

**CRAFTOP**®



# Owner's Manual

## High Pressure Washer

### GHW2900A



EXPERTS  
IN EQUIPMENTS OF  
GARDENING AND AGRICULTURE

ENGLISH  
VERSION: 01-202106

## **We thank you for buying CRAFTOP High Pressure Washer**

This high pressure washer provides advanced technology in incorporating many convenient features for you to perform your daily cleaning work.

**Before attempting to use this high pressure washer, please read this manual carefully until you completely understand and can follow all safety rules, precautions, operating and maintenance instructions.** It will help you both to become more familiar with this high pressure washer and to recognize and avoid situations that could endanger you and others. **Careless or improper use may cause serious or even fatal injury!**

If you have any question about your high pressure washer and this manual, please contact your local authorized dealer or service center. They always welcome your questions, suggestions, and constructive criticism.

We hope you enjoy this high pressure washer and wish you many years of safe and enjoyable cleaning work.

**CRAFTOP CANADA LTD.**

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## Guide to use this manual

This User's Manual refers to a CRAFTOP high pressure washer, also called a machine in this User's Manual.

All information, specifications, descriptions and illustrations in this manual are as accurate as known at the time of publication, but are subject to change without notice. Due to ongoing product development, there may be difference between your machine and the information in this manual. No legal obligations or commitments can be delivered from the information, specifications, descriptions, or illustrations in this manual.

Illustrations are only for orientation and are merely used to help explain the text descriptions and instructions. Illustrations may include optional equipment and accessories, and may not include all standard equipment.

Some signs or symbols on the machine may be a little different refer to special certification requirements for certain markets.

Any technical modifications to the machine that were introduced after the editorial deadline please consult your local dealer for more supplementary information.

All safety precautions and instructions described in this manual should be observed during operation of the high pressure washer, and all applicable federal, state and local safety regulations, standards, and ordinances should be observed as well.

Do not sell, lend or rent the machine without this user's manual. Always be sure to include this user's manual together with this machine, and make sure that anyone using it understands the information contained in this manual.

## Signs and symbols in this manual

### **DANGER**

Texts with this symbol contain information regarding hazardous situations which will cause death or severe injures if not avoided.

### **WARNING**

Texts with this symbol contain information regarding hazardous situations which could cause death or severe injures if not avoided.

### **CAUTION**

Texts with this symbol contain information regarding hazardous situations which could cause minor or moderate injures if not avoided.

### **NOTICE**

Texts with this symbol information regarding situation which could cause high pressure washer damage if not avoided.

### **information**

Texts with this symbol contain supplementary information.



#### **Warning or Alert!**

Special safety precautions must be observed when working with this machine because it has high speed rotation parts, uses flammable fuel, produces high pressure water, and exhausts poisonous fumes.



#### **Read and understand the User's Manual.**

Read this User's Manual carefully, make sure that you completely understand and can follow all safety rules, precautions, operating and maintenance instructions before attempting to use this high pressure washer, failure to do so may cause serious or even fatal injury!



#### **Wear proper clothing.**



#### **Eye and ear protection required.**

Always wear appropriate safety goggles or safety glasses with side shields, and ear plugs or ear muffers as well when operating this machine.



#### **Hair protection required.**

Operator who has long hair should tie up and confine long hair with a hair net, cap, or hard hat for instance.



**Respiratory protection required.**

Wear proper respiratory protection to protect you from chemical solvents, aerosols, oils, mold, and other more harmful airborne particles or allergens that may go unseen.



**Hands protection.**

Always wear appropriate gloves when you handle chemical detergent or operate high pressure washer.



**Foot protection required.**

Wear shoes or boots with anti-slip soles in your working area.



**Fire hazard.**

Risk of fire.  
Flammable material or their fumes may catch fire easily if near heat, flames or sparks.



**No smoking.**

Do not smoke in this area.



**Toxic Fumes.**

Chemicals contained in the engine exhausts can cause cancer and birth defects and other reproductive harm.



**Poisonous.**

The skull and crossbones symbol means the product is poisonous or has/produce poisonous material. Licking, eating, drinking, or smelling a substance marked with this symbol can make you very sick or even cause death.



**Risk of Asphyxiation.**

This engine exhausts carbon monoxide, an odorless, colorless poison gas. Breathing carbon monoxide can cause nausea, fainting or even death. Only use this machine in a well ventilated outside area.



**Hazards of electric shock.**

Be careful of high voltage cable when you use machine.  
Do not touch!



**Warning of hot surface.**

Contact may cause burn.  
Do not touch!



**Risk of injections.**

To reduce the risk of injection or injury, never direct a water stream towards people or pets or place any body part in the stream. Leaking hoses and fittings are also capable of causing injection injury. Do not hold hoses or fittings.



**Risk of Explosion.**

Do not spray flammable liquids. Flammable liquids, fuel, and their vapors are explosive and can cause severe burns or death.



**Risk of kickback.**

To reduce the risk of injury from kickback, hold the gun and wand securely with both hands when work with the machine.

**Signs and symbols on the machine**

For the purpose of safety operation and maintenance, the meanings of signs and symbols may be attached to or embossed on the machine.



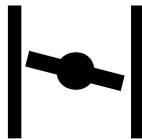
**The port to top up fuel.**

Position: Fuel cap



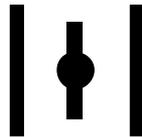
**The port to top up engine oil.**

Position: Oil cap



**Choke control.**

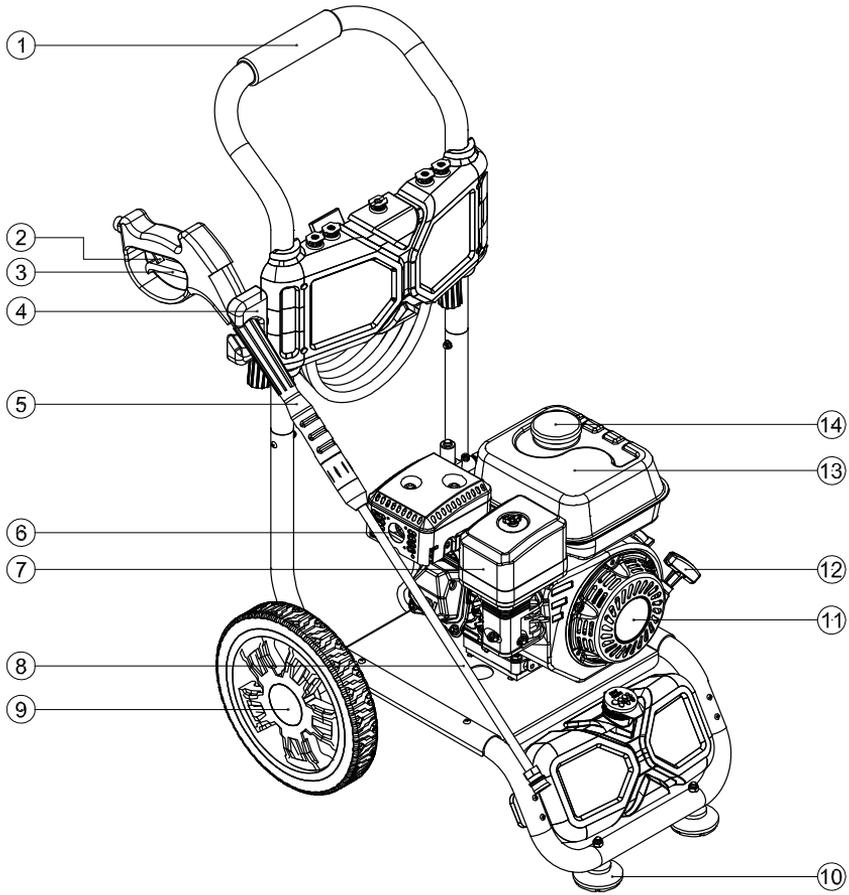
Choke closed.  
“Cold start” position.

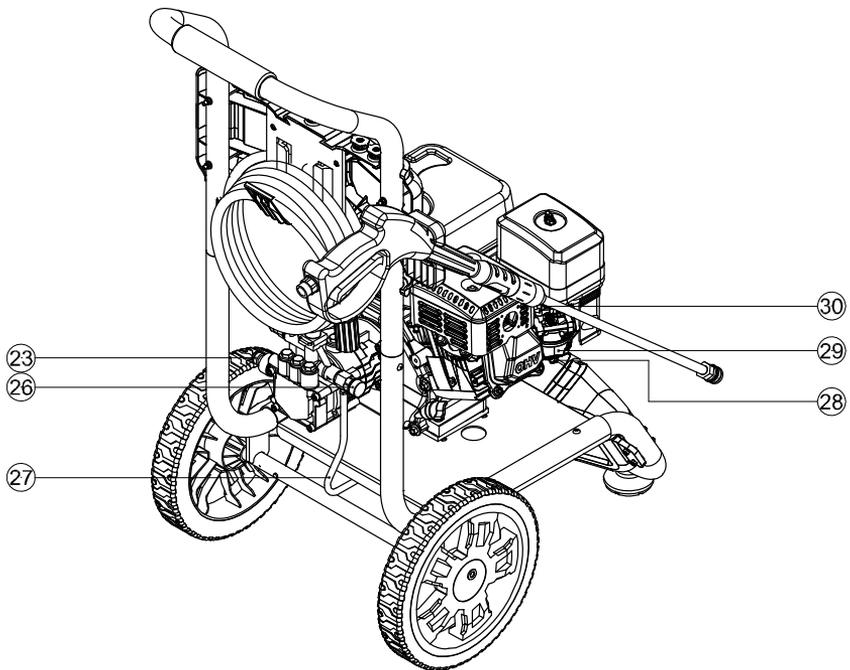
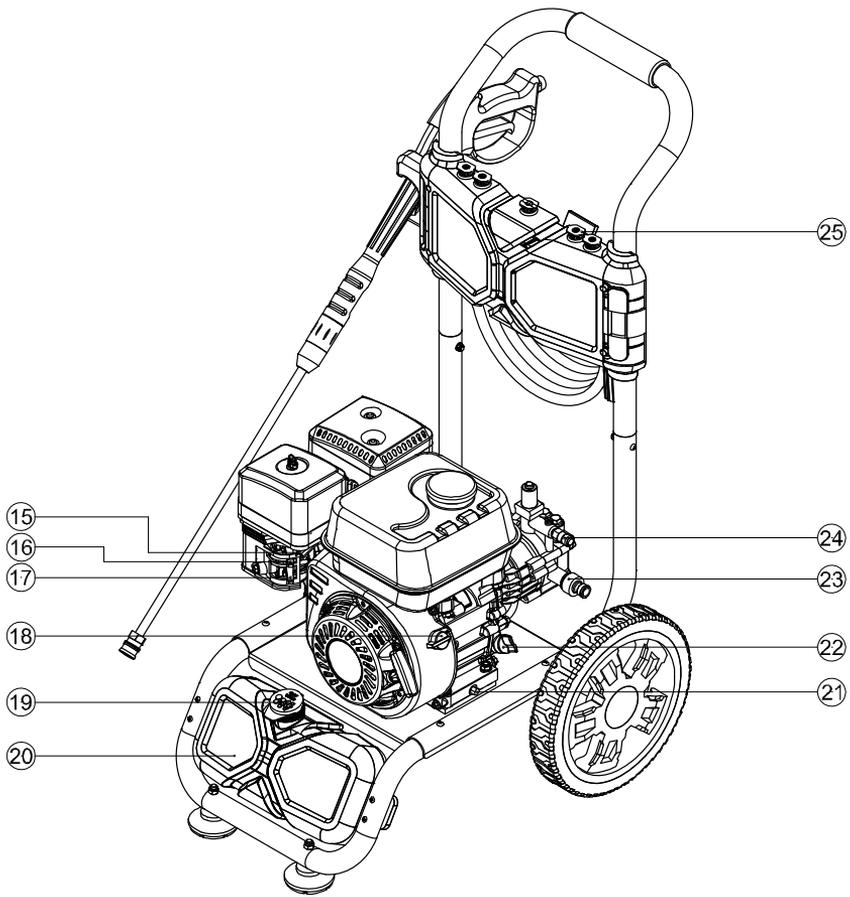


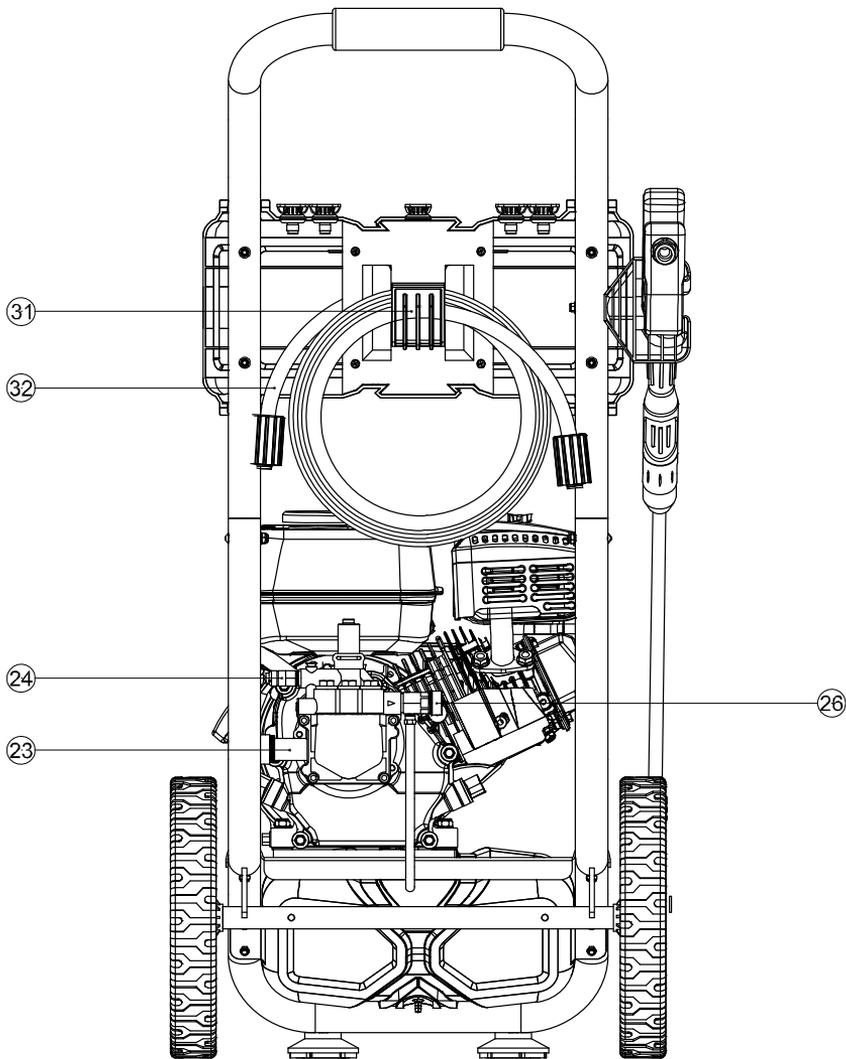
**Choke control.**

Choke open.  
“Run” position.

# Product overview







Index	Part Name	Description
1	Handle	It is used to maneuver the machine when transporting by hands.
2	Trigger Locking Latch	It is used to prevent from accidental operation or spraying accidentally.
3	Spray Trigger	Squeeze it to spray pressure water out; and, release it to stop.
4	Spray gun holster	Used to place the spray gun on the machine when not in use.
5	Spray Gun	It is used to handle and spray water under pressure.
6	Muffler	Ensure you avoid contact as this will be hot during and shortly after use. Avoid resting the pressure hose on muffler.
7	Air Filter	Air filter should be replaced annually to ensure optimal engine performance.
8	Spray Wand	It is used to extend your reach for easier cleaning.
9	Wheel	Provides easy mobility for the machine to move manually on the ground.
10	Support shoe	To support the machine together with wheels when it is in use or during storage.

Index	Part Name	Description
11	Recoil Starter	This is used to start the engine.
12	Recoil Starter Rope Handle	It is used to pull the starter rope.
13	Fuel Tank	3.8L capacity.
14	Fuel Cap	Ensure fuel cap is tightened securely during operation.
15	Fuel Valve	Regulates the flow of fuel to the engine. Must be fully open before starting the engine.
16	Choke Lever	It is used to control incoming air.
17	Throttle Lever	This is used to adjust the engine speed.
18	Engine Switch	On/Off Switch, ensure this is turned to 'ON' position before attempting to start the engine.
19	Detergent Tank Cap	Take this cap off to fill detergent tank with approved detergent.
20	Detergent Tank	A tank designed for approved detergent.
21	Oil drain plug	Remove it and allow used oil to drain out.
22	Oil Dipstick	Ensure the machine has the proper level of oil before starting engine. Only use SAE 10W-30 oil.
23	Pump Inlet	Using included quick-connect coupling, attach your garden hose here.
24	Thermal Relief Valve	This includes a drain pipe to be used if resting water inside pump becomes too hot. This will help prevent overheat damage to pump.
25	Spray Nozzles	0°, 15°, 25°, 40°, soap tip; Use to apply the right pressure and stream pattern for each specific application.
26	Pump outlet	Attach your pressure hose here.
27	Detergent hose	Connect between detergent tank and pump.
28	Carburetor fuel drain plug	Remove it and allow fuel in the carburetor to drain out.
29	Carburetor	A device in an internal combustion engine for mixing air with a fine spray of liquid fuel.
30	Spark Plug	Should be checked every 100 hours of operation.
31	Pressure Hose hook	To hang the pressure hose when not in use.
32	Pressure Hose	Attach to pump and gun.

This machine is designed for specific residential applications. Do not modify or use for any application other than which it is designed. This equipment is not designed for industrial use. Please refer to the icons below for suggested applications.



Stairs



Car



Fencing



Deck and Patio



Garage floor



Driveway



Sidings



Painting preparation

## Technical specification

MODEL		GHW2900A	
Item	Description	Unit	Specification
<b>Overall</b>	Product dimension (L x W x H)	in(mm)	30x20x41(760x495x1045)
	Net weight	lbs(kg)	73(33)
	Maximum water flow rate	GPM	2.3
	Application temperature	°C	5~50
<b>Engine</b>	Type		4 stroke gasoline engine
	Displacement	cc	196
	Power (OHV)	HP	6.5
	Starter		Recoil starter
<b>Spark Plug</b>	Gap	in(mm)	0.028~0.031(0.7~0.8)
<b>Pump</b>	Type		Heavy-duty maintenance-free axial cam
	Maximum water pressure	PSI	3000
	Rated water pressure	PSI	2300
	Minimum inlet pressure	PSI	30
	Maximum inlet pressure	PSI	60
	Maximum temperature of pumped fluid	°C	40
<b>High pressure hose</b>	Inner diameter	in(mm)	1/4(6.2)
	Length	ft(m)	20(6)
<b>Inlet &amp; Discharge Ports</b>	Type		Standard garden hose connector
	Size	inch	3/4
<b>Spray Nozzles</b>	Type		0°, 15°, 25°, 40°, soap tip
	Quantity		Total 5
<b>Detergent tank</b>	Tank capacity	L	3
<b>Fuel</b>	Type		Unleaded gasoline
	Tank capacity	L	3.8
<b>Engine oil</b>	Type		SAE 10W-30
	Tank capacity	L	0.6
<b>Wheels</b>	Type		Plastic wheels
	Size	in(mm)	11(280)
<b>Standard features</b>	<p>This pressure washer is equipped with the following safety features:</p> <ul style="list-style-type: none"> <li>-Thermal Relief Valve</li> </ul> <p>Protects the pump from overheating in case nozzle becomes clogged. This system should not be abused. Make every effort to prevent the pump from overheating.</p> <ul style="list-style-type: none"> <li>-Low-Oil Auto Shut-Off</li> </ul> <p>This pressure washer is equipped with a low oil shut-off system. If the engine oil level goes below the recommended oil level, the pressure washer will automatically shut-off. This protects your engine and prevents operating without proper lubrication.</p>		

## information

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

## Safety precautions and instructions



Special safety precautions must be observed when working with this machine because it has high speed rotation parts, uses flammable fuel, produces high pressure water, and exhausts poisonous fumes.



Before attempting to use this high pressure washer, please read this manual carefully until you completely understand and can follow all safety rules, precautions, operating and maintenance instructions. Careless or improper use may cause serious or even fatal injury!

## Safety precautions

### DANGER

- Because a high pressure washer has high speed rotation parts, uses flammable fuel, produces high pressure water, and exhausts poisonous fumes, some special precautions must be observed to reduce the risk of accident and personal injury. Careless or improper use may cause serious or even fatal injury.
- Rotating parts can entangle hair, hands, clothing, feet and/or accessories. Traumatic amputation or severe laceration can result.
- Gasoline is an extremely flammable fuel. If spilled and ignited by a spark or other ignition source, it can cause fire and serious burn injury or property damage. Use extreme caution when handling gasoline. Combustible fuel vapor may escape from the fuel system or container during fueling operations. Do not smoke or bring any fire or flame near the fuel or the machine.
- Never point the spray nozzle at a person, an animal or yourself. Keep clear of nozzle. Always wear proper clothing and PPE(Personal Protective Equipments) when operating or performing maintenance.
- All electrical conductors and communications wires can have electricity flow with high voltages. This machine is not insulated against electrical current. Never spray the water steam to wires, otherwise serious injury or even death may result.
- DO not direct high pressure stream at persons, animals, electrical devices, or the machine itself. High pressure jets can be dangerous if subject to misuse, and result in high risk of injection or injury.
- Do not operate this machine indoors or in inadequately ventilated areas. DO not allow exhaust fumes to enter a confined area through windows, doors, vents or other openings. Engine exhaust contains poisonous emissions and can cause serious injury or death.

### WARNING

- Observe all applicable local safety regulations, standards and ordinances.
- Never spray flammable liquids or use pressure washer in areas containing combustible dust, liquids, or vapor.
- To prevent accidental water spray, always place the spray trigger in the locked position and engage the trigger locking latch when not in use.
- Running engines produce heat. Severe burns can occur on contact. Combustible material can catch fire on contact.
- The noise emitted from this machine may be restricted to certain times by national or local regulations.
- Use of pressure washers can create wet walking surfaces. While using a pressure washer, forces from the gun can cause you to lose footing and fall.
- Minors should never be allowed to use this high pressure washer. Do not allow other persons near the high pressure washer when starting or operating. Keep bystanders, especially children, and animals out of the work area and keep a safe distance. Close supervision of children is necessary to ensure that they do not enter the work area or play with the machine.
- Never let your pressure washer run unattended. When it is not in use (e.g., during a work break), shut it off and make sure that unauthorized persons do not use it.
- The person who use this high pressure washer must be in good physical condition and mental health, and not under the influence of alcohol and drugs. Never use this high pressure washer when you are fatigued, sick, or upset. If you feel tired, take a break.
- The components of this machine generate an electromagnetic field during operation, which may interfere with some pacemakers. To reduce the risk of serious or fatal injury, persons with pacemakers should consult with their physician and the pacemaker manufacturer before operating this machine. In the absence of such information, CRAFTOP does not recommend the use of this machine by anyone who has a pacemaker.
- The user of this machine is responsible for avoiding injury to third parties or damage to their property.

### CAUTION

Prolonged exposure to cold and/or vibration may result in injury. Read and follow all safety and operation instructions to minimize risk of injury. Failure to follow instructions may result in painful wrist/hand/arm injuries.

Raynaud's Phenomenon may affect the fingers of certain individual if a person is exposed to vibration and cold. Exposure to vibration and cold may cause tingling

and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended:

- Keep your body warm, especially the head, neck, hands, wrists, ankles and feet, ..
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks.
- Limit the hours of operation, have a rest when you feel tired or fatigued.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before continuing exposing yourself to cold and vibration.

Overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas.

- Avoid using your wrist in a bent, extended, or twisted posture. Instead, try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and let your hands have a rest.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercise to strengthen your hands and arm muscles.
- Immediately stop using the machine and other power tools, and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms.

## Clothing and PPE

### **WARNING**

You must wear proper clothing and approved personal protective equipments (PPE) whenever you use a high pressure washer.



#### **Eye and ear protection required.**

Always wear appropriate safety goggles or safety glasses with side shields, and ear plugs or ear muffers as well when operating this machine.



#### **Respiratory protection required.**

Wear proper respiratory protection to protect you from chemical solvents, aerosols, oils, mold, and other more harmful airborne particles or allergens that may go unseen.



#### **Hair protection required.**

Operator who has long hair should tie up tie up and confine long hair with a hair net, cap, or hard hat for instance.



#### **Hands protection.**

Always wear appropriate gloves when you handle chemical detergent or operate high pressure washer.



#### **Proper clothing.**

Clothing must be snug-fitting but allow complete freedom of your movements.

Do not wear loose clothing, jewelry, scarf, necktie, or anything that could get caught in moving parts of the machine.



#### **Foot protection.**

Wear shoes or boots with anti-slip soles in your working area.

Personal protective equipments can not eliminate the risk of injury, but it will reduce the degree of injury if an accident does happen. Ask your high pressure washer dealer for help in choosing the right equipments.

Long-time or continuous exposure to high noise levels may cause permanent hearing impairment. Always wear approved hearing protection when operating a high pressure washer.

## Handle your high pressure washer safely

### **WARNING**

This pressure washer is to be used only by qualified operators. Minors and untrained persons should never be allowed to use this machine.

This high pressure washer must only be used to clean solid surfaces and other items that will not be damaged by high pressure water or the force of the spray jet. Do not use it for other purposes, since misuse may result in personal injury or property damage, including damage to the machine. Before using this machine to perform your work, always practice on a inconspicuous test area to understand when damage may occur.

Under any circumstance, you should not modify the original design of the high pressure washer without approval from the manufacturer. Always use genuine spare parts. Unauthorized modifications or accessories may lead to serious or even fatal injury.

Under any circumstance, you should not operate your high pressure washer if it is damaged, improperly adjusted or maintained, or not completely or securely assembled. Always inspect the high pressure washer before each use, and replace the parts immediately if it is worn, loose, leaking, damaged or missing.

- Never point the spray nozzle at persons, animals, electrical devices, plants or the machine itself.
- Do not let water in the pump, hose and other parts of the machine freeze.
- Do not run the machine dry. Be sure the water supply is completely turned on before operating the machine.

- Only use cold water.
- Always disconnect spark plug wire and place wire where it can not contact spark plug to prevent accidental starting when setting up, transporting, adjusting or making repairs except carburetor adjustments.
- Always hold the spray attachment firmly with two hands when performing your cleaning work. The spray jet causes reactive forces on the spray attachment in a direction opposite to the direction of the spray (recoil or kickback). Hold the spray attachment firmly with both hands in order to control the reactive forces, including any additional torque produced when using angled spray attachments or an angled spray wand.
- Do not operate a high pressure washer with one hand. Serious injury to the operator, helpers, bystanders or any combination of these persons may result from one-handed operation. **The high pressure washer MUST be used with two hands!**



- Always engage the trigger safety latch in the safe position when spraying is stopped even if only for a few moments.
- Never put hand or fingers over the spray tip while operating the machine.
- Operate the high pressure washer only in a well-ventilated outdoor area. Never start or run the engine inside a closed room or building. Exhaust fumes contain dangerous carbon monoxide.
- Never operate the machine at night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to maintain a clear view of the working area.
- During rain, storms at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use this machine.
- Do not allow any material to block the cooling slots.
- Carefully plan your cleaning operation in advance. Never start cleaning until you have a clear work area.
- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not operate the high pressure washer in odd position or on a ladder or ladders.

- Keep exhaust area clear of flammable debris. Avoid contact hot surfaces during and immediately after operation.
- Do not use a pressure washer to clean pressure washer. The solid jet of high pressure water may damage parts of the machine.

## Maintain in good work order

### ⚠ CAUTION

All high pressure washer service, other than the items listed in the maintenance section of this manual, should be performed by authorized service dealer or competent high pressure washer service personnel.

### ⚠ WARNING

Only use high-quality replacement parts in order to avoid the risk of accidents and damage to the power tool. If you have any questions in this respect, consult an authorized dealer or service center. CRAFTOP recommends the use of genuine spare parts. They are specifically designed to match your model and meet your performance requirements.

- To reduce the risk of injury, always shut off the engine before carrying out any maintenance or repairs or cleaning the machine, only excepts carburetor and idle speed adjustments.
- Check the machine for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.
- Do not turn the engine over on the starter with the spark plug boot or spark plug removed since there is otherwise a risk of fire from uncontained sparking.
- Check fuel system for leaks due to fuel tank damage, especially if the machine is dropped accidentally. If damages or leaks are found, do not use the machine any more, otherwise serious personal injury or property damage may occur. Have your machine repaired by an authorized dealer or service center before using.
- Check the fuel filler cap for leaks at regular intervals.
- Check the engine oil level is located at the proper position.
- To reduce the risk of fire, do not service or store your machine near open flames.
- Use only a spark plug type which is approved by CRAFTOP and make sure it is in good condition.
- Inspect the ignition lead (insulation in good condition, secure connection).
- Check the condition of the muffler. To reduce the risk of fire and damage to hearing, do not operate your machine if the muffler is damaged or missing.
- Do not touch a the muffler, spark plug, or other metallic parts of the engine while the engine is running or immediately shutting down, otherwise burn injury will result.

## Transporting your high pressure washer

Avoid accidental starting. Transport or move the machine only with empty fuel tank. Be sure the engine switch is off before transporting the machine.

When transporting your high pressure washer in a vehicle, properly secure the machine to avoid turnover, fuel spillage and damage.

## Handle fuel with caution

Your high pressure washer uses unleaded gasoline for fuel.

**WARNING**  
Gasoline is an extremely flammable fuel. Pay high attention when fueling, storing or handling, otherwise serious personal injury may result.



If spilled and ignited by a spark or other ignition source, gasoline can cause fire and serious burn injury or property damage.



Do not smoke or bring any fire or flame while handling fuel or while operating the high pressure washer. Note that combustible fuel vapor may escape from the fuel system.

- Fuel used in this pressure washer is poisonous. Always wear approved breathing protection when decanting fuel.
- Handle fuel and refuel in a well ventilated outdoor area on bare ground; store fuel in a cool, dry well ventilated place; and use an approved, marked container for all fuel purposes. Wipe up all fuel spills before starting the machine.
- Eliminate all sources of sparks or flame (i.e. smoking, open flames, or work that can cause sparks) in the areas where fuel is mixed, poured, or stored. Always shut off the engine and allow it to cool down before refueling.
- Always use with caution when handling fuel. Wipe up all spills and then move the high pressure washer at least 10 feet (3 meters) from the fueling point before starting the engine.
- Always shut off the engine before refueling, let the machine cool in a non-combustible area, not on dry leaves, straw, paper, etc. Do not fuel a hot engine – fuel may spill and cause a fire.
- Loosen a bit of the fuel cap carefully so as to allow any pressure build-up in the fuel tank to release slowly and avoid fuel spillage. Never remove the fuel cap when engine is running!
- Fuel your machine only in well ventilated areas. If you spill fuel, wipe the machine immediately. If fuel spills on your clothing, change it immediately.
- Tighten the fuel cap securely to the proper position, make sure it does not loosen or come off due to the machine vibrations.
- To reduce the risk of serious or fatal burn injuries, check for fuel leakage. If fuel leakage is found, do not start or run the engine until leak is fixed.
- Do not inhale fuel fumes as they are toxic.
- Store the machine and fuel in an area where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces, etc.

## Connect to water supply

Do not connect the pressure washer directly to a potable water system.

If hooking up the pressure washer to a potable water system, a backflow preventer must be installed between the water tap and the hose. The design of the backflow preventer must comply with the applicable country-specific regulations.

If potable water has passed through the backflow preventer, it can no longer be regarded as potable water.

Follow the rules and guidelines issued by the local water supply company to prevent water flowing back from the pressure washer into the drinking water system.

Do not use the machine with dirty water (i.e., water that contains sand, dirt or other particulate matter). If there is a risk that the water supply is dirty, find and use an alternative water source.

## Before starting the engine

A area within a minimum radius of 50 feet (15m) from the using the machine should be considered as a hazardous area, into which one should not enter. If necessary, yellow warning rope and warning signs should be placed around the perimeter of the area. When work is to be performed simultaneously by two or more persons, special care should also be taken to constantly look around or otherwise check for the presence and locations of other people working, so as to maintain sufficient safety distance between each person.

Before starting the engine, check that your machine is properly assembled and in good condition:

- The machine may only be used when all parts are in proper working order. Never operate your pressure washer if it is modified, damaged, improperly adjusted or maintained, or not completely or securely assembled. Never run the pressure washer with a modified or disconnected governor. Never attempt to modify the controls or safety devices in any way.
- Check the fuel system for leaks, paying high attention to visible parts such as the fuel tank cap, hose connections and the manual fuel pump (if equipped). If there are any leaks or other sign of damage, do not start the engine because of potential risk. Have your machine repaired by an authorized dealer or service center before using it again.
- Always use the high-pressure hose in good condition and not frayed, cracked, deformed or damaged in any way. Never operate the machine with a damaged or worn high-pressure hose, otherwise replace it before further use. Using a worn or damaged hose, or one that does not meet the high pressure requirements of the pressure washer, can result in personal injury.
- Inspect the spray wand and spray gun for damage before starting work. The spray trigger on the spray gun must move easily and automatically return to its starting position when released. The trigger locking latch must be in proper working condition. Keep the gripping surfaces clean at all times; free of pitch, oil, fuel, grease or resin in order for you to maintain a firm grip and properly control your pressure washer.

- Check that the spark plug boot is securely mounted on the spark plug. If a loose boot may cause arcing which could ignite combustible fumes and cause a fire.
- Check the engine switch, choke lever, throttle lever, and trigger locking latch for proper function. The throttle lever must move freely.
- Keep all handles dry and clean, free from oil and dirt – for safe control of the machine.
- Always connect and turn on the water supply to the pump before starting the engine. Do not operate the pressure washer without water. Running the pressure washer without water will cause the pump overheated, which may result in permanent damage.

## When starting the engine

### **WARNING**

Your pressure washer is designed to be operated by one person only. Do not allow other persons in the work area even when starting.

- Do not operate this pressure washer in temperatures below 5°C. Operating pressure washer under the temperature of 5°C may cause damage to pump and other pressure washer parts. Damage to pressure washer by user misuse is not covered under warranty.
- To reduce the risk of eye or other injury from water spray and blown or sprayed objects, You must wear proper clothing and approved personal protective equipments (PPE) when you start the engine and operate the machine.
- Start the engine at least 10feet (3m) from the fueling point, at a well-ventilated area, outdoors only.
- Keep bystanders, especially children and animals at least 50feet (15m) from the operating point. If you are approached, immediately stop the engine and engage the trigger locking latch on the spray gun.
- Place the machine on firm ground in an open and well ventilated area. Make sure you have good balance and secure footing.
- When you pull the starter rope handle, do not wrap the starter rope around your hand. Do not allow the rope to snap back by itself, but guide the starter rope slowly back to permit the rope to rewind properly. Failure to follow this procedure may result in injuries to your hand or fingers and may damage the starter mechanism.

### **information**

*When a new machine is first operated, in the first few minutes grease may come out of the gear case. But, since this is excessive grease, there is no cause of alarm. Just wipe it off with the engine stopped for next use*

## During operation

### **WARNING**

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all moving parts. Always stop engine, disconnect spark plug, and make sure all moving parts have come

to a complete stop before removing obstructions, clearing debris, or servicing unit.



To reduce the risk of fire resulting in serious or fatal injury or property damage, never spray flammable or combustible liquids.



To reduce the risk of explosion resulting in serious or fatal injury or property damage, never spray flammable or combustible liquids.



To reduce the risk of short circuiting, fire and electrocution, never direct the spray at electrical appliances and equipment, sockets or power cords.



Keep hands and feet and other parts of your body away from the water jet at all times. Severe laceration and fluid injection could result from contact with the water jet. Because of the high pressure and spray velocity, fluids can penetrate the skin and cause fluid injection and/or severe cutting injury. If an accident does occur and the spray appears to have penetrated the skin, seek emergency medical care. Do not treat as a simple cut.



### **Risk of Explosion.**

Do not spray flammable liquids. Flammable liquids, fuel, and their vapors are explosive and can cause severe burns or death.



### **Risk of kickback.**

To reduce the risk of injury from kickback, hold the gun and wand securely with both hands when work with the machine.



In the event of impending danger or in an emergency, switch off the engine immediately by pressing the engine stop switch backward to STOP position, and engage the trigger locking latch.

- Always hold the spray attachment firmly with both hands in order to control the reactive forces, including any additional torque produced when using angled spray attachments or an angled spray wand. The spray jet causes reactive forces on the spray attachment in a direction opposite to the direction of the spray (recoil or kickback).
- Never direct the high pressure jet toward yourself or other persons, not even to clean clothing or shoes. Do not direct the high pressure jet toward animals.

- Do not overreach. Keep proper footing and balance at all times. Special care must be taken in slippery conditions and when working on slopes or uneven ground.
- To reduce the risk of stumbling and loss of control, do not walk backward while operating the pressure washer.
- To reduce the risk of injury from loss of control, never operate the pressure washer while standing on a ladder or on any other unstable support.
- Always carry related tools, equipments, spare parts, and consumables with you:
  - Attached tools in the product package.
  - Personal protective equipments.
  - Properly reserved fuel
  - Spare parts (spare blade, etc.).
  - Things to notify your working are (rope, warning signs, etc.).
  - Whistle (for collaboration or emergency).
- Check that there are no bystanders, children, and animals in the general work area. If someone comes:
  - Guard against hazardous situations at all times. Warn adults to keep children and pets away from your working area. Be careful if you are approached. Injury may result from high pressure sprays.
  - If someone calls out or otherwise interrupts you while working, always be sure to shut off the spray gun and the engine before turning around. Avoid operating which people, especially children are nearby.
- Always be aware of surroundings and stay alert for possible hazards that you may not hear due to the noise of the machine.
- Make sure you always have good balance and secure footing. Place your feet slightly apart (slightly further apart than the width of your shoulders), so that your weight is distributed evenly across both legs, and always be sure to maintain a steady, even posture while working.
- Take special care in slippery conditions (wet ground), on slopes or uneven ground.
- Watch out for obstacles (hose, plants, bricks, etc.) which could cause you to trip or stumble.
- Do not direct the high-pressure jet into places you cannot see. Watch the spray direction at all times, be extremely careful when cleaning tall obstacles (large vehicle, building, etc.), check the other side of the obstacle before starting work.
- Never draw fluids into the pump that contain solvents or undiluted acids (e.g., gasoline, heating oil, paint thinner or acetone). These substances damage the materials used in the machine. The spray is highly combustible, explosive and poisonous.
- Be particularly alert and cautious when wearing hearing protection because your ability to hear warnings (shouts, alarms, etc.) is restricted.
- To reduce the risk of accidents, take sufficient break in good time to avoid tiredness or exhaustion.
- Work calmly and carefully in daylight conditions and only when visibility is good. Stay alert so as not to endanger others.
- To reduce the risk of serious or fatal injury from breathing toxic fumes, ensure proper ventilation when working in trenches, hollows or other confined locations.
- To reduce the risk of accidents, stop work immediately in the event of nausea, headache, visual disturbances (e.g. reduced field of vision), problems with hearing, dizziness, deterioration in ability to concentrate. Apart from other possibilities, these symptoms may be caused by an excessively high concentration of exhaust gases in the work area.
- Operate your machine so that it produces a minimum of noise and emissions. Do not run the engine unnecessarily, accelerate the engine only when working. To avoid noise complaints, in general operate the machine between 8AM and 5PM on weekdays, and 9AM to 5PM on weekends, detail please refer to your local regulations.
- Do not operate your machine in the starting throttle position because engine speed cannot be controlled in this position.
- To reduce the risk of fire, do not smoke while operating or standing near your machine. Note that combustible fuel vapor may escape from the fuel system. Always clean plant residue, chips, debris, leaves and excess lubricant off the engine and muffler. Note that stop the engine before you perform the cleaning work.
- Check the fuel system in particular for leaks and make sure the safety devices are working properly. Do not continue operating your machine if it is damaged. In case of doubt, consult your local authorized dealer or service center.
- The muffler and other parts of the engine (gear box, fins of the cylinder, spark plug) become hot during operation and remain hot for a while after stopping the engine. To reduce risk of burns, do not touch the muffler and other parts while they are hot. Keep the area around the muffler clean. Do not allow the high pressure hose to make contact with the muffler.
- Before leaving the machine unattended: Shut off the engine.

## After finishing your work

- Shut off the engine after finishing work. Then turn off the water supply and squeeze the spray gun trigger to release trapped pressure. Engage the trigger locking latch when not in use.
- Disconnect the water intake hose between the machine and water supply.
- After the engine cool down, wipe away water with dry cloth, always clean dust and dirt off the machine. Do not use any grease solvents for this purpose.
- Do not use a pressure washer to clean pressure washer. The solid jet of high pressure water may damage parts of the machine.

## Assembly

Your pressure washer requires some assembly. This machine ships from our factory without engine oil. It must be properly serviced with fuel and oil before operation. If you have any questions regarding the assembly of your pressure washer, please contact local authorized dealer or service center.

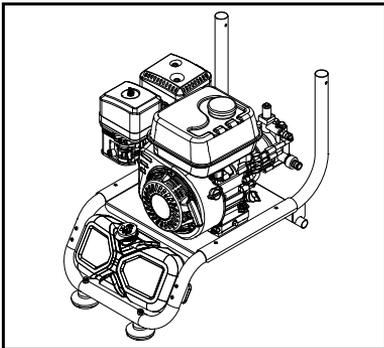
Proper PPE are required when you unpack the box and perform the assembly work.

You may need adjustable wrench, screw driver, unleaded gasoline, engine oil, standard garden hose, etc.

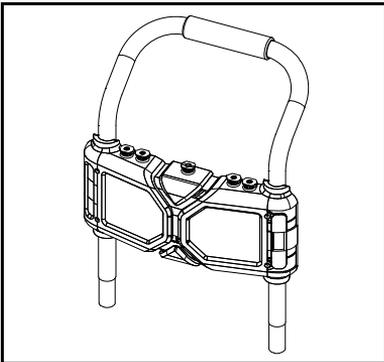
### Parts included in the package

A standard high pressure washer package contains the items as illustrated/listed below:

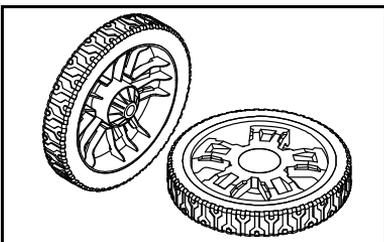
1. Frame, Qty.=1



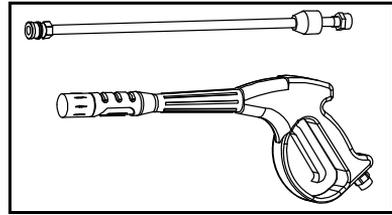
2. Handle, Qty.=1



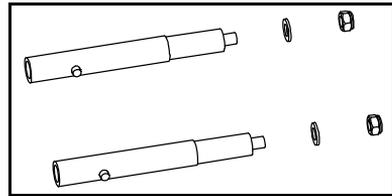
3. Wheel, Qty.=2



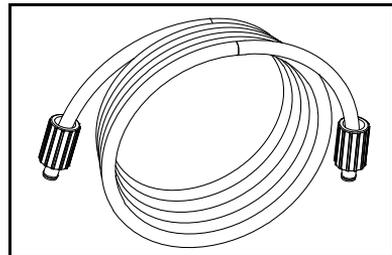
4. Spray gun, Qty.=1; Spray wand, Qty.=1



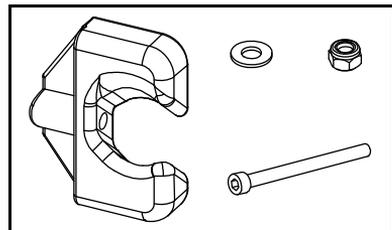
5. Axle, Qty.=2; Nut(M8), Qty.=2; Washer(Ø8), Qty.=2



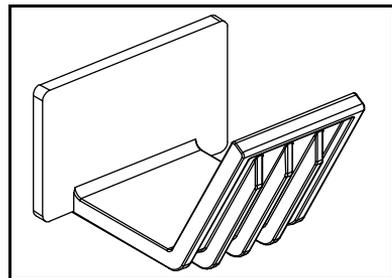
6. Pressure hose, Qty.=1



7. Gun holster, Qty.=1



8. Hose hook, Qty.=1

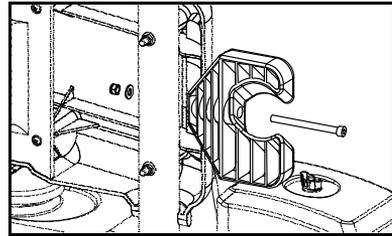


9. Other items not shown:

- Owner's Manual, Qty.=1set.
- Fasteners(Bolt, Nut, Washer), Qty.=1 set.
- Spray nozzle cleaner, Qty.=1.
- Spark plug wrench, Qty.=1
- Replacement O-ring, Qty.=1set (2 for pressure hose & 1 for quick connector).

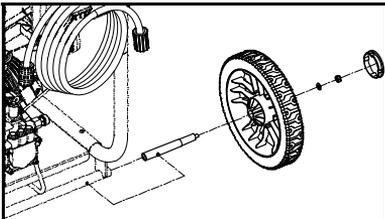
## Unpack pressure washer

1. Set the shipping carton on a solid, flat surface.
2. Remove bubble wrap and other packaging materials.
3. Remove all parts from the box except the pressure washer.
4. Carefully cut each corner of the box from top to bottom.



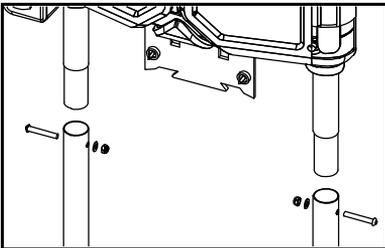
## Wheels installation

1. Place the lower main frame on a solid, flat surface.
2. Lift the main frame with one hand.
3. Press the spring pin and insert wheel axle into the tube on the main frame until the pin aligns with the fixation hole and snap in.
4. Install wheel onto axle with washer and nut, tight the nut securely, then put on the wheel cover.
5. Repeat this procedure to install another wheel.



## Handle assembly

1. Align two posts of upper handle with the lower frame.
2. Slide the upper handle downward into the tubes on lower frame until the fixation holes match together.
3. Insert the screws, and tighten it securely with washer and nut.

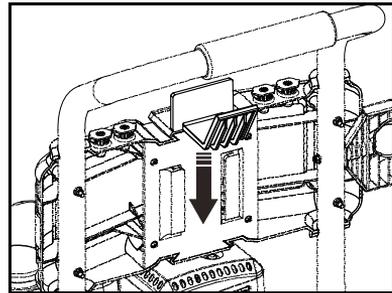


## Gun holster assembly

1. Fix the gun holster onto the upper frame with bolt, washer and nut; tight the nut securely.
2. Align the mounting hole on gun holster with the fixation hole on upper frame.
3. Insert the screws, and tighten it securely with washer and nut. Make sure the gun holster installation direction is correct.

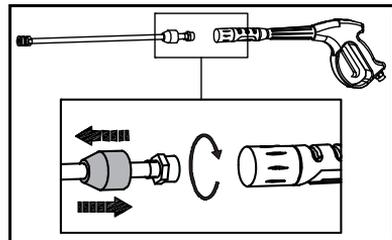
## Hose hook assembly

1. Align the hose hook with the profile on the back of the panel.
2. Slide it downward until it reaches the bottom place.



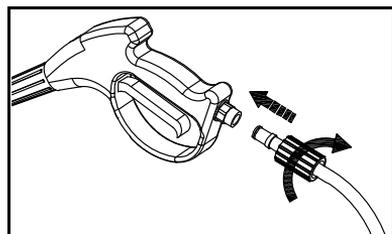
## Gun and wand assembly

1. Pull back the rubber piece to expose the threaded fitting.
2. Attach the spray wand to the trigger gun.
3. Screw the trigger gun clockwise until the spray wand is secure. DO NOT OVER-TIGHTEN.
4. Move the rubber piece back.



## Attach pressure hose to spray gun

1. Align one end connector of pressure hose with the connector on spray gun.
2. Rotate plastic nut clockwise to attach pressure hose to spray gun. Tighten the plastic nut securely. DO NOT OVER-TIGHTEN.



## Engine oil

### NOTICE

New pressure washer has no engine oil in crankcase when they are delivered out of factory.

Do not attempt to crank or start the engine before it has been properly filled with the recommended type and amount of engine oil, otherwise damage to the pressure washer may result.

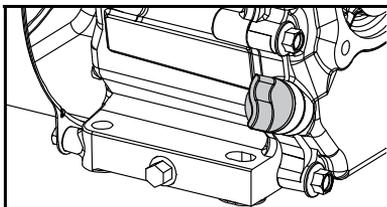
Always check the engine oil level before starting the engine, on a level surface.

### NOTICE

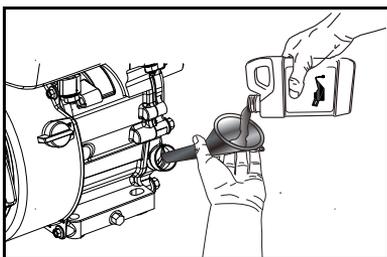
The recommended engine oil type is SAE 10W-30, oil crankcase capacity is 0.6L.

## Add engine oil

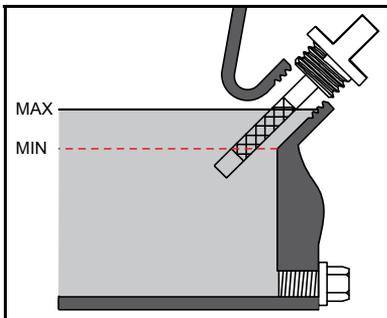
1. Place the pressure washer on a flat level surface.
2. Clean the oil gauge dipstick/cap and the area around it to ensure that no dirt falls into the crankcase.



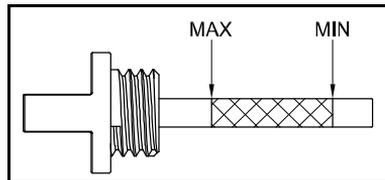
3. Turn the oil gauge dipstick/cap counterclockwise, remove it and clean it with a clean cloth.
4. Add engine oil into the crankcase through the oil gauge dipstick/cap installation port (a fuel funnel may be needed here). Do not overfill.



5. Fully reinsert the oil gauge dipstick and pull it out to check the oil level.



6. If the oil level is just at MIN marker or below, refill SAE 10W-30 oil through the dipstick hole until the oil level is between MIN and MAX marker.



7. Reposition the oil gauge dipstick and tighten it by turning clockwise.

## Fuel and fueling

### NOTICE

New pressure washer has no engine oil in crankcase when they are delivered out of factory.

Do not attempt to crank or start the engine before it has been properly filled with the recommended type and amount of engine oil, otherwise damage to the pressure washer may result.

Always check the engine oil level before starting the engine, on a level surface.

## Fuel

### WARNING

Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel. Make sure to stop the engine and allow it cool down before refueling the machine. Select outdoor bare ground for fueling and move at least 3 m (10 ft) away from the fuming point before starting the engine.

The recommended fuel type is regular unleaded gasoline with a minimum octane rating of 87 and an ethanol content of less than 10% by volume, fuel tank capacity is 3.8L.

This is a 4-cycle engine and does not require a gas/oil mixture. There is a separate reservoir for gas and a separate reservoir for oil.

### NOTICE

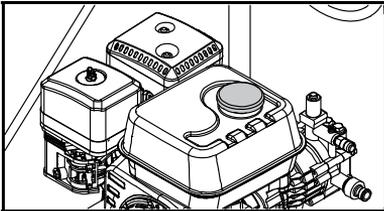
Do not use mixed oil with gasoline for this machine

- Exhaust emission are controlled by the fundamental engine parameters and components (for example, carburetion, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasoline or oil may damage sealing rings, fuel lines or fuel tank of the engine.

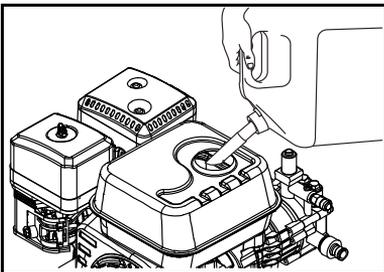
- Take care when handling gasoline. Avoid direct contact with the skin and avoid inhaling fuel vapor.

## Fueling

1. Before fueling, clean the filler cap and the area around it to ensure that no dirt falls into the fuel tank.



2. Turn the fuel cap by turning it counterclockwise, loose a bit of the fuel cap carefully so as to allow any pressure build-up in the fuel tank to release slowly. Never remove the fuel cap when engine is running!
3. Use clean, fresh, regular unleaded fuel with a minimum octane rating of 87 and an ethanol content of less than 10% by volume.
4. Slowly add fuel to the tank. Do not overfill. Fuel can be forced out of the tank as a result of expansion if it is overfilled, and can affect the stable running condition of the machine. When filling the tank, it is recommended to leave enough space for the fuel to expand. A minimum of 13mm (0.5inch) of space below the bottom of the filler neck to provide space for expansion.



5. Tighten the fuel cap clockwise securely after fuelling.
6. Wipe away any spilled fuel.

## Detergent

### ! NOTICE

*This pressure washer is intended for use with special pressure washer detergents only. Follow the detergent manufacturer's directions, only use recommended detergents for pressure washers. Using detergents not specifically recommended for use with pressure washers can cause damage to pump and other pressure washer components. Damage caused to pressure washer by using non-recommended detergent is not covered under warranty.*

### ! NOTICE

*Do not use powdered soaps which clog the injection system.*

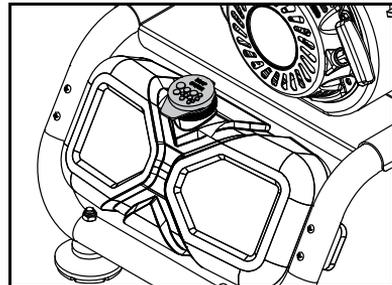
### ! NOTICE

*Working with a detergent ensures quick soaking of the dirt, and allows the high-pressure water to penetrate and remove the dirt more effectively. Always spray detergent on a dry surface, do not presoak the area. Soaking the surface dilutes the detergent and reduces its cleaning ability.*

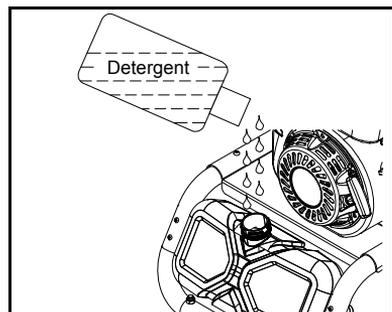
Some cleaning jobs can be completed by using only water, but for most, it is advantageous to use a detergent to penetrate and remove the dirt more effectively. When using pressure washer approved detergent, make sure the surface is clean and dry. Wetting the surface first is not recommended; it will dilute the detergent and will reduce the cleaning effectiveness.

## Add detergent

1. If need, add the detergent to a separate container and dilute it with water at the ratio specified by the detergent manufacturer. Do not dilute it in the pressure washer detergent tank.
2. Turn the detergent tank cap counterclockwise to open the cap.



3. Add detergent into the tank. Do not overfill. If necessary, a funnel is recommended to use here. This pressure washer is intended for use with pressure washer detergents only.



4. Turn the detergent tank cap clockwise to tighten the detergent cap securely.
5. Wipe away any spilled detergent.

### ! NOTICE

*When finished with detergent, squeeze spray trigger and continue cleaning with clean cold water, this can help flush some detergent residue in the machine and accessories.*

## Cleaning with detergents

- When using detergent, always use the black detergent nozzle.
- When applying detergents, always operate the machine at a low water pressure. This provides a gentle application of the detergent, with the water pressure equivalent to a garden hose. Always test the detergent in a concealed area before use.
- The liquid detergent will be mixed with water automatically, and discharged through the detergent nozzle at a low pressure.
- Avoid to spray water onto the cleaning surface when it is hot surfaces or under direct sunlight, this will minimize the chances of the detergent damaging the painted surface.
- Do not let the detergent dry or it may damage the painted surface. Allow the detergent to remain on the surface for a short time before rinsing with clean water under high pressure.

## Preparation

### NOTICE

Always check the level of the engine oil prior to starting the machine. Failure to do so could cause the engine to seize if the oil is low or empty.

## Pre-operation checklist

Follow the steps below before using the machine every time:

1. Check the pressure washer location.

### NOTICE

This pressure washer must have at least 1.5 m (5 ft.) of clearance from combustible material. Leave at least 90 cm (3 ft.) of clearance on all sides of the pressure washer to allow for adequate cooling, maintenance and servicing. Place the pressure washer in a well ventilated area. Do not place the pressure washer near vents or intakes where exhaust fumes could be drawn into occupied or confined spaces. Carefully consider wind and air currents when positioning pressure washer.

2. Check the engine oil level to make sure it is located at the proper position.
3. Add fuel and check the fuel level to make sure there is sufficient gasoline in the fuel tank.
4. Select appropriate spray nozzle and make sure it is installed on the end of spray wand securely.
5. Securely connect high pressure hose to the pump outlet, and connect the other end to the spray gun.
6. Securely connect the garden hose to the pump inlet, and turn water on. The water supply must provide a minimum of 4GPM at 30PSI, otherwise the pump may be damaged.
7. Check/add the detergent in the detergent tank.
8. Water must be turned on prior to starting the washer, pull the spray trigger to ensure water is moving through the lines and out the nozzle without any leaks before starting the machine.

9. Check there is no leakage of oil, fuel, or water.
10. Double-check and observe all safety precautions and instructions in this manual prior to starting the machine.

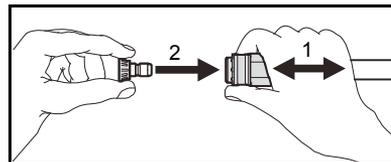
## Install spray nozzle

### WARNING

Before removing, installing or adjusting any spray nozzle or accessory, make sure to shut off the pressure washer, relieve system pressure, and engage the spray trigger locking latch, otherwise severe injury may result.

The end of spray wand has a quick connect coupler, which allows you to connect, change, disconnect the spray nozzle easily.

1. Shut off the pressure washer and squeeze the spray trigger to relieve system pressure.
2. Engage the spray trigger locking latch.
3. Select appropriate spray nozzle for your cleaning work.
4. Remove all sands and debris from nozzle and coupler.
5. Pull the coupler collar (1) backward as far as it will go and hold it there.



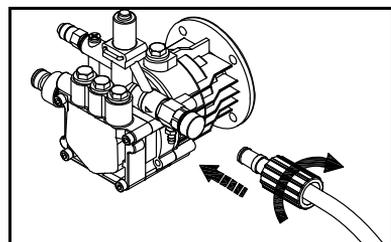
6. Push the spray nozzle (2) as far as it will go into the coupler.
7. Push the coupling sleeve forward as far as it will go.
8. Pull the spray nozzle and confirm that it is seated in the coupler securely.

### WARNING

Confirm that the spray nozzle is fixed securely in quick connect coupler on one end of spray wand. If the high pressure nozzle is not securely fixed, it can shoot out of the spray wand during operation and cause injury.

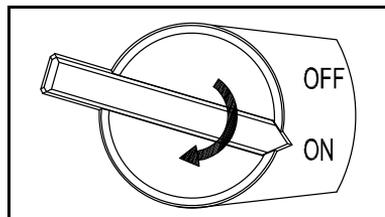
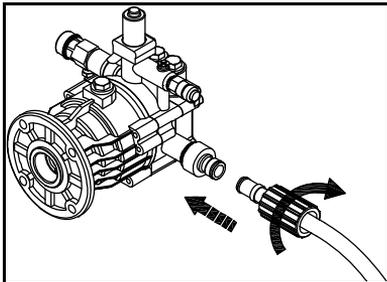
## Connect the pressure hose to pump

1. Align one end threaded fitting on the hose with the outlet on pump. Assume another end threaded fitting on the hose has already been connected with the spray gun.
2. Fully insert/match the threaded fitting with the outlet.
3. Turn the plastic nut on the hose clockwise to tighten the hose securely to the pump.

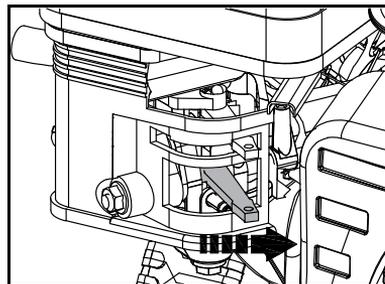


## Connect the garden hose to pump

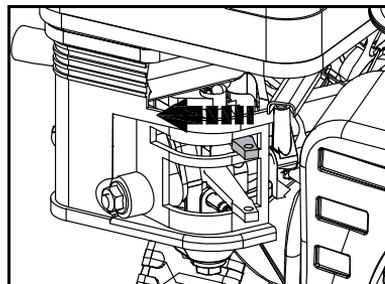
1. Align one end threaded fitting on the hose with the inlet on pump. Assume another end threaded fitting on the hose has already been connected with the source of water supply, cold water only.
2. Fully insert/match the threaded fitting with the inlet.
3. Turn the plastic nut on the hose clockwise to tighten the hose securely to the pump.



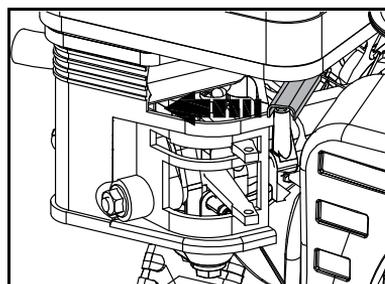
4. Move the fuel valve rightward to the "ON" position.



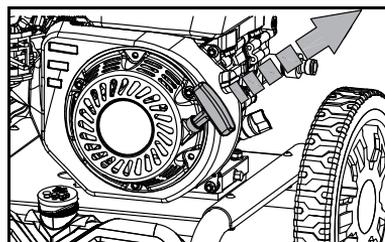
5. Move the choke lever leftward to "CLOSE" position.



6. Move the throttle lever leftward to its maximum setting.



7. Grip the starter rope handle securely, pull it slowly until resistance is felt, then pull it rapidly until start the engine (or 5 pulls maximum).



## Start and stop the engine

### **WARNING**

It is very dangerous to run a high pressure washer that equipped with broken parts or lacks of any parts. Before starting the engine, make sure that all the parts including cutting blades and blades guard are installed properly.

### **WARNING**

To reduce the risk of serious or even fatal injury:

- Do not allow children or other unauthorized persons to attempt to start or otherwise use the machine.
- Never allow children or unauthorized persons access to the machine.
- Never leave the machine unattended while working or during work breaks
- After work, store the machine in a safe, secure location out of the reach of children and other unauthorized persons
- Observe safety precautions and instructions.

### **WARNING**

When starting the engine, make sure that your body does not contact with the muffler. A hot muffler can cause serious burns.

## Start the engine

### **WARNING**

Never start or stop the pressure washer unless the water supply is turned on.

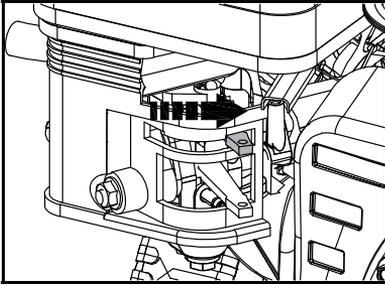
1. Finish the procedures described in the section of *Pre-operation check list*, make sure your machine is ready to start the engine.
2. Place the machine on a flat and firm ground in a clear area.
3. Turn engine switch to "ON" position.

### **NOTICE**

Do not pull out the starter rope all the way, otherwise it might break.

Do not let the starter rope snap back by itself. Guide it slowly back into the housing, so that the starter rope can rewind properly.

8. After engine fires (or 5 pulls), move choke lever rightward to "OPEN"  position.



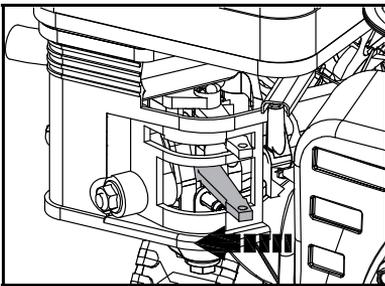
9. Restart engine if necessary, and allow the machine to warm up at idle engine speed.

**NOTICE**  
If engine does not start with choke lever in "OPEN" position after 5 pulls, repeat steps 3 ~ 9.

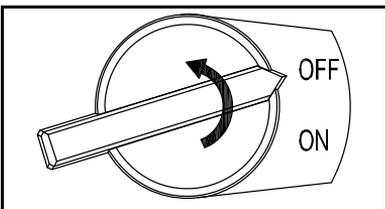
**NOTICE**  
When restarting the engine immediately after stopping it, leave the choke lever in "OPEN" position.

### Stop the engine

1. Move the fuel valve leftward to the "OFF" position.



2. Let the engine run until fuel starvation has stopped the engine. This usually takes a few minutes.
3. Turn engine switch to the "OFF" position.



4. Squeeze and hold the spray trigger until water only drips from the spray nozzle and the system is depressurized.
5. Turn off water supply and unplug all hoses.

**WARNING**

Never start or stop the pressure washer unless the water supply is turned on.

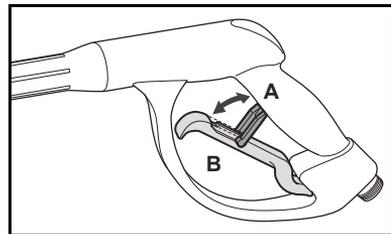
**WARNING**  
Always ensure that the fuel valve and the engine switch are in the "OFF" position when the engine is not in use.

**WARNING**  
If engine does not stop when engine stop switch is moved to "STOP" position, move choke control lever to "CLOSE" position to stall engine. Have your local authorized dealer or service center to repair engine stop switch before using the machine again.

### Operation

#### Activate spray trigger

1. Direct the spray attachment towards the surface to be cleaned.
2. Release the trigger locking latch (A).
3. Squeeze the spray trigger (B).

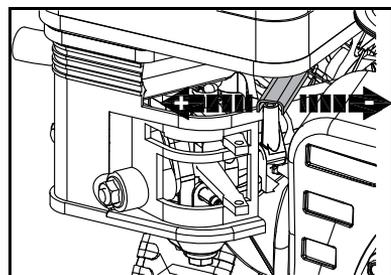


#### Deactivate spray trigger

1. Release the spray trigger (B)
2. Engage the trigger locking latch (A).
3. Squeeze the spray trigger (B) slightly to make sure the trigger locking latch (A) is in the right locking place.

#### Adjust water pressure

The water pressure is regulated by the throttle lever.



Moving the throttle lever towards the left (Fast direction) will increase the engine speed, thus increasing the water pressure.

Moving the throttle lever towards the right (Slow direction) will decrease the engine speed, thus decreasing the water pressure.

## information

When moving the engine throttle to the minimum (rightmost), the output power of engine is low. Please don't operate the machine, if not, the machine will be flameout stop due to low engine output power.

## Working techniques

This section describes basic working technique with safety rules for using a high pressure washer to perform your cleaning work. This information is no substitute for professional skills and experience. If you get into a situation where you feel unsafe, stop and seek expert advice. Do not attempt any task that you feel unsure of!

## WARNING

Engine exhaust is hot, and it can cause serious burns. Engine exhaust contains Carbon Monoxide (CO), a poison gas. Breathing CO can cause unconsciousness, serious injury, or death. Always position your machine so that exhaust is directed away from your face and body.

## information

Observe all country-specific or municipal rules and regulations for trimming hedges.

Do not use your machine during other people's normal rest periods.

## Distance from cleaning surfaces

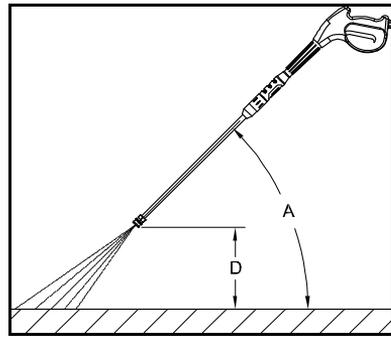
The distance between the spray nozzle and the cleaning surface is one of the important factors that affects the impact force of the water. The impact force of the water increases as the spray nozzle is moved closer to the surface.

You can vary the impact force by controlling:

- The nozzle's spray pattern.
- The nozzle's angle to the cleaning surface.
- The nozzle's distance from the cleaning surface.

Never use a narrow high impact stream on a surface that is susceptible to damage. Avoid spraying windows with a narrow high impact stream or turbo nozzle. Doing so may break the glass.

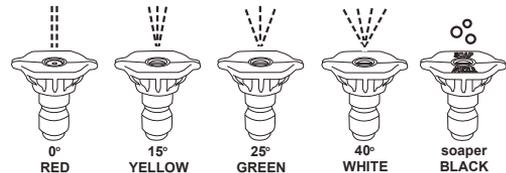
1. Before triggering the spray gun, select a spray nozzle with a wide spray pattern.
2. Place the nozzle approximately 6~8inch (16~20cm) away from the cleaning surface.
3. Hold the nozzle at a 45 degree angle (A) to the cleaning surface with a distance (D) 6~8inch(15~20cm), then trigger the spray gun.



4. Vary the pattern spray angle and the distance to the cleaning surface until optimum cleaning efficiency is achieved without damaging the surface.

## Spray nozzles selection

The spray pattern can be adjusted by installing an appropriate spray pattern nozzle. The pressure washer comes with five (5) types of high-pressure nozzles that can be connected to the end of spray wand, 0°, 15°, 25°, 40° and a detergent nozzle. The spray tips vary the spray pattern as shown below.



- 0° (red) - Thin and powerful stream of water for difficult stains and debris removal.
- 15° (yellow) - Thin angled spray for focused cleaning.
- 25° (green) - Medium angled spray for focused cleaning.
- 40° (white) - Large fan pattern for wider cleaning applications.
- Detergent (black) - This nozzle must be used in conjunction with a cleaning detergent at low pressure. Only use this nozzle when using a detergent or cleaning solution.

## WARNING

Before removing, installing or adjusting any spray nozzle or accessory, make sure to shut off the pressure washer, relieve system pressure, and engage the spray trigger locking latch, otherwise severe injury may result.

# Maintenance and care

## Maintenance schedule

<b>IMPORTANT!</b> Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.		Before starting to work	Daily and/or at the end of work	Whenever tank is refilled	Weekly	Monthly	Yearly	if there is a failure	if there is a damage	As required
		System / Component	Maintenance Procedure							
Complete machine	Visual inspection (Condition, leak)	√								
	Clean		√							√
Engine switch, Throttle lever, Fuel lever, Choke lever, Spray trigger, Trigger locking latch	Function test	√				√	√			
Air filter	Inspect	√				√				
	Clean				√					
	Replace						√		√	√
Fuel system	Inspect	√			√					
	Clean		√							√
	Replace								√	
Fuel filter	Inspect	√				√				
	Replace						√		√	√
Fuel cap gasket	Inspect	√			√					
	Replace								√	
Fuel tank	Clean									
Recoil Starter Rope	Inspect	√			√					
	Clean		√							
Carburetor	Inspect									
	Adjust									√
Cooling system	Inspect	√			√					
	Clean		√							
Spark Plug	Inspect	√			√					
	Clean		√							
	Adjust									√
	Replace								√	√
Fasteners, inclusive of Bolts, Screws, Nuts	Inspect	√			√					
	Tighten									√
	Replace								√	
Safety Information Label	Replace							√		

## WARNING

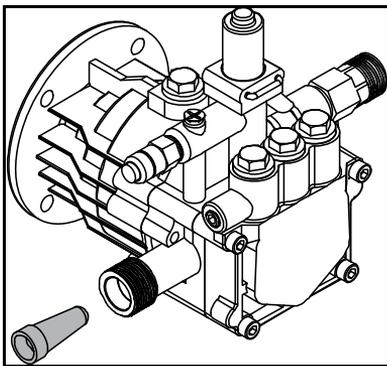
Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all moving attachments.

Always stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit.

Allow the machine to cool down before performing maintenance service. Wear gloves to protect hands from sharp edges and hot surfaces.

Before cleaning, inspecting or repairing the machine, make sure that engine has been stopped and cooled down. Disconnect the spark plug to prevent accidental starting.

## Water inlet filter



This water filter must be kept clean at all times or else it will restrict the water flow to the pressure washer and may damage the pump.

1. Remove the quick connect coupling from the water inlet.
2. Clean the filter with a soft plastic brush or rinse it in water. Replace it if it is damaged.
3. Reinstall the water filter.
4. Reinstall the quick connect coupling.

## NOTICE

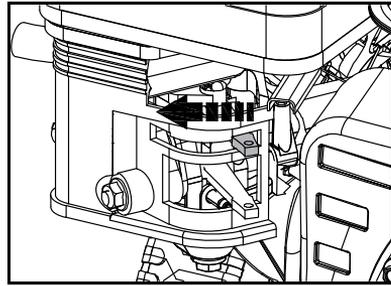
*DO not operate this pressure washer without the water inlet filter in place as deposits could build up internally and affect the functioning of the machine.*

## Air filter

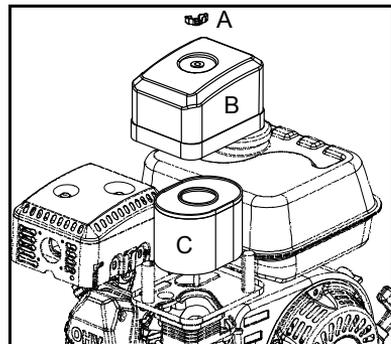
### NOTICE

*The air filter should be checked after prolonged storage, the following steps should be done when checking the air filter. It is recommended to replace the air filter once every spring.*

1. Move choke lever leftward to "CLOSE"  position. This prevents dirt from entering into the carburetor throat when the air filter is removed.



2. Brush accumulated dirt from air filter area.
3. Loosen and remove the wing nut (A) from the top of air filter cover.
4. Remove air filter cover (B). Brush dirt from inside cover.
5. Remove the air filter (C), wash filter in kerosene, squeeze kerosene out, soak filter in engine oil and squeeze engine oil out. Replace air filter if it is damaged, fuel soaked, or very dirty.
6. Dry the air filter completely before re-installing.
7. Install air filter.
8. Install air filter cover.
9. Screw in the wing nut and tighten it securely. Do not over-tighten.

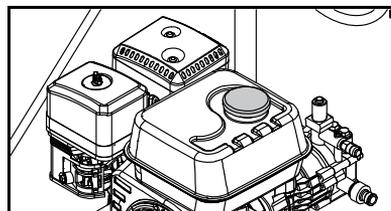


## Fuel filter

### DANGER

Fuel is very flammable. Use extreme care when mixing, storing or handling, or serious personal injury may result.

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Use a fuel line hook to pull the fuel line and filter from the tank.
3. Remove the used fuel filter from the line, replace it with a new fuel filter.
4. Install the new fuel filter.

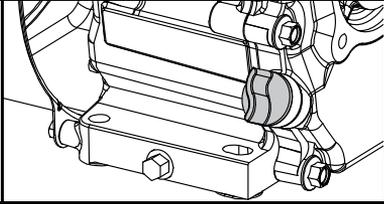


## Change engine oil

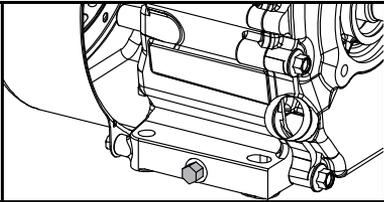
### **NOTICE**

*Change engine oil when the engine is warm.*

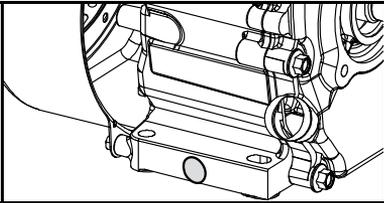
1. Place the pressure washer on a flat level surface.
2. Turn off the engine
3. Place an oil pan under the drain oil port.
4. Clean the oil gauge dipstick/cap and the area around it to ensure that no dirt falls into the crankcase.



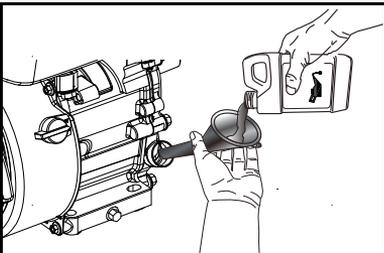
5. Turn the oil gauge dipstick/cap counterclockwise, remove it and clean it with a clean cloth.



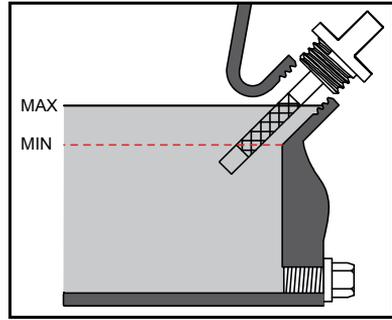
6. Remove the hexagon head drain plug, allow the oil to drain completely.



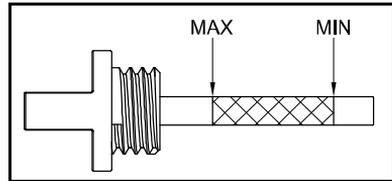
7. Reinstall the hexagon head drain plug.
8. Add engine oil into the crankcase through the oil gauge dipstick/cap installation port (a fuel funnel may be needed here). Do not overfill.



9. Fully reinsert the oil gauge dipstick and pull it out to check the oil level.



10. If the oil level is just at MIN marker or below, refill SAE 10W-30 oil through the dipstick hole until the oil level is between MIN and MAX marker.

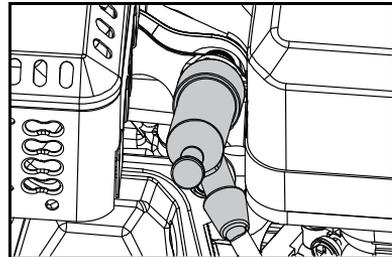


11. Reposition the oil gauge dipstick and tighten it by turning clockwise.

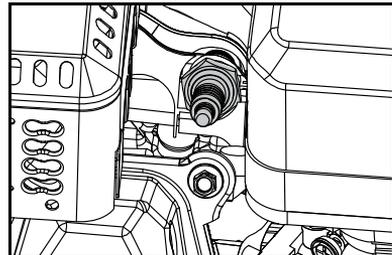
## Spark plug

Starting failure and misfiring are often caused by a fouled spark plug. Clean the spark plug and check that the plug gap is in the correct range. For a replacement plug, use the correct type.

1. Disconnect the spark plug wire by pulling it off the spark plug.

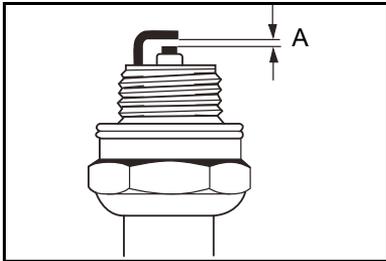


2. Using the spark plug wrench, remove the spark plug by turning counterclockwise.



3. Check spark plug condition for fouling, worn and rounded center electrode.
4. Check to see if there is carbon sediment build-up, if so, remove it. If the carbon sediment is excessive, replace the spark plug.

- Clean the plug or replace with a new one. Do not clean it with sand blast. Remaining sand will damage the engine.
- Measure the electrodes clearance using a feeler gauge. The spark plug electrode clearance (A) should be 0.7-0.8 mm. If the clearance exceeds 0.8 mm, replace the spark plug.



- According to Technical Specification, adjust spark plug gap by bending outer electrode. Replace the spark plug with a new one when necessary.
- Reconnect the wire to spark plug.

**NOTICE**  
*Using any spark plug other than those designated in this manual may result in the engine failing to operate properly, or in the engine becoming overheated and damaged.*

### Carburetor adjustment

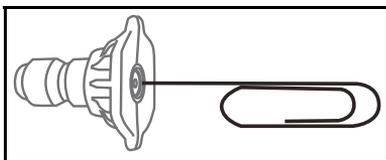
The carburetor has been adjusted at the factory with a standard setting.

This setting provides an optimal fuel-air mixture under most operating conditions.

**NOTICE**  
*Carburetor adjustments must be performed by an authorized dealer or service center.*

### Clean the spray nozzle

- Detach the spray nozzle from the spray wand.
- Use a small wire rod (paper clip) to loosen up any particles in the spray nozzle and flush with water.



### Clean the pressure washer

**NOTICE**  
*Do not spray the pressure washer with water. Water can contaminate the fuel system and can enter the engine through the cooling slots and damage the engine.*

- Use a damp cloth to clean exterior surfaces of the pressure washer.
- Use a soft bristle brush to remove dirt and oil.

- Use an air compressor (25 PSI) to clear dirt and debris from the pressure washer.
- Inspect all air vents and cooling slots to ensure that they are clean and unobstructed.

## Repair

Users of this machine should only carry out the maintenance and service work described in this user's manual. CRAFTOP recommends that other repair work be performed by authorized dealer and service center using genuine CRAFTOP replacement parts.

## Storage

**DANGER**  
 Do not store the machine in enclosure where fuel fumes may accumulate or reach an open flame or spark, otherwise serious personal injury may result.

**WARNING**  
 The muffler and surrounding covers become hot during operation. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

**NOTICE**  
*Do not store your machine for periods of time 30 days or longer without performing protective storage maintenance which includes the following procedure:*

### Pressure washer storage

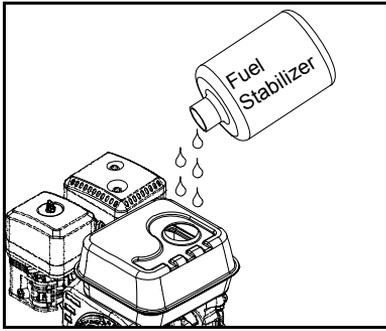
- Allow the pressure washer to cool completely before storage.
- Turn off the fuel supply at the fuel valve.
- Clean the pressure washer according to the instructions described in this manual.
- Store the machine in a clean, dry area out of direct sunlight.

### Engine stored for less than 30 days

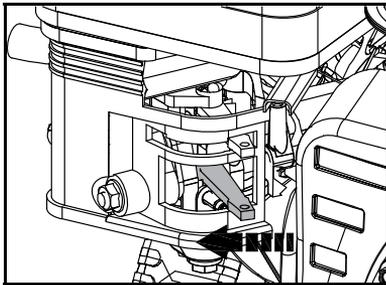
- Allow the engine to cool completely before storage.
- Clean engine according to the instructions described in this manual.
- To extend the fuel storage life, add a properly formulated fuel stabilizer to the tank.
- Ensure the fuel valve is set to the "OFF" position.

### Engine Stored for Over 30 Days

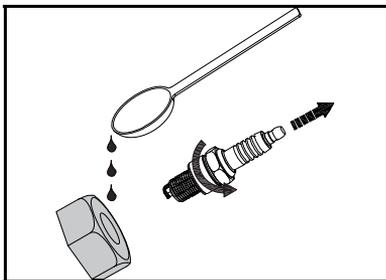
- Add a properly formulated fuel stabilizer to the tank.



2. Run the engine for a few minutes so the treated fuel cycles through the fuel system and carburetor.
3. Turn the fuel valve to the "OFF" position.



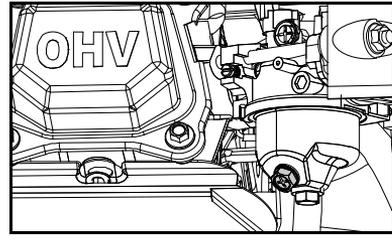
4. Let the engine run until fuel starvation has stopped the engine. This usually takes a few minutes.
5. The engine needs to cool completely before cleaning and storage.
6. Clean the engine according to the Maintenance section.
7. Change the oil.
8. Remove the spark plug and pour about 0.5oz. (14.9ml) of oil into the cylinder. Crank the engine slowly to distribute the oil and lubricate the cylinder.



9. Reattach the spark plug.

If you wish to drain the fuel instead of adding fuel stabilizer, please follow these steps below:

1. Turn fuel valve to the "OFF" position.
2. Remove drain hex screw from the carburetor.
3. Turn fuel valve to the "ON" position and drain the fuel from the tank, carburetor and hose.
4. Reposition the carburetor drain hex screw once the fuel is completely drained.



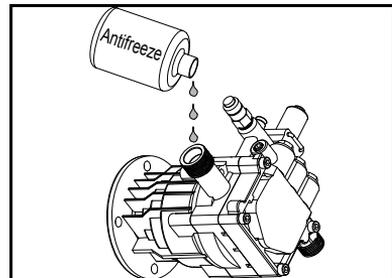
## Winter Storage

Protect your pressure washer parts from freezing.

In order to prevent the pump from freezing you will need to insert RV antifreeze.

You will need approximately 6oz. (177.4ml) of RV antifreeze, a funnel, and approximately 12inch. (305mm) of garden hose or equivalent.

1. Apply all storage instructions from previous sections.
2. Make sure pressure washer hose is free of all water before storing for winter.
3. Pour the antifreeze into the funnel, then pull on the engine recoil starter to create suction in the pump housing.
4. Place the machine on its side with the water inlet facing upwards, pour 1/4 cup of antifreeze into the water inlet.



5. Pull the recoil starter several times
6. Disconnect spark plug wire, and then pull recoil starter several times to circulate the antifreeze in the pump system until antifreeze comes out of the pump outlet.
7. Reconnect spark plug wire.

### ! NOTICE

*Always store and transport high pressure washers in a stable, horizontal position. Support gear case and cutting blades to prevent excessive flexing, which may cause damage to these components. Always install blade cover when transporting or storing unit.*

## Disposal

Observe all country-specific and local waste disposal rules and regulations.

CRAFTOP products must not be thrown in the garbage bin. Take the machine, accessories and packaging to

an approved disposal site for environment friendly recycling.

Dispose of all packing material in an environmentally responsible manner.

Contact your local recycling center or factory to dispose used engine oil in a proper way.

 **DANGER**

Plastic bags can be a danger to young children, dispose of immediately!

Contact your local authorized dealer or service center for the latest information on waste disposal.

## Troubleshooting guide

### DANGER

Fuel vapors are extremely flammable and may cause fire and/or explosion. Never test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.

Problem	Cause	Solution
Engine will not start (or stops while operating)	<ol style="list-style-type: none"> <li>1. Low-oil shutdown</li> <li>2. Engine switch not in "ON" position.</li> <li>3. Pressure built up in the hose</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill engine with SAE 10W-30 engine oil</li> <li>2. Turn switch "ON"</li> <li>3. Squeeze trigger while starting</li> </ol>
If engine sounds abnormally, it could be overloaded.	<ol style="list-style-type: none"> <li>1. Nozzle partially blocked</li> <li>2. Excessive pressure</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean nozzle using nozzle cleaning tool or paper clip</li> <li>2. Shorten the spring coil of the reflux valve</li> </ol>
Engine is running but pump won't build maximum pressure or has irregular pressure	<ol style="list-style-type: none"> <li>1. Faucet closed</li> <li>2. Machine has been stored in freezing temperatures</li> <li>3. Inadequate water supply</li> <li>4. Water inlet screen clogged</li> <li>5. Kink in garden hose</li> <li>6. Wand tip worn or damaged</li> <li>7. Air in pump</li> <li>8. Engine speed not set to maximum position</li> </ol>	<ol style="list-style-type: none"> <li>1. Open faucet</li> <li>2. Thaw out unit completely including hose, gun and wand.</li> <li>3. Provide a minimum of 4 GPM at 30 PSI</li> <li>4. Clean screen</li> <li>5. Straighten garden hose</li> <li>6. Replace wand</li> <li>7. Let it run with gun open and wand removed until steady stream of water is released</li> <li>8. Set throttle to maximum position</li> </ol>
No intake of chemicals	<ol style="list-style-type: none"> <li>1. Injection tube not securely inserted into unit</li> <li>2. Tube cracked or split</li> <li>3. Wrong nozzle</li> <li>4. Nozzle blocked</li> <li>5. Clogged chemicals injector</li> </ol>	<ol style="list-style-type: none"> <li>1. Push firmly into injector fitting</li> <li>2. Replace tube</li> <li>3. Switch to low pressure nozzle</li> <li>4. Clean nozzle</li> <li>5. Dissolve by running warm water</li> </ol>
Trigger will not move	<ol style="list-style-type: none"> <li>1. Gun safety lock engaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Release safety lock</li> </ol>
Water in crankcase	<ol style="list-style-type: none"> <li>1. High humidity</li> <li>2. Worn seals</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil more frequently</li> <li>2. Change the oil seals</li> </ol>
Noisy operation	<ol style="list-style-type: none"> <li>1. Worn bearings</li> <li>2. Air mixed with water</li> </ol>	<ol style="list-style-type: none"> <li>1. Change the bearing</li> <li>2. Check inlet lines for restrictions and/or proper sizing</li> </ol>
High crankcase temperatures	<ol style="list-style-type: none"> <li>1. Wrong grade of oil</li> <li>2. Improper amount of oil in crankcase</li> </ol>	<ol style="list-style-type: none"> <li>1. Use SAE 10W-30 engine oil</li> <li>2. Adjust oil level to proper amount</li> </ol>
Rough/pulsating operating with pressure drop	<ol style="list-style-type: none"> <li>1. Inlet restriction</li> <li>2. Air mixed with water</li> </ol>	<ol style="list-style-type: none"> <li>1. Check system for stoppages, air leaks, correctly sized inlet, plumbing to pump</li> <li>2. Check inlet lines for restrictions and/or proper sizing</li> </ol>

### information

If your high pressure washer seems to need further service, please consult with your local authorized dealer or service center.

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