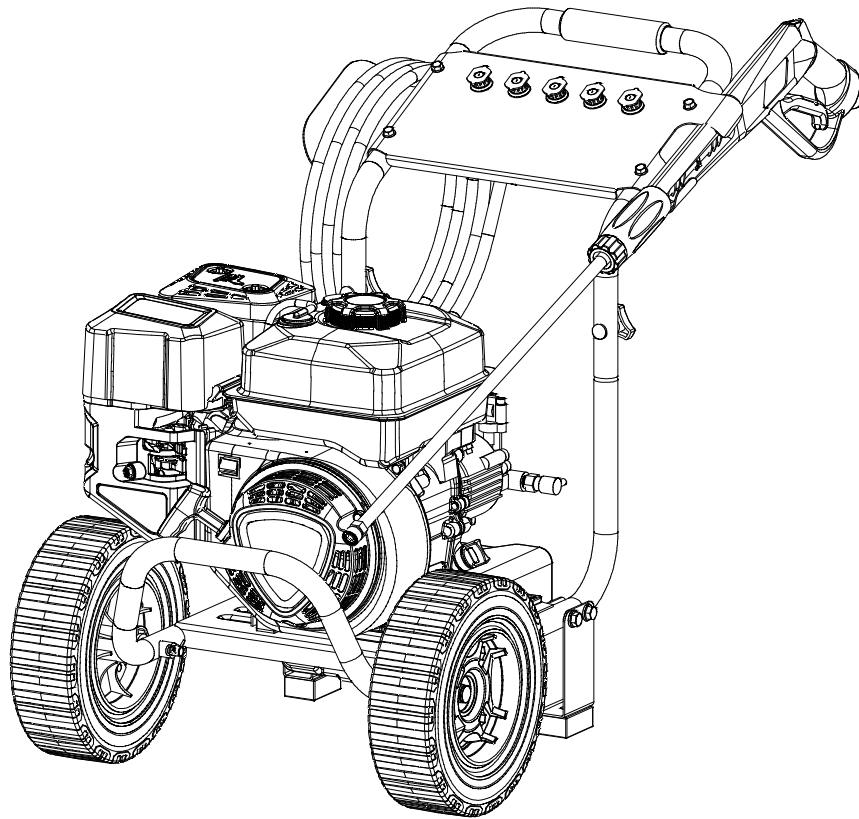


BILT HARD®

Save This Manual for Future Reference

Original Instruction



Pressure Washer Operator's Manual

MODEL NUMBER : **THA-0352**

SERIAL NUMBER :

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.

FOR YOUR SAFETY

**READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE
OPERATING MACHINE**

Customer Support (888) 680-2849, inquiry@bilthardusa.com

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SPECIFICATIONS		
Model		THA-0352
Max pressure(PSI)		3500
Max flow(GPM)		2.5
Engine model		YF172F
Engine displacement(Cu.Centimeters)		224cc
Pump type		Axial pump
Number of spray tips included		5
Hose length(feet)		25feet(7.6m)
Wheel type		10 inch PU Foam wheel
Start type		Recoil start
Fuel	Type	87+ octane, stabilizer-treated unleaded gasoline
	Capacity	0.9gal(3.5L)
Engine Oil	Type SAE	10W-30
	Capacity	20.3 fl.oz.(600ml)
Bore x Stroke		72 mm x 55 mm
Spark Plug	Type	F6RTC
	Gap	0.024"– 0.028"
Valve Clearance	Intake	0.004"– 0.006"
	Exhaust	0.004"– 0.006"
Assembled weight(lbs)		61.2lbs(27.76kg)
Hose diameter(inch)		0.59lbs(15mm)

NOTICE We are always working to improve our products. Therefore, final product may vary from images shown.

SET UP



Read the entire “SAFETY” 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.



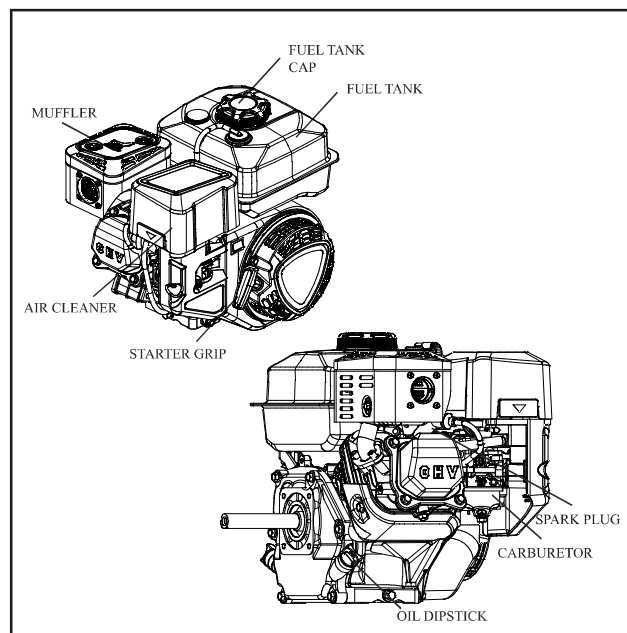
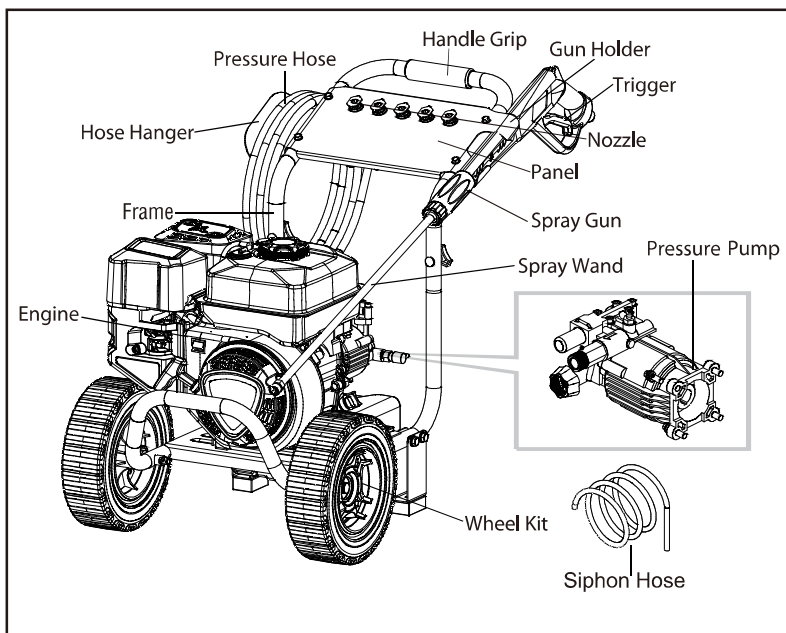
Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required.

The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING: Turn the Engine Switch of the equipment to its “OFF” position, wait for the engine to cool, and unplug the spark plug wire(s) before assembling or making any adjustments to the equipment.

NOTICE For additional information regarding the parts listed in the following pages, refer to the “PARTS LIST AND DIAGRAM” on Page 25-29.

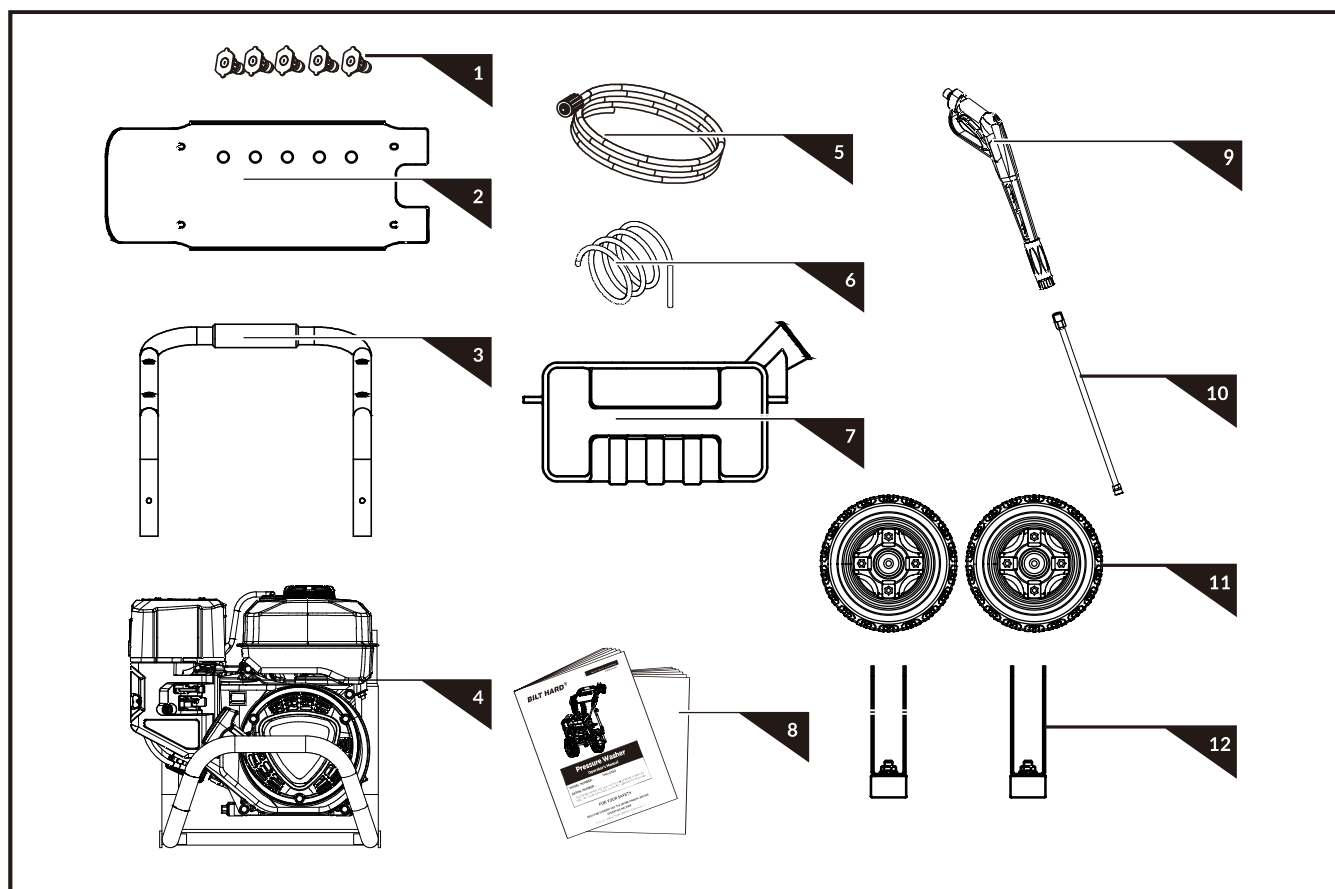
Pressure Washer Components



SET UP

Contents Supplied

The pressure washer comes partially assembled and is shipped in carefully packed package. After all the parts have been removed from the package, you should have:



1.Nozzles

2.Panel

3.Handle Grip

4.Engine

5.Pressure Hose

6.Siphon Hose

7.Detergent Tank.

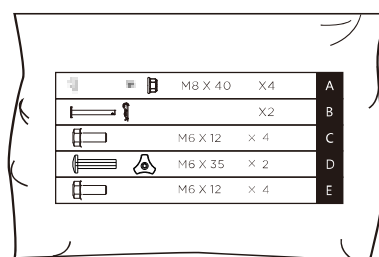
8.Operator' s Manual

9.Spray Gun

10.Spray Gun Wand

11.Wheels

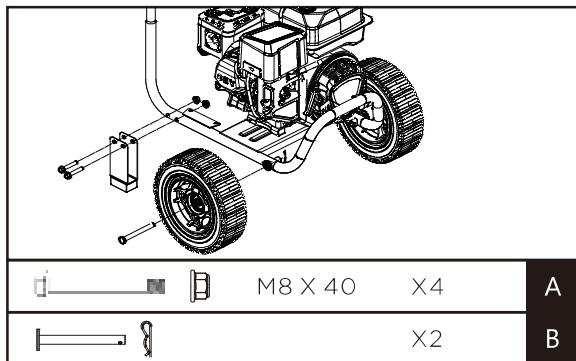
12.Support Leg



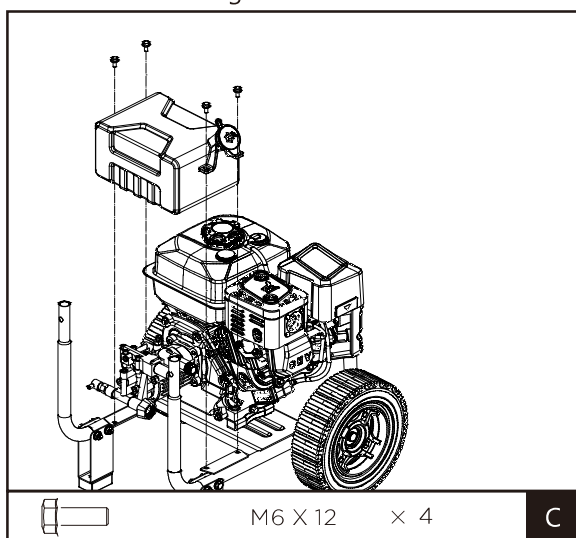
SET UP

Assembly

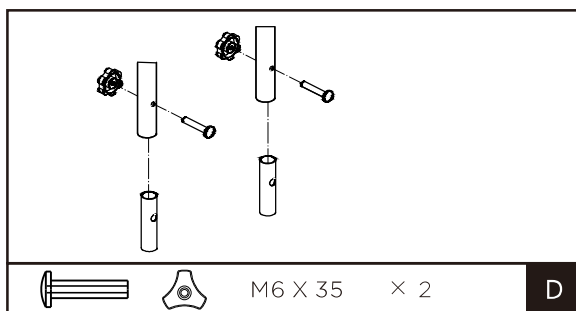
1. Install Wheels and Foot Inserts.



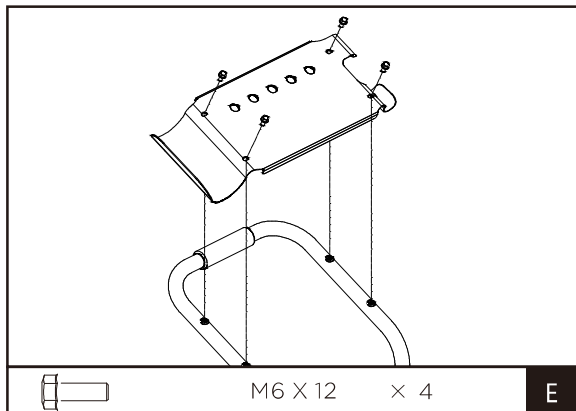
2. Install the Detergent Tank.



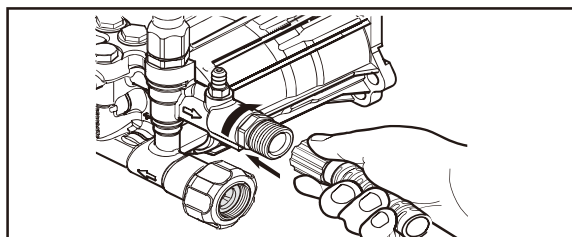
3. Attach the Handle on the Frame.



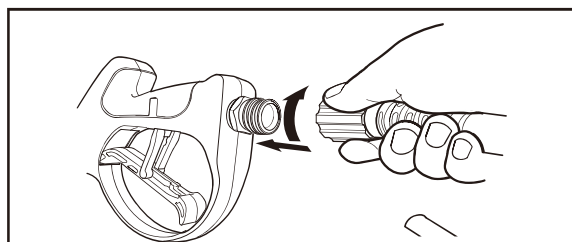
4. Install the Panel.



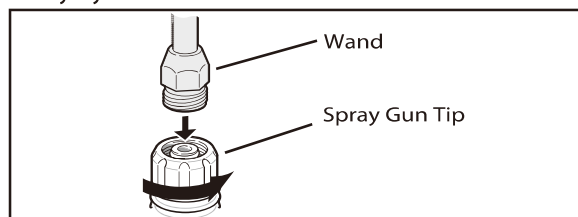
5. Connect the Pressure Hose to the Pump outlet fitting and tighten the nut firmly by hand.



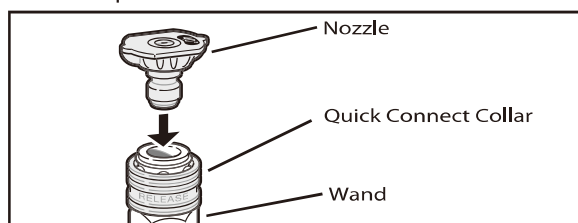
6. Connect the Pressure Hose to the handle of the Spray Gun and tighten the nut firmly by hand.



7. Remove the protective cap on the Wand inlet. Insert the Wand into the Spray Gun tip and tighten the nut firmly by hand.



8. Attach the Nozzle to the Wand by pulling back the quick connect collar and pushing the Nozzle onto the end of the Wand. Make sure the quick connect collar locks the Nozzle in place.

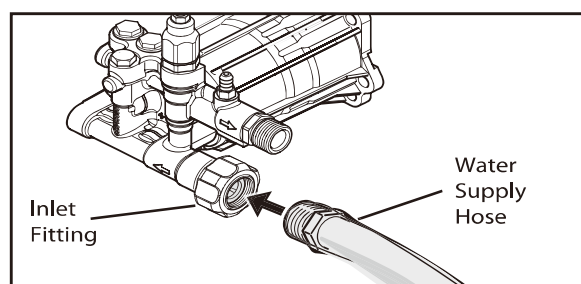


9. Connect the water supply hose to the water inlet connection on the Pump and tighten the Inlet Fitting firmly by hand.

The water source must be able to provide a minimum of five gallons of clean, cold water per minute at 20PSI. Only use a 5/8" inner diameter (or larger) hose that is rated to meet this capacity.

NOTE:

Before installing the water pump, ensure that the water inlet filter is installed



SET UP

General Information

Fuel	. Use fresh high quality unleaded gasoline (minimum 87 octane) . Add stabilizer (not supplied) to fuel tank and run engine for 5 minutes before storage.
Oil	. Engine oil: Use only SAE 10W-30, 0.6 Quart non-detergent oil.
Water	. Use only cold water. . Do not operate pressure washer with clogged or missing water filter screen. . Do not operate pressure washer without adequate water supply.
Pressure Adjustment	. Pressure setting is pre-set at factory. . For lowering pressure, refer to "Pressure Adjustment" on Page 16.
Pressure Pump	. Do not allow water to freeze in pump.
Thermal Relief Valve	. Pump is equipped with a thermal relief valve. If water overheats, this valve opens releasing gush of water. Afterwards, the valve closes returning pump to normal operation.
Pressure Hose	. Do not allow hoses to come in contact with engine muffler during use or immediately after use. . DO NOT pull unit by pressure hose.
Engine	. Do not adjust or attempt maintenance without reading owner's manual. . Always turn on water before starting engine.
Soap/Chemicals	. Use only soaps and chemicals detergents designed for pressure washer use.
Nozzle	. Always keep nozzles unclogged. Use the nozzle needle to clean if clogged. . Use ONLY detergent nozzle(black) when using chemical and cleaning solvents.
Storage or Winterizing	. Run clean water through chemical inlet. . Add stabilizer to any remaining fuel in fuel tank. . Do not allow water to freeze in pressure pump, spray gun, spray wand or hoses.

OPERATION



Read the entire "SAFETY" section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Improper treatment of Pressure Washer can damage internal components and shorten the life of unit. Failure to follow this warning will void warranty.

Pre-Start Checks

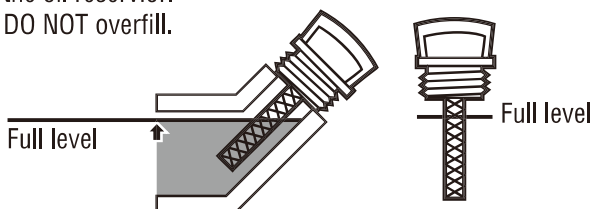
Inspect engine and equipment looking for damaged, loose and missing parts before set up and starting. If any problems are found, do not use equipment until fixed properly

1. Adding Engine Oil

NOTICE Your Warranty is VOID if the engine's crankcase is not properly filled with oil before each use. Before each use, check the oil level.

Engine will not start with low or no engine oil.

- 1.1 Move the Pressure Washer OUTSIDE and place on a flat and level surface.
- 1.2 Make sure the engine is stopped and is level.
- 1.3 Close the Fuel Valve.
- 1.4 Clean the top of the Dipstick and the area around. Remove the Dipstick by turning it counterclockwise, and wipe it off with a clean, lint free rag.
- 1.5 Place funnel in the oil reservoir.
- 1.6 Pour engine oil (SAE 10W-30 is recommended for general use) until oil level reaches the threads inside the oil reservoir. DO NOT overfill.



- 1.7 Reinsert the Dipstick without threading it in and remove it to check the oil level. The oil level should be up to the full level as shown above.
- 1.8 If the oil level is at or below the low mark, add the appropriate type of oil until the oil level is at the proper level. (The SAE Viscosity Grade Chart on page 16 in the "MAINTENANCE" section shows other viscosities to use in different average temperatures.)
- 1.9 Replace the dipstick and fully tighten.

NOTICE Do not run the engine with too little oil. Engine will shut off if engine oil level is too low.

2. Adding Fuel



WARNING Fuel and fuel vapor are extremely flammable and explosive. Fire or explosion from misuse of fuel can cause severe burns and even death. Failure to use fuel as recommended in this manual will void the warranty.

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.

NOTICE 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.

- 2.1 Move the Pressure Washer OUTSIDE and place on a flat and level surface.
- 2.2 Clean the Fuel Cap and the area around it.
- 2.3 Unscrew and remove the Fuel Cap.
- 2.4 Remove the Strainer and remove any dirt and debris. Then replace the Strainer.
- 2.5 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.
- 2.6 Then replace the Fuel Cap.
- 2.7 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.

NOTICE When adding fuel to pressure washer, observe the following:

DO NOT use unapproved gasoline such as E85 (85% ethanol/15% gasoline).

DO NOT mix oil with gasoline.

DO NOT modify engine to run on alternate fuels.

Turn Pressure Washer OFF and let it cool for at least two minutes before removing fuel cap. Loosen fuel cap slowly to release pressure. Keep fuel away from sparks, open flames, pilot lights, heat and other ignition sources.

DO NOT light a cigarette or smoke near open flames, pilot lights, heat and other ignition sources.

DO NOT light a cigarette or smoke near open fuel tank or container.

Clean area around fuel fill cap and slowly remove cap to allow any pressure to escape.

Install fuel cap and allow any spilled fuel to evaporate before starting engine.

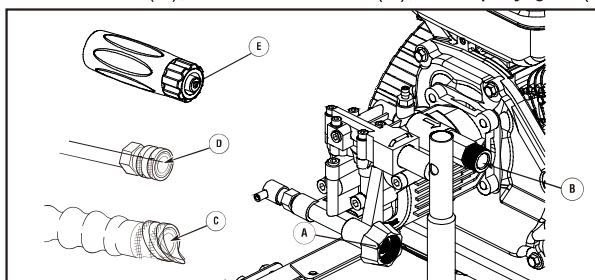
OPERATION

Pre-Start Checks (Continued)

3. Lubricate O-Rings

Lubrication of o-rings is extremely important for installation and operation. The use of a lubricant (petroleum or synthetic grease) during assembly helps seat o-rings properly and provides an improved seal. It also helps protect the o-ring from damage by abrasion, pinching or cutting and extends the life of the o-ring.

NOTICE ALWAYS apply a small amount of lubricant on o-rings prior to assembling the garden hose to the pump inlet (A), high pressure hose to pump outlet (B), high pressure hose (C), nozzle extension (D), and spray gun (E).



Lubricate all connections shown below, following these instructions:

- 3.1 Inspect and clean connecting surfaces prior to lubrication and assembly.
- 3.2 Use lubricants sparingly during assembly; a light film is all that is required.
- 3.3 Use a small brush or cotton swab to apply grease directly to o-rings where they are not accessible (QC fitting, M22 fitting).

Starting The Engine

WARNING Before Starting the Engine

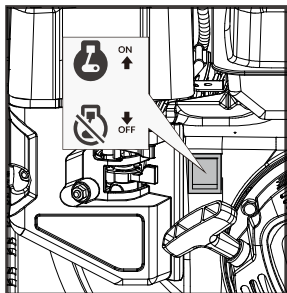
- Inspect the equipment and engine.
- Fill the engine with the proper amount and type of both stabilizer-treated unleaded gasoline and oil.

TURN ON WATER SUPPLY, REMOVE NOZZLE, POINT WAND IN SAFE DIRECTION, AND HOLD DOWN TRIGGER UNTIL ALL AIR IS RELEASED FROM THE SYSTEM, THE SPRAY WAND CONTINUOUS WATER.

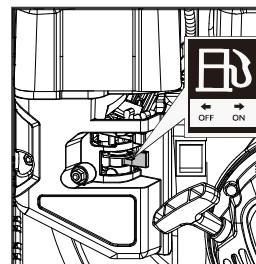
Then release the Trigger and replace Nozzle before starting engine.

Starting Engine

1. Move the engine switch to the ON position.

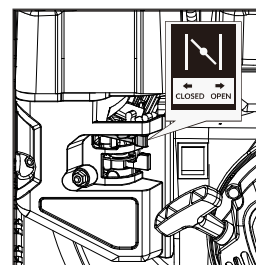


2. Open the fuel shut-off valve.



3. Move the choke lever to the CLOSED position.

*If the engine is hot,
» closing the choke is
not necessary.*



4. Pull the recoil starter until engine compression has become difficult to pull. Let the recoil return to the home position, then pull quickly to start the engine. Repeat steps as needed. Fully open the choke.

NOTICE

- If engine does not start, check engine oil level. Engine will not start with low or no engine oil.
- Do not let the Starter Handle snap back against the engine. Hold it as it recoils so it doesn't hit the engine.

OPERATION

Using Detergent



Only use the Black Nozzle when spraying detergent. Only use detergents specified for pressure washers.

If the Pressure Washer have a onboard Soap Tank:

1.1 Fill Soap Tank with detergent and close the Lid.

1.2 Change the nozzle in the wand to Black Nozzle.

1.3 Start the engine.

High Altitude Operation

WARNING

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 (not included) 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 (1a).

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 (3a), fuel cup, Bolt Seal (2a), and bolt. Tighten in place.

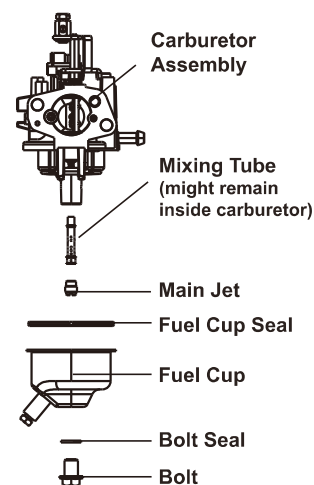
NOTICE

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 3000-8000 ft.	1
2a	Bolt Seal	1
3a	Fuel Cup Seal	1



Pressure Washer Operation

⚠ WARNING

Do not direct spray from the Pressure Washer at a person or an animal.

The water stream could cause serious injury.

Do not leave Pressure Washer in bypass mode for more than 2 minutes at a time. Water temperature inside the pressure pump will rise to a dangerous level resulting in damage to the internal components of the pump. Failure to follow this warning will void warranty.

DO NOT run the pressure pump without the water supply connected and turned on. Damage to the Pressure Washer resulting from failure to follow instruction will void warranty.

ALWAYS wear approved safety glasses when operating Pressure Washers. Spray can splash back or propel objects, including incorrectly attached accessories.



The high pressure stream of water that this equipment produces can cut through skin and its underlying tissues, leading to possible amputation. Spray gun traps high water pressure, even when the motor is stopped and water is disconnected, which can cause injury.



Kickback from spray gun can cause you to fall.

⚠ CAUTION

Use the Pressure Washer only OUTSIDE in a fully VENTILATED area, place the Pressure Washer on surfaces able to withstand the force of the spray.

1. Selecting the Right Nozzle

To prevent damage to your surface and to select an appropriate nozzle size for your application, always start with lowest pressure nozzle size (White) and continue to the higher nozzle size until the best work result is achieved.

The Pressure Washer comes furnished with three spray nozzles. Each nozzle is color coded and delivers a specific spray pattern and pressure for a particular cleaning job. The size of the nozzle determines the size of the fan spray and the pressure out of the nozzle.

0° Nozzle - Red: This nozzle delivers a pinpoint stream of pressurized water and is extremely powerful. It covers only a small area of cleaning. This nozzle should only be directed at surfaces that can withstand high pressure such as metal or concrete. Do not use this nozzle to clean wood.



15° Nozzle - Yellow: This nozzle delivers a 15 degree spray pattern for intense cleaning of small areas. It should only be used on areas that can withstand pressure from this nozzle.



25° Nozzle - Green: This nozzle delivers a 25 degree spray pattern for intense cleaning of larger areas. It should only be used on areas that can withstand pressure from this nozzle.



40° Nozzle - White: This nozzle delivers a 40 degree spray pattern for intense cleaning of larger areas. It should only be used on areas that can withstand pressure from this nozzle.



Chemical Nozzle - Black: This nozzle is used to apply special chemicals and cleaning solutions. This nozzle produces the weakest pressure stream of the three nozzles.

2. Nozzles To Spray Wand

⚠ WARNING

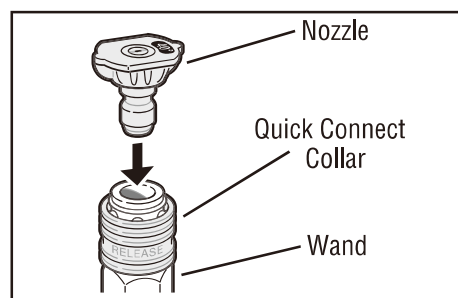
Never place hands in front of nozzle. Never grasp hose or fittings during Pressure Washer operation.

Never attempt to attach or remove spray wand or hose fittings while Pressure Washer system is pressurized.

Change pressure wand nozzle: Completely shut down Pressure Washer and stop gasoline engine.

2.1 To attach, insert nozzle into female quick-disconnect spray wand and press to snap in the nozzle.

2.2 To detach, slide down slip ring on female quick-disconnected to eject the nozzle.



3. Washing / Cleaning

⚠ WARNING

SOME ENGINE PARTS CAN BECOME EXTREMELY HOT.

Do not allow the pressure hose come in contact with engine exhaust system which can cause damage to the hose.

Damaged hoses can burst and can cause injection injuries.

3.1 Firmly grip spray gun with both hands.

3.2 Start with a low pressure Nozzle, and gradually use higher pressures as needed. Test spray the edge of the surface to be cleaned first to make sure that the stream is not too strong for the surface. If the stream damages the surface, move further away from the surface being cleaned to reduce the pressure being applied to the surface. If the stream is still too strong, lock the Trigger in the safety position and change to a lower pressure Nozzle.

3.3 Point the nozzle to a safe direction and squeeze the spray gun trigger to allow the pump to purge air and impurities in the system and then redirect the nozzle to the working surface.

3.4 Clean vertical and sloped surfaces from the top down.

3.5 When cleaning horizontal surfaces, occasionally use the stream to clear the area of excess water.

OPERATION

Pressure Washer Operation (Continued)

- For most effective cleaning, keep spray nozzle from 8 to 24 inches away from cleaning surface.
- If you get spray nozzle too close, you may damage surface being cleaned.
- DO NOT get closer than 6 inches when cleaning tires.

4. Pressure Adjustment

Increase distance: To vary the pressure on the surface being cleaned, vary the distance between spray wand and the surface being cleaned.

Change pressure wand nozzle: Completely shut down Pressure Washer and stop gasoline engine.

Change spray nozzle for desired pressure (see "Selecting The Right Nozzle" on Page 13).

Restart engine.

5. Using Chemicals And Cleaning Solvents

NOTICE Use only soaps and chemicals designed for use with Pressure Washer. DO NOT USE CHLORINE BLEACH. Chemicals, soaps and cleaning solvents will not siphon when a high pressure nozzle is used. Only use the Black (low pressure) Nozzle when spraying detergents. Fill Detergent Tank with prepared detergent solution and close the cap. The Pressure Washer will draw one gallon of detergent for every seven gallons of water.

6. To Rinse

6.1 Replace the nozzle with an appropriate high pressure nozzle (see "Selecting The Right Nozzle" on Page 13). Squeeze the trigger and wait for the detergent to clear.

6.2 Keep the spray gun a safe distance from the area you plan to spray.

6.3 Apply a high pressure spray to a small area, and then check the surface for damage. If no damage is found, it is okay to continue cleaning.

6.4 Start at the top of the area to be rinsed, working down with same overlapping strokes as you used for washing and applying detergent.

7. Cleaning Tips

WARNING

Never use the Pressure Washer water inlet to siphon detergent or wax.

Leaving chemicals and cleaning solutions inside the pressure pump could damage it. Damages created by leaving soaps, chemicals and cleaning solutions inside the pump can void the warranty.

Stopping the Engine and Pressure Washer

WARNING

SOME ENGINE PARTS CAN BECOME EXTREMELY HOT. If you intend to disconnect the high pressure hose after completing a wash, avoid touching the engine exhaust system while disconnecting the high pressure hose from the pump.

1. Turn the engine switch to the "OFF" position. See Figure A
Then turn the fuel valve lever to the "OFF" position. See Figure B

Figure A

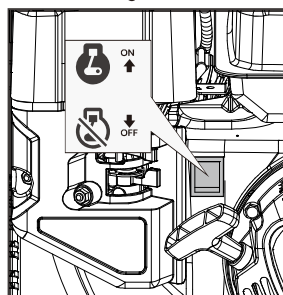
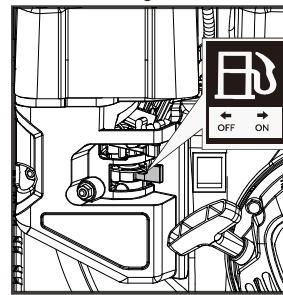


Figure B



CAUTION

Sudden stopping at high speed under heavy load is forbidden, otherwise damage will result.

2. Under normal conditions, use the following procedure:
 - 2.1 Release the Trigger on the Spray Gun handle.
 - 2.2 Turn the engine switch to the "OFF" position.
 - 2.3 Turn the water supply off.
3. Squeeze the Trigger to release excess pressure.
4. If pressure washer detergent has been used, run clean water through the system to eliminate detergent residue using the following procedure:
 - 4.1 Turn off the Engine as detailed in step 2.
 - 4.2 Fill the Detergent Tank (Not supplied) with clean water.
 - 4.3 Remove the Nozzle and restart the Engine (Following directions in "Starting The Engine" on Page 11.)
 - 4.4 Point Wand in safe direction and hold down to flush water through system until clean.
 - 4.5 Turn off the Engine as detailed in step 2.

MAINTENANCE

WARNING

Regular maintenance will improve performance and extend life of Pressure Washer.

Pressure Washer's warranty does not cover items that have been subjected to operator abuse or negligence. Only by maintaining Pressure Washer in accordance with instructions in this manual will the full value of the warranty be honored. Some adjustments will need to be made periodically to properly maintain the Pressure Washer. All service and adjustments should be made at least one time each season. It is important that the maintenance chart below be followed.



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.

Engine Maintenance Schedule

NOTICE 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.

NOTICE The following procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the engine and equipment.

Frequency	Items	Each Time	Every month or 20 Hrs	Every 3 months or 50 Hrs	Every 6 months or 100 Hrs	Every Year or 300 Hrs
Brush off outside of engine						
Engine Oil	Check oil level	√				
	Replace				√ *	
Air Filter	Check	√				
	Clean			√	√ *	
	Replace					√ *
Deposit Cup	Clean				√	
Spark Plug	Clean, Adjust				√ ***	
	Replace					√ *
Spark Arrester	Clean				√	
Valve Clearance	Check, Adjust					√ **
Fuel Tank	Clean					√ **
Emission & Evaporation System						√ **
Fuel Supply Line	Clean	Every two years (Replace if necessary**)				

* Recommended to be performed more often than in the schedule if operated in dusty environments.

** Recommended to be performed by qualified technician.

*** Adjust air gap to 0.6mm - 0.7mm.

MAINTENANCE

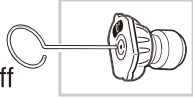
Pump Maintenance

1. Checking Pressure Pump

The pressure pump is maintenance free. If you notice any sign of oil leakage in and around the pump, DO NOT operate the pressure washer.

2. Cleaning Nozzle

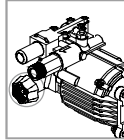
Ocasionaly, the spary wand can become clogged with foreign materials such as dirt. When this hapens excessive pressure can develop. Whenever the pressure nozzle becomes partially clogged, the pump pressure will pulsate. It should be immeiately cleaned.



- 2.1 Make sure Pressure Washer is shut off and spray gun trigger is locked.
- 2.2 Remove high pressure spray nozzle from the spray wand. Using the nozzle cleaning needle, remove any obstructions by inserting and carefully moving the pin back-and-forth through nozzle hole under clean running water.
- 2.3 After claning, remove the needle from nozzle and store for future use.
- 2.4 Reassemble pressure nozzle to spray wand.

3. Cleaning Water Inlet Screen Filter

The water inlet screen filter should be checked periodically and cleaned if necessary.



- 3.1 Disconnect inlet water hose.
- 3.2 Remove filter by grasping end and pull straight back.
- 3.3 Clean screen filter by flushing both sides with water.
- 3.4 Insert screen filter back inside water inlet port.

WARNING

Do not operate Pressure Washer without screen filter. Impurities entering pressure pump can cause internal damage.

Cleaning Pressure Washer

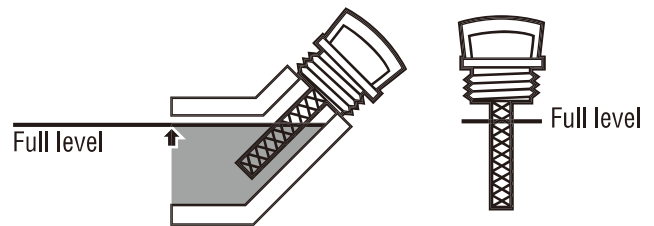
Daily or before use inspections should include areas around and underneath Pressure Washer looking for signs of fuel or oil leaks. Preventative maintenance should be taken if leakage is found. Clean accumulated debris from outside and inside Pressure Washer. Ensure all linkages, springs and other engine controls are kept clean. Inspect cooling air slots and openings on Pressure Washer. Openings must be kept clean and unobstructed for peak performance of Pressure Washer. Engine components should be kept clean reducing 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 shop-vacuum to pick up any loose dirt and debris.

Changing Engine Oil

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

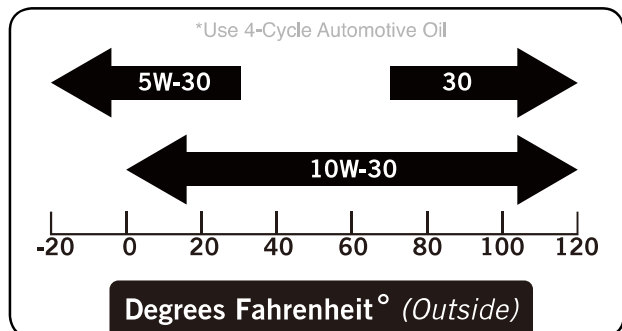
1. Make sure the engine is stopped and is level.
2. Close the Fuel Valve.
3. Place a drain pan (not included) underneath the crankcase's drain plug.
4. Remove the drain plug and, if possible, tilt the crankcase slightly to help drain the oil out. Recycle used oil.
5. Replace the drain plug and tighten 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.



Adding Engine Oil

All oil should meet minimum American Petroleum Institute(API) Service Class SJ, SL or better. Use no special additives. Select the oil's Viscosity grade according to the expected operating temperature (also see chart).

The SAE Viscosity Grade Chart



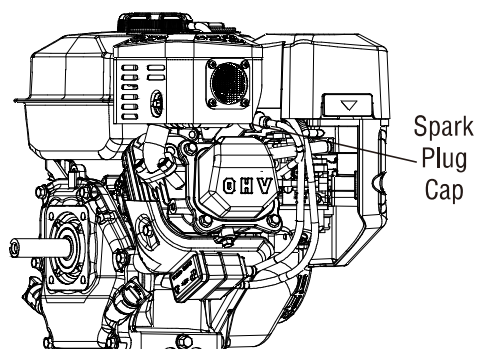
Replace the Dipstick and Clockwise.

NOTICE Do not run the engine with too little oil. Engine will not start with low or no engine oil. Check engine oil level daily and add as needed.

CAUTION

The engine is equipped with a low-oil-shutoff and will stop when the oil level in the crankcase falls below the threshold level.

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 Plugs	
NGK®	BPR6ES
NHSP® / TORCH®	F6RTC

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 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 tighten about 1/2-2/3 turn more.
 - Non-gasket-style
Finger-tighten until the plug contacts the cylinder head, then tighten 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.

Air Filter Maintenance

1. Remove the Air Filter Cover and the air filter(s) and check for dirt. Clean as described below.
2. Cleaning:
 - For paper filters:
To prevent injury from dust and debris, wear ANSI-approved safety goggles, NIOSH-approved dust mask/respirator, and heavy-duty work gloves. In a well-ventilated area away from bystanders, use pressurized air to blow dust out of the filter. If this does not get the filter clean, replace it.
 - For foam filters:
Wash the filter 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(s). Secure the Air Filter Cover before use.

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**
Gasoline fuel can become stale when stored over 30 days, which will cause acid and gum deposits to form in the fuel system or crucial carburetor parts. To keep fuel fresh, add fuel stabilizer tablets to the fuel tank. Draining gasoline is unnecessary if the fuel stabilizer is used according to the instructions that come with it. Run Pressure Washer engine for a minimum of two minutes, after stabilizer is added to fuel, to allow it to circulate throughout the engine. The engine and fuel can be stored up to 24 months.



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.

MAINTENANCE

3. Lubrication

To protect against rust formation during storage, oil the cylinder bore:

- 3.1 Change engine oil.
- 3.2 Clean out area around spark plug.
Remove spark plug and pour approximately 1/2 oz (15 ml) of clean engine oil into cylinder through spark.
- 3.3 Replace spark plug, but leave spark plug cap disconnected.
- 3.4 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).

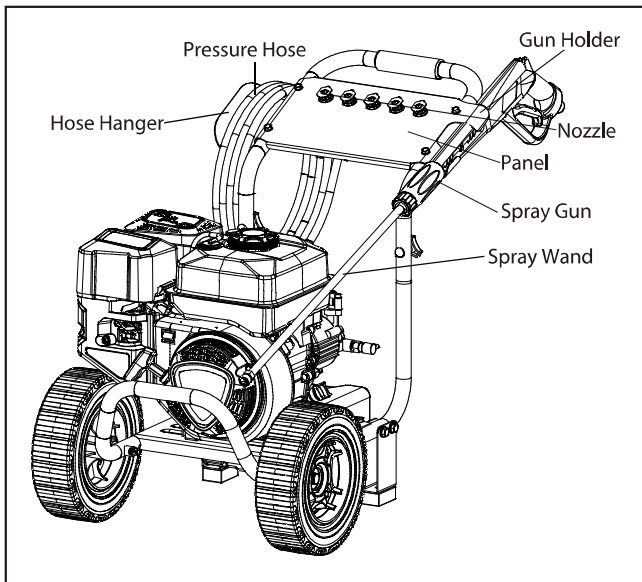
WARNING

Unintentional sparking can cause fire or electrical shock. Failure to observe this warning can cause severe property damage, severe burns and even death. Disconnect spark plug wire from spark plug and cover tip of spark plug wire with insulating tape and place wire where it cannot come in contact with spark plug or Pressure Washer frame.

4. Storing Accessories

The Pressure Washer is equipped with places to store your accessories as shown.

- 4.1 Place Spray Gun into Gun Holder
- 4.2 Place nozzles on the nozzle panel.
- 4.3 Coil and tie Pressure Hose, and hang on the hose hanger.



5. Pump Preparation:

- 5.1 Disconnect the Pressure Hose and water supply hose from the Pump.
- 5.2 Connect a short length of garden hose with a male hose connector on one end to the Pump's water inlet connection.
- 5.3 Use a funnel to add approximately six ounces of RV antifreeze to the Pump.
NOTICE Use only RV antifreeze. Other types of antifreeze are corrosive and can damage Pump.
- 5.4 With spark plug cap disconnected, pull Starter Handle several times until antifreeze begins to come out of Pump outlet fitting.
- 5.5 Remove Pressure Hose from Pump.

6. 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.

7. Every 3 Months, To Protect Engine and Warranty Coverage

- 7.1 Safely drain antifreeze, and dispose of properly.
- 7.2 Connect Pressure Hose and water supply hose.
- 7.3 Turn on water supply, remove nozzle, point wand in safe direction, and hold down trigger until all air is released from the system, at least 30 seconds. Then release the Trigger, lock it in the safety position and replace Nozzle before starting engine.
- 7.4 Discharge nozzle in safe direction run engine for 15-20 minutes or the Warranty is VOID. Turn off engine.
- 7.5 Discharge nozzle in safe direction, and then disconnect hoses and drain water.
- 7.6 Connect a short length of garden hose with a male hose connector on one end to the Pump's water inlet connection.
- 7.7 Use a funnel to add approximately six ounces of RV antifreeze to the Pump.
NOTICE Use only RV antifreeze. Other types of antifreeze are corrosive and can damage Pump.

8. Preparation For Use After Storage

- 8.1 Slowly pull the starter cord a few times to clean oil from the cylinder or to eject any antifreeze from the pump which were added prior to storage.
- 8.2 Remove the spark plug from the cylinder. Wipe oil from the spark plug and return it to the cylinder and retighten.
- 8.3 Reconnect the spark plug wire.

MAINTENANCE

Trouble Shooting

Problem	Possible Causes	Probable Solutions
Engine will not start	FUEL RELATED: 1. No fuel in tank or fuel valve is in "OFF" position. 2. Low quality, stale, dirty or deteriorated gasoline. 3. Low oil level. 4. Carburetor not primed. 5. Dirty fuel passageways. 6. Carburetor needle stuck. Fuel can be smelled in the air. 7. Too much fuel in chamber. This can be caused by the carburetor needle sticking. 8. Clogged Fuel Filter.	FUEL RELATED: 1. Fill fuel tank with fresh 87+ octane unleaded stabilizer-treated gasoline and turn fuel valve to "ON" position. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Drain fuel tank and carburetor; fill with fresh fuel. 3. Fill crankcase to the proper level. Place pressure washer on a flat, level surface. 4. Pull on Starter Handle to prime. 5. Clean out passageways using fuel additive. Heavy deposits may require further cleaning. 6. Gently tap side of carburetor float chamber with screwdriver handle. 7. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug. 8. Replace Fuel Filter.
	IGNITION (SPARK) RELATED: 1. Spark plug cap not connected securely. 2. Spark plug electrode wet or dirty. 3. Incorrect spark plug cap 4. Sparkplug 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 cap. 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 headgasket. 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.
Engine "hunts" or falters	1. Carburetor is running too rich or too lean. 2. Clogged or dirty fuel filter.	1. Replace carburetor . 2. Clean or replace fuel filter.

MAINTENANCE

Trouble Shooting (Continued)

Problem	Possible Causes	Probable Solutions
Engine misfires	1. Sparkplug cap loose. 2. Incorrect or defective spark plug. 3. Defective spark plug cap. 4. Old or low quality gasoline. 5. Incorrect compression.	1. Check 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. (See "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 or replace 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.
No pressure or Low pressure	1. Spray wand not set to high pressure. 2. Inadequate water supply. 3. Hose fitting leaks during high pressure. 4. Nozzle obstructed. 5. Water filter screen obstructed. 6. Air in hose.	1. See "Selecting The Right Nozzle" on Page 13. 2. Water supply must be 5 GPM @ 20 PSI. 3. Tighten hose fitting. Use thread sealant tape if necessary. 4. Clean Nozzle (See "Cleaning Nozzle" on Page 16). 5. Remove and clean filter. 6. Squeeze trigger to remove air.

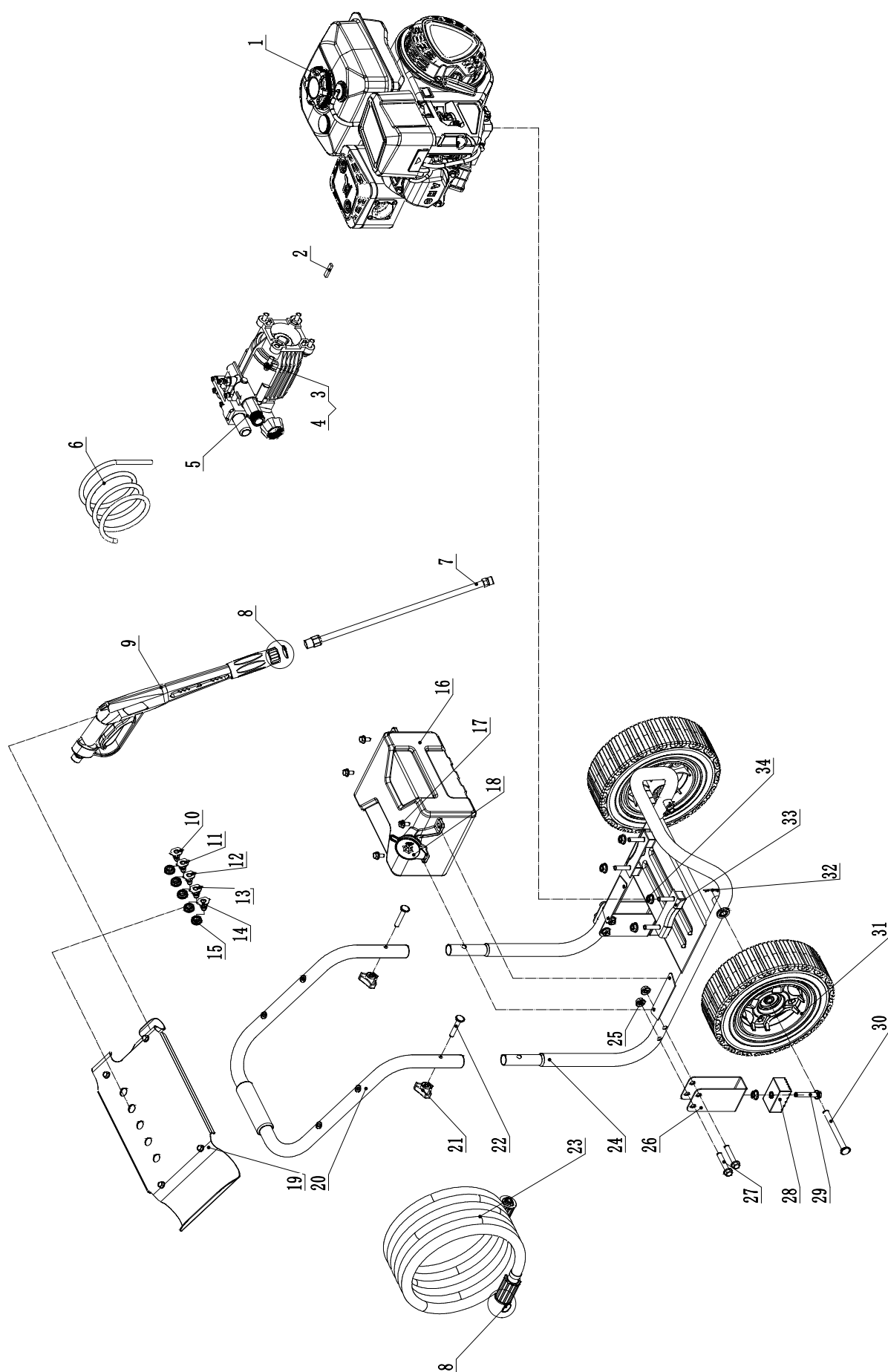
MAINTENANCE

Trouble Shooting (Continued)

Problem	Possible Causes	Probable Solutions
Output pressure varies	1. Not enough water supply. 2. Water inlet screen is clogged. 3. Nozzle is clogged. 4. Nozzle has mineral build up.	1. Check water supply hose for kinks, leaks, or blockage. Open faucet all the way. 2. Remove inlet screen and rinse out. 3. Remove Nozzle and clean. 4. Remove Nozzle and clean with vinegar.
Water or Oil Leaking at Pump	1. Loose connections. 2. Worn or broken O-rings. 3. Pump head or tubes damaged from freezing.	1. Tighten connections. 2. Replace pump. 3. Replace pump head.
No intake of detergent	1. Detergent hose not properly inserted into unit. 2. Tube cracked or split. 3. Wrong Nozzle. 4. Injector turned off. 5. Injection tube strainer clogged. 6. Nozzle blocked. 7. Dried detergent in injector.	1. Push firmly into injector. 2. Replace tube. 3. Switch to Black Nozzle. 4. Turn collar counterclockwise. 5. Clean strainer. 6. Clean Nozzle. 7. Dissolve by running warm water through the injection tube. Run clean water through injector until clear.
Water leaking at spray gun/wand connection	1. Loose hose connection.	1. Tighten hose connection.

PARTS LIST AND DIAGRAM

General Assembly Diagram



PARTS LIST AND DIAGRAM

General Parts List

#	Part Number	Description	Qty
1	THA-0352	Engine, 224cc	1
2	2.14.001	Key, SQ 4.78 x 4.78 x 40	1
3	2.08.010	Bolt 5/16-24 x 22	4
4	1.93.08	Lock Washer Ø8	4
5	254.251000.10	Pump Body	1
6	254.250100.11	Detergent Hose, 700	1
7	254.252200.00	Wand	1
8	2.07.034	O Ring , Ø14 x Ø9 x Ø2.5	3
9	254.252100.00.1	Handle, Gun , Black	1
10	254.252300.05	Nozzle "Detergent", 65400	1
11	254.252300.17	Nozzle "40", 40026	1
12	254.252300.16	Nozzle "25", 25026	1
13	254.252300.15	Nozzle "15",15026	1
14	254.252300.14	Nozzle"0", 00026	1
15	252.201400.01	Sheath, Nozzle	5
16	254.250200.05	Detergent Tank	1
17	1.5789.0612.1	Flange Bolt M6 x 12,black	8

#	Part Number	Description	Qty
18	254.250203.01	Cap, Water Tank	1
19	254.200800.06.2	Decorative Sheet, Up	1
20	254.200701.11.2	Handle, Frame	1
21	2.02.038	Plastic Lock Nut M6	2
22	2.08.139	Bolt M6 x 35	2
23	254.250100.00	High-Pressure Hose, 25ft.	1
24	61196.0.2	Frame	1
25	1.6177.1.08.1	Lock Nut M8, Flange ,black	6
26	254.200002.02.2	Support Leg,black	2
27	1.5789.0840.1	Flange Bolt M8 x 40 ,black	4
28	122.201400.04	Rubber, Support	2
29	1.5789.0825.1	Flange Bolt M8 x 25,black	2
30	254.201501.01.1	Pin Roll, Wheel,,black	2
31	254.201701.07.1	Wheel, PU,black	2
32	2.16.005.1	Pin Ø2, "B" Shape,black	2
33	252.201200.00	Vibration Mount, Engine	2
34	1.6177.1.08	Lock Nut M8, Flange	8