

MAGNUM 4000 SERIES OWNER'S MANUAL



ULTRA



GOLD



PLUS



3600

World Wide Parts and Service Hotline
1-800-315-5533

World Wide Parts and Service Hotline 1-800-315-5533

**This manual contains operational information that is specific for
Hot Water Pressure Washers.**

**Read the following instructions carefully before attempting to assemble,
install, operate or service this pressure washer. Failure to comply with the
instructions could result in personal injury and/or property damage.**

For Service: service@easykleen.com

For Parts: parts@easykleen.com

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SAFETY FIRST

The safe operation of our pressure washing systems is our FIRST priority. This will only be achieved by following the operation and maintenance instructions as explained in this manual and all other enclosed manuals.

IMPORTANT SAFETY INFORMATION:

ALL CAUTIONS AND SAFETY WARNINGS MUST BE FOLLOWED TO AVOID INJURY OR DAMAGE TO EQUIPMENT.

THIS EQUIPMENT IS TO BE USED ONLY BY TRAINED OPERATORS AND MUST ALWAYS BE ATTENDED DURING OPERATION.



WARNING: To reduce the risk of injury, read operating instructions carefully before using.

Read the instructions in this manual carefully before attempting to assemble, install, operate or service this pressure washer. Failure to comply with the instructions could result in personal injury and/or property damage.



WARNING: Use protective eyewear and clothing when operating equipment in order to avoid personal injuries.



WARNING: This machine exceeds 85db. Appropriate ear protection must be worn.

IMPORTANT SAFETY INFORMATION



WARNING: Risk of explosion.
Operate only where open flame
or torch is permitted.

WARNING: Flammable liquids can
create fumes which can ignite, causing
property damage or severe injury.

Use only #2 furnace oil or Diesel fuel in the burner fuel tank.



WARNING: Risk of fire. Do not
add fuel when operating machine.

Never use gasoline, crankcase draining, or waste oil in your burner fuel tank. Never run pump dry or let the pump run with the trigger gun released for more than 2 minutes. The minimum clearance to any combustibile material is 12 inches.



WARNING: Keep water spray
away from electrical wiring.

All electrically powered equipment must be grounded at all times to prevent fatal electric shots. Do not spray water on or near electrical components. Do not touch electrical components while standing in water or when hands are wet. Always make sure machine is disconnected from power source before servicing.



WARNING: Risk of asphyxiation.
Use this product only in a well
ventilated area.

Use equipment in a well ventilated area to avoid carbon monoxide poisoning or death. This machine must never be connected to a Type B gas vent.



WARNING: Risk of injection or
severe injury to persons. Keep
clear of nozzle spray.

High pressure spray can cause serious injuries. Never point pressurized spray at any person or animal. Handle the spray assembly with care.

IMPORTANT SAFETY INFORMATION



WARNING: Risk of injury. Hot surfaces can cause burns.



WARNING: Hot discharge fluid. Do not touch or direct discharge stream at persons.



WARNING: Trigger gun kicks back. Hold with both hands.

Hold firmly to the gun and wand during start up and operation of the machine. Do not attempt to make adjustments while the trigger gun is in operation.



WARNING: Risk of injury from falls when using ladder.

Do not overreach or stand on anything unstable. Keep a good balance and make sure to keep a steady footing at all times.



WARNING: Protect from freezing.

It is important to keep your machine from freezing in order to keep it in its best working condition. Failure to protect your machine from freezing may cause damages to the machine and personal injuries may occur as a result.

If you need further explanation of any of the information in this manual, suspend any activity involving the equipment and call our toll free number for assistance, 1-800-315-5533.

OPERATING INSTRUCTIONS

1. **Perform pre-start maintenance** inspection on all applicable systems prior to operating the machine. This is essential for the safe, effective and efficient operation. You will get optimum performance from your system ONLY if these instructions and inspections are followed. Any indication that the pressure washing system was not operated and maintained according to these instructions may cancel the manufacturers' warranty.

Location – Gasoline powered machines must be outdoors in a well ventilated area.

Controls – Make sure all controls turned to the off position.

Pump – Oil level - Level the pressure washer. Be sure oil level in the pump is correct on dip stick. If the level is low, add the correct oil to the proper level. **USE ONLY SAE 30 W NON-DETERGENT OIL OR HYDRAULIC 68. DO NOT OVER FILL.**

Gas Engine - Gasoline level – The engine is a 4 cycle and uses regular octane, unleaded fuel. **DO NOT USE MIXED FUEL.** Refer to the engine operation manual included with your pressure-washing unit.

Gas Engine - Oil level – The engine is a 4 cycle and uses 10W30 detergent oil. Refer to Glossary or engine manual.

Oil Fired Burner - Oil Tank Level – #2 Furnace oil is recommended fuel for Oil Fired Hot Water Pressure Washers. It burns cleaner and the burner requires less maintenance. Diesel fuel may be used as an alternative. Do not overfill burner tank.

Visually inspect all electrical components to assure they are in good condition, showing no signs of exposure, breakage or splicing.

Visually inspect all hoses, nozzles and guns to assure they are in good condition. If replacements are necessary they must be rated to withstand the machines operating pressure and temperatures.

2. **Attach the high-pressure hose** to the outlet coupling on the coil heat exchange system. Ensure that the quick disconnect connections are tightly locked together. Apply a sharp pull on the hose to confirm.

Attach the wand nozzle specific to the task requirements (i.e. chemical or pressure wash).

[Quick Coupling Operation – Pull back sleeve end and insert male end into fitting, release sleeve and confirm connection.]

3. **Attach the water source** to the water inlet located on the pump. The water source must be attached with a good quality standard garden type hose, 1/2" minimum is required. Connect the male fitting into the female pump inlet swivel fitting, make sure that the inlet screen/filter is intact and fitted correctly. Turn on the water source. WATER MUST BE IN SUFFICIENT SUPPLY AND PRESSURE MUST BE BETWEEN 20 – 60 PSI TO ENSURE PROPER AND SAFE OPERATION. Specific attention should be given if using a well water supply. Ensure water is flowing from end nozzle with the trigger gun pulled. Deplete system of all air.

4. **Start gas engine / electric motor and switch on burner**

- Gasoline engine - refer to the instructions in the Engine Manual MAKE SURE THAT THE ENGINE EXHAUST IS NOT FACING ANY FLAMMABLE MATERIALS. Adjust the burner thermostat control to ON at the desired temperature.
- Electric Motor – Turn burner switch to PUMP, adjust the burner thermostat to desired temperature, turn switch to BURNER.

5. **Burner operation**

Be sure water is flowing through water heater coil before turning on burner switch. Turn thermostat to desired temperature. Burner will ignite and remain in operation as long as there is sufficient water flow to satisfy the pressure switch and temperature control.

To shut off burner, turn temperature switch to "Off". Allow the engine/motor to continue to run. Pull the trigger gun to allow water flow to run through the coil for approximately 2 minutes prior to completely shutting off the system. This process will allow coil to cool down.

IF YOU EXPERIENCE IGNITION FAILURE, DO NOT ATTEMPT TO RESTART BURNER! EXCESS FUEL AND VAPORS MAY HAVE ACCUMULATED AND THE CHAMBER MAY BE HOT. THE UNIT MUST COOL DOWN BEFORE RESTART CAN BE ATTEMPTED.

Warning: Condensation on Coil

When cold water is being pumped through the heater coil and the burner is firing, condensation may form at times on the coil and drip down into the burner compartment. This can be particularly noticeable on cold, humid days giving the false appearance of a leaking coil.

Electrically Operated Burners – Some models generate 12V from the gasoline engine and provide the necessary power for the burner. Others utilize a 120v connection which must be grounded. IF YOU REQUIRE UPGRADES OR MODIFICATIONS TO YOUR EXISTING ELECTRICAL SYSTEM IN ORDER TO OPERATE YOUR PRESSURE WASHER, THEY **MUST** BE PERFORMED BY A LICENSED ELECTRICIAN AND BE COMPLETED IN ACCORDANCE TO ALL APPLICABLE CODES IN YOUR AREA OF OPERATION. The power supply must be adequate for your specific unit. Make sure to verify the data plate for your machine's specific requirements (i.e. voltage, amperage, etc).

WARNING:

All electrically powered units must be provided with suitable overload and overcurrent protection in accordance with the Canadian Electrical Code part 1. Confirm the GFCI (Ground Fault Circuit Interrupter) is in good working order.

6. **Pressure adjustment** - The pressure regulator (unloader) is located on the pump (see diagram). It controls the pressure being generated by the pressure washer. This regulator may be adjusted to the desired pressure by turning the adjustment knob. Turning the adjustment knob clockwise will increase the pressure. NEVER OPERATE SYSTEM AT A HIGHER P S I THAN THE MAXIMUM RATING. This machine has been adjusted to operate at a specific maximum pressure as per the machine specifications. Pressure may be reduced for lighter use by turning the Pressure Regulator/Unloader counter clockwise.
7. **You are now ready to start the cleaning operation** - Pull trigger on the pressure wand assembly to start cleaning. To stop the pressurized water, release the trigger. DO NOT LEAVE UNIT RUNNING WHEN NOT IN USE.
8. **To stop Burner operation** – Turn the burner control switch to off (or PUMP for electric machines) and run pump for two minutes with the trigger gun pulled to allow the coil to cool down. After the cooling period is complete, turn off main power to engine/motor. Squeeze and release the trigger for the second time in order to relieve the pump system of pressure.
9. **Prior to storage** – Inspect the pressure washer for any damage or required maintenance. If your machine needs to be exposed to cold weather, please refer to the winterization instructions found in this manual. If possible, do not allow unit to remain outside in the elements.
10. **Warning** – If unit is left running while not in use, pump damage may occur. Do not leave unit running while not in use!
11. **Battery Specifications for electric start systems only** – Rating: 165CCA, 190 CA or better, dimensions: 8" x 5" x 6".

CHEMICAL APPLICATION

DOWNSTREAM CHEMICAL INJECTION – STANDARD

NOTE: Do not remove back flow preventer as chemical may flow back into the potable water source. Ensure the black nozzle is properly fitted at the end of the wand. The chemical injector will not function if this nozzle is not correctly in place.

1. Chemical preparation – Select the detergent/chemical that best suits your cleaning task. Prepare the dilution according to the manufacturer's instructions. The volume of chemical being used may be adjusted at the valve located on the chemical injector.
2. Insert the intake hose, located on the chemical injector at the pump, into the chemical being used.
3. Turn the adjustment knob on the wand or lance to the open position OR when single lance is used, black nozzle will need to be used on wand.
4. To apply chemical, engage the trigger on the pressure wand assembly. Turn the chemical injector's nipple to adjust flow.
5. Chemical can now be applied through the pressure wand assembly. It will take 5 – 15 seconds for the chemical to travel to the spray nozzle. Volume of chemical being used or water being supplied may be adjusted at the Chemical Injector.
6. For best results apply chemical from bottom to top, allow the chemical proper penetration time prior to rinsing. Do not allow the chemical to dry. Rinse from the top to the bottom.
7. Optional high pressure chemical injection systems available. Please contact Easy Kleen.

WINTER PUMP/COIL PROTECTION

The following procedure MUST be used when the pressure washing unit is stored at temperatures below freezing.

1. All water must be drained or blown (via compressed air) from system. Connect a short piece of male fitted ½” garden type hose on to the female inlet on the pump.
2. Place the open end of the hose into a wide mouthed container of full strength, winter rated, vehicle windshield washing fluid or Anti-Freeze, RATED FOR MINIMUM -40°C.
3. Connect the pressure wand assembly.
4. Start the engine and engage the trigger on the pressure gun. Operate the system until the fluid runs the same color as the windshield washing fluid. Your machine is now prepared for storage.
5. Blow out, disconnect fluid supply & pump out excess or cap end.

GENERAL MAINTENANCE

BURNER MAINTENANCE

Repair of the burner is to be done by authorized and trained burner professionals only.

GENERAL MAINTENANCE AND CARE

If the water heater is likely to be exposed to freezing weather then it should be winterized with anti-freeze. Circulation of an anti-freeze solution through the coil by means of the pumping module is the most fail-safe method and should be used. Alternate methods may not completely protect the components. Damage from freezing is not a warrantable item.

Water Condition Use a softener on your water system if local water is known to be high in mineral content. The advantages of soft water are very beneficial: prevents scale buildup in heater coil, cleans better with considerably less detergent, prevents streaking on painted surfaces and glass when rinsing.

Descaling Heater Coil If heater coils develop excessive scale buildup it should be replaced as excessive scale in heater coil will reduce efficiency of the unit and affect recovery capacity. Descaling via use of acid may be hazardous and is thus not recommended.

MAINTENANCE CHECKLIST

PUMP

DAILY

1. Check oil for proper level and adjust accordingly.
2. Examine the quality of the oil.
3. Check pump for oil and/or water leaks.
4. Inspect and clean inlet filters.

WEEKLY

1. Examine all fittings, components, hoses, connections, and nozzles for damages, loose parts, or leaks. – Replace accordingly—

RECOMMENDATION FOR OIL CHANGES AND COMPONENT REPLACEMENTS

1. Change the oil in the pump after the first 50 hours and every 500 hours after the initial oil change. Use SAE 30 W Non-Detergent for GP Pumps and Hydraulic 68 for EK Pumps.
2. Change all other components on the pump as needed.

GASOLINE ENGINE

DAILY

1. Check oil for proper level and adjust accordingly.
2. Examine the quality of the oil.
3. Examine the air cleaner element.

WEEKLY

1. Examine engine components for damages, loose parts, or leaks.

RECOMMENDED SCHEDULE FOR OIL CHANGES AND COMPONENT REPLACEMENTS

1. Change the engine oil after the first 5 hours and every 100 hours after the initial oil change. Use 10W-30 engine oil.
2. Replace the spark plug every 100 hours.
3. Change the air cleaner element every 100 hours.
4. Check fuel filters every 300 hours.
5. Change all other components on the engine as needed.

GLOSSARY OF TERMS

PSI – Pounds per square inch. Pressure washers are designed and rated to operate at a specific PSI. Operating at pressures exceeding the maximum rating could result in damage to the unit and/or SEVERE PERSONAL INJURY.

GPM – Gallons per minute. The orifice on the pressure wand assembly has been selected to deliver up to the maximum GPM for your machine.

PRESSURE WAND ASSEMBLY – This refers to the gun, wand, and nozzle.

PUMP – The pump moves the water through the system and delivers it to the pressure wand assembly.

UNLOADER VALVE – Is a valve located at the head of the pump for unloading water back into the bypass when the trigger gun is shut off. It also reduces the load on pump when gun is off.

OIL, PUMP – The oil used within the pump to lubricate its operation. Important to use only SAE 30 W Non Detergent (GP Pump) or Hydraulic 68 (EK Pump) in the pump (see diagram).

OIL, GASOLINE ENGINE – Machines which are powered by gasoline engines need appropriate lubricant. Use 10W30 detergent oil.

BURNER – The burner heats the water in hot water pressure washers. It is located under the coil and may be powered by furnace oil or diesel fuel.

BACK FLOW PREVENTER – Device to prevent flow backwards into potable water supply.

MAXIMUM WORKING PRESSURE The water heater coils are designed to operate safely at normal working pressures of 4000 PSI. Each machine is equipped with a safety pressure relief valve which prevents over pressurization of the high pressure system. It is an important safety device and must not be tampered with in any way.

TEMPERATURE CONTROL- The water heater is equipped with a temperature control which shuts down the burner in the event of excessive outlet temperature caused by insufficient water flow through the heater coil. Do not set thermostat above 195°F

HIGH PRESSURE SWITCH - A high pressure switch is used to control the burner. It is part of the burner control system (see diagram).

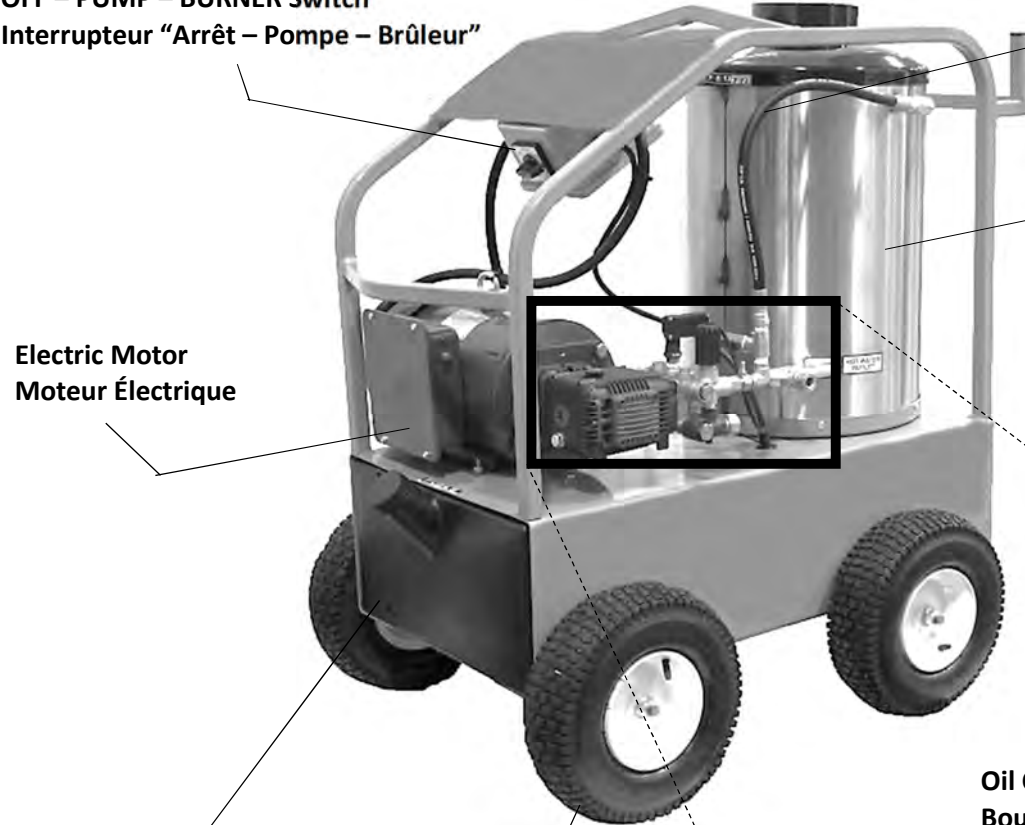
OFF – PUMP – BURNER Switch
Interrupteur "Arrêt – Pompe – Brûleur"

High Pressure Connector Hose
Tuyau Connecteur à Haute Pression

Coil
Serpentin

Electric Motor
Moteur Électrique

General Pump Also Available (GP)
Pompe "General Pump" Aussi Disponible (GP)



10 Gal. Fuel Tank
Réservoir à Fuel 10 Gal.

13" Pneumatic Tires
Pneus 13"

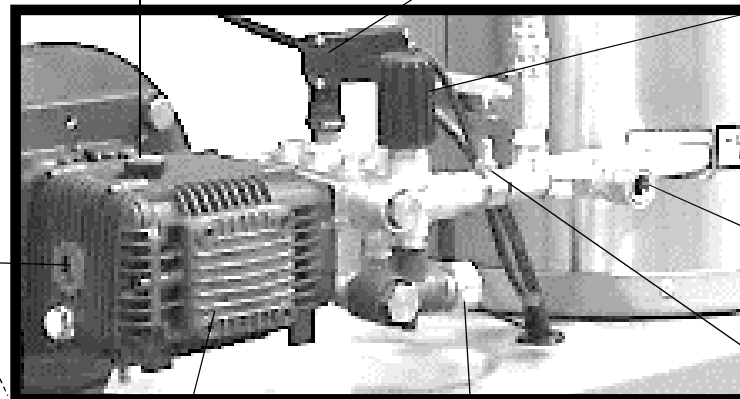
Oil Cap
Bouchon d'Huile

Pressure Switch
Pressostat

Site Glass
Vitrine à Niveau

Unloader
Régulateur à Pression

Hot Water Outlet
Sortie d'Eau Chaude



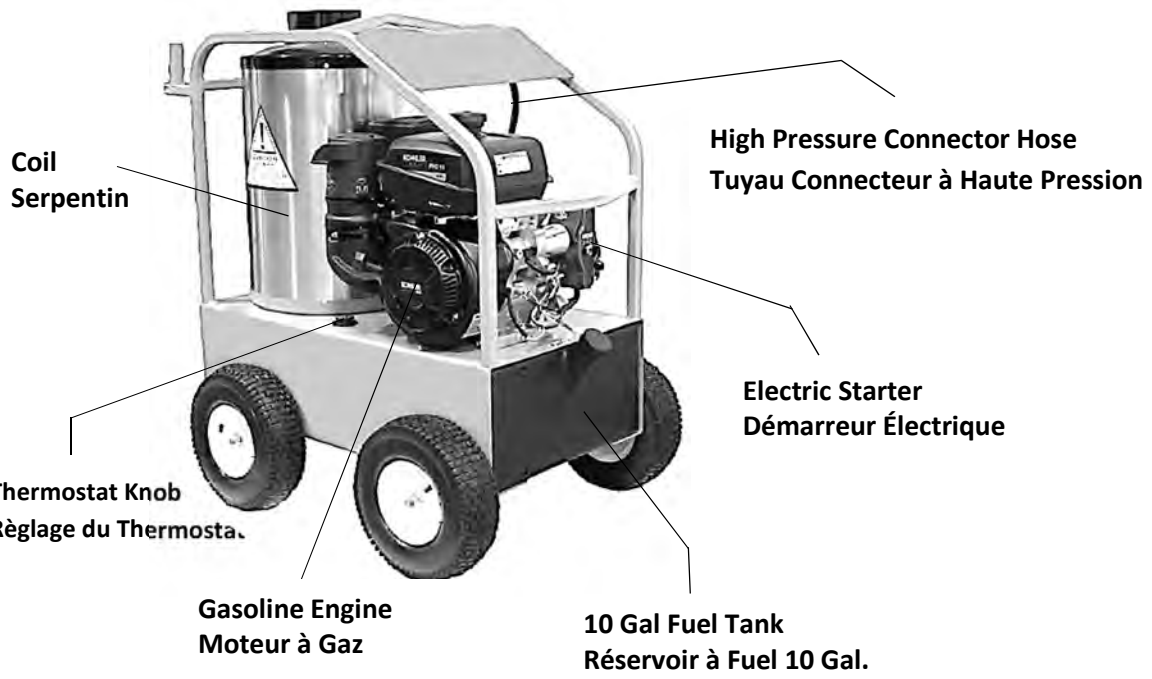
EK Pump
Pompe EK

Water Inlet
Entrée pour l'Eau

Chemical Injector
Injecteur de Produits Chimique

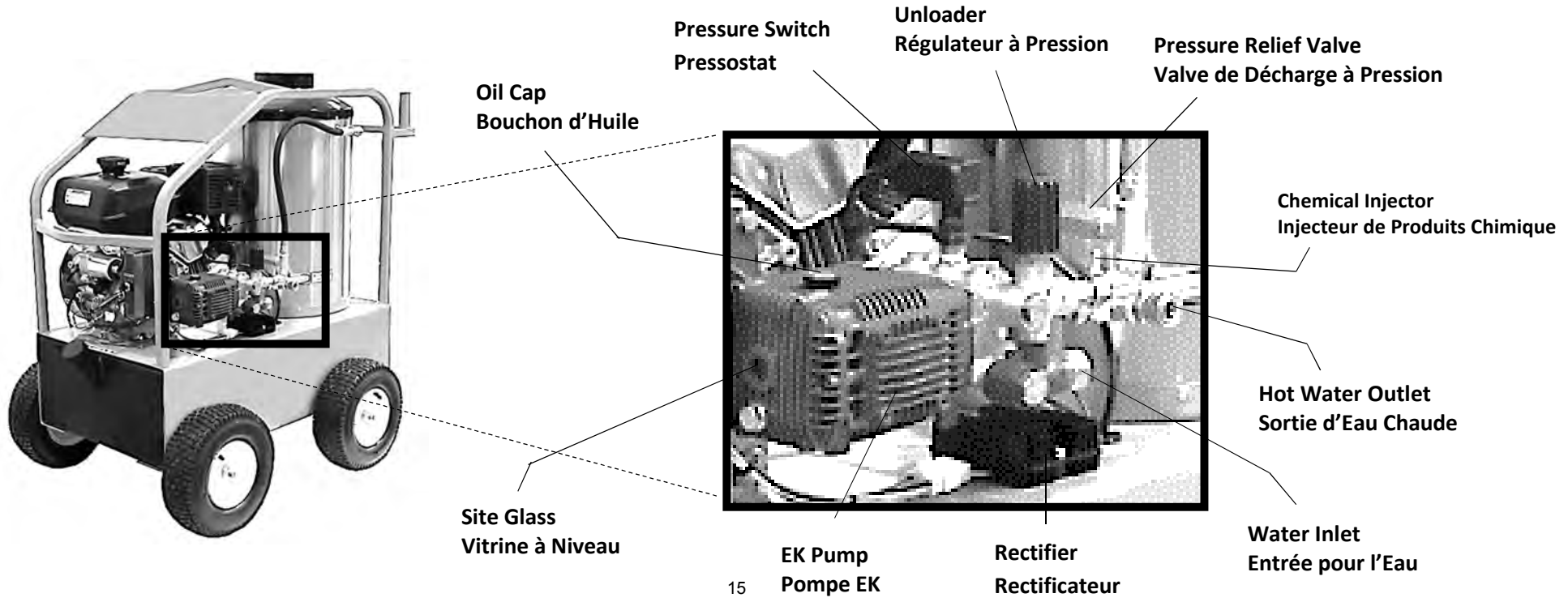
Type of Oil needed for Pumps:
EK Pump – Hydraulic 68 (650ml)
GP Pump – SAE 30 Non-Detergent

Type d'Huile pour les Pompes:
Pompe EK – Hydraulique 68 (650ml)
Pompe GP – SAE 30 Non-Détergente



Type of Oil needed for Pumps:
 EK Pump – Hydraulic 68 (650ml)
 GP Pump – SAE 30 Non-Detergent

Type d’Huile pour les Pompes:
 Pompe EK – Hydraulique 68 (650ml)
 Pompe GP – SAE 30 Non-Détergente



**General Pump Also Available (GP)
Pompe "General Pump" Aussi Disponible (GP)**

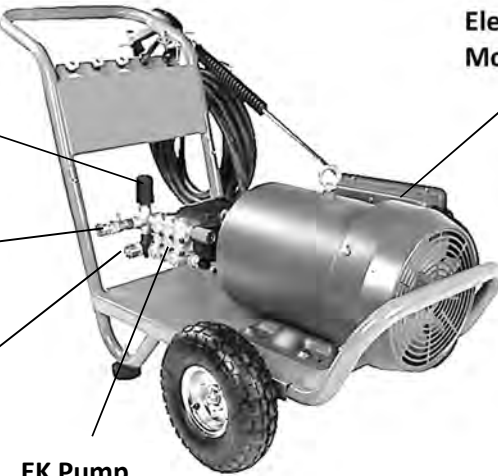


**Unloader
Régulateur à Pression**

**Electric Motor
Moteur Électrique**

**Hot Water Outlet
Sortie d'Eau Chaude**

**Water Inlet
Entrée pour l'Eau**



**EK Pump
Pompe EK**

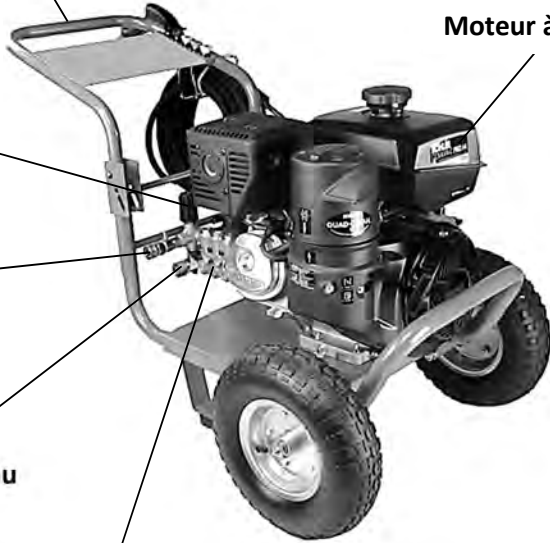
**Fold Down Handle
Poignée Dépliante**

**Unloader
Régulateur à Pression**

**Gasoline Engine
Moteur à Gaz**

**Hot Water Outlet
Sortie d'Eau Chaude**

**Water Inlet
Entrée pour l'Eau**



**EK Pump
Pompe EK**

Type of Oil needed for Pumps:

EK Pump – Hydraulic 68 (650ml)

GP Pump – SAE 30 Non-Detergent

Type d'Huile pour les Pompes:

Pompe EK – Hydraulique 68 (650ml)

Pompe GP – SAE 30 Non-Détergente

QUICK DIAGNOSTIC AND SOLUTIONS GUIDE

(FOR MORE INFORMATION, PLEASE CALL 1-800-315-5533)

TYPE OF OIL		
Pump	30W Non-Detergent	
Gas Engine	10W30	
PROBLEM	POSSIBLE CAUSES	SOLUTIONS
PRESSURE		
No pressure or Very low pressure	<ul style="list-style-type: none"> - Metal in oil - Dirt in water - Wrong nozzle size 	<ul style="list-style-type: none"> - Examine the oil in the pump to see if there is metal in the oil. <ul style="list-style-type: none"> - If you find traces or pieces of metal, your pump has damaged components. - Verify if there is dirt in the nozzle tip or in the valves in the pump. <ul style="list-style-type: none"> - If the nozzle is plugged, clean it or replace it. - If the valves in the pump are clogged, clean the valves. - If the valves in the pump are damaged, replace the valves. - Make sure you have the right nozzle size. The black nozzle will drop the pressure in order to use the chemical injector. If you are not using soap, try using a different color.
Pressure too high	<ul style="list-style-type: none"> - Wrong nozzle size - Unloader adjusted improperly or damaged 	<ul style="list-style-type: none"> - Make sure you have the right nozzle size. - Check the pressure of the pump with a pressure gauge and adjust to desired pressure. <ul style="list-style-type: none"> - If you cannot reduce the pressure, replace the unloader.
LOSS OF BATTERY CHARGE (12 VOLT SYSTEM)		
Burner fan does not shut down or Burner fan starts up when the machine is not in use	<ul style="list-style-type: none"> - Thermostat is stuck or damaged 	<ul style="list-style-type: none"> - Make sure the thermostat is working properly. Take dial off thermostat button. Turn the 2 screws about a quarter of a turn to the left (counterclockwise). Put dial back on. Try to shut off thermostat. <ul style="list-style-type: none"> - If you don't hear a click when you turn the dial completely over, replace the thermostat. <p>NOTE : The newer 12 volt models now have an on/off switch that is designed to cut off the current between the battery and the burner in order to preserve the battery's charge. If you have a model that does not have this switch, please call us for more info.</p>

BURNER

FOR THESE STEPS, PLEASE MAKE SURE THE MACHINE IS NOT RUNNING. PLEASE ALSO TAKE THE NECESSARY STEPS TO AVOID ELECTRIC SHOCKS AND OTHER INJURIES.

No hot water

- Dead battery

- Make sure your battery is fully charged.
 - If the battery's charge is not full, please replace or re-charge your battery.

- Damaged thermostat

- Make sure the thermostat is connected properly.
 - If the burner fan does not come on when you turn the thermostat dial, replace the thermostat.
 - If the burner fan comes on, check the pressure switch.

- Damaged pressure switch

- Make sure the pressure switch is connected properly to the burner unit. Take the cover off the pressure switch by unscrewing the 4 screws on the front part of the switch (switch is located on the pump). Without touching the contacts that conduct current, push on the little button found on the micro switch (the button is located directly above the part that attaches directly into the pump).
 - If the burner comes on, replace the pressure switch.
 - If the burner does not come on, make sure there is current going through the switch (consult a professional for this if you do not know how to do this properly as you can get severely injured by the electrical current connected to your machine)
 - If current properly flows through the pressure switch to the burner, check the ignitor.

- Damaged ignitor

- Please call a repair center or our service line for help to conduct tests on the ignitor.
 - If you see vapor coming out the top of the coil when you try to turn the burner on while the machine is in use, fuel is passing through the system properly but the ignitor is unable to produce a spark. Replace the ignitor.
 - If you don't see vapor, check the fuel line.

- Plugged filter or no fuel

- Make sure you have enough fuel in the tank.
 - If you have fuel, make sure the filter and fuel line are not plugged or damaged.

IN ORDER TO AVOID SERIOUS INJURIES, PLEASE DO NOT ATTEMPT TO REPAIR YOUR MACHINE IF THE PROBLEMS YOU ARE FACING ARE GREATER THAN YOUR CAPABILITY TO HANDLE SAFELY. PLEASE CALL EASY KLEEN OR A PROFESSIONAL REPAIR CENTER IF YOU NEED HELP WITH YOUR MACHINE.

