 10mm nut driver (**7**).

NOTICE Be sure all unused discharge ports are capped and tightened securely.

Operation

If you have any problems operating your water pump, please contact the store at which you purchased the unit or any authorized dealer.

Safe Operating Considerations

Clearances and Air Movement *Figure* 8

⚠ **WARNING** Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury.

- Keep at least 1.5 m (5 ft) of clearance on all sides of water pump including overhead.

Place water pump outdoors in an area that will not accumulate deadly exhaust gas. DO NOT place water pump where exhaust gas could accumulate and enter inside or be drawn into a potentially occupied building. Ensure exhaust gas is kept away from any windows, doors, ventilation intakes, or other openings that can allow exhaust gas to collect in a confined area. Prevailing winds and air currents should be taken into consideration when positioning water pump.

⚠ **WARNING** POISONOUS GAS HAZARD. Engine exhaust contains carbon monoxide, a poisonous gas that could kill you in minutes. You CANNOT see it, smell it, or taste it. Even if you do not smell exhaust fumes, you could still be exposed to carbon monoxide gas. If you start to feel sick, dizzy or weak while using this product, get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

- Operate this product ONLY outside far away from windows, doors and vents to reduce the risk of carbon monoxide gas from accumulating and potentially being drawn towards occupied spaces.
- Install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery back-up according to the manufacturer's instructions. Smoke alarms cannot detect carbon monoxide gas.
- DO NOT run this product inside homes, garages, basements, crawlspaces, sheds, or other partially-enclosed spaces even if using fans or opening doors and windows for ventilation. Carbon monoxide can quickly build up in these spaces and can linger for hours, even after the product has shut off.
- ALWAYS place this product downwind and point the engine exhaust away from occupied spaces.

What is “Head”? *Figure* 9

Head refers to the height of a column of water that can be delivered by the discharge of the pump.

Suction Head (**A**) is the vertical distance between the center of the pump and the surface of the liquid on the suction side of the pump. May also be referred to as “suction lift”. The atmospheric pressure of 0.1 MPa (14.5 psi) at sea level limits suction head lift to less than approximately 8m (26 ft) for any pump.

Discharge Head (**B**) is the vertical distance between the pump’s discharge port and the point of discharge, which is the liquid surface if the hose is submerged or pumping into the bottom of a tank.

Total Head (**C**) is the sum of the suction head value plus the discharge head value.

As water pumping height increases, pump output decreases. The length, type, and size of the suction and discharge hoses can also significantly affect pump output.

It is important for the suction operation to be the shorter part of the total pumping action. This will decrease the priming time and improve pump performance by increasing the discharge head.

See *Specifications* for maximum head values.

Move Water Pump to Safe Operating Location

For best pump performance, locate the pump on a flat, level surface as close as possible to the water to be pumped. Secure water pump to avoid tipover. Use hoses that are no longer than necessary.

⚠ **WARNING** Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury.

- Keep at least 1.5 m (5 ft) of clearance on all sides of water pump including overhead.

Prime the Water Pump *Figure* 10

1. Remove priming plug from top of pump.
2. Fill pump with clean water up to level shown.
3. Replace priming plug.

NOTICE Improper treatment of water pump can damage it and shorten its life.

- Be sure pump chamber is filled with water before starting the engine. Never run pump without priming.

Locate Strainer Basket Into Water Source *Figure* 11

Place strainer basket into water to be pumped. Basket must be fully immersed in water. To reduce sand or silt suction, place basket into bucket or on top of coarse rocks.

NOTICE Improper treatment of water pump can damage it and shorten its life.

- NEVER operate pump without strainer basket connected to end of suction hose.
- Keep strainer out of sand or silt - place in bucket or on stones.
- DO NOT let pump run dry or damage to seals may result. Never run pump without priming.
- DO NOT pump salt water.

Starting the Water Pump *Figure* 12

Use the following start instructions:

1. Make sure unit is on a flat, level surface and pump chamber is primed.
2. Turn fuel shutoff (**C**) to ON (I) position.
3. Move choke lever (**B**) to CHOKE ( ) position.
4. Push on/off switch (**D**) to ON (I) position.
5. Move engine speed lever (**A**) to FAST ( ) position.

⚠ **WARNING** Starter cord kickback (rapid retraction) will pull hand and arm toward engine faster than you can let go which could cause broken bones, fractures, bruises, or sprains resulting in serious injury.

- When starting engine, pull cord slowly until resistance is felt and then pull rapidly to avoid kickback.
- Keep hands and body clear from discharge of pump.
- Secure discharge hose to avoid whipping.

6. Grasp recoil handle (**E**) and pull slowly until slight resistance is felt. Then pull handle rapidly to overcome compression, prevent kickback and start engine.

NOTICE If excessive fuel is present in the air/fuel mixture causing a “flooded” condition, engine won’t start. Move choke lever (**B**) to RUN ( ) position and pull handle repeatedly until engine starts.

7. As the engine warms, move choke lever (**B**) to RUN ( ) position. Operate with choke in RUN ( ) position.

NOTICE It may take a few minutes for water pump to begin pumping water.

NOTICE If engine starts after 3 pulls but fails to run, or if unit shuts down during operation, make sure unit is on a level surface and check for proper oil level in crankcase. This unit is equipped with a low oil protection device. If so, oil must be at proper level for engine to start.

⚠ **WARNING** Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury. Contact with muffler area could cause burns resulting in serious injury.

- Do not touch hot parts and AVOID hot exhaust gases.
- Allow equipment to cool before touching.
- Keep at least 1.5 m (5 feet) of clearance on all sides of water pump including overhead.

Pump output is controlled by adjusting engine speed. Moving the engine speed lever in the FAST ( ) direction will increase pump output, and moving the engine speed lever in the SLOW ( ) direction will decrease pump output.

Stopping the Water Pump *Figure* 12

1. Move engine speed lever (**A**) to SLOW ( ) position.

> ⚠ **WARNING** Fuel and its vapors are extremely flammable and explosive which could cause burns, fire or explosion resulting in death or serious injury.
> • DO NOT stop engine by moving choke lever to CHOKE position ( ).

2. Push on/off switch (**D**) to OFF (0) position.
3. Turn fuel shutoff (**C**) to OFF (0) position.

Drain and Flush Water Pump *Figure* 13 15

1. Disconnect and drain suction and discharge hoses.
2. Remove drain plug (**13, A**) at bottom of pump.
3. Remove priming plug from top of pump and flush internal components of pump with clean water (**15**).
4. Replace both plugs and finger tighten.

Maintenance

Maintenance Schedule

Follow the hourly or calendar intervals, whichever occurs first. More frequent service is required when operating in adverse conditions noted below.

First 5 hours
Change oil
Every 8 hours or daily
Check oil level
Clean debris
Every 25 hours or daily
Clean engine air filter
Every 50 hours or annually *
Change oil *
Clean and inspect spark arrester
Replace air filter *
Annually
Replace spark plug
Clean air cooling system *
Clean any sludge buildup inside pump

*Service sooner when operating under dirty or dusty conditions.

General Recommendations

Regular maintenance will improve the performance and extend the life of the water pump. See any authorized Briggs & Stratton dealer for service.

The water pump's warranty does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the water pump as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your water pump.

All service and adjustments should be made at least once each season. Follow the requirements in the Maintenance Schedule chart above.

NOTICE Once a year you should clean or replace the spark plug and clean or replace the air filter. A new spark plug and clean air filter assure proper fuel-air mixture and help your engine run better and last longer.

Water Pump Maintenance

Maintenance consists of keeping the water pump clean. Store the unit in a clean dry environment where it will not be exposed to excessive dust, dirt, moisture or any corrosive vapors. Engine cooling air slots must not become clogged with dirt, leaves or any other foreign material.

NOTICE Do Not use a garden hose to clean engine. Water can enter engine fuel system and cause problems.

Cleaning

Daily or before use, look around and underneath water pump for signs of oil or fuel leaks. Clean accumulated debris from inside and outside water pump. Keep linkage, spring and other engine controls clean. Keep area around and behind muffler free from any combustible debris. Use low pressure air (not to exceed 1.7MPa (25 psi)) to blow away dirt. Inspect cooling air slots and opening on water pump. These openings must be kept clean and unobstructed.

Engine parts should be kept clean to reduce the risk of overheating and ignition of accumulated debris.

- Use a damp cloth to wipe exterior surfaces clean.
- Use a soft bristle brush to loosen caked on dirt or oil.
- Use a vacuum cleaner to pick up loose dirt and debris.

Remove silt and sludge buildup in pump body:

- Open priming plug and remove drain plug.
- Flush internal components of pump with clean water.

NOTICE Improper treatment of water pump could damage it and shorten its life.

- DO NOT insert any objects through cooling slots.

Engine Maintenance

⚠ **WARNING** Unintentional sparking could cause fire or electric shock resulting in death or serious injury.

WHEN ADJUSTING OR MAKING REPAIRS TO YOUR WATER PUMP

- Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.

WHEN TESTING FOR ENGINE SPARK

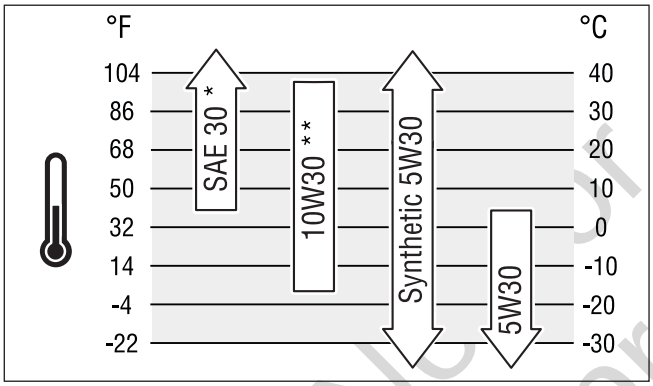
- Use approved spark plug tester.
- DO NOT check for spark with spark plug removed.

Oil

Oil Recommendations

We recommend the use of Briggs & Stratton Warranty Certified oils for best performance. Other high-quality detergent oils are acceptable if classified for service SF, SG, SH, SJ or higher. DO NOT use special additives.

Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.



* Below 4° C (40° F) the use of SAE 30 will result in hard starting.

** Above 27° C (80° F) the use of 10W30 may cause increased oil consumption. Check oil level more frequently.

Checking Oil Level *Figure* 14

Oil level should be checked prior to each use or at least every 8 hours of operation. Keep oil level maintained.

1. Make sure water pump is on a level surface.
2. Clean area around oil fill, remove oil cap/dipstick and wipe dipstick with clean cloth. Replace dipstick. Remove and check oil level.
3. Verify oil is at FULL mark (**A**) on dipstick.
4. Replace and tighten oil fill cap/dipstick.

Adding Engine Oil *Figure* 14

1. Make sure water pump is on a level surface.
2. Check oil level as described in *Checking Oil Level*.
3. If needed, slowly pour oil into oil fill opening to the FULL mark (**A**) on distick. See *Changing Engine Oil*. DO NOT overfill.
4. Replace and tighten oil fill cap/dipstick.

Changing Engine Oil *Figure* 14

If you are using your water pump under extremely dirty or dusty conditions, or in extremely hot weather, change the oil more often.

⚠ **CAUTION** Avoid prolonged or repeated skin contact with used motor oil.

- Used motor oil has been shown to cause skin cancer in certain laboratory animals.
- Thoroughly wash exposed areas with soap and water.

KEEP OUT OF REACH OF CHILDREN. DON'T POLLUTE. CONSERVE RESOURCES. RETURN USED OIL TO COLLECTION CENTERS.

Change the oil while the engine is still warm from running, as follows:

1. Make sure water pump is on a level surface.
2. Disconnect the spark plug wire from the spark plug and place the wire where it cannot contact spark plug.
3. Clean area around oil drain plug . The oil drain plug is located at base of engine, opposite carburetor.
4. Remove oil drain plug and drain oil completely into a suitable container.
5. Reinstall oil drain plug and tighten securely. Remove oil cap/dipstick.
6. Slowly pour oil (about 0.6 l (20 oz)) into oil fill opening. Pause to permit oil to settle. Fill to FULL mark (**A**) on dipstick.
7. Reinstall oil cap/dipstick. Tighten cap securely.
8. Wipe up any spilled oil.
9. Reconnect spark plug wire to spark plug.

Service Air Cleaner *Figure* 16

Clean or replace the air cleaner elements as recommended in the *Maintenance Chart* or more often if operating under dirty or dusty conditions. Your engine will not run properly and may be damaged if you run it with a dirty air cleaner.

To service the air cleaner, follow these steps:

1. Remove the fastener (**A**) and the cover (**B**).
2. Remove the fastener (**C**) and the filter (**D**).
3. Remove the pre-cleaner (**E**), if equipped, from the filter. To loosen debris, gently tap the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
4. Wash the pre-cleaner in liquid detergent and water. Then allow it to thoroughly air dry. Do not oil the pre-cleaner.
5. Assemble the dry pre-cleaner to the filter.
6. Install the filter and pre-cleaner into the base(**F**) and onto stud(**G**). Make sure filter fits securely into the base. Secure the filter with the fastener(**C**).
7. Install the cover and secure with the fastener(**A**).Make sure the fastener is tight.

Inspect Muffler and Spark Arrester *Figure* 17

Inspect the muffler for cracks, corrosion, or other damage. Remove the spark arrester, if equipped, and inspect for damage or carbon blockage. If replacement parts are required, make sure to use only original equipment replacement parts.

⚠ WARNING Exhaust heat/gases could ignite combustibles, structures or damage fuel tank causing a fire, resulting in death or serious injury. Contact with muffler area could cause burns resulting in serious injury.

- Do not touch hot parts and AVOID hot exhaust gases.
- Allow equipment to cool before touching.
- Keep at least 1.5 m (5 ft) of clearance on all sides of water pump including overhead.

Air Cooling System *Figure* 18

Over time debris may accumulate in cylinder cooling fins and cannot be observed without partial engine disassembly. For this reason, we recommend you have a qualified service dealer clean the cooling system (**A**) per recommended intervals (see *Maintenance Schedule* in beginning of *Maintenance section*). Equally important is to keep top of engine free from debris. See *Clean Debris*.

Carburetor Adjustment

The carburetor on this engine is low emission. It is equipped with a non-adjustable idle mixture valve. Top speed has been set at the factory. If adjustment is required, see an authorized service dealer.

⚠ CAUTION Excessively high operating speeds could result in minor injury.

Excessively low speeds impose a heavy load.

- DO NOT tamper with governor spring, links or other parts to increase engine speed. Water pump supplies correct rated pressure and flow when running at governed speed.
- DO NOT modify water pump in any way.

Storage

If the water pump cannot be used at least once every 30 days or you must store the unit for more than 30 days, use the following information as a guide to prepare it for storage.

Protect Fuel System

Fuel Additive

Fuel can become stale when stored over 30 days. Stale fuel causes acid and gum deposits to form in the fuel system or on essential carburetor parts. To keep fuel fresh, use Briggs & Stratton Advanced Formula Fuel Treatment & Stabilizer, available wherever Briggs & Stratton genuine service parts are sold.

There is no need to drain petrol from the engine if a fuel stabilizer is added according to instructions. Run the engine for 2 minutes to circulate the stabilizer throughout the fuel system before storage.

If petrol in the engine has not been treated with a fuel stabilizer, it must be drained into an approved container. Run the engine until it stops from lack of fuel. The use of a fuel stabilizer in the storage container is recommended to maintain freshness.

⚠ WARNING Fuel and its vapors are extremely flammable and explosive which could cause burns, fire or explosion resulting in death or serious injury .

WHEN STORING FUEL OR EQUIPMENT WITH FUEL IN TANK

- Store away from furnaces, stoves, water heaters, clothes dryers, or other appliances that have pilot light or other ignition source because they can ignite fuel vapors.

WHEN DRAINING FUEL

- Turn water pump OFF and let it cool at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.
- Drain fuel tank outdoors.
- Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
- DO NOT light a cigarette or smoke.

Change Engine Oil

While engine is still warm, drain oil from crankcase. Refill with recommended grade. See *Changing Engine Oil* in *Engine Maintenance*.

Clean Water Pump

1. Drain water pump as described in *Drain and Flush Water Pump*.
2. Clean water pump as described in *Cleaning*.
3. Check that openings on water pump are open and unobstructed.

Other Storage Tips

1. DO NOT store fuel from one season to another unless it has been treated as described in *Protect Fuel System*.
2. Replace fuel can if it starts to rust. Contaminated fuel will cause engine problems.
3. Cover unit with a suitable protective cover that does not retain moisture.

⚠ WARNING Storage covers could cause a fire resulting in death or serious injury.

- DO NOT place a storage cover over a hot water pump.
- Let equipment cool for a sufficient time before placing the cover on the equipment.

4. Store water pump in clean, dry area.

Troubleshooting

Problem	Cause	Correction
No pump output or low pump output when water pump is running.	1. Pump not primed.	1. Fill pump chamber with water and prime pump.
	2. Suction hose restricted, collapsed, damaged, too long, or diameter too small.	2. Replace suction hose.
	3. Strainer not completely under water.	3. Sink the strainer and the end of suction hose completely under water.
	4. Air leak at suction hose connetor.	4. Replace sealing washer if missing or damaged. Tighten hose connector and clamp.
	5. Strainer clogged.	5. Clean debris from strainer.
	6. Discharge hose restricted, damaged, too long, or diameter too small.	6. Replace discharge hose.
	7. Excessive or marginal head.	7. Relocate pump and/or hoses to reduce head.
	8. Engine speed lever is in SLOW () position.	8. Move engine speed lever to FAST () position.
Engine will not start; lacks power; starts and runs rough; or "hunts" or falters.	1. Rocker switch set to OFF (0).	1. Set switch to ON (I).
	2. Fuel shutoff is in OFF (0) position.	2. Turn fuel shutoff to ON (I) position.
	3. Dirty air cleaner.	3. Clean or replace air cleaner.
	4. Out of fuel.	4. Wait two minutes and fill fuel tank.
	5. Stale or contaminated fuel or water in fuel.	5. Drain fuel tank and carburetor; fill with fresh fuel.
	6. Spark plug wire not connected to spark plug.	6. Connect wire to spark plug.
	7. Bad spark plug.	7. Replace spark plug.
	8. Excessive fuel is present in the air/fuel mixture causing a "flooded" condition.	8. Wait 5 minutes and re-crank engine.
	9. Carburetor is out of adjustment.	9. Contact Authorized service facility.
Engine shuts down when running.	Out of fuel.	Wait two minutes and fill fuel tank.

BRIGGS & STRATTON PRODUCTS WARRANTY POLICY January 2014

LIMITED WARRANTY

Briggs & Stratton warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at *www.briggsandstratton.com*. The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the warranty period listed below, or to the extent permitted by law. **Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law.** Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.**

WARRANTY PERIOD

Item	
Equipment	12 months
Engine*	12 months
Battery (if equipped)	12 months

***** Applies to Briggs & Stratton engines only. Warranty coverage of non-Briggs & Stratton engines is provided by that engine manufacturer. Emissions-related components are covered by the Emissions Warranty Statement.

****** In Australia - Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at BRIGGSandSTRATTON.COM, or by calling 1300 274 447, or by emailing or writing to salesenquires@briggsandstratton.com.au, Briggs & Stratton Australia Pty Ltd, 1 Moorebank Avenue, NSW, Australia, 2170.

The warranty period begins on the date of purchase by the first retail or commercial consumer. “Consumer use” means personal residential household use by a retail consumer. “Commercial use” means all other uses, including use for commercial, income producing or rental purposes. Once a product has experienced commercial use, it shall thereafter be considered as a commercial use product for purposes of this warranty.

To ensure prompt and complete warranty coverage, register your product at the website shown above or at www.onlineproductregistration.com, or mail the complete registration card (if provided), or call 1-800-743-4115 (in USA).

Save your proof of purchase receipt. If you do not provide proof of the initial purchase date at the time warranty service is requested, the manufacturing date of the product will be used to determine the warranty period. Product registration is not required to obtain warranty service on Briggs & Stratton products.

ABOUT YOUR WARRANTY

Warranty service is available only through Authorized Service Dealers. Most warranty repairs are handled routinely, but sometimes requests for warranty service may not be appropriate. This warranty covers only defects in materials or workmanship. It does not cover damage caused by improper use or abuse, improper maintenance or repair, normal wear and tear, or stale or unapproved fuel.

Improper Use and Abuse - The proper, intended use of this product is described in the Operator’s Manual. Using the product in a way not described in the Operator’s Manual or using the product after it has been damaged will not be covered under this warranty. Warranty coverage will also not be provided if the serial number on the product has been removed or the product has been altered or modified in any way, or if the product has evidence of abuse such as impact damage or water/chemical corrosion damage.

Improper Maintenance or Repair - This product must be maintained according to the procedures and schedules provided in the Operator’s Manual, and serviced or repaired using genuine Briggs & Stratton parts or equivalent. Damage caused by lack of maintenance or use of non-original parts is not covered by warranty.

Normal Wear and Tear - Like most mechanical devices, your unit is subject to wear even when properly maintained. This warranty does not cover repairs when normal use has exhausted the life of a part or the equipment. Maintenance and wear items such as filters, belts, cutting blades, and brake pads (except engine brake pads) are not covered by warranty due to wear characteristics alone, unless the cause is due to defects in material or workmanship.

Stale or Unapproved Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator's Manual. Engine or equipment damage caused by stale fuel or the use of unapproved fuels (such as E15 or E85 ethanol blends) is not covered by warranty.

Other Exclusions - This warranty excludes damage due to accident, abuse, modifications, alterations, improper servicing, freezing or chemical deterioration. Attachments or accessories that were not originally packaged with the product are also excluded. There is no warranty coverage on equipment used for primary power in place of utility power or on equipment used in life support applications. This warranty does not include used, reconditioned, second-hand, or demonstration equipment or engines. This warranty also excludes failures due to acts of God and other force majeure events beyond the manufacturer’s control.

80009359 EN, Rev -

High Pressure Water Pump
Product Specifications

Model 073046

Water Pump Specifications

Suction Port Diameter . . . . . 38 mm (1.5 in)
Discharge Port Diameter
2@ . . . . . .25 mm (1 in)
1@ . . . . . 38 mm (1.5 in)
Total Head. . . . . .60 m (197 ft)
Maximum Head
Suction Lift * . . . . . .6 m (20 ft)
Discharge Lift * . . . . . .54 m (177 ft)
Maximum Discharge Capacity* . 350 l/min (92 gal/min)

Engine Specifications

Displacement . . . . . 208 cc (12.69 in^3)
Oil Capacity. . . . . 0.59 l (20 oz)

Tune-up Specifications

Spark Plug Gap. . . . . 0.76 mm (0.030 in)
Spark Plug Torque . . . . . .20 Nm (180 lb-in)

Common Service Parts **

Air Filter,Oval	590601
Air Filter Pre-cleaner,Oval	590602
Fuel Additive	5041, 5058
Resistor Spark Plug	491055
Spark Plug Wrench	816206

Model 073047

Water Pump Specifications

Suction Port Diameter . . . . . 38 mm (1.5 in)
Discharge Port Diameter
2@ . . . . . .25 mm (1 in)
1@ . . . . . 38 mm (1.5 in)
Total Head. . . . . .80 m (262 ft)
Maximum Head
Suction Lift * . . . . . .6 m (20 ft)
Discharge Lift * . . . . . .74 m (243 ft)
Maximum Discharge Capacity* 205 l/min (54 gal/min)

Engine Specifications

Displacement . . . . . 208 cc (12.69 in^3)
Oil Capacity. . . . . 0.59 l (20 oz)

Tune-up Specifications

Spark Plug Gap. . . . . 0.76 mm (0.030 in)
Spark Plug Torque . . . . . .20 Nm (180 lb-in)

Common Service Parts **

Air Filter,Oval	590601
Air Filter Pre-cleaner,Oval	590602
Fuel Additive	5041, 5058
Resistor Spark Plug	491055
Spark Plug Wrench	816206

* This high pressure water pump is rated in accordance with Briggs & Stratton standard 621K.

** We recommend that you see any Briggs & Stratton Authorized Dealer for all maintenance and service of the water pump. Use only genuine Briggs & Stratton parts.

Power Ratings: The gross power rating for individual petrol engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 Small Engine Power & Torque Rating Procedure, and is rated in accordance with SAE J1995. Torque values are derived at 2600 RPM for those engines with “rpm” called out on the label and 3060 RPM for all others; horsepower values are derived at 3600 RPM. The gross power curves can be viewed at www.BRIGGSandSTRATTON.COM. Net power values are taken with exhaust and air cleaner installed whereas gross power values are collected without these attachments. Actual gross engine power will be higher than net engine power and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given the wide array of products on which engines are placed, the petrol engine may not develop the rated gross power when used in a given piece of power equipment. This difference is due to a variety of factors including, but not limited to, the variety of engine components (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this engine.