



# HOT WATER PRESSURE WASHER



**N4013HGHW**



**N4015RAHW**

## OPERATOR'S MANUAL

85.610.522

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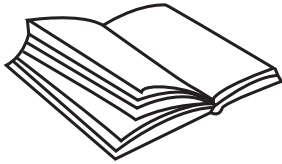
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**ATTENTION:** Read through the complete manual prior to the initial use of your pressure washer.

### Using the Operator's manual

The operator's manual is an important part of your pressure washer. It should be read thoroughly before initial use, and referred to often to make sure adequate safety and service concerns are being addressed.

Reading the operator's manual thoroughly will help avoid any personal injury or damage to your machine. By knowing how best to operate this machine, you will be better positioned to show others who may also operate the unit.

This manual was written to take you from the safety requirements to the operating functions of your machine. You can refer back to the manual at any time to help troubleshoot any specific operating functions, so store it with the machine at all times.

### Record Identification Numbers

If you need to contact an Authorized Dealer or Customer Service line (**1-866-850-6662**) for information on servicing, always provide the product model and identification numbers. You will need to locate the model and serial number for the pump and record the information in the spaces provided below.

<b>Date of Purchase:</b>
<b>Dealer Name:</b>
<b>Dealer Phone:</b>

<b>PRODUCT IDENTIFICATION NUMBERS</b>
<b>Model Number:</b>
<b>Serial Number:</b>









 <b>WARNING</b> ADVERTENCIA • AVERTISSEMENT
Cancer and Reproductive Harm Cáncer y Daño Reproductivo Cancer et dommages à la reproduction <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>



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

<b>DANGER</b>	This indicates a hazard which, if not avoided, will result in serious injury or death.
<b>WARNING</b>	This indicates a hazard which, if not avoided, will result in a severe injury or property damage.
<b>CAUTION</b>	This indicates a hazard which, if not avoided, might result in a minor or moderate injury.
<b>NOTICE</b>	This indicates a situation that could result in equipment damage or damage to other property. Ensure all safety messages are observed and adhered to.



## HAZARD SYMBOLS AND MEANINGS



			
EXPLOSION	FIRE	HOT SURFACE	MOVING PARTS
			
FLYING OBJECTS	ELECTRIC SHOCK	TOXIC FUMES	INJECTION



### DANGER



- Always operate the pressure washer in a well-ventilated area free of flammable vapors, combustible dust, gases, or other combustible materials.
- Do not store the pressure washer near an open flame or any equipment such as a stove, furnace, water heater, etc., which utilizes a pilot light or sparking device.
- Do not use this pressure washer to spray flammable material.
- Do not smoke while filling burner fuel tank.
- Never fill the fuel tanks while the pressure washer is running or hot. Allow unit to cool for two minutes.
- Always refuel slowly to avoid the possibility of spilled fuel which may cause a risk of fire.
- Always leave room for fuel to expand in the gas tank. Do not overfill.
- Engine Fuel Tank: If using a Gasoline Engine, refuel with gasoline only. Do not use diesel or kerosene.
- Burner Fuel Tank (Black): When refueling the Burner Fuel Tank, use No. 1 or No. 2 fuel oil/diesel or kerosene. Do not use gasoline.
- Do not operate the unit if gasoline or diesel fuel is spilled. Wipe the pressure washer clean and move it away from the spill. Avoid creating any ignition until the gasoline or diesel fuel has evaporated.
- When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging.
- Be certain to disconnect the battery ground terminal before servicing. When disconnecting the cable from the battery, start with the negative terminal. When connecting them, start with the positive cable.
- When charging the battery, remove the battery vent plugs.
- Use only a voltmeter or hydrometer to check a battery charge.
- DO NOT jump start the battery unless both batteries are of equal voltage and amperage.

# IMPORTANT SAFETY WARNINGS



 <b>WARNING</b>	
	<p>Serious injury or death may occur from a fire caused by a muffler spark.            Serious injury or death may occur if system safety's are not properly maintained.</p>
<ul style="list-style-type: none"> <li>• A spark arrester must be added to the muffler of this engine when using on land covered with any flammable agricultural crop (hay and grain), and if they are used in or near brush or forested areas. The arrester must be maintained in effective working order by the operator of the equipment. In the state of California, the above is required by law. (Section 4442 and 4443 of the California Public Resources Code.) Other states/provinces may have similar laws. Federal laws apply on Federal lands.</li> <li>• This pressure washer has a Safety Relief Valve . This should never be altered, modified, removed or made inoperative. If the device fails, replace immediately with genuine manufacturer replacement part.</li> </ul>	



 <b>WARNING</b>	
	<p>Serious injury or death may occur from inhaling engine/burner exhaust or dangerous vapors.            The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.</p>
<ul style="list-style-type: none"> <li>• Never operate this pressure washer in an enclosed area. Always ensure there is adequate ventilation (fresh outside air) for breathing and combustion. This will prevent the buildup of dangerous carbon monoxide gases. Beware of poorly ventilated areas, or areas with exhaust fans which can cause poor air exchange. This unit should only be used outdoors to ensure ventilation is never an issue.</li> <li>• Follow all safety instructions provided with the materials you are spraying. Use of a respirator may be required when working with some materials. Do not use this pressure washer to dispense hazardous detergents.</li> </ul>	



 <b>WARNING</b>	
	<p>Serious injury or death could occur from high pressure spray penetrating the skin.</p>
<ul style="list-style-type: none"> <li>• Keep clear of nozzle and spray! Never put your hand, fingers or body directly over the spray nozzle.</li> <li>• Do not direct discharge stream at self, other persons, or pets.</li> <li>• This product is to be used only by trained operators.</li> <li>• Always keep operating area clear of other people.</li> <li>• Do not allow children to operate this unit or be in the vicinity while you operate it.</li> <li>• Seek emergency medical care if spray seems to have penetrated the skin. Do not treat as a simple cut!</li> <li>• High pressure hoses and fuel lines should be inspected daily for signs of wear. If evidence of failure exists, promptly replace all suspect hoses and fuel lines to prevent the possibility of injury from the high pressure spray. If a hose or fitting is leaking, do not place your hand on the leak.</li> <li>• Never operate the gun with the trigger held in the open position. To prevent accidental discharge, the trigger gun should be securely locked when not in use.</li> <li>• Before removing the spray nozzle or servicing the unit, always shut the unit off and pull the trigger of the gun to release trapped pressure (even after you shut off the unit, there is high pressure water left in the pump, hose and gun until you release it by pulling the trigger the gun).</li> </ul>	



 <b>WARNING</b>	
	<p>Serious injury or death may occur from contact with electricity.</p>
<ul style="list-style-type: none"> <li>• Do not direct spray on or into electrical installations of any kind! This includes electrical outlets, light bulbs, fuse boxes, transformers, and the unit itself.</li> <li>• Do not allow metal components of the pressure washer to come in contact with live electrical components.</li> </ul>	

## IMPORTANT SAFETY WARNINGS

 <b>WARNING</b>	
	Serious injury may occur from touching the gasoline engine, muffler, or heat exchanger. These areas can remain hot for some time after the pressure washer is shutdown.
<ul style="list-style-type: none"> <li>• Never allow any part of your body to contact the gasoline engine, muffler, or heat exchanger.</li> </ul>	

 <b>WARNING</b>	
	Serious injury may occur from a pressure washer malfunction or exploding accessories if incorrect system components, attachments, or accessories are used. Serious injury or death may occur if attempting to start the pressure washer when the pumping system is frozen.
<ul style="list-style-type: none"> <li>• Never make adjustments to the factory set pressures.</li> <li>• Never exceed manufacturers maximum allowable pressure rating of attachments.</li> <li>• Do not allow any hoses to make contact with heat exchanger to prevent the possibility of bursting. Avoid dragging the hoses over abrasive surfaces such as cement.</li> <li>• Use only manufacturer recommended repair parts for your pressure washer.</li> <li>• In freezing temperatures, the unit must always be warm enough to ensure there is no ice formation in the pump. Do not start the pressure washer if it has been transported in an open or under heated vehicle without first allowing the pump to thaw.</li> </ul>	

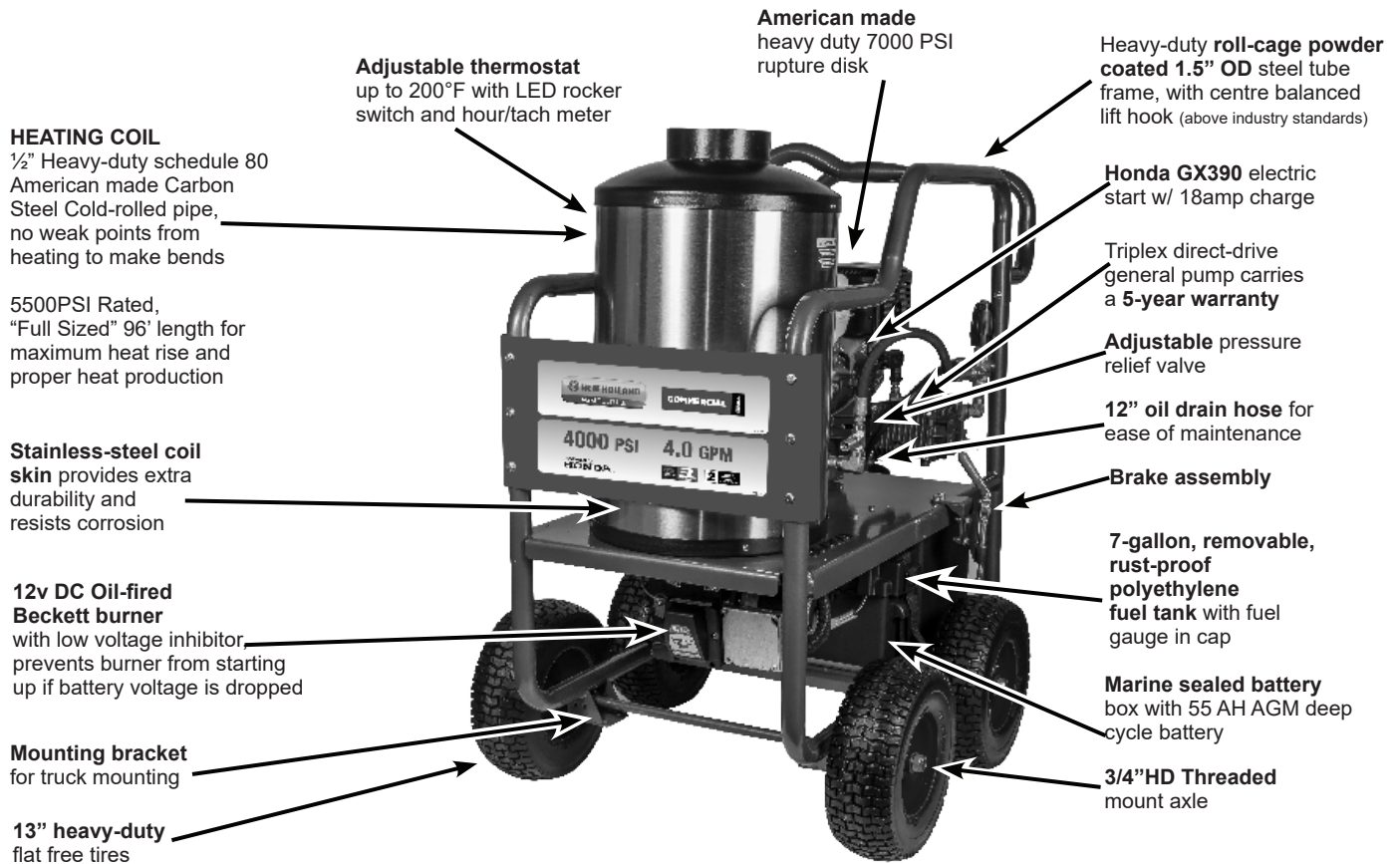
 <b>WARNING</b>	
	Serious injury may occur to the operator from moving parts on the pressure washer.
<ul style="list-style-type: none"> <li>• Before making any adjustments, be certain the engine is turned off and the ignition cable(s) is removed from the spark plug(s). Turning the machinery over by hand during adjustment or cleaning might start the engine and machinery with it.</li> <li>• Do not operate the unit without all protective covers in place.</li> </ul>	

 <b>WARNING</b>	
	Serious injury or death may occur from detergents contacting the skin. Serious injury can occur from loose debris being propelled at a high speed from the spray gun. Injury may occur if the operator loses their balance caused by the thrust of water traveling through the spray nozzle.
<ul style="list-style-type: none"> <li>• Never use any solvents or highly corrosive detergents or acid type cleaners with this pressure washer.</li> <li>• Protective equipment such as rubber gloves and respirators are advisable, especially when using cleaning detergents.</li> <li>• Keep all detergents out of the reach of children!</li> <li>• Always wear protective goggles when operating the unit to shield the eyes from flying debris and detergents.</li> <li>• Do not direct spray toward fragile materials such as glass.</li> <li>• Stay alert: watch what you are doing. Do not operate the unit when fatigued or under the influence of alcohol or drugs.</li> <li>• Never squeeze the trigger unless securely braced.</li> <li>• Do not overreach or stand on unstable support.</li> <li>• Wet surfaces can be slippery. Wear protective foot gear and keep good footing/balance at all times.</li> <li>• Never pull the trigger of the gun while on a ladder, roof, or other unstable surface.</li> <li>• Always hold on firmly to the gun/lance assembly when starting and operating the unit. Failure to do so can cause the lance to fall and whip dangerously.</li> <li>• Do not leave pressurized unit unattended. Shut off the pressure washer and release trapped pressure before leaving.</li> <li>• Do not operate the unit if you see any fuel, oil, or water leaking from the machine. DO NOT resume operation until the unit has been inspected and repaired by a qualified technician.</li> <li>• Do not transport the unit by pulling on hoses or cords.</li> </ul>	



# GENERAL INFORMATION

## PRODUCT FEATURES & COMPONENTS



Description	N4013HGHW	N4015RAHW
Pressure Rating	4000	4000
GPM	4	4
Engine Model	Honda GX390	Powerase
Displacement	390cc	420cc
Drive	Direct	Direct
Burner Fuel Consumption	2.21GPH	2.21GPH
BTU / HR	330,000	330,000
Burner Type	ADC	ADC
Unloader	External	Built-In
Pump Type	General EZ4040	AR RSV4040
Nozzle Included	4	4
Hose length	50'	50'
Start Type	Electric Start	Electric Start
Fuel Capacity	54.5 litres (14.4 U.S. gal)	54.5 litres (14.4 U.S. gal)
Weight	530LBS	530LBS
Hose diameter	3/8"	3/8"
Hose Material	Rubber / Double Wire Braid	Rubber / Double Wire Braid

## WATER SUPPLY

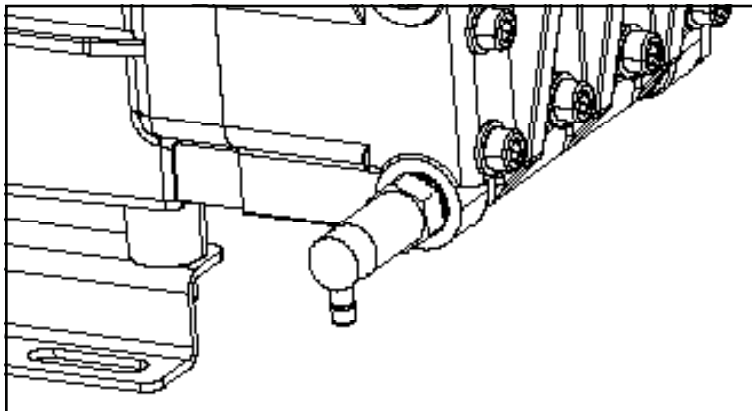
1. Select a water supply hose which is a quality grade of the hose measuring at least 3/4" ID and no longer than 50 feet to the water tank.
2. Connect the hose to the inlet of your high pressure pump. Thread the connection together by hand until tight. Ensure the connection is tight at both ends (at the pump inlet and at the water supply source).
3. Install water inlet filter to tank.
4. **Never allow the unit to operate without the water hose attached and the water supply opened all the way.**

### NOTICE

- If there is a high mineral content in your water, it is highly recommended that a water softener and an additional water strainer be added to the water inlet. This will help prevent the possibility of excessive scale buildup inside the heat exchanger coil.

**Pumps are water cooled.** When the machine is running, ensure the trigger of the gun is pressed to allow a constant flow of fresh water into and out of the pump. **Do not let the machine run for more than 30 seconds without pulling the trigger.**

Most pumps are protected by a **thermal valve**. The thermal valve releases water if a pump starts to run too hot. It will prevent catastrophic heat failure. However, the pump may have suffered damage and need maintenance, repair, or replacement. If it does not reset and continues to leak water, the thermal valve may need to be replaced.





## SET-UP

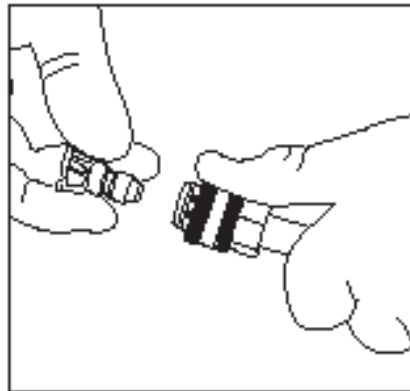


### HOW TO USE SPRAY TIPS

The quick-connect on the nozzle extension allows you to switch between five different quick-connect spray tips. Spray tips can be changed while the pressure washer is running once the spray gun trigger safety lock is engaged. The spray tips vary the spray pattern as shown above.

### FOLLOW THESE INSTRUCTIONS TO CHANGE SPRAY TIPS:

1. Pull back collar on quick-connect coupler and pull the current spray tip off. Store the spray tips in the holder provided on the handle. Storing nozzles in the designated holder will help prevent any debris from clogging the tip.



2. Select the desired spray tip:
  - For a gentle rinse, select the white 40° spray tip.
  - For light cleaning, select the green 25° spray tip.
  - For high pressure cleaning, select the yellow 15° spray tip.
  - To scour the surface, select the red 0° spray tip.
  - To apply detergent, select the black spray tip. **No other spray tip will draw soap**
3. Pull back on collar, insert spray tip and release collar. Tug on spray tip to ensure it is securely in place.

### USAGE TIPS

- For most effective cleaning, keep spray tip 8 to 24 inches away from cleaning surface.
- If the spray tip gets too close to the surface being cleaned, especially using a high pressure spray tip (red or yellow), it may be damaged. **Do not use the red spray tip on glass.** Doing so could result in broken or cracked glass.

## PRE-OPERATION SAFETY

1. This unit should only be placed on a level surface to ensure proper lubrication for the water pump while operating. Placing the unit on a level surface will also ensure that fuel, oil, and other fluids don't spill during operation. NEVER spray water directly on the unit.
2. Do not use unit in an area:
  - A. with insufficient ventilation.
  - B. where there is evidence of oil or fuel leaks.
  - C. where flammable gas vapors may be present.

This unit has multiple ignition sources that could cause a fire or explosion.

3. If using a wheel kit, be certain to block the wheels to prevent the unit from moving while operating.
4. Do not allow the unit to be exposed to rain, snow, or freezing temperatures. If any part of the unit becomes frozen, excessive pressure may build up in the unit which could cause it to burst. This would result in possible serious injury to the operator or bystanders.
5. Pump oil level should be checked before each use. Make certain the oil is on the "Full" mark on the dipstick or in the center of the oil sight glass. If the level appears to be low, fill with SAE30W non-detergent pump oil.
6. Your pressure washer is equipped with an electric starter. On initial start-up, wear proper eye and skin protection when filling the battery with acid. Fully charge the battery to allow electric starter to function.

## MANUAL & SAFETY REVIEW

1. Review "Risk of Explosion or Fire" warnings, before fueling.
2. Locate the Safety Decals on your unit and heed their warnings.
3. Engines: See the included engine Owner's Manual for fuel requirements.
4. Burner Fuel: When filling tank, use No. 1 or No 2 fuel oil/diesel or kerosene.
5. Check the engine oil level before starting the engine.
6. Review the engine manual accompanying this pressure washer for correct engine start-up and maintenance procedures.

## START-UP PROCEDURE PREPARATION

Before starting the unit, perform the following procedures:

1. Check the oil level and condition for the pump and engine. We recommend **SAE 10W30** oil for engines and **SAE 30** mineral oil for pumps.
2. Inspect the water inlet strainer. Clean or replace if necessary.
3. Check all hose connections to ensure they are securely tightened.
4. Inspect for system water leaks, oil leaks and fuel leaks. **If a fuel leak is found, do not start the unit.** See "Risk of Explosion or Fire", (Pg. 5). Be sure that all damaged parts are replaced and mechanical problems are corrected prior to operation of the unit.
5. Inspect high pressure hoses for kinking, cuts, and leaks. **If a cut or leak is found, do not use the hose.** Replace hose before starting unit. See "Risk of Injection" pg. 5. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit.

## START-UP (COLD WATER)

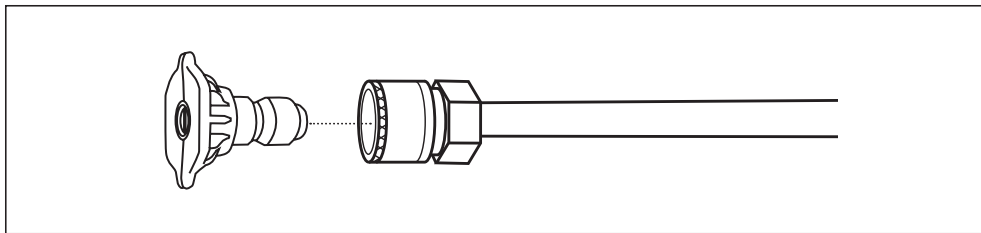
To start your pressure washer for the first time, follow these instructions step-by-step. This starting information also applies if you have let the pressure washer sit idle for at least a day.

1. Make sure the unit is level and placed on solid ground. Ensure the wheels are locked so that it doesn't move during operation.
2. Connect garden hose to water inlet on pressure washer pump. To do this, thread the end of the hose into the inlet by hand until tight and secure.
3. Attach wand extension to spray gun. Tighten by hand.

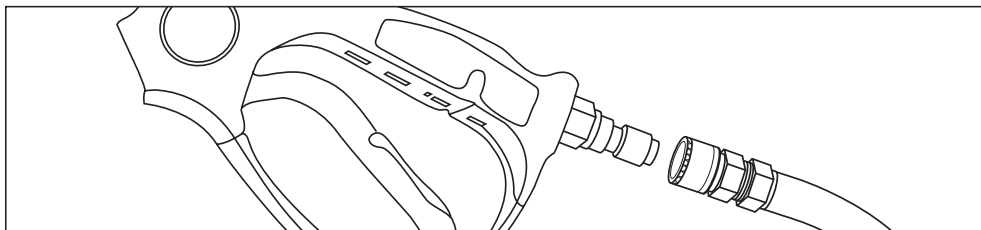
### NOTICE

DO NOT run the pump without the water supply connected and turned on. Failure to follow this rule will result in damage to the pump. **Damage caused by running the pump without water is not covered by warranty.**

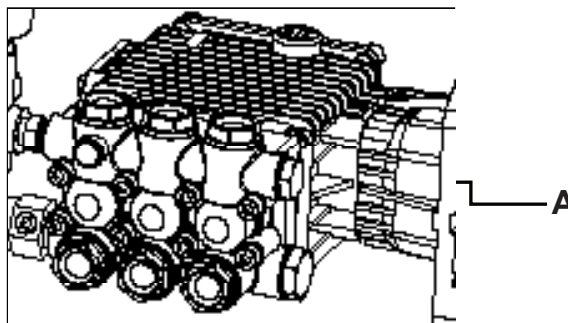
4. Choose desired spray tip, pull back nozzle extension collar, insert spray tip and release collar. Tug on spray tip to make sure it is securely in place. See **Spray Tips** on page 9 for more information.



5. Pull down on the collar of the quick-connect coupler, slide onto the gun connector and let go of collar. Pull on hose to ensure the connection is tight.



- Attach the other end of the high pressure hose to high pressure outlet (“A” on diagram below) on pump. Pull down on collar of quick-connect, slide onto pump and let go of collar. Note that some pumps require the hose to be threaded on. Tug on the hose to ensure connection is secure.



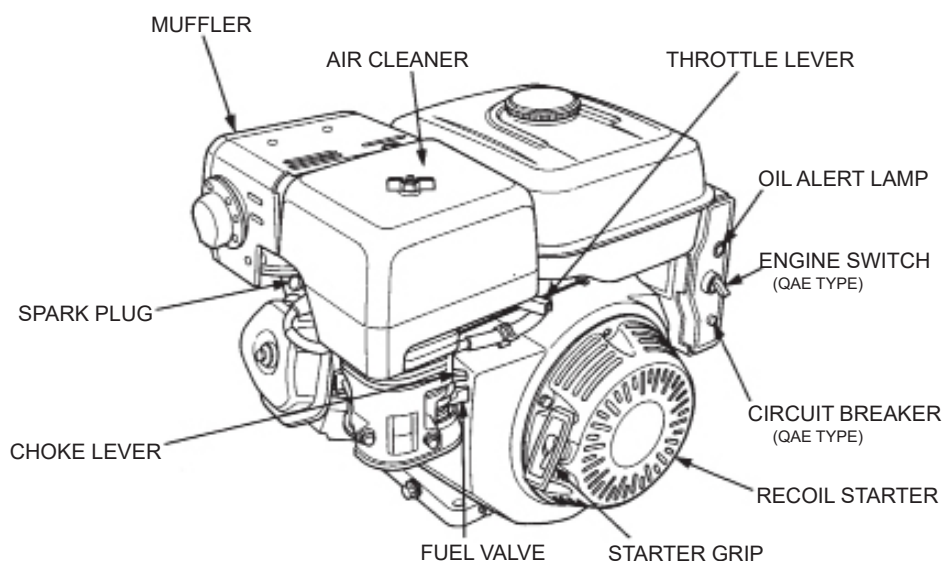
\*Pump Uses SAE30  
Non-Detergent Mineral Oil

- Turn water supply on if you have not already done so. Point the gun in a safe direction and squeeze the trigger to purge the pump of air and debris. Do this until water flow is flowing at a steady rate. Continue to hold trigger of gun down while starting the machine to ensure there is no pressure build-up.
- Take a final look at all connections to make sure there are no leaks or loose connections. If there are any leaks in hoses, they must be replaced.

**IMPORTANT:** DO NOT siphon standing water for the water supply.  
Make sure burner switch is OFF

- To start the machine, locate the electric ignition switch on the right side of the engine. Insert the key and turn it to the “ON” position until the unit starts. Do not hold the switch to the “ON” position for more than 5 seconds as this can cause damage to the engine. Check to ensure fuel valve is in the ON position and if starting cold, move the choke lever to the “CLOSED” position. Reference the component diagram below for the location of these parts.

**Regardless of the starting method, remember to gradually move the choke lever back to the “open” position once the engine is running.**



**\*Engine Uses SAE 10W30 Oil**

## HOT WATER OPERATION

Now that the unit is running, it is operating as a cold water pressure washer.

**When you wish to switch to hot water, turn the burner switch to the “ON” position.**

### NOTICE

Upon initial start-up, water will begin heating up in approximately 20 seconds. It will reach maximum temperature within 2-1/2 minutes providing that the trigger is continuously pressed down. The burner will not fire when the trigger is released.

### ⚠ WARNING

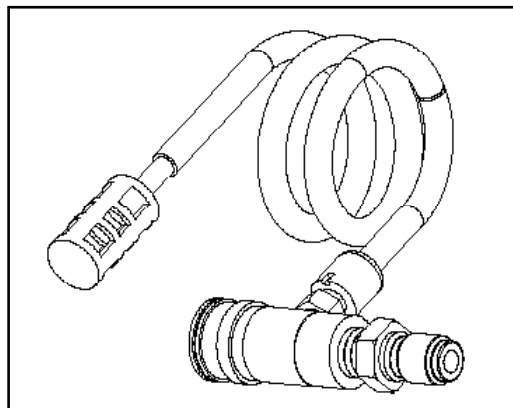
The temperature of the water can become extremely hot during operation.  
Use caution when operating the spray gun.

## APPLYING DETERGENT

### NOTICE

This feature is designed for use with mild detergents only. Since the cleaning solution travels through the heat exchanger coil, **DO NOT** use corrosives as they will cause extensive damage as well as pose a considerable safety hazard.

1. Prepare detergent solution according to label directions. Never pump acids, alkaline, abrasive fluids or solvents through the unit. Due to the unknown and often corrosive characteristics of many detergents commonly used in the pressure washer cleaning industry, it is recommended to use only mild detergents with this unit.
2. Fully immerse the detergent strainer into the detergent solution.
3. To apply solution, install the black soap nozzle to the tip of the spray gun, unlock the gun, and squeeze the trigger. After a few moments, a detergent/water mixture will exit the nozzle. Start spraying the lower portion of the surface being cleaned and move up, using long overlapping strokes. Applying from the bottom up helps avoid streaking. Allow everything to soak briefly.
4. Avoid working on hot surfaces or in direct sunlight to minimize the chances of the detergent drying, which may result in damaged surfaces. Be certain to rinse a small section at a time.
5. To rinse, lock the trigger gun in the “OFF” position. From here, securely place the white or green spray tip in the end of the spray gun. Unlock the trigger and spray. It will take about 30 seconds to purge all detergent from the line. For best rinsing results, start at the top and work down.
6. Siphon a gallon of water through the low pressure detergent injection system after each use. This prevents the possibility of corrosion or detergent residue causing mechanical problems during the next use.



## SHUTTING THE UNIT DOWN



1. Move the burner switch to the “OFF” position.
2. Squeeze the trigger and discharge the water for three minutes to cool the heat exchanger and high pressure hose. Insufficient cool-down periods for the high pressure hose will cause excessive wear and eventual rupture of the hose.
3. Do not close the choke to stop the engine. Backfire or engine damage may occur.
4. Move the engine key switch to the OFF position.
5. Turn off the water supply and pull the trigger of the gun to relieve trapped pressure.

Disconnect and drain the high pressure hose, gun, and lance. Wipe the unit clean and store in a non-freezing environment.

## STORAGE & WINTERIZING

If you do not plan to use the pressure washer for more than 30 days, you must prepare the engine and pump for long term storage. See the engine user manual for specific instructions regarding this.


When storing the unit for winter, it is important to ensure it is stored in the right environment. Ensure the storage area stays above freezing during cold weather, and try to limit the amount of dust gathered on the unit via a cover.

 <b>WARNING</b>	
	Storage covers can be flammable.
<ul style="list-style-type: none"> <li>• DO NOT place a storage cover over a hot pressure washer.</li> <li>• Let equipment cool for at least 30 minutes before placing the cover on the equipment.</li> </ul>	

You will need to ensure that the fuel is drained from the engine prior to storage. For the steps required to do this, see the engine user manual.

Once the unit has been stored and the gasoline has been drained, the last thing to do is to winterize your pump. This can be done in one of two ways:

- BE “**Pump Saver**” Solution (P/N: 85.490.046). This is an anti-freeze solution that is used before storing the unit. It coats to inside of the pump to ensure that any residual water doesn’t freeze. To use BE Pump Saver, follow the instructions written on the bottle. Water freezing in the pump will damage seals and other internal parts. **Freezing damage is not covered by warranty.**
- BE “**Pump & Coil Blowout Tool**” (P/N: 59.400.000). This tool utilizes compressed air to forcefully remove any water left in the pump. One end of the tool attaches to an air compressor, while the other attaches to the inlet of your water pump via an adapter. Follow the instructions on the back of the packaging to use the Pump and Coil Blowout Tool.

 <b>CAUTION</b>
Be certain the hoses and spray gun are not attached to the pump during application of pump saver or use of the blowout tool. Having a hose attached greatly reduces the amount of water/debris removed from the pump and coil.

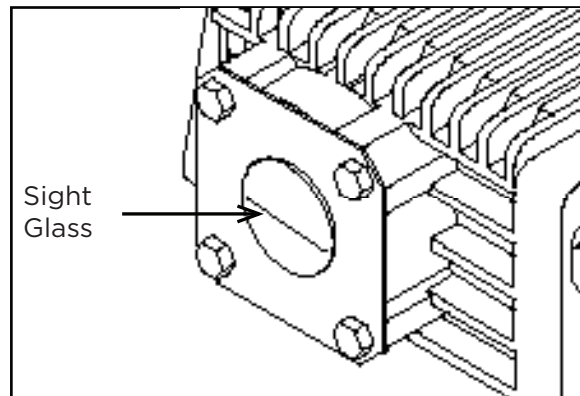
<b>NOTICE</b>
You must protect your unit from freezing temperatures.
<ol style="list-style-type: none"> <li>1. Failure to do so will permanently damage your pump and render your unit inoperable.</li> <li>2. Freezing damage is not covered under warranty.</li> </ol>

## MAINTENANCE

### SPECIFIC MAINTENANCE

**ENGINE:** The engine instructions that accompany your unit detail specific procedures for maintenance of the engine. Following the engine manufacturer's recommendations will extend the engine's life and ensure the best possible performance.

**PUMP:** Change the pump oil after the first 50 hours of operation. After the initial change, every 3 months or 250 hour intervals are recommended. If oil appears dirty or milky, changes may be required in greater frequency. **Use SAE 30 non-detergent pump oil** and fill only to the center of the oil sight glass. **DO NOT** overfill.



**NOZZLE:** Water flow through the spray nozzle will erode the orifice over time, making it larger. This will result in a reduction of pressure. Nozzles should be replaced whenever pressure is less than 85% of the maximum. The frequency of replacement will depend upon such variables as mineral content in the water and number of hours the nozzle is used. Every 3-6 months tends to be a standard interval for replacement.



**MAINTENANCE SCHEDULE**

PROCEDURE		DAILY	3 MONTHS	6 MONTHS	9 MONTHS	12 MONTHS
Check engine oil level		X				
Change engine oil	*****		X	X	X	X
Check water pump oil level		X				
Change water pump oil	**		X	X	X	X
Oil leak inspection		X				
Fuel leak inspection		X				
Water leak inspection		X				
Hose inspection		X				
Water inlet screen inspection		X				
Check fuel filter			X	X	X	X
Replace fuel filter				X		
Inspect belts			X	X	X	X
Replace high pressure nozzle	***		X	X	X	X
Inspect fuel pump filter	*					X
Replace fuel nozzle	*					X
Check burner air adjustment			X	X	X	X
Check burner electrodes	*					X
Test water pressure	*		X	X	X	X
Test fuel pressure	*		X	X	X	X
Test water temperature	*		X	X	X	X
Descale coil	****					X

\* Must be performed by an authorized service technician.

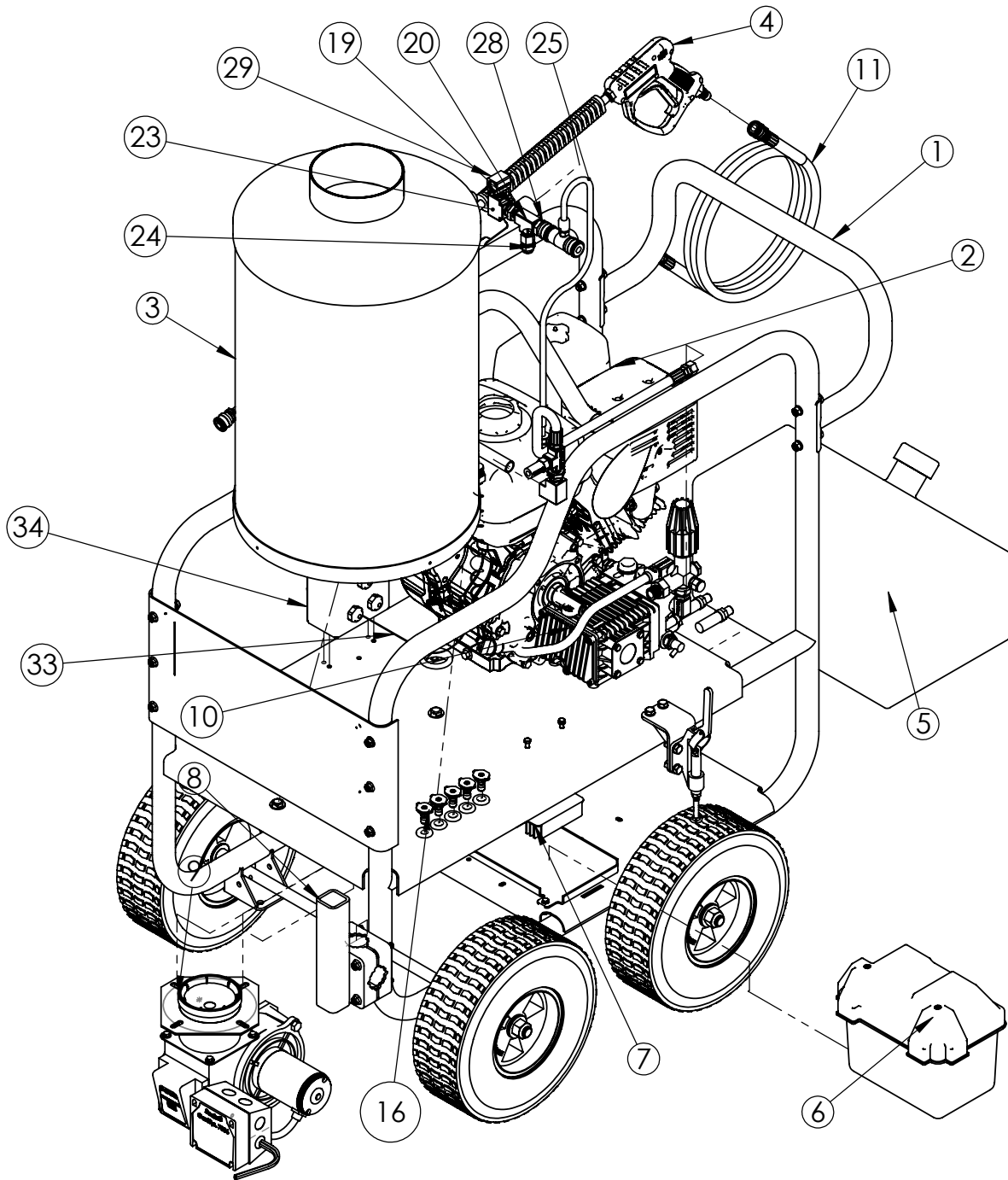
\*\* The pump oil must be changed after the first 50 hours of operation and then every 250 hours or 3 months, whichever comes first.

\*\*\* High pressure nozzle should be replaced whenever pressure drops to less than 85%.

\*\*\*\* Scale build-up will vary with mineral content in the water and amount of usage. Descaling can range from weekly to yearly maintenance.

\*\*\*\*\* The engine oil must be changed after the first 8 hours of operation and then every 50 hours or 3 months, whichever comes first.

# UNIT BREAKDOWN



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	85.600.220	Frame	1
2	N/A	Engine, 13 HP, 389cc (GX390 2QNR)	1
2	85.578.150	Engine, 420cc Powerease Engine	1
3	59.000.000	Hot Water Coil Assy, 4 GPM	1



## PARTS REFERENCE LIST

ITEM	PART NUMBER	DESCRIPTION	QTY.
-	59.000.117	Top Cap Coil Insulation	1
-	59.000.116	Bottom Coil Insulation	1
4	85.205.064	5000 PSI Gun & Wand Assy	1
5	85.609.039	10 Gallon Fuel Tank	1
6	85.603.003	Battery Package (Battery, Case, and Cover)	1
7	Engine Charger	18A Engine Charger (For GX390)	1
8	85.600.220-13	Hose Reel Bracket	1
9	59.000.001	Burner Assy With Fuel Pump (Beckett, ADC-12V)	1
10	85.139.021H	Triplex High Pressure Pump (EZ4040G) RSV Pump	1
11	85.238.251	50' High Pressure Hot Water Hose	1
12	85.704.006	Elbow, 3/8" MNPT x 3/8" FNPT - 90	2
13	85.300.055	Water Inlet Filter	1
14	85.300.024	Thermal Valve, 1/2" MNPT, 145F, 200 PSI	1
15	85.704.004	Elbow, 1/4" FNPT x 1/4" FNPT Brass	1
16	85.210.040BEP	Nozzle Set	1
17	85.202.078	3/8" Bypass Hose (36")	1
18	85.704.209	Elbow, 1/2" FNPT x 1/2" FNPT Brass	1
19	85.706.086	Nipple, 1/2" MNPT x 3/8 MNPT	2
20	85.701.006	Female Tee, 3/8" FNPT (3) Brass	2
21	85.300.042	Safety Relief Valve, 3/8" MNPT, 6000 PSI, 195F	1
22	85.238.020	3/8" Hose	1
23	85.701.008	Female Tee, 1/2" FNPT (3) Brass	1
24	Coil Pressure Relief	Pressure Relief Device for Hot Water Coil, 5000 PSI	1
25	85.400.001	Low Pressure Chemical Injector, 4000 PSI, 2.5 GPM	1
26	85.300.082	Pressure Switch, 1/4" MNPT	1
27	85.709.064	Reducer, 3/8" MNPT x 1/4" FNPT, Brass	1
28	85.300.108S	Quick-Connect Coupler, 3/8" MNPT	1
29	85.704.009	Elbow, 1/2" MNPT x 1/2" FNPT - 90 Brass	2
30	85.710.066	Hose Barb, Straight - 3/8" Barb, 3/8" MNPT	1
31	85.710.047	Hose Barb, Elbow - 3/8" Barb, 1/4" MNPT	1
32	AL607	Unloader, VRT3 4500 PSI	1
33	85.400.070	Thermostat W/ Immersed Probe	1
34	Starter Box	Starter Box (Burner ON/OFF Switch, Temp Control, Hour Meter)	1
-	806-109	Hour Meter	1
-	85.400.071	Thermostat (Temp Control)	1
-	59.000.103	Burner On/Off Switch	1

# BURNER BREAKDOWN

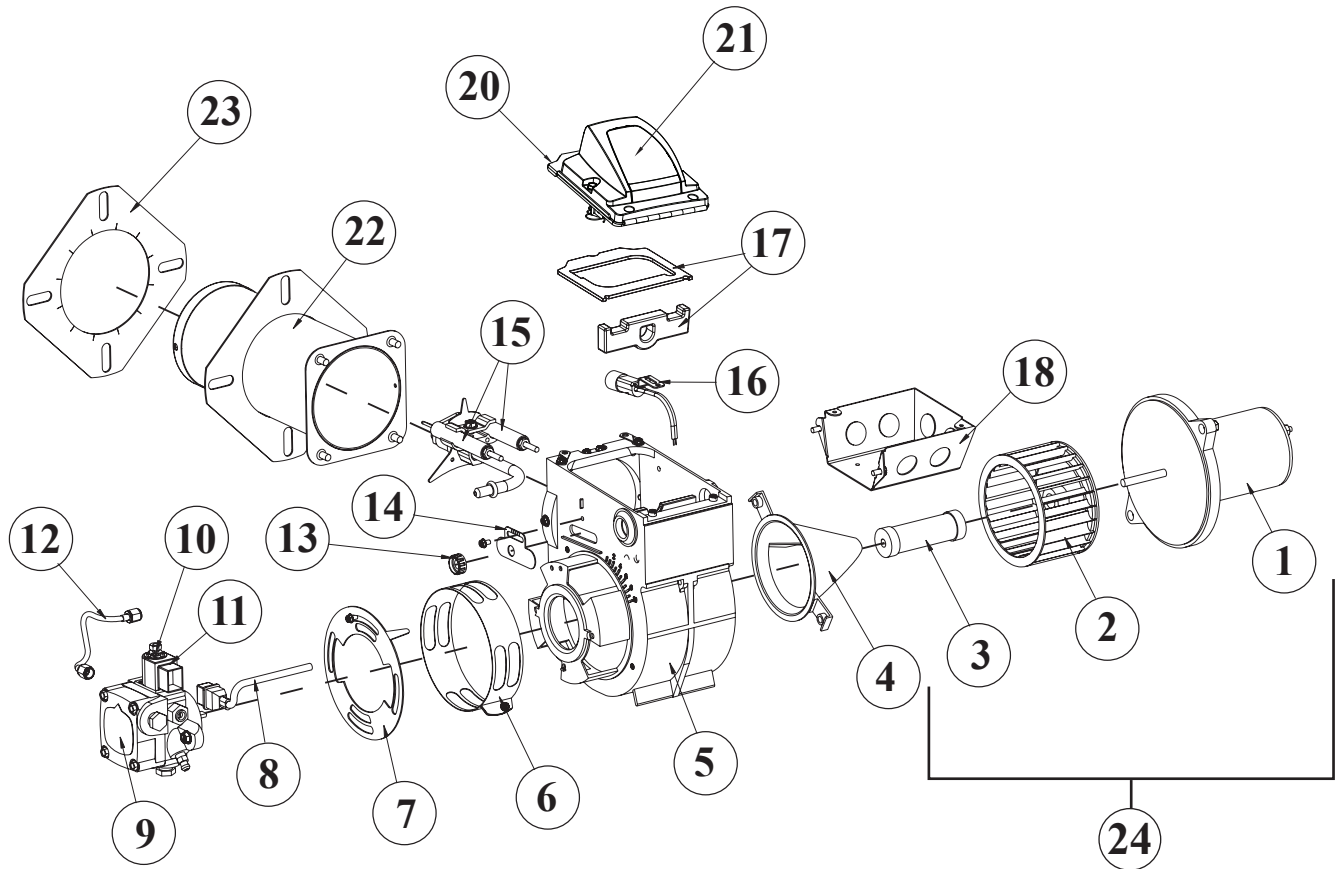
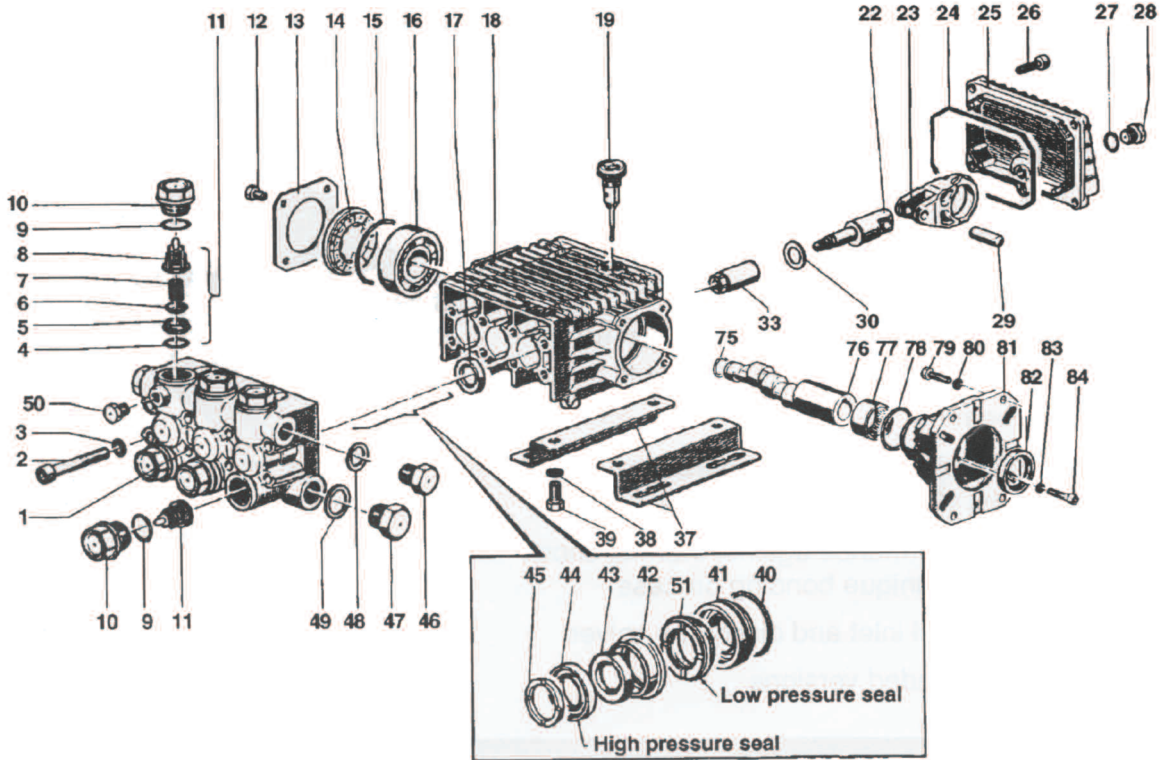


Illustration #	Description
1	DC Motor
2	Blower Wheel
3	Coupling
4	Air Guide
5	Burner Housing - Black
6	Air Band
7	Air Shutter - 4 Slot Air Shutter - 8 Slot
8	Cord set
9	Pump (CleanCut)
10	Valve Stem
11	12 Volt Coil
12	8" Copper Tubing
13	Escutcheon Plate Spline Nut
14	Escutcheon Plate
15	Electrode Kit over 3-5/8"
16	Cad Cell Detector
17	Igniter Gasket Kit
18	4X4 Wiring Box Kit

Illustration #	Description
20	Igniter Assy with baseplate
21	Igniter only
22	Air Tube Ass'y
23	Flange Mounting Gasket
24	Motor Kit with Blower Wheel and Coupling
Not Shown	Tune-up Kit for 30 & 35 Air Tube Lengths

PART #	Description
59.110.000	Fuel Pump
59.110.001	Fuel Solenoid
59.110.002	Electrode Assy
59.110.003	Igniter
59.110.004	Blower Motor
59.110.005	Shaft Coupling

# PUMP BREAKDOWN (EZ4040)



## PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	44120641	Manifold		1	23.	44030022	Connecting Rod		3	48.	96738000	Washer		1
2.	99317500	Screw		8	24.	90392000	O-ring		1	49.	96751400	Washer		1
3.	96701400	Washer		8	25.	44160022	Rear Cover		1	50.	98196600	Cap Screw		1
4.	90384100	O-ring	123	6	26.	99183700	Screw		5	51.	90260300	Seal, Low Pressure	153,156	1
5.	36200366	Valve Seat	123	6	27.	90358500	O-ring		1	75.	90063500	Retaining Ring		1
6.	36200176	Valve	123	6	28.	98204100	Cap Screw		1	76.	44022165	Crankshaft (EZ4040G)		1
7.	94737600	Spring	123	6	29.	97734000	Pinr		3		44021265	Crankshaft (EZ4035G34)		1
8.	36202551	Valve Cage	123	6	30.	96696700	Washer		3		44020965	Crankshaft (EZ4030G34)		1
9.	90384700	O-ring	124	6	33.	44040266	Plunger, 13 mm		3	77.	91856800	Roller Bearing		1
10.	98222600	Cap Screw	124	6	37.	50200074	Rail		2	78.	90409700	O-ring		1
11.	36711501	Valve Assembly	123	6	38.	96701600	Washer		4	79.	99275500	Screw, 5/16 x 1		4
12.	99180700	Screw		4	39.	99303700	Nut		4		99334500	Screw, 3/8 x 1		4
13.	50150074	Bearing Cover		1	40.	90361200	O-ring	156	3	80.	96702000	Washer, 8 mm		4
14.	44211801	Spacer		1	41.	44080370	Packing Retainer	156	3		96710400	Washer, 10 mm		4
15.	90409700	O-ring		1	42.	44216270	Intermediate Ring	156	3	81.	10051822	Gas Flange		1
16.	91832800	Ball Bearing		1	43.	90507600	Packing	153,156	3	82.	90169000	Oil Seal		1
17.	90161400	Oil Seal	23	3	44.	90260200	Packing	153,156	3	83.	96693800	Washer		4
18.	44010022	Crankcase		1	45.	44100251	Head Ring	156	3	84.	99191200	Screw		4
19.	98210300	Oil Dip Stick		1	46.	98210000	Cap Screw		1					
22.	44050166	Piston Guide		3	47.	98217600	Cap Screw		1					

## REPAIR KITS

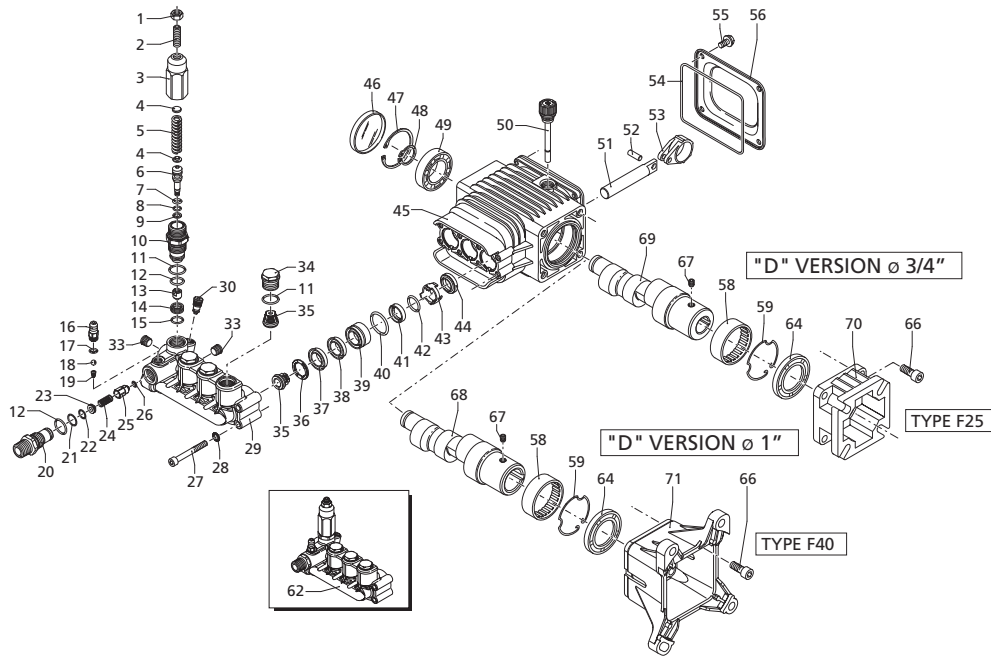
KIT NO.	K23	K123	K124	K153	K156
ITEM NO's INCLUDED IN KIT	17	4, 5, 6, 7, 8, (11)	9, 10	43, 44, 51	40, 41, 42, 43, 44, 45 51
NUMBER OF ASSEMBLIES IN KIT	3	6	6	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	1

## TORQUE SPECS\*

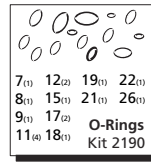
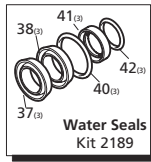
Pos.	Ft/lb	N-M
2	14.7	20
10	95.9	130
12	7.3	10
26	7.3	10
28	14.7	20
46	29.4	40
47	29.4	40
50	9.6	13
79	14.7	20
84	7.3	10

\* Decrease torque by 20% if threads are lubricated

# PUMP BREAKDOWN (RSV4040)



## Repair Kits



Pos	Code	Description	Qty.	Pos	Code	Description	Qty.	Pos	Code	Description	Qty.
1	1980300	Nut M6	1	39	1981570	Piston guide	3	AR64516	Oil		1
2	2760420	Grub screw M6x12	1	40	770260	O-Ring ø23.52x1.78	3				
3	1980540	Unloader knob	1	41	1260440	Gasket	3				
4	1980220	Spring plate	2	42	640070	O-Ring ø13.95x2.62	3				
5	2760410	Spring	1	43	2760310	Spacer	3				
6	2760400	Valve piston	1	44	1260460	Oil seal	3				
7	2260100	O-Ring ø6.02x2.62	1	45	2760010	Pump body	1				
8	660190	O-Ring ø6.07x1.78	1	46	1266740	Bearing cap	1				
9	2760210	Ring	1	47	1260790	Circlip øi52	1				
10	2760050	Piston guide	1	48	1780550	Snap ring	1				
11	1200690	O-Ring ø15.6x1.78	4	49	2760340	Bearing	1				
12	394280	O-Ring ø12.42x1.78	2	50	1780490	Bearing	1				
13	2260070	By-pass jet	1	51	880130	Oil cap	1				
14	2760090	Seat	1	52	2760040	Piston	3				
15	770140	O-Ring ø11.11x1.78	1	53	1780050	Piston pin	3				
16	1982520	Hose nipple	1	54	1780040	Con rod Aluminum	3				
17	1250280	Ball	1	55	1780710	Con rod Bronze	3				
18	1560520	Spring	1	56	2760280	O-Ring ø101.27x2.62	1				
19	2760230	Detergent injector 3/8" G	1	57	802190	Bolt M6x12	4				
20	2760270	O-Ring ø12x1	1	58	2760110	Rear cover	1				
21	1470210	O-Ring ø9x1	1	59	2760350	Bearing	1				
22	2760120	Injector insert	1	60	1321190	Bearing	1				
23	2760200	Spring	1	61	1321080	Snap ring	1				
24	2760130	Jet	1	62	2769201	Complete pump head w/o EZ start	1				
25	1460430	O-Ring ø4x2.5	1	63	2769209	Complete pump head EZ-start	1				
26	801080	Bolt M6x50	8	64	480671	Oil seal	1				
27	1381550	Lockwasher	8	65	180030	Bolt M8x20	4				
28	2760020	Head - w/o EZ-start	1	66	820440	Set screw M6	1				
29	2761050	Head - Bare EZ-start	1	67	1780340	Hollow shaft ø1"	1				
30	2760330	Head - Bare w/o EZ-start	1	68	1780920	Hollow shaft ø1"	1				
31	2760630	EZ-start plug	1	69	1780330	Hollow shaft ø1"	1				
32	2760260	Plug 1/4" G	2	70	1780590	Hollow shaft ø3/4"	1				
33	2760180	Plug	3	71	1780600	Hollow shaft ø3/4"	1				
34	2769050	Complete valve	6		1780580	Flange F25	1				
35	2760220	Support ring	3		2760290	Flange F40	1				
36	1342761	Gasket	3								
37	1981580	Ring	1								

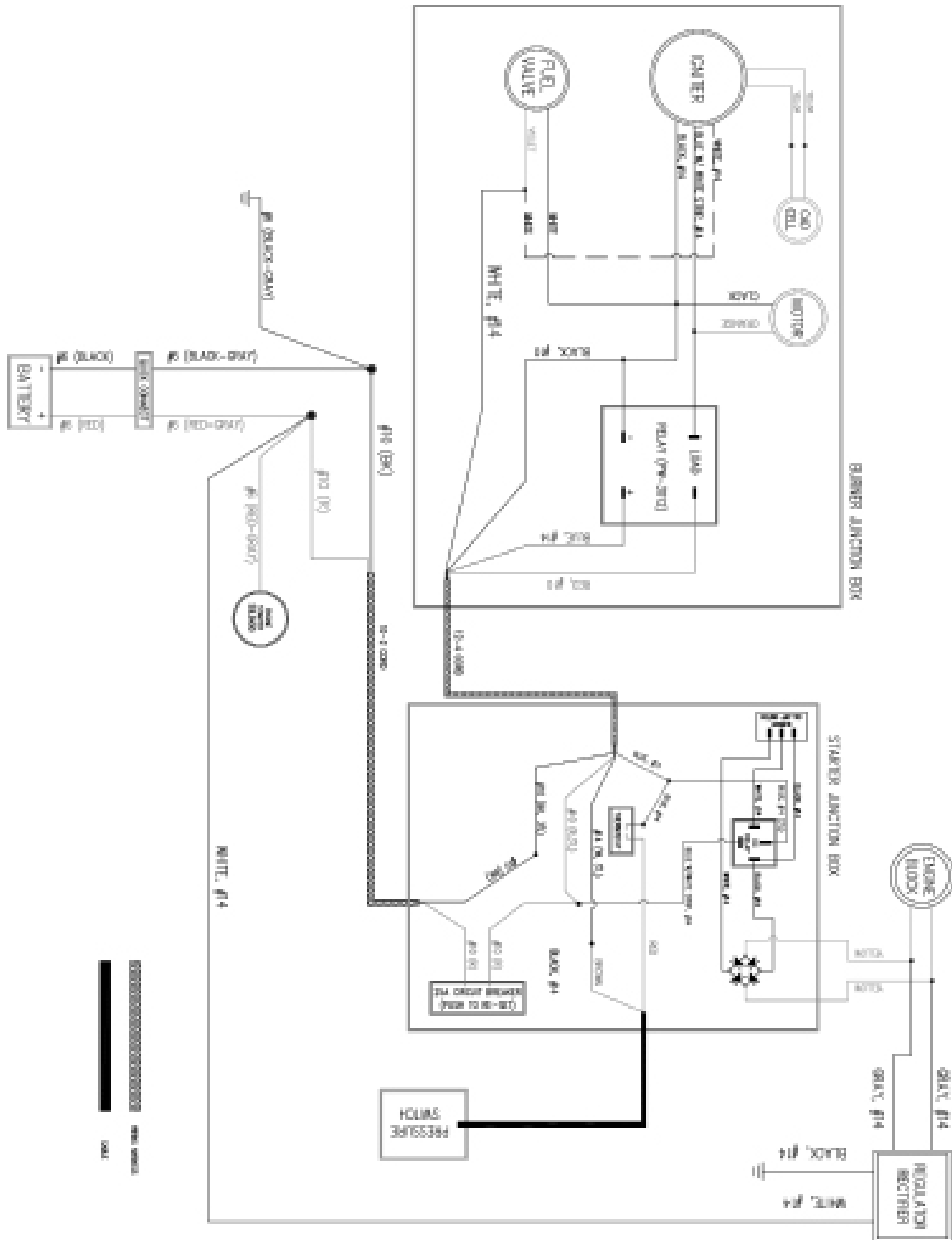
### Special Parts / Kits

Code	Description	Qty.
42304	EZ Start assembly	1
2186	Valve kit - up to 3200 PSI	1
42302	Valve kit - above 3200 PSI	1
2280	Unloader kit up to 3200 PSI no knob with seat	1
42369	Unloader kit above 3200 PSI no knob with seat	1
42128	Unloader kit above 3200 PSI with knob without seat	1
42129	Unloader kit above 3200 PSI with knob with seat	1
42527	Complete manifold with EZ start	1
2769201	Complete manifold non EZ start	1
2761050	Bare manifolds with EZ start	1
2760330	Bare manifolds non EZ start	1

### Legend

ø 15	ø 15	ø 15	ø 15
For √	For ☒	For ▲	For □
RSV2.5G25	RSV3G25	RSV3.5G35	RSV4G30
	For ○		For ■
	RSV3G30		RSV4G35
		For ●	RSV4G40
		RSV3G34	
		RSV3G35	

# CONTROL PANEL WIRING DIAGRAM





# TROUBLESHOOTING



SYMPTOM	PROBABLE CAUSE	REMEDY
Engine will not start	Various engine problems	Refer to the Engine Manual accompanying your unit.
	Unit components are frozen.	Allow to thaw. If any part of the unit becomes frozen; excessive pressure may build up in the unit. This can cause the unit to burst, resulting in possible serious injury to the operator or bystanders.
No discharge at nozzle when trigger mechanism is squeezed.	Inadequate water supply.	Ensure hose is 3/4" diameter and incoming water supply is turned on. Ensure the water is turned all the way on.
Low or fluctuating pressure.	Kink in water inlet hose.	Remove kink.
	Water inlet screen obstructed.	Remove screen, clean, or replace.
	Pump sucking air. (Prime eliminated)	Tighten all water intake connections Eliminate leaks in intake line.
	Incorrect nozzle installed on gun.	Insert high pressure nozzle.
	Obstructed or worn spray nozzle.	Remove, clean or replace.
	Damaged or obstructed valve assy. on pump.	Remove, clean or replace.
	Pump packings worn.	Replace packings.
	Unloader/bypass valve not operating correctly.	Repair or replace.
Water is leaking at safety relief valve.	Unloader malfunction.	Detect and correct unloader problem.
	Pressure switch malfunction.	Detect and correct pressure switch problem.
	Safety relief valve is defective.	Replace safety relief valve. NEVER run unit without safety relief valve. Doing so can cause an explosion!
Oil appears milky or foamy.	Water in oil.	Change pump oil. Fill to proper level.
Oil leaking from unit.	Worn seals or o-rings.	Consult customer service.
Detergent will not siphon	Detergent strainer is not completely submerged in detergent solution.	Check, submerge if necessary.
	Detergent strainer obstructed.	Inspect, clean, or replace.
	Detergent hose cut, obstructed or kinked.	Inspect, clean, or replace.
	Detergent adjusting knob turned to closed position.	Open adjusting knob. Refer to "Cleaning with Detergents".
	Nozzle assembly is plugged.	Clean or replace.
Water flows back into detergent container.	Ball & spring in Venturi reversed, missing, or corroded.	Remove, clean, or replace.
Water flows from the nozzle when the trigger gun is locked in the "OFF" position	Trigger gun is malfunctioning.	Repair or replace.
Blower motor will not run. (Burner will not ignite without blower running)	Burner/Blower motor malfunction.	Repair or replace.
	Belt broken or slipping on generator.	Adjust or replace as necessary.

Blower runs, but burner will not ignite.	Switch is not in "Burner" position.	Check switch position.
	Thermostat knob is OFF.	Check thermostat knob position.
	Out of fuel.	Refuel.
	Gun trigger is closed/not pressed.	Press down on gun trigger.
	Detergent valve is open, but detergent hose is not completely submerged in solution. (This causes safety devices to shut down burner.)	Close valve, or completely submerge clear vinyl hose into detergent solution.
	Pressure switch override.	Pressure should be over 375 PSI
	No voltage.	Consult Service Department.
	Fuel pump sucking air.	Tighten all fuel intake connections. Eliminate leaks in intake line.
	Poor or improper fuel supply.	Check fuel to ensure it is correct. Drain tank and filter if necessary and refill with proper fuel.
Blower runs, but burner will not ignite.	Dirty or clogged fuel filter or fuel water separator.	Drain or replace as necessary.
	Low fuel pump pressure.	Check fuel pump pressure, adjust or replace as necessary.
	Fuel pump inoperative.	Check pressure, replace if necessary.
	Flexible coupler broken.	Replace.
	Fuel solenoid valve failure.	Replace.
	Dirty or clogged fuel nozzle.	Replace fuel nozzle.
	Improper burner air adjustment.	Adjust.
	Faulty ignition module.	Repair or replace. Consult Customer Service.
Burner runs erratically.	Water in the fuel.	Drain fuel filter/water separator. Drain fuel tank, and replace with clean fuel.
	Dirty fuel filter/water separator.	Replace element.
	Dirty fuel nozzle.	Replace.
	Improper air adjustment setting.	Adjust.
	Fuel pump malfunctioning.	Replace.
Blower runs, burner ignites but will not heat.	Thermostat knob is OFF.	Check thermostat knob position.
	Detergent valve is open, but detergent hose is not completely submerged in solution. (This causes safety devices to shut down burner.)	Close valve, or completely submerge vinyl hose into detergent solution.
	Poor or improper fuel supply.	Check fuel to ensure it is correct. Drain tank and replace filter if necessary and refill with proper fuel.
	Dirty or clogged fuel filter or fuel water separator.	Drain or replace as necessary.
	Low fuel pump pressure.	Check fuel pump pressure, adjust or replace if needed.
	Dirty or clogged fuel nozzle.	Replace fuel nozzle.
Blower runs, burner ignites but will not heat.	Improper burner air adjustment setting.	Adjust the setting.
	Scale build up in heat exchanger coil.	Consult Customer Service.
Burner discharges white smoke.	Low on fuel.	Refuel. If white smoke persists, consult Customer Service.
	Excessive air supply.	Adjust air flow.
Burner discharges black smoke.	Insufficient air supply.	Adjust to ensure air flow is sufficient.

# WARRANTY

BE Power Equipment makes every effort to ensure that our products meet the highest quality and durability standards.

BE Power Equipment warrants to the original retail consumer a limited warranty against defect in material and workmanship and, BE Power Equipment agrees to repair or replace any defective product up to the value of the original purchase price at BE Power Equipment discretion free of charge. This limited warranty applies to gasoline and electrically powered pressure washers sold in the United States and Canada, does not include HONDA gasoline engines.

BE Power Equipment warranties to term as outlined below all structural components specifically to the manufactures LIMITED WARRANTY DATE excluding HONDA\* components. All HONDA\* claims are to be evaluated by a HONDA\* certified service center. HONDA service centers are listed on the HONDA website but if you require assistance contact BE Power Equipment.

All implied warranties are limited in duration to the stated warranty period, Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate warranty period.

- HONDA GX Engines: 3-YEAR
- POWEREASE Engines: 2-YEAR / 1000 HOURS
- Triplex Drive Pumps: 5 YEARS
- Electrical / Control Panel: 1-YEAR
- Burner: 3-YEAR
- Coil: 3-YEAR
- Accessories: 90-DAY
- Frame: LIFETIME

In addition, this LIMITED WARRANTY does not cover and it is not limited to failures because lack of service, negligence, directly or indirect misuse, abuse, wearable components, alterations, damage due to freezing, chemical deterioration, scale build up, rust, corrosion, or thermal expansion, normal maintenance service including adjustments, fuel system cleaning, clearing of obstructions, damage to components from fluctuations in electrical or water supply, transportation to service center, field labor charges, freight damage, and repairs performed by an unauthorized service center.

BE Power Equipment assumes no responsibility and shall in no event be liable for injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

The limited warranty period begins at the date of purchase, product serial number and bill of sale required to file a claim.

Submit the product at your expense together with your dated proof of purchase to an authorized BE Power Equipment service center. Contact your retailer, BE Power Equipment or visit [bepowerequipment.com/service-centers](http://bepowerequipment.com/service-centers) for the listing of authorized service centers. In cooperation with our authorized serviced center, BE Power Equipment will either repair or replace the product claimed. Claim approval is strictly and exclusively authorized by BE Power Equipment if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period will be repaired or replaced without charge by an authorized BE POWER EQUIPMENT serviced center for the balance of the original warranty period.

BE Power Equipment liability for special, incidental, or consequential damages is expressly disclaimed. In no event shall BE Power Equipment liability exceed the purchase price of the product in question. BE Power Equipment makes every effort to ensure that all illustrations and specifications are correct, however, these do not imply a warranty that the product is merchantable or fit for a particular purpose, or that the product will conform to the illustrations and specifications.

THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. BE Power Equipment does not authorize any other party, including authorized BE Power Equipment Dealers, to make any representation or promise on behalf of BE Power Equipment, or to modify the terms, conditions, or limitations in any way. It is the buyer's responsibility to ensure that the installation and use of BE Power Equipment products conforms to local codes. While BE Power Equipment attempts to assure that its products meet national codes, it cannot be responsible for how the customer chooses to use or install the product.

BE POWER EQUIPMENT reserves the right to change or improve the design of this product without assuming any obligation to modify any product previously manufactured.

If you are unable to resolve the warranty claim satisfactorily, contact the BE Power Equipment Warranty Department (1-866-850-6662), detailing the nature of the defect, the name of the Authorized BE Power Equipment Dealer, a copy of the purchase invoice, and applicable serial number.



## CALIFORNIA AND FEDERAL EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, the United States Environmental Protection Agency and Chongqing RATO Technology Co., Ltd. (RATO), are pleased to explain the exhaust and evaporative emissions (“emissions”) control system warranty on your 2019/2020 small off-road engine/equipment.

In California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State’s stringent anti-smog standards. RATO must warrant the emissions control system on your small off-road engine/equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine/equipment leading to the failure of the emissions control system.

Your emissions control system may include parts such as the carburetor or fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps and other associated components. Also included may be hoses, belts, connectors, and other emission-related assemblies.

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

### MANUFACTURER’S WARRANTY COVERAGE

The exhaust and evaporative emissions control system on your small off-road engine/equipment is warranted for two years. If any emissions-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by RATO.

### OWNER’S WARRANTY RESPONSIBILITIES

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

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

You are responsible for presenting your small off-road engine/equipment to a RATO distribution center or service

center as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact BE POWER EQUIPMENT at 1-800-663-8331 (free phone) or email at [info@bepressure.com](mailto:info@bepressure.com)

### DEFECTS WARRANTY REQUIREMENTS

A - The warranty period begins on the date the small off-road engine/equipment is delivered to an ultimate purchaser.

B - General Emissions Warranty Coverage. RATO warrants to the ultimate purchaser and each subsequent owner that the engine or equipment is:

1. Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board; and
2. Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

C - The warranty on emission-related parts will be interpreted as follows:

1. Any warranted part that is not scheduled for replacement as required maintenance in the written instructions must be warranted for the warranty period defined in Subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by RATO according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for the remaining warranty period.
2. Any warranted part that is scheduled only for regular inspection in the written instructions must be warranted for the warranty period defined in Subsection (b)(2). A statement in such written instructions to the effect of “repair or replace as necessary” shall advise owners of the warranty coverage for emissions related parts. Replacement within the warranty period is covered by the warranty and will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for the remaining warranty period.
3. Any warranted part that is scheduled for replacement as required maintenance in the written instructions must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by RATO according to Subsection (4) below. Any such part repaired or

replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

4. Repair or replacement of any warranted part under the warranty provisions must be performed at no charge to the owner at a warranty station.
5. Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided at distribution centers that are franchised to service the subject engine/equipment.
6. The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.
7. RATO is liable for damages to other engine/equipment components proximately caused by a failure under warranty of any warranted part.
8. Throughout the emissions control system's warranty period set out in subsection (b)(2), RATO must maintain a supply of warranted parts sufficient to meet the expected demand for such parts and must obtain additional parts if that supply is exhausted.
9. Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or emissions control system must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of RATO.
10. Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts will be grounds for disallowing a warranty claim. RATO will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.
11. RATO issuing the warranty shall provide any documents that describe that warranty procedures or policies within five working days of request by the Executive Officer.

#### D - Emission Warranty Parts List for Exhaust

1. Fuel Metering System
  - Carburetor and internal parts (and/or pressure regulator or fuel injection system).
  - Air/fuel ratio feedback and control system.
  - Cold start enrichment system.
2. Air Induction System
  - Controlled hot air intake system.
  - Intake manifold.
  - Air filter.
3. Ignition System
  - Spark Plugs.
  - Magneto or electronic ignition system.
  - Spark advance/retard system.

4. Exhaust Gas Recirculation (EGR) System
  - EGR valve body, and carburetor spacer if applicable.
  - EGR rate feedback and control system.
5. Air Injection System
  - Air pump or pulse valve.
  - Valves affecting distribution of flow.
  - Distribution manifold.
6. Catalyst or Thermal Reactor System
  - Catalytic converter.
  - Thermal reactor.
  - Exhaust manifold.
7. Particulate Controls
  - Traps, filters, precipitators, and any other device used to capture particulate emissions.
8. Miscellaneous Items Used in Above Systems
  - Electronic controls.
  - Vacuum, temperature, and time sensitive valves and switches.
  - Hoses, belts, connectors, and assemblies.

#### E - Emission Warranty Parts List for Evap

1. Fuel Tank
2. Fuel Cap
3. Fuel Lines (for liquid fuel and fuel vapors)
4. Fuel Line Fittings
5. Clamps\*
6. Pressure Relief Valves\*
7. Control Valves\*
8. Control Solenoids\*
9. Electronic Controls\*
10. Vacuum Control Diaphragms\*
11. Control Cables\*
12. Control Linkages\*
13. Purge Valves\*
14. Gaskets\*
15. Liquid/Vapor Separator
16. Carbon Canister
17. Canister Mounting Brackets
18. Carburetor Purge Port Connector

\*Note: As they relate to the evaporative emission control system.

RATO will furnish with each new small off-road engine/equipment written instructions for the maintenance and use of the engine/equipment by the owner.



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**If you need assistance with the assembly or  
operation of your Pressure Washer please call**

**1-855-850-6668**