

Owner's Manual & Safety Instructions

BILT HARD

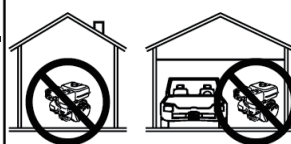
2" WATER PUMP

TWA-0209

⚠ DANGER

Using an 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.



Using tips:
Video on Youtube



Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

Thank you for ordering our product. If you have any issue, please email it and your order ID to inquiry@bilthardusa.com or call (888)680-2849.

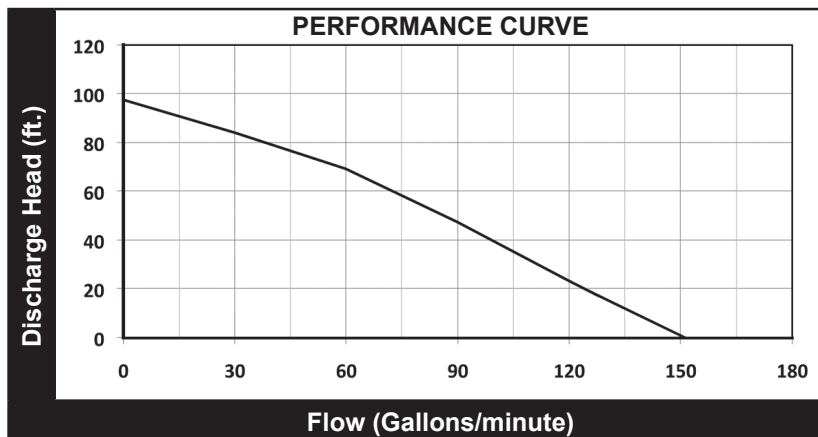
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Specifications

Pump	
Suction & Discharge Size	2" NPT
Maximum Flow at 0 Flow	158 GPM
Maximum Head Lift at 0 Flow	91 ft.
Maximum Intake Lift at 0 Flow	26 ft.
Mechanical Seal	Ceramic

Engine		
Displacement		212cc
Engine Type		Horizontal Single Cylinder 4 stroke OHV EPA phase III compliant
Cooling System		Forced air cooled
Fuel	Type	87+ octane stabilizer-treated unleaded gasoline
	Capacity	0.9 Gallons / 3.6 Liters
Engine Oil	Type SAE	10W-30 above 32° F 5W30 at 32° F or below
	Capacity	17 fl.oz. / 500ml(Oil bottle equipped)
Sound Level at 22 feet		104 dB
Bore x Stroke		70 mm x 55 mm
Compression Ratio		9:1
Rotation viewed from PTO (power take off - the output shaft)		Counterclockwise
Shaft	Shaft	3/4" x 2.41"
	Keyway	3/16" (4.76 mm)
	End Tapped	5/16" - 24 UNF
Spark Plug	Type	NGK® BP-6ES NHSP® / Torch® F6TC
	Gap	0.027" - 0.031"
Valve Clearance	Intake	0.004" - 0.006"
	Exhaust	0.006" - 0.008"
No Load Speed		3,800 ±100 RPM



BILT HARD

WARNING SYMBOLS AND DEFINITIONS	
	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 a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

Symbol Definitions

Symbol	Property or Statement
RPM	Revolutions Per Minute
HP	Horsepower
	WARNING marking concerning Risk of Eye Injury. Wear ANSI-approved safety goggles with side shields.
	Read the manual before set-up and/or use.
	WARNING marking concerning Risk of Hearing Loss. Wear hearing protection.

Symbol	Property or Statement
	WARNING marking concerning Risk of Respiratory Injury. Operate engine OUTSIDE and far away from windows, doors, and vents.
	WARNING marking concerning Risk of Fire while handling fuel. Do not smoke while handling fuel.
	WARNING marking concerning Risk of Fire. Do not refuel while operating. Keep flammable objects away from engine.

SAFETY

Safety Warnings



WARNING! Read all instructions.

Failure to follow all instructions listed below may result in fire, serious injury and/or DEATH.

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

Set up Precautions

1. Gasoline fuel and fumes are flammable, and potentially explosive. Use proper fuel storage and handling procedures. Do not store fuel or other flammable materials nearby.
2. Have multiple ABC class fire extinguishers nearby.
3. Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.
4. Set up and use only on a flat, level, well-ventilated surface.
5. Use only lubricants and fuel recommended in the Specifications chart of this manual.
6. Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during set up.
7. Do not use any reducer on the inlet or discharge port. However, if any reducers were included as part of this pump, they may be used.

Engine Precautions

Follow engine precautions and instructions in the included engine instruction manual.

Operating Precautions

1.  **CARBON MONOXIDE HAZARD**
Using an 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.
2. Keep children away from the equipment, especially while it is operating.
3. Do not touch Pump engine during use.
4. Never store fuel or other flammable materials near the Pump engine.
5. Industrial applications must follow OSHA requirements.
6. Do not leave the equipment unattended when it is running. Turn off the equipment (and remove safety keys, if available) before leaving the work area.
7. Engine can produce high noise levels. Prolonged exposure to noise levels above 85 dBA is hazardous to hearing. Always wear ear protection when operating or working around the gas engine while it is operating.
8. Wear ANSI-approved safety glasses, hearing protection, and NIOSH-approved dust mask/respirator under a full face shield along with steel-toed work boots during use.
9. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to a heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near the engine's magneto or recoil starter.
10. Use only accessories that are recommended by Bilt Hard for your model. Accessories that may be suitable for one piece of equipment may become hazardous when used on another piece of equipment.
11. Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Gasoline-powered engines may ignite the dust or fumes.

SAFETY

Operating Precautions (cont.)

12. Stay alert, watch what you are doing and use common sense when operating this piece of equipment. Do not use this piece of equipment while tired or under the influence of drugs, alcohol or medication.
13. Do not overreach. Keep proper footing and balance at all times. This enables better control of the equipment in unexpected situations.
14. Dress properly. Do not wear loose clothing or jewelry. Keep hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
15. Parts, especially exhaust system components, get very hot during use. Stay clear of hot parts.
16. Do not cover the engine or equipment during operation.
17. Keep the equipment, engine, and surrounding area clean at all times.
18. Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refuelling.
19. Use the equipment, accessories, etc., in accordance with these instructions and in the manner intended for the particular type of equipment, taking into account the working conditions and the work to be performed. Use of the equipment for operations different from those intended could result in a hazardous situation.
20. Do not operate the equipment with known leaks in the engine's fuel system.
21. When spills of fuel or oil occur, they must be cleaned up immediately. Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a bottom-ventilated, covered, metal container.
22. Keep hands and feet away from moving parts. Do not reach over or across equipment while operating.
23. Before use, check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the equipment's operation. **If damaged, have the equipment serviced before using.** Many accidents are caused by poorly maintained equipment.
24. Use the correct equipment for the application. Do not modify the equipment and do not use the equipment for a purpose for which it is not intended.

Service Precautions

1. **Before service, maintenance, or cleaning:**
 - a. **Turn the engine switch to its "OFF" position.**
 - b. **Allow the engine to completely cool.**
 - c. **Then, remove the spark plug cap from the spark plug.**
2. Keep all safety guards in place and in proper working order. Safety guards include muffler, air cleaner, mechanical guards, and heat shields, among other guards.
3. **Do not alter or adjust any part of the equipment or its engine that is sealed by the manufacturer or distributor. Only a qualified service technician may adjust parts that may increase or decrease governed engine speed.**
4. Wear ANSI-approved safety goggles, heavy-duty work gloves, and dust mask/respirator during service.
5. Maintain labels and nameplates on the equipment. These carry important information. If unreadable or missing, contact Bilt Hard for a replacement.
6. Have the equipment serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the equipment is maintained. Do not attempt any service or maintenance procedures not explained in this manual or any procedures that you are uncertain about your ability to perform safely or correctly.
7. Store equipment out of the reach of children.

Refueling:

1. Do not refill the fuel tank while the engine is running or hot.
2. Do not smoke, or allow sparks, flames, or other sources of ignition around the equipment, especially when refuelling.
3. Do not fill fuel tank to the top. Leave a little room for the fuel to expand as needed.
4. Refuel in a well-ventilated area only.
5. Wipe up any spilled fuel and allow excess to evaporate before starting engine.
To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.



SAVE THESE INSTRUCTIONS.

SETUP

Set Up



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

WARNING

TO PREVENT SERIOUS INJURY:

Operate only with proper spark arrestor installed.

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

High Altitude Operation Above 3000 feet



WARNING! To prevent serious injury from fire:

Follow instructions in a well-ventilated area away from ignition sources.

If the engine is hot from use, shut the engine off and wait for it to cool before proceeding. Do not smoke.

NOTICE Warranty void if necessary adjustments are not made for high altitude use.

At high altitudes, the engine's carburetor, governor (if so equipped), and any other parts that control the fuel-air ratio will need to be adjusted by a qualified mechanic to allow efficient high-altitude use and to prevent damage to the engine and any other devices used with this product. The fuel system on this engine may be influenced by operation at higher altitudes. Proper operation can be ensured by installing an altitude kit at altitudes higher than 3000 ft. above sea level. At elevations above 8000 ft, the engine may experience decreased performance, even with the proper main jet. Operating this engine without the proper altitude kit installed may increase the engine's emissions and decrease fuel economy and performance. The kit should be installed by a qualified mechanic.

1. Turn off the engine.
2. Close the fuel valve.
3. Place a bowl under the fuel cup to catch any spilled fuel.

CAUTION! Carburetor bowl may have gas in it which will leak upon removing the bolt.

4. Unthread the bolt holding the fuel cup.
5. Remove the bolt, Bolt Seal, fuel cup, Fuel Cup Seal and Main Jet from the body of the carburetor assembly. A carburetor screwdriver (not included) is needed to remove and install the Main Jet.

Note: The mixing tube is held in place by the Main Jet and might fall out when it is removed. If it falls out, replace it in the same orientation before replacing the Main Jet.

6. Replace the Main Jet with the replacement Main Jet needed for your altitude range (part 1a or 2a).

Note: The Fuel Cup Seal and Bolt Seal may be damaged during removal and should be replaced with the new ones from the kit.

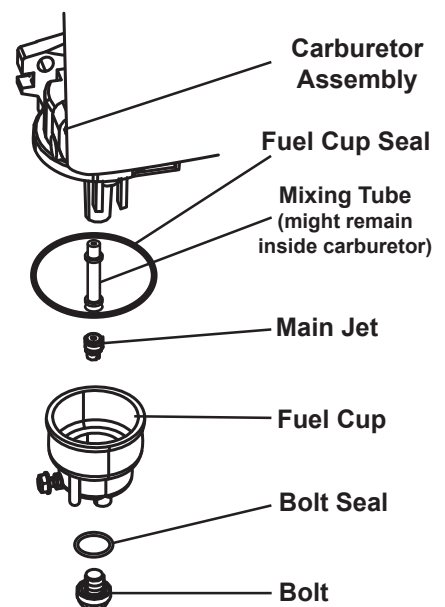
7. Replace the Fuel Cup Seal (4a), fuel cup, Bolt Seal (3a), and bolt. Tighten in place.

NOTICE: Do not cross thread bolt when tightening. Finger tighten first and then use a wrench to make sure the bolt is properly threaded.

8. Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

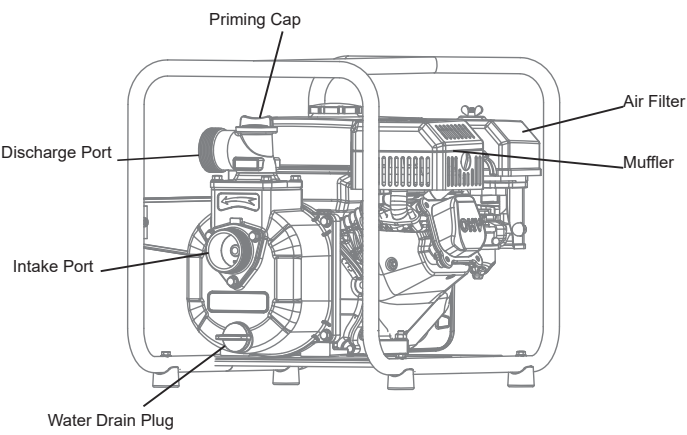
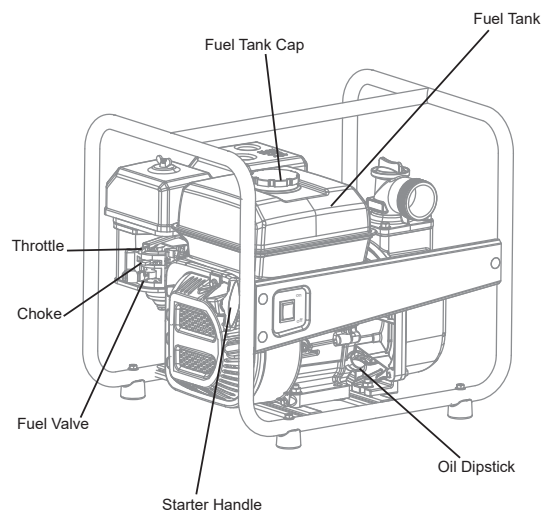
High Altitude Kit Parts List - A

Part	Description	Qty
1a	Main Jet 3000-6000 ft.	1
2a	Main Jet 6000-8000 ft.	1
3a	Bolt Seal	1
4a	Fuel Cup Seal	1

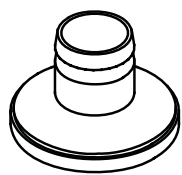


SETUP

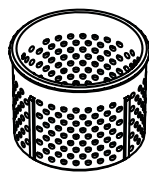
Components



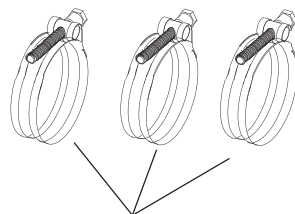
Hose Kits



Filter Cover



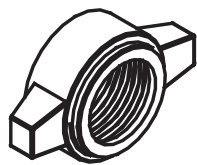
Filter



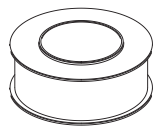
(54-57)
 Hose Clamp



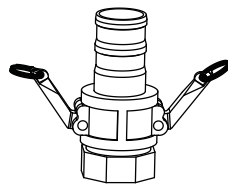
(52-55)
 Hose Clamp



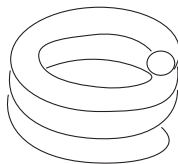
Outlet hose adapter



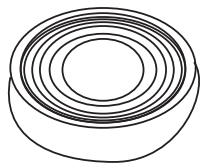
Teflon Tape



Cam Lock Coupler



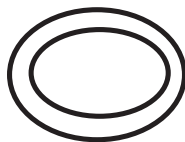
Suction Hose, Green



Discharge Hose, Blue



Outlet hose fitting



Gasket, Hose Coupler

SETUP

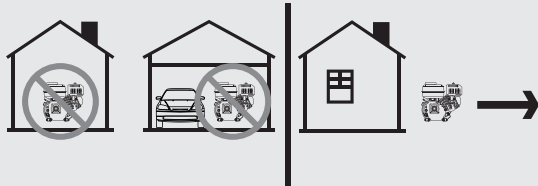
Connecting Hoses

⚠ DANGER

Using an 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.



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

⚠ 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.

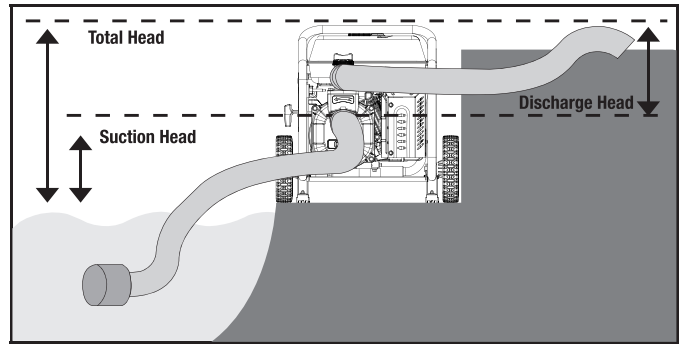
Maintain at least 3 ft. (91.4 cm) of clearance on all sides to ensure adequate cooling.

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

Place the water pump on a flat, level surface. The pump should be placed close to the water level to ensure maximum pump performance.

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.



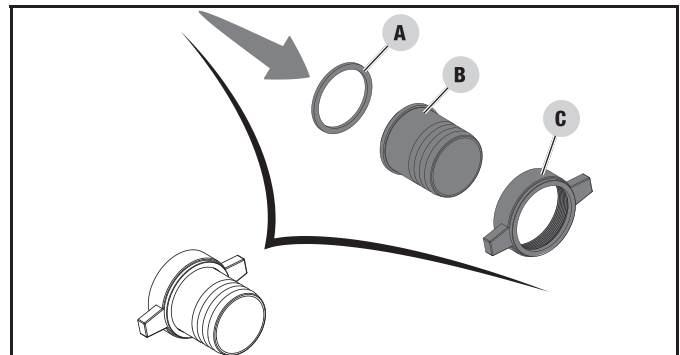
Connecting a Hose Kit

🗨 NOTICE

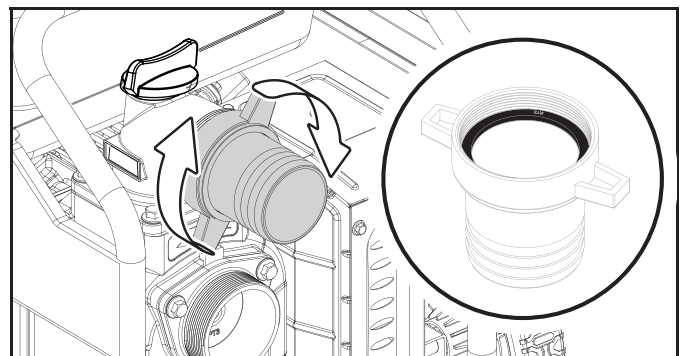
Both the inlet and outlet ports are 2 in. (5 cm) NPT. Please ensure the connectors to the suction and discharge hose are 2 in. (5 cm) NPT threaded.

Connect the Discharge Hose (Blue)

1. Locate (1) of the following: outlet hose adapter (C), gasket (A), and outlet hose fitting (B) and align for assembly.



2. Thread the assembled connector to the outlet fitting (top of pump). Locate the blue "outlet" label on the pump.



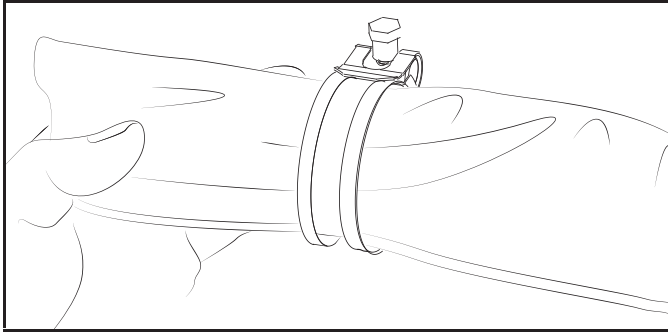
🗨 NOTICE

Make sure the gasket is seated inside before threading the adapter on.

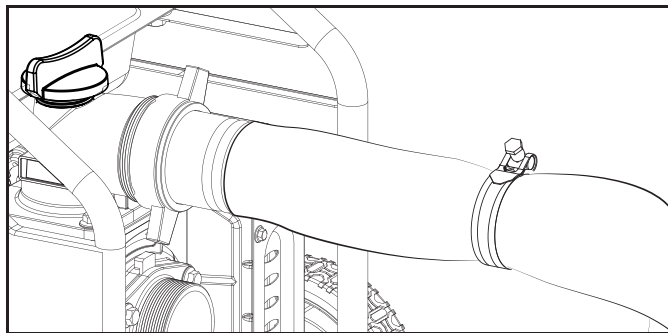
SETUP

Locating the Water Pump

3. Locate and slide the silver colored hose clamp (marked 52-55) over the blue outlet hose.

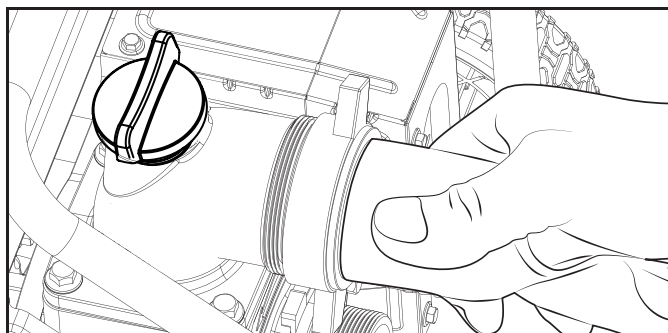


4. Slide the blue discharge hose over the outlet hose fitting.

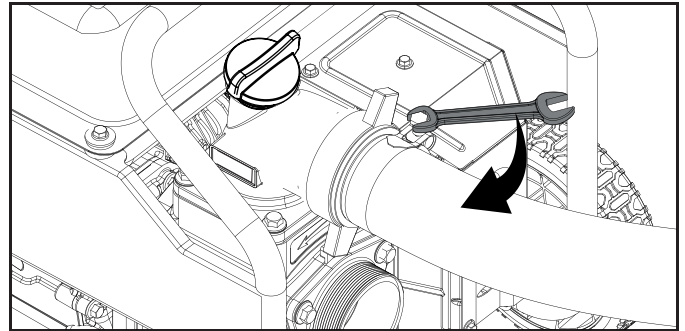


NOTICE

You may use a small amount of dish soap on the outlet hose fitting to help ease the outlet hose on the fitting. Work the soap around the fitting with your finger. Then work the blue hose on the outlet, by twisting and turning until it's fully seated.

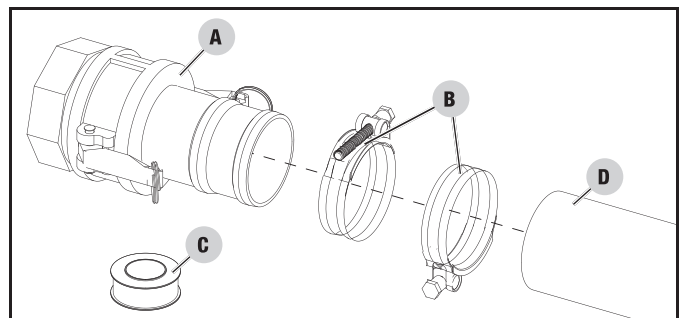


5. Slide the hose clamp in place about midway on the outlet hose adapter as shown. Tighten to 7.4 ± 1.5 lbf-ft (10 ± 2 Nm) with a 10mm wrench. The hose clamp should be placed behind the outlet adapter barbs on the smooth part of the adapter.

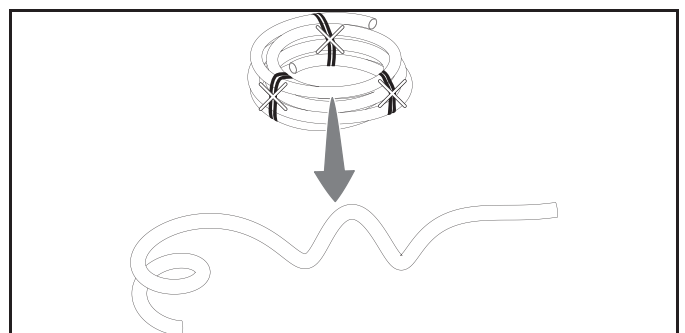


Connect the Suction Hose (Green) and Suction Filter

1. Locate the following: cam lock coupler (coupler and fitting together) (A), 54-57 marked hose clamps (B), Teflon® tape (C), green suction hose (D) and align for assembly.



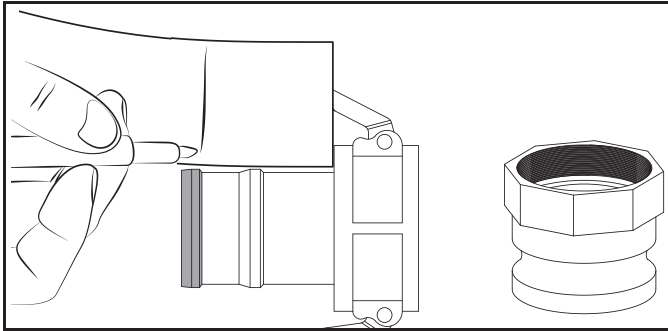
2. Cut ties and uncoil the green hose and use some weight to help straighten the hose out. Best to do this on a warmer day in the sun.



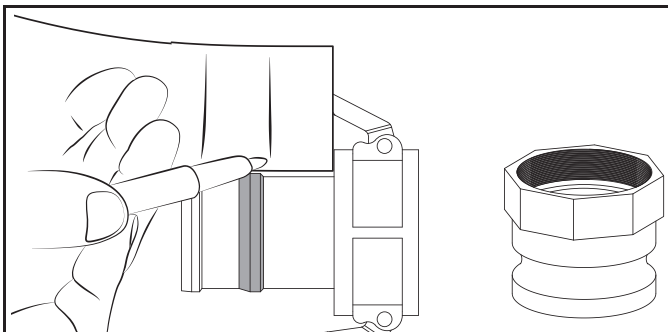
SETUP

Connecting Hoses

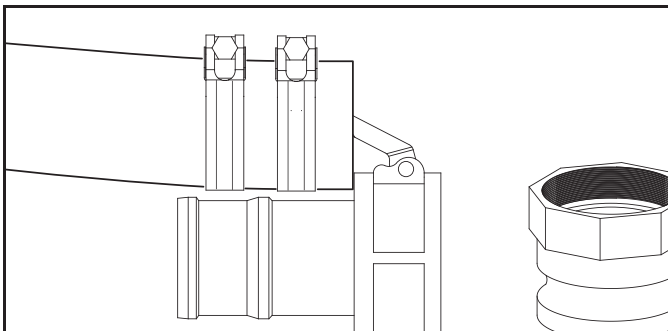
3. Separate the cam lock coupler and fitting. Align the green hose to the coupler and mark the locations of the ribs on the fitting.



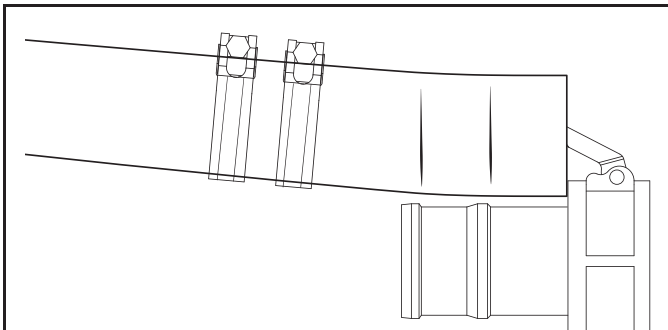
4. Mark the second rib on the coupler on the hose.



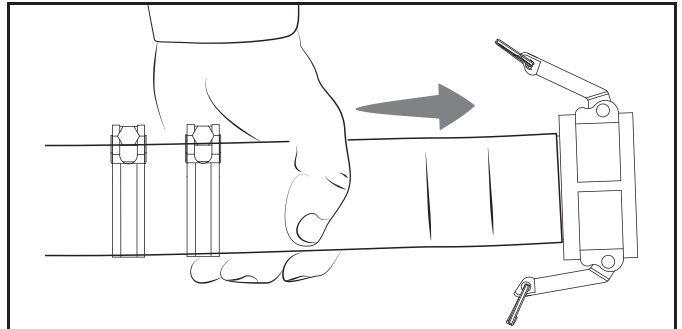
5. Lay the green hose side by side and place the clamp marked 54-57 in their approximate location.



6. Slide the clamps back and start to assemble the green hose to cam lock coupler.



7. Insert the cam lock coupler in the green rigid suction hose until properly seated.

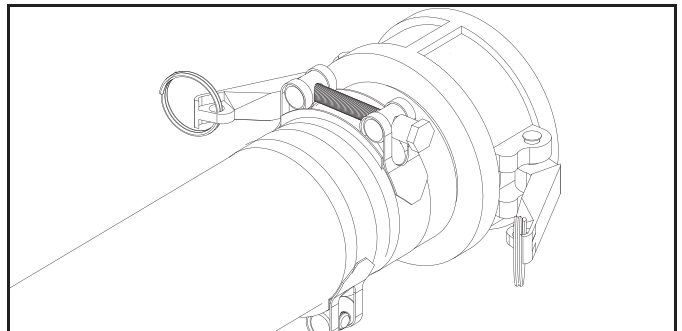


NOTICE

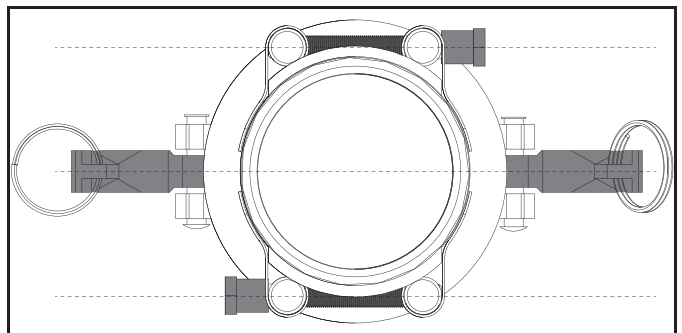
You may use a small amount of dish soap on the cam lock coupler to help ease the green hose on the fitting. Work the soap around the coupler with your finger. Then work the green hose on the fitting, by twisting and turning until it's fully seated.

You may need to dip the green suction hose into boiling water for 1 minute to install the hose as well. This will allow the material to stretch some while assembling the green hose to the cam lock coupler.

8. Slide the clamps marked 54-57 over cam lock coupler just past the marks you made on the hose earlier.



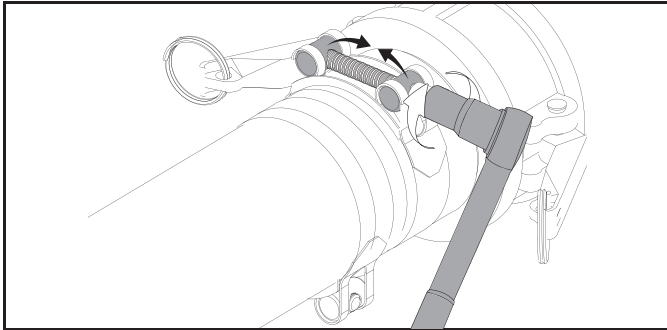
9. Rotate and align the clamp bolts so you have clearance for the cam levers to lock in place later.



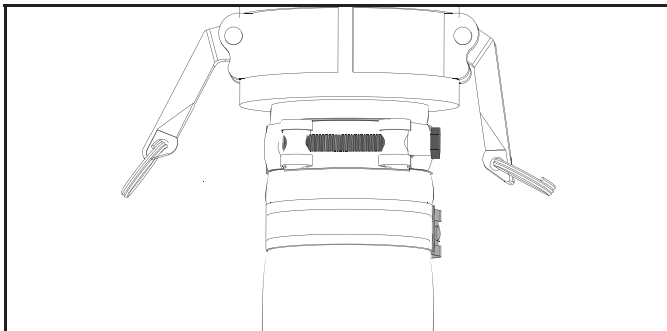
SETUP

Connecting Hoses

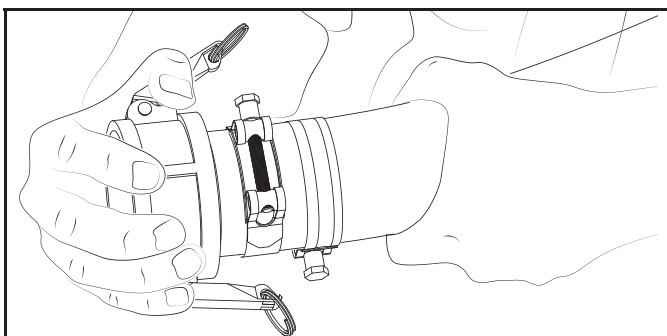
10. Tighten each clamp to 11.1 ± 1.5 lbf-ft (15 ± 2 Nm) with a 10mm socket and 3/8" drive ratchet until the clamp completely tightens. If you do not have a torque wrench, hand tight then 1/4 turn past full tight. This will need to be as tight as you can make them.



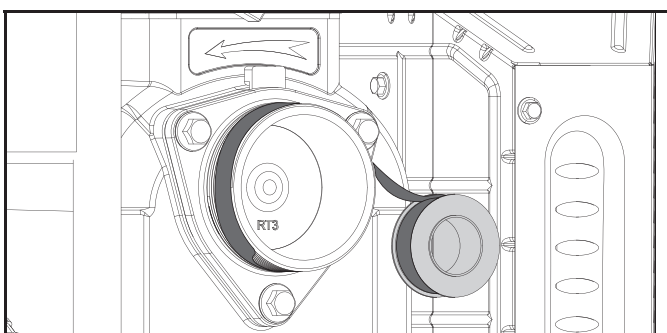
11. Once tightened, visually confirm the hose is raised on the ribs. This indicates you have it tight.



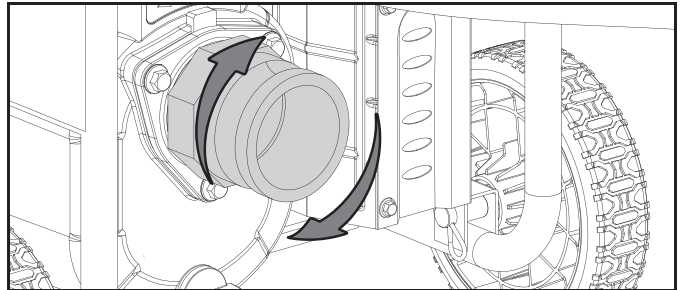
12. Test connection is tight by twisting coupler in the hose to make sure it doesn't turn. If coupling turns, then tighten clamps further until coupling won't turn.



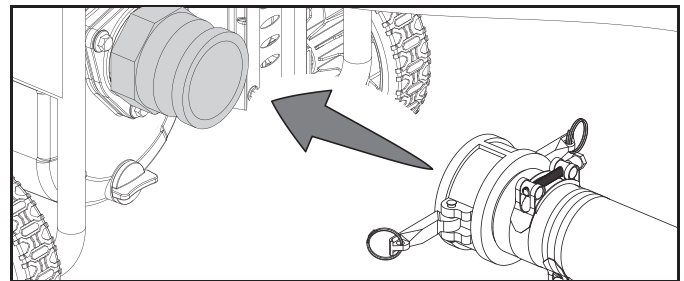
13. Wrap the green inlet clockwise with the Teflon® tape provided with 4 complete wraps.



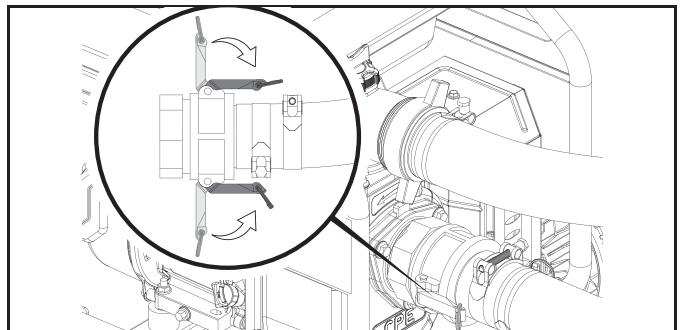
14. Thread the fitting over the tape and hand tighten. Use a pipe wrench with 2.5" (63.5mm) opening min, hand tight then 1 1/2 turn past full tight. This is critical to make sure the fitting is tight so you do not have air leaks.



15. Attach the cam lock coupler to the fitting.



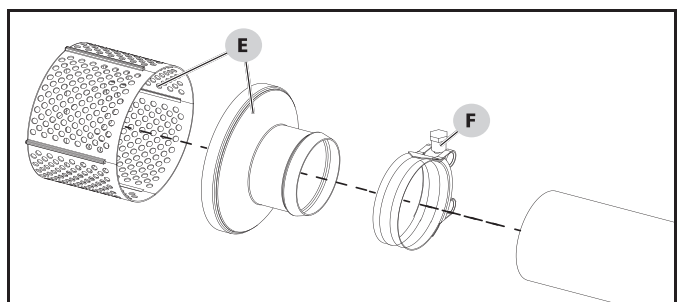
16. Lock in place with the cam levers.



NOTICE

If the cam levers do not clamp down completely, rotate and align the clamp bolts so you have clearance for the cam levers to lock. See step 9 earlier.

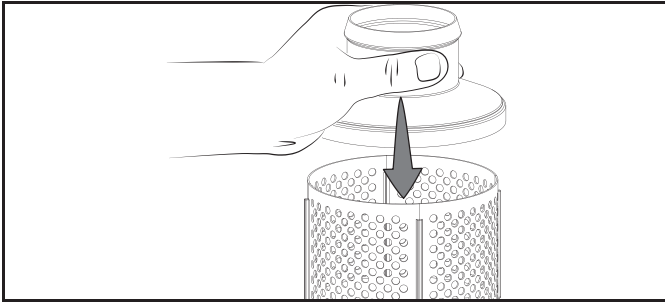
17. Locate the following: filter (E) and 54-57 marked hose clamp (F).



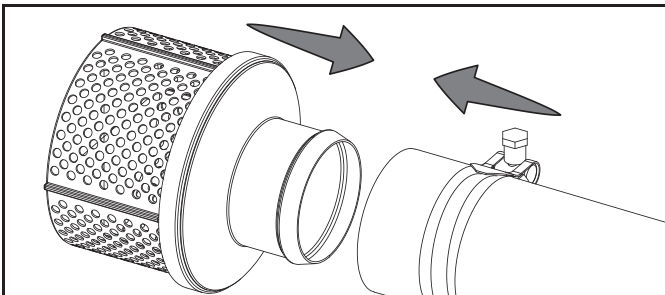
SETUP

Connecting Hoses

18. Snap the filter pieces together.



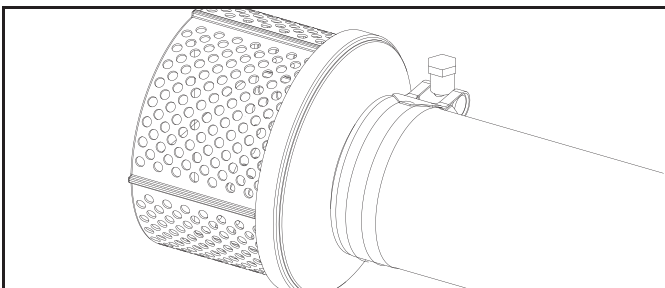
19. Place the clamp marked 54-57 on the other end of the green hose. Attach the strainer to the green suction hose.



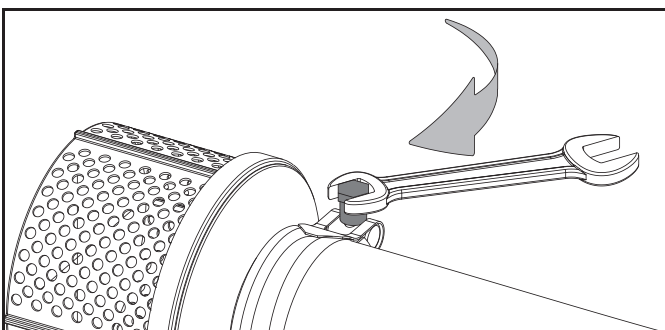
NOTICE

You may use a small amount of dish soap on the filter to help ease the green hose on the filter. Work the soap around the filter with your finger. Then work the green hose on the filter, by twisting and turning until it's fully seated.

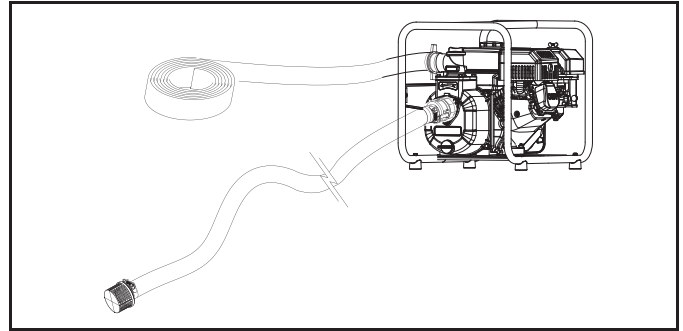
20. Slide the clamp just before the end of the green hose.



21. Tighten the clamp to 7.4 ± 1.5 lbf-ft (10 ± 2 Nm) with a 10mm wrench. If you do not have a torque wrench, hand tight then $\frac{1}{4}$ turn past full tight.



22. You should have everything connected.



Priming the Pump

NOTICE

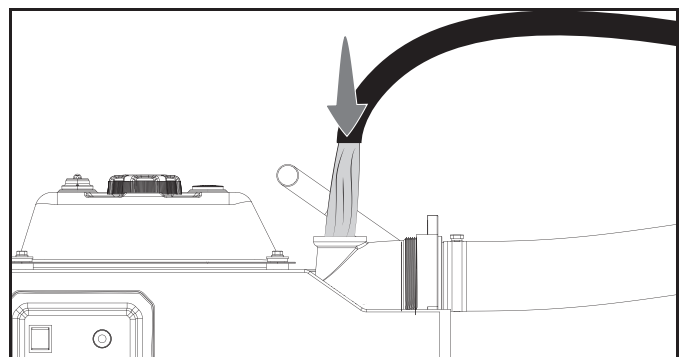
DO NOT run the pump dry.

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.

NOTICE

Ensure the priming plug is secure before pump operation, if not secure the priming plug could be ejected and water or other liquids could be pumped through the top of the outlet flange.

1. Remove the priming cap (top) and fill pump body to the very top of outlet flange with water. Reinstall the priming plug. **DO NOT** over tighten.



2. 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.

OPERATION

Starting the Engine

Before Starting the Engine



Before starting the engine:

- Inspect the equipment and engine.
- Fill the engine with the proper amount and type of both stabilizer-treated unleaded gasoline and oil.

- To start a cold engine, move the Choke to the CHOKE position. To restart a warm engine, leave the Choke in the RUN position.

- Open the Fuel Valve.

- Slide the Throttle to 1/3 away from the SLOW position (the "turtle").

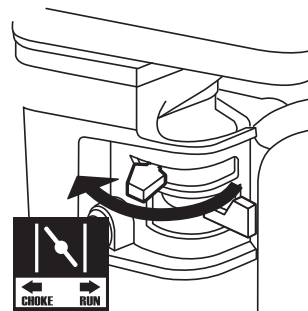
- Turn the Engine Switch on.

Note: If engine does not start, check engine oil level. Engine will not start with low or no engine oil.

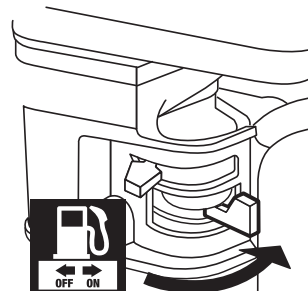
- Grip the Starter Handle of the Engine loosely and pull it slowly several times to allow the gasoline to flow into the Engine's carburetor. Then pull the Starter Handle gently until resistance is felt. Allow Cable to retract fully and then pull it quickly. Repeat until the engine starts.

Note: Do not let the Starter Handle snap back against the engine. Hold it as it recoils so it doesn't hit the engine.

1



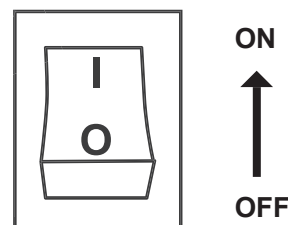
2



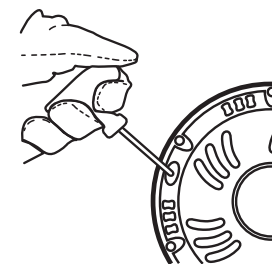
3



4



5

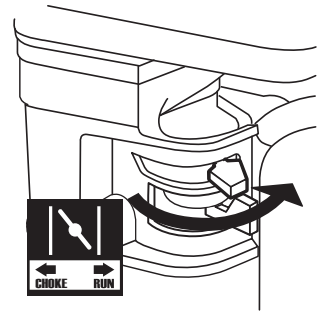


OPERATION

6. Allow the Engine to run for several seconds.
Then, if the Choke lever is in the CHOKE position,
move the Choke Lever very slowly to its RUN position.

NOTE: Moving the Choke Lever too fast could stall the engine.

6



7. Adjust the Throttle as needed.

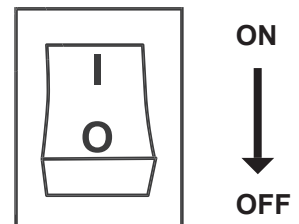
8. **Break-in Period:**

- a. Breaking-in the engine will help to ensure proper equipment and engine operation.
- b. The operational break-in period will last about 3 hours of use. During this period:
 - Do not apply a heavy load to the equipment.
 - Do not operate the engine at its maximum speed.
- c. The maintenance break-in period will last about 20 hours of use. After this period:
 - Change the engine oil. Note: Failure to change the oil regularly may damage the engine and void the warranty.

Under normal operating conditions subsequent maintenance follows the schedule explained in the MAINTENANCE AND SERVICING section.

Stopping the Engine

1. To stop the engine in an emergency,
turn the Engine Switch off.



2. Under normal conditions, use the following procedure:
 - a. Slide the Throttle to SLOW (the "turtle").

a

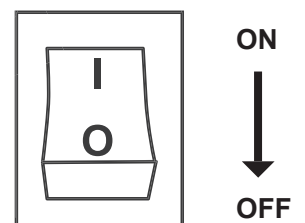


- b. Turn the Engine Switch off.

NOTICE

See "Long-Term Storage" on page 18
for complete storage instructions.

b



WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING:

Turn the Power Switch of the equipment to its "OFF" position, wait for the engine to cool, and disconnect the spark plug cap before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM EQUIPMENT FAILURE:

Do not use damaged equipment. If abnormal noise, vibration, or excess smoking occurs, have the problem corrected before further use.

Follow all service instructions in this manual. The engine may fail critically if not serviced properly.



Many maintenance procedures, including any not detailed in this manual, will need to be performed by a qualified technician for safety. If you have any doubts about your ability to safely service the equipment or engine, have a qualified technician service the equipment instead.

Cleaning, Maintenance, and Lubrication Schedule

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of each piece of equipment will differ depending on factors such as duty cycle, temperature, air quality, fuel quality, and other factors.

Note: The following procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the engine and pump.

Procedure	Before Each Use	Monthly or every 20 hr. of use	Every 3 mo. or 50 hr. of use	Every 6 mo. or 100 hr. of use	Yearly or every 300 hr. of use	Every 2 Years
Brush off outside of engine	✓	✓	✓	✓	✓	✓
Check engine oil level	✓	✓	✓	✓	✓	✓
Check air cleaner	✓		✓	✓	✓	✓
Check deposit cup	✓			✓	✓	✓
Change engine oil		✓		✓	✓	✓
Clean air cleaner			✓*	✓	✓	✓
Check and clean spark plug				✓	✓	✓
1. Check/adjust idle speed 2. Check/adjust valve clearance 3. Clean fuel tank, filter and carburetor 4. Clean carbon build-up from combustion chamber					✓**	✓**
Replace fuel line if necessary						✓**

*Service more frequently when used in dusty areas.

**These items should be serviced by a qualified technician.

BILT HARD

MAINTENANCE

Checking and Filling Fuel



⚠ WARNING! TO PREVENT SERIOUS INJURY FROM FIRE:

Fill the fuel tank in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before adding fuel. Do not smoke.

1. Clean the Fuel Cap and the area around it.
2. Unscrew and remove the Fuel Cap.

Note: Do not use gasoline containing more than 10% ethanol (E10). Do not use E85 ethanol. Add fuel stabilizer to the gasoline or the Warranty is VOID.

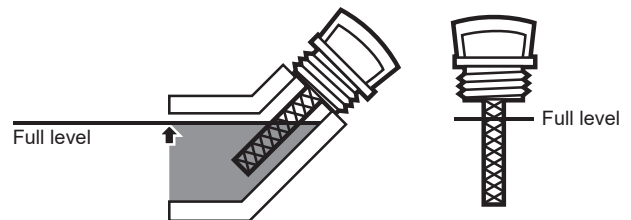
Note: Do not use gasoline that has been stored in a metal fuel container or a dirty fuel container. It can cause particles to enter the carburetor, affecting engine performance and/or causing damage.

3. If needed, fill the Fuel Tank to about 1 inch under the fill neck of the Fuel Tank with 87 octane or higher unleaded gasoline that has been treated with a fuel stabilizer additive. Follow fuel stabilizer manufacturer's recommendations for use.
4. Then replace the Fuel Cap.
5. Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

Engine Oil Change

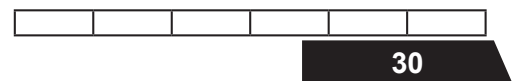
⚠ CAUTION! Oil is very hot during operation and can cause burns. Wait for engine to cool before changing oil.

1. Make sure the engine is stopped and is level.
2. Close the Fuel Valve.
3. Place a drain pan (not included) underneath the crankcase's drain plug.
4. Remove the drain plug and, if possible, tilt the crankcase slightly to help drain the oil out. Recycle used oil.
5. Replace the drain plug and tighten it.
6. Clean the top of the Dipstick and the area around it. Remove the Dipstick by turning it counterclockwise, and wipe it off with a clean, lint free rag.



7. Add the appropriate type of oil until the oil level is at the full level. SAE 10W-30 oil is recommended for general use. The SAE Viscosity Grade chart shows other viscosities to use in different average temperatures.

SAE Viscosity Grades



10W-30

5W-30

-20 0 20 40 60 80 100°F

Average outdoor temperature

8. Thread the dipstick back in clockwise.

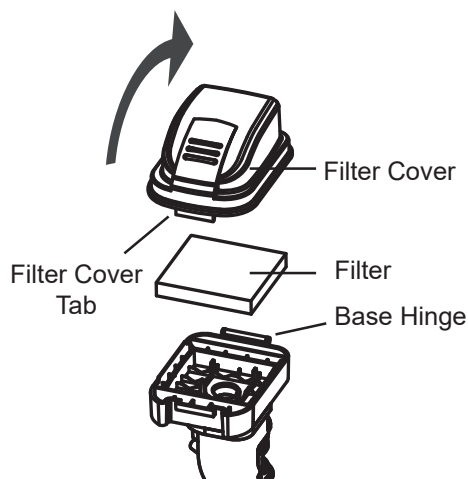
NOTICE: Do not run the engine with too little oil. Engine will not start with low or no engine oil.

BILT HARD

MAINTENANCE

Air Filter Element Maintenance

1. To remove the air filter cover, push in and lift up on the Filter Cover Tab, pivoting the cover at the Base Hinge. Remove the filter and check for dirt. Clean as described below.

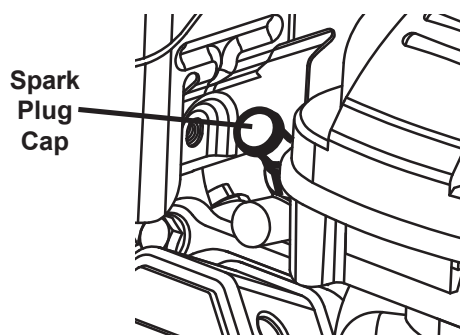


2. **Cleaning:**

- Foam filter element:
Wash the element in warm water and mild detergent several times. Rinse. Squeeze out excess water and allow it to dry completely. Soak the filter in lightweight oil briefly, then squeeze out the excess oil.

3. Install the cleaned filter. Secure the Air Cleaner Cover before use.

Spark Plug Maintenance



1. Disconnect spark plug cap from end of plug. Clean out debris from around spark plug.
2. Using a spark plug wrench, remove the spark plug.
3. Inspect the spark plug:
If the electrode is oily, clean it using a clean, dry rag.
If the electrode has deposits on it, polish it using emery paper. If the white insulator is cracked or chipped, the spark plug needs to be replaced.

Recommended Spark Plug	
Brand	Part #
NGK®	BP-6ES
NHSP®/TORCH®	F6TC

NOTICE: Using an incorrect spark plug may damage the engine.

4. When installing a new spark plug, adjust the plug's gap to the specification on the Technical Specifications chart. Do not pry against the electrode, the spark plug can be damaged.
5. Install the new spark plug or the cleaned spark plug into the engine.
Gasket-style: Finger-tighten until the gasket contacts the cylinder head, then about 1/2-2/3 turn more.
Non-gasket-style: Finger-tighten until the plug contacts the head, then about 1/16 turn more.

NOTICE: Tighten the spark plug properly. If loose, the spark plug will cause the engine to overheat. If overtightened, the threads in the engine block will be damaged.

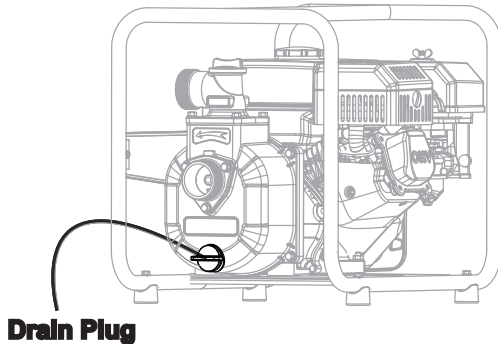
6. Apply dielectric spark plug boot protector (not included) to the end of the spark plug and reattach the wire securely.

BILT HARD

MAINTENANCE

After Each Use

1. Remove drain plug from front of Pump.
2. Tilt Pump forward to drain all remaining water from inside.



Long-Term Storage

When the equipment is to remain idle for longer than 20 days, prepare the engine for storage as follows:

1. **CLEANING:**

Wait for engine to cool, then clean engine with dry cloth. **NOTICE:** Do not clean using water. The water will gradually enter the engine and cause rust damage.

Apply a thin coat of rust preventive oil to all metal parts.

2. **FUEL:**

To protect the fuel tank during storage, fill the tank with gasoline that has been treated with a fuel stabilizer additive. Follow fuel stabilizer manufacturer's recommendations for use. Refer to *Checking and Filling Fuel* on page 14.



⚠ WARNING! TO PREVENT SERIOUS INJURY FROM FIRE:

Fill tank in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before adding fuel. Do not smoke.

3. **LUBRICATION:**

- a. Change engine oil.
- b. Clean out area around spark plug.
Remove spark plug and pour one tablespoon of engine oil into cylinder through spark plug hole.

- c. Replace spark plug, but leave spark plug cap disconnected.
- d. Pull Starter Handle to distribute oil in cylinder. Stop after one or two revolutions when you feel the piston start the compression stroke (when you start to feel resistance).

4. **STORAGE AREA:**

Cover and store in a dry, level, well-ventilated area out of reach of children. Storage area should also be away from ignition sources, such as water heaters, clothes dryers, and furnaces.

NOTICE: For every 3 months of an extended storage period, the pump must be connected to a water supply, primed, started, and allowed to run for 15–20 minutes or the Warranty is VOID.

5. **AFTER STORAGE:**

Before starting the engine after storage, keep in mind that untreated gasoline will deteriorate quickly. Drain the fuel tank and change to fresh fuel if untreated gasoline has been sitting for a month, if treated gasoline has been sitting beyond the fuel stabilizer's recommended time period, or if the engine does not start properly.

MAINTENANCE

Pump Troubleshooting

Problem	Possible Causes	Likely Solutions
Pump overheats	1. Incorrect lubrication or not enough lubrication. 2. Worn parts.	1. Lubricate using recommended oil or grease according to directions. 2. Have qualified technician inspect internal mechanism and replace parts as needed.
Unit stalls	1. Low engine speed. 2. Severely clogged air filter. 3. Improper lubrication.	1. Qualified technician should increase no load speed to 3,800±100 RPM by adjusting pressure switch. 2. Clean air filter. 3. Check for proper oil level.
Pump does not pump water	1. Pump is not primed. 2. Intake Strainer clogged. 3. Air leak at intake connector. 4. Hose leaks. 5. Suction hose has collapsing wall. 6. Hose has too small diameter. 7. Pump is too high above water surface.	1. Prime Pump. 2. Clean Intake Strainer or replace if damaged. 3. Replace Coupling Gasket or tighten clamp. 4. Replace hose. 5. Use hose with non-collapsible wall. 6. Use hose with diameter 2" or greater. 7. Locate Pump at a lower level so it doesn't have to work so hard to lift the water.
Low Pump Output	1. Suction hose collapsed, damaged, too long or diameter is too small. 2. Air leak at connector. 3. Strainer clogged. 4. Discharge hose damaged, too long or diameter too small.	1. Replace or adjust suction hose. 2. Replace Coupling Gasket or tighten Clamp. 3. Clean Strainer. 4. Replace or adjust Discharge Hose.
 Follow all safety precautions whenever diagnosing or servicing the equipment or engine.		

MAINTENANCE

Engine Troubleshooting

Problem	Possible Causes	Probable Solutions
Engine will not start	FUEL RELATED: 1. No fuel in tank or fuel valve closed. 2. Choke not in START position, cold engine. 3. Gasoline with more than 10% ethanol used. (E15, E20, E85, etc.) 4. Low quality or deteriorated, old gasoline. 5. Carburetor not primed. 6. Dirty fuel passageways. 7. Carburetor needle stuck. Fuel can be smelled in the air. 8. Too much fuel in chamber. This can be caused by the carburetor needle sticking. 9. Clogged Fuel Filter.	FUEL RELATED: 1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline and open fuel valve. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Move Choke to START position. 3. Clean out ethanol rich gasoline from fuel system. Replace components damaged by ethanol. Use fresh 87+ octane stabilizer-treated unleaded gasoline only. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 4. Use fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 5. Pull on Starter Handle to prime. 6. Clean out passageways using fuel additive. Heavy deposits may require further cleaning. 7. Gently tap side of carburetor float chamber with screwdriver handle. 8. Turn Choke to RUN position. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug and set Choke to START position. 9. Replace Fuel Filter.
	IGNITION (SPARK) RELATED: 1. Spark plug cap not connected securely. 2. Spark plug electrode wet or dirty. 3. Incorrect spark plug gap. 4. Spark plug cap broken. 5. Incorrect spark timing or faulty ignition system.	IGNITION (SPARK) RELATED: 1. Connect spark plug cap properly. 2. Clean spark plug. 3. Correct spark plug gap. 4. Replace spark plug cap. 5. Have qualified technician diagnose/repair ignition system.
	COMPRESSION RELATED: 1. Cylinder not lubricated. Problem after long storage periods. 2. Loose or broken spark plug. (Hissing noise will occur when trying to start.) 3. Loose cylinder head or damaged head gasket. (Hissing noise will occur when trying to start.) 4. Engine valves or tappets mis-adjusted or stuck.	COMPRESSION RELATED: 1. Pour tablespoon of oil into spark plug hole. Crank engine a few times and try to start again. 2. Tighten spark plug. If that does not work, replace spark plug. If problem persists, may have head gasket problem, see #3. 3. Tighten head. If that does not remedy problem, replace head gasket. 4. Have qualified technician adjust/repair valves and tappets.
	ENGINE OIL RELATED: 1. Low engine oil. 2. Engine mounted on slope, triggering low oil shutdown.	ENGINE OIL RELATED: 1. Fill engine oil to proper level. Check engine oil before EVERY use. 2. Operate engine on level surface. Check engine oil level.



Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

MAINTENANCE

Engine Troubleshooting (cont.)

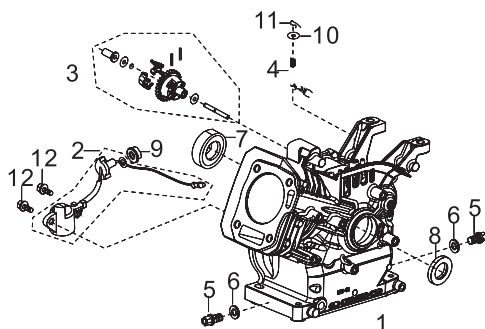
Problem	Possible Causes	Probable Solutions
Engine misfires	1. Spark plug cap loose. 2. Incorrect spark plug gap or damaged spark plug. 3. Defective spark plug cap. 4. Old or low quality gasoline. 5. Incorrect compression.	1. Check cap and wire connections. 2. Re-gap or replace spark plug. 3. Replace spark plug cap. 4. Use only fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 5. Diagnose and repair compression. (Use Engine will not start: COMPRESSION RELATED section.)
Engine stops suddenly	1. Fuel tank empty or full of impure or low quality gasoline. 2. Low oil shutdown. 3. Defective fuel tank cap creating vacuum, preventing proper fuel flow. 4. Faulty magneto. 5. Disconnected or improperly connected spark plug cap.	1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Fill engine oil to proper level. Check engine oil before EVERY use. 3. Test/replace fuel tank cap. 4. Have qualified technician service magneto. 5. Secure spark plug cap.
Engine stops when under heavy load	1. Dirty air filter 2. Engine running cold.	1. Clean element. 2. Allow engine to warm up prior to operating equipment.
Engine knocks	1. Old or low quality gasoline. 2. Engine overloaded. 3. Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems.	1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Do not exceed equipment's load rating. 3. Have qualified technician diagnose and service engine.
Engine backfires	1. Impure or low quality gasoline. 2. Engine too cold. 3. Intake valve stuck or overheated engine. 4. Incorrect timing.	1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Use cold weather fuel and oil additives to prevent backfiring. 3. Have qualified technician diagnose and service engine. 4. Check engine timing.
After sudden impact, engine will run, but equipment will not operate	Shaft key or other shear pin broken by impact to disconnect engine and limit damage.	Have qualified technician check and replace broken shaft key or other shear pins.



Follow all safety precautions whenever diagnosing or servicing the equipment or engine.

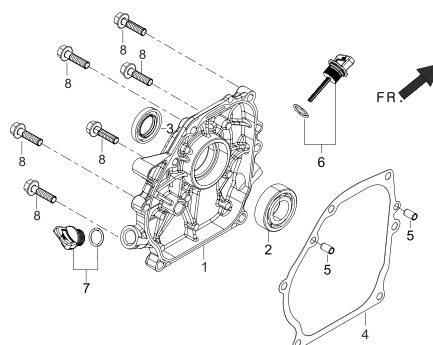
EXPLODED VIEW & PARTS LIST

FIG.1 CRANKCASE./COVER SUBASSEMBLY, CRANKCASE



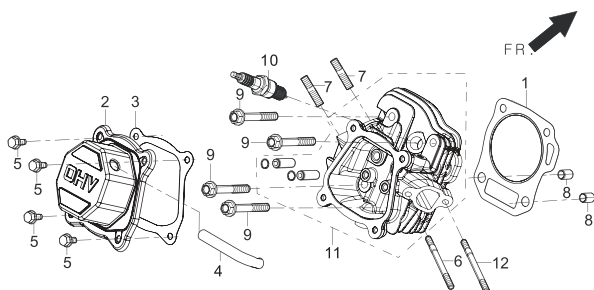
REF.NO.	PART NO	DESCRIPTION	Q'TY
E01-1	11310-Z530420-00A9	CRANKCASE SUBASSEMBLY.	1
E01-2	37060-Z010120-0000	SENSOR, ENGINE OIL	1
E01-3	16400-Z010110-00A0	GEAR ASSY, GOVERNOR	1
E01-4	16061-Z010110-00A0	ARM, GOVERNOR	1
E01-5	11007-Z010110-00A0	BOLT, DRAIN PLUG	2
E01-6	90408-Z010110-00A0	FLAT WASHER	2
E01-7	90548-0205-CLA0	DEEP GROOVE BALL BEARING	1
E01-8	90682-Z300110-00A0	SEAL, OIL	1
E01-9	90305-Z010210-01A0	HEXAGON NUT WITH FLANGE	1
E01-10	90408-Z010210-00A0	FLAT WASHER	1
E01-11	90501-Z010110-0000	COTTER PIN	1
E01-12	90001-0614-01A0	BOLT	2

FIG.2 COVER SUBASSEMBLY, CRANKCASE



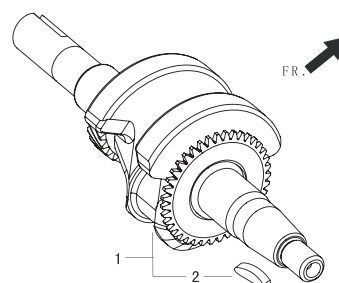
REF.NO.	PART NO	DESCRIPTION	Q'TY
E02-1	11411-Z440410-00A0	COVER, CRANKCASE	1
E02-2	90548-0205-CLA0	DEEP GROOVE BALL BEARING	1
E02-3	90682-Z300110-00A0	SEAL, OIL	1
E02-4	11001-Z440110-00A0	GASKET, CRANKCASE	1
E02-5	90502-0912-00A0	POSITION PIN - TYPE A	2
E02-6	15010-Z010130-Q500	DIPSTICK SUBASSEMBLY, OIL	1
E02-7	15030-Z010130-Q500	PLUG SUBASSEMBLY, ENGINE OIL	1
E02-8	90001-0832-01A0	HEXAGON SOCKET FLANGE FACE BOLT - SMALL SERIES	6

FIG.3 HEAD SUBASSEMBLY, CYLINDER / PLUG,SPARK



REF.NO.	PART NO	DESCRIPTION	Q'TY
E03-1	12131-Z950110-00A0	GASKET, CYLINDER HEAD	1
E03-2	12410-Z440110-0099	COVER SUBASSEMBLY, CYLINDER HEAD	1
E03-3	12004-Z440110-00A0	CYLINDER HEAD COVER GASKET	1
E03-4	17004-Z010310-00A0	TUBE, BREATHER	1
E03-5	90001-0612-01A0	HEXAGON SOCKET FLANGE FACE BOLT - SMALL SERIES	4
E03-6	90204-Z010310-0000	STUD BOLT	1
E03-7	90203-Z010110-0000	STUD BOLT	2
E03-8	90502-1114-00A0	POSITION PIN - TYPE A	2
E03-9	12003-Z010110-00A0	CYLINDER HEAD BOLT	4
E03-10	30010-Z010210-00A0	PLUG, SPARK	1
E03-11	12140-Z810210-00A0	HEAD SUBASSEMBLY, CYLINDER	1
E03-12	90204-Z010310-0000	STUD BOLT	1

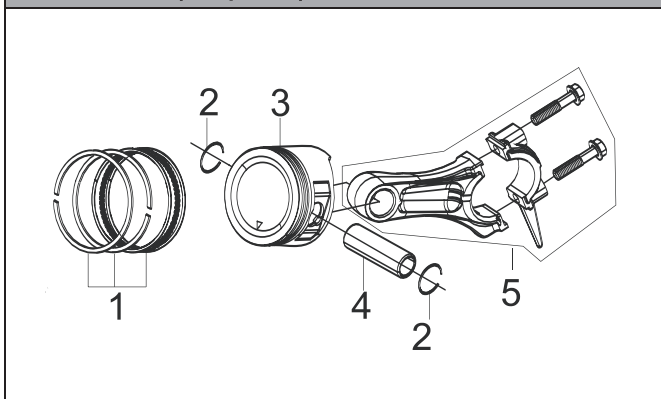
FIG.4 ROD,CRANKSHAFT CONNETING



REF.NO.	PART NO	DESCRIPTION	Q'TY
E04-1	13300-Z533210-00A0	CRANKSHAFT ASSY.	1

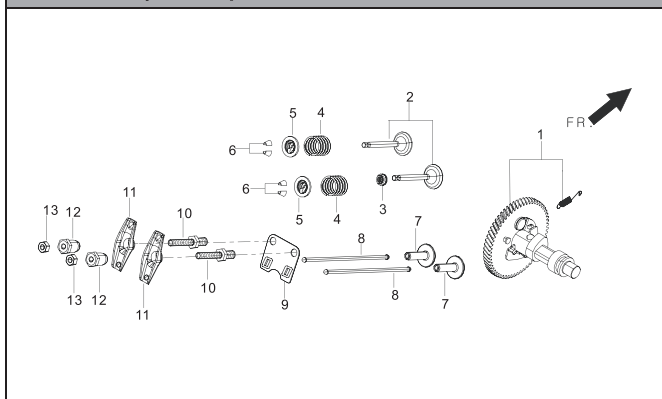
EXPLODED VIEW & PARTS LIST

FIG.5 RING SET,OIL / ROD,CRANKSHAFT CONNETING



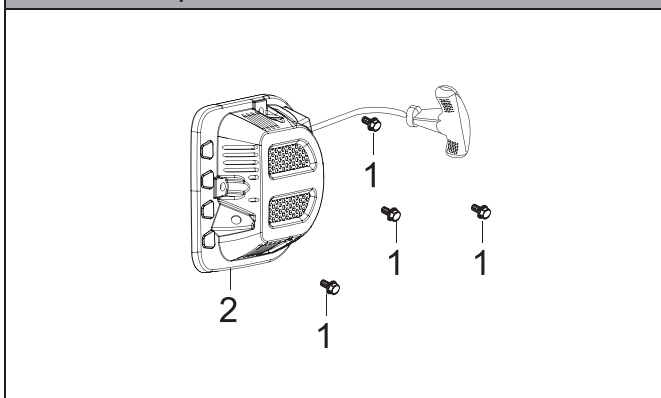
REF.NO.	PART NO	DESCRIPTION	Q'TY
E05-1	13200-Z140210-00A9	RING ASSY, PISTON	1
E05-2	13122-Z010110-00A0	CLIP, PISTON PIN	2
E05-3	13111-Z140220-00A9	PISTON	1
E05-4	13121-Z010110-00A0	PIN, PISTON	1
E05-5	13010-Z440210-00A9	ROD, CONNECTING	1

FIG.6 TRAIN,VALVE / CAMSHAFT SUBASSEMBLY



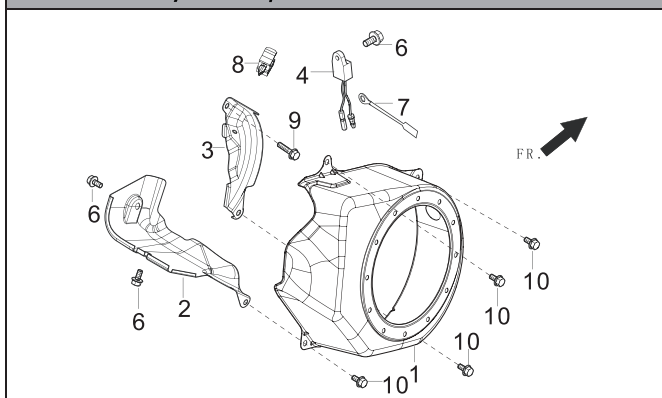
REF.NO.	PART NO	DESCRIPTION	Q'TY
E06-1	14200-Z530210-00A9	CAMSHAFT ASSY.	1
E06-2	12110-Z810120-00A9	VALVES SET	1
E06-3	12101-Z810210-00A0	GUIDE, SEAL	1
E06-4	12103-Z010110-00A0	SPRING, VALVE	2
E06-5	12112-Z810210-00A0	SEAT, VALVE SPRING	2
E06-6	12109-Z810110-00A0	CLAMP, VALVE LOCK	4
E06-7	14081-Z040110-00A0	TAPPET, VALVE	2
E06-8	14071-Z440110-00A0	LIFTER, VALVE	2
E06-9	14090-Z010110-0000	PLATE SUBASSEMBLY, LIFTER STOPPER	1
E06-10	14313-Z010110-00A0	ROCKSHAFT BOLT	2
E06-11	14311-Z010110-00A0	ROCKER, VALVE	2
E06-12	14314-Z010110-00A0	NUT, VALVE ADJUSTING	2
E06-13	14312-Z010110-00A0	NUT, VALVE LOCK	2

FIG.7 STARTER,RECOIL



REF.NO.	PART NO	DESCRIPTION	Q'TY
E07-1	90001-0612-01A0	HEXAGON SOCKET FLANGE FACE BOLT - SMALL SERIES	4
E07-2	28200-Z010410-Q200	STARTER ASSY, RECOIL	1

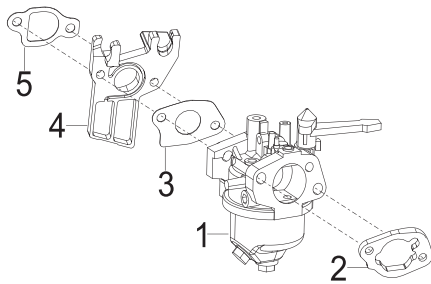
FIG.8 SHROUD / SHIELD,LOWER



REF.NO.	PART NO	DESCRIPTION	Q'TY
E08-1	28110-Z010410-BK00	SHROUD	1
E08-2	19304-Z010610-0000	SHROUD, CYLINDER BODY	1
E08-3	19340-Z010810-00A0	SHIELD, LOWER	1
E08-4	37050-Z010210-0000	PROTECTOR, OIL	1
E08-6	90001-0610-01A0	HEXAGON SOCKET FLANGE FACE BOLT - SMALL SERIES	3
E08-7	30009-Z010110-0000	GROUNDING	1
E08-8	90740-Z010110-0000	COLLAR	1
E08-9	90001-0616-01A0	BOLT	1
E08-10	90001-0612-01A0	HEXAGON SOCKET FLANGE FACE BOLT - SMALL SERIES	4

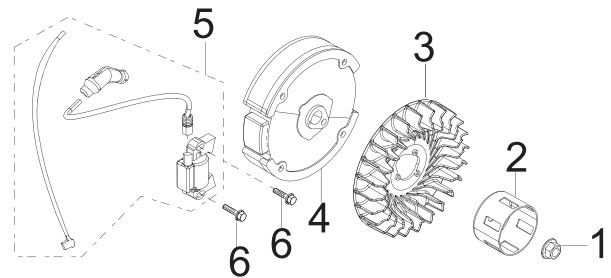
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FIG.9 CARBURETOR ASSY.



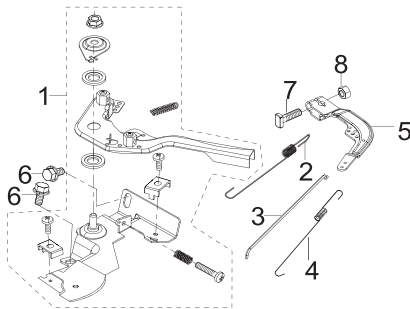
REF.NO.	PART NO	DESCRIPTION	Q'TY
E09-1	16100-Z530610-00A9	CARBURETOR ASSY.	1
E09-2	17001-Z010210-0000	AIR CLEANER SEAL GASKET	1
E09-3	16001-Z010110-0000	CARBURETOR SEAL GASKET	1
E09-4	16003-Z010110-00A0	PLATE, CARBURETOR INSULATOR	1
E09-5	16002-Z010110-0000	GASKET, CARBURETOR INSULATOR	1

FIG.10 FLYWHEEL / IMPELLER / STARTER PULLEY / IGNITION COIL



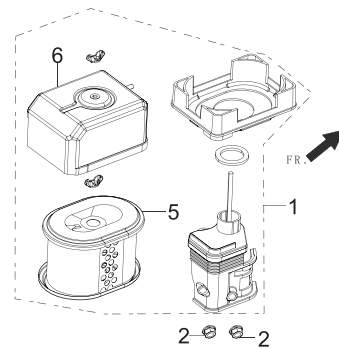
REF.NO.	PART NO	DESCRIPTION	Q'TY
E10-1	13501-Z010110-00A0	NUT, FLYWHEEL	1
E10-2	28002-Z010310-0000	PULLEY, STARTER	1
E10-3	19352-Z440210-00A0	IMPELLER	1
E10-4	13510-Z440410-00A0	FLYWHEEL SUBASSEMBLY	1
E10-5	30400-Z540110-0000	COIL, IGNITION	1
E10-6	90001-0625-01A0	BOLT	2

FIG.11 CONTROL ASSY, THROTTLE



REF.NO.	PART NO	DESCRIPTION	Q'TY
E11-1	16520-Z010230-0000	CONTROL ASSY, THROTTLE	1
E11-2	16063-Z050410-0000	SPRING, GOVERNOR	1
E11-3	16062-Z010110-00A0	ROD, GOVERNOR	1
E11-4	16012-Z010110-00A0	SPRING, THROTTLE VALVE RETURNING	1
E11-5	16070-Z010110-0000	SUBASSEMBLY	1
E11-6	90001-0610-01A0	BOLT	2
E11-7	16072-Z010110-00A0	BOLT, GOVERNOR SUPPORT	1
E11-8	90305-0600-31A0	HEXAGON NUT WITH FLANGE	1

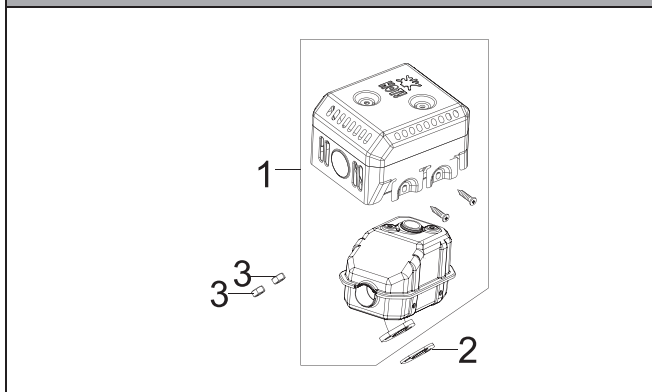
FIG.12 CLEANER, AIR



REF.NO.	PART NO	DESCRIPTION	Q'TY
F01-1	17100-Z011110-0099	AIR CLEANER	1
F01-2	90305-0600-31A0	HEXAGON NUT WITH FLANGE	2
F01-5	17150-Z010110-0000	ELEMENT, AIR CLEANER	1

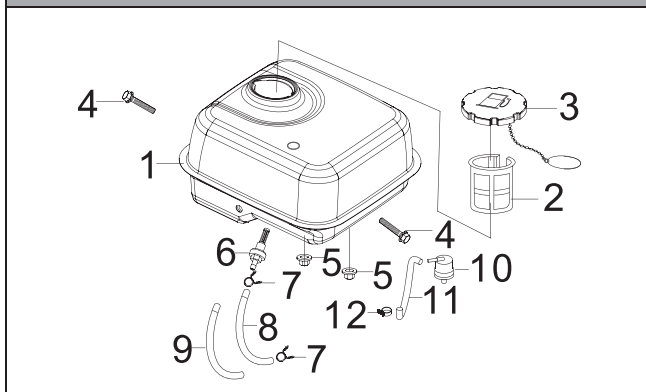
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FIG.13 MUFFLER ASSY.



REF.NO.	PART NO	DESCRIPTION	Q'TY
F02-1	18100-Z440110-00A0	MUFFLER ASSY.	1
F02-2	18001-Z440110-0000	GASKET, EXHAUST OUTLET	1
F02-3	90303-0800-31A0	TYPE 1 HEXAGON NUT	2

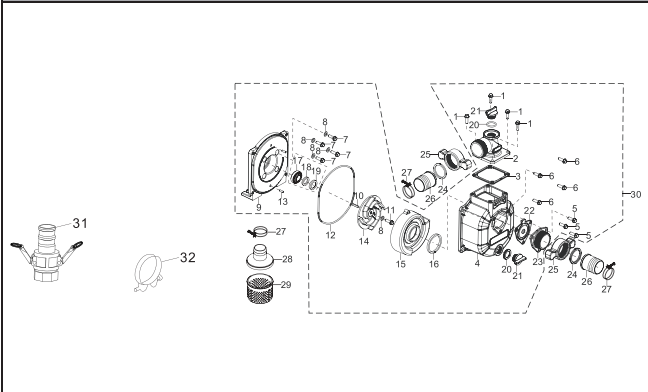
FIG.14 TANK ASSY, FUEL



REF.NO.	PART NO	DESCRIPTION	Q'TY
F03-1	16620-Z440720-BKA0	FUEL TANK	1
F03-2	16652-Z010610-00A0	STRAINER, FUEL	1
F03-3	16730-Z440330-0099	COVER, FUEL TANK	1
F03-4	90001-0630-01A0	BOLT	1
F03-5	90305-0600-31A0	HEXAGON NUT WITH FLANGE	2
F03-6	16680-Z010110-00A0	OUTLET SUBASSEMBLY, FUEL TANK OIL	1
F03-7	90740-Z010510-00A0	COLLAR	1
F03-8	90686-Z010710-00M1	TUBE, FUEL	1
F03-9	30431-Z010110-0000	JACKET, RUBBER	1
F03-10	15150-Z010510-00A0	VALVE, ONE WAY	1
F03-11	16804-Z440310-0099	HOSE, FUEL STEAM RUBBER	1
F03-12	90685-D105-0EA0	PIPE CLAMP	1
F03-13	90740-Z010510-00A0	COLLAR	1

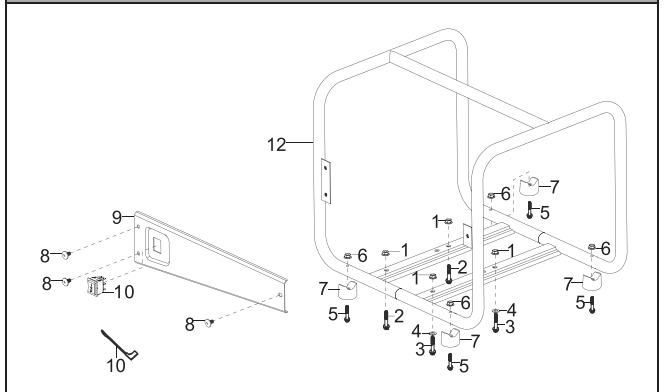
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FIG.15 PUMP COMPONENTS



REF.NO.	PART NO	DESCRIPTION	Q'TY
F61-1	90001-0820-01	BOLT	4
F61-2	70108-V330610-WT00	OUTLET, WATER	1
F61-3	70109-V330110-0000	GASKET, OUTLET	1
F61-4	70105-V330210-WT00	PUMP BODY	1
F61-5	90001-0820-01	BOLT	3
F61-6	90001-0825-01	BOLT	4
F61-7	90001-V020110-0000	BOLT	4
F61-8	90409-V260110-0000	SEAL WASHER	5
F61-9	70118-V330110-WT00	JOINT, WATER PUMP	1
F61-10	90522-V010110-0000	GENERAL FLAT KEY	1
F61-11	90001-V070110-0000	BOLT	1
F61-12	70119-V330110-0000	CUSHION, WATER PUMP JOINT	1
F61-13	90505-0618-00	CYLINDRICAL PIN - AUSTENITE	2
F61-14	70102-V330110-0000	IMPELLER, WATER PUMP	1
F61-15	70103-V330110-0000	CASE, WHORL	1
F61-16	70104-V330110-0000	RIGN, WHORL CASE SEALING	1
F61-17	70300-V260210-0000	SEAL ASSY, MECHANISM	1
F61-18	70309-V260210-0000	SEAL, PORCELAIN	1
F61-19	70125-V260210-0000	RING, IMPELLER SEAL	1
F61-20	70122-V260110-0000	WASHER, SCREW PLUG	2
F61-21	70107-V330110-0000	PLUG, THREAD	2
F61-22	70115-V330110-0000	GASKET, INLET WATER	1
F61-23	70116-V330210-WT00	INLET, WATER	1
F61-24	70131-V260210-0000	RING, HOSE JOINT SEAL	2
F61-25	70111-V260710-0K00	JOINT, HOSE	2
F61-26	70112-V260510-0000	INTERFACE, HOSE	2
F61-27	70400-V010210-0000	HOOP SUBASSEMBLY, HOSE	3
F61-28	70113-V260210-0000	COVER, FILTER	1
F61-29	70114-V260210-0000	FILTER	1
F61-30	70100-V332310-WT00	PUMP ASSY, WATER	1
F61-31	70134-V580110-0P00	WATER PUMP QUICK COUPLING	1
F61-32	70400-V010210-0000	HOOP SUBASSEMBLY, HOSE	1

FIG.16 FRAME ASSY, ENGINE



REF.NO.	PART NO	DESCRIPTION	Q'TY
F04-1	90327-0800-31A0	HEXAGON NUT WITH FLANGE	4
F04-2	90001-0835-01A0	BOLT	2
F04-3	90001-0825-01A0	BOLT	2
F04-4	90406-0800-E1A0	WASHER, FLAT	2
F04-5	90001-0635-01A0	BOLT	4
F04-6	90305-0600-31A0	HEXAGON NUT WITH FLANGE	4
F04-7	51014HX090120-0000	SEAT, ENGINE FRAME SHOCK ABSORPTION	4
F04-8	90111-Y460110-0000	SCREW, INNER HEX. FLAT	3
F04-9	51025-V330110-H7A0	ENGINE FRAME DECORATED PLATE	1
F04-10	35160-Y450110-QG00	SWITCH SUBASSEMBLY	1
F04-11	35541-V330120-0000	WIRE, STOP ENGINE	1
F04-12	51100-V330210-H7L0	FRAME ASSY, ENGINE	1

WARRANTIES

Combined Exhaust and Evaporative Emissions Control Warranty Statement

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency and DU DU GROUP (DU DU) are pleased to explain the emission control system warranty on your 2025/2026 model year small off-road engine/equipment. In the United States, new small off-road engine/equipments must be designed, built and equipped to meet stringent anti smog standards. DU DU must warrant the emission control system on your small off-road engine/equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine/equipment.

Where a warrantable condition exists, DU DU will repair your small off-road engine/equipment at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

This emissions control system is warranted for two years. If any emission-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by DU DU.

OWNER'S WARRANTY RESPONSIBILITIES:

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

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

If you have any questions regarding your warranty rights and responsibilities, you should contact DU DU GROUP at (888)680-2849 or inquiry@bilthardusa.com.

DEFECTS WARRANTY REQUIREMENTS:

- (a) The warranty period begins on the date the engine/equipment is delivered to an ultimate purchaser.
- (b) General Emissions Warranty Coverage. DU DU warrants to the ultimate purchaser and each subsequent owner that the engine/equipment is:
 - (1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Environmental Protection Agency.
 - (2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

(c) Warranty Parts for Exhaust Emission.

- (1) Fuel System
- (2) Air Induction System
- (3) Ignition System

The following parts are also considered emission related components for exhaust emissions, if applicable

- (1) Exhaust Gas Recirculation (EGR) System
- (2) Aftertreatment devices.
- (3) Crankcase ventilation valves.
- (4) Sensors.
- (5) Electronic control units.

(d) Warranty Parts for Evaporative Emission include fuel tank, fuel cap, fuel line and fittings, carbon canister, vapor hoses. They may also include, if applicable, liquid/vapor separator, clamps, pressure relief valves, etc.

Du Du will furnish with each new engine/equipment written instructions for the maintenance and use of the engine/equipment by the owner.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

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