



Pressure Washer User's Manual



Commercial Series

Models

PWC3200H, PWC3600H, PWC4200H

Please read through this owner's manual carefully before using the product, to ensure the safety of yourself and others.

***Due to continuing improvements, actual product may differ slightly from the product described herein.**

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Operator Safety

Equipment Description



Read this manual carefully and become familiar with your pressure washer. Know its applications, its limitations, and any hazards involved.

Every effort has been made to ensure that information in this manual is accurate and current. However, we reserve the right to change, alter, or otherwise improve the product and this document at any time without prior notice.

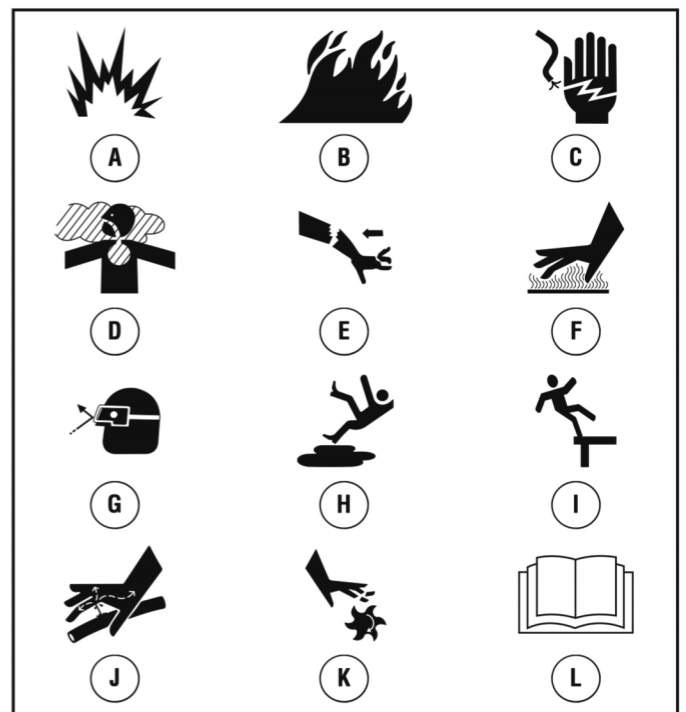
Safety Rules



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

The safety alert symbol () is used with a signal word (DANGER, CAUTION, WARNING), a pictorial and/or a safety message to alert you to hazards. **DANGER** indicates a hazard which, if not avoided, will result in death or serious injury. **WARNING** indicates a hazard which, if not avoided, could result in death or serious injury. **CAUTION** indicates a hazard which, if not avoided, might result in minor or moderate injury. **NOTICE**, indicates a situation that could result in equipment damage. Follow safety messages to avoid or reduce the risk of injury or death.

Hazard Symbols and Meanings



A - Explosion

B - Fire

C - Electric Shock

D - Toxic Fumes

E - Kickback

F - Hot Surface

G - Flying Objects

H - Slippery Surface

I - Fall

J - Fluid Injection

K - Moving Parts

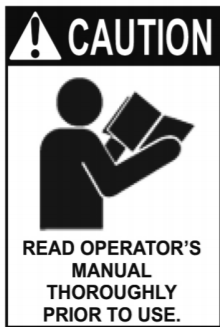
L - Read Manual



HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY

Never point or aim the gun/wand at yourself or anyone else.

Never put your hand, fingers or body directly in front of the spray nozzle.



A. KNOW YOUR PRESSURE WASHING EQUIPMENT

READ YOUR OWNER'S MANUAL CAREFULLY.

Do not operate your power washer until you completely understand and can follow all operating instructions, precautions and safety rules.

Restrict the use of your pressure washer to users who have read, understand and can follow all operating instructions, precautions and safety rules.



B. PLAN AHEAD

1. Always wear ear protection to reduce noise and eye protection and/or face shield to prevent debris from flying or ricocheting into eyes and face which could result in serious injury.
2. Dress safely in long pants and wear boots or enclosed shoes. Other protective equipment is advisable when using chemicals, cleaning detergents or other corrosive or abrasive substances.
3. Do not operate pressure washing equipment if you have consumed alcohol or taken medications.
4. Keep pets, children and bystanders a safe distance away from your work area. A minimum of 15 meters is recommended.
5. Do not spray directly at glass or fragile objects.
6. CAUTION After turning off your pressure washer and water supply, there is still high pressure water trapped in the system. You must release the pressure by triggering the gun after the engine/motor has completely stopped.
7. Know what chemicals you are using and read precautions.



PRECAUTIONS FOR PETROL ENGINES



Follow all safety precautions, operating procedures and maintenance listed in your engine operator's manual which came with the pressure cleaner. This manual may be attained from your local small engine repair center.

- **DO NOT** fill the engine with fuel when the engine is running, hot or near an open flame. **DO NOT SMOKE.**



- **DO NOT** run pressure washers in an enclosed area. Exhaust fumes contain poisonous carbon monoxide gas. Breathing exhaust gases can cause serious illness or death.
- **DO NOT** touch or come in contact with hot mufflers, cylinders, cooling fins or hot exhaust gases as this may result in severe burns.
- Never tamper with governor spring, governor links or other components which may increase the speed (RPM) of the engine.



- **DO NOT** operate pressure cleaners in the presence of flammable vapors or gases. When servicing pressure cleaning equipment, be sure to properly dispose of any flammable materials.
- **DO NOT** make adjustments to your equipment without first removing the spark plug.
- When transporting pressure cleaners, the fuel shut-off valve must be in the closed position, to prevent fuel from spilling out.

INITIAL SETUP AND OPERATION OF YOUR NEW PRESSURE WASHER

Inspection for freight damage

When you receive your commercial pressure washer be sure you check for concealed freight damage. Any damage should be noted with the delivering carrier. If you have any questions related to freight call your selling dealer.

Inspection of oil levels

Check all oil levels in the pump or engine if applicable. Failure to check all levels could result in pressure washer damage. Pumps are shipped with oil from factory and the crankcases are sealed. For first use, you need to remove the shipping plug and insert the pump breather into the pump. Please refer to the Engine Manual Book for the correct engine oil level.

Water Supply

Your water supply must provide water to the equipment that exceeds the Gallon Per Minute (GPM) rate of your machine. You can check your GPM by using a 5 gallon (19 liters) bucket and a timer. If your machine is 5 GPM or less and the bucket fills in less than a minute you have adequate supply. Some water supply systems are affected by factors like washing machines, livestock watering systems and flushing of toilets. Be sure the supply is still adequate when these operations are taking place. The water temperature cannot exceed 60 Degrees Celsius on the standard models, and the pressure should not exceed 60 PSI.

Failure to secure adequate water supply to your commercial pressure washer will result in pump damage. DO NOT RUN PUMP DRY.

Water Quality

Your water should not contain particles larger than 80 microns. Although there are small filters installed on pressure washers that filter the water, they could only filter poor quality water for a short period of time before they clog. This would result in damage to the machine. Therefore you should insure no sand or scale particles are present in the water supply.

Supply Hose

Hook a garden hose from the tap to the machine, when doing this be sure to check the inlet water filter or screen. This hose should be at least 5/8" in diameter and a length at least 4.5 meters. This length helps isolate the water supply from pulsations from the pump.

Purge Air

Turn on the water supply and open the trigger gun, this will purge all the air from the system. Look for water leaks and stop any leak found. Leaks can cause erratic pump behaviour.

Pump

Prior to turning on the power switch or starting engine, check the oil level in the pump. The pump oil should be changed after the first 50 hours of operation, then every 300 hours of operation thereafter for average service or more frequently for extensive use or hostile environments (dusty or high moisture).

Turn on Power

Turn on the power switch. Pull trigger gun and check for adequate pressure.

Filters

Water filters, hoses and fittings should be checked prior to every operation for cleanliness, leaks and repair needs. Repair or replace as needed.

The Unloader Valve

Pressure cleaners are built with one of two types of unloaders: the Trapped Pressure Unloader or the Flow Actuated Unloader. After the pump is filled with water, the direction of water flow must be controlled with the unloader or regulating valve. A positive displacement pump is always delivering a specific volume of water whether the spray gun is open or closed; therefore a device is needed to control the direction of flow, either to the open spray gun or redirecting the flow back to the inlet side of the pump when the spray gun is closed. Without an unloader valve, dangerously high pressure will be produced when the spray gun is closed because the water being forced out of the pump has no place to go. The unloader is used as a safety device to guard against failure of component parts, and the development of dangerously high pressures.

Hoses and Couplers

Factory supplied hoses are sized in length and diameter for best operational performance and size within the pressure capabilities. Additional hose added to the machine may change the performance of the machine. Consult manufacturer if you have any questions. When replacing or disconnecting the quick couplers be sure the machine is shut off and relieve the pressure from all hoses.

During Operation

The pressure was set at the factory during the testing procedure, no adjustments to the machine should be required for operation. During operation do not leave the machine running for more than 2 minutes without the trigger gun being pulled. Although your machine has a by-pass valve on it and may have a thermal relief system, this can cause extensive pump damage. If machine will not be discharging water for more than 2 minutes, shut the machine off.

TIP STYLES

Chemical injector use with interchangeable tips

Your pressure washer is supplied with a downstream chemical injector. The 1/4" clear vinyl tube is be inserted into the desired chemical to apply. Be sure to use the black, low pressure nozzle to inject chemical. The chemical injector will only open up and allow chemical into the line when this tip is used. This tip enables the pressure to drop to approximately 250 PSI to draw chemical. Some injectors can be turned on and off or the rate of injection can also be set by turning the knob that the clear vinyl tube attaches to.

See calibration below. **Be sure to flush injection system with clear water after use.**

Multi-Reg (Adjustable) Tip

If your machine is supplied with an adjustable tip, the spray pattern can be changed by rotating the outer shell of the nozzle. The nozzle also will move forward and backward.

The nozzle must be pulled back toward the gun for high pressure rinse. When the nozzle is moved forward you will have low pressure and the soap injector will start to draw chemical.

Chemical injector use with multi-reg tip

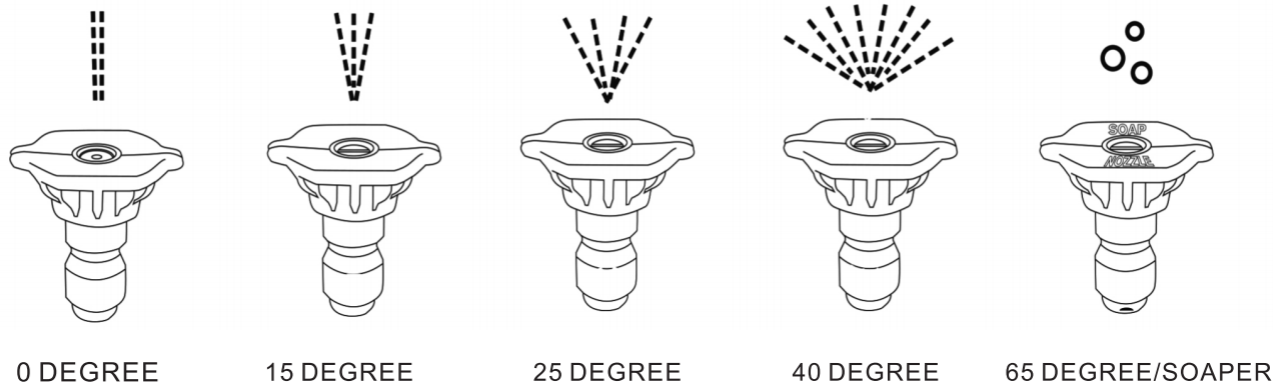
Move the outer shell of your tip forward (away from the gun). This will lower your pressure and allow the injector to start to draw chemical. Chemical will only be drawn in the low pressure setting. Pull nozzle back for high pressure rinse.

Calibration

If an accurate injection rate is desired, use this formula: $(\text{GPM} \times 128) + (\text{ounces drawn in 1 minute}) = x:1 \text{ IE: If a 2.0 GPM machine draws 8 ounces of chemical in 1 minute: } (2 \times 128) / 8 = 32:1$

NOZZLE SELECTION GUIDE

Spray nozzle can be identified by the nozzle "number", a five or six digit number that is stamped on the nozzle, which indicates the spray angle and orifice size. In most cases the second and third digits of the nozzle number indicate the spray angle in degrees. EXAMPLE: 00 is 0 degrees, 15 is 15 degrees and 40 is 40 degrees. The last two numbers of the nozzle number indicated the orifice size, a standard industry designation. EXAMPLE: 60 is a 6.0 orifice, 55 is a 5.5 orifice. These numbers correspond to the actual dimensions, giving the size of the orifice. They do not however directly indicate gallons per minute, flow rates or inches in diameter of the orifice. Some pressure washers come with an adjustable nozzle which is fixed to the end of the wand. The fan spray may be adjusted by turning the nozzle and chemicals may also be applied by pulling outward on the nozzle.



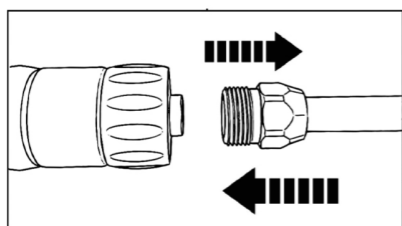
STANDARD SPRAY NOZZLE APPLICATIONS

Caution: The spray force from these nozzles can cause injuries if pointed directly at yourself or others. Before observing directly always disconnect from spray wand.

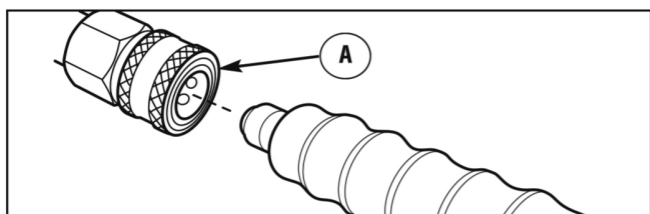
Nozzle Head	
0 Degree - Blasting	• Removing caked on mud from heavy construction, farm or lawn equipment. • Cleaning tar, glue or stubborn stains from concrete. • Cleaning overhead areas. • Removing rust from steel and oxidation from aluminium.
15 Degree - Stripping	• Removing paint from wood, masonry or metal. Removing grease or dirt from equipment. Removing heavy mildew stains. • Removing marine growth from boats and marine equipment. • Removing rust from steel and oxidation from aluminum.
25 Degree - Cleaning	• General cleaning of dirt, mud and grime. • Cleaning roofs, gutters and downspouts. • Removing light mildew stains. • Removing algae and bacteria build-up from pools. • Rinsing surfaces in preparation for painting.
40 Degree - Washing	• Light cleaning and washing. • Washing and rinsing of automobiles and boats. • Cleaning roofs, windows, patios and driveways.
65 Degree/Soaper - Detergent	• This nozzle must be used in conjunction with a cleaning detergent at low pressure. Only use this nozzle when using a detergent or cleaning solution.

⚠ WARNING	
	The high pressure stream of water that this equipment produces can cut through skin and its underlying tissues, leading to serious injury and possible amputation.
• Keep high pressure hose connected to pump and spray gun while system is pressurized. • Always be certain spray gun, nozzles and accessories are correctly attached.	

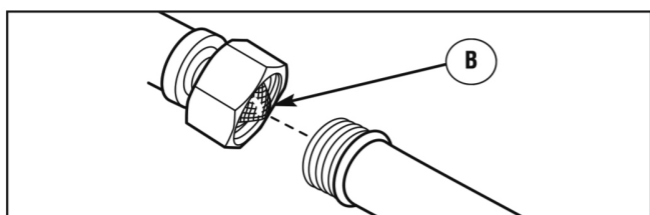
1. Assemble the spray gun with the wand. Pull back the rubber piece to expose the threaded fitting. Then, screw the two pieces together and move the rubber piece back.



2. Similarly, attach other end of high pressure hose to high pressure outlet (A) on pump. Pull down on collar of quick connect, slide onto pump and let go of collar. Pull on hose to be sure of tight connection.



3. Before connecting garden hose to water inlet, inspect inlet screen (B). Clean screen if it contains debris or have it replaced if damaged. DO NOT run pressure washer if inlet screen is damaged.



4. Run water through your garden hose for 30 seconds to clean out any debris.

IMPORTANT: DO NOT siphon standing water for the water supply. Use ONLY cold water (less than 37°C).

5. Connect the garden hose (not to exceed 15 meters in length) to the water inlet. Tighten by hand.

NOTICE	
Using a One Way Valve (vacuum breaker or check valve) at pump inlet can cause pump or inlet connector damage.	
• There MUST be at least ten feet (3 m) of unrestricted garden hose between the pressure washer inlet and any device, such as a vacuum breaker or check valve. • Damage to equipment resulting from failure to follow this instruction will void warranty.	

6. Turn ON the water, squeeze the trigger on the spray gun to purge the pump system of air and impurities.

⚠ WARNING	
	Risk of eye injury. Spray can splash back or propel objects.
• Always wear safety goggles when using this equipment or in vicinity of where equipment is in use. • Before starting the pressure washer, be sure you are wearing adequate safety goggles. • NEVER substitute safety glasses for safety goggles.	

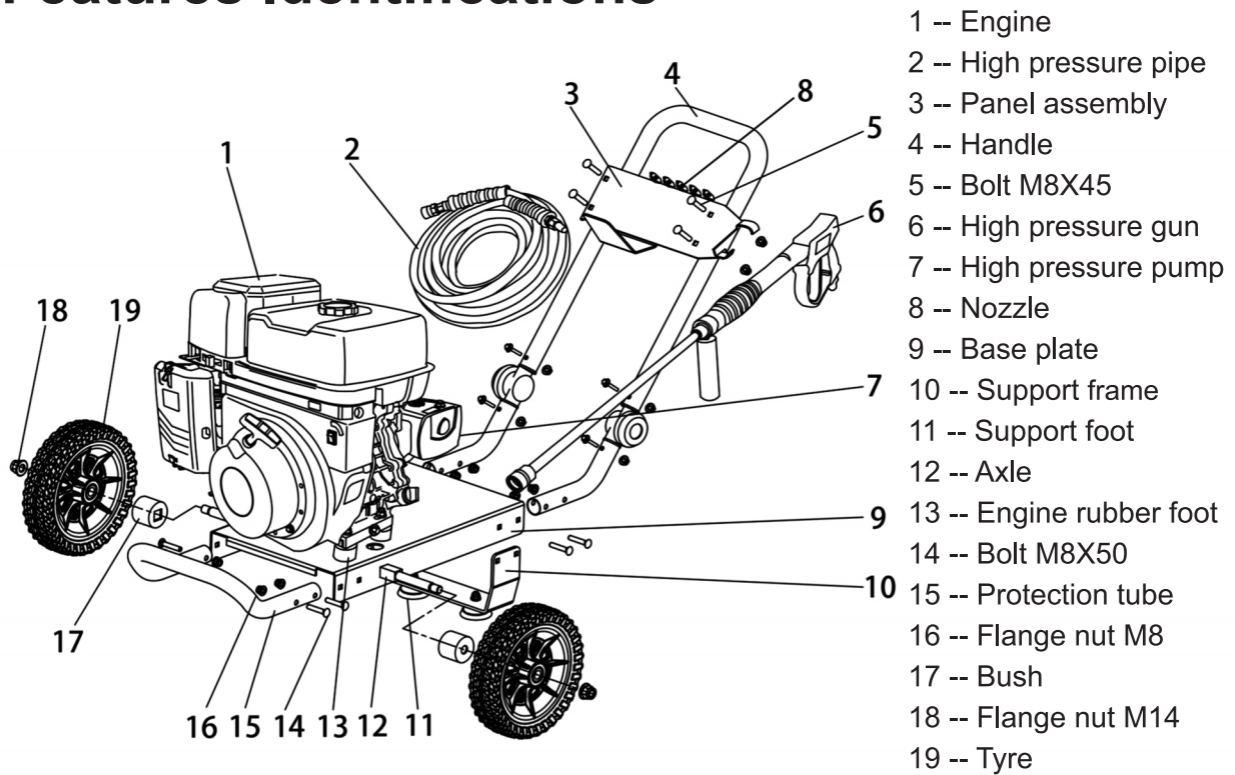
Checklist Before Starting Engine

Review the unit's assembly to ensure you have performed all of the following.

1. Be sure to read the *Operator Safety* section and *How to Start Your Pressure Washer in Operation* section before using pressure washer.
2. Make sure handle is in place and secure.
3. Check that oil has been added to proper level in the engine crankcase.
4. Add proper fuel to fuel tank (use unleaded 91).
5. Check for properly tightened hose connections.
6. Check to make sure there are no kinks, cuts, or damage to high pressure hose.
7. Provide a proper water supply at an adequate flow.

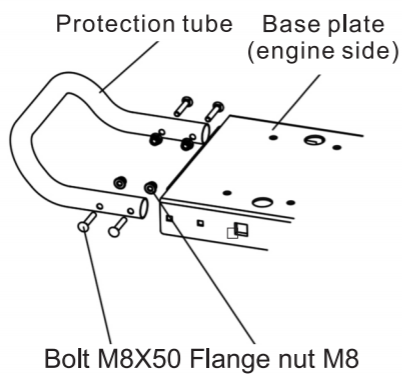
NOTE: Use fresh fuel only. Petrol has a shelf life of 30 days until it goes stale.

Features Identifications

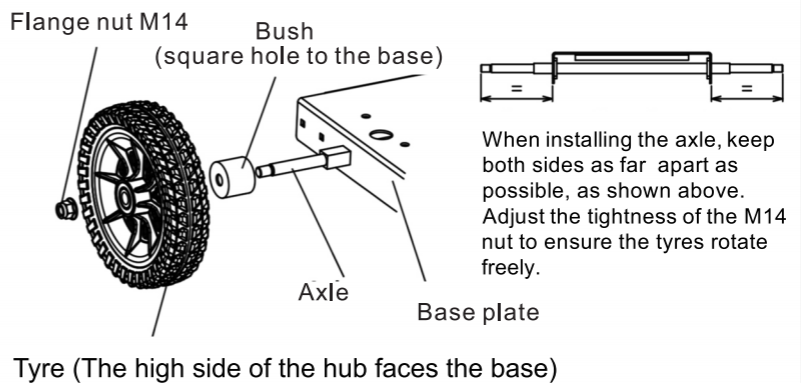


Assembly Instructions

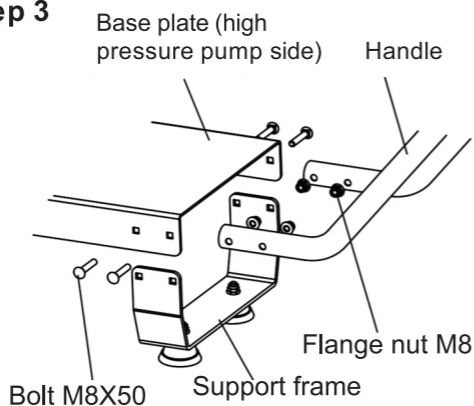
Step 1



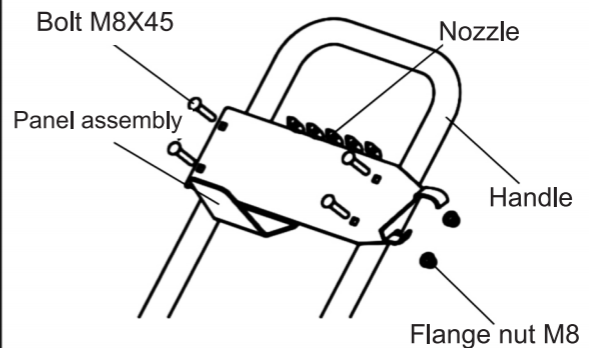
Step 2



Step 3



Step 4



Operation

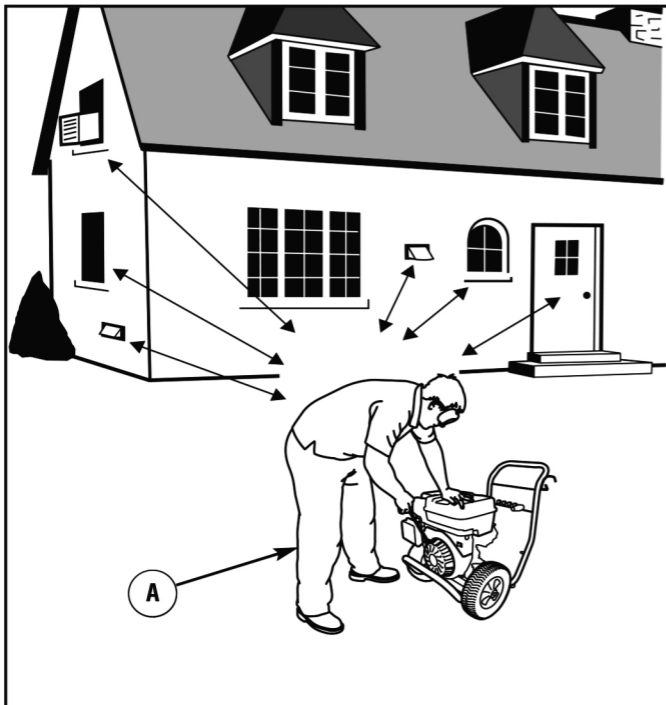
Pressure Washer Location

Clearances and Air Movement

 WARNING	
	Exhaust heat/gases can ignite combustibles, structures or damage fuel tank causing a fire.
Keep at least 5 ft. (1.5 m) clearance on all sides of pressure washer including overhead.	

Place pressure washer outdoors in an area that will not accumulate deadly exhaust gas. DO NOT place pressure washer where exhaust gas (A) could accumulate and enter inside or be drawn into a potentially occupied building. Ensure exhaust gas is kept away from any windows, doors, ventilation intakes, or other openings that can allow exhaust gas to collect in a confined area. Prevailing winds and air currents should be taken into consideration when positioning pressure washer.

 WARNING	
	Running engine gives off carbon monoxide, an odorless, colorless, poison gas. Breathing carbon monoxide can cause headache, fatigue, dizziness, vomiting, confusion, seizures, nausea, fainting or death.
• Operate pressure washer ONLY outdoors. • Keep exhaust gas from entering a confined area through windows, doors, ventilation intakes, or other openings. • DO NOT start or run engine indoors or in an enclosed area, even if windows and doors are open.	



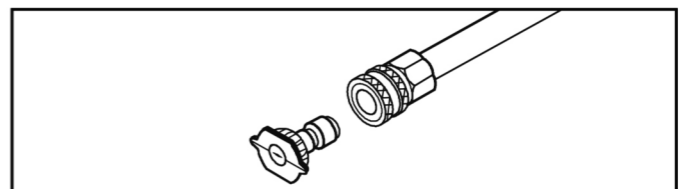
How to Start Your Pressure Washer

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

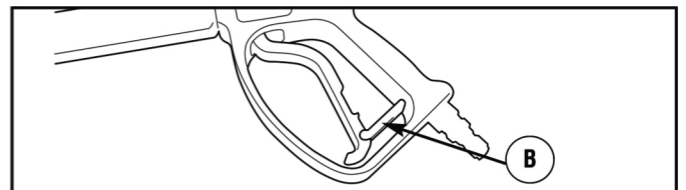
1. Place pressure washer outside near a water source capable of supplying water at a flow rate greater than 19 liters per minute and no less than 20 PSI at pressure washer end of garden hose. DO NOT siphon supply water.
2. Check that high pressure hose is tightly connected to spray gun and pump.
3. Make sure unit is in a level position.
4. Connect garden hose to water inlet on pressure washer pump.

NOTICE
DO NOT run the pump without the water supply connected and turned on.
• Damage to equipment resulting from failure to follow this instruction will void warranty. • Low pump inlet water pressure or flow will cause poor performance and can damage pump.

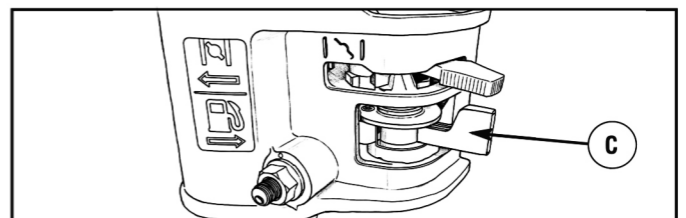
5. Turn ON water, point gun in a safe direction, and squeeze trigger to purge pump system of air and impurities.
6. Attach nozzle extension to spray gun.
7. Choose spray tip you want to use, pull back on collar of nozzle extension, insert spray tip and release collar. Tug on spray tip to make sure it is securely in place.



8. Engage trigger lock (B) on spray gun trigger.



9. Turn the fuel valve (C) to the "On" position.



SHUTDOWN PROCEDURE

STORAGE

1. Turn off the power switch on the commercial pressure washer.
2. Relieve pressure on line by pulling trigger gun.
3. Shut off water supply and disconnect garden hose.
4. Be sure to check for water leaks or oil leaks that should be repaired before the next operation.
5. If you are going to store the machine for extended period of times in cold climates be sure to antifreeze the equipment. A 50% anti-freeze solution may be drawn in through the inlet of the pump using a short remnant of garden hose. This fluid should be run through the pump when the fluid is discharged from the pump discharge your machine is winterized. Do not allow machine to freeze.
6. Use fuel stabilizer for fuel if unit is to be stored for 30-90 days. If storing unit for more than 90 days drain the fuel tank, shut off fuel valve and run unit until it stops.

PREVENT DAMAGES AND EXCESSIVE WEAR

1. Avoid extending hoses across high traffic areas while using pressure washers, and never leave the hose where it may be run over by vehicles of any type.
2. Never pull on the hose to move the pressure washer.
3. Never pull your pressure hose around a tight corner or force it into a small loop. The wire braid hose has a minimum bend radius of 5", and should not be forced into any small bend.
4. Wrap up the pressure washer hose when finished cleaning and store it on a hose hook, hanger, reel or other safe location.
5. Check oil levels (pump & engine) at every fueling to prevent low oil damage.
6. Inspect inlet water filter for cleanliness and damage. If soiled or dirty, rinse with fresh water. If damaged, replace with new filter.
7. When lifting or transporting power washers, secure and lift only with appropriate lifting handles.

PRESSURE WASHER CARE

1. Follow recommended service instructions in owner's manual for engine.
2. Change oil in pump after the first 50 working hours (break in period) and then every 300 hours of operation. The oil drain bolt is located on the bottom side of the pump. When refilling or adding oil to your pump, the pressure cleaner should be on level ground. Most pressure cleaners have a site glass located on the side of pump, the oil level must be in the center of the site glass. See pump manufacturer specification sheet for proper lubrication.
3. Prevent pump from freezing during freezing conditions. Flush pump with 1 to 1 mixture of automobile anti-freeze and water. This will also act as a lubricant.

TROUBLESHOOTING - COMMON PROBLEMS AND SOLUTIONS

Low Nozzle Pressure

Low nozzle pressure is a common complaint. In a majority of instances, low nozzle pressure is generally caused by one of the following:

1. Obstructed or clogged nozzle tip.
2. Obstructed or clogged inlet filter.
3. Unloader valve stuck open due to debris lodged under the check valve ball.
4. Customer use of shutoff-type quick connectors.
5. Plugged or obstructed hose.
6. Insufficient flow in gallons per minute (not pressure) to the pump.

Why should I keep my nozzles clean?

Clogged nozzles can increase pump back pressure and possibly damage the pump. Immediate attention is required.

How do I clean clogged nozzles?

1. Always disconnect your spray wand from the gun before cleaning your nozzles!
2. Clear the nozzle with a small rigid piece of wire such as a paper clip.
3. Flush the nozzle backwards with water.
4. Reconnect the wand to the gun.
5. Restart the pressure washer and depress the trigger on the spray gun.

If the nozzle is still plugged or partially plugged, repeat above steps 1 to 4. If the procedure does not clear the nozzle, replace with a new nozzle.

Surging Operation

Another condition is that pressure surges. That is, when the trigger is pulled, pressure is satisfactory for a moment then falls off. When the trigger is released, pressure builds up to normal levels. This is generally a sign that the water supply cannot provide the flow rate (gallons per minute) required by the pump. Following are some possible solutions:

1. Make sure the supply is not restricted; that there are no under-sized fittings and the inlet screen is unobstructed.
2. Make sure the flow rate of the water supply is sufficient for the pump. First, find the capacity of your pump in gallons per minute (GPM). Then determine the flow rate of your supply by measuring the gallons that can be delivered in one minute. If your supply does not deliver the GPM your pump requires, do not use the pump. It will suck air, causing cavitations which can quickly damage pump components.
3. Check for leaks in the supply fittings. Any leak will cause the pump to draw air and perform poorly.

Soap Injector Not Working Properly

When a soap injector is not working properly, the problem is generally fairly easy to isolate. Check the following:

1. If you have interchangeable tips, make sure the black, soap tip is installed. Soap injectors will not work when high pressure nozzles are installed.
2. Be sure that the soap injector valve is turned on, and turn selector valve to desired setting.

3. A piece of debris may be caught in the injector valve, injector ball valve, or orifice. Disassemble and clean the injector.
4. If you have an adjustable nozzle, be sure it is in the low pressure position (away from the gun) to draw soap.

Notice

User maintenance procedures include replacing valves and seals. Unloader components are not user serviceable. Repairs involving unloaders and crankcase components should be referred to the factory or a factory authorized repair center.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	Insufficient water supply	Use larger supply hose; clean filter at water inlet.
	Old, worn or incorrect spray nozzle	Match nozzle number of machine and/or replace with new nozzle.
	Plumbing or hose leak	Check plumbing system for leaks. Retape leaks with teflon tape.
	Faulty or misadjusted unloader valve	Adjust unloader for proper pressure. Install repair kit or replace 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.

PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW OPERATING PRESSURE	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.
	Worn piston packing	Check and replace if necessary.
NOISY PUMP	Air in suction line	Check water supply and connections on suction line.
	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 IN OIL	Water seal worn	Check and replace if necessary and change oil.
	High humidity in air	Check and change oil twice as often.
WATER DRIPPING FROM UNDER PUMP	Piston packing worn	Check and replace if necessary.
	O-Ring plunger retainer worn	Check and replace if necessary.
	Cracked piston	Check and replace if necessary.
	Pump protector	Lower water supply pressure. Do not run with spray gun closed longer than 2 minutes.
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.
	Filter screen on detergent suction hose plugged	Clean or replace.

PROBLEM	POSSIBLE CAUSE	SOLUTION
DETERGENT NOT DRAWING	Incorrect nozzle or adjustable nozzle in wrong position	Install chemical nozzle or push adjustable nozzle forward (away from gun).
	Dried up detergent plugging metering valve injector	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.
	Unloader valve seat faulty	Check and replace if necessary.
	Worn piston packing	Check and replace if necessary.
RELIEF VALVE LEAKS WATER	Relief valve defective	Replace or repair.
ENGINE WILL NOT START OR CRANK OVER	Pressure built up in system	Squeeze trigger gun to relieve pressure.
	Engine, pump, or gearbox is seized	Replace or repair seized part.
ENGINE WILL NOT START BUT WILL CRANK OVER	Engine power switch is off or defective	Check engine power switch.
	Dirty or fowled spark plug	Replace spark plug.

PROBLEM	POSSIBLE CAUSE	SOLUTION
ENGINE WILL NOT START BUT WILL CRANK OVER	Low oil shut down is activated	Add oil to engine, check more frequently.
	Engine low or out of fuel	Add fuel.
	Fuel filter is clogged	Replace or clean fuel filter.
	Fuel supply valve-off	Turn on fuel supply valve.
	Engine flooded or starved	Choke only as required.
ENGINE BOGS DOWN UNDER LOAD, WHENEVER SPRAY GUN IS TRIGGERED	Incorrect or obstructed nozzle	Replace with the proper nozzle or clear obstruction.
	Engine needs to be repaired or replaced	See engine manual or engine dealer.
	Operating in high elevation	Lower the pressure of the unit and check for correct engine speed (RPM).
	Carbon deposits on cylinder head	Remove head and wire brush deposits.
	Dirty air filter	Clean or replace air filter.

Maintenance

Maintenance Schedule

Follow the hourly or calendar intervals, whichever occurs first. More frequent service is required when operating in adverse conditions noted below.

Maintenance Schedule - Fill in Dates as You Complete Regular Service									
Maintenance Task	Service Dates						Service Dates		
	Before Each Use	Every 25 Hours or Yearly	Every 50 Hours or Yearly	Every 100 Hours or Yearly	Every 250 Hours or Yearly				
Pressure Washer									
Check/ clean water inlet screen	X								
Check high pressure hose	X								
Check detergent siphoning hose/filter	X								
Check spray gun and hose assembly for leaks	X								
Check engine and pump each time	Ensure engine and pump in good working conditions								
Engine									
Check oil level	X								
Inspection and check fuel and oil leaks	X								
Change engine oil		Only the first time	X						
Clean muffler cover and recoil starter	X								
Check and clean air filter	X								
Service spark plug			X						
Check and clean fuel cock			X						
Remove carbon in combustion chamber				X					
Check and adjustment of valve clearance					X				
Replace the fuel pipes	3 years (or when necessary)								

1. Clean if clogged. Replace if perforated or torn.

2. Change oil after the first 25 operating hours and every 50 hours or yearly thereafter. Change oil sooner when operating under dirty or dusty conditions.

3. Replace more often under dirty or dusty conditions.

Pump Preventative Maintenance Check List					
Follow the daily, hourly or calendar intervals, whichever occurs first.					
Maintenance Item:	Before each use	Each 50 hours	Each 500 hours	Each 1000 hours	Remarks
Check Pump Oil Level/Quantity	X				
Check for Oil Leaks and Water Leaks	X				
Check Pump Breather/Dipstick	X				
Check Connection (pipes, coupling)		X			
Oil Change		Only the first time	X		
Seal Change				X	
Valve Change				X	
Check Accessories				X	
** Each system's maintenance cycle will be exclusive. If system performance decreases, check immediately. If no wear at 1000 hours, check again at 2000 hours and each 500 hours until wear is observed. Valves typically require changing every other seal change. Duty cycle, temperature, quality of pumped liquid and inlet feed conditions all affect the life of pump wear parts and service cycle. Remember to service the unloader at each seal servicing and check all system accessories and connections before resuming operation.					

Warranty

Limited Warranty

The warranty period for the pressure washer is 3 years domestic use and 2 years commercial use from the purchase date. The engine has a 3 years warranty. The warranty will not apply to any unit which was not assembled correctly, misused, overloaded or which has been used or operated contrary to the instructions, or which has been repaired or altered by anyone other than an authorized representative.

Warranty Exclusions

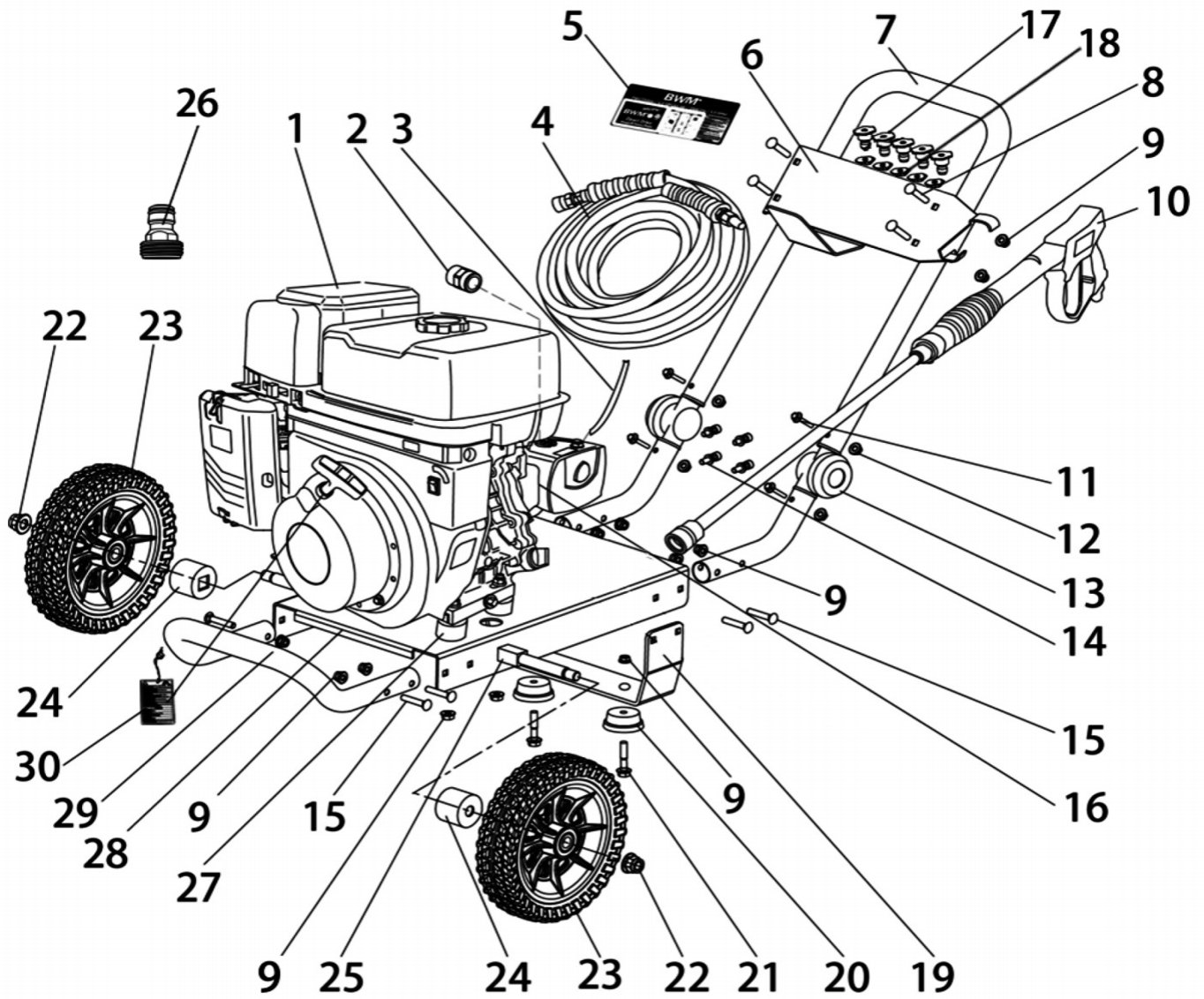
Warranty will not cover:

- Parts worn out due to normal wear and tear.
- Damage or failure resulting from misuse, negligence, improper care, the use of stale or contaminated fuel, or failure to perform the required maintenance.
- Failures due to using non genuine replacement parts.

Warranty will be voided if the machine has been altered or modified in any way.

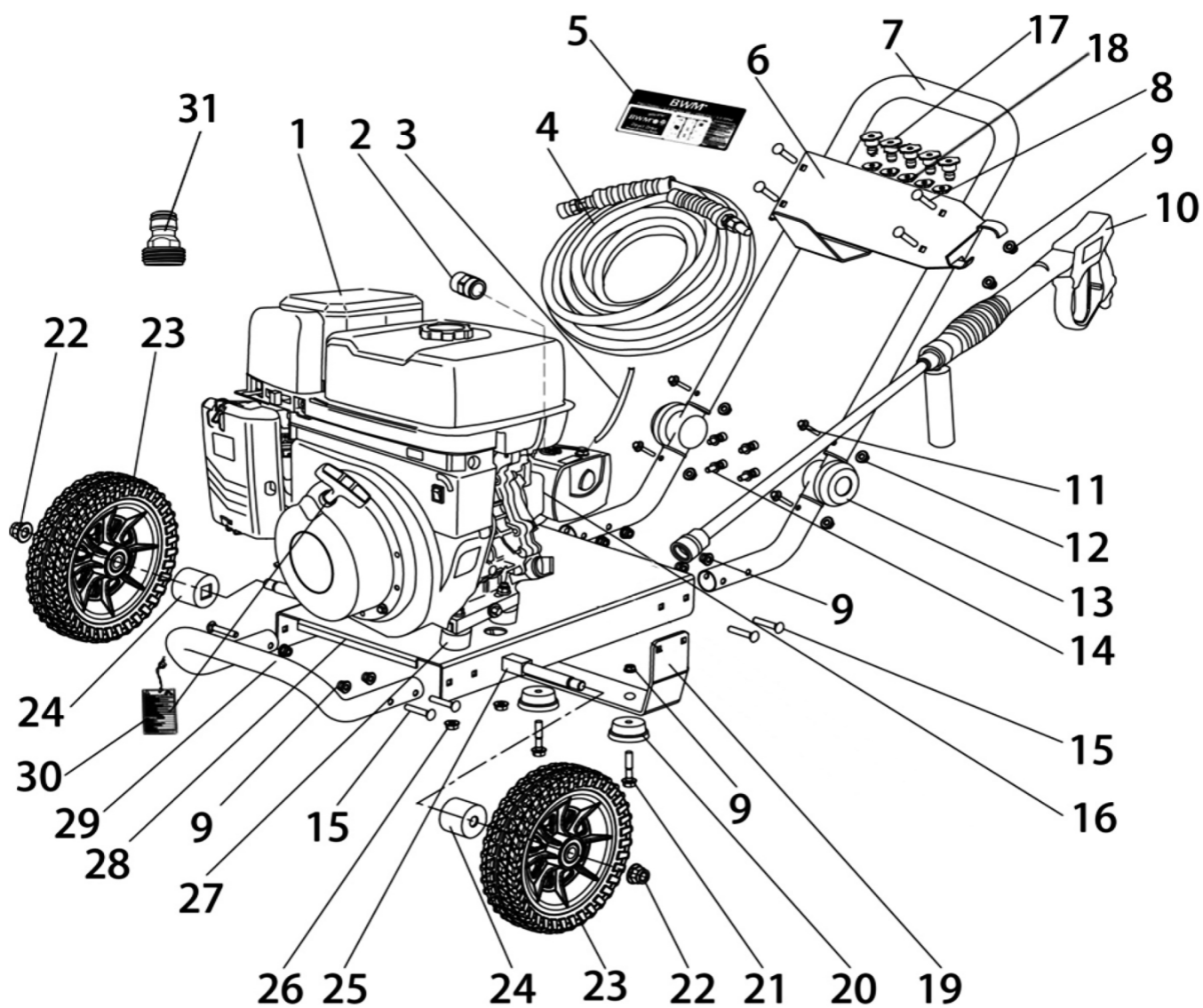
Illustrated Parts List

PWC3200H



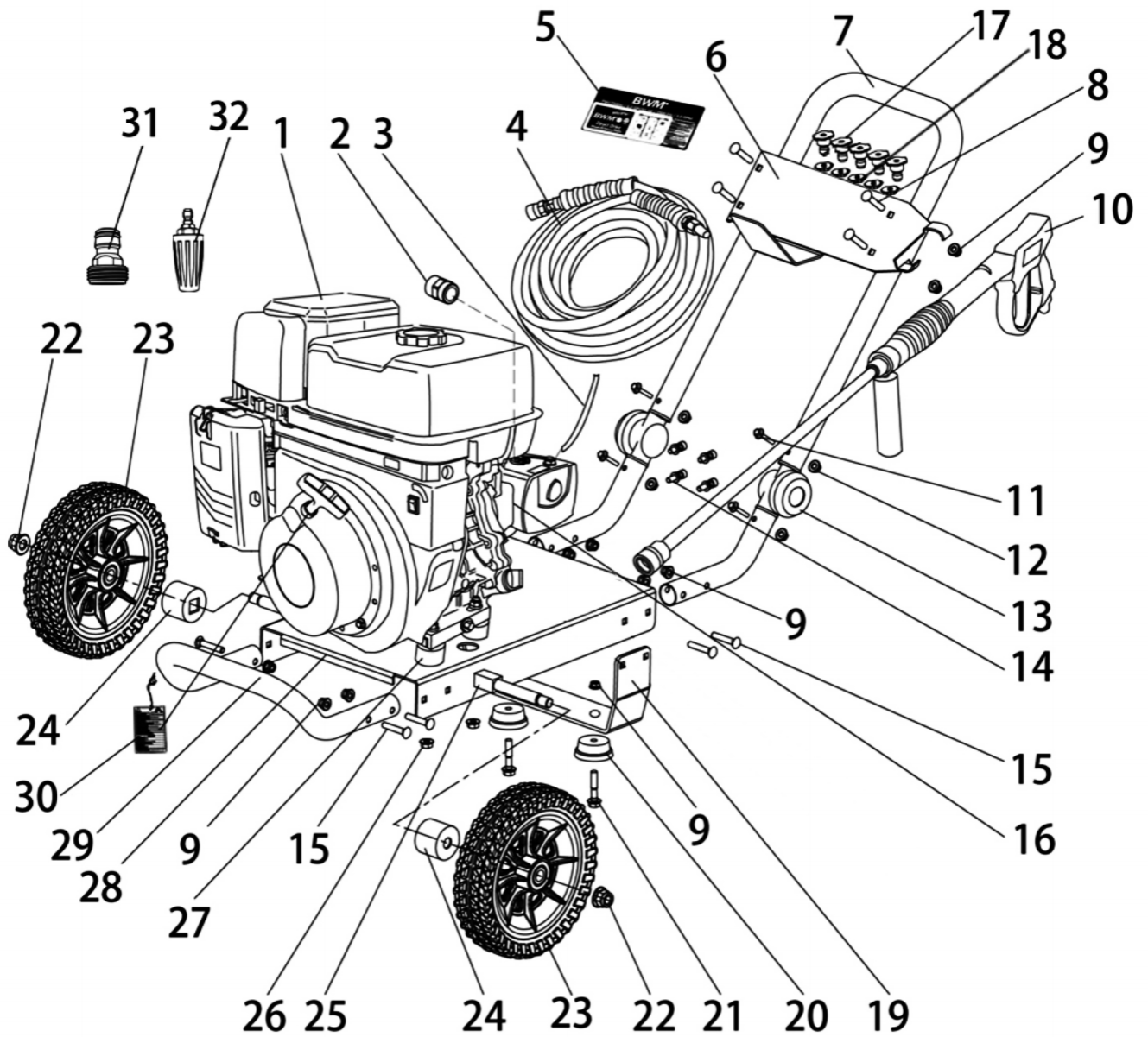
Ref No.	Parts No.	Description	QTY
1	BWMPWC3200H001	Honda Engine GX200	1
2	BWMPWC3200H002	Adapter NH3/4"-G3/4"	1
3	BWMPWC3200H003	Thermal Controller Drainage Pipe	1
4	BWMPWC3200H004	High Pressure Hose (3500PSI, 10M)	1
5	BWMPWC3200H005	Label	1
6	BWMPWC3200H006	Panel Assembly	1
7	BWMPWC3200H007-1	Handle-Upper	1
	BWMPWC3200H007-2	Handle-Lower	2
8	BWMPWC3200H008	Handle Panel Bolt M8x45	4
9	BWMPWC3200H009	Handle Panel Nut M8	22
10	BWMPWC3200H010	High Pressure Gun	1
11	BWMPWC3200H011	Handle Bolt M6x45	4
12	BWMPWC3200H012	Handle Nut M6	4
13	BWMPWC3200H013	Handle Adjuster	2
14	BWMPWC3200H014	Pump Mounting Bolt	4
15	BWMPWC3200H015	Handle Supporting Bolt M8x50	8
16	BWMPWC3200H016	High Pressure Pump RCV2.5G30	1
17	BWMPWC3200H017-1	Nozzle 0°	1
	BWMPWC3200H017-2	Nozzle 15°	1
	BWMPWC3200H017-3	Nozzle 25°	1
	BWMPWC3200H017-4	Nozzle 40°	1
	BWMPWC3200H017-5	Nozzle 65° / Soaper Nozzle	1
18	BWMPWC3200H018	Nozzle Pad	5
19	BWMPWC3200H019	Support Bracket	1
20	BWMPWC3200H020	Support Pad	2
21	BWMPWC3200H021	Support Pad Bolt M8x25	2
22	BWMPWC3200H022	Wheel Nut M14	2
23	BWMPWC3200H023	Airless Tyre	2
24	BWMPWC3200H024	Wheel Bush	2
25	BWMPWC3200H025	Wheel Axle	1
26	BWMPWC3200H026	Inlet Connector "NH3/4"	1
27	BWMPWC3200H027	Engine Anti Vibration Pad	4
28	BWMPWC3200H028	Base Plate	1
29	BWMPWC3200H029	Front Bumper	1
30	BWMPWC3200H030	Engine Oil Notice Card	1

PWC3600H



Ref No.	Parts No.	Description	QTY
1	BWMPWC3600H001	Honda Engine GX270	1
2	BWMPWC3600H002	Adapter NH3/4"-G3/4"	1
3	BWMPWC3600H003	Thermal Controller Drainage Pipe	1
4	BWMPWC3600H004	High Pressure Hose (4500PSI, 15M)	1
5	BWMPWC3600H005	Label	1
6	BWMPWC3600H006	Panel Assembly	1
7	BWMPWC3600H007-1	Handle-Upper	1
	BWMPWC3600H007-2	Handle-Lower	2
8	BWMPWC3600H008	Handle Panel Bolt M8x45	4
9	BWMPWC3600H009	Handle Panel Nut M8	14
10	BWMPWC3600H010	High Pressure Gun	1
11	BWMPWC3600H011	Handle Bolt M6x45	4
12	BWMPWC3600H012	Handle Nut M6	4
13	BWMPWC3600H013	Handle Adjuster	2
14	BWMPWC3600H014	Pump Mounting Bolt	4
15	BWMPWC3600H015	Handle Supporting Bolt M8x50	8
16	BWMPWC3600H016	High Pressure Pump RRV3.5G36	1
17	BWMPWC3600H017-1	Nozzle 0°	1
	BWMPWC3600H017-2	Nozzle 15°	1
	BWMPWC3600H017-3	Nozzle 25°	1
	BWMPWC3600H017-4	Nozzle 40°	1
	BWMPWC3600H017-5	Nozzle 65° / Soaper Nozzle	1
18	BWMPWC3600H018	Nozzle Pad	5
19	BWMPWC3600H019	Support Bracket	1
20	BWMPWC3600H020	Support Pad	2
21	BWMPWC3600H021	Support Pad Bolt M8x25	2
22	BWMPWC3600H022	Wheel Nut M14	2
23	BWMPWC3600H023	Airless Tyre	2
24	BWMPWC3600H024	Wheel Bush	2
25	BWMPWC3600H025	Wheel Axle	1
26	BWMPWC3600H026	Engine Mounting Nut M10	8
27	BWMPWC3600H027	Engine Anti Vibration Pad	4
28	BWMPWC3600H028	Base Plate	1
29	BWMPWC3600H029	Front Bumper	1
30	BWMPWC3600H030	Engine Oil Notice Card	1
31	BWMPWC3600H031	Inlet Connector NH3/4"	1

PWC4200H



Ref No.	Parts No.	Description	QTY
1	BWMPWC4200H001	Honda Engine GX390	1
2	BWMPWC4200H002	Adapter NH3/4"-G3/4"	1
3	BWMPWC4200H003	Thermal Controller Drainage Pipe	1
4	BWMPWC4200H004	High Pressure Hose (4500PSI, 15M)	1
5	BWMPWC4200H00S	Label	1
6	BWMPWC4200H006	Panel Assembly	1
7	BWMPWC4200H007-1	Handle-Upper	1
	BWMPWC4200H007-2	Handle-Lower	2
8	BWMPWC4200H00B	Handle Panel Bolt M8x45	4
9	BWMPWC4200H009	Handle Panel Nut M8	14
10	BWMPWC4200H010	High Pressure Gun	1
11	BWMPWC4200H011	Handle Bolt M6x45	4
12	BWMPWC4200H012	Handle Nut M6	4
13	BWMPWC4200H013	Handle Adjuster	2
14	BWMPWC4200H014	Pump Mounting Bolt	4
15	BWMPWC4200H015	Handle Supporting Bolt M8x50	8
16	BWMPWC4200H016	High Pressure Pump RRV4G40	1
17	BWMPWC4200H017-1	Nozzle 0°	1
	BWMPWC4200H017-2	Nozzle 15°	1
	BWMPWC4200H017-3	Nozzle 25°	1
	BWMPWC4200H017-4	Nozzle 40°	1
	BWMPWC4200H017-5	Nozzle 65° / Soaper Nozzle	1
18	BWMPWC4200H018	Nozzle Pad	5
19	BWMPWC4200H019	Support Bracket	1
20	BWMPWC4200H020	Support Pad	2
21	BWMPWC4200H021	Support Pad Bolt M8x25	2
22	BWMPWC4200H022	Wheel Nut M14	2
23	BWMPWC4200H023	Airless Tyre	2
24	BWMPWC4200H024	Wheel Bush	2
25	BWMPWC4200H025	Wheel Axle	1
26	BWMPWC4200H026	Engine Mounting Nut M10	8
27	BWMPWC4200H027	Engine Anti Vibration Pad	4
28	BWMPWC4200H028	Base Plate	1
29	BWMPWC4200H029	Front Bumper	1
30	BWMPWC4200H030	Engine Oil Notice Card	1
31	BWMPWC4200H031	Inlet Connector NH3/4"	1
32	BWMPWC4200H032	Rotating Turbo Nozzle 040 5000PSI Max	1

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Spare parts are available from our dealers and our official website.

The logo for BWM Products features the letters 'BWM' in a bold, italicized, green sans-serif font. A registered trademark symbol (®) is positioned to the upper right of the 'M'. To the right of 'BWM', the word 'Products' is written in a green sans-serif font, with the first letter 'P' being significantly larger than the subsequent letters.