Hotsy 1200 Series Diesel

Hot Water - Diesel Engine - Diesel Fired



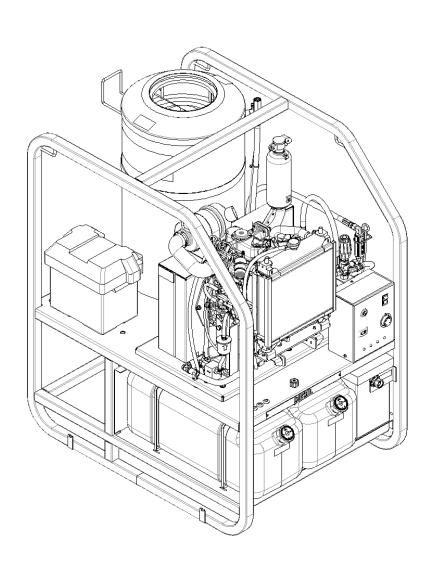
Operator Manual

Pressure Washer Super Skid

MODELS: 1265SSD

1.110-073.0

1265SSDS 1.110-074.0



For the Hotsy Dealer nearest you, consult our web page at www.hotsy.com







9.808-057.0-C 03/12/20

Machine Data Label

Model:	1
Date of Purchase:	
Serial Number:	
Dealer:	
Address:	
Phone Number:	
Sales Representative:	

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How To Use This Manual

This manual contains the following sections:

- How to Use This Manual
- Safety
- Operations
- Maintenance

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers. When placing an order for parts, the machine model and machine serial number are important. Refer to the MACHINE DATA box which is filled out during the installation of your machine. The MACHINE DATA box is located on the inside of the front cover of this manual.

/	
	Model:
	Date of Purchase:
	Serial Number:
	Dealer:
	Address:
	Phone Number:
	Sales Representative:

The model and serial number of your machine is located on the back of the machine.

The SAFETY section contains important information regarding hazardous or unsafe practices of the machine. Levels of hazards are identified that could result in product damage, personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Pump
- · Cleaning of Coils
- Fuel Pressure Adjustment
- Wayne Burner Air Adjustment
- Preventative Maintenance
- Troubleshooting

NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.

NOTE: The manual part number is located on the lower right corner of the front cover.

Identification of Operational Label Symbols



Hour Meter



Pump Switch



Burner Switch



Steam Combination



Detergent



Voltage

When the light is on, it means the power supply is on



Temperature

When the light is on, it means the engine is overheating. Turn machine off and perform maintenance.



Glow Plug

When the light is on the engine is being pre-heated. When the light turns off the engine can be started.



Low Oi

When the light is on, it means check the oil level. Add oil if needed.



Battery is Not Charging

When the light is on, it means check battery and/or charging system.

Not all machines have all symbols

Introduction & Safety Information

Thank you for purchasing this Pressure Washer. We reserve the right to make changes at any time without incurring any obligation.

Owner/User Responsibility:

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this pressure washer. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

The operator must know how to stop the machine quickly and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.

SAVE THESE INSTRUCTIONS

This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number. Use only identical replacement parts.

This machine is to be used only by trained operators.

IMPORTANT SAFETY INFORMATION



WARNING: When using this machine, basic precautions should always be followed, including the following:

AVERTISSEMENT: En utilisant cette machine, des précautions de base devraient toujours être observées, y compris ce qui suit:

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

AVERTISSEMENT: Pour réduire le risque de blessures, lire attentivement les instructions de fonctionnement avant l'utilisation

- Read owner's manual thoroughly. Failure to follow instructions could cause malfunction of machine and result in death, serious bodily injury and/or property damage.
- 2. Know how to stop the machine and bleed pressure quickly. Be thoroughly familiar with the controls.
- 3. Stay alert watch what you are doing.



DANGER: Keep wand, hose, and water spray away from electric wiring or fatal electric shock may result.

DANGER: Garder la lance, le boyau et le jet d'eau à l'écart de tout câblage électrique ou des chocs électriques mortels pourraient survenir.

 All installations must comply with local codes.
 Contact your electrician, plumber, utility company or the selling dealer for specific details.



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

AVERTISSEMENT: Cette machine excède 85 dB et une protection de l'ouïe appropriée doit être portée.



WARNING: High pressure spray can cause paint chips or other particles to become airborne and fly at high speeds. To avoid personal injury, eye, face, hand and foot safety devices must be worn.

AVERTISSEMENT: Un jet haute pression peut écailler la peinture ou provoquer l'émission d'autres particules

dans l'air et leur projection à hautes vitesses. Pour éviter les lésions corporelles, une protection des yeux, du visage, des mains et des pieds doit être portée lors de l'utilisation de cet équipement

- Wear properly rated eye protection such as safety goggles or face shield while spraying.
 (Safety Glasses do not provide full protection.)
- 6. Keep operating area clear of all persons.

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

AVERTISSEMENT: Des liquides inflammables peuvent produire des vapeurs qui peuvent s'enflammer, causant ainsi des dommages à la propriété ou des blessures graves.



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

AVERTISSEMENT: Risque d'explosion - Utiliser uniquement dans des endroits où l'utilisation d'une flamme nue ou d'une torche est permise



WARNING: Risk of fire — Do not add fuel when the machine is operating or still hot.

AVERTISSEMENT: Risque d'incendie - Ne pas ajouter de carburant pendant que la machine fonctionner ou est encore chaude.

WARNING: Do not use gasoline crankcase drainings or oil

containing gasoline, solvents or alcohol. Doing so will result in fire and/or explosion.

AVERTISSEMENT: Ne pas utiliser d'essence, de drainage du carter de moteur ou d'essence contenant de l'huile, de solvants ou de l'alcool. Agir de la sorte risquerait de créer un incendie et/ou une explosion.



WARNING: Risk of fire — Do not Spray flammable liquids.

AVERTISSEMENT: Risque d'incendie - Ne pas pulvériser de liquides inflammables.

7.Allow engine to cool before refueling. If any fuel is spilled, make sure the area is dry before starting the engine.

WARNING: Risk of injury. Disconnect battery ground terminal before servicing.

AVERTISSEMENT: Risque de blessures. Débrancher la borne de mise à la terre de la batterie avant de procéder à des opérations d'entretien

- 8. When in use, do not place machine near flammable objects as the engine is hot.
- Oil burning appliances shall be installed only in locations where combustible dusts and flammable gases or vapors are not present. Do not store or use flammable materials near this machine.
- 10. Use ultra low sulfur diesel fuel only. NEVER use gasoline in your fuel oil tank. Gasoline is more combustible than fuel oil and could result in a serious explosion. NEVER use crankcase or waste oil in your burner. Fuel unit malfunction could result from contamination.
- 11. Do not confuse gasoline and diesel tanks. Keep proper fuel in proper tank.



WARNING: Risk of injury. Hot surfaces can cause burns. Use only designated gripping areas of spray gun and wand. Do not place hands or feet on noninsulated areas of the pressure washer.

AVERTISSEMENT: Risque de blessures. Les surfaces chaudes peuvent causer des brûlures. Utiliser uniquement

les zones de prise désignées du pistolet pulvérisateur et de la lance. Ne pas placer les mains ou les pieds sur des endroits non isolés de la laveuse à pression.

12. Transport/Repair with fuel tank EMPTY or with fuel shut-off valve OFF.



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

ATTENTION: Liquide de décharge chaud. Ne pas toucher ou décharger directement le jet vers des personnes ou des animaux, car cela risquerait de causer des blessures graves ou même la

WARNING: This machine produces hot water and must have insulated components attached to protect the operator.

AVERTISSEMENT: Cette machine produit de l'eau chaude et doit comporter des composants isolés attachés pour protéger l'opérateur.

13. To reduce the risk of injury, close supervision is necessary when a machine is used near children. Do not allow children to operate the pressure washer. This machine must be attended during operation.



WARNING: Grip cleaning wand securely with both hands before starting. Failure to do this could result in injury from a whipping wand.

AVERTISSEMENT: Agripper la lance de nettoyage avec les deux mains avant de commencer. Le non-respect de cette consigne pourrait mener à des blessures causées par le

mouvement violent de la lance.

- Never make adjustments on machine while in operation.
- 15. Be certain all quick coupler fittings are secured before using pressure washer.



WARNING: High pressure developed by these machines will cause personal injury or equipment damage. Keep clear of nozzle. Use caution when operating. Do not direct discharge stream at people or animals, or severe injury or death will result.

AVERTISSEMENT: La haute pression générée par ces

machines causera des lésions corporelles ou des dommages à l'équipement. Se tenir à l'écart de la buse. Faire preuve de prudence lors de l'utilisation. Ne pas décharger directement le jet vers des personnes ou des animaux, car cela risquerait de causer des blessures graves ou même la mort.

mort.



WARNING: Protect machine from freezing.

AVERTISSEMENT: Protéger la machine contre le gel.

16.To keep machine in best operating conditions, it is important you protect machine from freezing. Failure to protect machine from freezing could cause malfunction of the machine

and result in death, serious bodily injury, and/or property damage. Follow storage instructions specified in this manual.

- Inlet water must be clean fresh water and no hotter then 90°F.
- 18. Only use outdoors and far away from windows, doors, and openings or vents.



DANGER: Risk of asphyxiation. Use this product only in a well ventilated area. Running this product indoors can result in death due to carbon monoxide, a poisonous gas you cannot see or smell.

DANGER: Risque d'asphyxie. Utiliser ce produit uniquement dans un endroit bien ventilé. L'utilisation de ce produit à

l'intérieur peut causer la mort par monoxyde de carbone, un gaz toxique incolore et inodore.

DANGER: Never operate indoors, even if windows and doors are open. Only use outdoor and far away from windows, doors, and openings or vents.

DANGER: Ne jamais utiliser à l'intérieur, même si les fenêtres et les portes sont ouvertes. Utiliser uniquement à l'extérieur et à l'écart des fenêtres, des portes et des ouvertures ou fentes de ventilation.

- Manufacturer will not be liable for any changes made to our standard machines or any components not purchased from us.
- 20. The best insurance against an accident is precaution and knowledge of the machine.



WARNING: Be extremely careful when using a ladder, scaffolding or any other relatively unstable location. The cleaning area should have adequate slopes and drainage to reduce the possibility of a fall due to slippery surfaces.

AVERTISSEMENT: Faire preuve d'une extrême prudence au moment d'utiliser une échelle,

des échafaudages ou toute autre surface relativement instable. La zone de nettoyage doit avoir une pente et un drainage adéquats pour réduire la possibilité d'une chute due à une surface glissante.

- 21. Do not allow acids, caustic or abrasive fluids to pass through the pump.
- 22. Never run pump dry or leave spray gun closed longer than 2 minutes.
- 23. Never operate with the spray gun in the off position for extensive periods of time as this may cause damage to the pump.
- 24. Protect discharge hose from vehicle traffic and sharp objects. Inspect condition of high pressure hose before using or bodily injury may result.
- 25. Before disconnecting discharge hose from water outlet, turn burner off and open spray gun to allow water to cool below 100° before stopping the machine. Then open the spray gun to relieve pressure. Failure to properly cool down or maintain the heating coil may result in a steam explosion.
- 26. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
- 27. Do not operate this machine when fatigued or under the influence of alcohol, prescription medications, or drugs.



WARNING: If connection is made to a potable water system, the system shall be protected against back-flow.

AVERTISSEMENT: Si une connexion est établie avec un réseau d'eau potable, le réseau doit être protégé contre le retour d'eau



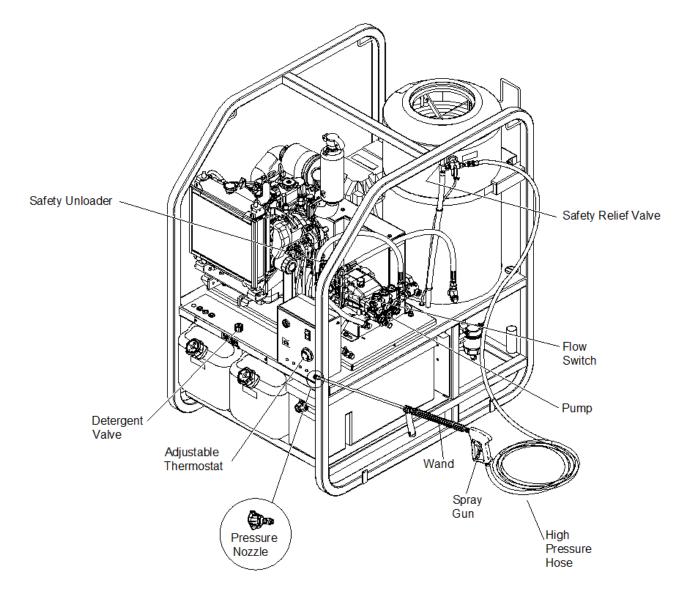
WARNING: Do not spray machine or any people, animals or electrical parts.

AVERTISSEMENT: Ne pas vaporiser sur la machine ou les gens, les animaux ou les pièces électriques.



Follow the maintenance instructions specified in the manual.

Component Identification



Pump — Develops high pressure by pumping water volume through nozzle.

Spray Gun — Controls the application of water and detergent onto cleaning surface with trigger device. Includes safety latch.

Detergent Metering Valve — Controls detergent mixture.

Wand — Must be connected to the spray gun.

Safety Relief Valve — Prevents over pressurization

Safety Unloader — By passes the high pressure to low pressure when spray gun is closed.

High Pressure Hose — Connect one end to water pump discharge nipple and the other end to spray gun.

Pressure Nozzle — Inserted into wand quick coupler to develop pressure

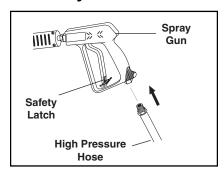
Adjustable Thermostat — Prevents water temperature from exceeding high temperatures. Is not used to maintain constant temperature setting.

Flow Switch — Turns off burner when spray gun is closed.

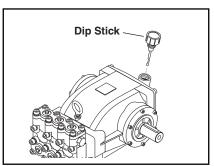
Technical Specifications					
Model # Volume @ Coil Outlet		Pressure @ Coil Outlet	Burner Type	Burner Fuel Pressure	
1265SSD	4.7 GPM/282 GPH	3500 PSI	Fuel Oil Fired, 414, 318 BTU/Hr.	160-185 PSI (145-170 PSI Post Fuel Pump)	
1265SSDS	4.7 GPM/282 GPH	3500 PSI	Fuel Oil Fired, 414, 318 BTU/Hr.	160-185 PSI (145-170 PSI Post Fuel Pump)	

Model #	Burner Exhaust Stack	Machine Power	Machine Weight	Shipping Weight	Machine Dimensions
1265SSD	10"	Kubota Z602	750 Lbs	840 Lbs	L45" x W33" x H52"
1265SSDS	10"	Kubota Z602	750 Lbs	840 Lbs	L45" x W33" x H52"

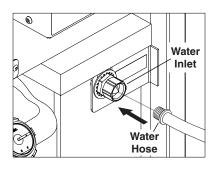
Assembly Instructions



STEP 1: Attach the high pressure hose to the spray gun using teflon tape on hose threads. Move safety latch in position to prevent triggering of spray gun.

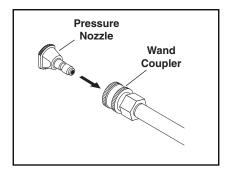


STEP 4: Remove shipping cap and install oil dipstick. Check pump oil level by using dipstick or observe oil level in oil window (if equipped). Use 10W-40 non foaming pump oil.

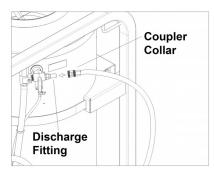


STEP 7: Connect the other end of the water hose to pump water inlet Inspect inlets. CAUTION: Do not run the pump without water or pump damage will result.

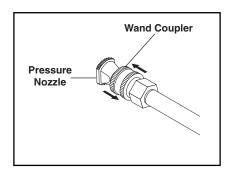
ATTENTION: Ne pas faire fonctionner la pompe sans eau pour éviter d'endommager la pompe.



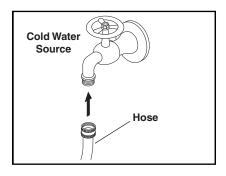
STEP 2: Pull the spring-loaded collar of the wand coupler back to insert your choice of pressure nozzle.



STEP 5: Connect the high pressure hose to the pump discharge fitting. Push coupler collar forward until secure.

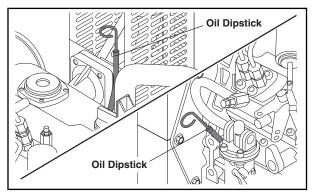


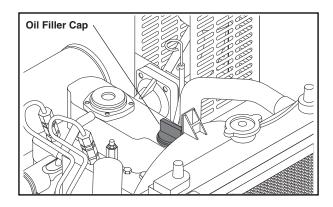
STEP 3: Release the coupler collar and push the nozzle in until the collar clicks. Pull the nozzle to make sure it is seated properly.



STEP 6: Connect one end of hose to the cold water source.

Operating Instructions



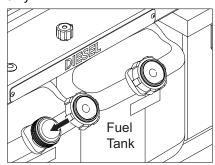


CAUTION: Read engine manual before starting.

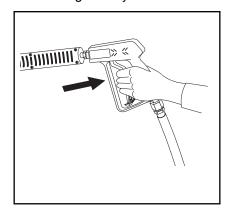
ATTENTION: Lire le manuel du moteur avant de démarrer l'appareil.

STEP 1: Check engine oil level. Oil level should be between the lines on the dipstick. (Refer to the engine's operating manual included with machine.) We recommend that the oil be changed after the first 5 hours of use, then once every 50 hours. NOTE: Improper oil levels will cause low oil sensor to shut off engine. IMPORTANT! Do not run engine with high or low oil levels as this will cause engine damage.

STEP 2: Fill engine/burner fuel tanks with fuel. Engine requires "Ultra Low Sulfur Diesel Fuel" only".



STEP 3: Before installing nozzle, trigger the spray gun to eliminate trapped air then wait for a steady flow of water to emerge from the wand coupler when engine starts. Run machine allowing water to flush through the system until clear.



light to go out. Turn the engine switch to ST (Start) position.

STEP 4: Read engine operators

manual before starting. Turn the

key to GL (Glow Plug) and wait for

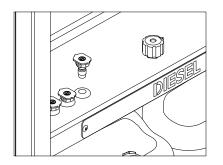


The quick connect nozzles provide a wide array of spray widths from 15° to 40° and are easily accessible when placed in the convenient rubber nozzle holder, which is provided on the front of the machine.

NOTE: For a more gentle rinse, select the white 40° or green 25° nozzle. To scour the surface. select the yellow 15° nozzle.



WARNING! Never replace nozzles without engaging the safety latch on the spray gun trigger.AVERTISSEMENT: Ne jamais remplacer les buses sans d'abord mettre le dispositif de sécurité sur la détente du pistolet pulvérisateur.



Applying Detergents & General Cleaning Techniques



WARNING: Some detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning. The harmful elements may cause property damage or severe injury.

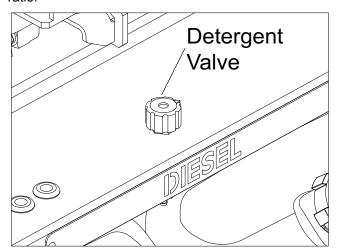
AVERTISSEMENT: Certains détergents peuvent être dangereux s'ils sont inhalés ou

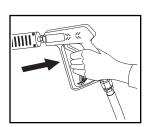
ingérés, provoquant de fortes nausées, des évanouissements et l'empoisonnement. Les éléments dangereux peuvent causer des dommages à la propriété ou des blessures graves



STEP 1: Use detergent designed specifically for pressure washers. Household detergents could damage the pump. Prepare detergent solution as required by the manufacturer. Fill a container with pressure washer detergent. Place the filter end of detergent suction tube into the detergent container.

STEP 2: Open detergent valve knob to desired mixture ratio.





STEP 3: With the engine running, pull trigger to operate machine. Liquid detergent is drawn into the machine and mixed with water. Apply detergent to work area. Do not allow detergent to dry on surface.

IMPORTANT: You must flush the detergent line after each use by placing the suction tube into a bucket of clean water, then run the pressure washer for 2 minutes.

Thermal Pump Protection

If you run the engine on your pressure washer for 3-5 minutes without pressing the trigger on the spray gun, circulating water in the pump can reach high temperatures. When the water reaches this temperature, the pump protector engages and cools the pump by discharging the warm water onto the ground. This thermal device prevents internal damage to the pump.

Cleaning Tips

Pre-rinse cleaning surface with fresh water. Place detergent suction tube directly into cleaning solution and apply to surface (for best results, limit your work area to sections approximately 6 feet square and always apply detergent from bottom to top). Allow detergent to remain on surface 1-3 minutes. Do not allow detergent to dry on surface. If surface appears to be drying, simply wet down surface with fresh water. If needed, use brush to remove stubborn dirt. Rinse from top to bottom in an even sweeping motion keeping the spray nozzle approximately 1 foot from cleaning surface. Use overlapping strokes as you clean and rinse any surface. For best surface cleaning action spray at a slight angle.

Recommendations:

- Before cleaning any surface, an inconspicuous area should be cleaned to test spray pattern and distance for maximum cleaning results.
- If painted surfaces are peeling or chipping, use extreme caution as pressure washer may remove the loose paint from the surface.
- Keep the spray nozzle a safe distance from the surface you plan to clean. High pressure wash a small area, then check the surface for damage. If no damage is found, continue to pressure wash.



A CAUTION - Never use:

- · Insecticides, pesticides or weed killers
- Bleach, chlorine products and other corrosive chemicals
- Liquids containing solvents (i.e., paint thinner, gasoline, oils)
- Tri-sodium phosphate products
- · Ammonia products or acid-based products

These chemicals will harm the machine and will damage the surface being cleaned.

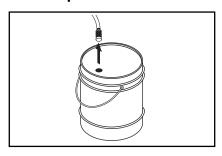
ATTENTION - Ne jamais utiliser :

- Insecticides, pesticides ou herbicides
- Eau de Javel, produits à base de chlore et autres produits chimiques corrosifs
- Liquides contenant des solvants (c.-à-d. diluant à peinture, essence, huiles, etc.)
- · Produits à base de tripolyphosphate de sodium
- Ammoniac ou produits à base d'acide

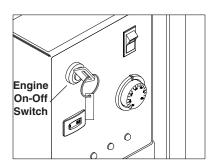
Rinsing

It will take a few seconds for the detergent to clear. Apply safety latch to spray gun. Open detergent valve. Select and install the desired high pressure nozzle.

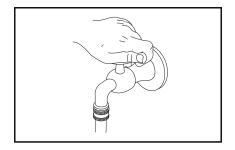
Shutting Down And Clean-up



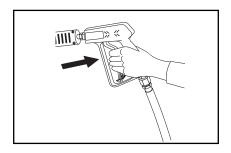
STEP 1: Remove detergent suction tube from container and insert into one gallon of fresh water. Open detergent mixing valve. Pull trigger on spray gun and siphon water for one minute.



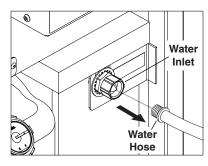
STEP 2: Turn key to stop position. Engine shuts down by way of solenoid.



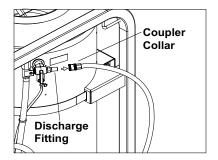
STEP 3: Turn off water supply.



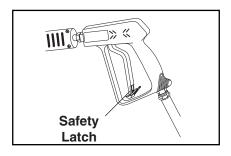
STEP 4: Press trigger to release water pressure.



STEP 5: Disconnect the water supply from the water inlet on the machine.



STEP 6: Disconnect the high pressure hose from pump discharge fitting.



STEP 7: Engage the spray gun safety lock.

Storage

Measures should be taken to protect your Kubota diesel engine if the engine is not operated for a period of 30 days or more. Proper storage will protect the engine from corrosion and prevent costly repairs due to storage induced problems.

Storage - 1 to 6 months

- 1. Start and idle the engine at a no-load condition for 15 minutes.
- Stop the engine, allow the engine to cool enough to safely drain the oil. Re-install the oil drain plug, then fill the crankcase with MIL-L-644-P9 protectant oil. Fill the fuel tank with a high grade fuel preservative (add mix) such as STA-BIL per the manufacturer recommendations.
- 3. Start and operate the engine at 3/4 speed for 5-10 minutes.
- Stop the engine, allow to cool enough to safely drain the engine oil as shown. Re-install the oil drain plug.
- 5. Refill the engine with standard recommended lubricating oil.

- Drain the fuel tank. Remove the fuel filter. Install a new fuel filter.
- 7. Carefully clean all debris from the radiator fins.
- 8. Spray the inside of the exhaust manifold with SAE 10W oil.
- 9. Cover all openings with tape and apply grease to any and all unpainted surfaces.
- Loosen the fan belt before wrapping the engine in plastic film and storing in a dry place away from high voltage sources and off the ground.

Storage - In excess of 6 months

Perform the storage preparation procedures above except with the following changes.

- 1. Replace the engine oil in step 2 above with MIL-L-21260, grade 2, SAE 30W rustproof oil.
- 2. Coat any and all unpainted surfaces with MIL-C 16173D, grade 3 anti-rust grease.
- 3. Replace anti-freeze every 2 years.

Preventative Maintenance

- Check to see that water pump is properly lubricated.
- 2. Follow winterizing instructions to prevent freeze damage to pump and coils.
- Always neutralize and flush detergent from system after use.
- 4. If water is known to have high mineral content, use a water softener in your water system, or de-scale as needed.
- 5. Do not allow acidic, caustic or abrasive fluids to be pumped through system.
- 6. Always use high grade quality cleaning products.
- 7. Never run pump dry for extended periods of time.
- 8. Use clean fuel and replace fuel filter every 100 hours of operation. Avoid water contaminated fuel as it will damage the fuel pump.
- 9. If machine is operated with smoky or eye burning exhaust, coils will soot up, not letting water reach maximum operating temperature.
- Never allow water to be sprayed on or near the engine or burner assembly or any electrical component.
- 11. Periodically delime coils as per instructions.
- 12. Check to see that engine is properly lubricated.

It is advisable, periodically, to visually inspect the burner. Check air inlet to make sure it is not clogged or blocked. Wipe off any oil spills and keep equipment clean and dry.

The flow of combustion and ventilating air to the burner must not be blocked or obstructed in any manner.

The area around the washer should be kept clean and free of combustible materials, gasoline and other flammable vapors and liquids.

Maintenance & Service Unloader Valves

Unloader valves are preset and tested at the factory before shipping. Tampering with the factory setting may cause personal injury and/ or property damage and will void the manufacturer's warranty.

Winterizing Procedure

Damage due to freezing is not covered by warranty. Adhere to the following cold weather procedures whenever the washer must be stored or operated outdoors under freezing conditions.

During winter months, when temperatures drop below 32°F, protecting your machine against freezing is necessary. Store the machine in a heated room. If this is not possible then mix a 50/50 solution of anti-freeze and water in the float tank. Turn the engine on to siphon the anti-freeze mixture through the machine. If compressed air is available, an air fitting can be screwed into the float tank by removing the float tank strainer and fitting. Then inject the compressed air. Water will be blown out of the machine when the trigger on the spray gun is opened.

High Limit Hot Water Thermostat

For safety, each machine is equipped with a temperature sensitive high limit control switch. In the event that the water should exceed its operating temperature, the high limit control will turn the burner off until the water cools, then it will automatically reset itself. The thermostat sensor is located on the discharge side of the heating coil. The thermostat control dial is located on the control panel.

Pumps

Use only SAE 10W-40 weight non-foaming oil. Change oil after first 50 hours of use. Thereafter, change oil every year or at 500 hour intervals. Oil level should be checked through use of dipstick found on top of pump, or the red dot visible through the oil gauge window. Oil should be maintained at that level.

Cleaning of Coils

In alkaline water areas, lime deposits can accumulate rapidly inside the heating coil. This growth is increased by the extreme heat build up in the coil. The best prevention for liming conditions is to use high quality cleaning detergents. In areas where alkaline water is an extreme problem, periodic use of Deliming Powder (Part #9.804-059.0) will remove lime and other deposits before coil becomes plugged. (See Deliming instructions for use of Deliming Powder.)

Deliming Coils

Periodic flushing of coils or optional float tank is recommended.

Step 1 Fill a container with 4 gallons of water, then add 1 lb. of deliming powder. Mix thoroughly. Pour mixture into float tank.

- Step 2 Remove wand assembly from spray gun and put spray gun into float tank. Secure the trigger on the spray gun into the open position.
- Step 3 Turn engine on, allowing solution to be pumped through coils back into the float tank. The solution should be allowed to circulate 2-4 hours or until the color changes.
- Step 4 After circulating solution, flush the entire system with fresh water. Clean out float tank and then reinstall wand assembly to spray gun.

Removal of Soot from Heating Coil

In the heating process, fuel residue in the form of soot deposits may develop between the heating coil pipes, and block air flow which will affect burner combustion. When soot has been detected on visual observation, the soot on the coil must be washed off after following the coil removal steps (See Coil Removal).

Relief Valve

WARNING: The relief valve on this pressure washer has been factory set and sealed and is a non-field adjustable part. Tampering with the factory setting may cause personal injury and/or property damage and will void the manufacturer warranty. For replacement parts refer to coil outlet assembly exploded views.

AVERTISSEMENT: La soupape de décharge sur cette laveuse à pression a été réglée en usine, puis scellée, et est une pièce non réglable. L'altération du paramètre de l'usine pourrait causer des lésions corporelles et/ou des dommages à la propriété, et annulera la garantie du fabricant. Pour des pièces de rechange, se référer aux vues éclatées.

Fuel

Use clean fuel oil that is not contaminated with water and debris. Replace fuel filter and drain the tank every 100 hours of operation.

Use diesel fuels specified to (ASTM D975) grade #1 or #2 only. **NEVER** use gasoline in your fuel tank. Gasoline is more combustible than fuel oil and could result in a serious explosion. **NEVER** use crankcase or waste oil in your burner. Fuel unit malfunction could result from contamination.

NOTE: See Kubota engine manual for fuel recommendations.

Fuel Control System

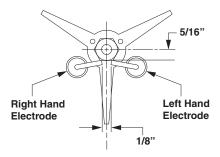
This machine utilizes a fuel solenoid valve located on the fuel pump to control the flow of fuel to the combustion chamber. The solenoid, which is normally closed, is activated by a pressure switch when pump is under load. When the operator releases the trigger on the spray gun, the pump goes into by-pass relieving pressure on the pressure switch turning off the electrical current to the fuel solenoid.

The solenoid then closes, shutting off the supply of fuel to the combustion chamber. Controlling the flow of fuel in this way gives an instantaneous burn-or-no-burn situation, thereby eliminating high and low water temperatures and the combustion smoke normally associated with machines incorporating a spray gun. Periodic inspection, to insure that the fuel solenoid valve functions properly, is recommended. This can be done by operating the machine and checking to see that the burner is not firing when the spray gun is in the OFF position.

Fuel Pressure Adjustment

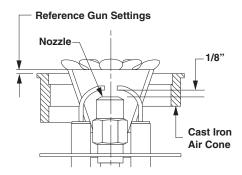
Fuel pressure is factory set to the serial plate. Adjust fuel pressure by turning the regulating pressure adjusting screw clockwise to increase, counterclockwise to decrease. Do not exceed 200 psi. **NOTE**: When changing fuel pump, a bypass plug must be installed in return port or fuel pump will not prime.

ELECTRODE SETTINGS



Periodically Check Wiring Connections.

If Necessary to adjust electrodes, use diagram.



Gun Setting Instructions (Wayne EH)

Suggested start-up setting: EH flameblock™ 1/8" ahead of cast iron cone face for 3.00 to 4.00 GPH or 1/4" ahead for 5.00 to 6.00G PH.

Burner Nozzle

Keep the tip free of surface deposits by wiping it with a clean, solvent saturated cloth, being careful not to plug or enlarge the nozzle. For maximum efficiency, replace the nozzle each season.

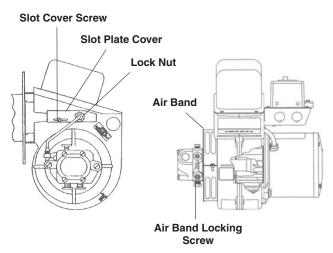
Burner Air Adjustment

The oil burner on this machine is preset for operation at altitudes below 1000 feet. If operated at higher altitudes, it may be necessary to adjust the air band setting. Adjust air band for a #1 or #2 smoke spot on the Bacharach scale. If a smoky or eye-burning exhaust is being emitted from the stack, two things should be checked. First, check the fuel to be certain that diesel fuels specified to (ASTM D975) grade #1 or #2 is being used. Next, check the air adjustment on the burner. An oily, smoky fire indicates a lack of air and the air band should be moved to allow the air to flow through the burner. Sharp eye-burning fumes indicate too much air flowing through the combustion chamber. The air band should be readjusted to allow less air to flow through the burner.

CAUTION: If white smoke appears from burner exhaust vent during start-up or operation, discontinue use and readjust air bands.

ATTENTION: Si de la fumée blanche s'échappe de l'évacuation du brûleur pendant le démarrage ou le fonctionnement, cesser d'utiliser et réajuster les bandes d'air.

NOTE: If a flue is installed, have a professional serviceman adjust your burner for a #1 or #2 smoke spot on the Bacharach scale.



For additional burner component information, see Burner Assembly Exploded View page. It is recommended that the oil burner be serviced yearly or as needed. Contact your local service center.

Wayne Burner Air Adjustment

To adjust, start the machine and turn burner ON. Loosen locking screw found in the air shutter openings (see illustration) and close air shutter until black smoke appears from burner exhaust vent. Note air band position. Next, slowly open the air shutter until white smoke just starts to appear. Turn air shutter halfway back to the black smoke position previously noted. Tighten locking screws.

Coil Removal

Removal of coil because of freeze breakage, or to clean soot from it can be done quickly and easily.

- 1. Disconnect hose from pump to inlet side of the coil.
- 2. Carefully disconnect the thermostat sensor making sure you do not crimp the capillary tube.
- 3. Remove fittings connected to the 1/2" pipe nipples from inlet and discharge sides of coil.
- 4. Remove nuts holding coil & coil wrap to frame.
- 5. Remove wrap. Remove coil.
- Replace or repair any insulation found to be torn or broken.

Coil Re-Installation

Reinstall new or cleaned coil reversing steps 6 through 1.

Preventative Maintenance

This pressure washer was produced with the best available materials and quality craftsmanship. However, 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 dealer for maintenance. Regular preventative maintenance will add many hours to the life of your pressure washer. Perform maintenance more often under severe conditions.

Check pump oil level before first use of your new pressure washer. Change pump oil after first 50 hours and every year or 500 hours thereafter. Use SAE 10W-40 weight oil, non-foaming oil.

Maintenance Schedule

Maintenance Operation	Every 8 Hrs or Daily	25 Hrs or Weekly	50 Hrs or Monthly	100 Hrs or Yearly	Yearly
Check Pump Oil		х			
Change Pump Oil					x
Air Cleaner	Check		Clean		
Spark Plug				x	
Check Valve Clearance					X
Fuel Tank Filter				x	
Water Filter/Clean	Check				x

The following is the basic maintenance information for the Kubota engine:

Kubota Engine Maintenance Schedule				
Engine Oil	SAE 10W-30	Inspect	Oil level daily	
API CF rating Cj-4 Oil & Filter Change			After first 50 hours, then every 200 hours	
Lubrication			SAE Multi-Purpose Type Grease	
Air Cleaner Element			Clean every 100 hours	
Radiator Screen			Clean every 50 hours	
Fuel Filter			Replace every 300 hour	

NOTE: Read Kubota engine manual for any maintenance or service questions.

Oil Change Record

Estimated Operating Hours Since Last Oil Change
Change

ENGINE OIL Date Changed Month/Day/Year	Estimated Operating Hours Since Last Oil Change

Troubleshooting

PROBLEM POSSIBLE CAUSE		SOLUTION		
	Faulty pressure gauge	Install new gauge.		
	Insufficient water supply	Use larger supply hose; clean filter at water inlet.		
	Old, worn or incorrect spray nozzle	Match nozzle number to machine and/or replace with new nozzle.		
	Belt slippage	Tighten or replace; use correct belt.		
	Plumbing or hose leak	Check plumbing system for leaks. Re-tape leaks with teflon tape.		
	Faulty or mis-adjusted unloader valve	Adjust unloader for proper pressure. Install repair kit when needed.		
LOW	Worn packing in pump	Install new packing kit.		
OPERATING PRESSURE	Fouled or dirty inlet or discharge valves in pump	Clean inlet and discharge valves.		
	Worn inlet or discharge valves	Replace with valve kit.		
	Obstruction in spray nozzle	Remove obstruction.		
	Leaking pressure control valve	Rebuild or replace as needed.		
	Slow engine RPM	Set engine speed at proper specifications.		
	Pump sucking air	Check water supply and possibility of air seepage.		
	Valves sticking	Check and clean or replace if necessary.		
	Unloader valve seat faulty	Check and replace if necessary.		
	Little or no fuel	Fill tank with fuel.		
	Improper fuel or water in fuel	Drain fuel tank and fill with proper fuel.		
	Clogged fuel line	Clean or replace.		
BURNER	Plugged fuel filter	Replace as needed.		
WILL NOT LIGHT	Mis-adjusted burner air bands	Readjust air bands for clean burn.		
	Little or no fuel pressure from fuel pump	Increase fuel pressure to specification and/or replace fuel pump. Test with pressure gauge.		
	Faulty burner transformer	Test transformer for proper arc between contacts. Replace as needed.		

PROBLEM	POSSIBLE CAUSE	SOLUTION
	Flex coupling slipping on fuel pump shaft or burner motor shaft	Replace if needed.
BURNER WILL NOT LIGHT	On-Off switch defective	Check for electrical current reaching burner assembly with burner switch on.
(continued from previous page)	Heavy sooting on coil and burner can cause interruption of air flow and shorting of electrodes	Clean as required.
	Improper electrode setting	Check and reset according to diagram in Operator's Manual.
	Fuel not reaching combustion chamber	Check fuel pump for proper flow. Check solenoid flow switch on machines with spray gun control for proper on-off fuel flow control.
	Clogged burner nozzle	Replace.
	Thermostat faulty or slow engine speed	Increase engine RPM to increase voltage.
	Pressure switch malfunction	Remove, test for continuity and replace as needed.
	Flow solenoid malfunction	Replace if needed.
	Valves worn	Check and replace if necessary.
FLUCTUATING	Blockage in valve	Check and replace if necessary.
PRESSURE	Pump sucking air	Check water supply and air seepage at joints in suction line.
	Worn piston packing	Check and replace if necessary.
	Improper fuel or water in fuel	Drain tank and replace contaminated fuel.
	Improper air adjustment	Readjust air bands on burner assembly.
	Low fuel pressure	Adjust fuel pump pressure to specifications.
	Plugged or dirty burner nozzle	Replace nozzle.
MACHINE	Faulty burner nozzle spray pattern	Replace nozzle.
SMOKES	Heavy accumulation of soot on coils and burner assembly	Remove coils and burner assembly, clean thoroughly.
	Misaligned electrode setting	Realign electrodes to specifications.
	Obstruction in smoke stack	Check for insulation blockage or other foreign objects.

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
	Improper fuel or water in fuel	Replace with clean and proper fuel.
	Low fuel pressure	Increase fuel pressure.
LOW WATER	Weak fuel pump	Check fuel pump pressure. Replace pump if needed.
TEMPERATURE	Fuel filter partially clogged	Replace as needed.
	Soot build-up on coils not allowing heat transfer	Clean coils.
	Improper burner nozzle	See burner specifications.
	Incoming water to machine warm or hot	Lower incoming water temperature.
	Fuel pump pressure too high	See specifications for proper fuel pressure.
	Fuel pump defective	Replace fuel pump.
WATER TEMPERATURE	Detergent line sucking air	Tighten all clamps. Check detergent lines for holes.
тоо нот	Defective temperature switch	Replace.
	Incorrect fuel nozzle size	See burner specifications.
	Insufficient water supplied	Check water G.P.M. to machine.
	Restrict water flow	Check nozzle for obstruction, proper size.
	Air in suction line	Check water supply and connections on suction line.
PUMP NOISY	Broken or weak inlet or discharge valve springs	Check and replace if necessary.
	Excessive matter in valves	Check and clean if necessary.
	Worn bearings	Check and replace if necessary.
PRESENCE OF WATER	Oil seal worn	Check and replace if necessary.
IN OIL	High humidity in air	Check and change oil twice as often.
	Piston packing worn	Check and replace if necessary.
WATER DRIPPING	O-Ring plunger retainer worn	Check and replace if necessary.
FROM UNDER PUMP	Cracked piston	Check and replace if necessary.
	Pump protector	Lower water supply pressure. Do not run with spray gun closed longer than 2 minutes.

PROBLEM	POSSIBLE CAUSE	SOLUTION
OIL DRIPPING	Oil seal worn	Check and replace if necessary.
EXCESSIVE VIBRATION IN DELIVERY LINE	Irregular functioning of the valves	Check and replace if necessary.
DETERGENT NOT DRAWING	Air leak	Tighten all clamps. Check detergent lines for holes.
	Restricter in float tank is missing	Replace restricter. Check for proper orifice in restricter.
	Filter screen on detergent suction hose plugged	Clean or replace.
	Dried up detergent plugging metering valve	Disassemble and clean thoroughly.
	High viscosity of detergent	Dilute detergent to specifications.
	Hole in detergent line(s)	Repair hole.
	Low detergent level	Add detergent, if needed.
PUMP RUNNING NORMALLY BUT PRESSURE LOW ON INSTALLATION	Pump sucking air	Check water supply and possibility of air seepage.
	Valves sticking	Check and clean or replace if necessary.
	Nozzle incorrectly sized	Check and replace if necessary (See serial plate for proper size).
	Unloader valve seat faulty	Check and replace if necessary.
	Worn piston packing	Check and replace if necessary.
BURNER MOTOR WILL NOT RUN	Fuel pump seized	Replace fuel pump.
	Burner fan loose or misaligned	Position correctly, tighten set screw.
	Defective control switch	Replace switch.
	Loose wire	Check and replace or tighten wiring.
	Defective burner motor	Replace motor.
RELIEF VALVE LEAKS WATER	Relief valve defective	Replace or repair.

If you need **SERVICE** on your pressure washer, contact your local Hotsy dealer or visit www.Hotsy.com. Smart phone users scan the code below to link directly to the Service Request page.



To **REGISTER** your pressure washer, please visit our Warranty Registration page at www.hotsy.com/WarrantyRegistration.aspx or scan the code below with your smart phone.





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