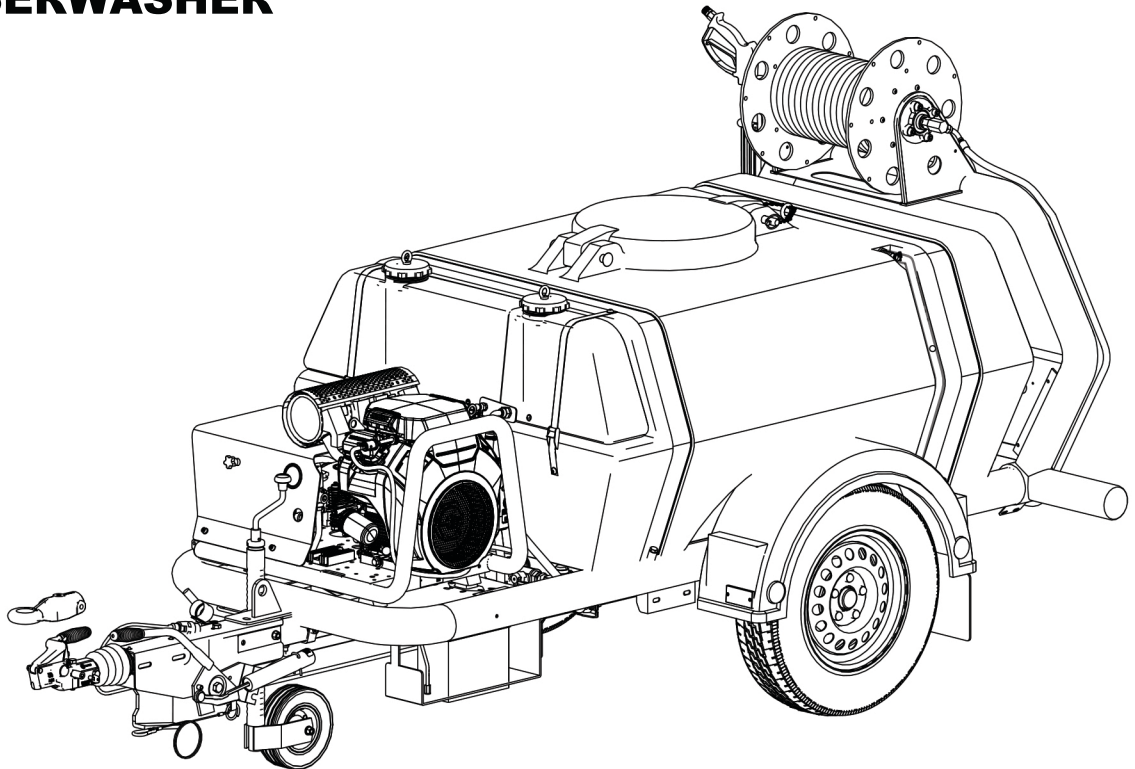




BBW50KPE-VT OPERATION MANUAL

**5000 PSI PETROL
BOWSERWASHER**



Visit

Brendon Powerwashers, Hillsmoor,
Off Sandys Moor, Taunton Road,
Wiveliscombe, Taunton,
Somerset, TA4 2TU

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EC Declaration of Conformity

Brendon Limited of Hillsmoor, off Sandysmoor, Taunton Road, Wiveliscombe,
Somerset, TA4 2TU, United Kingdom.

Declare that:

Equipment: Petrol Engine Driven High Pressure Bowserwasher Unit

Model: BBW50KPE-VT

Serial No: *****


Trailer Vin No: *****

In accordance with the following Relevant EU Directives:

- | | |
|-------------|---|
| 2007/46/EC | WVTA Whole Vehicle Type Approval |
| 2006/42/EC | The Machinery Directive (29.12.2009) |
| 2000/14/EC | The Low Noise Directive (and its amending directives) |
| 2004/108/EC | The Electromagnetic Compatibility Directive (and its amending directives) |

I hereby declare that the equipment named above has been designed and manufactured to comply with all essential requirements of the listed Directives.

Signed by:

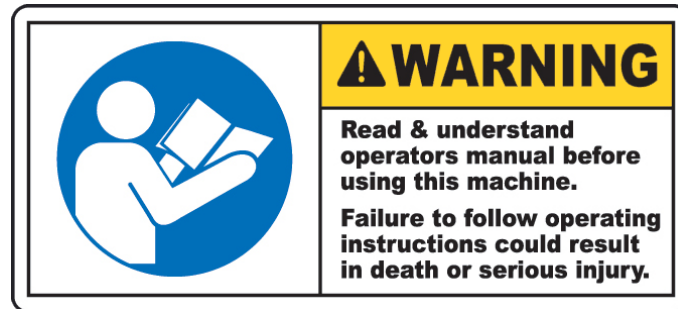


Mr. R J Hendy - Technical Director

Signed at Hillsmoor address as named above on **/**/****

Important safety statement

Operating this machine and/or its attachments with due care and diligence is the best assurance against an accident. It is essential that all operators, no matter their experience, **READ** and **UNDERSTAND** this manual, related manuals and updates* prior to operating this machine and/or its attachments.



Be safe!

The industry standard symbol for **Safety Alert** is used throughout this manual, related manuals and updates*, and on the machine and attachments to warn the risk of personal injury. The operators **must** read and understand these safety warnings and instructions prior to use of the machine and its attachments.



DANGER: High risk of DEATH or serious injury.



WARNING: Possible risk of DEATH or serious injury.



CAUTION: Possible risk of injury.



IMPORTANT: Likelihood of damage to property or equipment.



TIP: Useful information or procedure.

Other safety warning and icons are used throughout this manual. A key covering the range of Brendon Ltd. Machines can be found in the appendix of this manual.

**Brendon Powerwashers recommend that you check regularly for updates via our website (www.powerwashers.co.uk in the "My Brendon" section under "Parts & Training")*

Safe operation & practices

Brendon Powerwashers endeavours to design and build Quality High Pressure Powerwashers, Special Application machines and Accessories, all are **“built to last”** but more importantly they are built with a high standard of safety. This high standard of safety is met by simply following the instructions, practices and paying attention to the safety information provided in this manual and on the machine itself.

Read the operators manual

It is essential that **all** operators, no matter their experience, **READ** and **UNDERSTAND** this manual, related manuals, updates and the safety labels on the machine prior to operating this machine and/or its attachments.

Keep this manual with the machine for operators and / or subsequent owners. If you lose this manual you can request a hard copy from our spares department - spares@powerwashers.co.uk or download a free copy from our website www.powerwashers.co.uk



IMPORTANT: *Brendon Powerwashers use a range of engines, motors, pumps and other components to build a machine. It is essential that all operators **read** and **understand** the accompanying manuals for those components / equipment prior to use.*

Stay updated

Brendon Powerwashers recommend that you check regularly for updates via our website (www.powerwashers.co.uk in the “My Brendon” section under “Parts & Training”)

Know the limits

Each machine is designed with an intended use such as cleaning with high pressure water or suppressing dust particles. Using this machine not for its intended use or modifying this machine in anyway (unless approved by Brendon Ltd. In writing) could significantly increase the risk of death or injury to the operator, other personnel or damage the machine or property.



DANGER: Operating this machine not for its intended use puts the operator, other personnel at a high risk of death or serious injury.

Pre-use checks

Operators are required to carry out a pre-use safety check prior to each use of the machine. The pre-use check is procedure detailed in this manual (see contents) and the Pre-use safety check sheet can be found in the appendix.



TIP: Make copies of the Pre-use safety check sheet for the operators to fill out before each use. You can also download this sheet from our website.

Be aware of the hazards

Brendon Powerwashers design & manufacture a wide range of machines varying in the components built for a diversity of applications. It is important to be aware of the potential hazards when operating, servicing and transporting them, it is also to be noted of the potential hazards of the applications and environment they are being used in.

Follow the rules

Brendon Powerwashers has set out some simple industry standard “General Health & Safety rules & instructions” (see contents). Simply following these rules & instructions will reduce the risk of harm to the operators or other personnel, also reducing the risk of damage to the machine and increase longevity of its lifespan.

Take Precautions

Brendon Powerwashers manufactures machines that are rugged, versatile and can vary in a range of applications and environments. Operators **must** pay close attention to the task in hand and the environment they are working in and take the appropriate precautions to prevent risk to themselves, other personnel and the machine itself. A list of precautions are detailed in this manual (see contents), however it is the **operator’s responsibility** to ensure safe working practices and prepare the working area appropriately.

Protect yourself

Personal Protective Equipment (PPE)

Due to range of applications and environments the machines are used in, it is important that the operators wear the appropriate clothing and equipment to protect themselves from the elements and hazards when using the machine and/or its attachments.

Industry standard “Personal Protective Equipment (PPE)” requirements are stated in this manual

(see contents), however it is the **operator's responsibility** to ensure that they wear the appropriate PPE according to the equipment and conditions they are working in.



IMPORTANT: *Brendon Powerwashers have based their suggestions for PPE on the current industry standards, the operator **must** comply with their employers and/or hire company's Health & Safety regulations for PPE.*

Hand & Arm Vibration Syndrome (HAVS)

Some applications, such as using turbo nozzles and high pressure (5000psi /345Bar+) machines may result in a higher risk to Hand & Arm vibration syndrome (HAVS). The risk of HAVS can be reduced significantly by taking regular rest breaks during the working period.

Details of the magnitude of vibration and the recommended operator exposure times can be found in this manual (see contents).



IMPORTANT: *Brendon Powerwashers have based the suggested exposure times on the current recommendations from the HSE guidance (www.hse.gov.uk/vibration). The operator **must** comply with their employers and/or hire company's Health & Safety regulations for HAVS.*

Risk of Legionnaires' disease

Legionella is a bacterium that can be found in all water sources and in general has a low risk of Legionnaires' disease. Small droplets or water vapour containing Legionella can be inhaled by the operator when using a Powerwasher or Dust suppression unit.

"Legionnaires' disease is a potentially fatal form of pneumonia caused by the inhalation of small droplets of contaminated water containing Legionella" (www.hsw.gov.uk/legionnaires)

Natural water systems such as lakes, rivers, wells and streams are untreated, so can be more susceptible to the risk of containing Legionella.

It is also important to note that treated (potable) water that has been stored for extended periods and/or stored in soiled / unwashed containers can potentially have a higher risk of containing Legionella.



WARNING: Brendon Powerwashers recommends that only **potable water** is used to reduce the risk of legionnaires significantly.



IMPORTANT: Brendon Powerwashers recommends that water tanks including their BBW & MBW range to be drained daily and cleaned regularly to **significantly reduce** the risk of Legionella contamination.

Drugs, Alcohol & Illness

Operating this machine and/or its attachments requires the operator to be of sound mind and sound physical ability. Illness, Tiredness, Drugs and Alcohol can hinder these abilities and therefore increase the risk of harm to persons and damage to property or the machine.



DANGER: Operating this machine while under the influence of drugs or alcohol puts the operator, other personnel at a high risk of death or serious injury.



DANGER: Operating this machine while under the influence of medicated drugs such as sedatives, illness or tiredness puts the operator, other personnel at a high risk of death or serious injury.

Fire prevention

Keep clean

Brendon Powerwashers recommends that this machine is thoroughly cleaned after each use to ensure that all flammable debris, particles and fluids are not present during the start-up procedure or operation. The machine also requires to be clear of debris during use to ensure good airflow during operation.

Safe handling of fuels, lubricants and chemicals

To reduce the risk of fire significantly fuels, lubricants and chemicals are to be transported in the correct containers. Do not smoke or expose flames or sparks to working area of the machine. Use and dispose of the correct spill kits.

Ventilation

Engine powered machines must be used outside or in well ventilated areas with a minimum distance of 3 metres from any wall or other plant equipment.



DANGER: Using an engine powered machine in an enclosed area causes a significant risk to inhalation of poisonous gasses which could cause death or serious injury.



DANGER: Operating this machine with hazardous chemicals in an enclosed area causes a significant risk to inhalation of poisonous gasses or vapours which could cause death or serious injury.

Maintenance

The longevity and the reliability regarding safety of this machine is increased significantly if it is maintained and serviced regularly.

This machines maintenance schedule can be found in the appendix. It is also recommended that **ANY** services or maintenance is recorded and kept with this machine for future reference.



IMPORTANT: Only trained / competent persons should service or repair this machine.



DANGER: The machine must be turned off and any pressure released from the system prior to any service or repair, failure to do so could lead to the cause of death or serious injury.

Hazard types

There are a variety of **potential hazards** the operators need to be aware of during operation, transportation or services made to the machine. Below are some typical but not all hazards with examples are listed below:



EXPLOSION: Keep Engines, motors and batteries well ventilated and cooled during operation.



FIRE: Keep machines clean and free from fuels, lubricants and flammable chemicals. Do not smoke or use machinery near sparks or flames.



CHEMICAL / IRRITANT HAZARD: Certain applications require the use of chemicals such as detergents which can be harmful to the operator, personnel and the environment. Only use Brendon approved chemicals or detergents. Refer to the COSHH certificates prior to use.



BURN COROSION HAZARD: Batteries contain sulfuric acid which is a corrosive and can cause serious injury. Always wear Goggles and suitable gloves when working with batteries. If battery acid comes in to contact with eyes or skin, use large amounts of water to rinse and contact medical care immediately.



Serious Health Hazard: Severe conditions such as sub-zero temperatures or excessive exposure to heat, toxic materials.



Environmental hazard: The use of chemical or by-products produced when cleaning surfaces can have a serious impact on local environment conditions.



CRUSH: Ensure machines are secured and on suitable level ground. Check BBW trailer breaks regularly.



INHALATION OF GASES & VAPOURS: Use machines outside or in well ventilated areas. Do not block or close any means of ventilation if operating inside an enclosed area.



SEVER HAZARD: Be aware of moving parts when the machine is starting or during operation. Never remove safety guards from any part of the machine.



HOT SURFACE: Engines, motors, hot water and steam units have hot surfaces that can cause serious burns. Allow the machine to cool before attempting to service or repair.



ELECTRIC SHOCK: Disconnect from mains / or disconnect battery prior to service or repairing machine. Do not spray water directly onto the machine or any electrical connections.



TRIP HAZZARD: Always Keep hoses and cables tidy. Make sure work areas are cleared from debris during operation.



SLIP HAZARD: High volumes of water and chemicals such as detergents will be present during use of a pressure washer. Wear suitable non-slip footwear during operation. Use correct spill kits and signage when fuels or lubricants are spilt.



HIGH PRESSURE WATER: High pressure water or spray can cause serious injury. Do not point at any persons or animals at any time. Check condition of lances, trigger, hoses, nozzles and connectors prior to use.



HOT WATER & STEAM: High pressure hot water or steam can cause serious injury. Do not point at persons or animals at any time. Check condition of lances, trigger, hoses and connectors prior to use.



FLYING OBJECTS: Debris and particles can rebound during the use of high pressure washers which can cause serious injury. Always wear suitable PPE such as goggles, gloves and safety boots.



ENVIRONMENT HAZARD: Prolonged exposure to conditions such as cold, wet and heat can lead to ill health. Always wear appropriate PPE for the environment you are working in. Take breaks if necessary. Keep hydrated.



NOISE: Machines can create loud noises which can be harmful to you if exposed to for long periods of time. Always wear appropriate ear protection during operation.




IMPORTANT: Operators must be competent to use the machine for its intended purpose; it is also the operator's responsibility to assess the machines condition and the working environment for potential hazards that may harm them or other personnel.

General Health & Safety rules



WARNING: The **Brendon DUSTEC DT400** has been designed and built to produce high pressure fluids which can cause serious injury!

Please adhere to the following rules / instructions to practice safe use of this machine.

	<u>Never</u> point the High pressure hose at any person, pet or animal - even if the machine is switched off.
	<u>Never</u> direct the spray on any electrical machinery.
	<u>Never</u> work from a ladder or rooftop.
	<u>Never</u> tamper with any of the settings on the Unloader and safety valves.
	<u>Never</u> use without a safety shut off or with the gun trigger locked in the open position.
	<u>Never</u> use the machine indoors or in a confined space or in a flame proof zone.
	<u>Never</u> run the pump dry of fluid.
	<u>Never</u> run the pump without the belt / drive guards fitted.
	<u>Never</u> use the machine if it is damaged or been modified.
	<u>Always</u> wear the correct protective clothing (PPE).
	<u>Always</u> check that the high-pressure hose and all connections are in good service order before each use.
	<u>Always</u> make sure that the machine is on level ground. Serious engine and pump damage can occur due to lack of lubrication.
	<u>Always</u> release the residual pressure in the gun after use and when the gun is left unattended.
	<u>Always</u> clean up any fuel or lubricant spillages immediately to reduce risk fire or slips.
	<u>Always</u> keep the machine clean and serviced regularly.

Personal Protective Equipment (PPE)

Brendon Ltd. Manufacture a range of Powerwashers, Dust suppression units & other specialised commercial equipment. When operating or working in the vicinity of **ANY** of these machines it is crucial that the correct **PPE** is worn to help protect the operator and other personnel from injury or harm.

Below is a list of Mandatory **PPE typically used** in the commercial industries. Some of these Mandatory PPE icons are used throughout this manual advising the **minimal PPE relevant** for that task or procedure.



IMPORTANT: Operators must adhere to wearing the required PPE.

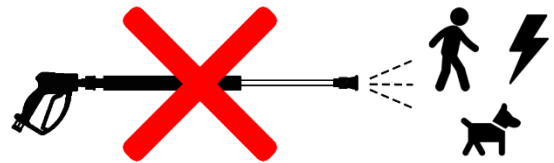
Brendon Ltd. recommends that the operators and personnel refer to their employers or site **PPE** requirements prior to using a Brendon machine.

	Mandatory information		Wear respiratory protection
	Read operation manual		Wear ear protection
	Read service manual		Wear a face mask
	Wear a safety helmet		Wear safety gloves
	Wear appropriate safety clothing		Wear safety goggles
	Wear safety boots		Wear Hi-vis

Precautions



- Ensure surfaces are suitable for high pressure cleaning.
- Ensure any detergent or chemical used is approved by Brendon Powerwashers.
- Ensure detergent or chemical will not damage surface to be cleaned.
- Keep the machine out of reach of children.
- **High pressure jets are dangerous** if used incorrectly. The jet must **not** be directed against persons or animals, electrical equipment or the machine itself.
- **Do not** operate the machine when persons and/or animals are within the reach of the jet.
- The operator must use the machine in **safe conditions** and situations avoiding any likelihood of potential danger to themselves and/or other persons.
- The **operator** will have to:
 - △ Remember that the high pressure water jet generates a recoil reaction when the trigger is pulled.
 - △ Avoid operating in unstable balance conditions.



- △ Use adequate personal protective clothing (PPE)
- △ Wear protective goggles and anti-slip rubber shoes
- △ Avoid contaminating the environment with polluting, toxic or harmful substances.
- △ Read and comply with the following Health & Safety instructions.

Introduction

Thank you for purchasing a **Brendon BBW50KPE-VT** High Pressure Pump unit. The purpose of this manual is to show you how to use, maintain and service your machine. It cannot be overstressed that the life of any machine with moving parts is dictated to a degree by the following factors:

- **Length of Operation**
- **Regular Maintenance**
- **Operator Care**

Please read this manual fully before operating your machine, if you are unsure of any of the instructions please phone our factory **Helpline Tel. 01984 624500**.



All manuals must be stored in a safe place for later use or subsequent owners.

Please check that your machine has been delivered in good condition and is complete with any extras you have ordered. (See Delivery Note)

If you find anything is missing or any damage has occurred due to transit / carrier please contact us within 3 working days of delivery.

Please note the following symbols are used in this manual:



Caution Important Safety Warning.



Chemical Hazard Present.

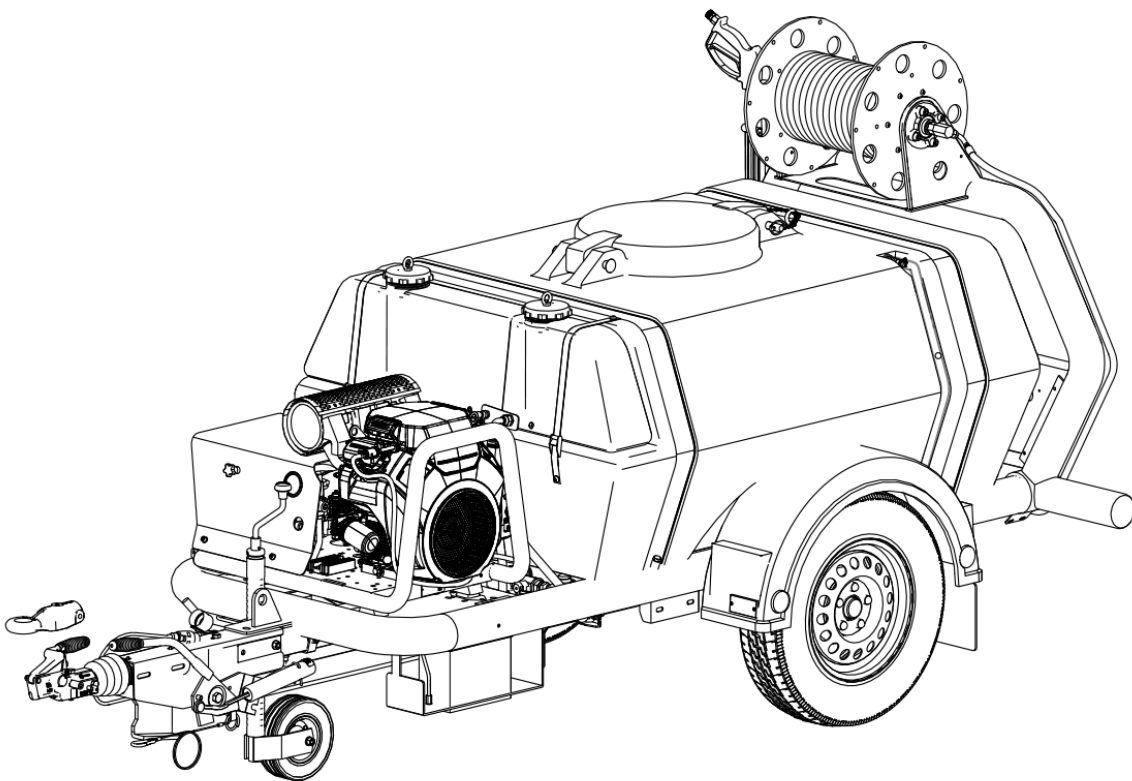
Product description

The **Brendon BBW50KPE-VT** is a petrol powered pump unit designed to pump stable fluids up to a working pressure of 350 Bar / 5145 psi and at flow rates up to 16ltrs/min.

The unloader valve has been pre-set and will bypass the pumped fluid internally when this working pressure has been achieved.

The machine must not be modified in any way without the written consent of Brendon Ltd. Any unauthorised modifications will void any warranty and liability.

Brendon BBW50KPE-VT



Specifications

Powerwasher Model	BBW50KPE-VT
Skid / Chassis Construction	Mild Steel Tubular Chassis with powder-coat finish
Engine	Honda GX630 V twin with oil alert shut down
Pump	CAT Pump 700G1
Pump RPM	1750
Unloader	UL262
Safety relief valve	TSV100
Maximum operating pressure	350 BAR / 5145PSI
Maximum Flow	16 Litres / 3.5GPM
Nozzle size	NZ1504
Fuel Capacity	20 Litres
Fuel type	Unleaded petrol
Noise level LwA	103 dB LwA
High pressure hose	3/8" x 20M 500 Bar armoured HP hose
Hand arm vibration	<2.5mm ²
Tank capacity	940 Ltrs
Detergent tank	25 Ltrs
Anti-freeze tank	15 Ltrs
Maximum allowable mass	1500kg
Dimensions (LxWxH)	3450mm x 1700mm x 1660mm

Brendon Ltd. Reserve the right to alter specifications without notice.

Unpacking instructions

The **Brendon BBW50KPE-VT** is delivered ready for use and has been filled with the necessary lubricants, however, please check the lubricant levels before using the machine.

Please make a visual check of your machine for any transit damage. If any damage is found, please advise us immediately.

Environmental protection



Brendon limited use 100% recyclable packing for their powerwasher's, please separate and recycle accordingly.



Polythene shrink wrap

LDPE



Cardboard boxes

PAP



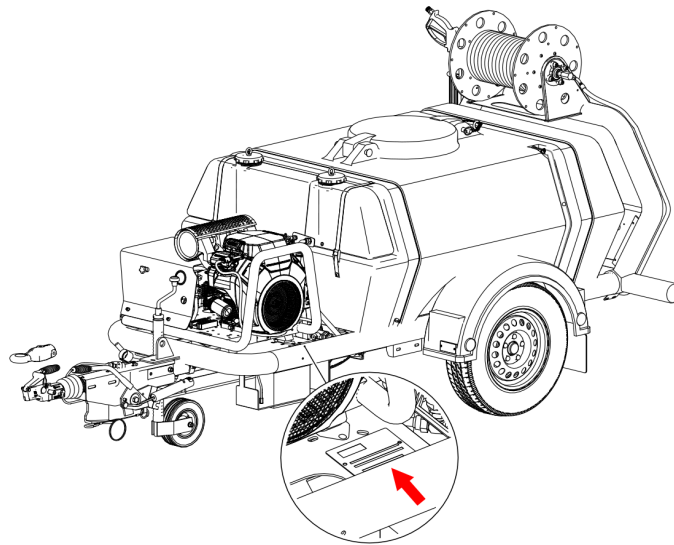
Wooden pallet

FOR

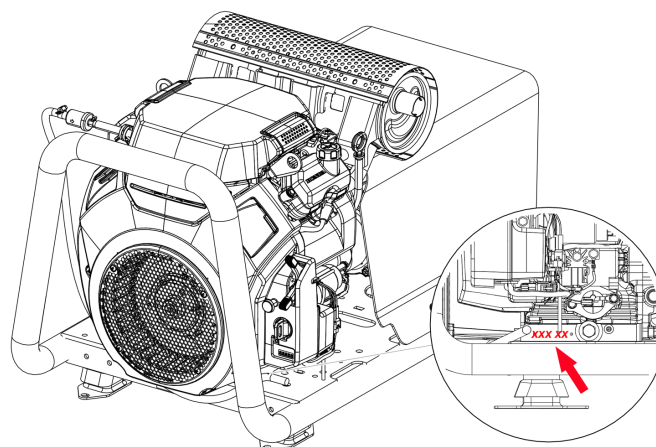
Identification

The **Brendon BBW50KPE-VT** power washer and its Honda GX630 V twin engine both have unique serial numbers. (See images below for locations)

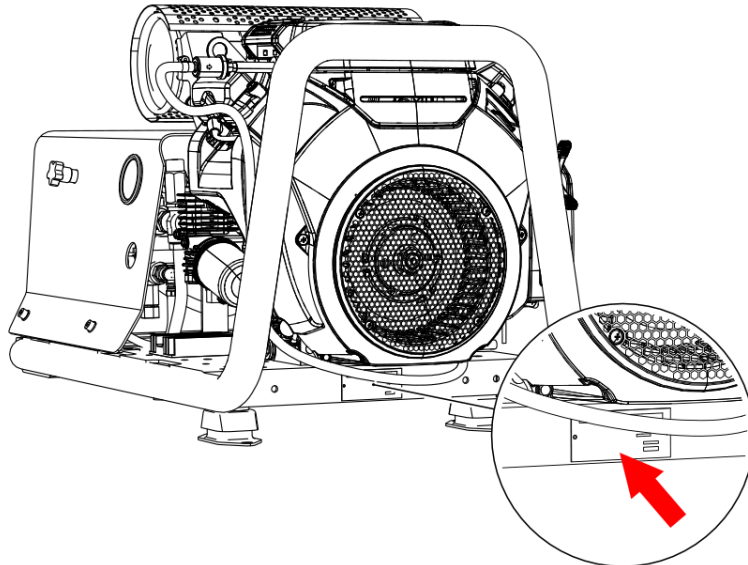
BBW Trailer VIN number



GX630 V twin serial number



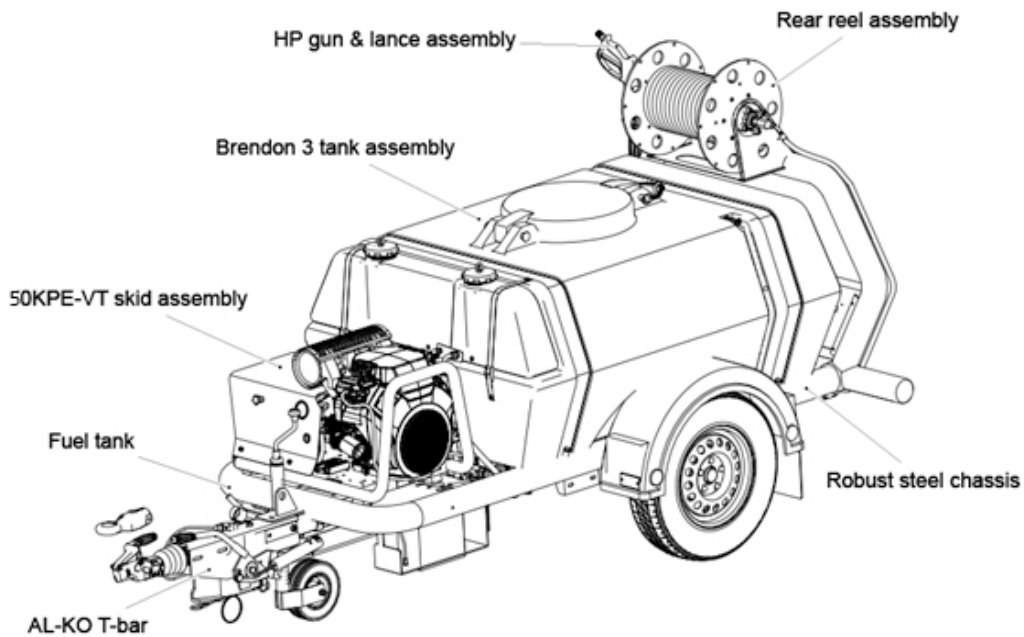
Skid chassis serial number



Please make note of these unique serial numbers as they will need to be quoted when ordering spare parts.

BBW50KPE-VT Key Features

Before using your machine for the first time you will need to identify and understand the function of some of the key components.



Please study the following image of the components:

High pressure gun & lance

BCG101SHP High pressure gun, lance & nozzle combinations provide up to 350bar / 5145psi continuous pressure

High pressure mounted reel

Rear mounted reel comes as standard with folding crank handle, reel brake and 30 meters of 500 bar / 155°C High pressure reinforced hose complete with HP fittings.



NEVER aim the gun at people or animals. ALWAYS release the line pressure when the machine is not in use.

Brendon bowser tank

Polyurethane tank supporting 940 litres of potable water, complete with Low water cut off and safety baffle for transport.



To avoid bacteria, build up and to mitigate the risk of Legionnaires' disease, we recommend you drain the excess water left in the tank daily.

At the front is a 28 litre detergent tank and a 15 litre Glycol (anti-freeze) tank.



Robust steel chassis

Powder coated mild steel construction for use in harsh conditions.

AL-KO T-Bar

EU standard T-bar trailer with overrun device / hitch.

Fuel tank

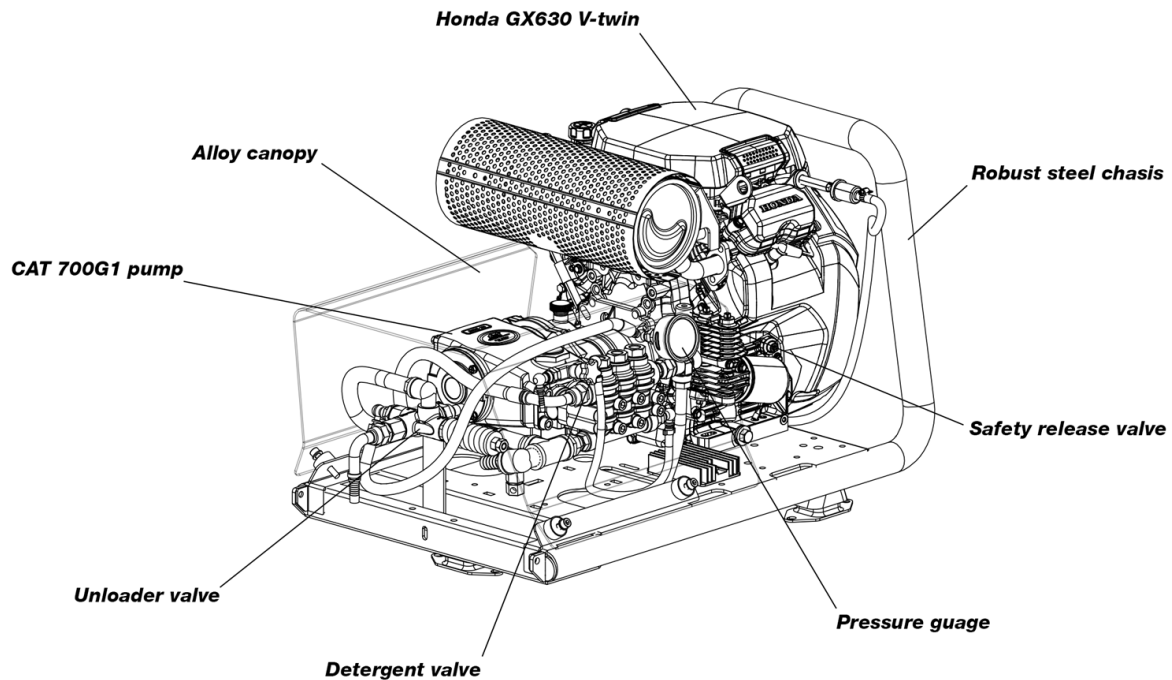
20 litre fuel tank complete with filler and low fuel shut off.

50KPE-VT skid

Honda GX630-VT & CAT700G pump combination high pressure washer (see following page for key features).

BBW50KPE-VT Skid key features

Please study the following image of the components.



Honda GX630 V twin engine

4 cylinder V-twin petrol engine, *please refer to the Honda GX630 V twin engine manual supplied with this machine prior to initial operation and engine troubleshooting.*

Robust steel chasis

Powder coated mild steel construction for use in harsh conditions.

Safety release valve

Pre-set, check for leaks prior to use.

Pressure gauge

Glycerine filled pressure monitoring gauge. Check gauge is reading correctly prior to use.

Detergent valve

Detergent flow rate valve. Always turn off when machine is not in use.

Unloader valve

Pre-set unloader valve, allows the water to bypass back to the pump the when the trigger is closed.



IMPORTANT: This valve is pre-set and should NOT be tampered with.

CAT 700G1 Pump

High Pressure triplex ceramic plunger pump with gear box. Check pump oil level daily.

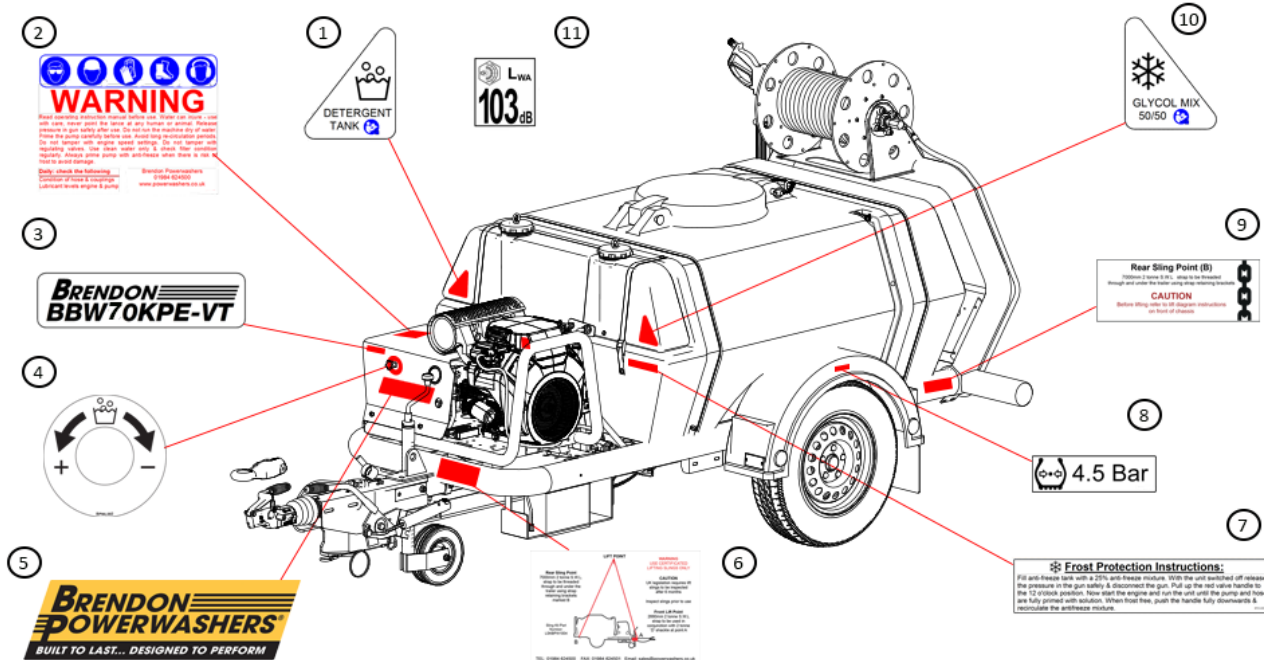
Alloy canopy

Protects pump and plumbing assembly from general debris.

Label identification front view



IMPORTANT: For health & safety reasons you are responsible to display ALL labels in the correct locations and must be in a readable condition, not doing so could lead to potential hazards or damage to the machine.

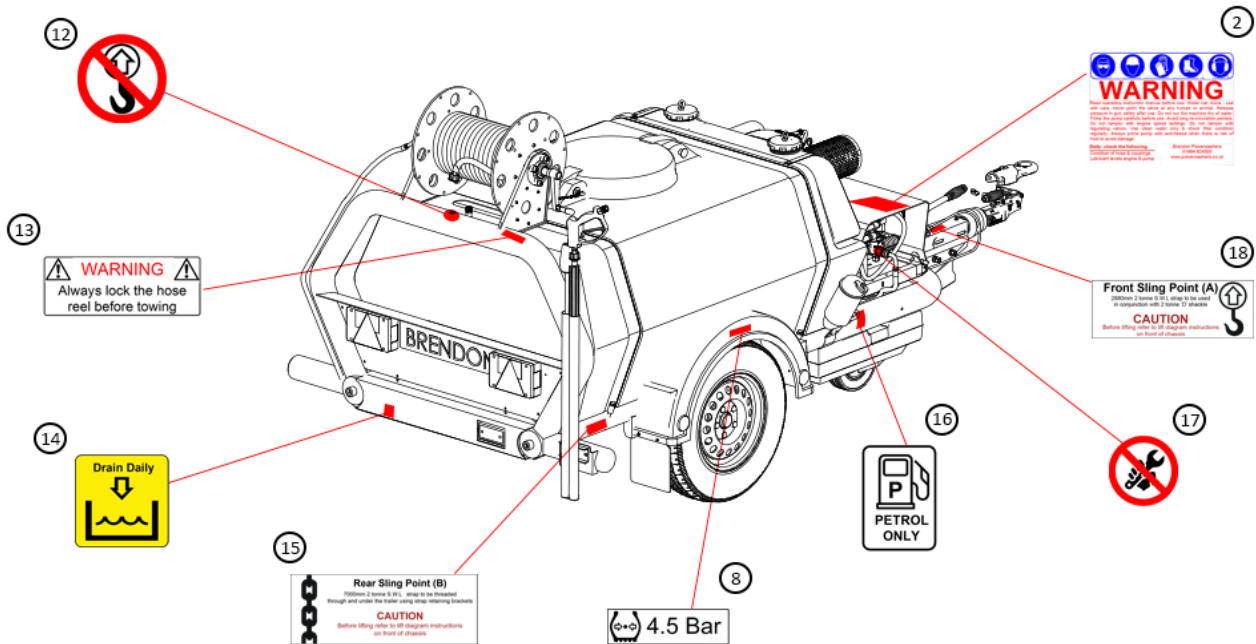


ID	Qty	Part No.	Items	Description
1	1	BPWL098UK	1	Detergent tank
2	1	BPWL029UK	1	Health & Safety warning
3	1	BPWL164	1	BBW70KPE-VT decal
4	1	BPWL082UK	1	Detergent valve direction
5	1	BPW002SR	1	Brendon decal semi rigid laminated
6	1	BPWL010UK	1	Lift instructions
7	1	BPWL028UK	1	Frost protection instructions
8	2	BPWL026EU	1	4.5 Bar tyre pressure
9	1	BPWL011UK	1	Rear sling point (right)
10	1	BPWL100UK	1	Glycol mix 50%
11	1	BPWL054	1	LWA 103 dB
12	1	BPWL039	1	No lift
13	1	BPWL038UK	1	Lock hose reel
14	1	BPWL307UK	1	Drain daily
15	1	BPWL012UK	1	Rear sling point (left)
16	1	BPWL080UK	1	Petrol only
17	1	BPWL046	1	Do not tamper
18	1	BPWL009UK	1	Front sling point

Label identification rear view



IMPORTANT: For health & safety reasons you are responsible to display ALL labels in the correct locations and must be in a readable condition, not doing so could lead to potential hazards or damage to the machine.



ID	Qty	Part No.	Items	Description
1	1	BPWL098UK	1	Detergent tank
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18	1	BPWL009UK	1	Front sling point

Using this machine



Prior to using this machine please complete the pre-use safety check sheet at the back of this manual.



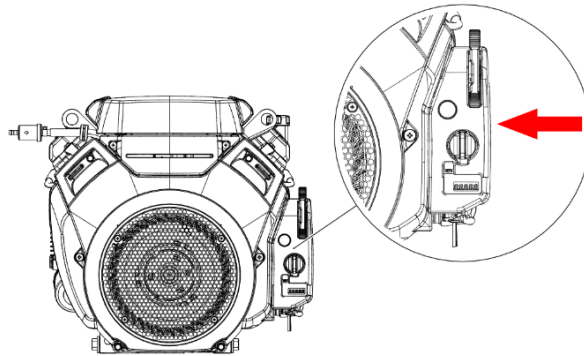
Refer to the Health & Safety information and PPE recommendations prior to using this machine.

Start & stop procedure

Before starting this machine:



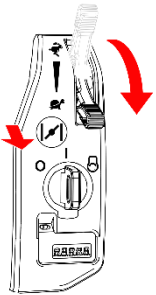
- Read the **Engine manufacturers** owner's manual prior to use.
- Refer to the **Health & Safety** section of this manual prior to use.
- Refer to the **PPE** recommendations section of this manual prior to use.
- **Check** hoses, connections, gun & lance assembly is in good condition.
- **Check** engine oil level.
- **Check** pump oil level.
- **Check** gearbox oil level.
- **Check** fuel level.



Preparation:

1. Place suction hose into a clean water with adequate volume for use. (refer to **Water flow rate / consumption per min** on the specifications table)
2. Assess the work and the environment is suitable for the machine (refer to the **Precautions** section in this hand book).

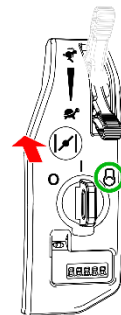
To start the machine:



1. Locate the throttle control lever on the GX630 engine control panel and set to idle speed (Turtle icon).
2. Pull out the choke knob (cold start only) if required.

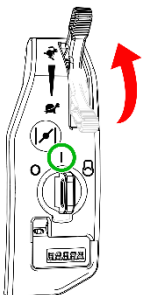
3. Insert and turn key to the start position (far right) until the machine turns over.

If the engine fails to start after 10 seconds, wait 30 seconds and try again. If the engine fails to start call the Brendon help-line on +44 (0)1984 624500

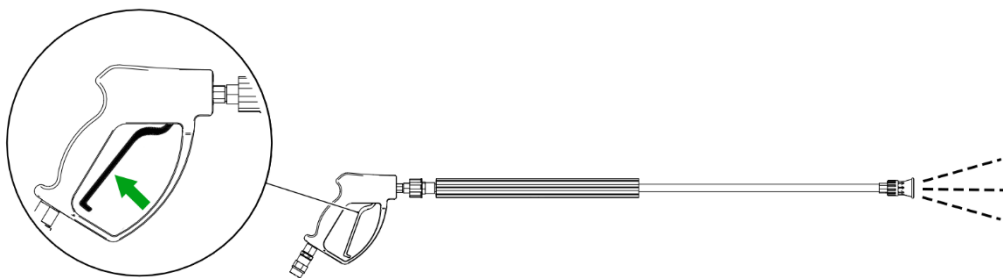


4. Let the engine run for a few seconds and close the choke knob (if required).

5. Adjust the throttle lever to the desired speed (towards Hare icon).
6. Pull back on the trigger until water pressure is obtained from the nozzle.



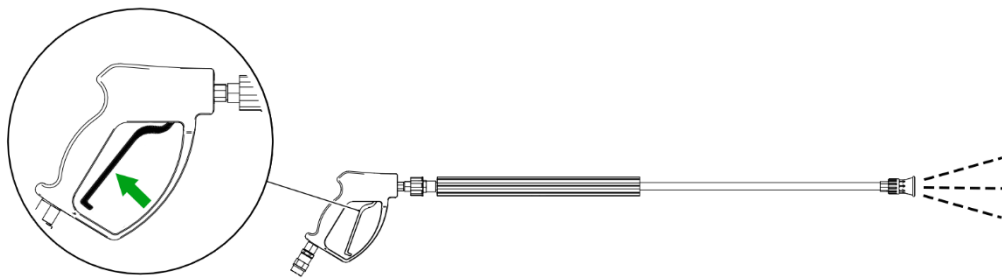
If no water pressure is achieved after 15 seconds, switch off the engine and check the water supply.



**WARNING: The machine MUST be shut down after 5 minutes when not in use!
ALWAYS: Monitor fuel level during use!**

To stop the machine:

1. Locate the throttle control lever on the GX630 engine control panel and set to idle speed (Turtle icon).
2. Turn key to the **OFF** position (far left)
3. **Release** any residue pressure in the system by pulling the trigger.



Using the gun & lance



WARNING: High pressured water can be dangerous if subject to misuse. This machine is safe if it is used for the purpose for which it was designed. Brendon Powerwashers cannot be liable if the machine is used in a poor state of repair or if any parts of the machine are tampered with or modified in any way.

1. Set the throttle to the desired speed / pressure.
2. Reel off enough supply hose required for the work area.
3. Stand in a braced stance with the nozzle pointing towards the work surface.
4. Aim the nozzle approximately* 5cm - 10cm from the work surface and pull the trigger.



***IMPORTANT:** The type of surface, Type of nozzle and throttle speed will affect the overall finish of the surface. It is recommended that a small area or test piece is used to adjust the settings to achieve the desired finish.



WARNING: There is a recoil action when the trigger is opened.
WARNING: High pressure water can damage and erode some surfaces, always check suitability before use.

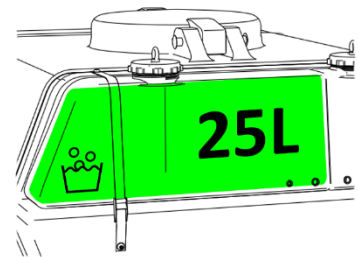
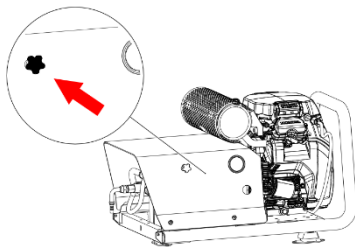
Using detergent or chemical



WARNING: Only use detergents or chemicals approved by Brendon Powerwashers. Using unapproved detergents or chemicals may cause damage to the pump and could VOID your warranty.

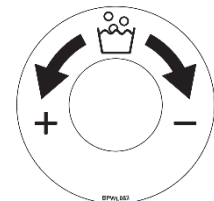
The **Brendon BBW50KPE-VT** has a metered injection system to add the detergent or chemical. This allows the operator to adjust the amount being used.

1. Fill the detergent / chemical tank with a Brendon approved detergent / chemical.



2. Locate the detergent / chemical valve knob on the skid canopy.

3. Turn the Chemical valve to introduce detergent / chemical to the water flow.
4. Pull trigger and adjust valve for desired strength.
5. Turn off valve (clockwise) to stop detergent / chemical flow. Rinse with fresh water.



WARNING: Eye protection must be worn when cleaning with detergents and chemicals



CAUTION: Ensure that any chemical that you use is **BIODEGRADABLE**. If you are in any doubt, do **NOT** use until you have checked with the manufacturer

Frost Protection

Run and prime the pump with a 50% strength of standard anti-freeze solution to protect the pump if subjected to sub-zero ambient temperatures.



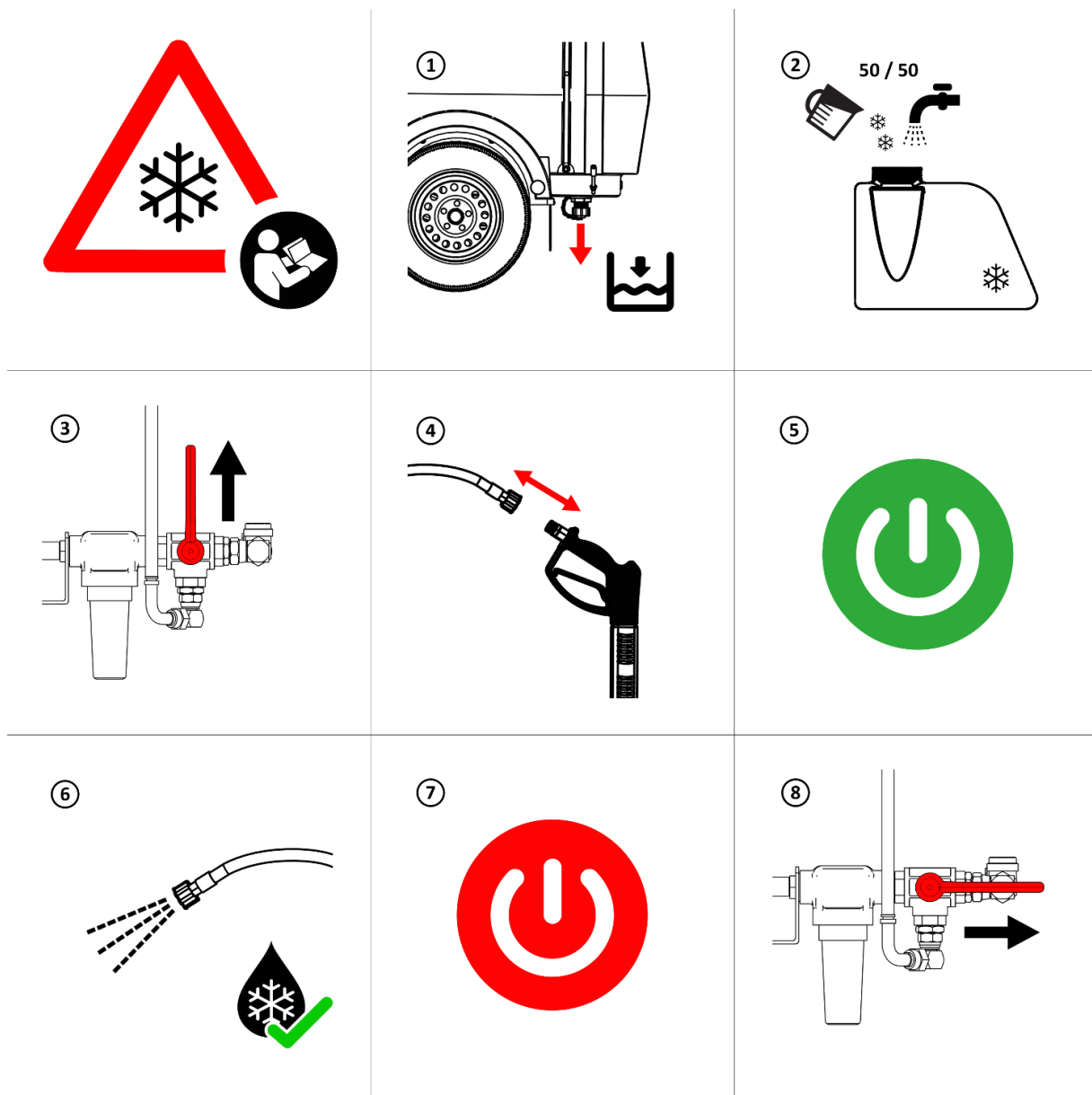
WARNING: Anti-freeze is toxic. Ingestion can be fatal!

DO NOT INDUCE VOMITING. Seek urgent medical attention.



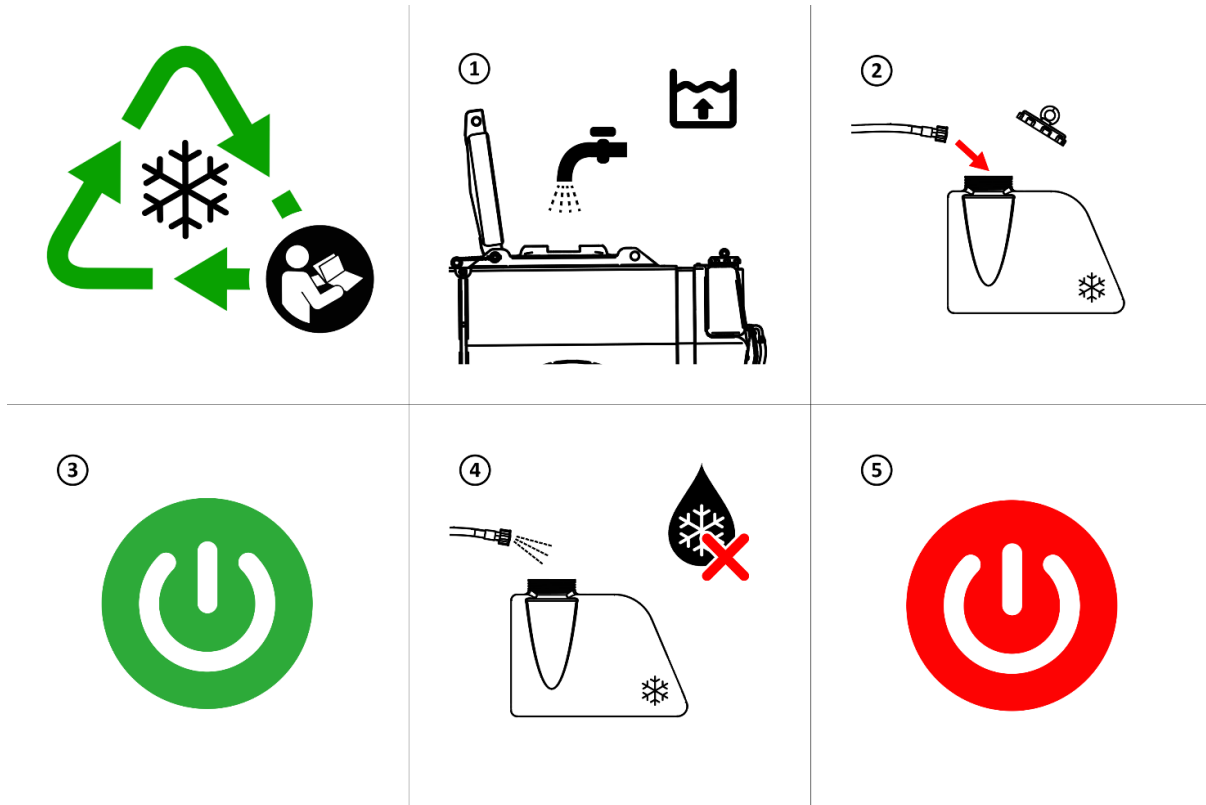
IMPORTANT: Read the Anti-freeze **COSSH** certificate at the back of this manual.

Brendon Bowser – Anti-Freeze instructions



1. Drain the remaining water from the main Brendon bowser tank
2. Fill the anti-freeze tank with 50% Glycol / 50% water mixture (10 litres)
3. Turn the RED handled lever up (12 o'clock position)
4. Disconnect the trigger from the high pressure hose
5. Turn on / start the engine
6. Run the engine until the 50% Glycol / 50% water mixture exits the hose
7. Turn OFF the engine
8. Turn the RED handled lever to the right (3 o'clock position)

Brendon Bowser – Anti-Freeze recycle instructions



1. Fill the main Brendon bowser tank with potable water
2. Remove the red cap of the anti-freeze tank and ready the hose
3. Turn on the engine
4. Run the engine until all the 50% Glycol / 50% water mixture has exited the hose into the anti-freeze tank
5. Turn off the engine



WARNING: Anti-freeze is toxic. Ingestion can be fatal!

DO NOT INDUCE VOMITING. Seek urgent medical attention.



IMPORTANT: Read the Anti-freeze **COSSH** certificate at the back of this manual.

Troubleshooting

Fault	Probable Cause	Solution
Low Pressure	<ul style="list-style-type: none"> • Insufficient water flow feeding the pump • Blocked filters • Worn pump seals • Worn pump valves • Worn relief valve / unloader • Leaking hose or joints 	<ul style="list-style-type: none"> • Unblock inline water filter • Tighten suction hose joints • Clean filters • Renew pump seals • Renew valves • Replace / Service unloader • Rectify Leaks • Replace hose
Pulsation	<ul style="list-style-type: none"> • Restricted water supply • Air entering the system 	<ul style="list-style-type: none"> • Check & clean all filters • Check inlet hose connections
Engine will not start	<ul style="list-style-type: none"> • Engine fuel valve closed • Engine crankcase low of oil • Water tank empty • Clogged engine fuel filter 	<ul style="list-style-type: none"> • Turn on engine fuel valve • Top up engine with oil • Fill water tank • Replace engine fuel filter

*If the problem persists or is not listed, please ring the
Brendon Help-Line +44 (0)1984 624500 or
email Spares@powerwashers.co.uk*



BBW50KPE-VT – Service schedule

We recommend that the **BBW50KPE-VT** service schedule should be followed to optimise the maximum capabilities and longevity of the machine.



TIP: Keep a record of all the maintenance and services of this machine to ensure the schedule below is met.

Please refer to the **BBW50KPE-VT** user's manual **Health & Safety, PPE & Maintenance** sections prior to any service work done on this machine. Please contact the Brendon help-line for advice if required.

Service Schedule					
Period or	1 Month	6 Months	12 Months	18 Months	24 Months
Running Hours	50Hrs	250Hrs	500Hrs	750Hrs	1000Hrs
Engine Oil	X	X	X	X	X
Oil Filter	X	X	X	X	X
Pump Oil	X	X	X	X	X
Gearbox Oil	X	X	X	X	X
Air Filter	-	-	X	-	X
Fuel Filter	-	-	X	-	X
Spark Plug	-	-	X	-	-
Nozzle/s	-	X	X	X	X
Pump Seals	-	-	-	-	X
Pump Valves	-	-	-	-	Check
Unloader Valve	-	-	-	-	X
HP Hose & Fittings	Check	Check	Check	Check	X
Gun & Lance	Check	Check	Check	Check	X
Trailer Brakes	-	Check	Check	Check	X
Tyres	Check	Check	Check	Check	Check
Hitch Coupling	Check	Grease	Check	Grease	Check
Lights	Check	Check	Check	Check	Check

(X = Replace)

Warranty Conditions

We, **Brendon Ltd**, undertake that if within twelve months of the date of delivery this **BRENDON** product or any part thereof is proved to be defective by reason only of faulty workmanship or materials, the company will at its option, repair or replace the same **FREE OF CHARGE** for labour, materials or carriage on the condition that:

1. The machine has been correctly installed and used in accordance with the supplied instructions/operation manual.
- A) The machine has been serviced by a competent person as per the Brendon and engine manufacturer's instructions.
- B) The machine is still in the possession of the original purchaser.

To make a claim please call the Brendon Help-line on **+44 (0)1984 624500** or email **Spares@powerwashers.co.uk**

This Warranty is void if:

1. The machine is used with a damaged or without the "Brendon Suction Strainer".
2. The machine is used with dirty or contaminated fluid.
3. The engine throttle screw is tampered with causing the engine and pump to run to fast
4. The engine has been used with dirty or contaminated fuel
5. The machine is used with chemicals/accessories/parts not approved by Brendon
6. The machine has been adapted or technically altered without prior written authorisation from the Brendon Technical Department
7. The machine has been obviously mistreated or has had no basic maintenance

Service history


















Please service this machine regularly to optimise performance and longevity.










For spares or assistance please call the Brendon help-line on +44 (0)1984 624500 or email Spares@powerwashers.co.uk








Date	Hours	Service / repair description	Completed by




Notes















Brendon Powerwashers symbol key














General Safety / Warnings	
Icon	Description
	Safety alert
	Important information alert
	Hot surface
	Risk of inhalation of dangerous gases / Suffocation
	Risk of electrical shock
	Sever hazard or moving parts
	Explosion risk
	Fire risk / Flammable
	Crush risk
	Trip hazard
	Slip hazard
	Chemical burn / Corrosive
	High pressure water / spray
	Hot water & steam
	Flying objects
	Working environment risk
	Noise



	Rotating fan
	Health hazard
	Toxic
	Environmental hazard
	Flammable liquid
	Irritant / Harmful
	Prohibited / Do not
	Do not drink
	Noise / Sound level

Safety / Mandatory	
Icon	Description
	Read manual / Instructions
	Read service manual / Instructions
	Wear ear protection
	Wear gloves
	Wear boots
	Wear helmet
	Wear goggles

	Wear face mask
	Wear protective clothing
	Wear Hi-Vis

Actions / General	
Icon	Description
	Look / Check
	Listen
	Do / Always
	Do not / Never
	Direction
	Point of focus
	Point of focus
	Rotate / Circulate
	Turn / Direction
	Switch on
	Switch off
	Recycle
	Lock
	Unlock

Pump / Engine	
Icon	Description
	Engine oil
	Check engine oil
	Pump
	Pump oil
	Check pump oil
	Gearbox
	Gearbox oil
	Check gearbox oil
	Power / Battery
	Service / Maintenance
	Do Not Tamper
	Petrol
	Diesel

Machine / attachments	
Icon	Description
	Detergent
	Glycol / Anti-freeze

	Glycol & water mixture
	Fill
	Drain
	Max level
	Low Water / Fuel
	Hose reel
	Lock hose reel
	Lift point
	Sling / Chain point
	Do not lift
	Forklift
	Forklift point
	Carry frame / Static unit
	Mobile unit
	Bowser unit
	DUSTEC trolley unit



IMPORTANT: These symbols may differ slightly in design or colour either on the machine and/or it's attachments and in the manual/s. If you are unsure, please contact us by:
 Email: Spares@powerwashers.co.uk or Phone: +44 (0)1984 624500.

BBW50KPE-VT - Pre-use safety check sheet.

We recommend that this sheet is filled out by the operator prior to every use, it is a simple visual check that the machine and its components are in good condition / working order.



TIP: Make copies of this page for the operators to fill out before each use.

If any items are unfit for use, please contact your **HIRE COMPANY** or the Brendon help-line for advice. (use the notes section to detail any fault / issues)

Operator name: _____ Date: ___/___/_____

Item/s	Description / What to check	Fit for use	Unfit for use
Engine	Oil level (dip stick)		
	General condition (dents / breaks)		
	Fuel level		
	Condition of push button starter / electric cables		
Pump	Pump oil level (sight glass)		
	Gearbox oil level		
Plumbing	Condition of Unloader & Thermo sensor valves		
	Hoses & connectors (leaks / cracks)		
Skid chassis	Chassis (dents, cracks or breaks)		
	Condition of vibration mounts		
Gun & lance	Trigger and lance assembly (leaks / cracks)		
	Delivery hose, reel & connectors (leaks / cracks)		
	Condition of nozzle/s		
Pressure gauge	General condition		
	Shows pressure when trigger in operation		
Bowser chassis	Chassis (dents, cracks or breaks)		
	Back bar (dent, cracks or breaks)		

Item/s	Description / What to check	Fit for use	Unfit for use
Bowser tank	Main water tank (leaks / cracks)		
	Water level		
	Detergent tank (leaks / cracks)		
	Glycol (anti-freeze) tank (leaks / cracks)		
	Plumbing (hoses & connectors)		
Bowser trailer	General condition (dents / breaks)		
	Brakes working correctly (no movement): <ul style="list-style-type: none"> • Cables x2 • Hand brake lever • Brake rod 		
	Condition of Wheels / tyres <ul style="list-style-type: none"> • Pressure (4.5Bar) • Tyre tread 		
	Lights: <ul style="list-style-type: none"> • Plug & lead condition • Tail lights (left / right) • Stop (left / right) • Indicators (left / right) • Fog lights (left / right) • Number plate lights (left / right) • Reversing light • Amber side reflectors x4 • Front facing reflectors x2 		
	Condition of hitch (running gear) <ul style="list-style-type: none"> • Breakaway cable • Ball lock lever (if applicable) • Locking pin (if applicable) • Bellow (splits / tears) • Jockey leg & handle function • Jockey wheel condition 		



Anti-Freeze COSHH Information



Product:	GP3 anti-freeze / coolant.
Application:	Water freezing point suppressant.
Composition:	Mono Ethylene glycol with anti-corrosion additives.

Physical Data:	Green/Blue liquid. Soluble in water.
Boiling Point:	198°C.
Specific Gravity:	1.13 @ 20°C
Odour:	Sweetish.

Fire Hazard Data:	Flash point = 111°C.
Hazardous Combustion Products:	Oxides of carbon, water vapour and Unidentified carbon compounds.
Extinguisher media:	CO2, Dry Powder, Foam, Halon, Water Vapour.
Incompatible materials:	Strong oxidizer's and Perchloric acid.

Toxicological Data:	Toxic Dose - 100ml adult man - Ethylene glycol.
TLV:	10Mg/m ³ (Mist) 60Mg/m ³ (Vapour).
Effect on Skin:	Can cause irritation.
Effect on Eyes:	Mild irritation and smarting, with temporary conjunctive reaction.

Emergency and First Aid Procedures:

Ingestion:	Can be fatal (Minimal dose 100 ml adult men) DO NOT INDUCE VOMITING. Seek urgent medical attention Give milk or water if patient is conscious.
Contact with eyes:	Flush with plenty of water for 15 minutes.
Contact with skin:	Wash with soap and water.
Inhalation of mist:	In the event of dizziness or nausea, remove from exposure keep warm and at rest. If affects persist, seek medical attention. If breathing stops give artificial respiration and if necessary cardiac resuscitation. Seek medical help. Notes for Doctors: Gastric lavage should be considered if significant quantities have been swallowed in previous 4 hours.

Spillages:	Soak up with absorbent material and collect solids in container. Clean floor with water.
Disposal:	Incinerate or land dump in accordance with local regulations.



IMPORTANT: This document is to provide brief information for the operator, a complete Chemical Safety Data Sheet (CSDS) be requested by contacting us by: Email: Spares@powerwashers.co.uk or Phone: +44 (0)1984 624500.

Classic 10W-40 COSHH Information



Product:	Classic 10W-40.
Application:	Motor oil.
Composition:	Mineral oil of petroleum origin.

Physical Data:	Clear yellow thick slippery liquid, insoluble and floats on water.
Boiling Point:	n/a.
Specific Gravity:	0.865 - 0.875 @ 15°C.
Odour:	Characteristic.

Fire Hazard Data:	Flash point = 234°C.
Hazardous Combustion Products:	gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.
Extinguisher media:	Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog.
Incompatible materials:	Strong oxidising agents.

Toxicological Data:	Toxic Dose: No data, unlikely event, obtain medical advice.
TLV:	(TLV) TWA 5 mg/m ³ (highly refined).
Effect on Skin:	Can cause irritation.
Effect on Eyes:	Mild irritation.

Emergency and First Aid Procedures:

Ingestion:	Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.
Contact with eyes:	Flush with plenty of water for 15 minutes.
Contact with skin:	Wash with soap and water.
Inhalation:	Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Notes for First Aiders: First aider needs to protect himself. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device

Spillages:	Soak up with absorbent material and collect solids in container. Clean floor with soapy water.
Disposal:	Dispose in accordance with local regulations.



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Hydraulic Oil ISO 68 COSHH Information



Product:	Hydraulic Oil ISO 68.
Application:	Hydraulic oil
Composition:	Mineral oil of petroleum origin.

Physical Data:	Clear yellow thick slippery liquid, insoluble and floats on water.
Boiling Point:	n/a.
Specific Gravity:	0.882 @ 15.5°C.
Odour:	Oily Characteristic.

Fire Hazard Data:	Flash point = 220°C.
Hazardous Combustion Products:	gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.
Extinguisher media:	Carbon dioxide (CO ₂). ABC powder. Foam.
Incompatible materials:	Strong oxidising agents.

Toxicological Data:	Toxic Dose: No data, unlikely event, obtain medical advice.
TLV:	No Data.
Effect on Skin:	Can cause irritation.
Effect on Eyes:	Mild irritation.

Emergency and First Aid Procedures:

Ingestion:	Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.
Contact with eyes:	Flush with plenty of water for 15 minutes.
Contact with skin:	Wash with soap and water.
Inhalation:	Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Notes for First Aiders: First aider needs to protect himself. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Spillages:	Soak up with absorbent material and collect solids in container. Clean floor with soapy water.
Disposal:	dispose in accordance with local regulations.



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Traffic Film Remover (TFR) COSHH Information



Product:	TFR ULTRA.
Application:	Cleaning agent.
Composition:	Mixed chemicals (Harmful / Corrosive)

Physical Data:	Dark Red Fluid. Soluble in water.
Boiling Point:	100°C.
Specific Gravity:	1.150 c/St typical @ 20°C.
Odour:	Mild.

Fire Hazard Data:	Flash point = n/a.
Hazardous Combustion Products:	Oxides of carbon, water vapour and Unidentified carbon compounds.
Extinguisher media:	CO ₂ , Dry Powder, Foam, Halon, Water Vapour.
Incompatible materials:	Acids, aluminium, tin, zinc or alloys containing these metals, strong oxidising agents.

Toxicological Data:	Classed as serious eye irritant.
TLV:	2mg/m ³ @ 15min STEL.
Effect on Skin:	Can cause irritation.
Effect on Eyes:	Mild irritation and smarting, with temporary conjunctive reaction.

Emergency and First Aid Procedures:

Ingestion:	Wash out mouth with water and give sips of cold water to soothe the affected parts. Do not induce vomiting.
Contact with eyes:	Flush with plenty of water for 15 minutes.
Contact with skin:	Wash with soap and water.
Inhalation of mist:	Remove to fresh air. If symptoms persist, seek medical advice. Notes for Doctors: <i>Treat symptomatically.</i>

Spillages:	Soak up with absorbent material and collect solids in container. Hose away with plenty of water diluting to at least 5% w/v (50 g / litre).
Disposal:	Dispose only in accordance with Local and National Authority regulations.



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