

PRO-KLEEN

PK110B

Electric Pressure Washers

Operating Instructions



User Manual -
Please read and
retain for future
reference

www.prokleen.co.uk

Introduction

General Information

Please read the entire instruction manual before using the product and then save it for future reference. We reserve the right for any errors in text or images and any necessary changes made to technical data. If you have any questions concerning technical problems please contact our Customer Services on 0800 091 3171.

Safety Instructions

General safety instructions for pressure washers:
Warning: Read all the instructions. Failure to comply with the following instructions can lead to electric shocks, fires or serious injury.

SAVE THESE INSTRUCTIONS.

The term “pressure washer” in the following text refers to your handheld mains operated or battery operated tool.



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Application

THE PORTABLE PRESSURE WASHER is a highly specialised multi-functional machine with exceptionally reliable safety assurance, which must be inspected before it may be used to wash and clean cars, bikes and other outdoor equipment or garden patios, green houses etc.

Safety and warning information

AUTOMATIC ON/OFF:

The motor on this pressure washer does not run continuously. It only runs when the trigger of the spray gun is squeezed. After following the start up procedures in this manual, turn the pressure washer ON and squeeze the trigger for activation. See "Operating Instruction" section in this manual for further details.



WARNING! The electrical supply connection shall be made by a qualified person and comply with IEC 60364-1. The electric supply to this machine should include either a residual current device that will interrupt the supply if the leakage current to earth exceeds 30 mA for 30 ms or a device that will prove the earth circuit.

WARNING! The operating method to be followed in the event of accident (e.g. contact with detergents: rinse with an abundance of clean water) or breakdown to prevent unsafe situations.

WARNING! The motor of this pressure washer will NOT run unless the trigger is squeezed.

Safety guidelines

This manual contains information that is very important to know and understand. This information is provided for **SAFETY** and to **PREVENT EQUIPMENT PROBLEMS**. To help recognise this information, observe the following symbols.



DANGER! Danger indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING! Warning indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION: Caution indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

NOTE: Information that requires special attention.

Important safety instructions

SAVE THESE INSTRUCTIONS



WARNING! When the machine is used, following precautions should always be considered:

1. Read all instructions before using the machine.
2. To reduce the risk of injury, close supervision is necessary when a machine is used near children.
3. ALWAYS disconnect power before disassembling or repairing the unit of the machine.
4. Ensure safety devices are operating properly before using the machine.
DO NOT remove or modify any part of the gun or unit of the machine.
5. Know how to stop this machine and bleed pressure quickly. Be thoroughly familiar with the controls.
6. Stay alert – watch what you are doing.
7. Do not operate the machine when fatigued or under the influence of alcohol or drugs.
8. Keep operation area clear of all persons.
9. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
10. Follow the maintenance instructions specified in the manual.
11. Use cleaning agent supplied or recommend by the manufacturer.
12. Only put the machine on stable place when using, transporting, assembly or dismantling. Do not rough handle the machine when transporting.
13. In any event of accident (e.g. contact with detergents, rinse with an abundance of clean water), please always switch off the machine and pull out the plug from socket outlet, and Disconnect the connection with water.
14. The machine is not intended to be connected to the portable water mains. If necessary, please use only inlet hose-set approved by IEC 61770.



RISK OF SEVERE INJURY. *Keep clear of nozzle. Do not aim directly at anyone. This machine is to be used only by trained operators. Always remove the lance from the gun before cleaning debris from tip.*

- Keep clear of nozzle. NEVER direct high pressure spray at any person, animal or self.
- Always wear safety glasses or goggles and protective clothing when operating or performing maintenance.
- Never put hand or fingers over the spray tip while operating the unit.
- Never try to stop or deflect leaks with any body part.
- Always engage the trigger safety latch in the safe position even when spraying is stopped for a moment.
- Always follow detergent manufacturer's label recommendations for proper use of detergents. Always protect eyes, skin, and respiratory system from detergent use.
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Servicing of a double insulated machine

WARNING!

In a double insulated machine, two systems of insulation are provided instead of grounding. No grounding means are provided for a double insulated machine, nor should grounding means be added to the machine. Servicing a double-insulated machine requires extreme care and knowledge of the system, and should be done only by qualified service personnel.

Replacement parts for a double insulated machine must be identical to the original parts. A double insulated machine is marked with the words "Double Insulation" or "Double Insulated." Machine may also be marked with symbol shown in Figure 1.

Figure 1
Double insulated
symbol



WARNING! Do not use pressure that exceeds the operating pressure of any of the parts (hoses, fittings, etc.) in the pressurised system. Ensure all equipment and accessories are rated to withstand the maximum working pressure of the unit.



WARNING! Explosion hazard. Never spray flammable liquids or use pressure washer in areas containing combustible dust, liquids or vapours. Never operate the machine in a closed building or in or near an explosive environment.

WARNING! Do not spray electrical apparatus and wiring.

- Never disconnect the high pressure discharge hose from the machine while the system is pressurised. To depressurise machine, turn power and water supply off, then press gun trigger 2~3 times.
- Never permanently engage the trigger mechanism on the gun.
- Never operate the machine without all components properly connected to the machine (handle, gun/wand assembly, nozzle, etc.).

WARNING! Equipment damage.

- ALWAYS turn water supply "ON" before turning pressure washer "ON." Running pump dry causes serious damage.
- Do not operate the pressure washer with the inlet water screen removed. Keep screen clear of debris and sediment.
- NEVER operate pressure washer with broken or missing parts. Check equipment regularly and repair or replace worn or damaged parts immediately.
- Use only the nozzle supplied with this machine.
- Never leave the gun and lance unattended while the machine is running.
- Never attempt to alter factory settings. Altering factory settings could damage the unit and will void the warranty.
- Always hold gun and lance firmly when starting and operating the machine.
- NEVER allow the unit to run with the trigger released (off) for more than one (1) minute. Resulting heat build-up will damage pump.
- Pressure washer is not supposed to pump hot water. NEVER connect it to a hot water supply as it will significantly reduce the life of the pump.
- NEVER store the pressure washer outdoors or where it could freeze. The pump will be seriously damaged.
- Release trigger when changing from high to low pressure modes. Failure to do so could result in damage.
- Be aware of the recoil caused by the water jet when the machine is switched on.



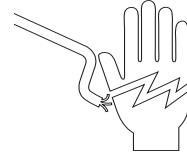
CAUTION: Keep hose away from sharp objects. Burst hoses may cause injury. Examine hose regularly and replace it if damaged. Do not attempt to mend a damaged hose.

Extension cables

Use only extension cables intended for outdoor use. These are identified by the mark "Acceptable for use with outdoor machines; store indoors while not in use." Use only extension cables having an electrical rating equal to or more than the rating of the machine. Do not use damaged extension cables. Examine extension cable before using and replace it if damaged. Do not abuse extension cable. Do not pull on the cable to disconnect. Keep cable away from heat and sharp edges. Always disconnect cable from receptacle before disconnecting machine from extension cable.

DANGER! Failure to follow these instructions can result in serious injury, including death.

WARNING! To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch plug with wet hands.



Machines shall not be used by children. Children should be supervised to ensure that they do not play with the machine. This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

WARNING! This machine has been designed for use with the cleaning agent supplied or recommended by the manufacturer. The use of other cleaning agents or chemicals may adversely affect the safety of the machine.

WARNING! High pressure jets can be dangerous if subject to misuse. The jet must not be directed at persons, live electrical equipment or the machine itself.

WARNING! Recommend the operator to wear ear protectors.

WARNING! Do not use the machine within range of persons unless they wear protective clothing.

WARNING! Do not direct the jet against yourself or others in order to clean clothes or foot-wear.

WARNING! Risk of explosion-Do not spray flammable liquids.

WARNING! High pressure cleaners shall not be used by children or untrained personnel.

WARNING! High pressure hoses, fittings and couplings are important for the safety of the machine. Use only hoses, fittings and couplings recommended by the manufacturer.

WARNING! To ensure machine safety, use only original spare parts from the manufacturer or approved by the manufacturer.

WARNING! The machine shall be disconnected from its power source by removing the plug from the socket-outlet during cleaning or maintenance and when replacing the machine to another function.

WARNING! Do not use the machine if a supply cable or important parts of the machine are damaged, e.g. safety devices, high pressure hoses, trigger gun.

WARNING! If an extension cable is used, the plug and socket must be of watertight construction.

WARNING! Inadequate extension cables can be dangerous. If an extension cable is used, it shall be suitable for outdoor use, and the connection has to be kept dry and off the ground. It is recommended that this is accomplished by means of a cable reel which keeps the socket at least 60mm above the ground.

WARNING! In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

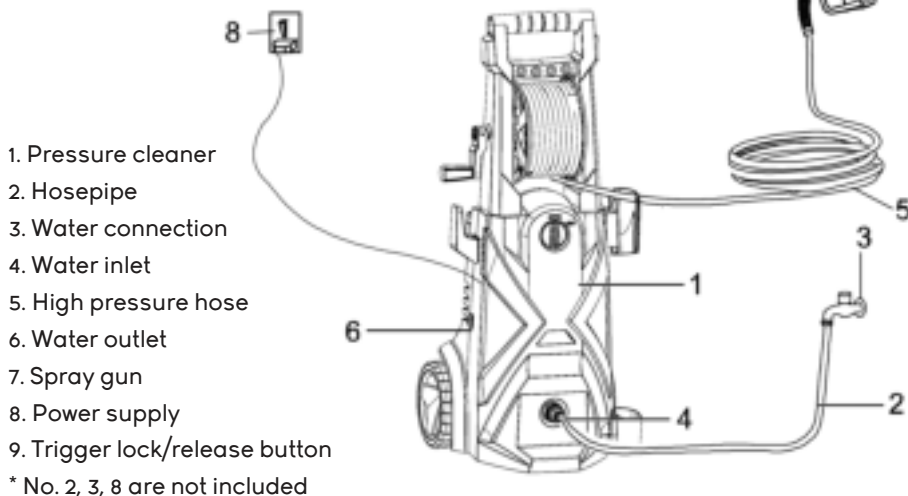
Warning symbol:
Machine not suitable
for connection to the
potable water mains.



Connection

1. Attach the high pressure hose to the pressure water outlet of the machine, this is located at the bottom rear of the machine, please remove the black plastic thread protector before connecting.
2. Attach the spray gun handle to the high pressure hose. Prior to operating the machine please ensure that the high pressure hose has been completely uncoiled from its cable reel. Whilst the machine is in operation the hose **MUST** not loop.
3. Connect the chosen spray nozzle to the lance or any other equipment you want to use.
4. Attach the clear plastic water filter connector to the connection at the bottom front of the machine, please remove the black plastic thread protector before connecting. Then attach the hosepipe (not supplied) making sure the water is switched on after the hosepipe is connected.
5. Carefully connect the machine to the power supply.
6. Turn the machine on, please note it may take a short while for the machine to build pressure up.
7. The unit will not operate until the gun trigger is pressed, this is a power saving and safety feature, the unit will also stop automatically when the gun trigger is released.

Installation, electrical and water connections



Pre-operation

ADJUSTING FAN PATTERN

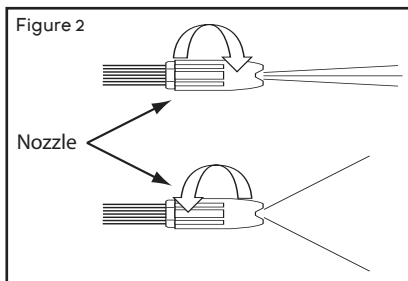


FIGURE 2 - ADJUSTING NOZZLE FOR FAN PATTERN

(not applicable on some nozzles)

The angle of spray coming out of the lance may be adjusted on some lances by rotating the nozzle. This will vary the spray pattern from approximately a 0° narrow high impact stream to a 60° wide fan spray. (See Figure2)

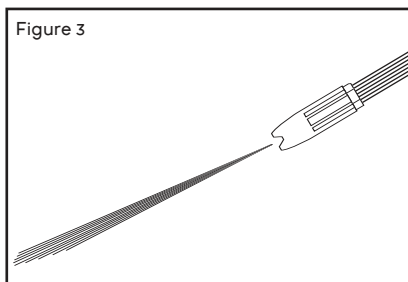


FIGURE 3 - NARROW HIGH IMPACT STREAM

A narrow stream has high impact force on the cleaning surface and results in maximum deep cleaning in a concentrated area. However, this narrow high impact spray must be used cautiously, as it may damage some surfaces. NOT SUITABLE FOR VEHICLES.

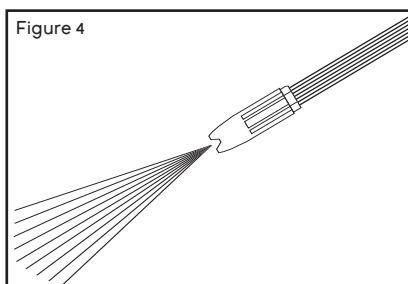


FIGURE 4 - WIDE FAN PATTERN

A wide fan pattern will distribute the impact of the water over a larger area, resulting in excellent cleaning action with a reduced risk of surface damage.

Nozzle cleaning instructions

A clogged or partially clogged nozzle can cause a significant reduction of water coming out of the nozzle and cause the unit to pulsate while spraying. To clean out the nozzle:

- Turn off and unplug unit.
- Turn off water supply. Relieve any pressure trapped in the hose by squeezing trigger 2-3 times.
- Separate lance from gun.
- Rotate nozzle to the narrow stream setting. This opens up the fan blades.
- Using included tip cleaner, or an unfolded paper clip, insert wire into the nozzle hole and move back and forth until debris is dislodged. (See Figure 5.)

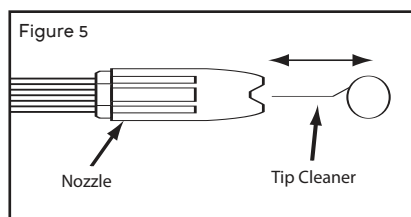


FIGURE 5 - INSERT TIP CLEANER IN NOZZLE HOLE AND MOVE BACK AND FORTH UNTIL DEBRIS IS DISLODGED

- Remove additional debris by back-flushing water through the nozzle. To do this, place end of a garden hose (with water running) to end of nozzle for 30-60 seconds.

Angle to the cleaning surface

When spraying water against a surface, maximum impact is generated when the water strikes the surface "head on." However, this type of impact tends to cause dirt particles to imbed in the surface, thereby preventing the desired cleaning action. The optimum angle for spraying water against a cleaning surface is 45 degrees.



FIGURE 6 - OPTIMUM ANGLE TO CLEANING SURFACE

Spraying water against a surface at this angle provides for the most beneficial impact force combined with efficient removal of debris from the surface.

Distance from cleaning surface

Another factor that determines the impact force of the water is the distance from the spray nozzle to the cleaning surface. The impact force of the water is increased as the nozzle is moved closer to the surface.

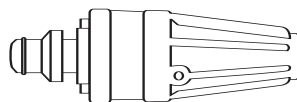
How to avoid damaging surfaces

Damage to cleaning surfaces occurs because the impact force of the water exceeds the durability of the surface. The impact force can be varied by controlling the three previously noted items. Never use a narrow high impact stream or a turbo/rotary nozzle on a surface that is susceptible to damage. Avoid spraying windows with a narrow high impact stream or turbo nozzle as this may cause breakage. The surest way to avoid damaging surfaces is to follow these steps:

1. Before triggering the gun, adjust the nozzle to a wide fan pattern.
2. Place the nozzle approximately 4-5 feet from and 45 degrees to the cleaning surface, and trigger the gun.
3. Vary the fan pattern spray angle and the distance to the cleaning surface until optimum cleaning efficiency is achieved without damaging the surface.

Turbo nozzle/Dirt blaster

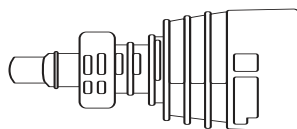
Pro-Kleen Turbo Nozzle/Dirt Blaster, sometimes referred to as a rotary nozzle, is a very effective tool that can significantly reduce cleaning time. The turbo nozzle combines the power of a narrow high impact stream and the efficiency of a 25 degree fan pattern. This swirls the narrow high impact stream into a cone shape that cleans a larger area and is perfect for paving slabs and will even help remove flaking paint from brickwork. **CAUTION:** Since a turbo nozzle uses a narrow high impact stream, only use it in applications where the cleaning surface cannot be damaged by narrow high impact spray, the Turbo Nozzle should not be used on vehicles and paintwork. Additionally, the turbo nozzle is NOT adjustable and cannot be used to apply detergent.



To use the turbo nozzle, simply turn off the pressure washer and unplug from the power supply, press the trigger 2-3 times to remove any pressure. Press the button at the end of the lance section and remove the standard nozzle and store in a safe place, then simply push the turbo nozzle into the end of the lance until you hear it click into place.

Prokleen Foam Lance Compatible Adaptor

This adaptor is supplied free of charge by Prokleen and is used only in conjunction with the Prokleen Snow Foam Lance (Karcher Compatible Lance) which is purchased separately and is available on www.prokleen.co.uk.



OPERATION

The following cleaning procedure will help you to organise your cleaning task, and ensure that you achieve the most beneficial results in the shortest amount of time. Remember to use the spraying/cleaning techniques previously listed.

1. Surface preparation

Before starting a pressure wash cleaning job, it is important to prepare the surface that is to be cleaned. This is done by cleaning the area of furniture, and making sure that all windows and doors are closed tight. In addition, you should make sure that all plants and trees adjacent to the cleaning area are protected by a drop cloth. This will ensure that your plants won't be sprayed by the detergents.

2. Initial high pressure rinse

The next step is to spray the cleaning surface with water to clear off any dirt or grime that may have collected on the surface. This will allow your detergent to attack the deep down dirt that has worked its way into the cleaning surface. Before triggering the gun, adjust the nozzle to a wide fan pattern and slowly adjust to the desired spray pattern. This will help you avoid applying too much concentrated spray to the surface which could cause damage.

3. Final rinse

Start the final rinse at the bottom and work upwards. Make sure you thoroughly rinse the surface and that all detergent has been removed.

4. Shut down

1. Be sure all detergent is flushed from the system.
2. Turn off the motor.
3. Turn off the water supply.
4. After the motor and water supply are turned off, trigger the gun to depressurise the system.

CAUTION: NEVER turn the water supply off before turning the motor off. Serious damage could occur to the pump and or motor.

WARNING! NEVER disconnect high pressure discharge hose from the machine while system is pressurised. To depressurise, turn the motor off, turn water supply off and squeeze the gun trigger 2-3 times.

5. After each use, wipe all surfaces of the pressure washer with a clean, damp cloth.

Detergents

We recommend using Pro-Kleen snow foam shampoo and Pro-Kleen accessories with this pressure washer, please visit www.prokleen.co.uk for more information.

The use of detergents can dramatically reduce cleaning time and assist in the removal of difficult stains. Some detergents have been customised for pressure washers use on specific cleaning tasks. These detergents are approximately as thick as water. The use of thicker detergents, such as dish soap, will clog the chemical injection system and prevent the application of the detergent.

The cleaning power of detergents comes from applying them to a surface and giving the chemicals time to break down the dirt and grime. Detergents work best when applied at low pressure.

The combination of chemical action and high pressure rinsing is very effective. On vertical surfaces, apply the detergent starting at the bottom and work your way upward. This will prevent the detergent from sliding down and causing streaks. High pressure rinsing should also progress from the bottom to top. On particularly tough stains, it may be necessary to use a brush in combination with detergents and high pressure rinsing.

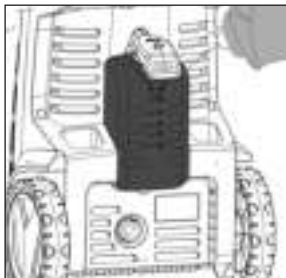
Using Detergent

Add detergent to the container as shown in Fig. 8.

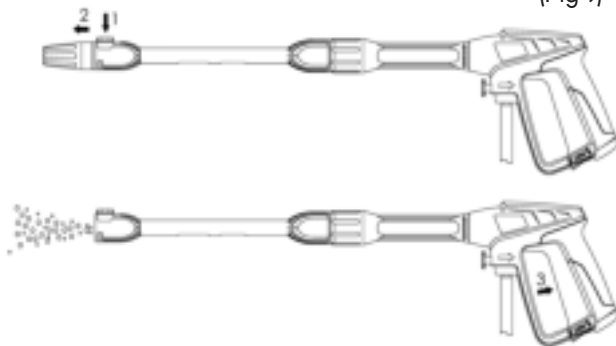
Foam Cleaning

1. Remove the Adjustable Spray Nozzle from the end of the lance, this allows the lance to give a even coverage of the foam detergent when applying. Fig 9.
2. Evenly spread the detergent over the vehicle.
3. Leave for a few minutes then rinse off, you can also gently use a vehicle sponge or vehicle brush before rinsing.
4. For best results do not allow the detergent to dry before rinsing.

(Fig 8)



(Fig 9)



5. Storage

Do not store pressure washer outdoors. Do not store pressure washer where it might freeze.

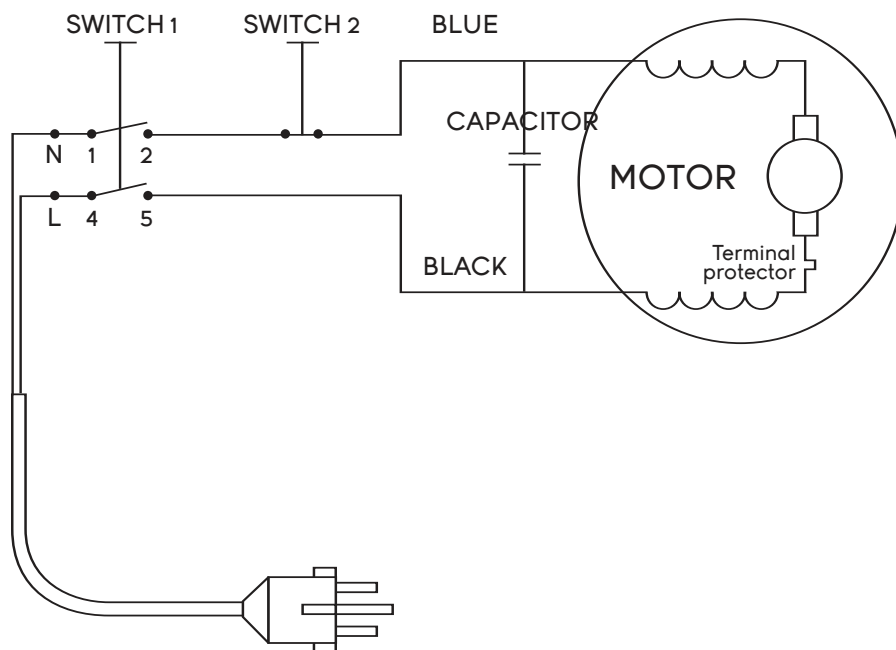
TIPS FOR EXTENDING THE LIFE OF YOUR PRESSURE WASHER

1. Never operate unit without water.
2. Pressure washer is not meant to pump hot water. Never connect to hot water supply - this will significantly reduce life of the pump.
3. Using detergent other than others brand may cause damage to pump components (o-rings, etc.). This also applies to chemicals such as bleach, dish soap, etc.
4. Never operate unit for more than one (1) minute without spraying water. Resulting heat build-up will damage pump.
5. Before adjusting nozzle's pressure (high-to-low or low-to-high) release trigger. Failure to do so will reduce life of o-rings in lance.

TECHNICAL DATA

ITEM	PK110B
Working pressure	11MPa(110 bar)
Allowable pressure	16.5MPa(165 bar)
Working flow rate	6.3 l/min
Max. flow rate	8.1 l/min
Max. pressure water supply	0.4MPa(4 bar)
Motor Capacity	2200W
Power Supply Voltage	240V~50Hz
Max. Water Temperature	50°

ELECTRICAL DIAGRAM



Possible problem and solution

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION(S)
No detergent suction –units with tanks.	1. Lance nozzle is not in low pressure	1. Slide lance nozzle into low pressure position.
	2. High pressure extension hose or high pressure hose is too long.	2. Remove high pressure extension hose or use high pressure hose shorter than 25 feet.
	3. Injector clogged on pump	3. Call the dealer
No detergent Suction - units with attachable applicators	Detergent applicator is clogged	1. Clean applicator with warm water 2. Replace applicator
Unit begins to smoke	Overheated, overloaded damaged motor	Turn off unit and call the dealer

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION(S)
Pressure washer does not start up	1. Unit is pressurised 2. Plug is not well connected or electric socket is faulty. 3. Extension cable is too long or wire too small. 4. Main voltage supply is too low. 5. Thermal safety switch has tripped.	1. Squeeze trigger on gun 2. Check plug, socket and fuse. 3. Remove extension cable 4. Check main supply voltage age is adequate. 5. Switch off unit and allow motor to cool down.
Pump does not reach necessary pressure	1. Water inlet filter is clogged 2. Pump is sucking air from hose connections. 3. Nozzle is worn or not the correct size. 4. Unloader is clogged/worn. 5. Valves clogged or worn.	1. Clean water inlet filter. 2. Check that connections and locking ring are properly tightened. 3. Call the dealer. 4. Call the dealer. 5. Call the dealer.
Fluctuating Pressure	1. Pump is sucking in air. 2. Clogged nozzle. 3. Valves dirty, worn or stuck 4. Water seals worn.	1. Check that hoses and connections are tight 2. Clean with tip cleaner (see page 8) 3. Call the dealer. 4. Call the dealer.
Motor stops suddenly	1. Extension cable is too long or wire size too small. 2. Thermal safety switch has tripped due to overheating.	1. Remove extension cable (see page 4) 2. Check that main supply voltage age corresponds to specifications.

Environmental responsibilities



Meaning of crossed-out wheeled dustbin:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local council for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

SERVICE WARRANTY

Hygiene Supplies Direct guarantees the product free from defects in materials and workmanship for a period of 1 year from date of purchase.

Should this unit be operated under conditions other than those recommended, at voltages other than the voltage indicated on the unit, or any attempts made to service or modify the unit, then the warranty will be rendered void. The product you buy may sometimes differ slightly from illustrations. This warranty is in addition to, and does not affect, your statutory rights.

If you have any problems with this product, please call our Help Desk on 0800 091 3171 or email sales@hygienesuppliesdirect.com

Hygiene Supplies Direct Ltd, Castleford, England WF10 1PA declares that the Electric Pressure Washer is exclusively manufactured and imported for Pro-Kleen.