

# OPERATION and MAINTENANCE MANUAL

**SH Series**



Certified to  
ISO 9001:2008



Intertek



**IMPORTANT: TO REDUCE RISK OR INJURY, READ OPERATING  
INSTRUCTIONS CAREFULLY BEFORE USING**

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**USE ONLY CERTIFIED ORIGINAL EQUIPMENT REPLACEMENT PARTS, FAILURE TO DO SO  
COULD LEAD TO WARRANTY EXCLUSION AND SEVERE BODILY INJURY**

**THANK YOU:** The employees and management of HYDRO TEK SYSTEMS, INC. thank you for selecting our products. The production and quality assurance team have taken the greatest care to ensure that your new pressure washer exceeds the standards set by you, the customer, and by Hydro Tek engineering and ISO9001:2008 quality management standard.

**YOUR RESPONSIBILITY:** This operator's manual was compiled for your benefit. By studying and following the safety, installation, operation, maintenance, and troubleshooting information contained within, you can look forward to many years of trouble-free service from your equipment. Every person who will operate the equipment must read and follow the safety warning and operating instruction sections of this owner's manual prior to use. You are responsible for operating the product properly and safely. You are also responsible to follow the maintenance schedule on the back page of this manual to keep your warranty active.

**FREIGHT DAMAGE:** If delivered by a trucking company, please inspect for any concealed freight damage and note this on the paperwork from the trucking company before signing. Should you find damage has occurred during shipping, do not return the damaged merchandise to manufacturer or dealer, but file a claim immediately with the freight carrier involved.

**QUESTIONS:** Help us provide you with the fastest service. Please locate the enclosed warranty registration card and return it to Hydro Tek to register your machine.

If problems occur, contact the dealer you bought your machine from, a local authorized Hydro Tek service center, or call manufacturer +1 (909) 799-9222 option 4 or ask for technical services.

**GETTING STARTED:** If your dealer has not prepared the machine for startup, you may need to connect the hose to the pressure outlet on the washer and connect the other end of the hose that swivels to the trigger gun inlet and tighten. Mobile Wash Skids are engine powered and shipped from the manufacturer with the fuel tanks empty and without the battery. Connect the battery cables (positive lead first) and follow the operation instructions for starting. High Pressure Steamers are electric powered and will require an appropriate electric outlet or disconnect box and an electric plug that is rated for your machine's voltage and amperage and matches to your electrical socket. Smaller machines are equipped with a ground fault interrupter on the electrical cord and you will need to press the reset button after it is plugged in. (See Operating Instruction section and enclosed page on Installation Guidelines).

**ONE YEAR PARTS WARRANTY:** Hydro Tek Systems, Inc will provide replacement parts for Hot2Go® branded pressure washers and accessories, including Hydro

Vacuum and Hot Link heaters, for one year from the date of original retail purchase. You will pay transportation/shipping costs and travel time. (Labor is not included)

### Items and Conditions Not Covered:

1. Normal wear items such as discharge hose, guns, wands, spray arms, nozzles, quick couplers, o-rings, motor & generator brushes, filters, fuses, belts, & tires.
2. Cost of regular maintenance/adjustments, damage from lack of maintenance or correct operation
3. Damage due to freezing, abrasive fluids, chemical deterioration, scale build-up, or water ingress.
4. Damage from fluctuation in electrical or water supply.
5. Any product or part that has been altered, modified, over pressurized, misused, or has been in an accident.
6. Dealer installation or damage from improper installation of the machine or alteration by a dealer or promise of additional warranty from dealer. The manufacturer warranty is not transferable from the dealer to the retail purchaser on used or rented equipment.

**WARRANTY PROVIDED BY OTHERS:** Gasoline and diesel engines and some electric motors are warranted by the manufacturer of the component and their warranty is provided through the manufacturer's service centers. Contact your authorized distributor for the closest repair center. Additional extended warranties from 3 to 5 years may be provided by engine or pump manufacturer.

**GENERAL CONDITIONS:** Manufacturer's responsibility with respect to claims is limited to making the required repairs or replacements to the original retail user, and no claim of breach of warranty shall be cause for any cancellation or rescission of the contract of sale of any Hot2Go® product. Manufacturer reserves the right to change or improve the design of any of its products or illustrations without assuming any obligation to modify any product previously manufactured.

This supersedes any and all previous warranty statements for products purchased after April 2014. Manufacturer is not liable for indirect, incidental or consequential damages including any cost of substitute equipment, loss of revenue, pecuniary expense or loss, or inability to use a Hot2Go® product. Manufacturer disclaims all implied warranties, including those of merchantability and fitness for use for a particular purpose. Some states do not allow exclusions or limitations on how long an implied warranty lasts, so the above exclusions may not apply to you. It is the buyer's responsibility to ensure installation and use of Hot2Go® products conforms to local codes.

**INTERNATIONAL END USERS:** Warranty is furnished by authorized Hot2Go dealers or distributors only; and the warranty may vary depending on the dealer or distributor and may be different from Hydro Tek's Hot2Go product warranty; please consult distributor for details.

**HOW TO OBTAIN WARRANTY SERVICE:**

1. List washer model# \_\_\_\_\_.  
List serial # \_\_\_\_\_ (on base plate of machine near the motor/engine).
2. Contact your local service dealer and return the Hot2Go washer or part within the warranty period along with your sales receipt. To locate service, call customer service at 800-xxx-xxxx or go to: [www.Hot2Go.com](http://www.Hot2Go.com) and enter your zip code.
3. You also have the option to obtain a return goods authorization and ship the questionable part freight prepaid directly to the manufacturer. The part will be evaluated upon receipt. If found defective, manufacturer will repair or replace part under the conditions of warranty and return to you.
4. If the defective component is an engine or motor made by another manufacturer, we, or your authorized Hot2Go dealer, can help you obtain warranty service through the specific manufacturer's local authorized service center.
5. If you are unable to resolve the warranty claim, write to Hot2Go, 2353 Almond Ave. Redlands, CA 92374 USA, Attn.: Technical Services. Please enclose a copy of the dated purchase receipt and explain the nature of the defect.

**ELECTRICAL PRECAUTIONS:**

1. **Observe all State, Local, and National codes for the installation of your electrically powered washer.**
  2. For a grounded product rated 250 volts, single phase, or less: This product is provided with a ground fault circuit interrupter built into the power cord plug. (8hp single phase excluded; order GFCI separately). If replacement of the plug or cord is needed, use only identical replacement parts.
  3. **GROUNDING INSTRUCTIONS:**  
Cord Connected, Grounded Products:  
**This product must be grounded.** If it should malfunction, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The product is equipped with a cord having an equipment-grounding conductor. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- DANGER** . *Improper connection of the equipment-grounding conductor can result in electrocution.* Check with a qualified electrician or service personnel if you

**WARNING**

**THIS EQUIPMENT CAN BE HAZARDOUS TO THE OPERATORS SAFETY AND ONLY AUTHORIZED PERSONNEL WHO HAVE READ AND UNDERSTOOD THE OPERATION MANUAL SHOULD BE PERMITTED TO OPERATE THIS UNIT. NEVER ALLOW CHILDREN TO PLAY ON OR AROUND THIS EQUIPMENT.**

- are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product, do not cut off the ground pin . if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use any type of adaptor with this product.
4. To comply with the national electric code, this pressure washer should only be connected to a receptacle that is protected by a ground fault circuit interrupter (GFCI).
  5. **EXTENSION CORDS:** Use of extension cords is not recommended.
  6. **NEVER** operate an electrically powered washer after it has tripped a breaker or a ground fault device without having the reason for the trip determined by an authorized service engineer or competent electrician.
  7. Use only in a dry area. Do not handle electrical cords and plugs when they are wet, when your hands are wet, or when standing in water. Do not spray high-pressure water on to the machine.
  8. Disconnect power supply before making any repairs or adjustments.
  9. Transformer on burner is 20,000 volts. Disconnect battery cable before servicing burner or engine on 12+volt systems.

**FIRE PRECAUTIONS:**

1. **DO NOT** use improper fuels or solvents in this equipment, and only fill with the correct fluids when the unit is in an OFF condition, main power is disconnected, and engine and burner are cool.
2. If equipped with a diesel heated burner system, fill

**Warning: FIRE OR EXPLOSION HAZARD CAN CAUSE PROPERTY DAMAGE, SEVERE INJURY OR DEATH.**

- the diesel burner fuel tank with #2 diesel fuel, kerosene, or approved alternate fuel. **NEVER** use gasoline. Do not confuse gasoline and diesel fuel tanks.
3. **NEVER** operate this equipment in the presence of flammable vapors, dust, gases, or other potentially combustible materials.
  4. **AVOID** contact with the exterior of the coil/heat exchanger assembly, mufflers, and exhaust port or stack to prevent burns.
  5. **DO NOT** store fuel or other flammable materials near the burner or any other open flame.
  6. Diesel fired or gasoline power units are designed for outdoor use and installation only.
  7. Burner on/off switch must be placed in the OFF position when the pressure washer is not being used.

Do not depend on engine run switch to turn the burner off . this may cause a safety hazard.

8. Warning: Burner (water heater) should start only when water is sprayed. Stop the system/engine immediately if burner continues to fire when trigger gun is off.

## **VENTILATION PRECAUTIONS:**

1. Use diesel heated and/or engine powered products only in well ventilated areas. Exhaust gases contain carbon monoxide, an odorless, deadly poison.

2. Observe all State, Local, and National codes providing for indoor use or installation of this unit.

3. Provide adequate ventilation to prevent excess carbon monoxide levels, engine overheating and inefficient burner combustion (min. 2qair space). Do not restrict normal engine airflow.

4. For engine driven units mounted in a van or box truck type vehicles, provide an external engine exhaust line that is larger in diameter than the factory exhaust pipe and vent the exhaust to the outside of the vehicle, but not below the vehicle's interior floor height. Also, insure adequate fresh air circulation within the van for engine cooling purposes to prevent heat build-up and for engine fresh air intake. Clearance of at least 12+is recommended on all sides of the unit. Provide a burner exhaust vent, at least 8+ diameter, to the outside through the van roof, or though the side panel that is at least 10+in diameter, and position this vent to avoid water, dirt and debris collection. No flammable liquids, aerosols, or flammable materials should be stored within 24+of the unit and should not be stored under the unit. During refueling, ALL ignition sources and switches should be OFF and there should be a person with the proper fire extinguisher and training within the vicinity of the unit in case of fire. Unit should not be left running unattended or out of sight.

## **SPRAY INJECTION PRECAUTION:**

1. Fluid from high-pressure spray or leaks can penetrate the skin and cause serious injury. If any fluid appears to penetrate the skin, get emergency medical help at once. DO NOT treat as a simple cut. Tell the physician exactly what fluid was injected. For treatment instructions, have the physician call your local poison center. Without proper treatment, complications can develop.

2. WARNING . Risk of injection or severe injury to persons . Keep clear of nozzle. DO NOT direct discharge stream at people. This machine is to be used by trained operators. Keep operating area clear of all people. Use only 48+ long wands on machines producing over 3000 PSI. Also, only use straight wands or wands with a bend of 10° or less. CAUTION: Hot discharge fluid . DO NOT touch or direct discharge stream at people. Gun kicks back . Hold with both hands. Stay alert . Watch what you are doing.

3. Always wear protective eye goggles when operating the equipment. Additional protective items such as a rubber suit, gloves, and respirators are advisable, particularly when using cleaning detergents with a corrosive content.

4. Know the detergents you are using. Read and follow the directions on the detergent labels.

## **PERSONAL HAZARD:**

1. Shut unit off and disconnect power before removing belt guards or electrical covers.

2. Shut unit off before moving it.

3. NEVER lock the trigger on the gun valve in the on position.

4. Do not exceed recommended operating pressure or temperature.

5. Observe all regulations when towing trailer-mounted units.

6. Keep hands clear of belts: Some units equipped with auto-on may start at any time when power is connected.

7. Do not operate the product when fatigued or under the influence of alcohol or drugs.

**BEFORE START UP:** Read all instructions

1. **CHECK PUMP OIL:** Check pump oil by locating the oil view window. Depending on your pump model, fill to the red dot or to center of the site glass window.
2. **CHECK FLUID LEVELS:** Check engine oil and coolant levels if unit is so equipped. (See the maintenance schedule on back page).
3. **CONNECT HOSE AND GUN ASSEMBLY.**  
CONNECT THE WATER SUPPLY & TURN WATER ON: Maintain an adequate supply of water using a 3/4" I.D. hose with a pressure between 25 and 60psi.
4. Burner power switches should be off before starting. If tank fed, be sure there is water in the tank and the valve is switched for supply tank feed. Do not run dry.
5. **BATTERY INFORMATION** (when equipped):  
Batteries are available through your dealer or local auto parts store. Depending on the type of battery you purchase, you may have to fill it with electrolyte. **WEAR EYE PROTECTION!**  
We recommend deep cycle batteries for machines equipped with 12vdc powered burners. If the opening on your battery box measures 8x12, use group 24 battery. Always connect the positive battery cable before the negative and coat the battery terminals with corrosion inhibitor to prevent corrosion. Do not reverse polarity.
6. If wheel kit, accessories, or discharge hose are not installed, see your local dealer for instructions & installation.

**WARNING**  
BE SURE TRIGGER ON SPRAY GUN IS OFF AND CHEMICAL VALVE IS CLOSED

**WARNING**  
DO NOT OVERINFLATE TIRES INFLATE TO MFG. SPECIFICATIONS

**WARNING**  
DO NOT OPERATE MACHINE WITHOUT ADEQUATE WATER SUPPLY

**OPERATION:**

1. **STARTING:**  
Electric Powered Units: Connect power supply and ensure that all wiring connections and voltages are of sufficient rating to comply with equipment requirement. Turn pump power switch on.  
Gasoline Engine Units: Turn engine power switch to the on position, choke if necessary and turn key to start position only until engine starts. On units with a recoil starter, pull cord rapidly, until the engine starts.
2. **PURGE AIR FROM SYSTEM:**  
Squeeze the trigger on the spray gun until a constant stream of water comes out. (Purging works best with nozzle removed from wand and/or dual wand in the low-pressure mode.)
3. **SELECT DESIRED NOZZLE**  
Connect nozzle securely to spray wand. If equipped, close pressure-adjusting knob on dual wand. Hold gun

firmly, squeeze trigger for high-pressure spray. **CAUTION .** Gun kicks back . hold with both hands. **WARNING .** risk of explosion . **DO NOT** spray flammable liquids.

4. **START HEATER / BURNER:**
  - a. Diesel heated: To create hot water on high pressure washers equipped with heat exchangers, release the trigger on the gun then turn the burner to the on-position.
  - b. Turn the thermostat to the desired temperature. Squeeze the trigger on the spray gun and the burner/heater will begin heating the water. It will stop heating whenever the water spray is off or if the temperature setting is exceeded. Heat rise will vary depending on the inlet water temperature and environmental conditions.
5. **STEAM:** (If Equipped) Insert steam nozzle and turn thermostat to 250° steam setting. The steam nozzle is sized for approximately 25% less water volume than the hot water mode.
6. **BYPASS MODE:** (if equipped): System will go into bypass mode when machine is left running and trigger gun is closed. Bypass mode is when the inlet water coming into the pump re-circulates through the unloader across the pump head. If left in bypass too long . more than five minutes . friction created by the movement of the water will begin to heat the water at a rapid rate. If equipped with a THERMAL DUMP VALVE, water exceeding 145°F will cause the valve to open allowing the cool water in to the pump. The valve will reset itself when water temperature comes down to a safe level. If equipped with a bulk water tank, water can be bypassed back through the tank allowing for a larger volume of water to be re-circulated through the pump head thus reducing heat on the pump seals. **Warning:** Do not leave in bypass for longer than five minutes to prevent pump from overheating. Shut off unit when not spraying water.
7. If unit is equipped with a downstream chemical injector, connect the chemical injection assembly into

**MAINTAIN PH BETWEEN 5 & 9**

the high-pressure discharge hose quick connects. Place the chemical pickup into chemical solution and turn brass collar to adjust concentration. The chemical will inject only when you drop the outlet pressure by opening the valve on the dual wand or changing to a low-pressure nozzle. Soap the surface from the bottom up. Rinse and close chemical valve when not in use.

**WASHING TECHNIQUES**

When washing, always start from the bottom up, and do the final rinse from the top down. This will keep the water from streaking the surfaces that are being cleaned. When applying chemicals, it is also best to start from the bottom and work up.

In areas where there is no grease or oil present, and the dirt is loose, cold water may be sufficient. When it comes to grease, oil, and hard to clean dirt; hot water and/or chemicals can make the job easier, and speed up the cleaning process. For applications that require even more heat and where water use/runoff must be minimized, switch to the steam mode (if equipped) and adjust the thermostat for up to 250° steam.

For general washing use a broad pattern spray nozzle such as the 40-degree nozzle. Backing away from the surface and using the broad spray nozzle works best to perform rinsing and delicate surface washing. In areas where the cleaning is more difficult and in smaller areas such as cracks and holes, use the narrow spray nozzles, 15 degree.

Chemicals can be applied in a couple of different ways. One way is with a hand spray pump. The other is with the chemical system on the equipment; either downstream or high pressure depending on the system you have. When using the high-pressure chemical system, do not use any caustic chemical as this may cause damage to the pump. For very harsh chemicals, it is best to use a hand sprayer. First wet the surface and wash off heavy debris. Test the surface to be sure the chemical won't harm it. Then apply the chemical and let it work in for couple of minutes before rinsing. Do not allow chemicals to dry on the surface.

When rinsing off the chemicals always start from the top down. When you are finished using the chemical, be sure to rinse out the chemical line and valve with fresh water to prevent clogging.

**Warning: Cool down burner before shutting off.**

1. Turn burner switch to the off position.
2. Rinse & close chemical valve. Turn off chemical solenoid switch, if equipped.
3. Squeeze the trigger on the spray gun until the water becomes cool.
4. Turn motor/engine switch off with the appropriate controls. Turn off diesel engine units by pulling the throttle kill lever, if not equipped with key shut-off.
5. Turn off water supply.
6. Squeeze trigger to release any trapped pressure in discharge hose.
7. Turn the main power supply off when not in use for any extended amount of time.
8. Turn gas valve off when not in use for an extended period for natural gas/propane heated machines.
9. Disconnect & store hoses.
10. Antifreeze / Winterize equipment:

In the event that the equipment is not to be used for an extended period, store in heated space or antifreeze the unit. Run the machine until the float tank is near empty, fill with a 50% mix of water and antifreeze and run until antifreeze appears at the high-pressure outlet. If unit is equipped with a blowout valve, it may be blown out with compressed air in addition to using antifreeze solution.

On direct feed units (no float tank), use a 5/8" garden hose to draw the antifreeze mix from a bucket or blow out the unit with compressed air until only air and no water comes out of the discharge.

**APPEARANCE:**

To maintain appearance of the pressure washer, use stainless steel cleaner on the stainless steel panels.

**SHUT DOWN**

## POWER SYSTEMS:



**ELECTRIC MOTORS:** All single phase electric motors contain a manual or automatic thermal overload, which will shut down the motor if it overheats. If the overload or starter shuts down the motor, have an electrician or an authorized Hot2Go dealer check for electrical problems. Voltage reading under load should be +/- 10% of name plate voltage on motor. Wait for motor to cool before re-setting. Depressing the red overload button located on either the motor or the starter can reset the motor. Use thumb pressure . do not force. If equipped with an automatic thermal overload, it will reset itself after the motor has cooled.

Never spray water on the unit, or damage to the electric motor(s) may occur.

**Consult the manufacturer if running an electric machine from a generator. Three times total system wattage is required.**

HORSE POWER	115v 1ph	WIRE SIZE	208v 1ph	WIRE SIZE	208v 3ph	WIRE SIZE	230v 1ph	WIRE SIZE	230v 3ph	WIRE SIZE	460v 3ph	WIRE SIZE
1.5	15a	12/3	--	--	--	--	10a	14	--	--	--	--
2	20a	10/3	--	--	--	--	12a	14	--	--	--	--
5	--	--	26a	10/3	--	--	24a	10/3	--	--	--	--
6.5 / 6	--	--	--	--	--	--	27a	10/3	22a	12/4	13a	14/4
7.5	--	--	40a	8	24a	8	34a	8	24a	8	12a	14
8	--	--	36.5a	8	--	--	33.5	8	--	--	--	--
10	--	--	50a	8	32a	8	50a	6	30a	10	14a	12
15	--	--	--	--	40a	8	--	--	38a	8	17a	12

A fused disconnect switch of sufficient ampere rating should be installed by an electrician to provide power to the machine. Note: Some dual rated 208-230 VAC washers include a control circuit power selector switch, located on the back of the control box. Switch it to the appropriate position to match your source voltage. Switches are set by manufacturer to match recorded test sheet voltage. Refer to the chart above for electrical requirements. If your unit is equipped with a ground fault interrupter, it will have to be reset whenever it is plugged in, or if a ground fault interruption occurs. Test regularly for proper operation.

**GASOLINE ENGINE:** With proper care and maintenance, your gasoline engine will give years of trouble free service. Please follow the Service and Maintenance Guide and the enclosed engine sheet or contact your local authorized engine dealer for maintenance and repairs.



Use clean, fresh, unleaded gasoline with an octane rating of 87 or higher in the engine fuel tank. Up to 15% MTBE (methyl tertiary butyl ether) or 10% ethanol is acceptable. Do not use unapproved gasoline such as E15, E20 or E85 ethanol blends. Any failures from use of these fuels will not be warranted. Consult engine manual for proper oil type and capacity. The engine manufacturer

recommends a break-in period at which time the engine oil and filter should be replaced. Thereafter, change oil and filter as required by engine manufacturer. Refer to engine manual for preventative maintenance schedules and procedures. Do not rely on the low oil shutdown (if equipped) as a reminder to add oil. The engine manufacturer will typically not warranty engine damage from lack of oil even if the low oil system failed.

On machines with a 12V burner, the throttle is preset by manufacturer. Some engines include backfire prevention solenoids.

## POWER TRANSMISSION:

**WARNING:** Shut off power supply before servicing.

**BELT DRIVE:** Check belt condition, alignment and tension periodically. Replace belts when they show signs of wear or cracking. Tighten belts by loosening the mounting bolts on the pump to permit them to slide. Turn the horizontal rail adjusting bolts to tighten belts until they deflect 1/4" to 1/2"+with finger pressure.

**DIRECT DRIVE:** Pump is bolted directly to the motor/engine. If pump needs to be removed, do not force off by prying or damage may occur. When reassembling, coat the entire motor shaft with heavy grease or a generous amount of anti-seize. Use ~~lock~~read locker+ or ~~lock~~ack tight+ on mounting bolts and tighten set screw on key shaft.

## PUMPING SYSTEM:

**PUMP:** The pump is a positive displacement, oil bath crankcase, and triplex plunger type. It contains 3 plungers, which move forward and backward in a cylinder to propel water past 3 inlet valves and 3 discharge valves into a high-pressure manifold.



The crank case oil window should be checked for oil level and clarity and the pump for oil or water leaks before each use. The sight window is located at the rear (opposite the head) of the pump and should be filled to the red dot with specified pump oil, available at your Hot2Go dealer (refer to maintenance schedule on back page). If the oil becomes milky in color, moisture is entering the crankcase. Change the oil and contact your authorized Hot2Go dealer if the problem persists.

Keeping filters clean and checking for air in pump feed lines can prevent cavitation and increase pump life. Do not run pump in the bypass mode (pump running with the trigger gun off), for a period of more than 5 minutes or the pump will begin to overheat (maximum water temperature is 145°F). Do not run pump dry. Protect from freezing. Do not run a frozen pump until it is completely thawed.



**UNLOADER AND PRESSURE RELIEF VALVE:** The unloader valve is preset by manufacturer to govern the proper output pressure of your machine. It will release the pressure of the pump back into the inlet if the trigger on the spray gun is released. NEVER increase the set pressure on the unloader to exceed the specifications for your machine.



All hot water machines are equipped with a **SAFETY PRESSURE RELIEF VALVE**. In the unlikely event that your unloader fails, or if the burner overheats and builds excessive pressure, the pressure relief valve will vent the pressure into the atmosphere. If this occurs, turn off the machine and have it checked by an authorized dealer. The pressure relief valve will automatically reset itself.



**BURST DISC TECHNOLOGY:** This additional safety feature functions to protect the coil & heating system from the spikes of high pressure. If this component ruptures, take the machine in to an authorized Hot2Go dealer. Do not plug off and continue to run.

**CHEMICAL INJECTION SYSTEM:** An optional **DOWNSTREAM INJECTOR** is available if harsh chemicals need to be applied. The downstream injector will apply chemicals only at low pressure, by installing black soap nozzle or opening spray wand valve if equipped. If equipped standard with downstream injection, adjust concentration level by turning brass collar on the injector, or the knob on pump or control panel. Read and follow all safety instructions on the detergent label.



**WATER SUPPLY:** An adequate water supply to the pump must be maintained at all times. If the inlet flow is too low or if there is air in the water supply, the pump will run rough, pulsate and lose pressure. Maximum inlet water temperature is 145°F. Do not restrict inlet water supply. If the pump is run dry, it can quickly overheat. The water is filtered by a garden hose adapter screen. Clean and replace as required or install a large capacity strainer to insure a clean supply of water.

**Direct water feed:** Maintain an inlet water pressure between 25 PSI and 60 PSI using a +to 3/4" I.D. hose. Install a back flow preventer on your supply hose if State or Local ordinances require it. Install a water regulator if your water pressure exceeds 60 PSI.

**Bulk tank water supply:** Large capacity water supply tanks can be used with most belt driven units if water is not readily available at the washing site. Belt driven, low speed pumps (less than 1750 RPM) can draw from

a tank if you ensure that the vacuum does not exceed negative 3psi. An 80 mesh, 200 micron strainer and a 3/4" I.D. or larger suction hose must be used to maintain a clean and adequate water supply. Be sure that the water supply is free from air or damage to the pump may result. Periodically you should clean out the strainer and water supply tank to remove debris that may accumulate on the bottom. If a water supply tank and a float tank are both utilized, a special three way valve can be used to switch between tanks.

**USING DE-IONIZED OR SOFTENED WATER IN YOUR PRESSURE WASHER:** Do not use de-ionized water through the coil on a hot water machine or coil corrosion will result. Water softeners, however, will reduce coil scale deposits and should be installed if your water is especially hard.

## HEATING SYSTEM:

### HEAT EXCHANGER SYSTEM:



The heat exchanger on diesel heated units contains a continuous coil of pipe which forms a cold water jacket around the outside of the heating area and multiple spiral wound layers to efficiently transfer heat to the water inside the pipe. It is double wrapped with ceramic blanket insulation and a stainless steel cover.

The outside of these coils can become covered with soot if the burner is out of adjustment or if it is fired by diesel fuel. This can be cleaned by removing both end caps on the coil enclosure and brushing or spraying off debris, or by adding a soot removal agent (Part #CB200) to the diesel fuel. Both a diesel fuel pressure gauge and smoke test device is required for proper burner adjustment on diesel heated units, and must be performed by a qualified technician.

When the water is heated, scale (calcium) will begin to form on the inside of the coil pipe depending upon the hardness of the water in your area. To remove buildup in the coil, use a scale remover (Part #CB100) available at your authorized Hot2Go dealer. Perform this descaling service only when a noticeable pressure drop is detected across the coil. Follow directions to avoid damage. Wear safety glasses.

It is important to be sure you prevent your coil from freezing or blockage caused by scale buildup or ice as this is excluded from your warranty. Ice can exert extreme pressure from the inside of the coil pipe and cause it to split and frozen flow switches or pressure switches can malfunction which control the burner.

These pictures show different reasons for coil pipe failure:



Failed weld or failed material covered under warranty



Failed pipe seam covered under warranty



Blow out from pipe weakened by freezing



Pipe rupture due to freezing or obstruction

**TEMPERATURE SWITCH:** The burner is equipped with a high temperature limit switch, which will shut off the burner when the water temperature becomes too hot. Hot water machines are equipped with an adjustable thermostat so that the operator can control the outlet water temperature. The burner will automatically cycle on and off to maintain the desired temperature.

**STEAM INSTRUCTIONS:** If your unit is steam capable, install the green steam nozzle, turn thermostat to 250° F.

**PRESSURE/FLOW SWITCH:** The heater/burner is equipped with either a pressure switch or a flow switch. When the trigger on the spray gun is squeezed, water begins to move through the coil and is pressurized. The flow/pressure switch turns the heater/burner on and begins to heat the water. Whenever the water spray stops or if the water is shut off, the burner will shut off.

**WARNING: Burner should fire only when the trigger is squeezed and spraying water, if it comes on at any other time, shut off machine and have it serviced.**

**DIAGNOSTIC LIGHT:** The burner diagnostic light on the rocker switch (if equipped) can help in determining problems with the burner. The red light indicates that power is going to the fuel solenoid valve. The burner should be firing and heating the water whenever the red light is on. When the trigger on the spray gun is released or if the temperature set point is exceeded, the red light will go off and the burner will stop firing.

**DIESEL FIRED BURNER:** The diesel-fired burner is a forced draft pressure-atomizing burner. Diesel fuel is sprayed out of an atomizing nozzle, mixed with air, and ignited by a high voltage spark. The flame is directed towards the coils of pipe, which in turn, heats the water flowing through it. Use clean #2 DIESEL FUEL for the

burner or substitute #1 diesel, light fuel oil, or Kerosene if diesel is not available.

AIR BAND adjustments may need to be made to compensate for higher elevations, or if more than a trace of smoke is observed in the burner exhaust. The ELECTRODES may need to be cleaned and adjusted periodically. These adjustments have to be made precisely and should be performed only by qualified personnel. Set between #1 & #2 on the smoke gauge.



The **FUEL PUMP**, on diesel heated units, is a self-priming, low volume pump which is propelled by the burner motor. The fuel pump pressure is typically set at 125psi but can be turned as

high as 160psi during the winter when the incoming water temperature is lower. Before adjusting the fuel pressure, connect a fuel pressure gauge and an outlet water temperature gauge, turn the pump and burner on, and turn the fuel pressure screw clockwise until the desired water temperature is obtained. Air band adjustment may be needed to maintain a clean burn. Be sure not to exceed the recommended specifications of the machine.



The FUEL FILTER will need to be replaced often if the diesel fuel quality is poor. A fuel filter with a water separator is recommended if the fuel quality is consistently poor.

The FUEL SOLENOID is an electric fuel valve that shuts off the fuel whenever the trigger on the spray gun is released or if the set temperature on the heat switch is exceeded.

**Warning! When performing any tests on ignition systems, do not touch the ignition rod. Ignition circuit generates over 10,000 volts, electrical shock can result!**

The **IGNITION TRANSFORMER** provides a high voltage spark that travels down the electrodes to ignite the diesel fuel. Disconnect all power before servicing. The 12V burner operates from the battery on the SH and SK Series. The engine has a 10 to 25 amp charging system that keeps the battery charged which runs the burner. The transformer stops when the trigger gun is released and is controlled through a high amperage contactor. To help keep the battery fully charged, and for safely cooling down the burner, turn off the burner during the last minute of rinsing. When leaving the machine unattended, shut off burner and engine switch. Replace 12 VDC battery regularly (2 year maximum interval) on 12V burner systems to help ensure consistent performance.

**PRESSURE DELIVERY SYSTEM:**

**DISCHARGE HOSE:** Use only a wire braid hose rated for the output pressure and temperature of the machine. Additional hose lengths can be added with quick twist couplers with a minimal loss in pressure of about .5 PSI per foot. Inspect hoses for wear and replace if necessary. Avoid kinking or running over the hose to extend the hose life.

**WARNING:** Hot2Go hot water machines require a special 250° rated hose. If the hose is not replaced when worn it may burst and serious injury and burns could result.

**QUICK COUPLERS:** The swivel connectors on the high-pressure hose and quick couplers on the spray nozzle make it easy to change nozzles or hoses. When connecting hoses or nozzles, be certain that the collar on the quick couplers snap into the locked position to prevent them from becoming loose. If the quick connect begins to leak, replace the O-ring (specify Viton or EDPM material) located in the female socket coupler. Grease the coupler periodically to make it work smoothly. Replace if it becomes worn. Twist couplers are also used on most wands so they can be interchanged.



**TRIGGER GUNS:** The trigger gun is merely a valve that turns water spray on and off. If it begins to leak or fails to shut off, replace or repair the valve assembly. Machines that spray steam only are equipped with an open gun that does not shut off the water spray.

**Never lock any gun in the on position for any reason. Never point spray at a person or any part of the body.**

**SPRAY WAND:** Spray wands are available in different lengths (2 to 6 foot) and with variable pressure adjustment for various cleaning applications. The dual wand has a low-pressure and high-pressure nozzle. When the dual wand is installed on the machine, the output pressure can be lowered simply by turning the valve on the dual wand to divert water into the low-pressure nozzle. This lowers the pressure (psi) but has little or no impact on the flow (gpm) or outlet water temperature on hot water machines.

The short wands are ideal for washing in confined areas such as a car lot. The longer wands help to clean areas that could not normally be reached.

**WARNING** wands less than 48" long should not be used with machines producing over 3200psi.

**NOZZLES:** The spray nozzle is a precisely machined orifice made of hardened stainless steel. The orifice

size is matched to the output of your machine to attain the proper flow and pressure in which your machine was designed. The orifice, or hole, of the nozzle will enlarge with wear. For optimum performance, replace the spray nozzle to maintain the full output pressure of your machine. The nozzle installed on your machine from the manufacturer is designed to allow only about 90% of the water being pumped to discharge out of the nozzle. The remaining 10% is bypassed back into the inlet water supply by the unloader/regulator valve. If an incorrect nozzle size is used, the maximum flow and pressure of the machine cannot be achieved and the unloader valve can wear prematurely. When replacing the nozzle, match to one size under the flow and pressure output of the pump.



The nozzle is usually connected to the wand with a quick coupler. Be sure the collar on the quick coupler snaps into the locked position, or the nozzle could be lost when the trigger on the spray gun is squeezed. Never connect the spray nozzle directly to the trigger gun without a wand or injury could result. Never place hands or fingers over the nozzle tip.

The nozzles generally come in four different spray angles: 0°, 15°, 25°, and 40°. The different spray angles of a given size of nozzle do not change the output pressure of the machine, just the impact force and surface coverage of the water spray.

The optional 0° nozzle sprays a straight stream which impacts the surface very hard but does not cover a very wide area. Use the 0° red nozzle with care because it can damage the surface you are spraying with its high impact and long reaching spray.

The 15° yellow nozzle sprays out a flat stream at a 15° pattern. It gives you less impact power than the above, but covers a wider area with one pass of the spray wand. As you back away, the spraying nozzle from the surface, the spray impact will decrease.

The 25° green nozzle is wider than the 15° and is most commonly referred to as the %steam nozzle+. The steam nozzles are sized to spray less water than the other high-pressure nozzles, so the water is discharged at a higher temperature. (Up to 250°F.)

The 40° nozzle spreads the water stream over a wide area to give you less impact for delicate surfaces.

**Never connect the spray nozzle directly to the trigger gun without a wand or injury could result. Never place hands or fingers over the nozzle tip.**

**OPTIONAL ACCESSORIES:**  
**HEATING COIL PROTECTION:**

Protect your heating coil by removing debris or minerals from inlet water by adding a filter or anti-scale cartridge. The universal bracket and filter housing kit (p/n AF001) attaches to most 1+to 1½" tubing to fit most pressure washer frames, then choose the filter insert that will most benefit you.

A 10-micron filter cartridge removes debris, ideal when using sandy, non-potable, or well water (p/n VFH11)

The anti-scale cartridge removes minerals to prevent scale buildup (p/n VFD50)

**WET SANDBLASTER:** The wet sandblaster is a system that introduces sand (or other media such as baking soda) into the water stream for abrasive blasting. It is especially effective for graffiti or paint removal. Performance of the unit is directly related to the output of your high-pressure washer. The sand is mixed with the water at the sand head in a tungsten carbide nozzle.

A vacuum is created in the sand nozzle, which draws a sand and air mixture up the sand hose. If the sand becomes wet or the sand nozzle becomes plugged, the vacuum will be lost and the sand will quit flowing. The sand probe can be poked directly into a bag or bucket of sand to draw it up the sand hose. Do not cover the air intake port on the top of the sand probe or the sand flow will be disrupted. Uncoil the sand hose completely before use to improve the sand flow and replace the sand hose when it becomes worn. The carbide sand-mixing nozzle can be unscrewed and replaced when worn.

Use bagged silica sand for best results through the sandblaster. Use 16 to 20 grit (course) sand for rust or concrete. Use 30 grit (fine) for fine metal surfaces or wood. Do not use wet sand or mix different grits of sand. A sand hopper is available for convenient sand storage. An air valve is available for adjusting feed rate on the hopper and should be fully open when using fine media such as baking soda. **Always use safety goggles and protective clothing when operating the wet sand-blaster.**

**TURBO NOZZLE:** (please note temperature limits) The turbo nozzle multiplies the power of your machine by rotating the spray jet and making the water impact a surface harder to give better cleaning results.

Turbo Laser+ type nozzles cannot be used with water over 190° or the life of the turbo nozzle will be greatly decreased and the warranty voided. The Rotomax+ type nozzle can be used up to 170°. Turn off burner or reduce temperature setting before using. Simply remove regular spray nozzle, replace with the turbo



nozzle and squeeze the trigger on the spray gun. Do not point the turbo nozzle upward when starting.

**EXTENSION HOSES:** connecting additional hose lengths by means of twist couplers can extend the length of your high-pressure discharge hose. Hose extensions generally come in 50q and 100q lengths. Specify maximum pressure and temperature of your machine when ordering.

Low-pressure inlet garden hoses are available in 50q and 100q lengths. Premium quality, 200psi rated hoses are recommended. **WARNING! If your unit is equipped with 250°F steam option, only use minimum 250°F rated high-pressure hose.**



**HOSE REELS:** Hose reels are available for convenient and quick storage of both discharge and inlet hoses. Different hose reels options are available for trailer mounting, machine mounting, wall mounting, or as base mount options. To keep the hose from unreeling, lock the drum in place and secure the gun or the end of the hose or it may drag on the road. The low-

pressure hose should be of sufficient quality that it will not flatten out when reeled up, or water supply to the machine will be cut off.

If the reel swivel begins to leak, replace or connect the hose directly to the machine until the leak is repaired. Hose reel swivels with lubrication are pre-lubricated by manufacturer. Additional lubrication intervals depend on application and frequency of use. However, a minimum for re-lubrication, with standard Moly Lith grease, at 40 hours is recommended. *Do not over grease.* Using a hand held grease gun, dispense one pump of grease into the grease fitting. Depress the ball bearing at the end of the grease fitting to allow the grease and air to escape



## HYDRO TWISTER . Surface Cleaners:



The Hydro Twister® is a flat surface cleaner that connects to a pressure washer and uses a spray bar rotating at a high speed within 1" of the ground. It will clean concrete more consistently than an operator with a spray wand, with less fatigue, and 10-20 times faster. Simply move the twister over the surface and watch a clean path appear behind the unit. The Hydro Twister can be used with hot water up to 210° on most models for extra stubborn

grease or grime, eliminated the need for soap pretreatment in most applications. Rated to be used with a pressure washer up to 4000psi and up to 6gpm. See your dealer for proper nozzle size configurations to match your pressure washer.

Recovery surface cleaners are also available through the Hydro Vacuum® product line.

## HOT LINKĪ HEAT EXCHANGERS:

The Hot LinkĪ attaches to your cold water pressure washer and converts it into a hot water pressure washer. The cold water pressure washer provides high-pressure water into the Hot LinkĪ which heats the water before delivering it through the spray gun and wand. The Hot LinkĪ is flow controlled so when the gun is pulled, the burner automatically starts and stops when the gun is released. Simply attach to the Hot LinkĪ with the jumper hose, provided, to almost any cold water pressure washer, and attach the pressure washers hose, gun, wand and nozzles to the outlet on the Hot LinkĪ . The Hot LinkĪ system continuously heats at a 100°F temperature rise and pressure rating up to 4350psi. (Spray gun and hose must be rated for at least 200°F and pressure washer must not exceed 4350psi).



## HYDRO VACUUM® WASTEWATER RECOVERY

Hydro Tek manufactures Hydro Vacuum®, a product line of mobile wastewater recovery accessories. Starting with containment berms to divert wash water away from storm drains and toward a vacuum pickup device. The vacuum system can be used to simply pickup and transfer the water to a bulk tank or choose a system to filter the water for washing reuse or sanitary sewer disposal.

Vacuum system choices are either fully portable (on wheels) or truck or trailer mount systems.

Dispose of collected wastewater properly: Permits can be obtained to dump wastewater into a sanitary sewer system if properly treated and tested. It is illegal to allow wash water to run into storm drains.



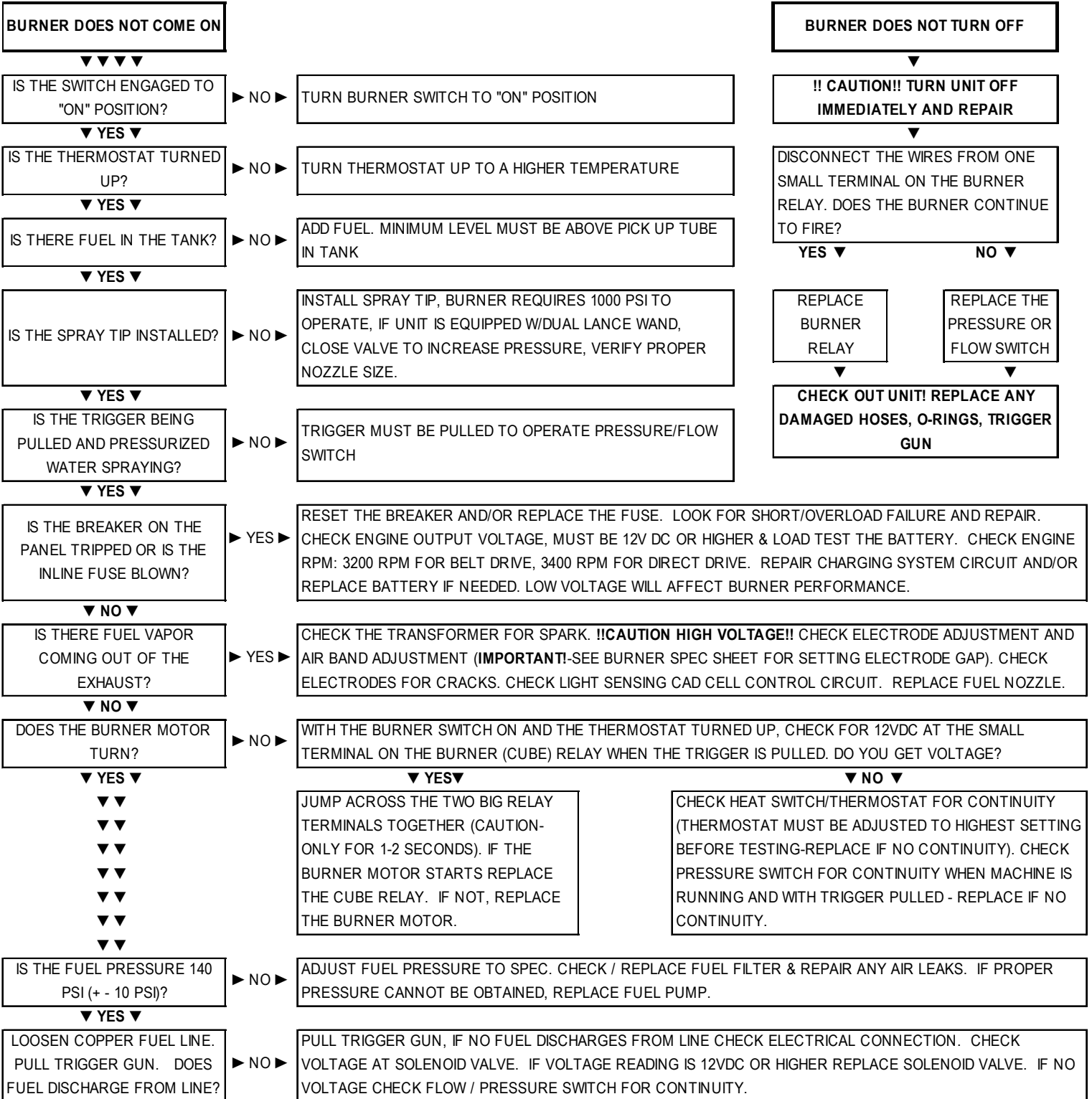
PROBLEM	PROBABLE CAUSE (The most recurring probable cause is listed first)	REMEDY (Repairs should only be made by a qualified technician)
<b>Power System: Gasoline or Diesel Engine Powered</b>		
Engine will not start or crank over	Battery dead. Dirty battery connection. Battery cables disconnected. Engine, pump, or gearbox is seized. Key-switch, solenoid and starter on engine defective	Charge or replace battery, add electrolyte if battery is new. Clean connections / Carefully check polarity. Connect or replace damaged cables. Replace or repair seized part. Repair or replace.
Engine will not start but will crank over	Engine power switch is off or defective. Low oil shut down is activated. Low water switch engaged or defective (not on all models). Low on fuel. Fuel filter is clogged. Engine flooded or starved.	Check engine power switch. Add oil to engine, check more frequently. Add water to bulk tank feeding pressure washer. Fill with appropriate fuel, bleed injector pump on diesel engine. Replace or clean fuel filter Choke only as required.
Engine bogs down under load whenever spray gun is triggered	Engine needs to be repaired or replaced. Operating in high elevation. Carbon deposits on cylinder head	See engine manual or engine dealer. Lower the pressure on the unit and check for correct engine speed (RPM). Remove head and wire brush deposits.
Battery keeps losing voltage (For 12v systems)	Battery voltage low.  RPM too low. Engine charging system faulty. Electrodes misadjusted. Fuel pump pressure too high. Air band too far open.  Burner amp draw too high.	Have battery checked and load test, charge if low and replace if necessary. Allow water to cool 2 minutes before shutting off engine. Engine RPM should be 3600 RPM with no load. Check engine charging system – must have 10 to 25 amp output. Adjust electrodes to maximum 1/8" gap. Fuel pump pressure should be approximately 125 to 160 psi. Adjust for proper burn. Check amp draw of burner motor – should be 11 amp or less. Check amp draw of transformer – should be 4.8 or less.
<b>Power System: Electric Motor Powered</b>		
Electric motor does not start	No electric power. Thermal overload in the motor or starter has been tripped.  Power switch inoperative. Electric motor or wiring failure. No water to inlet.	Check cord, plug, socket, and breaker. Check voltage. Reset manual overload by depressing the thermal switch on the outside of the motor or starter after the motor has cooled. CAUTION! Automatic overload will restart the motor automatically when it has cooled. Check power switch. Replace or repair motor and/or wiring. Connect water supply.
Machine will not auto-start (if equipped with ETS or ITS)	Must have adequate water supply. Scale build-up in coil. Check filter screen & inlet pressure. Inlet flow switch defective / jammed with debris.	25 PSI minimum. De-scale coil for better water flow. Remove spray nozzle and pull trigger to check auto-start function. Check mechanical function & electrical signal to relay.

<b>Water Temperature</b>		
Discharge water temperature exceeds recommended operating temperature	Burner input too high for conditions. Water flow restricted.  High temperature limit switch faulty or set too high.	Decrease fuel pump pressure and/or fuel nozzle size. Clean or replace nozzle of proper size. De-scale coil and clear obstructions. Replace or reset temperature limit switch.
Discharge water temperature not reaching maximum operating temperature	Burner input too low for conditions.	Increase fuel pump pressure and/or fuel nozzle size.

PROBLEM	PROBABLE CAUSE <small>(The most recurring probable cause is listed first)</small>	REMEDY <small>(Repairs should only be made by a qualified technician)</small>
<b>Pumping System</b>		
Trigger gun leaks or will not shut off	Debris in gun valve assembly.	Clean valve assembly or replace gun.
Pump runs but has low spray pressure	Water turned off. Nozzle is not installed, is plugged, or sized incorrectly Inlet chemical injection valve is open without the end of the pickup tube inserted into detergent. Coil on hot water machines is obstructed. Priming of pump after run dry. Dual wand valve is open. Leaky discharge hose or quick coupler. Water sprays out around nozzle. Inlet strainer clogged. Belt slippage. Unloader valve worn or improperly adjusted. Air leak in inlet plumbing. EZ start valve is leaking.	Turn water on. Install nozzle, clean or replace with proper size Close soap valve or submerge detergent pickup tube into solution.  Clean obstruction or scale deposits from coil with coil cleaner. Crack open fitting on high-pressure outlet of pump. Close dual wand valve and install high-pressure nozzle. Replace hose, quick coupler, or o-ring in the quick coupler.  Clean and check more frequently. Tighten or replace with correct belt Install pressure gauge on pump head to adjust pressure. Check valve seat on unloader. Reseal fittings and inspect inlet hoses for air leaks.
Pump runs but there is erratic, fluctuating pressure	Inadequate incoming water supply. Stuck inlet or discharge valves. Restricted inlet or air entering the inlet plumbing on pump. Leaking High Pressure seals Leaking Low Pressure seals	Remove hose to check for internal leaks. Increase water supply flow. Clean out or replace worn valves. Check fittings and hose for airtight seal, clean inlet strainer screen. Replace seals. Pressure feed the pump & replace seals if water leaks from pump head.
Excessive crankshaft play or loud, knocking noise in pump	Broken or worn bearing or connecting rod in crankcase	Replace pump or bearing.
Oil leaking from pump	Loose drain plug or damaged seal	Locate point of oil leakage and replace damaged o-ring/seal.
Water is emitted from the chemical pickup tube	Check-valve malfunctioning.	Repair or replace check-valve.
Inlet injection will not siphon chemical	Check valve in strainer clogged. Chemical valve not open or clogged. Strainer not submerged in solution. Detergent hose cut or kinked.	Clean or replace valve. Rinse after each use. Open chemical valve or clean. Submerge strainer and replenish chemical. Inspect hose, replace as necessary.
Downstream injector will not siphon chemical	Brass knob on injector is closed. Unit not in low-pressure mode. Soap solution is too thick. Detergent hose cut or kinked. Strainer plugged or not submerged. Internal injector parts corroded or stuck. Outlet water temperature too high.	Open by turning counter clockwise. Open dual wand or install low-pressure tip. Dilute or use different solution. Inspect hose, replace as required. Check screen on strainer pickup tube. Disassemble, clean or replace. Use with cold water (150° Maximum)
Pressure relief relieving water	Un-loader failure/Coil overheating/Excessive pressure.	Turn machine off, wait a few minutes and restart. If problem continues, take in for repair.
Burst disc relieving water	Excessive over-pressurizing and system spikes.	Take in for system check.

PROBLEM	PROBABLE CAUSE <small>(The most recurring probable cause is listed first)</small>	REMEDY <small>(Repairs should only be made by a qualified technician)</small>
<b>Heating / Burner System – Diesel Fired</b> <b>(Additional Diesel Fired burner troubleshooting flow chart on next few pages)</b>		
Burner smokes	Elevation or altitude Soot on coil exterior Exhaust restricted Air intake restriction Improper voltage at burner motor	Adjust air band and fuel pressure to compensate Increase air or decrease fuel. Coil may need cleaning Remove restriction if obvious. Check for sooted coil Remove restriction if obvious. Adjust air bands. Check fan Check generator output if equipped. Check battery or charging system.
Excess carbon monoxide	Too much air Improper or restricted fuel nozzle Fuel gun assembly out of adjustment	Adjust air bands Replace fuel nozzle Adjust gun assembly location
Burner "Puffs" black smoke	Too much fuel pressure Not enough air flow	Adjust fuel pressure at fuel pump Adjust air bands

## BURNER TROUBLE SHOOTING SH and SK SERIES 12V DC



TRUBLESHOOTING ENDS: REPEAT PROCEDURE UNTIL TROUBLE FREE OPERATION IS OBTAINED





While your pressure washer has been produced with quality materials and craftsmanship, you as the owner have certain responsibilities for the correct care of the equipment. Attention to regular preventative maintenance procedures will assist in preserving the performance of your equipment.

Contact your Hot2Go dealer for maintenance. A small investment in preventative maintenance will add many hours to the life of your pressure washer. Perform maintenance more often under severe conditions. Do not spray high-pressure water onto the machine. **Not all maintenance items apply to all machines.**

## MAINTENANCE SCHEDULE\*\*

Engine Oil	Inspect	Daily
	Change	After first 5 hours then every 100 hours especially in high ambient temperatures
	Filter	Gas engine: every 100 hours / Diesel engine: refer to engine manual
Air Cleaner	Inspect	Every 50 hours
	Clean or Replace	Every 3 months
Diesel Engine Coolant		Check daily (maximum 50% antifreeze)
Battery Level		Check monthly 12V DC Burner Systems: Replace battery every 2 years
Engine Fuel Filter		500 hours or 6 months
Spark Plug Maintenance		500 hours or 6 months
Clean Fuel Tank(s)		Annually
Replace / Inspect Fuel Lines		Annually
Pump Oil	Inspect	Daily
	Change	After first 5 hours, then every 6 months or 500 hours
	Axial pumps come filled with synthetic oil, which does not require changing	
Clean/Replace Burner Filter		Monthly (More often if fuel quality is poor)
Remove Burner Soot		Annually
Burner Adjustment/Cleaning		Periodically (Check light sensing CAD cell control circuit and clean if needed) Annually (Burner adjustment must be set to #1 smoke setting)
De-scale Coil		Annually (More often if required)
Replace Spray Nozzle		Every 6 months, or earlier if needed
Replace Quick Connects		Annually
Clean Water Screen/Filter		Weekly (More often if required)
Clean Float/Supply Tank		Every 6 months
Replace HP Hose		Annually
Belts	Tighten	Every 6 months (more often if required)
	Inspect/Replace	Annually
Electric Motor	Clean Air Vent	Annually
Trailer Tires/Bearings		Monthly (Check tires for condition, tighten lug nuts, grease & check bearings)

## MAINTENANCE INFORMATION

DESCRIPTION	OIL TYPE	CAPACITY
Gas Engine	10w 30 motor oil **	.63 to 3 qt.
Diesel Engine	10w 30 API cc/cd	3.25 qt.
Pump, Cat	Cat Hydraulic, non-detergent 10w 40 ISO 68	11 . 42 oz.
Pump, AR	Hydraulic, non-detergent SAE 30w	10 . 41 oz.
Pump, General	General, non-detergent SAE 30w	11 . 42 oz.

\*\* Check the engine or motor manufacturer's service guide for additional maintenance items and specific high ambient temperature oil selection.



**WARNING:** This product can expose you to chemicals including toluene and benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

