



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.



Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised re-cycling agent. This will allow the recycling of raw materials and help protect the environment.



# 08923

## Tempest Trade

### TP650/175



**FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR.**

Ref:160810

***Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference***

## QUICK FACTS

### TO FIND A LOCAL AUTHORIZED SERVICE CENTER NEAR YOU FOR REPAIRS AND SERVICE PART PURCHASES.

<b>GAS</b>	Use fresh high quality unleaded gas. Add stabilizer to fuel tank and run engine for 5 minutes before storage.
<b>OIL</b>	Pump oil: refer to owners manual supplied with this unit. Engine oil: refer to engine manual supplied with this unit. Some units are equipped with a low oil sensor and adequate oil must be added or the unit will not start.
<b>WATER</b>	Use only cold water. Do not operate unit with clogged or missing water filter /screen. Do not operate unit without adequate water supply to pump. Adequate water supply is a minimum of 20 psi and 5 gpm..
<b>PRESSURE ADJUSTMENT</b>	The pressure setting is preset at the factory to achieve optimum cleaning. If you need to lower the pressure setting, refer to the operation manual for proper procedure.
<b>PUMP</b>	Pull gun trigger every 2 minutes while engine is running. Do not allow water to freeze in pump. For cold weather or long term storage refer to the operation manual for proper procedure.
<b>BY-PASS MODE</b>	Never leave unit running for more than 2 minutes without pulling gun trigger, doing so could cause damage to pump and void warranty.
<b>THERMAL RELIEF VALVE</b>	Pump is equipped with a thermal relief valve. If the water overheats, this valve will open and allow a gush of water to escape. Once the water is released, the valve closes allowing the pump To operate normally.
<b>HOSE</b>	Do not allow hoses to contact the hot engine muffler during or after use. Never pull the hose to move the unit.
<b>ENGINE</b>	Do not adjust or attempt maintenance without consulting engine manual or an authorized engine service centre. Add stabilizer to fuel tank and run engine for 5 minutes before storage. Always turn on the water before starting the engine
<b>SOAP/CHEMICALS</b>	Use only soaps and chemicals designed for pressure washer use.
<b>NOZZLE</b>	Keep nozzle unclogged. Refer to manual for cleaning procedures. Chemical/ soap cannot be applied in high pressure setting. Only in low setting.
<b>MAINTENANCE</b>	Follow recommended maintenance schedule for engine & pump. Refer to manuals.
<b>STORAGE OR WINTERIZING</b>	Draw clean water through chemical inlet. Add stabilizer to fuel tank and run engine for 5 minutes before storage. Do not allow water to freeze in pump, gun, spray wand or hoses. For cold weather or long term storage refer to the operation manual for proper procedure.

Problem	Cause	Correction
Will not draw chemicals	Spray wand not in low pressure	See how to use spray wand paragraph in the operation section.
	Chemical filter clogged.	Clean filter.
	Chemical screen not in chemical.	Ensure end of chemical hose is fully submerged into chemical.
	Chemical too thick.	Dilute chemical. Chemical should be the same consistency as water.
	Pressure hose is too long.	Lengthen water supply hose instead of high pressure hose.
	Chemical build up in chemical injector.	Have parts cleaned or replaced by dealer.
No or low pressure (after period of normal use)	Worn seal or packing	Have replaced by dealer.
	Worn or obstructed valves.	Have replaced by dealer.
	Worn unloader piston.	Have replaced by dealer.
	Worn E-Z start valve.	Have replaced by dealer.
Water leaking at Gun/spray wand connection	Worn or broken o-Ring.	Check and replace.
	Loose hose connection	Tighten.
Water leaking at pump	Loose connections.	Tighten
	Piston packings worn.	Have replaced by dealer.
	Worn or broken o-Rings	Have replaced by dealer.
	Pump head or tubes damaged from freezing.	Have replaced by dealer.
Oil leaking at pump	Oil seals worn.	Have replaced by dealer.
	Loose drain plug.	Tighten.
	Worn drain plug, o-ring.	Check and replace.
	Worn fill plug o-ring	Check and replace.
	Pump overfilled	Check for correct amount.
	Incorrect oil used.	Drain and fill with correct amount and type of oil.
Pump pulsates	Vent plug is clogged.	Clean vent plug; blow air through it to remove any blockage. If problem persists, replace plug.
	Nozzle obstructed.	See spray wand paragraph in the maintenance section for the correct procedure.

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## SAFETY GUIDELINES/DEFINITIONS

This manual contains information that is important for you to know and understand. This information relates to protecting **YOUR SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. Please read the manual and attend to these sections.

- ▲ CAUTION** indicates an imminent hazardous situation which, if not avoided, will result in death or serious injury.
- ▲ WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- ▲ AUCTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
- ▲ NOTE** used without the safety alert symbol indicating potentially hazardous situation which, if not avoid, may result in property damage.

## IMPORTANT SAFETY INSTRUCTIONS

**⚠ WARNING**

Read operation manual. Do not operate equipment until you have read operation manual for safety, assembly, operation, and maintenance instructions.

<b>Hazard</b>	
<b>⚠ WARNING RISK OF EXPLOSION OR FIRE</b>	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>● Spilled gasoline and its vapors can become ignited from cigarette sparks, electrical arcing, exhaust gases, and hot Engine components such as the silencer.</li> </ul>	<ul style="list-style-type: none"> <li>● Shut off engine and allow it to cool before adding fuel to the tank.</li> <li>● Use care in filling tank to avoid spilling fuel.</li> <li>● Move pressure washer away from fueling area before starting engine.</li> </ul>
<ul style="list-style-type: none"> <li>● Heat will expand fuel in the tank which could result in spillage and possible fire explosion.</li> </ul>	<ul style="list-style-type: none"> <li>● Keep maximum fuel level 1/2 below top of tank to allow for expansion.</li> </ul>
<ul style="list-style-type: none"> <li>● Operating the pressure washer in an explosive environment could result in fire</li> </ul>	<ul style="list-style-type: none"> <li>● Operate and fuel equipment in well ventilated zones free from obstructions. Equip zone with fire extinguisher suitable for gasoline fires.</li> </ul>
<ul style="list-style-type: none"> <li>● Materials placed against or near the pressure washer can interfere with its proper ventilation causing overheating and possible ignition of the materials.</li> </ul>	<ul style="list-style-type: none"> <li>● Never operate pressure washer in an area containing dry brush or weeds.</li> </ul>
<ul style="list-style-type: none"> <li>● Silencer exhaust heat can damage painted surfaces, melt any material sensitive to heat (such as siding, plastic, rubber, or vinyl) and damage live plants.</li> </ul>	<ul style="list-style-type: none"> <li>● Always keep pressure washer a minimum of five feet away from surfaces (such as houses, automobiles, or live plants) that could be damaged from muffler exhaust heat.</li> </ul>
<ul style="list-style-type: none"> <li>● Improperly stored fuel could lead to accidental ignition. Improperly secured fuel could get into the hands of children or other unqualified persons.</li> </ul>	<ul style="list-style-type: none"> <li>● Store fuel in an approved container in a secure location away from work area.</li> </ul>
<ul style="list-style-type: none"> <li>● Use of acids, toxic or corrosive chemicals, poisons, insecticides, or any kind of flammable solvent with this product could result in serious injury or death.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not spray flammable liquids.</li> </ul>

## TROUBLE SHOOTING GUIDE

Problem	Cause	Correction
Engine will not start (see engine manual for further engine troubleshooting)	No fuel	Add fuel.
	Low oil	Add required amount of oil.
	Pressure builds up after two pulls on the recoil starter or after initial use.	Squeeze gun trigger to relieve pressure.
	Choke lever in the no choke position	Move choke to the choke position.
	Spark plug wire not at	Attach spark plug wire.
	Engine ON/OFF switch in OFF position	Place engine ON/OFF switch in on position.
	Choke lever in the choke position on a hot engine or an engine that has been exposed to thermal heat for a long period of time.	Move choke to the NO CHOKE position.
Fuel valve closed.	Move fuel valve lever to the open position	
No or low pressure (initial use)	Spray wand not in high pressure.	See how to use spray wand paragraph in the operation section.
	Lower water supply	Water supply must be at least 5 GPM @20 psi.
	Leak at high pressure hose fitting.	Tighten. Apply sealant tape if necessary.
	Nozzle obstructed.	See spray wand paragraph in the maintenance section for the correct procedure.
	Water filter screen clogged.	Remove and clean filter.
	Defective E-Z start valve.	Check with authorized warranty service centre
	Air in hose.	Turn off the engine, then the water source. Disconnect the water source from the pump inlet and turn the water source on to remove all air from the hose. When there is a steady stream of water present, turn water source off. Re-connect water source to pump inlet and turn on water source. Squeeze trigger to remove remaining air.
	Choke lever in the choke position.	Move choke to the NO CHOKE position.
	Throttle control lever is hot in the fast position.	Move throttle control lever to the fast position.
	High pressure hose is too long.	Use high pressure hose under 100feet.

## STORAGE

### ENGINE

Consult the owners manual for the manufacturer s recommendations for storage.

### PUMP


1. **Drain all water from high pressure hose , coil it, and store it in cradle of the pressure washer handle.**
2. **Drain all water from spray gun** and spray wand by holding spray gun in a vertical position with nozzle end pointing down and squeezing trigger. Store in gun/hose holder.
3. **Store chemical hose**, high pressure hose, spray wand so they are protected from damage, such as being run over.


It is Recommended That you follow these steps to protect the internal seals of the pressure washer when **STORING THE UNIT FOR MORE THAN 30 DAYS AND/ OR WHEN FREEZING TEMPERATURES ARE EXPECTED.**


4. **Obtain a funnel**, six ounces of RV antifreeze, and approximately 36 inches of garden hose with a male hose connector attached to one end.


**⚠ CAUTION** Use only RV antifreeze. Any other antifreeze is corrosive and can damage pump.


5. **Disconnect spark plug wire.**
6. **Connect 36 inch length of hose** to water inlet of pump.
7. **Add RV antifreeze** to hose as shown.
8. **Pull engine starter rope slowly several times** until antifreeze comes out of high pressure hose connection of pump.
9. **Remove short hose** from water inlet of pump.
10. **Reconnect spark plug wire.**


<b>Hazard</b>	
<b>⚠ WARNING RISK TO BREATHING</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>● Breathing exhaust fumes will cause serious injury even death!</li> </ul>	<ul style="list-style-type: none"> <li>● Operate pressure washer in a well ventilated area.</li> <li>● Avoid enclosed areas such as garages, basements, etc.</li> <li>● Never operate unit in a location occupied by humans or animals.</li> </ul>
<ul style="list-style-type: none"> <li>● Some cleaning fluids contain substances that could cause injury to skin, eyes, or lungs.</li> </ul>	<ul style="list-style-type: none"> <li>● Use only cleaning fluids specifically recommended for high pressure washers. Follow manufacture's recommendations. Do not use chlorine bleach or any other corrosive compound.</li> </ul>

<b>Hazard</b>	
<b>⚠ WARNING RISK OF INJURY OR PROPERTY DAMAGE WHEN TRANSPORTING OR STORING</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>● Fuel or oil can leak or spill and could result in fire or breathing hazard, serious injury or death. Fuel or oil leaks will damage carpet, paint or other surfaces in vehicles or trailers.</li> </ul>	<ul style="list-style-type: none"> <li>● If pressure washer is equipped with a fuel shut-off valve, turn the valve to the off position before transportation to avoid fuel leaks. If pressure washer is not equipped with a fuel shut-off valve, drain the fuel from tank before transportation, only transport fuel in an approved container, always place pressure washer on a protective mat when transporting to protect against damage to vehicle from leaks. Remove pressure washer from vehicle immediately upon arrival at your destination.</li> </ul>

<b>Hazard</b>	
<b>⚠ WARNING RISK OF HOT SURFACES</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>● Contact with hot surfaces, such as engines exhaust components, could result in serious burn.</li> </ul>	<ul style="list-style-type: none"> <li>● During operation, touch only the control surfaces of the pressure washer. Keep children away from the pressure washer at all times. They are too young to recognize the hazards of this product.</li> </ul>

<b>Hazard</b>	
<b>▲ WARNING RISK OF FLUID INJECTION</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>Your washer operates at fluid pressures and velocities high enough to penetrate human and animal flesh, which could result in amputation or other serious injury. Leaks caused by loose fittings or damaged hoses can result in injection injuries. <b>DO NOT TREAT FLUID INJECTION AS A SIMPLE CUT!</b> See a physician immediately!</li> <li>Injuries can result if system pressure is not reduced before attempting maintenance or disassembly.</li> </ul>	<ul style="list-style-type: none"> <li>Never place hands in front of nozzle.</li> <li>Direct spray away from self or others.</li> <li>Make sure hose and fittings are tightened and in good condition. Never hold onto the hose or fittings during operation.</li> <li>Do not allow hose to contact muffler.</li> <li>Never attach or remove spray wand or hose fittings while system is pressurized.</li> <li>Injuries can result if system pressure is not reduced before attempting maintenance or disassembly.</li> <li>Use only hose and accessories rated for pressure higher than your pressure washer's p.s.i.</li> </ul>

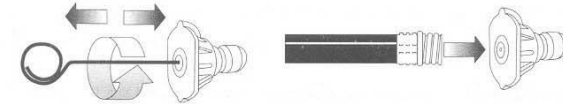
<b>Hazard</b>	
<b>▲ WARNING RISK OF INJURY FROM SPRAY</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>High velocity fluid spray can cause objects to break, propelling particles at high speed.</li> <li>Light or unsecured objects can become hazardous projectiles.</li> </ul>	<ul style="list-style-type: none"> <li>Always wear approved safety glasses.</li> <li>Wear protective clothing to protect against accidental spraying.</li> <li>Never point spray wand at people or animals.</li> <li>Always secure trigger lock when spray wand is not in service to prevent accidental operation.</li> <li>Never permanently secure trigger in open position.</li> </ul>

<b>Hazard</b>	
<b>▲ WARNING RISK OF CHEMICAL BURN</b>	
	
WHAT CAN HAPPEN	HOW TO PREVENT IT
<ul style="list-style-type: none"> <li>Use of acids toxic or corrosive chemicals, poisons, insecticides, or any kind of flammable solvent with this product could result in serious injury or death.</li> </ul>	<ul style="list-style-type: none"> <li>Do not use acids, gasoline, kerosene, or any other flammable materials in this product. Use only household detergents, cleaners and degreasers recommended for use in pressure washers.</li> <li>Wear protective clothing to protect eyes and skin from contact with sprayed materials.</li> </ul>

## SPRAY WAND

If the nozzle becomes clogged with foreign materials such as dirt, excessive pressure may develop. If the nozzle becomes partially clogged or restricted, the pump pressure will pulsate, clean the nozzle immediately using the nozzle kit supplied and the following instructions:

- Shut off the pressure washer and turn off the water supply.
- Pull trigger on gun handle to relieve any water pressure.
- Disconnect the spray wand from the gun.
- Remove the high-Pressure Nozzle From the spray wand. Remove any obstructions with the nozzle cleaning tool provided and back flush with clean water.
- Direct water supply into spray wand end to back flush loosened particles for 30 seconds.



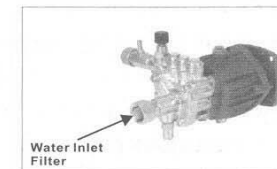
- Reassemble the nozzle to the spray wand.
- Reconnect spray wand to gun and turn on water supply.
- Start pressure washer and place wand into high pressure setting to test.

## HOW TO CLEAN THE WATER INLET FILTER

This screen filter should be checked periodically and cleaned if necessary.

- Remove filter** by grasping end and removing it from water inlet of pump as shown.
- Clean filter** by flushing it with water on both sides.
- Re-insert filter** into water inlet of pump. note : cone side faces out.

**NOTE:** Do not operate pressure washer without filter properly installed.



## MAINTENANCE

### ▲ WARNING

When performing maintenance, you may be exposed to hot surfaces, water pressure, or moving parts that can cause serious injury or death!

Before performing any maintenance or repair, disconnect spark plug wire, let engine cool and release all water pressure. The engine contains flammable fuel. **DO NOT smoke or work near open flames while performing maintenance**

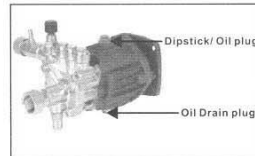
To ensure efficient operation and longer life of your pressure washer, a routine maintenance schedule should be prepared and followed, if the pressure washer is used in unusual conditions, such as high-temperature or dusty conditions, more frequent maintenance checks will be required

### ENGINE

Consult the engine owners manual for the manufactures recommendations for any and all maintenance.

#### TO CHECK OIL

1. Remove dipstick/oil plug from pump and wipe clean.
2. Insert dipstick /oil plug fully into pump, then remove it.
3. Oil level is correct when oil covers the lower 1/2 inch of end of dipstick /oil plug.



#### HOW TO CHANGE PUMP OIL

1. Loosen dipstick/oil plug
2. Place a container under the oil drain plug
3. Remove oil drain plug
4. After oil is drained, replace oil drain plug. tighten securely
5. Remove dipstick/oil plug and fill with recommended oil, see the pump oil chart for the correct amount and type of oil
5. Replace dipstick /oil plug and tighten securely

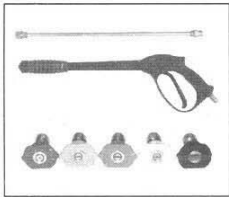
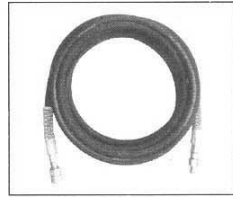
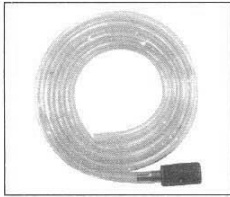
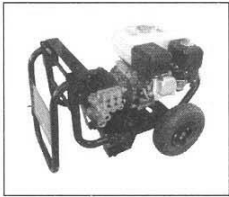
#### PUMP OIL CHART

Model number	Oil type	Oil capacity
3WA-2500	API SF SAE 15W/40	100ML

Hazard		
▲ WARNING RISK OF UNSAFE OPERATION		
WHAT CAN HAPPEN	HOW TO PREVENT IT	
<ul style="list-style-type: none"> <li>● Unsafe operation of your pressure washer could lead to serious injury or death to you or others.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not use chlorine bleach or any other corrosive compound.</li> <li>● Become familiar with the operation and controls of the pressure washer.</li> <li>● Keep operating area clear of all persons, pets and obstacles.</li> <li>● Do not operate the product when fatigued or under the influence of alcohol or drugs. Stay alert at all times.</li> <li>● Never defeat the safety features of this product.</li> <li>● Do not operate machine with missing, broken, or unauthorized parts.</li> <li>● Never leave spray wand unattended while unit is running.</li> </ul>	
<ul style="list-style-type: none"> <li>● If proper starting procedure is not followed, engine can kickback, causing serious hand and arm injury.</li> </ul>	<ul style="list-style-type: none"> <li>● If engine does not start after two pulls, squeeze trigger of gun to relieve pump pressure, pull starter cord slowly until resistance is felt. Then pull cord rapidly to avoid kickback and prevent hand or arm injury.</li> </ul>	
<ul style="list-style-type: none"> <li>● The spray gun/spray wand is a powerful cleaning tool that could look like a toy to a child.</li> </ul>	<ul style="list-style-type: none"> <li>● Keep children away from the pressure washer at all times.</li> </ul>	
<ul style="list-style-type: none"> <li>● Reactive force of spray will cause gun/wand to move, and could cause the operator to slip or fall, or misdirect the spray. Improper control of gun/ spray wand can result in injury to self and others.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not overreach or stand on an unstable support. Grip gun/spray wand firmly with both hands. Expect the gun to kick when triggered.</li> </ul>	
Hazard		
▲ WARNING RISK OF ELECTRICAL SHOCK		
WHAT CAN HAPPEN	HOW TO PREVENT IT	
<ul style="list-style-type: none"> <li>● Spray directed at electrical outlets or switches or objects connected to an electrical circuit, could result in a fatal electrical shock.</li> </ul>	<ul style="list-style-type: none"> <li>● Unplug any electrically operated product before attempting to clean it. Direct spray away from electric outlets and switches.</li> </ul>	

## CARTON CONTENTS

**Note:** photographs and line drawings used in this manual are for reference only and do not represent a specific model.



Manuals: Engine Manual  
Pressure wash operation manual

## PRESSURE PUMP TECHNICAL PARAMETER

### PRESSURE PUMP TECHNICAL PARAMETER AND PERFORMANCE

Model	3WZ-2500		
Revolution R.P.M	3400		
Max pressure	2500 PSI (170bar)		
Capacity	2.5G.P.M (9.9L/min)		
Power Require	6.5HP		

## STARTING

**Prior to starting, refer to your engine manual for proper starting procedures for your engine type.**

1. In a well ventilated outdoor area add fresh, high quality, unleaded gasoline with a pump octane rating of 86 or higher. Do not overfill. Wipe up spilled fuel before starting the engine. Refer to Engine Owners Manual for correct procedure.
2. Check engine oil level. See Engine Owners Manual for correct procedure.

**▲ NOTE** There will be a slight amount of oil in the engine from factory testing.

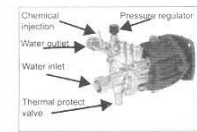
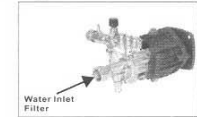
3. Verify the filter screen is in water inlet of pump.

**▲ NOTE** Cone side faces out.

4. Connect water source to pump inlet.

**▲ NOTE** Water source must provide a minimum of 5 gallons per minute at 20 p.s.i.

5. Connect high pressure hose to pump outlet.
6. If applying a chemical or cleaning solution, see How To Apply Chemicals/Cleaning Solvents in Operation section of this manual.
7. Turn water source on.



**▲ NOTE** Failure to do so could cause damage to the pump.

8. Start engine. See Engine Owners Manual for correct procedure.

**▲ NOTE** If the engine does not start after two pulls, pull the trigger to relieve the pressure.

9. Depress trigger on gun to start water flow.

**▲ NOTE** Stand on a stable surface and grip gun/spray wand firmly with both hands. Expect the gun to kick when triggered.

10. Release trigger to stop water flow.
11. Adjust spray for the task being performed by changing quick connect nozzle. See How To Use Spray Wand instructions in this section.

## SHUTTING DOWN

1. After each use, if you have applied chemicals, place chemical hose into container of clean water and draw clean water through chemical injection system to rinse system thoroughly.

**▲ NOTE** Failure to do so could cause damage to the pump.

2. Turn engine off. See engine owner's manual.

**▲ NOTE** NEVER turn the water off with the engine running.

3. Turn water source off.
4. Pull trigger on spray gun to relieve any water pressure in hose or spray gun.
5. See storage section in this manual for proper storage procedures.



Use Spray Wand paragraph in this section.

**4. After use of chemicals**, place chemical hose into container of clean water and draw clean water through chemical injection system to rinse system thoroughly. If chemicals remain in the pump it could be damaged. Pumps damaged due to chemicals will not be covered under warranty.

**▲ NOTE** Chemicals and soaps will not siphon when spray wand is in the high pressure setting.

### READ AND UNDERSTAND ALL WARNINGS BEFORE STARTING UNIT

**▲ DANGER** When using the high pressure setting, **DO NOT** allow the high pressure spray to come in contact with unprotected skin, eyes, or with any pets or animals. Serious injury can occur.

Your washer operates at fluid pressures and velocities high enough to penetrate human and animal flesh, which could result in amputation or other serious injury. Leaks caused by loose fittings or worn or damaged hoses can result in injection injuries. **DO NOT TREAT FLUID INJECTION AS A SIMPLE CUT! See a physician immediately!**

**▲ WARNING** **NEVER** fill fuel tank when engine is running or hot. Do not smoke when filling fuel tank.

**NEVER** fill fuel tank completely. Fill tank to 1/2 below bottom of filler neck to provide space for fuel expansion. Wipe any fuel spillage from engine and equipment before starting engine.

**NEVER** run engine indoors or in enclosed, poorly ventilated areas. Engine exhaust contains carbon monoxide, an odourless and deadly gas.

**DO NOT** let hoses come in contact with very hot engine muffler during or immediately after use of your pressure washer. Damage to hoses from contact with hot engine surfaces will NOT be covered by warranty.

**▲ CAUTION** **NEVER** pull water supply hose to move pressure washer. This could damage hose and pump inlet.

**DO NOT** use hot water, use cold water only.

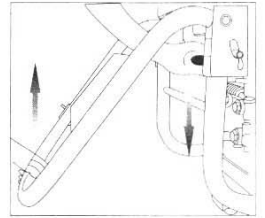
**NEVER** turn water supply off while pressure washer engine is running or damage to pump will result.

**DO NOT** stop spraying water for more than two minutes at a time. Pump operates in bypass mode when spray gun trigger is not pressed. If pump is left in bypass mode for more than two minutes internal components of the pump can be damaged.

If you do not understand these precautions, please call your local dealer to speak to a service representative for further instructions.

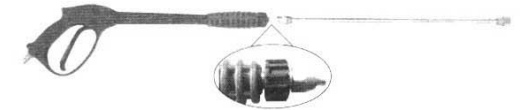
## ASSEMBLY INSTRUCTIONS

1. Place handle assembly onto frame and connect handle to frame.

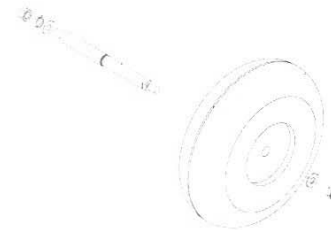


2. Attach high pressure hose to gun. Tighten securely.

3. Connect spray wand to gun. Tighten securely.



4. Put two wheels on the axle and, and put the axle into the axle port, and fix the nut.



5. Assemble grommet kit and quick-connect nozzles as described in the instructions supplied.

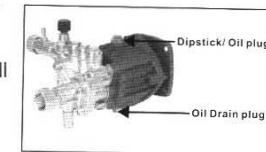
6. Add engine oil to engine. Refer to engine owners manual supplied by engine manufacturer for correct procedure.

**▲ NOTE** There will be a slight amount of oil in the engine from factory testing.

**▲ WARNING** The shipping plug must be removed and replaced with the dipstick/ oil plug before operating pressure washer.

6. Using a 17 mm wrench, remove shipping plug from pump by turning it counterclockwise. Discard plug.

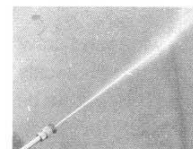
7. Remove dipstick/oil plug from plastic bag and install into pump, tighten securely.



## Parts List

Item	Description
1	Socket Head Screw M8X16
2	Pump Basal Flange
3	O-Ring(80X2.2)
4	Radial Shaft Seal
5	Rear Bearing
6	Wearable Sheath
7	Wobble Plate
8	Front Bearing
9	Spring Disk
10	15mm Plunger
11	Plunger Spring
12	Crankcase
13	O-Ring(14.2X1.9)
14	Outlet Plug
15	15mm Oil Seal
16	O-Ring(15X2.2)
17	Spacer
18	O-Ring(21.8X1.9)
19	15mm Water Seal
20	Inlet Plug
21	O-Ring(9.8X1.9)
22	Valve Spring
23	Valve Core
24	Hose Barb
25	O-Ring
26	Ball
27	Small Cone Spring
28	O-Ring(5.3X2.65)
29	Outlet Cone Valve
30	Cone Valve Spring

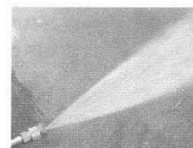
Item	Description
31	O-Ring(12.2X2.6)
32	Water Shooting Tube
33	Outlet Body (A)
34	Steel Ball (A)
35	Spring (A)
36	Compaction Cap (A)
37	Clip Ring 18.8 (A)
38	Back Up Ring
39	O-Ring(9.25X1.78)
40	Backwater Valve Core
41	Pump Body
42	Inlet Water Seal
43	Inlet Water Body
44	Thermal Relief Valve
45	Socket Head Screw M8X50
46	Adjusting Screw
47	Adjusting Screw Plug
48	O-Ring(5.2X1.9)
49	Spring Holder
50	Big Pressure Spring
51	Small Pressure Spring
52	Ball Holder
53	Steel Ball 8.7
54	Backwater Valve Port
55	O-Ring 9.25X1.78
56	Inlet Swivel Nut
57	Clip Ring 21.4
58	Water Filter
59	Exhaust Oil - Plug



**0° nozzle-red.** This nozzle delivers a pinpoint stream and is extremely powerful. It covers a very small area of cleaning. This nozzle should only be used on surface that can withstand this high pressure such as metal or concrete. Do not use on wood.



**15° nozzle-yellow.** This nozzle delivers a powerful 15 degree spray pattern for intense cleaning of small areas. This nozzle should only be used on areas that can withstand the high pressure from this nozzle.



**25° nozzle-green.** This nozzle delivers a 25 degree spray pattern for intense cleaning of larger areas. This nozzle should only be used on areas that can withstand the pressure from this nozzle.



**40° nozzle-white.** This nozzle delivers a 40 degree spray pattern and a less powerful stream of water. It covers a wide area of cleaning, this nozzle should be used for most general cleaning jobs.



**Chemical nozzle-black.** This nozzle is used to apply chemicals or cleaning solutions. It has the least power stream.

## HOW TO APPLY CHEMICALS AND CLEANING SOLVENTS

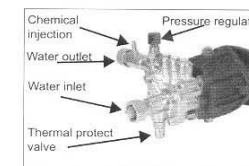
**▲ WARNING** Applying chemicals or cleaning solvents is a low pressure operation.

**▲ NOTE** Use only soaps and chemicals designed for pressure washer use. **Do not use bleach.**

### To apply chemicals:

1. **Press chemical hose** onto barbed fitting located near high pressure hose connection of pump as shown.
2. **Place other end** of chemical hose with filter on it into container holding chemical/cleaning solution.

**▲ NOTE** The chemical/water ratio is 7:1, for every 7 gallons of water pumped, 1 gallon of chemical/ cleaning solution will be used.



3. **Install low pressure (black) nozzle** into quick connect fitting of spray wand, see How To

2. **Reduce the speed of the gasoline engine (RPM).** Slow the engine down and the water pressure will go down with it
3. **Change to the 40° white nozzle** , This nozzle delivers a less powerful stream of water and a wider spray pattern
4. **Adjust the pressure regulator on the pump.** Turn the pressure regulator knob counter clockwise to lower pressure .Once you have finished using your pressure washer , return the pressure regulator to its original position by turning it clockwise.

**▲ WARNING** Do not try to turn pressure regulator knob past the built-in stop or damage to pump will result

### TO USE SPRAY WAND

Your pressure washer is equipped with up to five spray nozzles. Each nozzle is colour coded and delivers a specific spray pattern for a particular cleaning purpose. The size of the nozzle determines the size of the fan spray and the pressure out of the nozzle. The 0°, 15°, 25°, and 40° nozzles are high pressure nozzles ,the chemical nozzle is a low pressure nozzle.

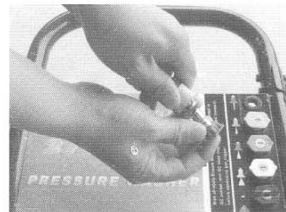
The nozzles are housed in receptacles on the panel of the pressure washer handle. Colors on the panel identify nozzle location and spray pattern.

**▲ WARNING** Risk of injection or injury to person. Do not direct discharge stream toward persons, unprotect skin, eyes, or any pets or any animals. Serious injury can occur.

### CHANGING NOZZLES

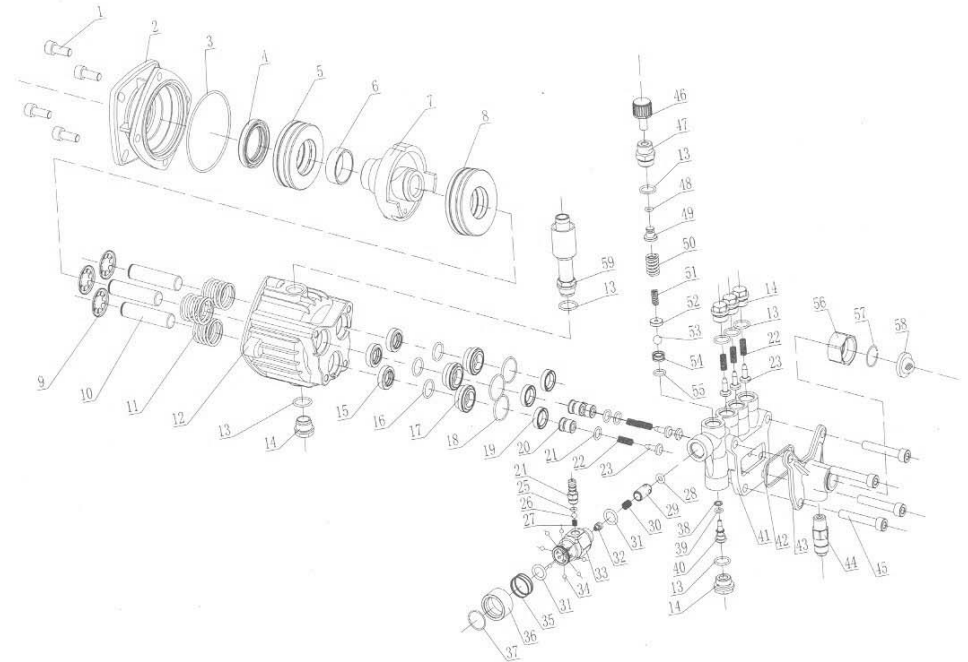
**▲ WARNING** DO NOT attempt to change nozzles while pressure washer is running. Turn engine off before changing nozzles

- 1.Pull quick connect coupler back and insert nozzle
- 2.Release quick connect coupler and twist nozzle to make sure it is secure in coupler.



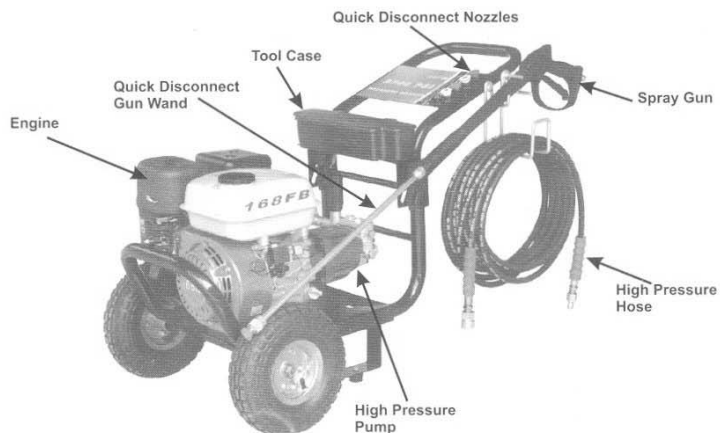
**▲ WARNING** Risk of injury. Ensure nozzle is completely inserted in QC socket and QC snap ring is fully engaged ( forward ) before squeezing gun trigger

### Exploded view of the pump



## OPERATING INSTRUCTIONS

READ THIS OWNER'S MANUAL AND SAFETY RULES BEFORE OPERATING YOUR UNIT. Compare the illustrations with your unit to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.



### BASIC ELEMENTS OF A PRESSURE WASHER

**High Pressure Pump:** Increases the pressure of the water

**Engine:** Drives the high pressure pump.

**High Pressure Hose:** Carries the pressurized water from the pump to the gun and spray wand.

**Spray Gun:** Connects with spray wand to control water flow rate, direction and pressure.

**Quick Connect Spray Wand:** Spray wand is equipped with a female quick connect coupler on the end. This allows the user to quickly change out

High-pressure nozzle for different spray patterns and change the soap nozzle for the low pressure and chemical /soap applications. See how to use spray wand paragraph in this section.

**Chemical Hose:** Feeds cleaning agents into the pump to mix the pressurized water. See how to apply chemical /cleaning solvent in this section of this Manual.

### BASIC ELEMENTS OF ENGINE

Refer to the engine manual for location and operation of engine

**Choke Control Lever:** Controls engine speed.

**Starter Grip:** Pulling starter grip operates recoil starter to crank engine.

**Fuel Valve Lever:** Opens\Closes connection between fuel tank and carburetor.

**Engine Switch:** Enables and disables ignition system.

## PRESSURE WASHER TERMINOLOGY

**PSI:** Pounds per square inch. the unit of measure for water pressure. also used for air pressure hydraulic pressure, etc.

**GPM:** Gallons per minute, the unit of measure for the flow rate of water

**CU:** Cleaning units. gpm multiplied by psi

**Bypass Mode:** In bypass mode, the pump is recirculating water because the trigger of the spray gun is not pulled. If unit is left in bypass mode for more than two (2) minutes, the water temperature will rise to a dangerous level and could damage internal components of the pump. Any damage to pump due to these causes will not be covered under warranty.

**⚠ WARNING** Do not allow unit to operate in bypass mode for more than two minutes at any time. Overheating of pump can cause damage to pump.

**Thermal Relief Valve:** In an effort to prevent extreme damage, pumps are equipped with a thermal relief valve. This valve will open when the temperature inside the pump rises too high. This valve will then release a gush of water in an effort to lower the temperature inside the pump. Immediately after this occurs, the valve will close.

**Chemical Injection System:** Mixes cleaners or cleaning solvents with the pressurized water to improve cleaning effectiveness.

**Water Supply:** All pressure washers must have a source of water. the minimum requirements for a water supply are 20 PSI and 5gallon per minute.

## PRESSURE WASHER OPERATING FEATURES

### PRESSURE ADJUSTMENTS

The pressure setting is preset at the factory to achieve optimum pressure and cleaning. if you need to lower the pressure, it can be accomplished by these methods

1. **Back away from the surface to be cleaned.** The further away you are, the less the pressure will be on the surface to be cleaned

**⚠ WARNING** Do not attempt to increase pump pressure. A higher pressure setting than the factory set pressure may damage pump.