

Thankyou for choosing this product

Silverline Tools 1 Year Guarantee

- This guarantee becomes effective at the date of retail purchase.
PLEASE KEEP YOUR RECEIPT.
- If this product develops a fault within 30 days of purchase, return it to the stockist where it was purchased, with your receipt, stating details of the fault. You will receive a replacement or refund.
- If this product develops a fault within 1 year of purchase return it to;

Silverline Tools Service Centre
PO Box 2988
Yeovil
BA21 1WU

Include your original receipt, details of the fault, your name and address, place and date of purchase. We do not refund carriage. All product should be in a suitably clean and safe state for repair, and should be packaged carefully to prevent damage or injury during transportation. We may reject unsuitable or unsafe deliveries.

- You must provide proof of purchase before any work can be carried out.
- All work will be carried out by Silverline Tools or its authorised repair agents.
- Any parts which are replaced will become the property of Silverline Tools.
- The repair or replacement of the product will not extend the period of guarantee.
- The repair or replacement of your product under guarantee provides benefits which are additional to and do not affect your statutory rights as a consumer.

What is covered:

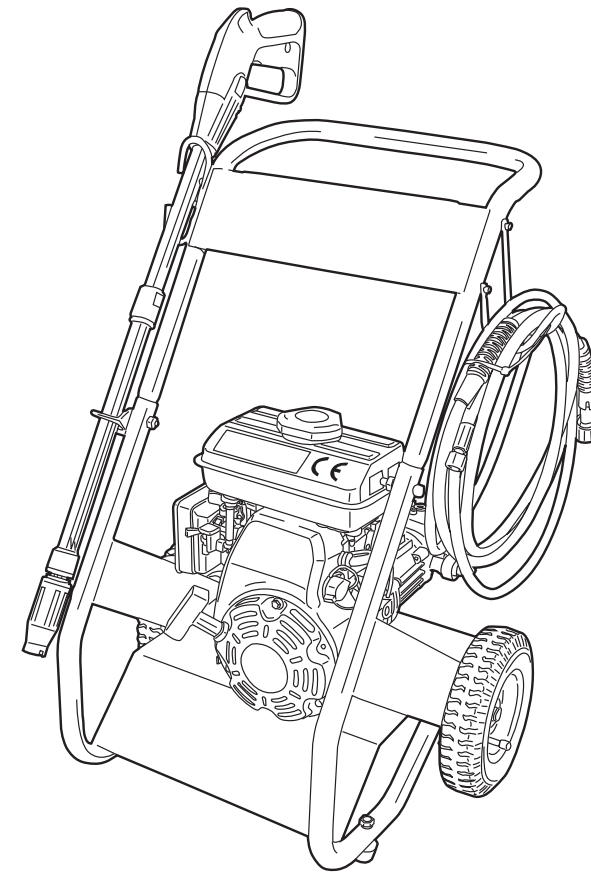
- The repair of the product, if found to be defective due to faulty materials or workmanship within 1 year of purchase. If any part is not available or out of manufacture, Silverline Tools will replace it with a functional replacement part.
- Use of the product in the UK.

What is not covered:

Silverline Tools does not guarantee repairs required as a result of:

- Normal wear and tear Eg blades, brushes, belts, bulbs, batteries etc.
- Accidental damage, faults caused by negligent use or care, misuse, neglect, careless operation or handling of the product.
- Use of the product for anything other than normal domestic purposes.
- Change or modification of the product in any way.
- Use of parts and accessories which are not Silverline Tools genuine components.
- Faulty installation (except installed by Silverline Tools).
- Repairs or alterations carried out by parties other than Silverline Tools or its authorised repair agents.

SILVERLINE[®]



Users Manual

2.5hp Petrol Driven Pressure Washer

Product Code 633847

© November 2006



Introduction

This manual is an integral part of the pressure washer and should be kept with it at all times. If the pressure washer is resold this manual should be included in the sale.

Safety Messages

A safety message is to alert you to potential dangers that could hurt you or others. Each safety message is preceded by one of three words **DANGER**, **WARNING** or **CAUTION**.

These Words Mean

DANGER: YOU WILL BE KILLED OR SERIOUSLY INJURED IF YOU FAIL TO FOLLOW THE INSTRUCTIONS.

WARNING: YOU CAN BE KILLED OR SERIOUSLY INJURED IF YOU FAIL TO FOLLOW THE INSTRUCTIONS.

CAUTION: YOU CAN BE SERIOUSLY INJURED IF YOU FAIL TO FOLLOW INSTRUCTIONS.

Each safety message tells you what the hazard is, what can happen and what you can do to avoid and reduce injury. There are other important messages preceded with the word **NOTICE**.

NOTICE: MEANS YOUR PRESSURE WASHER OR OTHER PROPERTY COULD BE DAMAGED IF YOU FAIL TO FOLLOW THESE INSTRUCTIONS.

The purpose of these messages is to help prevent damage to you, your pressure washer, other property and the environment.

General Safety Instructions

Even when used as prescribed it is not possible to eliminate all residual risk factors. Use with caution.

Keep guards in position

- Always keep guards in position, in good working order, correctly adjusted and aligned. Never attempt to use a power tool without any guard supplied with it.
- Provide adequate surrounding work space and keep area well lit.

Children & Pets

- Children and pets should always be kept at a safe distance from your work. Make your work area child-proof. Lock tools away where children can't get access to them.

Use the correct power tool

- Don't force, or attempt to use a power tool for a purpose it was not designed for. Do not use a small tool to do the job of a heavy duty tool.

Wear correct clothing and footwear.

- Don't wear loose clothing, neck ties or jewellery or other items which may get caught in moving parts. Wear non-slip footwear, cover or tie back long hair. Use safety footwear if necessary.

Protect your head

- Wear safety goggles at all times, every day glasses are not sufficient for eye protection, as lenses are not impact resistant and could shatter. Use an approved face mask. Hearing protection should be used if the sound intensity level for the operator could exceed 80dB(A). Use a hard hat where there is a risk of falling objects or striking your head on low level obstructions. Protect yourself from vibration.
- Hand held power tools may produce vibration. Vibration can cause disease. Gloves to keep the operator warm and dry and therefore maintain good blood circulation in the fingers may help. This tool has not been designed for extended or industrial operation.

Secure work

Keep your balance

- Don't over reach; keep proper footing at all times to ensure correct balance.

Maintain your power tool

- Keep your power tool in good working order.

Never stand on your power tool

- Standing on your power tool or its stand could cause serious injury if the tool is tipped. Do not store materials above or near the tool so that it is necessary to stand on the tool or its stand to reach them. Check for damaged or missing parts.

- Before each use check if any part of the power tool is damaged or missing, check carefully that it will operate properly and perform its intended function. Check alignment of moving parts for binding. Any guard or other part that is damaged should be correctly repaired or replaced.

Check any other condition that may affect the safety of the power tool. **DO NOT USE IF DEFECTIVE.**

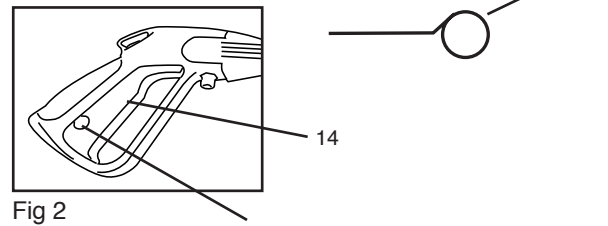
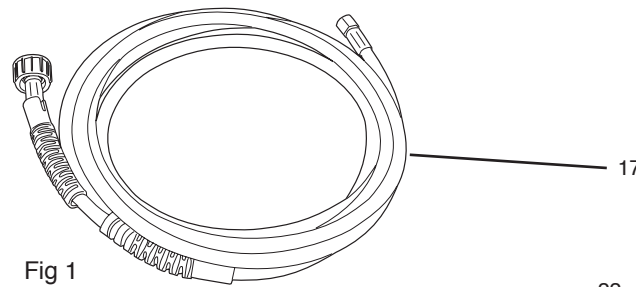
Before operating the engine, be sure to read and familiarise yourself with the manual to prevent personal injury and/or damage to the product.

To prevent fire hazard and provide adequate ventilation, keep the machine at least 1 metre away from buildings and other equipment whilst in use.

Do not place flammable objects close to the engine.

Do not leave the engine running unattended

Always wait until the engine has come to a complete stop before leaving it.



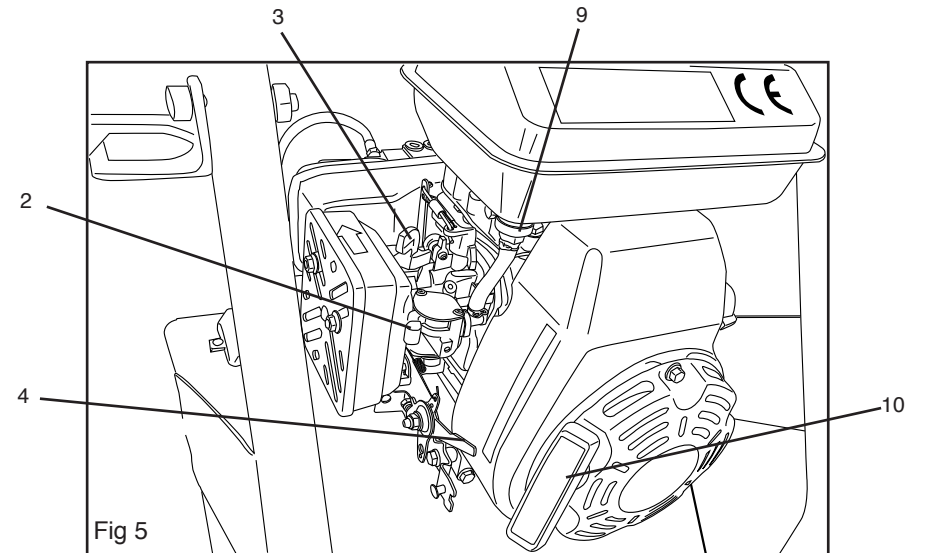
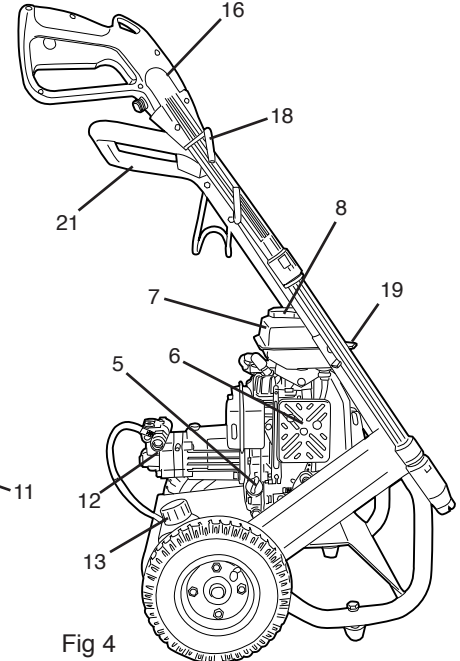
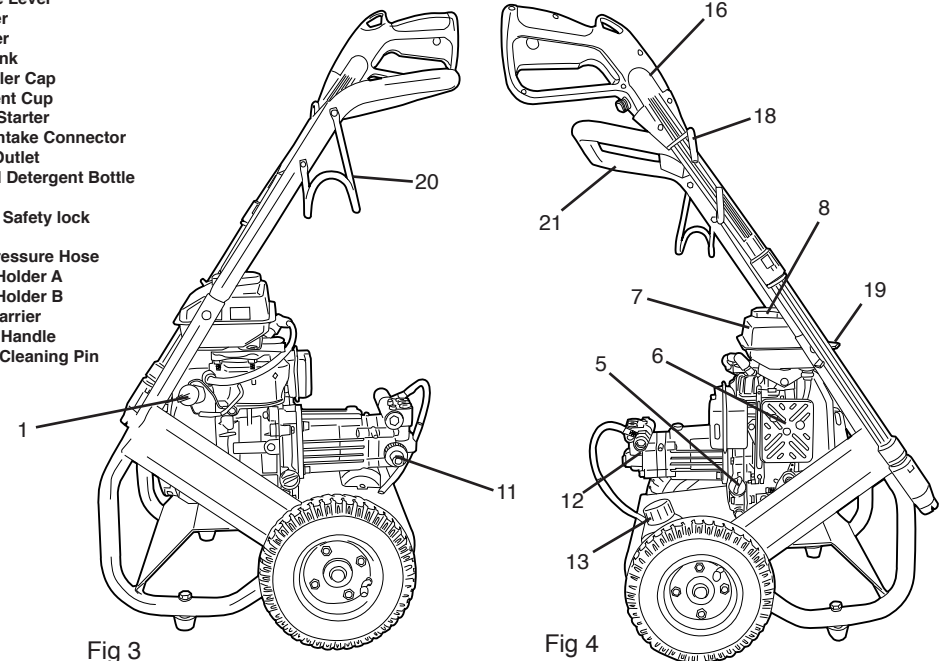
SPECIFICATION

Motor:	2.5hp (97cc) 4 stroke single cylinder side mounted valve Unleaded Regular Engine Oil
Fuel:	
Oil:	
Working Bar Pressure:	110 bar
Maximum Bar Pressure:	161 bar
Flow per Minute:	7 Litres
Sound Pressure:	77dB
Sound Power:	97dB
Weighted Vibration:	1.5m/s ²

Product Familiarisation

Petrol Driven Pressure Washer

1. On/Off engine switch
2. Fuel Lever
3. Choke
4. Throttle Lever
5. Oil Filler
6. Air Filter
7. Fuel Tank
8. Fuel Filler Cap
9. Sediment Cup
10. Recoil Starter
11. Water Intake Connector
12. Water Outlet
13. Integral Detergent Bottle
14. Trigger
15. Trigger Safety lock
16. Lance
17. High Pressure Hose
18. Lance Holder A
19. Lance Holder B
20. Hose Carrier
21. Transit Handle
22. Nozzle Cleaning Pin



General Product Information

PRIOR TO USE - ENGINE OPERATING INSTRUCTIONS

Pre-operation checks

Fuel Lever

- The fuel lever is located between the petrol tank and the carburettor (see Fig 5(2)). When the lever is in the **ON** position fuel can flow from the tank to the carburettor. Make it a rule to switch the fuel lever to the **OFF** position after stopping the engine or whilst being stored.

Choke

- The choke provides enriched fuel mixture when starting a cold motor. It can be opened and closed with the choke switch left for open (direction of arrow), right for closed (See Fig 5(3)).
NOTICE: Engine oil is a major factor in both engine performance and service life. Non-detergent and 2 stroke oils will damage the engine and are not recommended.

Oil Level

- Before each use check the oil level, with the engine stopped and on a level surface. Use four stroke oil, or equivalent. SAE 10W - 30 is recommended for general all temperature use.
- Unscrew the dipstick and wipe it clean with lint free cloth (See Fig 4(5)).
- Insert the dipstick in to the oil filler neck
- If oil is low fill to the top of the oil filler neck with the recommended oil.

Fuel

- If the fuel level is low refill the tank. The filler cap (see fig 4 (8)) creates an air tight seal, and to release apply downward pressure then twist anti clockwise. When re-positioning the cap, note the 2 pronounced lugs on the underside of the cap, which must be aligned with the 2 slots of the tank neck, then apply downward pressure and turn clockwise until locked.

WARNING: Petrol is extremely flammable and is potentially explosive under certain circumstances. Refuel in a well-ventilated area with the engine switched off. Do not smoke or allow sparks or flames in the area where the pressure washer is refuelled or where petrol is stored. Do not over fill and after refuelling, ensure the fuel tank cap is properly closed and secured. Do not spill petrol, when refuelling use a funnel. Spilled fuel or fuel vapour may ignite. If fuel is spilled make sure that the area is dry before starting the engine. Avoid getting petrol on your skin or breathing the vapour. **KEEP PETROL OUT OF REACH OF CHILDREN.**

The pressure washer runs on unleaded petrol only. Never use stale or contaminated petrol or oil/petrol mixture. Avoid getting dirt or water in the petrol tank.

Fuel tank capacity: 1.4 litres

NOTICE: Some petrol brands may be blended with alcohol or ether compound to increase the octane rating. These types of petrol are collectively referred to as oxygenated fuels. If you are using an oxygenated fuel the octane rating must be 86 or higher. Oxygenated fuel may cause starting and/or performance problems. Conventional petrol is recommended.

NOTICE: Oxygenated fuel can damage metal, paint, plastic and rubber. Do not spill fuel when refilling the fuel tank. Damage caused by spilled fuel is not covered under warranty it constitutes misuse.

Preparation for Starting the Engine

NOTE: This product must only be connected to the cold water source.

Following the correct procedure will protect the user and maximise the life of the pressure washer.

Ensure the on/off switch on the pressure washer is in the 'off' position (See Fig 3(1)).

Connect the water hose to the main water supply (See Fig 3(11)).

Switch on the water supply.

Pull the trigger on the lance to release (bleed) the air from the unit.

Starting the Engine

Turn the engine switch to the **ON** position (see fig 3 (1))

- Turn the fuel lever to the **ON** position.(see fig 5 (2))
- Move the choke switch to the **CLOSED** position (turned fully anti-clockwise). **DO NOT** use the choke if the engine is warm or the air temperature is high. (see fig 5 (3))

Move the throttle lever down **SLIGHTLY** towards the 'fast' position (See Fig 5 (4)).

- Pull the recoil starter lightly until resistance is felt then pull briskly (See Fig5 (10)).

- Once the engine has started, gradually move the choke lever (see fig 5(3)) to the **OPEN** position as the engine warms up. Set the choke level in a position that allows the engine to turn over evenly.
NOTICE: Do not release the recoil starter grip allowing it to snap back against the engine, it will break. Return the recoil starter grip gently to prevent damage to the starter or starter housing. Allowing the recoil starter grip to snap back constitutes misuses.

Stopping the Engine

In an emergency turn the engine switch (see fig 3 (1)) to the **OFF** position.

In normal circumstances proceed as follows:

- Push the throttle lever (see fig 5 (4)) upwards to the 'slow' position
- Turn the engine switch to the **OFF** position.
- Turn the fuel lever (see fig 5 (2)) fully clockwise to the **OFF** position. Switch off the water supply to the machine
- Discharge any remaining water in the lance by pulling the lance trigger
- Disconnect the machine from the water supply
- NEVER** turn the water supply off **BEFORE** switching off the engine, to prevent the pump running dry, as this will cause irreparable damage to the machine.
- NEVER** disconnect the high-pressure discharge hose from the machine while the system is still pressurised. Always follow the above procedure.

MAINTENANCE

WARNING: Exhaust gas contains poisonous carbon monoxide.

Switch the engine off before performing any maintenance work. If the engine must be run, ensure there is adequate ventilation. Maintenance and adjustment are necessary to keep the pressure washer in good working order.

- Engine oil:** The engine oil level should be checked before every use. The engine oil should be changed after the first month or 20 hours whichever is sooner. Thereafter change the oil every 6 months or 100 hours whichever is sooner.
- Air cleaner:** check the air cleaner before every use. Clean the air filter every 3 months or 50 hours whichever is sooner; If the pressure washer is used in dusty environments clean it more frequently.
- Sediment cup:** clean the sediment cup every 3 months or 50 hours whichever is sooner, if the pressure washer is used in dusty environments clean it more frequently (See Fig 5 (9)).
- Spark plug:** Check and clean the spark plug every 6 months or 100 hours whichever is sooner.
The following servicing should only be undertaken by a suitably qualified person with the correct equipment to do the job safely.
- Valve clearance:** Valve clearance should be checked and adjusted every year or 300 hours whichever is sooner.
- Fuel tank and strainer:** The fuel tank and strainer should be cleaned every year or 300 hours whichever is sooner.
- Fuel line:** The fuel line should be checked every two years and replaced if necessary. Always replace a cracked, leaking or other wise damaged fuel line immediately. Never operate the pressure washer with a damaged fuel line.
TIP. Log hours of operation to determine proper maintenance intervals

Engine Oil Change:

- Ensure engine is warm before attempting to drain oil. This will ensure the oil drains quickly and completely.
- Remove drain plug, sealing ring and the dipstick.
- Drain the oil.
- Reinstall drain plug and sealing ring securely.
- Refill with recommended oil and check the level.
- Reinstall the dipstick securely.
Oil capacity: 0.45 litres

CAUTION: Used motor oil can cause serious skin diseases and potentially cancer if left in contact with skin for long periods. It is advisable to use gloves suitable for handling used oil and to thoroughly wash skin with soap and water if the oil comes into contact with skin.

NOTICE: Used oil down the drain or on to the ground. Take it in a sealed container to a suitable disposal facility.

Air Filter Service

A dirty air filter restricts airflow to the carburettor. Service the air filter regularly to prevent carburettor malfunction. Service more frequently if using the pressure washer in a dusty or dirty environment.

WARNING: Do not use petrol or a flammable solvent to clean the filter element; it could cause fire or explosion. Use only soapy water or non-flammable solvent.

NOTICE: Never run the pressure washer without the air filter. Rapid engine wear will occur. Running the pressure washer without an air filter or with a dirty air filter constitutes misuse.

- Unscrew the 2 nuts securing the air filter cover and remove the element (See Fig4(6)).
- Wash the element in warm soapy water, then rinse thoroughly and allow to dry completely.
- Soak the element in clean engine oil.
- Squeeze any excess oil from the element. (NB. The engine will smoke on initial start up if too much oil was left in the element)
- Reinstall element and cover.

Fuel Sediment Cup

The sediment cup (see fig5 (9)) prevents dirt or water in the fuel tank from entering the carburettor. If the engine has been standing for a long time you should clean the sediment cup.

- Turn the fuel lever (see fig 5 (2)) to the **OFF** position.
- Remove the sediment cup and 'O' ring.
- Clean the sediment cup and 'O' ring in non-flammable or high flash point solvent and allow to dry thoroughly.
- Reinstall sediment cup and 'O' ring.
- Turn the fuel lever to the **ON** position and check for any leaks.

Spark Plug Service

Recommended spark plugs NGK L6RTF, BM4A & BMR4A.

Ensure that the spark plug is properly gapped and free from deposits in order for the engine to operate properly.

If the engine has been running the exhaust will be very hot. Be careful not to touch the exhaust.

- Remove spark plug cap.
- Clean the area around the spark plug of any dirt or debris.
- Remove the spark plug with a spark plug spanner.
- Inspect the spark plug; if it is damaged in any way discard it and use a new plug. If the plug is not damaged and is to be reused clean it with a wire brush.
- Measure plug gap with a feeler gauge and correct the gap as necessary by bending the electrode.
The plug gap should be: 0.60 – 0.70mm
- Check that the spark plug washer is in good condition, and thread the spark plug back in by hand to prevent cross threading.
- Once the spark plug is seated, tighten with a spark plug spanner. If you are reinstalling a used spark plug it should be tightened by an eighth to a quarter turn after the plug is seated. If the plug is new it should be tightened by a half turn after it is seated to compress the washer.

NOTICE: The spark plug must be tightened securely. Improperly tightened spark plugs can become very hot and can damage the engine. Never use spark plugs with the wrong heat range. Use only the plugs recommended in this manual or equivalent.

Transportation and Storage

- During transportation the engine switch (see fig 3 (1)) and fuel valve (see fig 5 (2)) should be in the **OFF** position. The pressure washer should be kept level to prevent fuel spillage. Spilled fuel or fuel vapour may ignite.

WARNING: Contact with hot engine or exhaust system can cause serious burns or fires. Always allow the pressure washer enough time to cool before storing or transporting. Do not drop or knock the pressure washer when transporting. Do not place heavy objects on the pressure washer. Before storing the pressure washer for extended periods be sure that the storage area is, and will remain, free of excessive humidity and dust.

Storage service procedure

- Less than one months storage; No special preparation required.
- 1 to 2 months storage; Fill with fresh petrol and add petrol conditioner.
- 2 months to 1 year storage; Fill with fresh petrol and add petrol conditioner. Drain carburettor float bowl. Drain sediment cup.(see fig 5 (9))
- 1 year plus storage; Fill with fresh petrol and add petrol conditioner. Drain carburettor float bowl. Drain sediment cup.(see fig 5 (9))
Remove spark plug and pour a tablespoon of clean engine oil into the cylinder. Turn the engine slowly using the pull cord (see fig 5 (10)) to evenly distribute the oil. Reinstall the spark plug. Change the engine oil. When storage period is over drain the stored petrol into a suitable container, fill with fresh petrol before starting.

Draining the carburettor

Drain the carburettor by loosening the drain screw. Drain petrol into a suitable container.

WARNING: Petrol is extremely flammable and is potentially explosive under certain circumstances. Do not smoke or allow sparks or flames in the area.

Checking the Spark Plug

Remove the spark plug cap and clean any dirt or debris from around the plug. Remove the spark plug and install it in the spark plug cap. Set the plugs electrode on the cylinder head. Crank the engine and sparks should jump across the gap.

WARNING: Be sure that there is no spilled fuel around the spark plug. Split fuel may ignite.

Check Fuel is reaching carburettor

Turn the engine switch (see fig 3 (1)) to the **OFF** position and loosen the drain screw at the base of the carburettor. Petrol should flow from the drain when the engine switch is turned on.

Drain petrol into a suitable container.

WARNING: Petrol is extremely flammable and potentially explosive under certain circumstances. Do not smoke or allow sparks or flames in the area.

USAGE OPERATING INSTRUCTIONS

ADDITIONAL PRESSURE WASHER SAFETY INSTRUCTIONS

Never direct the water jet at people or animals, as the water pressure is very powerful and can cause serious injury. Avoid aiming the jet at the pressure washer body or the power supply.

Do not use in an area where ventilation could be limited and **NEVER** cover the unit while it is in use.

Always ensure the water supply is connected and the flow is continuous into the washer when being operated. If the washer is operated when dry, it could cause irreparable damage to the machine.

The water supply should provide a consistent pressure throughout the period you are using the pressure washer. Make sure that, if the supply is shared by an appliance which could affect the water pressure eg a washing machine which draws water on and off periodically through its programme cycle, that the appliance is not used whilst using the pressure washer.

Handle the lance with care, ensuring that the tip is not damaged eg striking the ground in use.

The pressure washer should always be used in its upright position. Pressure washers can be deceptively heavy, so take care when lifting.

NEVER connect the pressure washer to the hot water supply, as this will rapidly reduce the life of the pump.

It is necessary to turn on the spray lance within one or two minutes after the machine has been switched on. Otherwise, the temperature of the water circulating within the machine will soon rise to a critical point and will cause internal damage.

After use, the machine should be drained of all water to reduce the risk of corrosion.

When you have finished using the machine, use the safety lock on the lance handle to prevent the trigger from being accidentally activated (see fig 2 (15)).

When not in use, the machine should be stored in a dry location that will not fall below freezing point.

Avoid operating the washer when it is raining or during a thunderstorm.

Always wear safety glasses or goggles and waterproof protective clothing when operating the washer.

When you have finished using the pressure washer, **ALWAYS** use this sequence to prepare the product for storage:

Switch off engine following the procedure detailed under 'Stopping the engine'.

Turn off water supply.

Depress lance trigger to drain any water residue in the machine/ hoses.

ASSEMBLY INSTRUCTIONS

DO NOT connect the pressure washer to the water supply until you have completed the assembly.

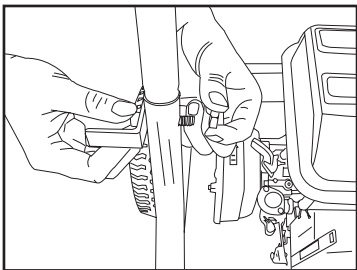


Fig 6

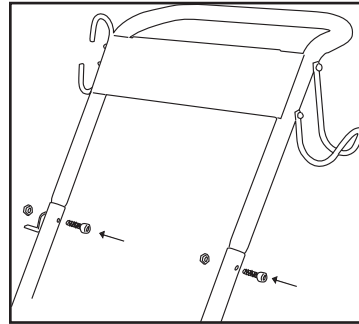


Fig 7

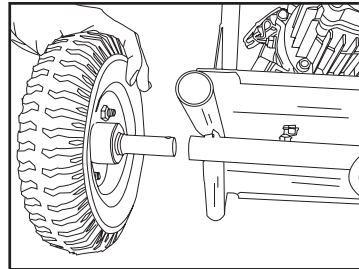


Fig 8

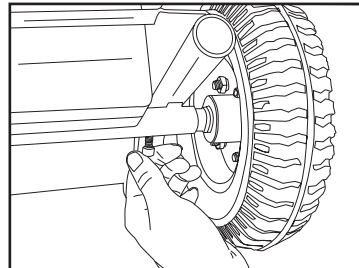


Fig 9

Tools Required

You will need a 3/16" hex key (supplied) and a 14mm spanner or an adjustable wrench (not supplied).

Assembly

Contents for Assembly:

Top handle section

4 hex bolts

4 nuts

2 wheels

lance holder A

Handle – The top half of the handle is secured to the bottom frame using the 2 x 46mm bolts and nuts (see fig 6&7). Insert the left and right sections into the bottom frame section. Note: when fitting the right hand side of the handle assembly (as viewed from the rear of the machine), first slide the bottom lance bracket onto the bolt, then pass the bolt through the aligned bracket and handle, then secure with the nut.

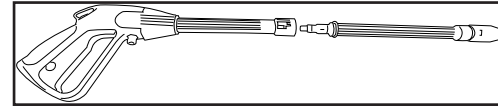


Fig 10

Wheels – insert the 2 wheel axles into the left and right hand ends of the tubular section (see figs 8&9), and secure with the 2 remaining hex ended bolts

Connect the lance to the trigger handle by pushing the bayonet end of the lance into the trigger handle and twist the lance 45° clockwise to lock in position (see fig 10).

Before fitting the high pressure hose to the threaded outlet, check the gauze filter for any obstructions.

Fit the high-pressure hose onto the threaded outlet on the back/right hand side of the machine, ensuring that it is tightly applied.

Be careful not to cross thread when screwing the hose in place (see fig 4(12)). The outlet is the protruding pipe closest to the detergent feeder tube.

Before fitting the water inlet hose to the machine, check the inlet water filter for any obstructions that would restrict the water flow to the pump.

To attach the hose feed to the water supply will require a female 3/4" push fit hose connector (not supplied).

GUIDANCE IN USE

The Lance nozzle can be adjusted between a wide fan shaped spray, reducing to a fierce narrow spray. This provides you with great versatility over the jet strength to suit the surface type and the depth of cleaning required.

When you are ready to use the washer, it is advisable to adjust the nozzle to the wide spray position initially (with the lance pointing away from you, turn the lance nozzle clockwise). You can then increase the water pressure as required by a combination of moving the lance head closer to the surface, and reducing the arc of the water spray (turning the lance nozzle anti-clockwise). If you are unsure of the durability of the surface to be cleaned, then use the combination of adjustments to distance and spray arc very carefully to maximise the efficiency of the machine without the risk of damage to the surface you are cleaning.

It is recommended that positioning the lance at a 45° angle to the surface to be cleaned will give you maximum control and the greatest cleaning efficiency. When cleaning a vertical surface using detergent, start from the bottom and work your way up, as this will minimise the risk of 'streak' lines on the surface. When using detergent, test an inconspicuous area first to ensure that the detergent will not adversely affect the surface to be cleaned.

Using Detergent with the Lance

Push nozzle away from the lance head to engage soap dispenser and reverse the procedure to stop the soap flowing.

A few seconds are then needed to allow detergent to flow. Note: The detergent will only flow when the nozzle is set for a slow water flow.

MAINTENANCE

It is highly recommended that you clean the nozzle with the cleaning pin (item 22 in 'introduction') after each use.

TROUBLESHOOTING CHART

Symptom	Possible Cause (s)	Corrective Action
Pressure Washer does not start	Unit is pressurised Is there sufficient fuel/oil in the engine?	Squeeze trigger on the gun Add fuel/oil as required.
The Engine will not start	Possible spark plug failure Fuel starvation	Clean the spark plug and check spark plug gap. Replace the spark plug. Check the fuel sediment cap for any blockage. Drain fuel system and refill.
Pump pressure is low	Water inlet filter is clogged Check for water leaks	Clean filter Check and tighten all connections
Fluctuating 'Pulsing' Pressure	Pump sucking in air Clogged Nozzle	Check and tighten all connections, and make sure the lance has been 'bled' - see 'Operating Instructions' Use cleaning pin (see item 22 in 'introduction')
No detergent being ejected	Lance nozzle not in wide spray/low pressure position	Adjust lance nozzle - see 'Guidance in use'