



DUAL PRESSURE WASHER

DPW-4000-VS



OPERATOR'S MANUAL

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INTRODUCTION

Thank you for purchasing a MAKINEX product.

This manual provides information and procedures to safely operate and maintain the **Dual Pressure Washer DPW-4000-VS**. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact MAKINEX. This machine is designed and built with user safety in mind; however, it can present hazards if improperly operated and serviced. Please follow the operating instructions carefully. If there are any questions regarding operating or servicing of this machine, please contact MAKINEX.

The information contained in this manual was based on machines in production at the time of publication. MAKINEX reserves the right to change any portion of this information without notice.

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Any type of reproduction or distribution not authorised MAKINEX represents an infringement of valid copyrights and will be persecuted. We expressly reserve the right to make technical modifications, even without due notice, which aim at improving our machines or their safety standards.

DISCLAIMER

MAKINEX and its affiliates take no responsibility for any damage, injury or death resulting from the incorrect or unsafe use of this product. Use of this product should be undertaken by competent persons only. It is the operator's responsibility to ensure that the following safety procedures are followed. If you are unsure, do not operate this product.

Record the model and serial numbers as well as date and place of purchase for future reference. Have this information available when ordering parts and when making technical or warranty inquiries

MAKINEX SUPPORT

Refer to contact details on pg. 41

MODEL NO.

DPW-4000-VS

SERIAL NO.






DATE OF PURCHASE

PURCHASE LOCATION

ABOUT THIS MANUAL

This manual uses the following symbols to help differentiate between different kinds of information. The safety symbol is used with a key word to alert you to potential hazards in operating and owning power equipment. Follow all safety messages to avoid or reduce the risk of serious injury or death.

KEY TERMS

 READ CAREFULLY	READ CAREFULLY – refers to <i>important information</i> that should be paid careful attention.
 CAUTION	CAUTION - indicates a potential hazardous situation which, if not avoided, <i>may</i> result in minor or moderate injury
 WARNING	WARNING – indicates a potentially hazardous situation which, if not avoided, <i>could</i> result in death or serious injury
 DANGER	DANGER – indicates an imminently hazardous situation which, if not avoided, <i>will</i> result in death or serious injury
 PROHIBITED	PROHIBITED – identifies actions that <i>should never</i> be carried out by anyone interacting with the machine.

These safety warnings do not eliminate all possible hazards that could occur therefore it is essential to use common sense and to strictly follow any instructions to prevent accidents.

SAFETY INFORMATION



Read this manual **thoroughly** before operating your pressure washer. Failure to follow instructions could result in serious injury or death



MAKINEX Dual Pressure Washer is designed for professional operators only, instruct operators in care and use of the machine before use!

Class A machine operators shall be trained and must be competent but do not require RTO certification under AS4233.1.



RISK OF EXPLOSION OR FIRE

- Fuel and its vapours are extremely flammable and explosive
- Fire or explosion can cause severe burns or death

- **ALWAYS** shut off engine and allow it to cool a least 2 minutes before adding fuel to the tank
- **ALWAYS** use care in filling tank to avoid spilling fuel. Move pressure washer away from fuelling area before starting engine.
- **ALWAYS** keep maximum fuel level below top of tank to allow for expansion.
- **ALWAYS** operate and use equipment in well ventilated areas free from obstructions. Equip areas with fire extinguishers suitable for gasoline fires
- **NEVER** operate pressure washer in an area containing dry bush or weeds.
- **ALWAYS** keep pressure washer a minimum of 1.2m away from surfaces (such as houses, automobiles, or live plants) that could be damaged from muffler exhaust heat.
- **ALWAYS** store fuel in an AS2906 approved container, in a secure location away from work area.
- **NEVER** spray flammable liquids.
- In the event of a fuel spill, ensure machine and entire area is cleaned of excess before operation.



RISK OF BREATHING

- Running engine gives off Carbon Monoxide, an odourless, colourless, poisonous gas.
- Breathing Carbon Monoxide can cause nausea, fainting or death.
- Some chemicals or detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning.

- **ALWAYS** operate pressure washer in a well-ventilated area. Avoid enclosed areas such as garages, basements etc.
- **ALWAYS** keep exhaust gas from entering a confined area through windows, doors, ventilation intakes, or other openings.
- **ALWAYS** follow manufacturer's recommendations, use a respirator or mask whenever there is a chance that vapours may be inhaled.
- If the operating area becomes enclosed, turn off engine and release system pressure by pulling gun trigger. Immediately leave the affected area.




RISK OF FALL HAZARD


- Use of pressure washer can create puddles and slippery surfaces.
- Kick back from spray gun can cause you to fall.

- Keep operating area clear of all persons, pets and obstacles.
- **DO NOT** operate the product when fatigued or under the influence of alcohol or drugs. Stay alert at all times.
- **DO NOT** operate the machine with missing, broken, or genuine parts.
- **NEVER** leave wand unattended while unit is running.
- Keep children away from pressure washer at all times.
- **DO NOT** overreach or stand on an unstable support. If you become unstable during use, release the trigger and stop engine if necessary. Re-assess operating area before commencing operation.
- The cleaning area should have adequate slopes and drainage to reduce the possibility of a fall due to slippery surfaces. If the area becomes slippery or unstable, turn off engine and release system pressure by pulling gun trigger. Allow the area to drain and assess when suitable to operate again.

- Be extremely careful if you must use the pressure washer from a ladder, scaffolding, or any other off ground location.
- Firmly grasp spray gun with both hands when using high pressure spray to avoid injury when spray gun kicks back.


 WARNING	<p style="text-align: center;">RISK OF ELECTRICAL SHOCK</p> <ul style="list-style-type: none"> • Risk of electrocution. • Contact with power source can cause electric shock or burn.
---	--

- Unplug any electrically operated product before attempting to clean it. Direct spray away from electric outlets and switches.
- **NEVER** spray near power source.


 WARNING	<p style="text-align: center;">RISK OF FLUID INJECTION</p> <ul style="list-style-type: none"> • 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. Spray guns trap high pressure, even when engine is stopped and water is disconnected, which can cause injury. • Should the spray penetrate the skin, SEEK MEDICAL ATTENTION IMMEDIATELY!
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- **ALWAYS** point spray gun in safe direction and squeeze trigger, to release high pressure, every time you stop the engine.
- **NEVER** aim spray gun at people, animal, or plants.
- **NEVER** place hands in front of nozzle.
- Make sure hose and fittings are tightened and in good condition. Never hold onto the hose or fitting during operation.
- **DO NOT** allow hose to contact muffler.
- **NEVER** attach or remove wand or hose fittings while system is pressurised.
- Use only hose and high-pressure accessories rated for pressure higher than your pressure washer's psi.
- To relieve system pressure, shut off engine, turn off water supply, and pull gun trigger until water stops flowing.
- **DO NOT** allow children to operate pressure washer.


- **NEVER** direct the spray jet at any surface that may contain asbestos material.
- **DO NOT** leave spray gun unattended while machine is running.
- **NEVER** use a spray gun which does not have a trigger lock or trigger guard in place and in working order.
- **ALWAYS** be certain spray gun, nozzles and accessories are correctly attached.
- **ALWAYS** wear personal protective clothing such as goggles, ear muffs, gloves, and closed foot wear.

 DANGER	<p style="text-align: center;">RISK OF CHEMICAL BURN</p> <ul style="list-style-type: none"> • 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.
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- Wear protective clothing to protect eyes and skin from contact with sprayed material.

 DANGER	<p style="text-align: center;">RISK OF HOT SURFACES</p> <ul style="list-style-type: none"> • Contact with hot surfaces, such as engines exhaust components, could result in serious burn.
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- During operation, touch only the control surfaces of the pressure washer. Keep children away from the pressure washer at all times. They may not be able to recognise the hazards of this product.

 DANGER	<p style="text-align: center;">RISK OF MOVING PARTS</p> <ul style="list-style-type: none"> • Starter and other rotating parts can entangle hands, hair, clothing, or accessories.
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- **DO NOT** wear loose clothing, jewellery or anything that may be caught in the starter or other rotating parts.
- Tie up long hair and remove jewellery.

 DANGER	<p style="text-align: center;">RISK OF EYE INJURY</p> <ul style="list-style-type: none"> • Spray can splash back or propel objects.
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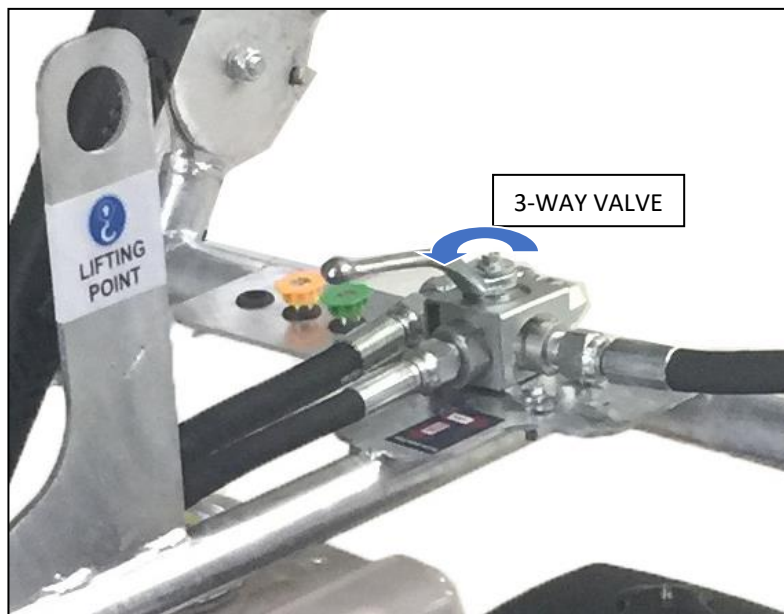
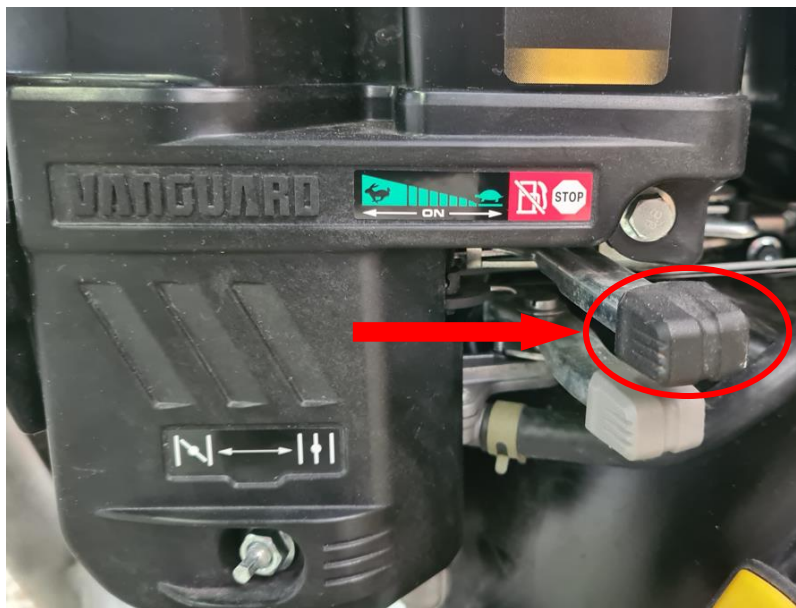
- **ALWAYS** wear safety goggles when using this equipment or in vicinity of where equipment is in use.
- Before starting the pressure washer, be sure you are wearing adequate safety goggles.
- **NEVER** substitute safety glasses for safety goggles.

EMERGENCY INFORMATION

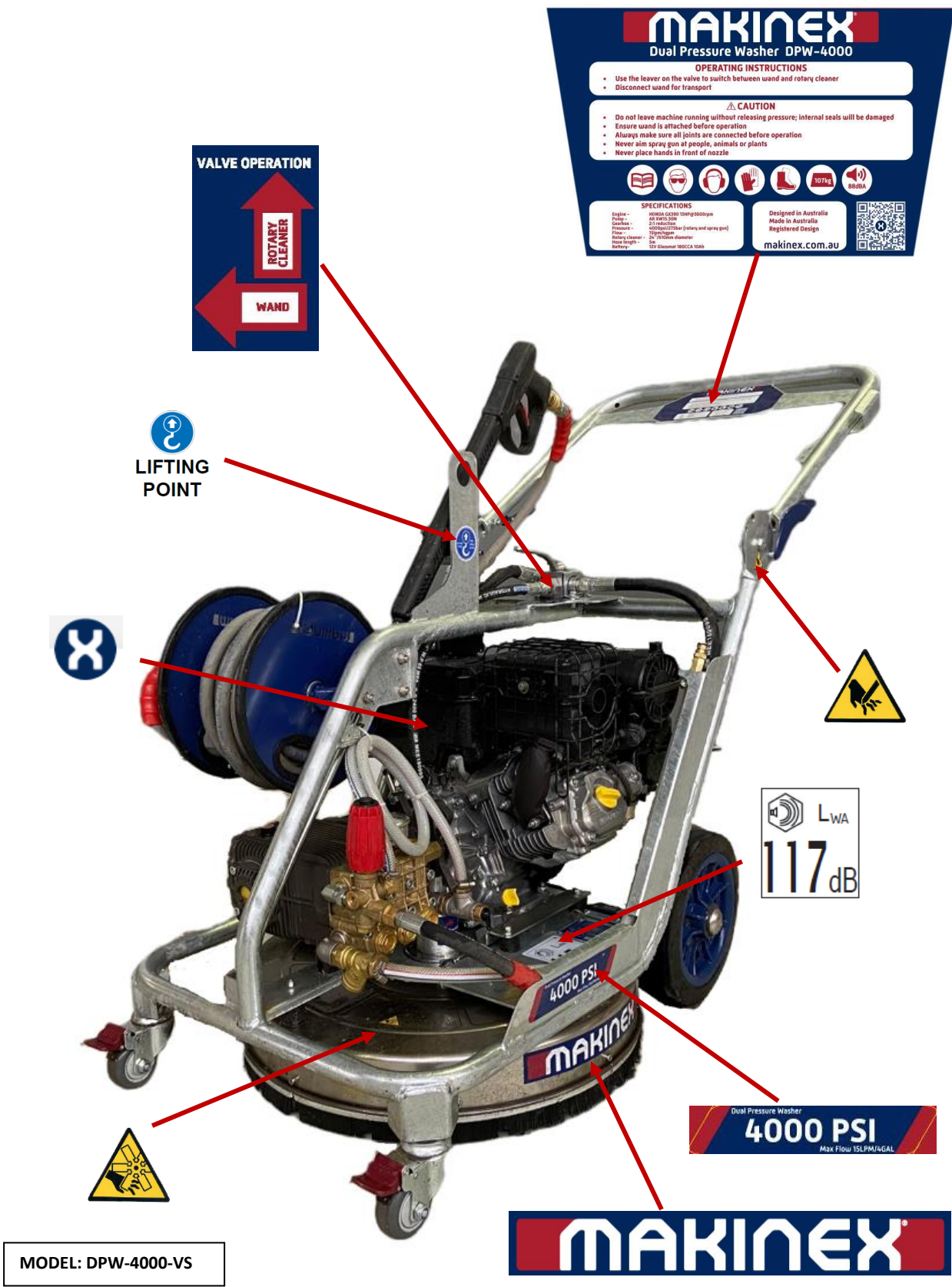
In the event of an emergency, stop the machine immediately.

1. This product is fitted with a 'hold to activate' mechanism which is the spray gun trigger. Upon releasing grip, the high-pressure water flow will be automatically stopped.
2. To disable the product, move the throttle control (black handle) to the OFF or STOP position. See picture below. This will stop the engine.
3. Further to the above, the water flow can be diverted from the spray gun by turning the 3-way valve to divert the water to the Surface-Cleaner.

Always ensure all safety information is observed before re-commencing work.



SAFETY DECALS



VALVE OPERATION

↑
ROTARY CLEANER

←
WAND

LIFTING POINT



LWA
117dB

MAKINEX

MODEL: DPW-4000-VS

MAKINEX
Dual Pressure Washer DPW-4000

OPERATING INSTRUCTIONS

- Use the lever on the valve to switch between wand and rotary cleaner
- Disconnect wand for transport

CAUTION

- Do not leave machine running without releasing pressure; internal seals will be damaged
- Ensure wand is attached before operation
- Always make sure all joints are connected before operation
- Never aim spray gun at people, animals or plants
- Never place hands in front of nozzle

SPECIFICATIONS

Engine	1000W 4200RPM 10000rpm
Power	AB 240V 2.2kW
Capacity	2.5L tank
Pressure	4000psi/27bar (rotary and spray gun)
Flow rate	15LPM
Motor	1000W/220V
Max length	100cm
Weight	12kg

Designed in Australia
Made in Australia
Registered Design

makinex.com.au

PRODUCT DESCRIPTION AND SPECIFICATION

The MAKINEX Dual Pressure Washer DPW-4000-VS is a versatile, 2 in 1 compact 4000 psi pressure cleaner. It is designed and engineered to simplify the process of pressure washing. The pressure washer includes a combination of a rotary cleaner, a spray gun, a control valve, ten metres of high-pressure hose, heavy duty industrial- strength Italian- made pump, and the reliable Vanguard 400 engine, all mounted on a compact, easy to transport, durable galvanised steel frame.

Applicable Australian standards:

- AS4233.1 High Pressure Water Jetting Part 1. Safe Operation and Maintenance.
- AS4233.2 High Pressure Water Jetting Part 2. Construction and Performance.

OVERALL MACHINE SPECIFICATIONS	
MODEL	DPW-4000-VS
OVERALL WEIGHT	111kg/244.7lbs
OVERALL WIDTH	620mm/24.4inch
HANDLE FOLDED HEIGHT	875mm/34.4inch
HANDLE EXTENDED HEIGHT	1015mm/40inch
HANDLE FOLDED LENGTH	810mm/31.9inch
HANDLE EXTENDED LENGTH	1360mm/53.5inch
HOSE LENGTH	10m/32.8ft
PRESSURE OUTPUT	4000psi/275bar
FLOW RATE	15L/min (4 gal/min)
ENGINE	14HP Vanguard 400 pull start
GEAR BOX	2:1 Reduction
NOISE LEVEL @ HANDLE	92dBA
NOISE LEVEL @ 7m	88dBA
SURFACE-CLEANER	610mm (24inch)

BALL VALVE

500bar/ 7200psi rated 3-way ball valve

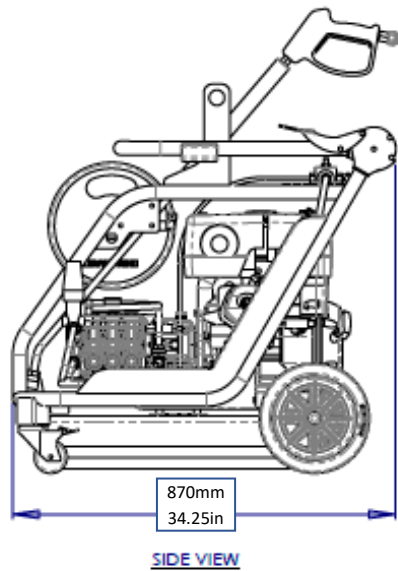
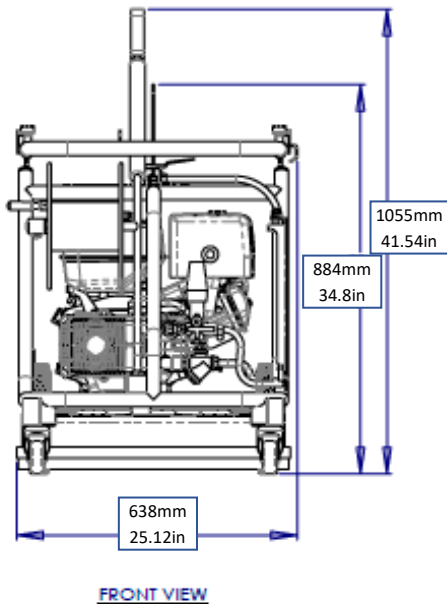
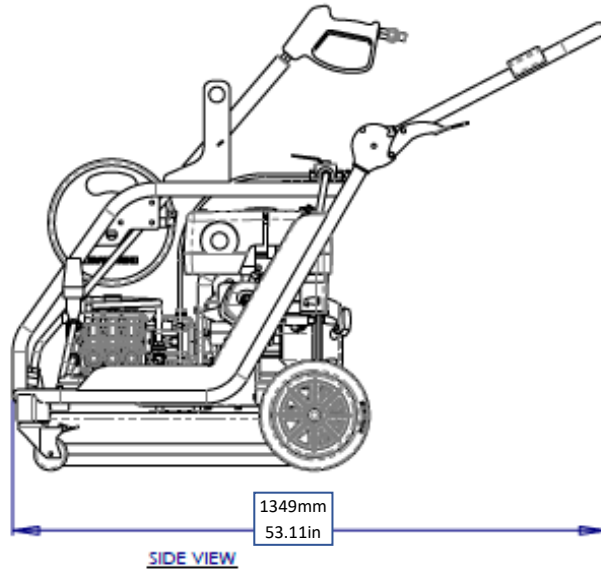
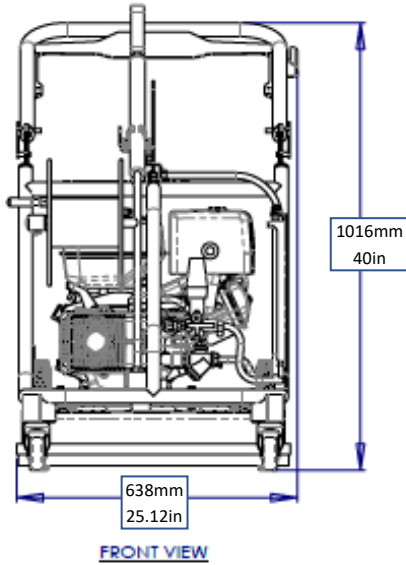
TRIGGER GUN

358.5bar/ 5200psi rated

WAND LENGTH

900mm/35.4inch

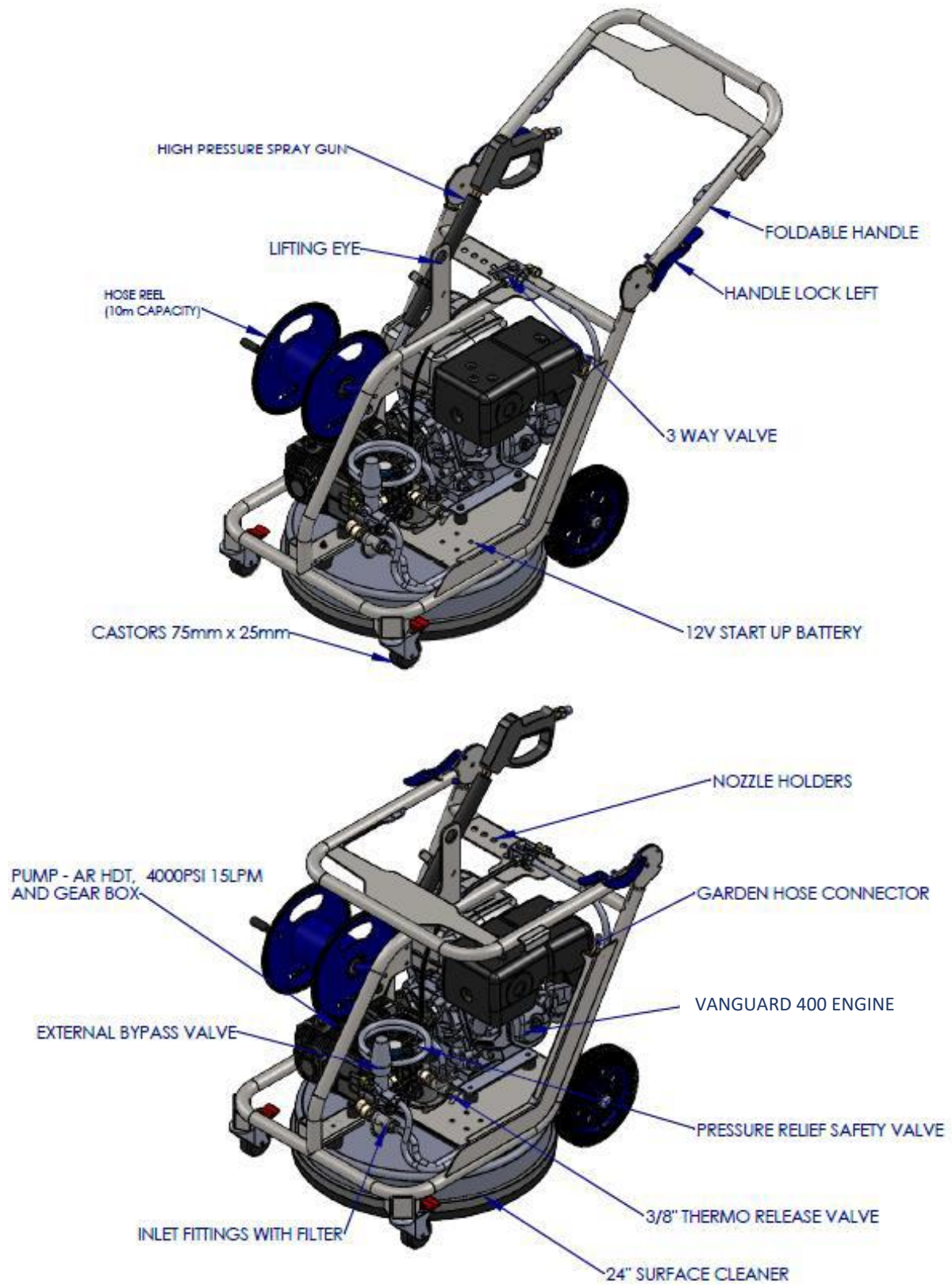
OVERALL MACHINE DIMENSIONS



PUMP SPECIFICATIONS	
	MAKINEX AUS
MODEL	DPW-4000-VS (With AR XM15.30N, gear reduction)
PRESSURE OUTPUT MAX	4000 psi/275.8 bar
FLOW RATE MAX	15L/min (4 gal/min)
OIL TYPE	SAE30
RPM	1450
WEIGHT	15.5kg/34lb
GEARBOX SPECIFICATIONS (DPW-4000-VS)	
REDUCTION	2:1
SHAFT SIZE	1inch SHAFT
OIL TYPE	SAE90W
ENGINE SPECIFICATIONS	
ENGINE TYPE	Vanguard 400 Air-cooled 4-stroke OHV
BORE x STROKE	88 x 67mm/3.5 x 2.6inch
DISPLACEMENT	408cm ³ /24.9inch ³
MAX POWER OUTPUT	14HP (10.4kW) @ 3600 rpm
PTO SHAFT ROTATION	Counter-clockwise (from PTO shaft side)
COMPRESSION RATIO	8.3:1
CARBURATOR	Butterfly Float Type
IGNITION SYSTEM	CDI Ignition
STARTING SYSTEM	Pull start
LUBRICATION SYSTEM	Splash
GOVERNOR SYSTEM	Mechanical

AIR CLEANER	Integrated Cyclonic Air Cleaner
OIL CAPACITY	0.95L (1US qt)
FUEL TANK CAPACITY	5.74L (6.1 U.S. qts)
FUEL	87 octane/87 AKI (91 RON)or higher
DRY WEIGHT	35.5kg (78lbs)
RUN TIME (Full tank)	100min

CONTROLS AND FEATURES



FEATURES
Adjustable valve for easy operation switch
Adjustable Pressure 1000-4000 psi
Built in Pressure Gauge
Durable Galvanised frame
Easy manoeuvrable Trolley with front swivel castors
Pull Start Motor (DPW-4000-VS)
Gear Box reduction (2:1) for prolonged pump life (Model DPW-4000-VS)
External Bypass Valve for seal heat protection
Thermal dump valve for over heat discharge
Multi cushion isolators for vibration reduction
10m high pressure hose attached
Spray gun included and mounted on frame
Built in 24" 4000 psi Surface-Cleaner
Compact design for easy storage and transport
Lifting point for transportation

OPERATION

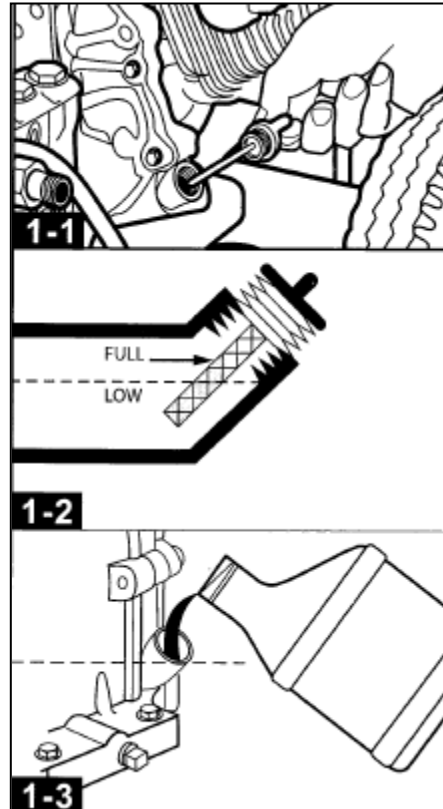
OIL LEVEL CHECK



Check the engine oil level with the engine stopped and in a levelled position

1. Clean area around oil fill and remove oil cap.
2. Check the dipstick to ensure there is enough oil.
3. If there is not enough oil, using oil funnel (optional), slowly pour contents into oil fill opening.
4. Replace oil fill cap and tighten.

NOTE: IMPROPER treatment of generator can damage it and shorten its life. DO NOT attempt to start the engine before it has been properly serviced with the recommended oil. This may result in an engine failure.



NOTE: Refer to Vanguard 400 Manual for more in-depth instructions

NOTE: New machines will be pre-oiled from MAKINEX with:
Engine Oil – SAE 10W-30

REFUELING



FAILURE TO USE FUEL AS RECOMMENDED IN THIS MANUAL WILL VOID WARRANTY

- **DO NOT** use unapproved gasoline such as ethanol-based fuel.
- **DO NOT** mix oil with gasoline.
- **DO NOT** modify engine to run on alternate fuels.



Fuel and fuel vapour are extremely flammable and explosive. Fire or explosion from misuse of fuel can cause severe burns and even death.



Always ensure that fuel tanks are filled outdoors.

1. Turn generator **OFF** and let it cool for at least two minutes before removing fuel cap.
2. Loosen fuel cap slowly to release pressure.
3. Slowly add unleaded gasoline to fuel tank. **DO NOT** fill fuel above baffle to allow for appropriate space fuel expansion.
4. Wait for spilled fuel to evaporate before starting the engine.



Keep fuel away from sparks, open flames, pilot lights, heat and other ignition sources.



DO NOT light a cigarette or smoke near open fuel tank or container.

OPERATING YOUR PRESSURE WASHER

1. HOW TO PRE-START PRESSURE WASHER

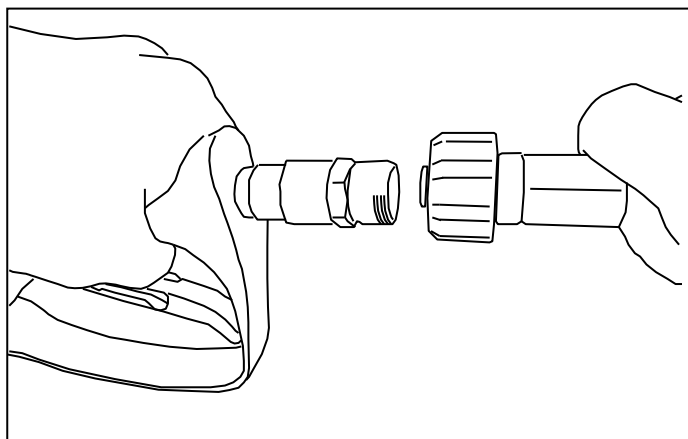
To start your pressure washer for the first time, follow these instructions. This information also applies if you let the pressure washer sit idle for at least a day.

- 1.1 Place pressure washer near an outside water source capable of supplying water at a flow rate at least 5 gallons/19L per minute and no less than 20 psi at pressure washer end of garden hose.
- 1.2 Check all high-pressure hose connections are tightly connected to the pump, valve, spray gun and Surface-Cleaner.
- 1.3 Make sure there are no kinks on hoses
- 1.4 Make sure the unit is in a levelled position.

2. ATTACHING HIGH-PRESSURE HOSE TO SPRAY-GUN

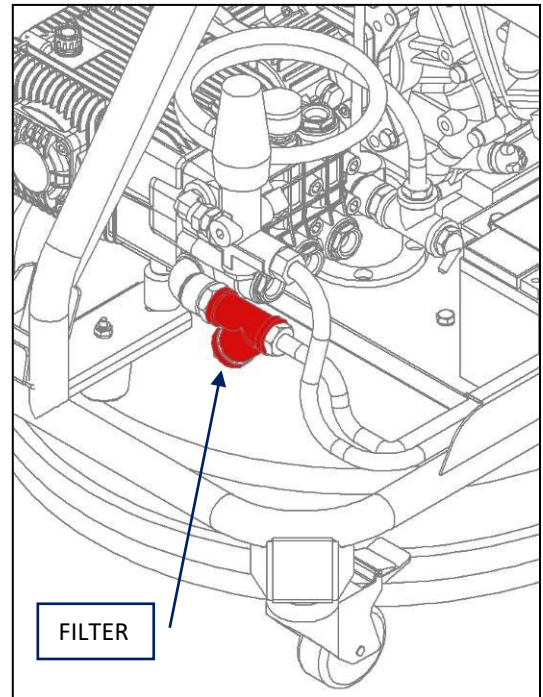
- 2.1 The spray gun is preassembled to a Swivel M22 Male Nipple or Male Quick-Connect fitting (DWP-4000-H).
- 2.2 Connect the M22 female twist knob or Quick-Connect female fitting from the high-pressure hose to the spray gun as shown by hand, make sure it's a tight fit and the threads are not cross threaded (the connection is a self-sealed one, hence no plumbing is needed)

NOTE: newer models have Quick-connect fitting, which require no threads



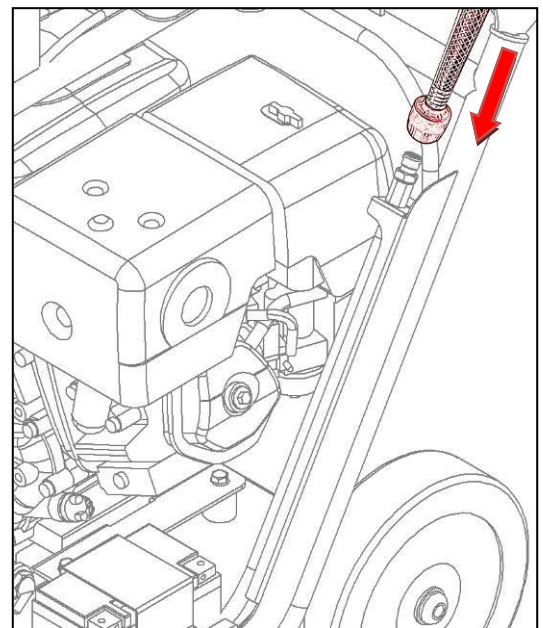
3. CONNECT GARDEN HOSE TO WATER INLET CONNECTION

- 3.1 Before connecting the garden hose to the water inlet connector, inspect the filter
- 3.2 Run water through your garden hose for 30 seconds to clean put any debris
- 3.3 Release any pressure from spray gun by pulling the trigger.
- 3.4 Connect the garden hose to the water inlet connector (not to exceed 15m/50ft in length and with the inner diameter of hose no less than **13mm**).
- 3.5 Turn on inlet hose Water



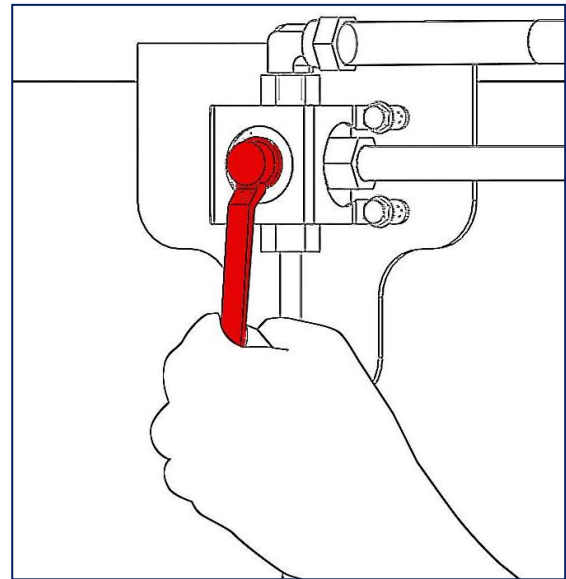
*****IMPORTANT*****

DO NOT siphon standing water for the water supply. Use ONLY cold water (less than 37°C/100°F)



4. ADJUST VALVE POSTION TO SURFACE-CLEANER

4.1 Make sure the valve is pointing to the **Surface-Cleaner** position before starting as this makes sure pressure is constantly released before you start the engine and during initial running.



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.

5. START THE ENGINE

Refer to your Vanguard 400 Engine Operator's manual for more details



*****IMPORTANT*****

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**

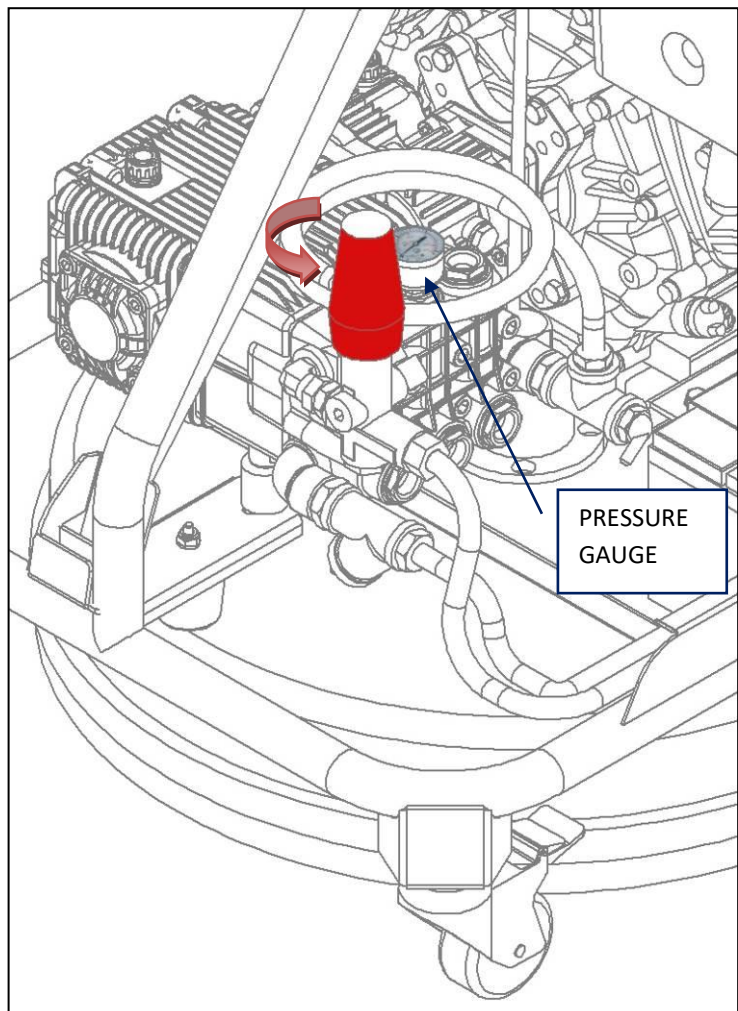
6. CHECKING/ ADJUSTING PRESSURE

The MAKINEX dual pressure washer operating pressure is pre-adjusted to 4000 Psi. Over adjusting pressure will **VOID WARRANTY**.

6.1 Check the operating pressure when the machine starts; allow some time to build up pressure.

6.2 The by-pass valve has a knob to adjust pressure.

DO NOT over adjust to the rated machine operating pressure. (i.e. >4000psi)

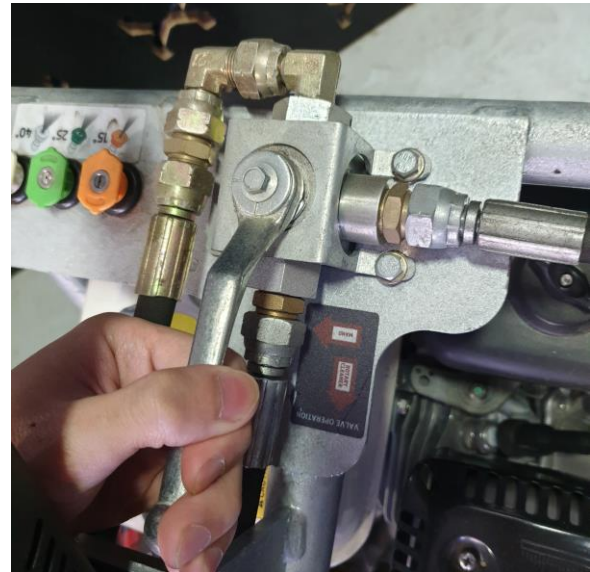


7. TWO TYPES OF OPERATION

By using the valve, you can choose between two types of operation.



SPRAY GUN OPERATION



SURFACE-CLEANER OPERATION



8. NOZZLE SELECTION

The nozzle on the spray gun that comes with the MAKINEX dual pressure washer are 15°, 25°, and 40° Quick Connect nozzles.

Your Surface-Cleaner will come installed with one set of 25015 nozzles (25-degree 1.5 orifice).

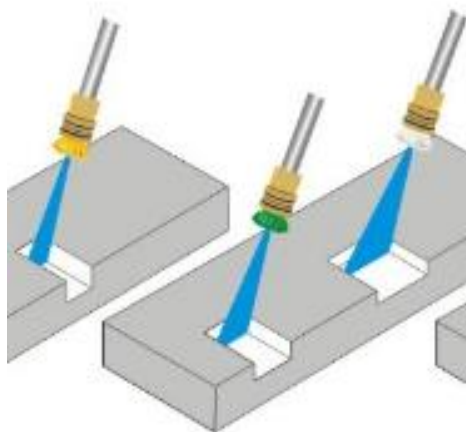
The minimum orifice to be used in your Surface-Cleaner is half that which is being used in your pressure washer. Example: If your pressure washer uses a size 5 orifice, you need to use a size 2.5 orifice in your Surface-Cleaner.

The nozzles being used should have a 15° -25° spray pattern; anything less than a 15° spray pattern can damage the area being cleaned. Anything more than 25° may not allow the bar to rotate.

Nozzles should be screwed into the rotating bar. The spray fan should be parallel to the rotating bar.



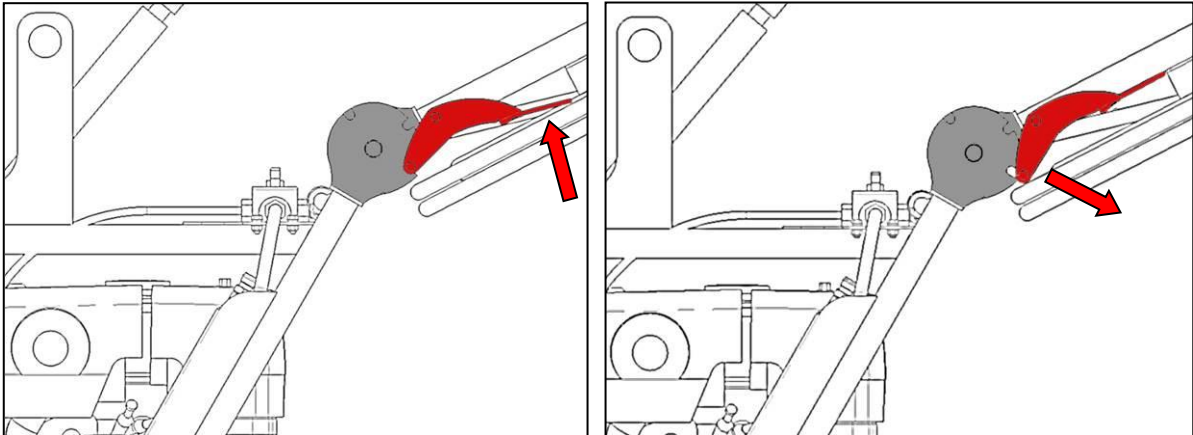
NOTE: Wand nozzle leaks can be caused by damaged or missing O-ring/Seal inside the quick connect fitting. If leaks occur, please replace before operation



	15 DEGREE YELLOW	25 DEGREE GREED	40 DEGREE WHITE
DESCRIPTION	Chiseling Tip	Flushing Tip	Washing Tip
USE	Works like a scraper when used at a 15° angle.	Most common nozzle for general cleaning applications	Wide spray for washing or rinsing a large area.
TYPICAL JOBS	Stripping paint; removing grease, mildew and stains.	Cleaning dirt from siding, sidewalks, outdoor furnitures, etc.	Washing vehicles, windows, aluminum siding and other delicate surfaces.

NOTE: The Dual Pressure Washer (DPW-4000-VS) only comes with one nozzle therefore there is not a selection to choose from.

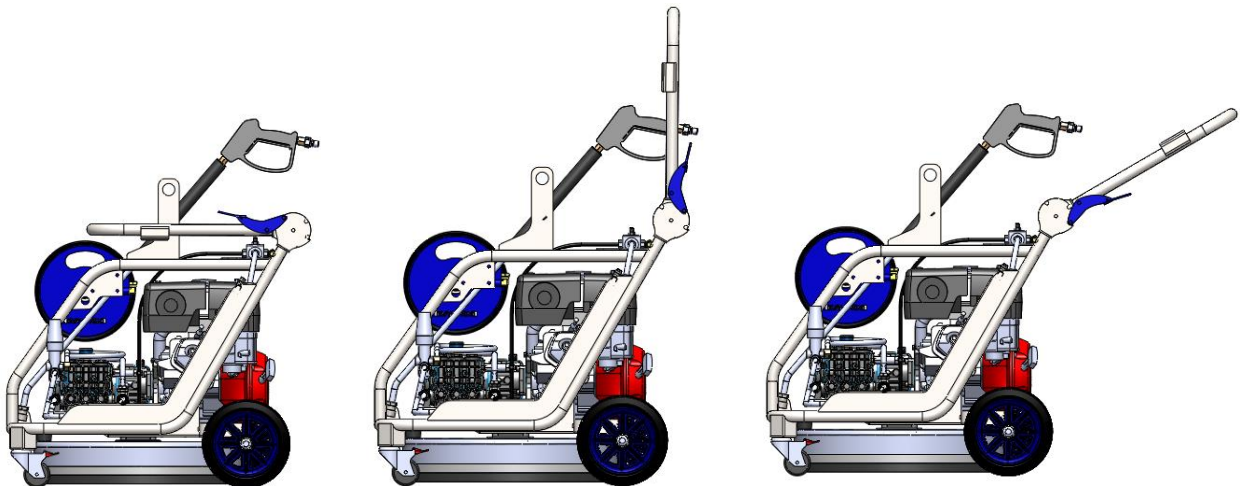
9. FOLDABLE HANDLES



9.1 release the lock pin by pressing down on spring tab of the handle lock tab. Refer to above.

9.2 Use both hands at the same time.

9.3 Lock pin will spring into place at their designated grooves.



Three positions

10. STOPPING THE PRESSURE WASHER

10.1 Turn off the engine

10.2 Release pressure from spray gun, **ALWAYS** point gun in safe position before pressing trigger.

NOTE: Spray gun traps high water pressure, even when engine is stopped, and water is disconnected.

10.3 Move throttle control lever on engine to stop position

10.4 Store in a safe area

MAINTENANCE

GENERAL RECOMMENDATIONS:

Regular maintenance will improve the performance and extend the life of the pressure washer.

The pressure washer's warranty does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the pressure washer as instructed in this manual and in the engine manual, including proper storage as detailed in Winter Storage and Long-Term Storage.

NOTE: An hour meter is installed on the machine to help with tracking operation hours.



Should you have questions about replacing components on your pressure washer, please contact dealer for assistance.

******IMPORTANT******



DO NOT RUN EXCESSIVE BY-PASS (this means engine running but no water flow)!

Switch machine off within two minutes of ceasing operation as excessive by-pass can cause heat to build up in pump and subsequent damage. **EXCESSIVE BY-PASS RUNNING VOIDS WARRANTY!**

GENERAL MAINTENANCE

CLEAN DEBRIS

Daily or before use, clean accumulated debris from cleaning system. Keep the unit clean at all times. Keep area around and behind muffler free from any combustible debris. Inspect cooling air slots and openings on the pressure washer. These openings must be kept clean and unobstructed.

NOTE: IMPROPER treatment of pressure washer can damage it and shorten its life. **DO NOT** spray any objects through cooling slots.

Cleaning system parts should be kept clean to reduce the risk of overheating and ignition of accumulated debris.

- Use a damp cloth to wipe exterior surfaces clean.
- Use a soft bristle brush to loosen caked on dirt, oil, etc.
- Use a vacuum cleaner to pick up loose dirt and debris.

CHECK AND CLEAN INLET FILTER

Examine the inlet water filter on the pump after every use and clean it if the screen is clogged or replace immediately if screen is damaged.

CHECK HIGH PRESSURE HOSE

The high-pressure hose can develop leaks from wear, kinking, or abuse. Inspect the hose each time before using it. Check for cuts, leaks, abrasions or bulging of cover, damage or movement of couplings. If any of these conditions exist, replace the hose immediately.



- 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.
- **NEVER** repair high pressure hose. Replace it.
- Replacement hose rating **MUST** exceed maximum pressure rating of unit.

CHECK SPRAY GUN

Examine the hose connection to the spray gun and make sure it is secure, and make sure the 'safety lock' is present and attach on the trigger, it helps to prevent any accidental jets when in operation. Replace spray gun immediately if the safety lock is damaged or not functioning.

CHECK WAND

Occasionally, the spray wand can be clogged with foreign materials such as dirt. When this happens, excessive pressure can develop. Whenever the pressure nozzle becomes partially clogged, the pump pressure will pulsate. It should be cleaned immediately cleaned.

NOZZLE MAINTENANCE

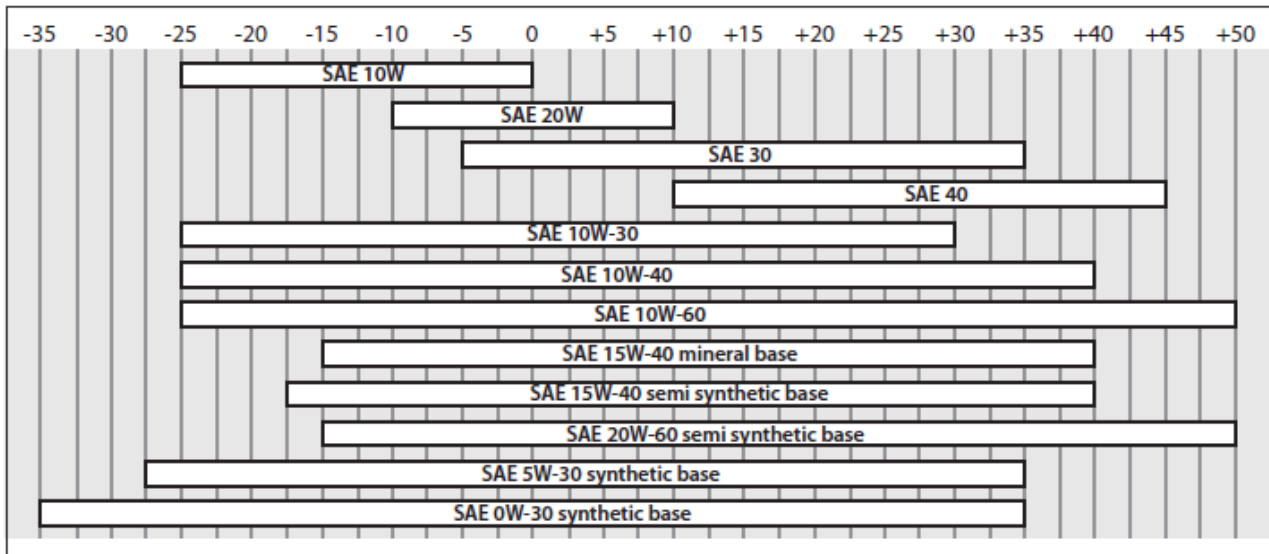
A pulsing sensation felt while squeezing the spray gun trigger may be caused by excessive pump pressure. The principal cause of excessive pump pressure is a spray tip clogged or restricted with foreign materials, such as dirt, etc. To correct the problem, immediately clean the spray tip following these instructions:

1. Shut off engine and turn off water supply.
2. ALWAYS point spray gun in safe direction, squeeze spray gun trigger to release retained high water pressure.
3. Remove spray tip from end of nozzle extension.
4. Use a small paper clip to free any foreign material clogging or restricting spray tip of the nozzle.
5. Remove nozzle extension from spray gun.
6. Using a garden hose, remove additional debris by back flushing water through the nozzle extension.
7. Reinstall spray tip into nozzle extension.
8. Reconnect nozzle extension to spray gun.
9. Make sure garden hose is connected to spray gun and pump. Turn on water.
10. Start engine following instructions 'How to Start Your Pressure Washer'.
11. Test pressure washer by operating the spray gun
12. Use same nozzle maintenance with the Surface-Cleaner.

If pressure drops off check nozzle for wear. Nozzles should be replaced on a regular basis (suggestion: every month for machines in regular use, every three months for machines used intermittently). Using the machine with the incorrect nozzle size or worn nozzle will **VOID WARRANTY** and can be **DANGEROUS** to operator.

PUMP MAINTENANCE

CHANGING PUMP OIL



The pump is delivered complete with oil, with the characteristics stated on the data plate. When changing the oil, use oil suitable for conditions in the operating environment. The correct lubricating oil viscosity depends on the external temperature. Use the graph to select the degree of viscosity best suited to the temperature of use.

Change oil after first 50 hours of operation and then every 200 hours of operation or every 3 months of regular use, whichever occurs first.

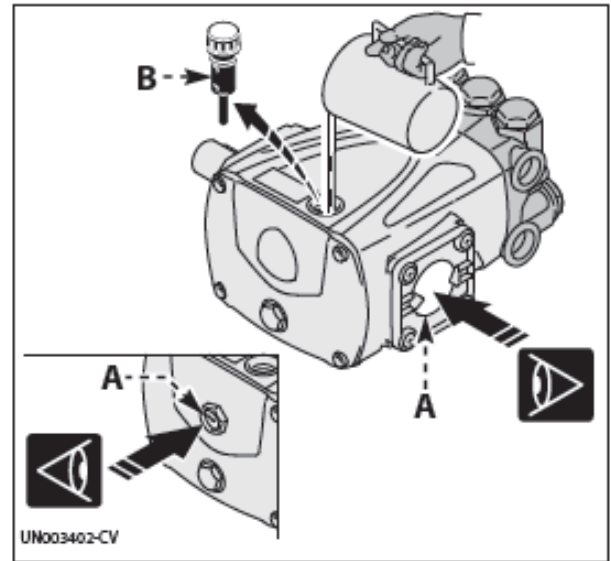
NOTE: When changing pump oil, use only high quality non-detergent oil. Use no special additives.

CHECKING THE OIL LEVEL

- Check the oil with the pump level and cold.
- Check the amount of oil through the level gauge (A).
- If necessary, top up with oil with the characteristics specified in the 'lubricants table'.

To top up with oil proceed as described below.

1. Unscrew the plug (B) and pour oil in until it is halfway up the level gauge (A).
2. Screw on the plug (B).

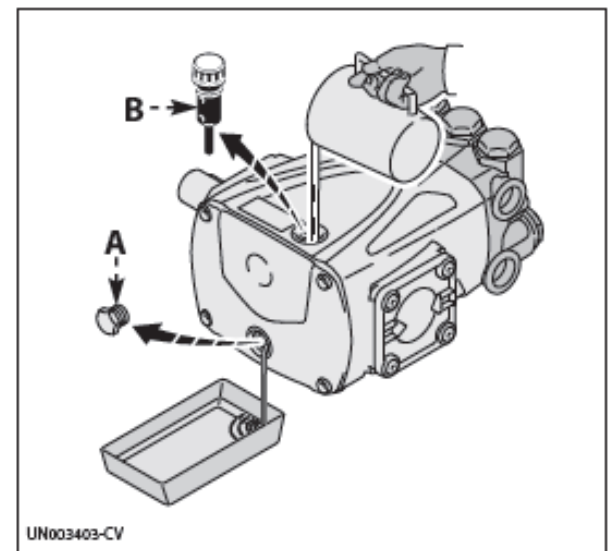


Position the machine in which the pump is incorporated perfectly level, with the pump slightly warm. Do not release oil into the environment.

Dispose of spent oil in accordance with statutory requirements.

To change the oil, proceed as described below.

1. Position a receptacle of suitable capacity to collect the spent oil.
2. Unscrew the drain plug (A) and allow all the oil to flow out.
3. Screw on the drain plug (A).
4. Unscrew the filler plug (B).
5. Pour in the fresh oil through the filter hole until the correct level is reached.
6. Screw on the filler plug (B)



LENGTHY PUMP LAY-OFFS

If the pump is to be unused for a long time, proceed as described below.

1. Run the pump with clean water for a few minutes.
2. Operate the pump without water for 10 seconds with the end of the delivery pipeline open to empty the pump and the delivery circuit and prevent scaling.
3. Flush the pump with water and solvents authorised by the relevant laws.
4. Dry the pump with a pressurised air jet.
5. Protect the pump from weather.

PUTTING THE PUMP BACK INTO SERVICE

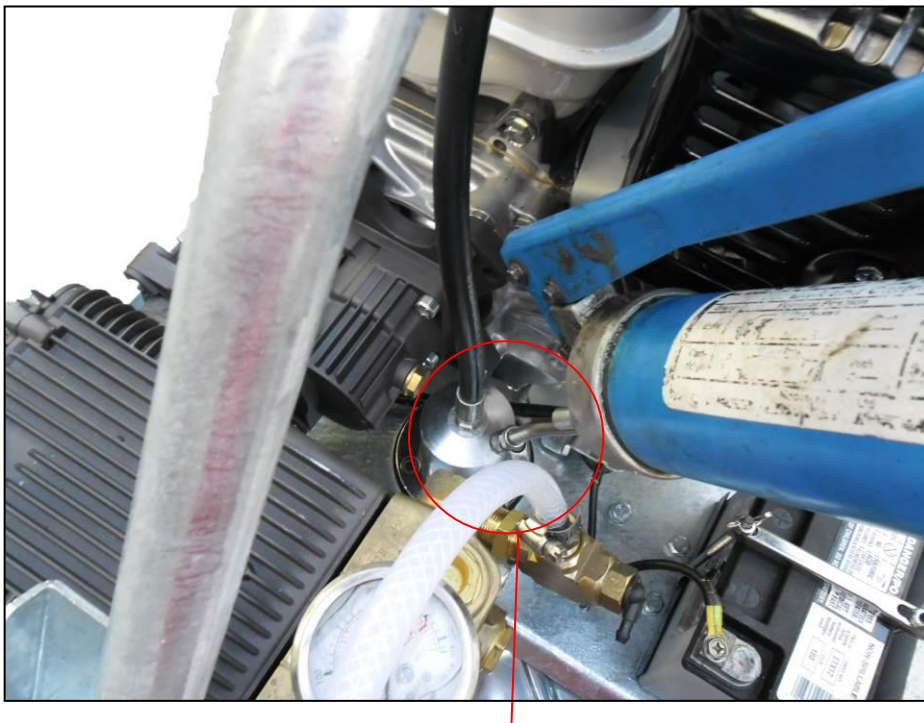
Before putting the pump back into service after a long period out of use, check the oil level and the tightness of the mounting screws.

SURFACE-CLEANER MAINTENANCE

The Surface-Cleaner must be maintained to ensure correct function and longevity of life.

There are two nozzles attached and they need to be checked before every use and are like nozzle maintenance of the spray gun.

We recommend that you supply grease to the rotary head every 30 – 40 hours of use (if frequent usage, grease every 20-30 hours of operation). Simply add a small squirt of automotive grease, do not overfill with grease as it will bog down the rotary head.



Grease nipple location for Surface-Cleaner

ENGINE MAINTENANCE

See the engine operator's manual for instructions on how to properly maintain the engine.

STORAGE

STORAGE WITH FUEL IN TANK

Gasoline fuel can become stale when stored over **30 days**. Stale fuel causes acid and gum deposits to form in the fuel system or crucial carburettor parts. To keep fuel fresh:

1. Add a fuel stabiliser liquid additive to fuel.
2. Run engine for a minimum of 2 minutes to allow it to circulate throughout the engine

Draining gasoline is unnecessary if the fuel stabiliser is used according to the instructions that come with it. Run pressure washer engine for a minimum of two minutes, after stabiliser is added to fuel, to allow it to circulate throughout the engine. The engine and fuel can be stored up to 24 months.



Fuel and fuel vapour are extremely flammable and explosive. Fire or explosion from misuse of fuel can cause severe burns and even death.

RUST PREVENTION IN CYLINDERS

1. Remove spark plug and pour approx. 15ml (1/2oz) of clean engine oil into the cylinder.
2. Install spark plug and pull starter handle slowly to distribute oil. **DO NOT** start engine at this time.
3. Slowly pull the recoil starter 2-3 times to distribute and coat the cylinder bore with oil.



Unintentional sparking can cause fire or electrical shock. Failure to observe this warning can cause severe property damage, severe burns and even death.

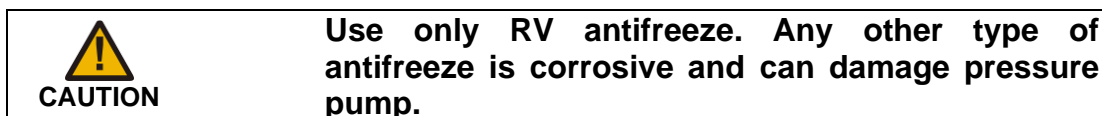
Disconnect spark plug wire from spark plug and cover tip of spark plug wire with insulating tape and place wire where it cannot come in contact with spark plug or pressure washer frame.

STORAGE OF PRESSURE WASHER

1. Drain all water from high pressure line, coil it and store it in cradle of pressure washer handle.
2. Drain all water from spray gun and spray wand by holding spray gun in vertical position with nozzle pointed downward. Squeeze trigger to remove fluids from spray gun and spray wand. Store in spray gun holder.
3. Store high pressure hose and spray wand so they are protected from damage.

It is **RECOMMENDED** that you follow these steps to protect the internal seals of pressure washer when storing unit for more than 30 days and/or when freezing temperatures are expected.

1. Obtain a funnel, 170g (6oz) of RV antifreeze and approximately 0.9m (36inches) of garden hose with a male hose connector on one end.



2. Disconnect spark plug wire. Ensure it cannot touch any metal on pressure washer.
3. Connect the 0.9m of garden hose to water inlet of pressure pump.
4. Add **RV antifreeze**.
5. Pull engine starter rope slowly several times until antifreeze comes out of pressure hose connection of pressure pump.
6. Remove hose from water inlet of pressure pump.
7. Reconnect spark plug wire.

DISCONNECT BATTERY

1. Disconnect the negative lead from the battery terminal and store cap screw and lock washer
2. Repeat for the positive battery lead.
3. Store the battery in a cool, dry place.

CHARGE THE BATTERY

For pressure washer equipped with batteries for electric starting, proper battery maintenance and storage should be followed. An automatic battery charger with automatic trickle charging capability should be used to charge the battery. Maximum charging rate should not exceed 1.5amps. Follow the instructions

included with the battery charger. The battery should be fully charged at least once per month.

OTHER STORAGE TIPS

1. **DO NOT** store gasoline from one season to another unless it's been treated with fuel stabiliser.
2. Replace fuel container, if metal, and if it begins to rust. Rust and dirt and debris can contaminate fuel supply and components resulting in poor performance and/or internal damage to engine. Fuel should be stored in newer approved plastic storage container.
3. Cover pressure washer with a suitable cover that does not retain moisture such as a plastic- or plastic-coated tarp.
4. Store pressure washer in a clean and dry area.



Certain storage covers can be flammable or can melt in high temperatures. **DO NOT** place storage cover over pressure washer unit until it has completely cooled.

TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Pump does not reach the specified pressures	Pump sucking air	Restore the tightness of the intake line
	Intake flow rate insufficient	Increase the size of the intake pipelines
		Remove and kinks from the pipes
		Increase the filter capacity or clean the filter cartridge
		Increase the RPM to the rated speed
	Worn intake and delivery valves	Replace the valves (1)
	By-pass valve seat worn	Replace the valve
	Worn gaskets	Replace the gaskets (1)
	Unsuitable, worn nozzle	Replace nozzle
Faulty Gauge	Check and replace	
Irregular variations in pressure	Worn intake and delivery valves	Replace the valves (1)
	Valves blocked by dirt	Clean the valves (1)
	Air being sucked into system	Restore the tightness of the intake pipeline connections
	Worn gaskets	Replace the gaskets (1)
Fluctuating pressure	Valves worn	Check and replace
	Valves blocked	Check and replace
	Pump sucking air	Check water supply and air ingress at joints in suction line
	Worn piston packing	Check and replace
Pressure drop	Nozzle worn	Replace Nozzle
	Worn intake and delivery valves	Replace the valves (1)
	Valves blocked by dirt	Clean the valves (1)
	By-pass valve seat worn	Replace the valve
	Worn gaskets	Replace the gaskets (1)
Pump noisy	Air being sucked into system	Restore the tightness of the intake pipeline connections
	intake and/or delivery valve springs broken or collapsed	Replace the valves (1)
	Valves blocked by dirt	Clean the valves (1)
	Worn bearings	Replace the bearings (1)
	Intake liquid temperature too high	Reduce liquid temperature
Pump overheating	High pump operating pressure	Reduce the pressure to the rated values
	Not enough water flowing through	Check water inflow through pump
	Pump left on idle for too long	DO NOT LEAVE PUMP ON IDLE FOR >2min VOIDS WARRANTY
Water in oil	Guide piston gasket worn	Replace the gaskets (1)
	High humidity percentage in air	Change the oil twice as often

	Worn gaskets	Replace the gaskets (1)
Oil leak from pump	Worn gaskets	Replace the gaskets (1)
	Worn pistons	Replace the pistons (1)
	Loose drain plug	Tighten drain plug
	pump overfilled	Check for correct amount
	incorrect oil use	Drain and refill with correct type and amount of oil
	Oil seals worn	Replace seals (1)
Water leaking at pump	loose connections	Tighten connections
	Piston packings worn	Check and replace (1)
	Worn or broken O-rings	replace O-rings
	Pump head or tubes damaged from freezing	Check and replace (1)
Engine shuts down when running	Out of fuel	Fill fuel tank
	Low engine oil	Add oil
Engine will not start	Out of fuel	Fill fuel tank
	Low engine oil	Add oil
	wrong fuel	Drain and refill recommended fuel
	Rocker switch set to off	Set to on
	Fuel valve is in off position	Set to on
	Spark plug wire not connected to spark plug	Check and make sure its wired
	Faulty spark plug	Check and replace
	Water in fuel	Drain tank and carburettor and refill
	Flooded	Wait 5 minutes and re-crank engine
	Engine too hot	Allow engine to cool
	Choke in wrong position	Change choke position
	Too much pressure builds up	Release pressure
(1) operations which must be carried out at an authorised service centre		

LIMITED WARRANTY

To take advantage of the MAKINEX limited warranty, you must have maintenance performed according to the maintenance schedule (contained in relevant owner's manual supplied with this product), by an authorised MAKINEX dealer or MAKINEX service technician. You are free to have your MAKINEX product serviced by any suitably qualified mechanic or electrician (depending on the mechanical or electrical requirement) and this will not affect your statutory warranties, however, failure by the owner to have the recommended servicing carried out by an authorised MAKINEX dealer/service technician means that you cannot take advantage of the MAKINEX limited warranty.

In order to ensure your safety, we strongly recommend that you only use an authorised MAKINEX dealer for servicing. Only authorised MAKINEX dealers have access to all the special tools, technical information, parts and training required to maintain your MAKINEX product in peak operating condition.

MAKINEX warrants each new Dual Pressure Washer to be free from defects in material and workmanship under normal domestic and industrial use and service for the period specified below, conditional to the limitations and exclusions printed on this page. This warranty applies only to new MAKINEX pressure washers distributed by us and by our authorised MAKINEX dealers.

AUSTRALIA: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

WARRANTY: (Ex-factory/ Reseller premise)

MAKINEX warrants to the original purchaser:

- Frame and Engine will be free of defects in material and workmanship for a period of one (1) year from the original date of purchase.
- Vanguard 400 Engine is subject to (3) years warranty. Please see <https://www.vanguardpower.com/> for details.
- 12 months warranty on pressure pump (Note: Maintenance is not warranty. Excludes service and consumables required at scheduled maintenance intervals)

WARRANTY EXCLUSIONS

This warranty does not cover the following repairs and equipment:

NORMAL WEAR

Pressure washers need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment.

INSTALLATION, USE, AND MAINTENANCE

This warranty will not apply to parts and/or labour if this pressure washer is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond the pressure washer's limits, modified, installed improperly or connected incorrectly to any water supply. Normal maintenance such as spark plugs, air filters, adjustments, fuel system cleaning and obstruction due to build-up is not covered by this warranty.

OTHER EXCLUSIONS

This warranty excludes:

- Cosmetic defects such as paint, decals, etc.
- Wear items such as filter elements, Pistons, O-rings, etc.
- Accessory parts such as starting batteries, and storage covers.
- Failures due to acts of God and other force majeure events beyond the manufacturer's control.
- Problems cause by parts that are not original MAKINEX parts.
- Maintenance service cost
- Expeditated freight costs

OWNER'S RESPONSIBILITY UNDER LIMITED WARRANTY:

Only clean, potable water should be used through our pressure washers with a flow rate at least 15% more than the pump requirements (e.g. a 15LPM pump requires a water supply of 18LPM minimum to prevent pump cavitation).

Strict adherence to the maintenance checks and with **proof of scheduled maintenance history** is required by an authorised agent or qualified mechanic. It is the consumer's responsibility to deliver the machine in question to our service premises or to the premises of our appointed agent at the consumer's expense for replacement or repair as applicable. Maintenance services are not covered under warranty.

Claim Procedure:

- Contact MAKINEX by phone or email informing us of your machines problem or defect.
- Once the extent of the claim has been assessed, we retain the right to compensate the consumer for such defect, or repair (pars & labour), or replace the machine under warranty.
- All warranties will be carried out by MAKINEX authorised staff or appointed agents at a premise to be determined by the Manufacturer.
- Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.
- It is the responsibility (and cost) of MAKINEX or our appointed agent to return the machine to be repaired or replaced under warranty to the consumer- this is valid for domestic territories only (e.g. Australian units will be delivered within Australian territory, USA units will be delivered within USA territory and European units will be delivered within its designated country's territories).
- Where the specific warranty component (e.g. Engine) is under a Manufacturer's warranty other than MAKINEX (e.g. Vanguard), the consumer can either contact MAKINEX or the applicable Manufacturer for repairs where such warranty was registered with that manufacturer at purchase.
- Warranty calls will only be carried out by our representatives and not via client's choice of repairer. We will not accept back charges for any work not carried out by our representatives or accept any charges due to equipment being un-operational for any reason even during its warranty period.

CONTACT INFORMATION

For sales, service, warranty and parts for all MAKINEX products; please refer below.

	SALES, SERVICE, SPARE PARTS & WARRANTY
AUSTRALIA	<p><u>SALES</u></p> <p>TEL 1300 795 953 or +61 2 9460 8071 WEB www.makinex.com.au</p> <p><u>SERVICE, SPARE PARTS & WARRANTY</u></p> <p>EMAIL service@makinex.com.au</p>
USA	<p><u>SALES</u></p> <p>TEL +1 855-625-4639 WEB www.makinex.com</p> <p><u>SERVICE, SPARE PARTS & WARRANTY</u></p> <p>EMAIL service@makinex.com</p>
UK	<p>WEB www.makinex.co.uk</p>
EUROPE	<p>TEL +31 (0)6 24881203 or +31 (0)6 50841849 EMAIL info@mtools.eu</p>
CHINA	<p>TEL +86 18951118278 EMAIL sales@makinex.com.cn</p>

Or your nearest MAKINEX distributor

We have very knowledgeable, experienced staff to assist you with help and advice.



APPENDIX A- RISK ASSESSMENT

PRODUCT RISK / HAZARD ASSESSMENT TABLE						
PRODUCT NAME:		Dual Pressure Washer DPW-4000-VS				
MANUFACTURER:		MAKINEX				
OPERATOR COMPETENCY:		PLANT LICENCE NOT REQUIRED				
		Assessment Carried Out By: Nathan McMillan				
		Document Revision Number: 003				
		Date Created: 22/01/2018				
		Updated By: Matthew Cape				
		Updated Date: 04/03/2019				
INo:	TYPE / NATURE OF RISK or HAZARD	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	CONTROL ACTION	
1.0	CONTACT WITH FLUID UNDER PRESSURE 1.1 PERSONAL INJURY BY WATER JET FROM SPRAY GUN	LIKELY	MINOR	MEDIUM 3	NEVER POINT SPRAY GUN AT OTHER PEOPLE OR USE HIGH PRESSURE WATER TO CLEAN PEOPLE, ANIMALS, CLOTHING AND FOOTWEAR THIS PRODUCT IS FITTED WITH A 'HOLD TO ACTIVATE' MECHANISM WHICH IS THE SPRAY GUN TRIGGER. UPON RELEASING GRIP, THE HIGH-PRESSURE WATER FLOW WILL BE AUTOMATICALLY STOPPED. WEAR EYE PROTECTION AND PPE USE HIGH PRESSURE RESISTANT GLOVES USE BARRIERS TO KEEP BYSTANDERS AWAY FROM WORK AREA STOP JETTING IF PERSONS ENTER WORK AREA STOP OPERATING IF A MALFUNCTION OCCURS. TO DISABLE THE PRODUCT, TURN THE RED IGNITION SWITCH TO THE 'OFF' POSITION. SEE PICTURE BELOW. THIS WILL IMMEDIATELY STOP THE ENGINE. FURTHER TO THE ABOVE, THE WATER FLOW CAN BE DIVERTED FROM THE SPRAY GUN BY TURNING THE 3 WAY VALVE TO DIVERT THE WATER TO THE SURFACE CLEANER. NEVER PLACE ANY PART OF YOUR BODY UNDER SHROUD WHILST THE ROTARY CLEANER IS IN OPERATION UNDER PRESSURE	
	1.2 PERSONAL INJURY BY WATER JET FROM ROTORY CLEANER	UNLIKELY	MINOR	LOW 4	ENSURE EQUIPMENT IS OPERATED PROPERLY AND VALVES ARE ENGAGED/DISENGAGED FULLY THIS PRODUCT IS FITTED WITH A 'HOLD TO ACTIVATE' MECHANISM WHICH IS THE SPRAY GUN TRIGGER. UPON RELEASING GRIP, THE HIGH-PRESSURE WATER FLOW WILL BE AUTOMATICALLY STOPPED. WEAR EYE PROTECTION AND PPE USE HIGH PRESSURE RESISTANT GLOVES TO DISABLE THE PRODUCT, TURN THE RED IGNITION SWITCH TO THE 'OFF' POSITION. SEE PICTURE BELOW. THIS WILL IMMEDIATELY STOP THE ENGINE. FURTHER TO THE ABOVE, THE WATER FLOW CAN BE DIVERTED FROM THE DAMAGED ACCESSORY BY TURNING THE 3 WAY VALVE TO DIVERT THE WATER TO THE SURFACE CLEANER OR TO THE SPRAY GUN	
	1.3 EXCESS PRESSURE AND/OR DAMAGED ACCESSORIES CAUSING BLOW OUT OF AIR OR WATER	UNLIKELY	NEGLECTIBLE	LOW 5	WEAR APPROPRIATE PPE (e.g. GOGGLES AND WATER PROOF CLOTHING ETC) ENSURE HIGH PRESSURE WASHER IS OPERATED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WEAR APPROPRIATE PPE (e.g. GOGGLES AND WATER PROOF CLOTHING ETC) TAKE EXTRA CAUTION WHEN OPERATING ON UNEVEN, SLIPPERY OR STEEP WORK SURFACES ALWAYS WEAR APPROPRIATE FOOT WEAR SIGNPOST WHERE APPROPRIATE. USE SWITCHES HATS, 'CORDON OFF' AREAS, ETC.	
2.0	IMPACT/CUTTING 2.1 POTENTIAL IMPACT FROM BACK SPRAY CONTAINING WATER/OR DEBRI	LIKELY	NEGLECTIBLE	LOW 4		
	2.2 STRIKE WITH UNCONTROLLED HOSE OR COUPLING	UNLIKELY	NEGLECTIBLE	LOW 5		
3.0	SLIPS/TRIPS /FALLS 3.1 SLIP, TRIP OR FALL DUE TO UNEVEN, SLIPPERY OR STEEP WORK SURFACES	LIKELY	NEGLECTIBLE	LOW 4		

	3.2	SLIP, TRIP OR FALL DUE TO POOR HOUSEKEEPING	LIKELY		NEGLIGIBLE	4	LOW	ENSURE THAT APPROPRIATE HOUSEKEEPING STANDARDS ARE MAINTAINED AT ALL TIMES TO MINIMISE THE RISK OF A SLIP, TRIP OR FALL ALWAYS WEAR APPROPRIATE FOOT WEAR
	3.3	TRIPPING ON HOSES	LIKELY		NEGLIGIBLE	4	LOW	MAKE SURE TO REEL HOSES NEATLY
4.0	BURNS/FIRE	4.1	PERSONAL INJURY – BURNS WHILST DOING MAINTENANCE ON MACHINE	LIKELY	NEGLIGIBLE	4	LOW	BE CAUTIOUS OF HOT PARTS (SUCH AS MUFFLERS). ALLOW TO COOL BEFORE MAINTENANCE/ADJUSTMENTS
		4.2	FIRE/EXPLOSION WHILST REFUELING ENGINE	UNLIKELY	MAJOR	3	MEDIUM	SHUT OFF MACHINE AND ALLOW TO COOL BEFORE REFUELING. NEVER REFUEL WHILE MOTOR IS RUNNING. DO NOT SMOKE AND ENSURE REFUELING IS UNDERTAKEN IN WELL VENTILATED AREA (OUTSIDE, CLEAR OF IGNITION SOURCES)
5.0	ELECTRIC SHOCK	5.1	ELECTROCUTION DUE TO WATER IN CONTACT WITH LIVE ELECTRICAL EQUIPMENT	UNLIKELY	FATALITY	2	HIGH	ENSURE PRESSURE WASHER IS NOT DIRECTED TO LIVE ELECTRICAL EQUIPMENT ENSURE ANY EXCESS WATER DOES NOT COME INTO CONTACT WITH POWER SOURCES
6.0	ERGONOMIC INJURY	6.1	PERSONAL INJURY WHEN LIFTING/OR MOVEMENT ON SITE	LIKELY	MAJOR	2	HIGH	STAFF TRAINING ON CORRECT LIFTING PROCEDURE USE ASSISTED LIFTING DEVICE, SUCH AS MAKINEX PHT-140, WHERE SUITABLE
7.0	NOISE	7.1	HEARING DAMAGE DUE TO LONG TERM USE	UNLIKELY	MAJOR	3	MEDIUM	ALWAYS WEAR HEARING PROTECTION WHILST OPERATING AND/OR IN CLOSE VICINITY OF THE MACHINE
8.0	ENTANGLEMENT WITH HOSE	8.1	Injury to operator or bystanders	UNLIKELY	MINOR	3	MEDIUM	HOSE REEL USED TO MINIMISE EXCESS HOSE BE AWARE OF ENVIRONMENT AND ENSURE FIRM FOOTING
9.0	SUFFOCATION	8.1	FATALITY	UNLIKELY	FATALITY	1	HIGH	DO NOT OPERATE ENGINE WITHOUT SUITABLE VENTILATION

NOTES:

- > THIS PRODUCT HAS BEEN DESIGNED AND MANUFACTURED AS A DUAL PRESSURE WASHER ONLY
- > THIS DOCUMENT HAS BEEN PREPARED ACCORDING TO GUIDELINES AND RECOMMENDATIONS FOUND IN:
 1. 'HAZPAK' PRODUCED BY THE WORK-COVER AUTHORITY AND
 2. THE AUSTRALIAN STANDARDS 4024.1.4/5 - 1996 "SAFEGUARDING OF MACHINERY - PART 1: GENERAL PRINCIPLES AUSTRALIAN STANDARD, AS/NZS 3760 IN-SERVICE SAFETY INSPECTION AND TESTING OF ELECTRICAL EQUIPMENT.

"LIKELIHOOD LEVEL" REFERS TO THE PROBABILITY OF AN EVENT HAPPENING. THE FOLLOWING SCALE HAS BEEN USED TO DESCRIBE THE LIKELIHOOD OF A DEFINED RISK / HAZARD EVENT OCCURRING DURING NORMAL OPERATION OF THE EQUIPMENT. NOTE THAT LIKELIHOOD EVALUATION IS QUALITATIVE AND BASED ON BEST ESTIMATION VIA CONSULTATION AND EXPERIENCE:

1. **VERY LIKELY**
2. **LIKELY**
3. **UNLIKELY**
4. **VERY UNLIKELY**

"CONSEQUENCE" REFERS TO THE SEVERITY OF INJURY CAUSED DUE TO AN EVENT OCCURRING, USING THE FOLLOWING SCALE AS DEFINED BY THE "HAZPAK" DOCUMENT:

1. **FATALITY** = INJURIES RESULT IN DEATH
2. **MAJOR** = NORMALLY IRREVERSIBLE INJURIES
3. **MINOR** = REVERSIBLE INJURIES REQUIRING SEVERAL DAYS OFF
4. **NEGLIGIBLE** = ABLE TO BE TREATED USING FIRST AID

"RISK LEVEL" REFERS TO THE SEVERITY OF A RISK BASED ON THE "LIKELIHOOD LEVEL" AND "INJURY LEVEL". INHERENTLY, AS THE CONSEQUENCE INCREASES IN SEVERITY, RISK INCREASES - EVEN WHEN LIKELIHOOD IS LOW - THE FOLLOWING SCALE HAS BEEN USED:

1. **HIGH** = POTENTIAL DEATH, PERMANENT DISABILITY, OR MAJOR STRUCTURAL DAMAGE.
2. **MEDIUM** = POTENTIAL TEMPORARY, DISABILITY, OR MINOR STRUCTURAL DAMAGE.
3. **LOW** = POTENTIAL INCIDENT THAT HAS THE POTENTIAL TO CAUSE PERSONS TO REQUIRE FIRST AID.

