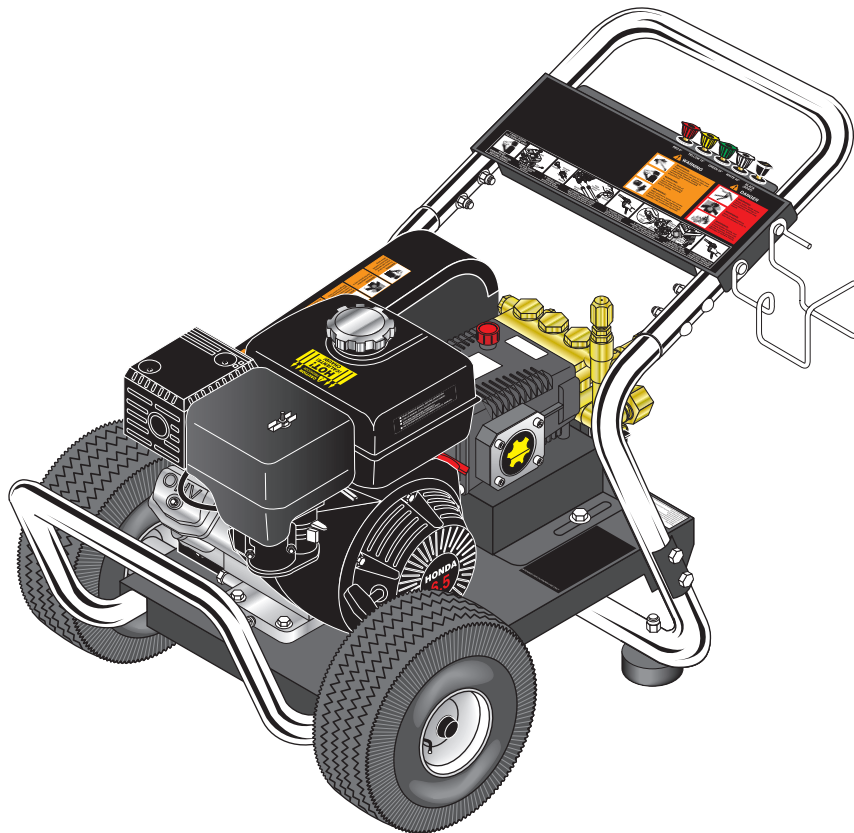




KÄRCHER

OPERATOR'S MANUAL



<u>MODEL</u>	<u>ORDER #</u>	<u>MODEL</u>
HD 2.8/20 Pb	1.575-150.0	BG-282037
HD 2.5/27 Pb	1.575-151.0	BG-252737
HD 3.0/30 Pb	1.575-152.0	BG-303037
HD 3.7/35 Pb	1.575-154.0	BG-373537
HD 3.0/40 Pb	1.575-155.0	BG-304037
HD 3.5/32 Pb	1.575-156.0	BG-353237

To locate your local Kärcher Commercial Pressure Washer Dealer nearest you,
visit www.karchercommercial.us

9.800-083.0

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Model Number _____

Serial Number _____

Date of Purchase _____

The model and serial numbers will be found on a decal attached to the pressure washer. You should record both serial number and date of purchase and keep in a safe place for future reference.

INTRODUCTION & IMPORTANT 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.

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



READ OPERATOR'S MANUAL THOROUGHLY PRIOR TO USE.

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

1. Read the owner's manual thoroughly. Failure to follow instructions could cause malfunction of the 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.
4. All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details.

WARNING



RISK OF ASPHYXIATION: USE THIS PRODUCT ONLY IN A WELL VENTILATED AREA.

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

5. Avoid installing machines in small areas or near exhaust fans. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death. It also contains

chemicals known, in certain quantities, to cause cancer, birth defects or other reproductive harm.

WARNING



RISK OF FIRE. DO NOT ADD FUEL WHEN OPERATING MACHINE.

WARNING: Risk of fire. Do not add fuel when the product is operating.

WARNING: Risk of explosion — do not spray flammable liquids.

6. Do not place machine near flammable objects as the engine is hot.

7. Allow engine to cool for 1-2 minutes before refueling. If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. (Fire and/or explosion may occur if this is not done.)

Gasoline engines on mobile or portable equipment shall be refueled:

- a. outdoors;
- b. with the engine on the equipment stopped;
- c. with no source of ignition within 10 feet of the dispensing point; and
- d. with an allowance made for expansion of the fuel should the equipment be exposed to a higher ambient temperature.

In an overfilling situation, additional precautions are necessary to ensure that the situation is handled in a safe manner.

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

8. Transport/repair with fuel tank EMPTY or with fuel shut-off valve OFF.

WARNING



KEEP WATER SPRAY AWAY FROM ELECTRICAL WIRING.

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

9. Do not spray water on or near electrical components.

IMPORTANT SAFETY INFORMATION



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

WARNING: Risk of explosion — Do not spray flammable liquids.

10. Keep operating area clear of all persons.



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



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

11. Eye, hand, and foot protection must be worn when using this equipment.



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

12. 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: 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 severe injury or death will result.

13. Never make adjustments on machine while in operation.

14. Be certain all quick coupler fittings are secured before using pressure washer.



WARNING: Protect machine from freezing.

15. 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.

16. 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.

17. Do not overreach or stand on unstable support. Keep good footing and balance at all times.

18. Do not operate this machine when fatigued or under the influence of alcohol, prescription medications, or drugs.

19. Inlet water must be clean fresh water and no hotter than 90°F.

20. Manufacturer will not be liable for any changes made to our standard machines or any components not purchased from us.

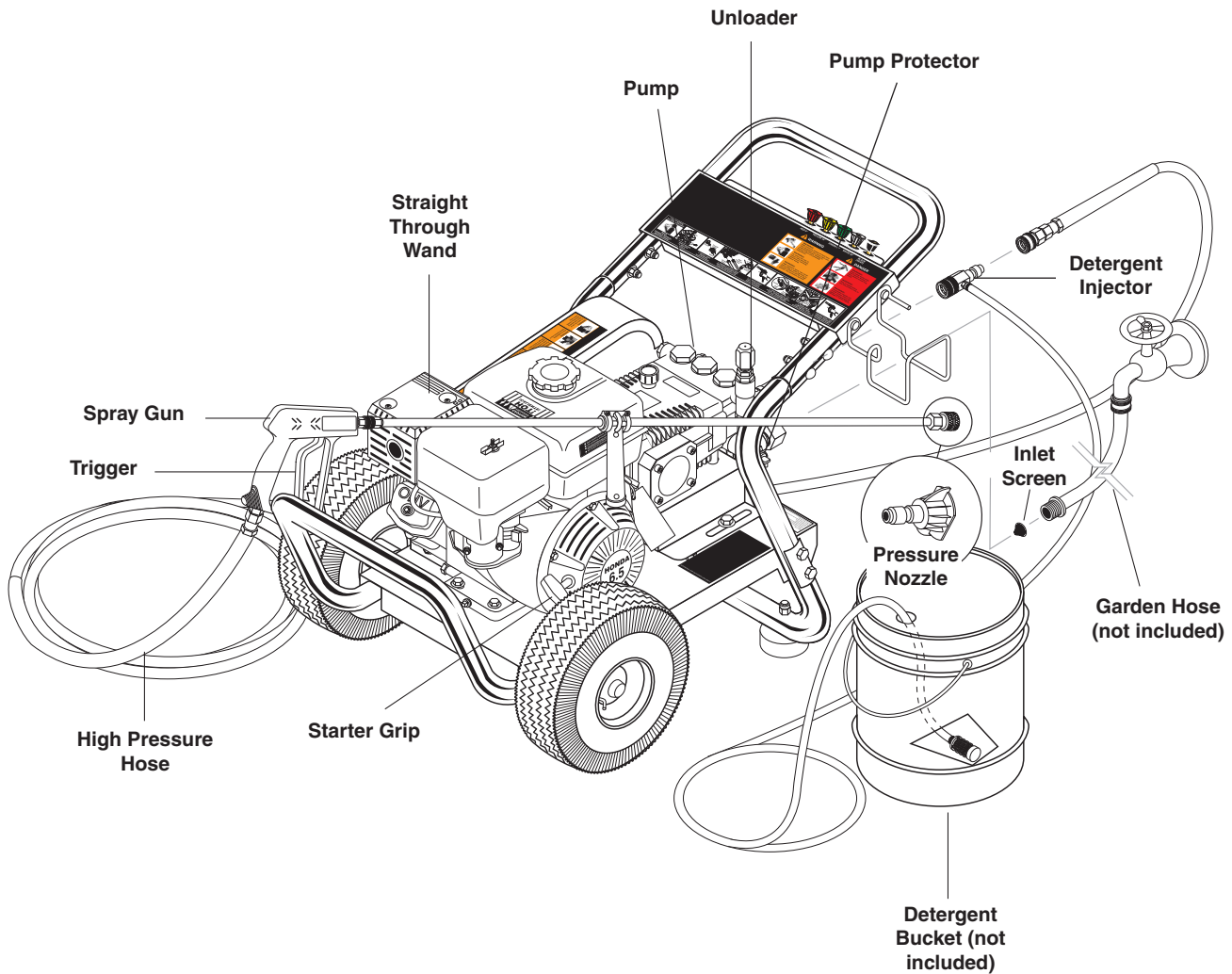
21. Do not allow acids, caustic or abrasive fluids to pass through the pump.

22. Never run pump dry or leave spray gun closed longer than 1-2 minutes.



Follow the maintenance instructions specified in the manual.

COMPONENT IDENTIFICATION



Pump — Develops high pressure.

Starter Grip— Used for starting the engine manually.

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

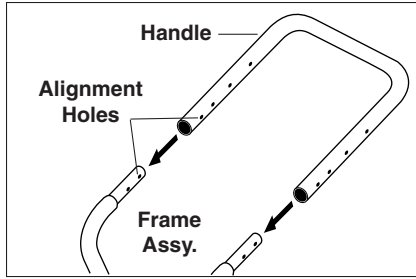
Detergent Injector — Allows you to siphon and mix detergents.

Wand — Must be connected to the spray gun.

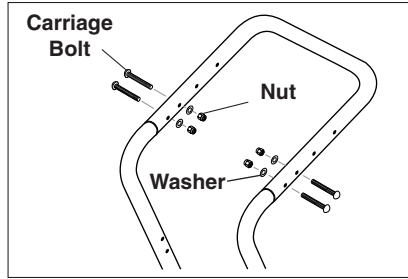
High Pressure Hose — Connect one end to water pump discharge nipple (detergent injector nipple) and the other end to spray gun.

Note: If trigger on spray gun is released for more than 1-2 minutes, water may leak from pump protector. Warm water will discharge from pump protector onto floor. This system prevents internal pump damage from high temperatures.

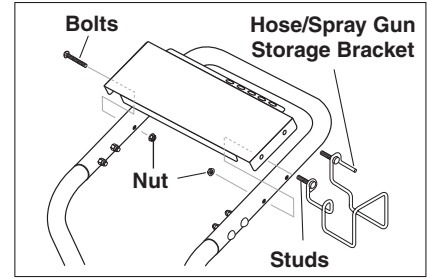
ASSEMBLY INSTRUCTIONS



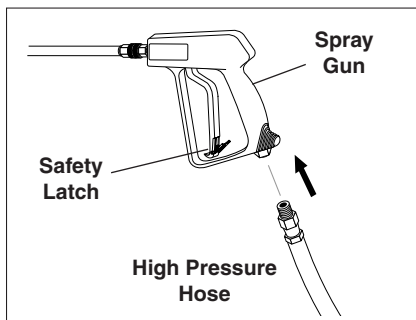
STEP 1: Attach the handle to the frame of the pressure washer. **Note:** It may be necessary to move the handle supports from side to side in order to align the handle so it will slide over the frame supports.



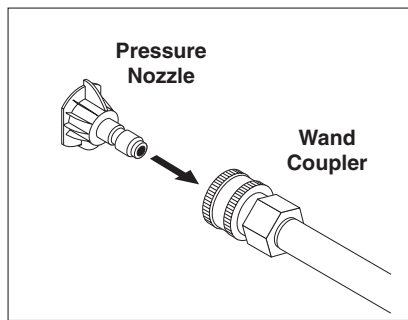
STEP 2: Insert the carriage bolt through the holes from the outside of the unit and attach a nut from the inside of the machine. Tighten nuts.



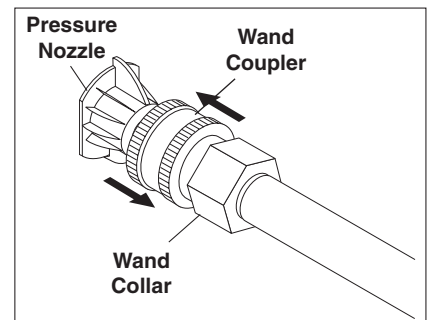
STEP 3: Attach the spray gun/hose storage bracket to handle. Tighten nuts.



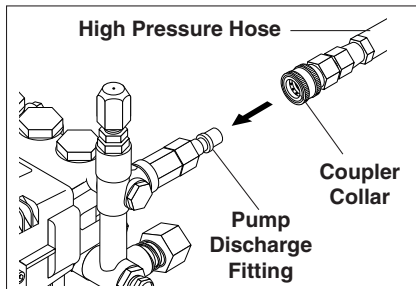
STEP 4: Attach the high pressure hose to the spray gun using teflon tape on hose threads.



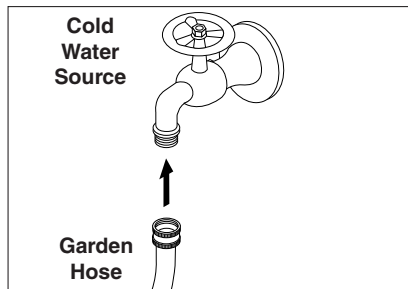
STEP 5: Pull the spring-loaded collar of the wand coupler back to insert your choice of pressure nozzle.



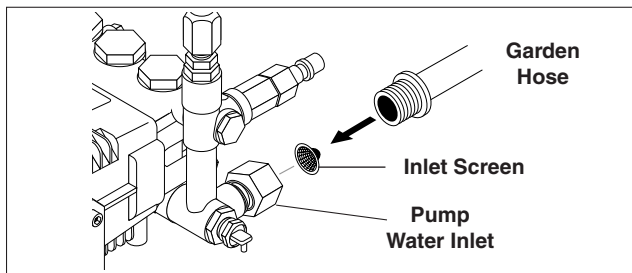
STEP 6: Release the coupler collar and push the nozzle and the collar until the collar clicks or locks. Pull the nozzle to make sure it is secure.



STEP 7: Connect high pressure hose to pump discharge fitting. Push coupler collar forward until secure.

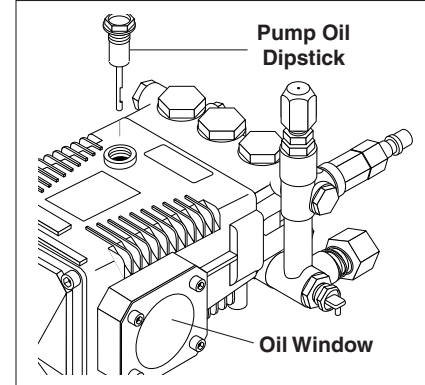
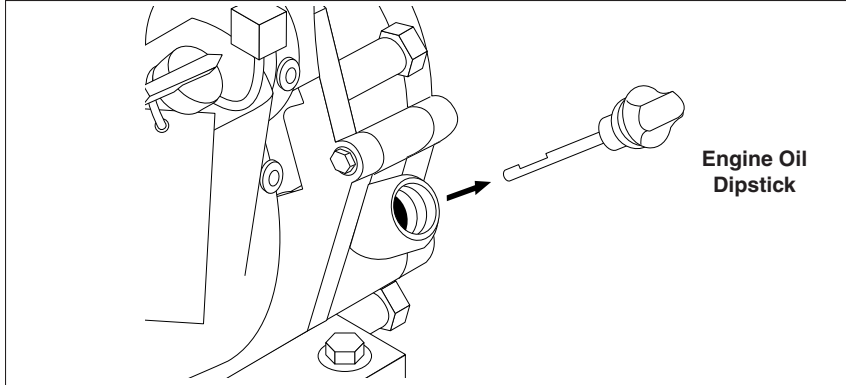


STEP 8: Connect garden hose to a clean cold water source and open supply valve completely. **NEVER** use hot water.



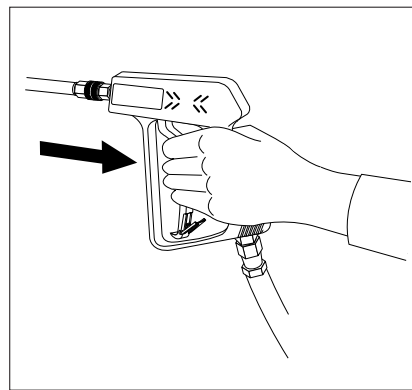
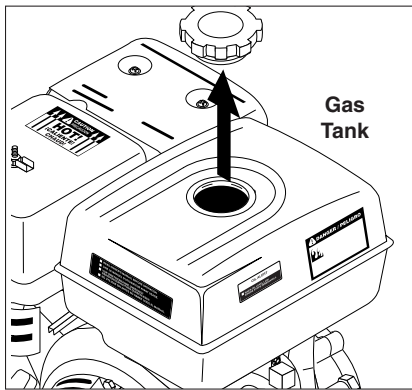
STEP 9: Connect the garden hose to pump water inlet. Inspect inlet screen. **CAUTION: Do not run the pump without water or pump damage will result.**

OPERATING INSTRUCTIONS



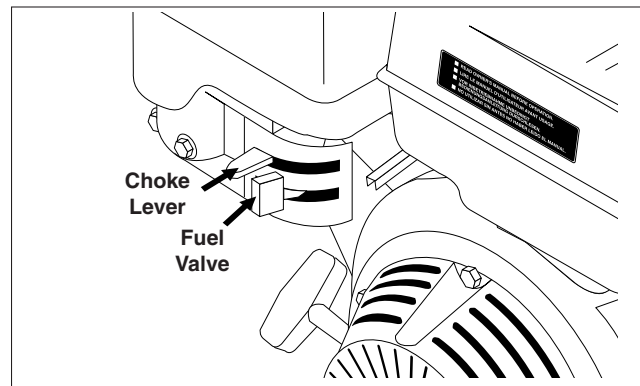
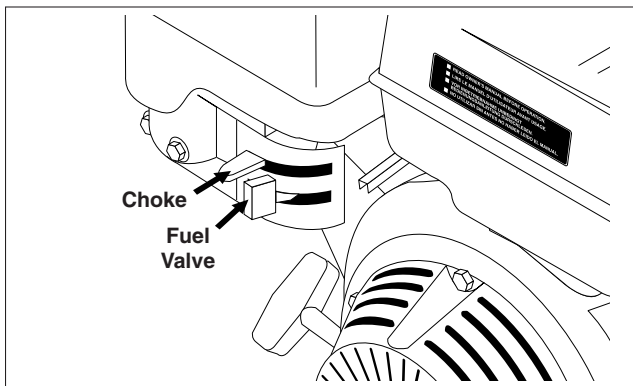
STEP 1: Check engine oil level. Oil level should be level with the bottom of the oil filler neck. Be sure the machine is level when checking the oil level. (Refer to the engine's operating manual included with machine.) We recommend that the oil be changed after the first 5 hours of use, then once every 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: Remove shipping cap and install oil dipstick. Check pump oil level by using dipstick or observe oil level in oil window (if equipped). Use 30 wt. (non detergent) oil.



STEP 3: Fill gas tank with unleaded gasoline. Do not use leaded gasoline.

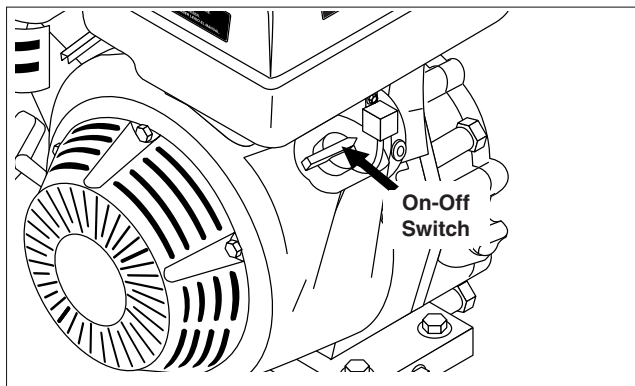
STEP 4: Trigger the spray gun to eliminate trapped air then wait for a steady flow of water to emerge from the spray nozzle.



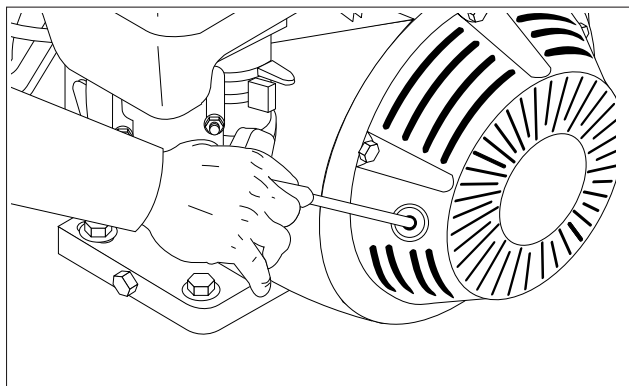
STEP 5: Move the fuel shut-off valve to the "On" position. When the engine is not in use, leave the fuel valve in the "OFF" position.

STEP 6: Move the choke lever to the "Choke" position (on a warm engine, leave the choke lever in the run position). Move the choke lever to the "Closed" position. To restart a warm engine, leave the choke lever in the "Open" position.

OPERATING INSTRUCTIONS (CONT.)

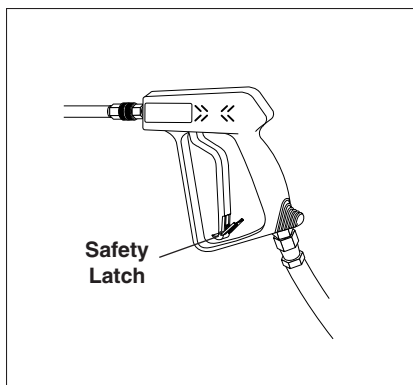


STEP 7: Turn the engine switch to "On" position. On Briggs engines, move the throttle lever to "Fast" position, shown on engine as a rabbit.



STEP 8: Pull the starter grip. If the engine fails to start after 2 pulls, squeeze the trigger gun to release pressure and repeat step. Return starter gently. After the engine warms up enough to run smoothly, move choke to run position and throttle to fast position.

CAUTION: Small engines may kick back. Do not hold pull starter grip tightly in hand.



WARNING! Never replace nozzles without engaging the safety latch on the spray gun trigger.



The five color-coded quick connect nozzles provide a wide array of spray widths from 0° 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° or red 0° nozzle. To apply detergent select the black nozzle.

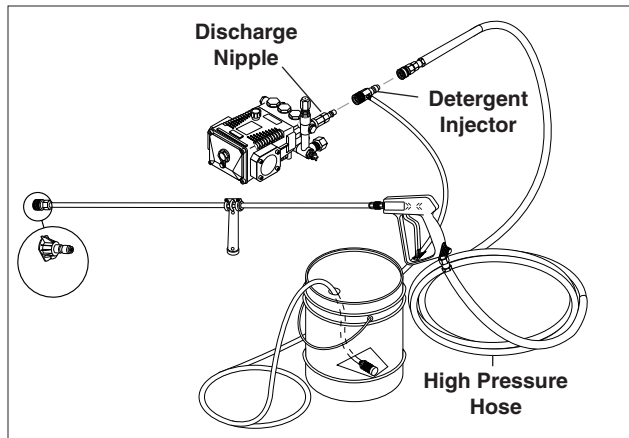
DETERGENTS & GENERAL CLEANING TECHNIQUES

WARNING

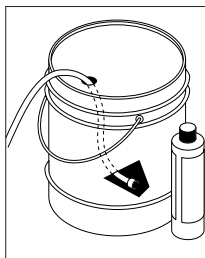


WARNING: Some detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning. The harmful elements may cause property damage or severe injury.

STEP 1: Connect detergent injector to discharge nipple on machine. Connect high pressure hose to injector with quick coupler. (Check to make sure locking couplers are in proper position before applying water pressure).

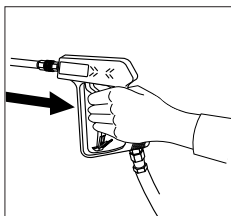


STEP 2: Use detergent designed specifically for pressure washers. Household detergents could damage the pump. Prepare detergent solution as required by the manufacturer. Fill a container with pressure washer detergent. Place the filter end of detergent suction tube into the detergent container.



STEP 3: With safety latch on spray gun engaged, secure black detergent nozzle into quick coupler.

NOTE: Detergent cannot be applied using red, yellow, green or white nozzles.



STEP 4: 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 injection system after each use by placing the suction tube into a bucket of clean water, then run the pressure washer in low pressure for 1-2 minutes.

THERMAL PUMP PROTECTION

If you run the engine on your pressure washer for 1-2 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 at low pressure (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 at high pressure 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 washing.



CAUTION - Never use:

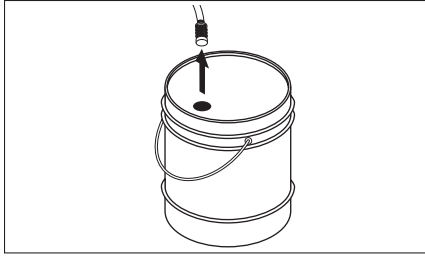
- Bleach, chlorine and other corrosive chemicals
- Liquids containing solvents (i.e., paint thinner, gasoline, oils)
- Tri-sodium phosphate products
- Ammonia products
- Acid-based products

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

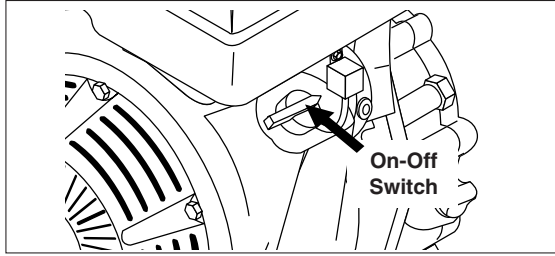
RINSING

It will take a few seconds for the detergent to clear. Apply safety latch to spray gun. Remove black soap nozzle from the quick coupler. Select and install the desired high pressure nozzle. **NOTE:** You can also stop detergent from flowing by simply removing detergent siphon tube from bottle.

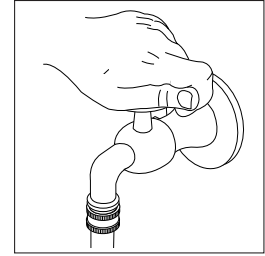
SHUTTING DOWN AND CLEAN-UP



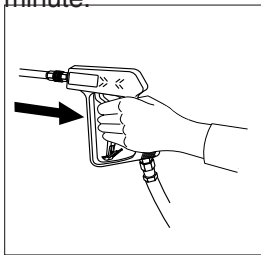
STEP 1: Remove detergent suction tube from container and insert into one gallon of fresh water. Slide nozzle forward for low pressure or to connect black detergent nozzle into wand quick coupler. Pull trigger on spray gun and siphon water for one minute.



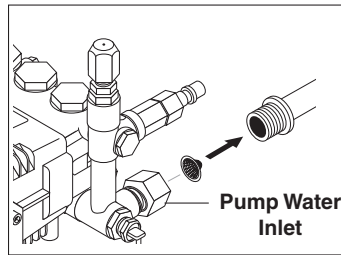
STEP 2: Turn off the engine.



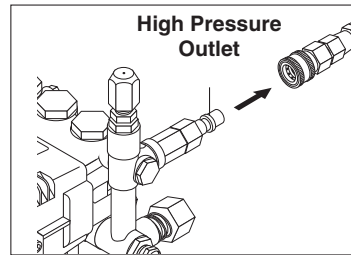
STEP 3: Turn off water supply.



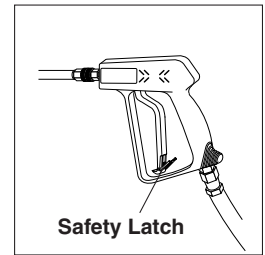
STEP 4: Press trigger to release water pressure.



STEP 5: Disconnect the garden hose from the water inlet on the machine.



STEP 6: Disconnect the high pressure hose from high pressure outlet.



STEP 7: Engage the spray gun safety lock.

STORAGE

CAUTION: Always store your pressure washer in a location where the temperature will not fall below 32°F (0°C). The pump in this machine is susceptible to permanent damage if frozen. **FREEZE DAMAGE IS NOT COVERED BY WARRANTY.**

1. Stop the pressure washer, squeeze spray gun trigger to release pressure.
2. Detach water supply hose and high pressure hose.
3. Turn on the machine for a few seconds, until remaining water exits. Turn engine off immediately.
4. Drain the gas and oil from the engine.
5. Do not allow high pressure hose to become kinked.
6. Store the machine and accessories in a room which does not reach freezing temperatures.

CAUTION: Failure to follow the above directions will result in damage to your pressure washer.

When the pressure washer is not being operated or is being stored for more than one month, follow these instructions:

1. Replenish engine oil to upper level.
2. Drain gasoline from fuel tank, fuel line, fuel valve and carburetor.
3. Pour about one teaspoon of engine oil through the spark plug hole, pull the starter grip several times and replace the plug. Then pull the starter grip

slowly until you feel increased pressure which indicates the piston is on its compression stroke and leave it in that position. This closes both the intake and exhaust valves to prevent rusting of cylinder.

4. Cover the pressure washer and store in a clean, dry place that is well ventilated away from open flame or sparks. **NOTE:** The use of a fuel additive, such as STA-BIL®, or an equivalent, will minimize the formulation of fuel deposits during shortage. Such additives may be added to the gasoline in the fuel tank of the engine, or to the gasoline in a storage container.

After Extended Storage



CAUTION: Prior to restarting, thaw out any possible ice from pressure washer hoses, spray gun or wand.

Engine Maintenance

During the winter months, rare atmospheric conditions may develop which will cause an icing condition in the carburetor. If this develops, the engine may run rough, lose power and may stall. This temporary condition can be overcome by deflecting some of the hot air from the engine over the carburetor area. **NOTE:** Refer to the engine manufacturer's manual for service and maintenance of the engine.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	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.
	Worn packing in pump	Install new packing kit.
	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.	
FLUCTUATING PRESSURE	Valves worn	Check and replace if necessary.
	Blockage in valve	Check and replace if necessary.
	Pump sucking air	Check water supply and air seepage at joints in suction line.
	Worn piston packing	Check and replace if necessary.

ADJUSTING UNLOADER VALVES

Unloader valves are preset and tested at the factory before shipping. Occasional adjustment of the unloader may be necessary to maintain correct pressure.

Start with the valve set at its lowest spring tension. Raise pressure by turning adjusting knob clockwise until pressure is at the desired position. Do not overtighten.

Open and close spray gun to be sure pressure is correct. Raise or lower pressure by adjusting the knob.

Do not by-pass more than 1-2 minutes when by-passing to the suction side of the pump.

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.

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

OIL CHANGE RECORD

Check pump oil and engine oil level before first use of your new pressure washer.

Date Oil Changed Month/Day/Year	No. of Operating Hours Since Last Oil Change	Brand Name and Type of Oil (see above)

