

EN

Original Instructions
Version 3 - September 2024



750L/MIN 7HP PETROL

TRASH WATER PUMP

16128



UK
CA CE

1. Preface

These are the original product instructions. This document is part of the product; retain it for the life of the product, passing it on to subsequent holders. Read this manual in full before attempting to assemble, operate or maintain this product.

This Draper Tools manual describes the purpose of the product and contains all the necessary information to ensure its correct and safe use. Following all the instructions and guidance in this manual will ensure the safety of both the product and the operator and increase the lifespan of the product.

All photographs and drawings within this manual are supplied by Draper Tools to help illustrate correct operation of the product.

Every effort has been made to ensure the information contained in this manual is accurate. However, Draper Tools reserves the right to amend this document without prior warning. Always use the latest version of the product manual.

1.1 Product Reference

User Manual for: 750L/Min 7HP Petrol Trash Water Pump

Stock No: 16128

Part No: PWP82T

1.2 Revisions

Version 1: May 2016
First release

Version 2: June 2022
General format and content revisions

Version 3: September 2024
General format and content revisions

As our manuals are continually updated, always ensure that the latest version is used.

Please visit drapertools.com/manuals for the latest version of this manual and the associated parts list, if applicable.

1.3 Understanding the Safety Content of This Manual



WARNING! – Situations or actions that may result in personal injury or death.



CAUTION! – Situations or actions that may result in damage to the product or surroundings.

Important: – Information or instructions of particular importance.

1.4 Copyright © Notice

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3. Product Introduction

3.1 Intended Use

This product is designed for the transfer of wastewater that contains solid and semi-solid substances and debris in environments in which access to mains power is limited. It is intended for trade use, with the quality and features necessary to meet and exceed the expectations of the most demanding user. Any other application beyond the

conditions established for use will be considered misuse. Draper Tools accepts no responsibility for improper use of this product.

Read this manual in full before attempting to assemble, operate or maintain the product, and retain it for later use.

3.2 Specification

Stock No.	16128
Part No.	PWP82T
Engine type	7hp 4 stroke (side valve)
Engine capacity	196cc
Fuel	
Type required	E10 Unleaded (95 RON)*
Tank capacity	3.6L
Oil	
Type required	SAE 10W-30
Tank capacity	0.6L
Maximum suction	7m
Suction aperture	80mm (3")
Output aperture	80mm (3")
Maximum flow	750L/min
Maximum head height	26m
Sound power level (Lwa)	108dB (A) at 7m
Dimensions (L x W x H)	580 x 470 x 460mm
Net weight	35kg
Application	Dirty water
Continuous run time	2.5 – 3hrs/75% load

*Draper Tools recommends using an additive or stabiliser with E10 petrol so the fuel can be safely stored in the fuel tank for longer.

Important: The declared noise emissions values have been measured in accordance with a standard test method and may be used for comparing one tool with another. These values may also be used in a preliminary assessment of exposure.



WARNING! The noise emissions during actual use of the product can differ from the declared values depending on the circumstances in which it is used. Before each use, estimate the likely exposure resulting from the actual conditions of use. Take into account all parts of the operation cycle in order to identify any safety measures required to protect the operator.

Important: Read all the Health and Safety instructions before attempting to operate, maintain or repair this product. Failure to follow these instructions may result in injury or damage to the user or the product.

4.1 General Health and Safety Precautions

Training and Inspection

- Only personnel who have read and understood this manual in full and are familiar with the operation, safe working techniques and safety features of this machine may operate, adjust or maintain this product.
 - **DO NOT** allow anyone who is unfamiliar with this product or unqualified in its use to operate this machine.
 - This machine is not intended for use by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction in its use by a person responsible for their safety.
- Observe all standard safety precautions and good practices when working with petrol engines and liquids.
- Before every use, inspect the product and all accessories for broken, cracked, loose or corroded parts and leakages.
- **Important: DO NOT** use this product if it is leaking or damaged in any way. Contact Draper Tools to discuss repair and replacement options.
- **DO NOT** allow familiarity or experience with this product to allow you to become complacent; remain alert at all times and **ALWAYS** adhere to the safety instructions listed in this manual.

Preparation and Intended Use

- Ensure that the surface onto which the machine is installed is flat, level, stable and capable of permanently supporting the weight of the machine.
- Ensure that the product is fully assembled, tightened and secure before use.
- **DO NOT** modify this product in any way and **ONLY** use spare parts supplied by Draper Tools.
- Use this product only in the manner described in this manual.
- **NEVER** step, stand or sit on this product.
- **DO NOT** leave the machine running unattended under any circumstances; **ALWAYS** ensure that the pump is

switched off, the hoses are disconnected and it has completely cooled before fuelling, maintaining or making any adjustment to the product.

- **DO NOT** exceed the maximum working capacities of this machine.

ATTENTION! This product is not weatherproof and MUST NOT be exposed to direct sunlight, high ambient temperatures, rain, frost or damp, wet and high-humidity environments.

Work Area Safety

- Keep your work environment clear and well-lit, with bystanders at a safe distance.
- Work only in daylight or in good artificial light.
- **DO NOT** use this product near open flames or sources of heat or ignition, or in any environment where explosive substances are present.
- **NEVER** operate the engine indoors or in any confined space where dangerous carbon monoxide fumes can collect; carbon monoxide is dangerous and can cause serious injury or death in a matter of minutes.
- **NEVER** transport the machine while the engine is running.
- Allow adequate space for the pump and hoses during use.

Personal Safety

- Wear suitable personal protective equipment, including ear defenders and protective gloves.
- Keep your hands, face and body away from heated and moving parts while the pump is in use.
- Keep long hair and loose clothing tied back to prevent it from catching in moving parts.
- **DO NOT** operate this machine if you are tired or under the influence of alcohol, drugs or other medication.

Electrical Safety



WARNING!
Risk of electric shock.

- This product produces enough electrical power to cause a serious shock or electrocution if it is misused.
- **NEVER** handle or operate this machine with wet hands.
- **NEVER** expose this machine to wet conditions or frost; **ONLY** the connected hoses and internal pumping system should come into contact with liquids.

4. Health and Safety Information

Maintenance

- Maintain the machine appropriately and correctly to prevent damage to moving parts and mechanisms.
- Have the machine serviced **ONLY** by authorised and suitably qualified personnel.
- Remove all adjustment tools before use.
- **ALWAYS** switch off the product and allow it to completely stop and cool before attempting to refuel or perform any adjustment, maintenance or other inspection.
- Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or spark.
- Allow the engine to cool before storing it in any enclosure.
- To reduce the risk of fire, keep the engine, muffler and petrol storage area free of vegetative material and excessive grease.
- Check and replace worn or damaged parts before each use.
- If the fuel tank has to be drained, it must be done outdoors.

4.2 Additional Health and Safety Instructions for this Water Pump

- **This product is NOT shipped with engine oil. ALWAYS check and top up the engine oil before every use.**
- The engine speed has been set at the factory to ensure safe operation. **DO NOT** adjust the throttle speed.
- **NEVER** use the pump if the stop switch is faulty, unusable, or missing.
- Ensure that the suction and discharge hoses are laid out flat and safely and **DO NOT** create a trip hazard.
- **NEVER** operate the pump without first correctly priming it.


ATTENTION! NEVER operate the pump without water passing through it.

- **NEVER** obstruct the discharge outlet or hose as this may severely damage the product.
- **NEVER** allow the pump or its contents to freeze.
- **NEVER** use this product to pump corrosive or toxic materials.

- **DO NOT** cover or obstruct any ventilation points or grilles.
- **DO NOT** drop or strike the pump.
 - If sudden force is applied to the pump, **IMMEDIATELY** switch it off and inspect it for damage.



WARNING! DO NOT continue to use the pump if it has sustained any damage.

- Transport the pump using the designated handle; **DO NOT** attempt to move the pump by pulling on or lifting the hosing.
-  **WARNING! This product is heavy. Use appropriate lifting equipment and ask for assistance if required.**
- Ensure all appropriate safety precautions are observed when transporting the machine:
 - **ALWAYS** ensure that the machine is switched off and the spark plug cover is disconnected during transportation.
 - Drain all fuel and oil from the product before transporting it and ensure that all reservoir caps are tightly sealed.
 - **Important:** If transporting it in a vehicle, keep the transportation unit well-ventilated. Ensure it is kept level and strapped securely in place.
 - Remove the pump from the vehicle immediately upon arrival at your destination.
 - When transporting the product by hand, maintain a firm grip on both handles and keep the machine level.
 - Keep the pump upright at all times.
 - Keep the pump out of direct sunlight during transportation.

4.3 Health and Safety Information for Machines With a Petrol Engine



WARNING! During use, parts of this product become hot enough to ignite some materials.

- **DO NOT** touch the engine or exhaust during or immediately after use and allow it to cool before refuelling.
- **NEVER** remove the fuel cap while the engine is running or immediately after use. Take care when opening the fuel cap after use as hot vapour may be released from the opening.
- **NEVER** place objects on the engine while it is in use and keep all air vents clear of dust, dirt and other obstructions.

- Faulty mufflers must be replaced.
- **NEVER** store the machine with fuel in the tank inside any structure where petrol fumes could reach an open flame or spark.



WARNING! ALWAYS fuel the machine in a well-ventilated area away from sources of ignition. Store fuel only for short periods, away from direct sunlight and heat sources, and only in containers specifically designed for that purpose. Avoid prolonged contact with the skin and inhalation of petrol vapour.



WARNING! Petrol is highly flammable:

- Store fuel in containers specifically designed for this purpose.
- **NEVER** use this product in environments where there is a risk of explosion.
- **NEVER** smoke in the vicinity of the machine.
- Refuel outdoors only and do not smoke while refuelling.
- Add fuel before starting the engine; never remove the fuel tank cap or add petrol while the engine is running or when the engine is hot.
- **NEVER** start the engine if you can smell petrol vapour in the air.
- If petrol is spilled, **DO NOT** attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated.
- Replace all fuel tank and container caps securely.

Important: E10 petrol is hygroscopic and attracts moisture. Read all the preparation and maintenance information relating to E10 fuel before using it in this machine. Draper Tools recommends using an additive or stabiliser with E10 petrol to extend the period that it can be safely stored in the fuel tank. **ALWAYS** read the label of any additive or stabiliser applied.



WARNING! The machine exhaust emits toxic carbon monoxide: a colourless, odourless gas.

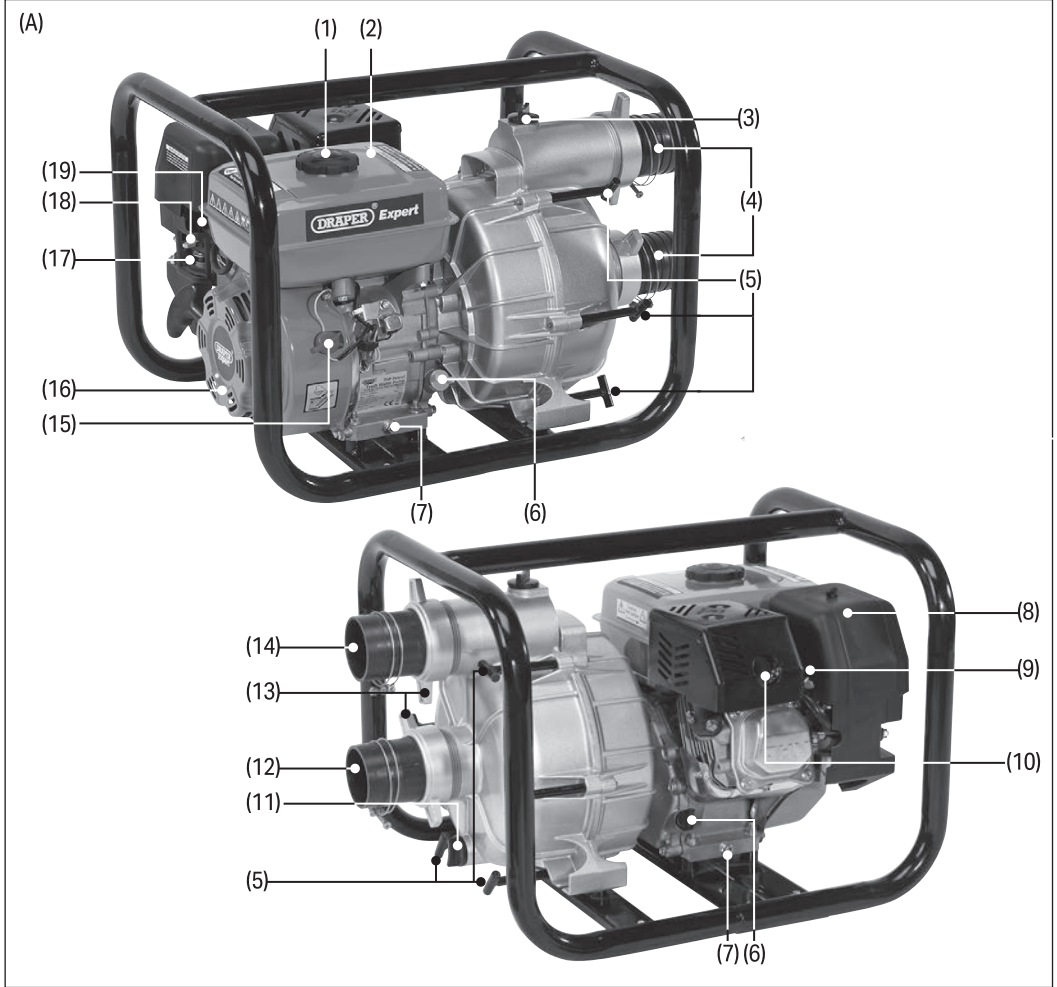
Breathing exhaust fumes can cause loss of consciousness, permanent respiratory damage and eventually death. **ONLY** operate this machine in a well-ventilated outdoor environment, well away from windows and doors. If you inhale carbon monoxide, move to a ventilated area and seek immediate medical attention.

4.4 Residual Risk

The safety instructions in this manual cannot account for all possible conditions and situations that may occur. Exercise common sense and caution when using this product and protect against any additional conceivable risks.

5. Identification and Unpacking

5.1 Product Overview



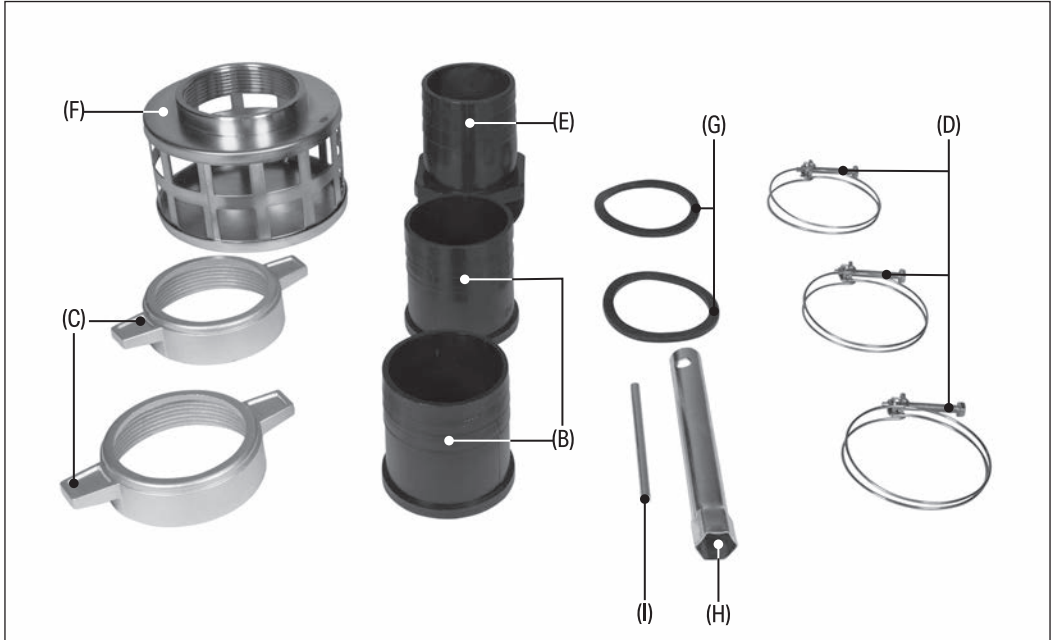
- | | |
|----------------------------|-----------------------------|
| (1) Fuel tank cap | (11) Water drain |
| (2) Fuel tank | (12) Suction inlet |
| (3) Priming plug | (13) Hose barb coupling |
| (4) Hose barb | (14) Pump outlet |
| (5) "T" handles | (15) Engine 'ON/OFF' switch |
| (6) Oil cap/dipstick level | (16) Recoil starter |
| (7) Oil drain plug | (17) Fuel lever |
| (8) Air filter housing | (18) Choke lever |
| (9) Spark plug cover | (19) Throttle lever |
| (10) Muffler/exhaust | |

5. Identification and Unpacking

5.2 What's in the Box?

Carefully remove the product from the packaging and examine it for any signs of damage that may have occurred during shipment.

Before assembling the product, lay the contents out and check them against the parts shown below. If any part is damaged or missing, do not attempt to use the product. Please contact the Draper Helpline; contact details can be found at the back of this manual.



- (A) 1 x Pump unit (not shown)
- (B) 2 x Hose barbs
- (C) 2 x Hose barb couplings
- (D) 3 x Hose clamps
- (E) 1 x Filter barb

- (F) 1 x Strain filter
- (G) 2 x O-ring seals
- (H) 1 x Spark plug spanner body
- (I) 1 x Spark plug spanner handle

5.3 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.



WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.

Please visit drapertools.com for our full range of accessories and consumables.

6. Preparing the Water Pump

6.1 Hose Connection

- Use a solid wall (reinforced) hose to stop the hose from collapsing on the suction side of the pump. Please visit drapertools.com and check for the recommended suction hose.
1. Pass the hose barb (B) through the threaded side of the hose barb coupling (C) so that the thread sits away from the hose barb (Fig. 1).

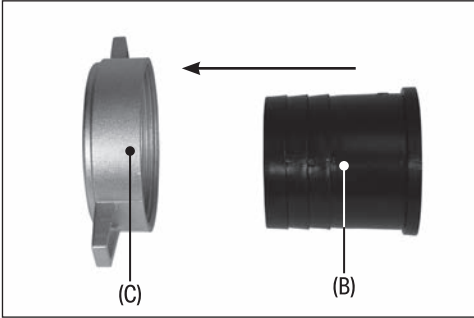


Fig. 1

2. Place an O-ring seal (G) inside the hose bar coupling so that it rests against the hose barb.
3. Screw the hose barb assembly onto the suction inlet (12) (Fig. 2).

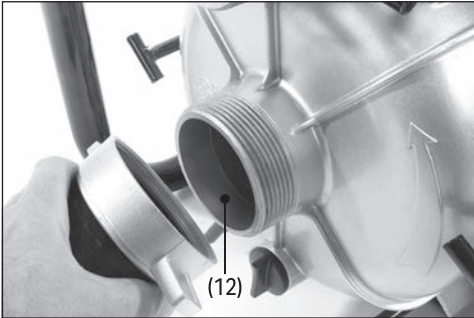


Fig. 2

4. Slide a hose clamp (D) over one end of the solid wall hose (not supplied) and push that end of the hose as far as possible onto the hose barb (Fig. 3).

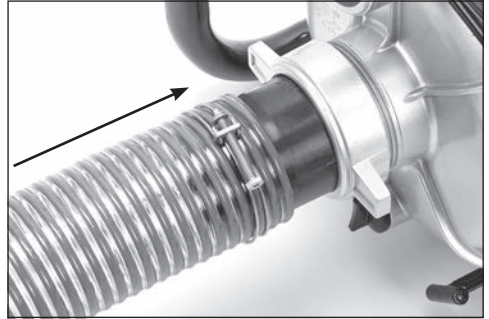


Fig. 3

5. Move the hose clamp so that it sits centrally on the covered hose barb and twist the clamp screw clockwise until tight to secure the hose in place.
6. Screw the filter barb (E) into the strain filter (F) (Fig. 4).

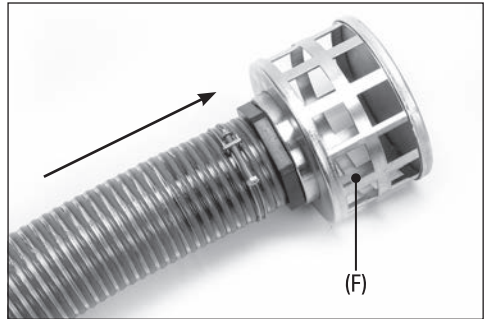


Fig. 4

7. Slide a hose clamp onto the other end of the hose and push the hose onto the filter barb as far as possible.
 8. Place the hose clamp centrally on the filter barb and twist the clamp screw clockwise until tight.
- Repeat steps 1–5 for the discharge hose (not supplied) if required. Connect the discharge hose to the pump outlet (14).

6.2 Checking and topping up the Engine Oil

ATTENTION! This product is not shipped with engine oil.

- Check the engine oil level before every use.
- Running the machine with a low oil level oil may cause serious damage to the engine and is not covered by your warranty.
- Use SAE 10W-30 oil with this machine.

1. Ensure that the pump is switched off, then place on a stable and level surface.
2. Rotate the oil filler cap (6) anticlockwise to remove it from the reservoir and clean it. Insert the dipstick level back into the reservoir and remove it again.

Important: DO NOT screw the filler cap into place when checking the oil level.

3. Inspect the oil level on the oil filler dipstick against the '**MIN**' and '**MAX**' level markings (Fig.5):
 - a. If the oil is below the '**MIN**' level marking, top up with SAE 10W-30 until the '**MAX**' marking is reached.
 - b. If the oil has become contaminated or discoloured, drain and replace the oil; see section **9.4 Changing the Engine Oil**.

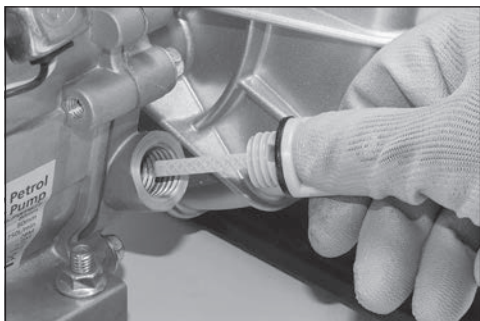


Fig. 5

Important: The motor on this engine is fitted with a low oil sensor. If the oil level drops too low, the engine will stop and cannot be started until the oil level is topped up. Attempting to start the engine with low oil levels may still cause significant damage to the engine components due to insufficient lubrication (fig 6).

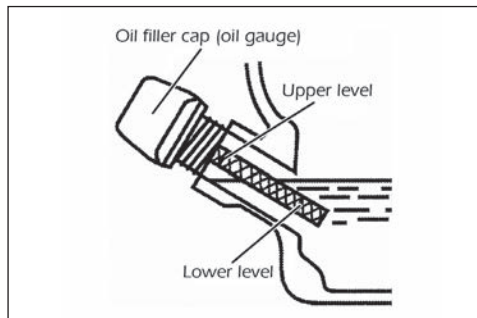


Fig. 6

7. Setting Up the Water Pump

7.1 Using E10 Petrol

ATTENTION! This machine is shipped **WITHOUT** fuel. Check the fuel level before **EVERY** use and top up as appropriate. **NEVER** attempt to run the engine on an empty fuel tank.

Important: This product must be used with high-quality unleaded fuel **ONLY**. **ALWAYS** use automotive petrol suitable for four-stroke engines; **DO NOT** mix fuel and oil. Draper Tools recommends E10 (95 RON) automotive fuel, with an appropriate additive or stabiliser, for use with this product. Damage caused by failure to add fuel or by the use of incorrect or poor-quality fuel is not covered by your warranty.

ATTENTION! E10 petrol is hygroscopic and attracts moisture, which may damage the fuel system if stored in the product for more than four weeks. See Using E10 Petrol below for guidance.

If E10 petrol is stored in the fuel tank for extended periods, this build-up of water can form a corrosive gum that rusts the fuel system from the inside.

E10 petrol should be used within 30 days of purchase.

Some petrol brands contain other quantities of ethanol. **DO NOT** use fuels with more than 10% ethanol.

Draper Tools recommends the use of petrol additives or stabilisers when using E10 petrol. Additives and stabilisers are widely available and can extend the length of time that E10 petrol can be safely stored in a product fuel tank. Always read the label. E10 petrol should not remain in the fuel tank for more than four weeks without an additive or stabiliser.

Even where additives or stabilisers are used, the E10 fuel should be drained from the fuel tank every three to four weeks to reduce the risk of damage to the product. If the machine will not be used for longer than this time, drain it before putting it into storage.

Always store and dispose of fuels responsibly and in accordance with local regulations.

7.2 Fuelling the Pump



WARNING! ALWAYS fuel the machine in a well-ventilated area away from sources of ignition. Store fuel only for short periods, away from direct sunlight and heat sources, and only in containers specifically designed for that purpose. Avoid prolonged contact with the skin and inhalation of petrol vapour.

1. Disconnect the spark plug cover (9).
2. Remove the fuel tank cap (1).



WARNING! If the machine has been recently used, hot steam may vent from the fuel tank outlet. Take care when opening the fuel tank.

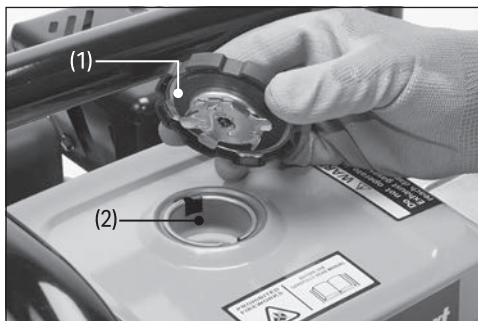


Fig. 7

3. Ensure that the fuel filter (2.1) is in place.

Important: **DO NOT** add fuel to the tank if the fuel filter is missing or damaged.

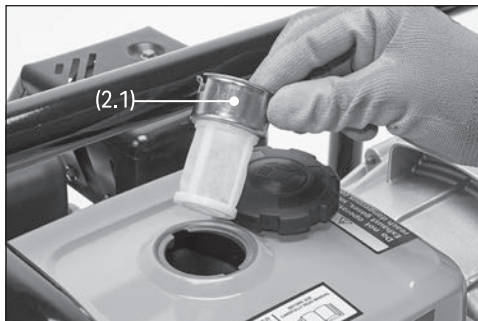


Fig. 8

7. Setting Up the Water Pump

4. Carefully pour fuel into the tank until the level reaches the bottom of the fuel filter (Fig.9).

ATTENTION! DO NOT overfill the fuel tank; always leave an air gap above the fuel level. NEVER allow dust, dirt, water or dirty fuel to enter the fuel tank. Clean up any spillages IMMEDIATELY.



Fig. 9

5. Reattach the fuel tank cap, ensuring it is properly fitted and securely tightened.

Important: Ensure that the notches in the fuel filter lip are correctly aligned before attaching the fuel tank cap.

6. Reconnect the spark plug cover when the machine is ready for use.

Important: Move the pump at least 4m (12") away from the fuelling area before starting the engine.

8. Basic Water Pump Operation

Important:

- Before operating this product, read and understand all the safety instructions listed in this manual. Ensure that the pump is correctly prepared before use; see section 6. **Preparing the Pump.**
- Place the pump on a firm and level surface during use. Keep in mind that the length of the hoses and the difference in elevation between the pump and the source and delivery reservoirs may impact the flow rate.
- The pump will vibrate during operation. If the machine vibrates excessively while operating, switch it off, allow it to cool and investigate the cause before continuing.

8.1 Priming the Pump

Important: Never use the pump without first priming it.

1. To prime the pump, unscrew the priming plug (3) from the pump outlet (14) and pour clean water into the opening. Fill the outlet with water, leaving no air gap, then connect the discharge hose and fill the suction hose with water.

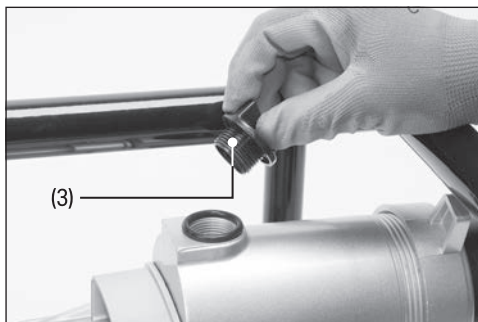


Fig. 10

2. When the pump starts, it will prime itself and then begin pumping. Refilling is only necessary if the pump is drained or water is lost.

Important: The pump takes time to self-prime. The length of time depends on the length of the suction hose and may take up to 10 minutes if the pump is a significant distance from the source. Always position the pump as close to the source reservoir as possible.

Important: Ensure that all the hose connections are tight. The self-priming function will not work correctly if air can breach the connections.

8. Basic Water Pump Operation

8.2 Starting the Pump

ATTENTION! This machine is NOT shipped with fuel or oil. DO NOT attempt to start the engine until both the fuel tank and engine oil have been checked and topped up accordingly.

Important: DO NOT start the pump until it is in its operating position. NEVER travel with the machine switched on.

1. Prime the pump; see section 8.1 Priming the Pump.
2. Ensure that the spark plug cover (9) is connected.
3. Slide the fuel lever (17) to the right to open the fuel supply.
4. Slide the throttle lever (19) to the left to open the throttle slightly.
5. Move the choke lever (18) to the appropriate position (Fig.11) :
 - Cold start: Closed (left) position
 - Warm start: Open (right) position

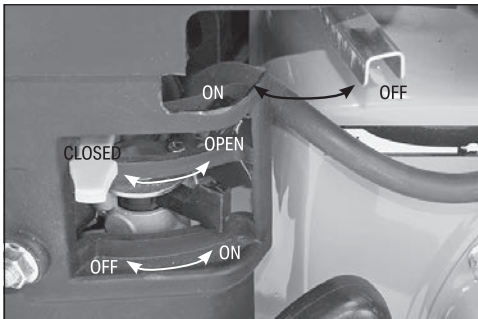
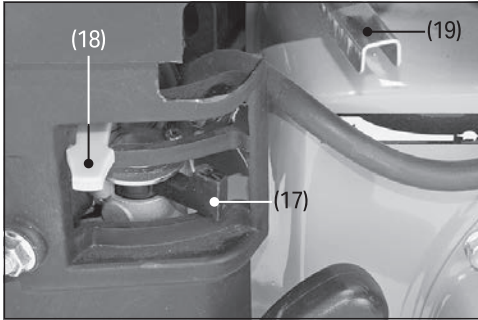


Fig. 11

6. Turn the engine switch (15) to the 'ON' position (Fig.12).

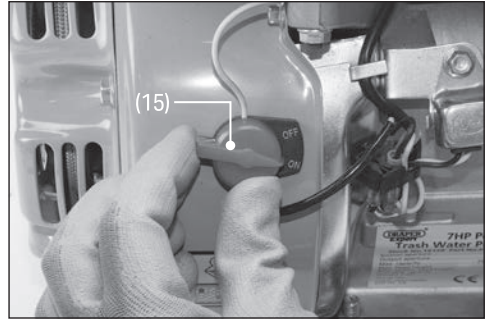


Fig. 12

7. Slowly pull on the recoil starter (16) until resistance is felt, then pull it out rapidly to start the engine.

Important: You may need to do this several times.

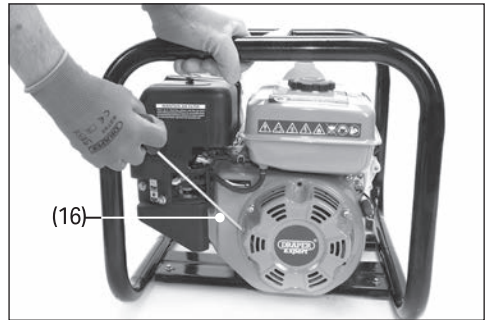


Fig. 13

DO NOT attempt to start the engine when the recoil starter is fully retracted. DO NOT allow the recoil starter to snap back against the engine. Return it gently to prevent damage to the starter.

8. If you are performing a cold start:
 - a. Allow the engine to run with no load for a few minutes to allow it to warm up.
 - b. Move the choke lever to the open (left) position.
9. Increase the throttle speed to begin pumping.

Important: When the pump is not in use, lower the throttle to idle (right position) or switch off the engine. NEVER leave the pump running unattended.

8.3 Stopping the Pump

Important: Before stopping the engine, lower the throttle to idle (right) and allow the engine to run for a few minutes.

If the pump is being stopped temporarily, slide the fuel lever (17) to the 'OFF' position and turn the engine power switch (15) to the 'OFF' position.

If the pump is being stopped and then stored, slide the fuel lever to the 'OFF' position and wait for the engine to cut out before turning the engine power switch to the 'OFF' position. Open the water drain (11) to allow any residual water in the impeller housing to leave the pump.

In the event of an emergency, turn the engine power switch to the 'OFF' position immediately.

9. Maintenance, Storage and Troubleshooting

Important: Maintenance and repairs should be carried out **ONLY** by authorised and suitably qualified personnel.



WARNING! ALWAYS turn off the engine and allow it to cool before maintaining or storing this product. If the engine must be run for testing, ensure that this is carried out in a well-ventilated environment that allows carbon monoxide from the exhaust to dissipate quickly.

For optimal performance and a longer lifespan, maintain the pump according to the schedule outlined in this section. If the pump is used in abnormally hot or dusty environments, increase the frequency of each aspect of the maintenance schedule.

9.1 General Maintenance

- Keep all air vents clean and free from obstructions at all times.
- Protect the pump and its components from adverse environmental and weather conditions, both during use and when stored.
- Clean the engine unit with a damp cloth **ONLY**.
- **Important: DO NOT** use solvents as this may damage any plastic or uninsulated parts.
- Use **ONLY** spare parts supplied by Draper Tools.

9.2 Cleaning Out Blockages



WARNING! ALWAYS ensure that the pump is switched off and has completely stopped before opening the impeller housing.

1. Detach the strain filter (F) from the suction hose and clean all parts of the filter with warm soapy water and a soft brush.
2. Reassemble the strain filter and attach it correctly to the suction hose; see section **6.1 Hose Connection**.
3. Twist the 'T' handles (5) anticlockwise and pull the cover away from the pump (fig.14).

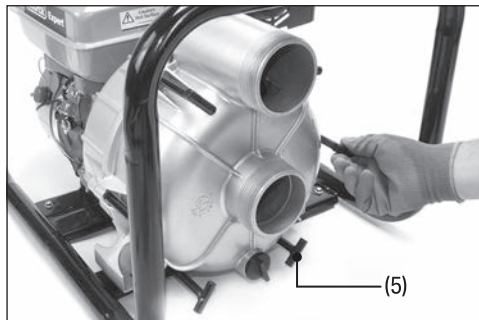


Fig. 14

4. Clean inside the housing and around the impeller.

9. Maintenance, Storage and Troubleshooting

5. Remove and clean the impeller (Fig.15).



Fig. 15

6. Reattach the impeller and reassemble the housing.

Important: After the blockage has been removed, the pump must be primed again before use.

9.3 Draining the Fuel

Important: Read all the Health and Safety guidance for the use of petrol as a fuel before filling or using this product.

1. Ensure that the fuel lever (17), throttle lever (19), choke lever (18) and engine switch (15) are in their 'OFF' or lowest positions and allow the engine to cool for at least 30 minutes.
2. Unscrew the fuel tank cap (1) and remove the fuel filter (2.1). See section 7.1.
3. Use a siphon to empty the fuel tank into a suitable petrol container (Fig. 16).



Fig. 16

4. Reinstall the fuel filter and fuel tank cap securely.
5. Loosen the carburettor drain screw and drain the carburettor into a suitable container (Fig. 17).



Fig. 17

6. Gently pull the recoil starter (16) until resistance is felt, then pull it firmly.
 - Do this four times to empty the fuel pump of petrol into a suitable container.
7. Tighten the carburettor drain screw.

9.4 Changing the Oil

Important: The engine oil level and condition should be inspected before every use and replaced every three months or after 50 hours of use. It should additionally be replaced after the first month or 20 hours of use, and if it becomes contaminated with water or debris.

Drain the oil before the engine has completely cooled to allow faster and more thorough drainage.

WARNING! ALWAYS wear protective gloves when draining the oil as the oil and reservoir will be hot.

1. Position the pump on level ground and start the engine normally.
2. Allow a few minutes for the engine to warm up, then switch off the pump.
3. Remove the oil filler cap (6).

WARNING! Be mindful of hot vapours escaping from the oil reservoir when the filler cap is removed.

4. Open the oil drain plug (7) and allow the oil to drain into a suitable container.
5. Refit the drain plug, then refill the oil and check the level (see section 6.2 Checking and Topping Up the Engine Oil).
6. Tighten the oil filler cap securely in place.

Important: ALWAYS dispose of waste oil responsibly and in accordance with local regulations.

9.5 Changing the Air Filter Element

Clean the air filter chamber and element after every 50 hours of use or every three months to ensure consistent airflow into the carburettor. Increase the frequency of cleaning when working in dusty environments.

 **WARNING! NEVER use petrol or solvents to clean the air filter elements as they may damage the filter or result in a fire when the machine is next used.**

NEVER run the machine without the air filter element in place as this may cause the engine to degrade rapidly.

1. Ensure that the choke lever (18) is in the closed (right) position to prevent any debris from entering the carburettor.
2. Unscrew the wingnut and remove the air filter housing (8).
3. Remove and inspect the filter element (8.1) for holes, tears and obstructions.

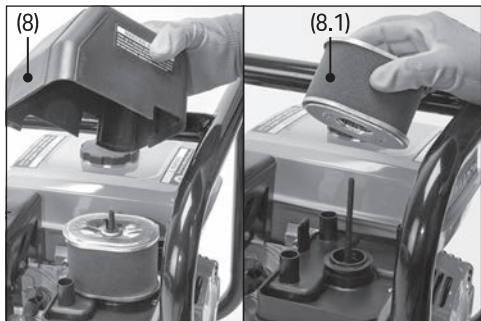


Fig. 18

Important: If the filter element is damaged, replace it with a new one. **DO NOT** use the machine if the air filter is damaged.

4. Wash the element in warm soapy water and allow it to dry thoroughly.

Important: **DO NOT** use solvents to clean the element.

5. Clean the compartment and covers of any dust, dirt or other obstructions.
6. Reassemble the air filter and screw the element and housing securely back in place.

9.6 Spark Plug Care

Ensure that the spark plug is clean and correctly gapped. The spark plug may become contaminated over time if the machine is run with part-throttle for prolonged periods.

Important: Replace the spark plug after every 50 hours of use or every three months.

1. Remove the spark plug cover (9) by hand (Fig.19).

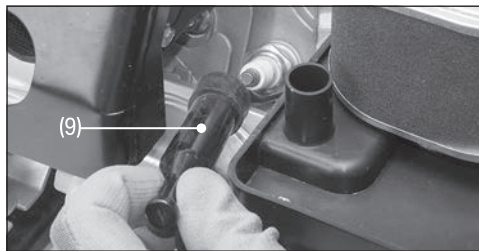


Fig. 19

2. Pass the spark plug spanner handle (I) through the holes in the spark plug spanner body (H) and use the assembled spanner to remove the spark plug (Fig. 20).

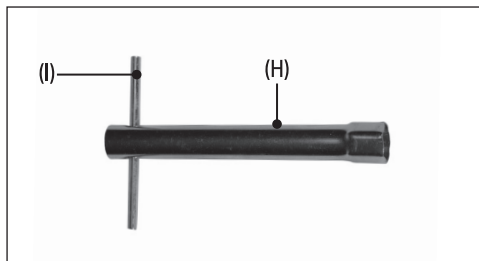


Fig. 20

3. Visually inspect the spark plug and replace it if the ceramic insulator is cracked or chipped.
4. Measure the spark plug gap using a feeler gauge (not supplied) and correct as appropriate by gently bending the electrode into position.

Important: The gap should be 0.7–0.8mm.

5. Screw the spark plug into place using 20Nm (2mkg, 14ftlb) of torque and replace the spark plug cover securely.

ATTENTION! The spark plug MUST be correctly tightened. Loose spark plugs can become very hot and cause damage to the engine. NEVER use a spark plug with a heat range that is not appropriate for the machine in which it is used.

9. Maintenance, Storage and Troubleshooting

9.7 Storing the Pump

Important: ALWAYS ensure that the engine has completely cooled before storing the machine.

- Prepare the machine correctly for storage:
 - Ensure that the engine ON/OFF switch is in the **'OFF'** position.
 - Remove the spark plug cover (9).
 - Drain the fuel from the tank and carburettor.
 - Tighten all reservoir caps and leakage points.
 - Cover the machine with a plastic sheet to protect it against dust and moisture.
- Store the machine in a dry and dust-free environment, out of reach of children.
- Store the machine at a temperature between 0–30°C.
- Start the engine at periodic intervals and allow it to run for several minutes to prevent seizure within the engine.

If the machine is to be stored for a prolonged period, ensure that the engine cylinder is sufficiently lubricated to prevent it from seizing:

1. Remove the spark plug; see section **9.6 Spark Plug Care**.
2. Pour a few drops of SAE 5W-30 oil into the socket.
3. Pull the recoil starter (16) slowly to distribute the oil.
4. Then refit the spark plug securely.

Restarting after storage:

1. Remove the spark plug.
2. Hold a cloth around the spark plug socket opening.

Important: DO NOT smother or completely cover the opening.

3. Pull on the recoil starter several times and catch any ejected oil using the cloth. Repeat until no more oil is ejected from the opening.
4. Refit the spark plug securely to the socket.
5. Start the engine in the usual way; see section **6 Preparing the Water Pump**.

9.8 Periodic Maintenance

Item	Remarks	Pre-operation check (daily)	Initial 1 month or 20hrs	Every 3 months or 50hrs	Every 6 months or 100hrs	Every 12 months or 300hrs
Spark plug	Check condition, adjust gap and clean. Replace if necessary.			•		
Engine oil	Check oil level.	•				
	Replace.		•		•	
Air filter	Clean. Replace if necessary.			•		
Fuel filter	Clean fuel drain filter. Replace if necessary.				•	
Valve clearance	Check and adjust when engine is cold.					•
Fuel line	Check fuel hose for cracks or damage. Replace if necessary.	•				
Exhaust system	Check for leakage. Retighten or replace gasket if necessary.	•				
	Check muffler screen. Clean/replace if necessary.				•	
Carburettor	Check choke operation.	•				
Starting system	Check key start ignition operation.	•				
Decarbonisation	More frequently if necessary.					•
Fittings/fasteners	Check all fittings and fasteners correct if necessary.				•	

Regular maintenance is most important for the best performance and safe operation. For guidance relating to any of the listed procedures, contact the Draper Helpline; details can be found on the back page of this manual.

9. Maintenance, Storage and Troubleshooting

9.9 Troubleshooting

Problem	Possible Cause	Remedy
The engine will not start.	The engine switch (15) is in the 'OFF' position.	Press the ON/OFF switch to the 'ON' position.
	The fuel or oil level is too low.	Check and top up the fuel and oil levels as appropriate (see Section 7.1 and 7.2).
	The fuel lever (17) is in the closed position.	Move the fuel lever to the open position.
	The spark plug electrode has been fouled or the gap is set incorrectly.	Replace the spark plug.
	The spark plug H.T. lead is not connected correctly.	Press the spark plug cover on firmly and ensure that the housing is not interfering with the connection.
	The choke (18) is set incorrectly for the starting conditions.	Ensure that the choke lever is set in the open position for a warm start or closed for a cold start.
	The air filter is clogged.	Clean or replace the air filter (see section 9.5).
	The fuel filter is clogged.	Clean or replace the fuel filter (see section 9.3).
The engine stutters or runs roughly after starting.	The choke lever (18) is set in the closed position.	Move the choke lever to the open position and retry.
	Parts of the engine require maintenance.	Clean or replace the air filter, fuel filter and spark plug (see section 9.3, 9.5 and 9.6).
	The fuel has been stored for too long and has deteriorated.	Drain the fuel (see section 9.3) and clean the filter, then refuel the pump.
The engine fails during use.	The fuel level has dropped too low.	Check and top up the fuel tank (see section 7.1 and 7.2).
	The internal water level is low.	Check the pump housing water and top it up if necessary (see section 8.1 and 8.2).
	The strainer filter (F) is clogged.	Remove the strainer filter from the suction hose and clean them if they are blocked.
	The hoses are not airtight.	Ensure the hose clamps are securely fastened and check the hoses for damage and splits.
	The suction hose is blocked.	Check that the end of the suction hose is not submerged in solid or viscous matter and ensure that the hose is not bent or crushed.
	The impeller is blocked/damaged.	Clean or replace the impeller (see section 9.2).

9.9 Troubleshooting (continued)

Problem	Possible Cause	Remedy
The engine runs with low power.	Parts of the engine require maintenance.	Clean or replace the air filter, fuel filter and spark plug (see section 9.3, 9.5 and 9.6).
	The choke (18) is closed.	Open the choke after the engine has run for a few seconds.
The pump is leaking oil.	An O-ring seal is damaged or failing.	Replace the faulty part; contact Draper Tools for support.
	There are loose bolts in the engine.	Tighten all bolts and fittings.

10. Associated Risks and Preventative Measures

10.1 Risk of fire

Hazard	What could happen	How to prevent it
Attempting to fill the fuel tank while the engine is running.	Fuel and fuel vapours can ignite if they come into contact with hot components such as the muffler, exhaust gases or an electrical spark.	Turn the engine off and allow it to cool completely before adding fuel to the tank. Ensure that a fire extinguisher suitable for petrol fires is located within the working area.
Sparks, fire and hot objects.	Cigarettes, sparks, fires and other hot objects can cause fuel or fuel vapours to ignite.	Add fuel to the tank in a well-ventilated area. Always ensure that sources of heat and ignition are kept well away from the pump.
Improper storage of fuel.	Fuel stored improperly may result in accidental ignition or may be accessible to children and unauthorised personnel.	Store fuel in an approved container designed to hold fuel, and in a secure location away from flammable materials and sources of heat and ignition.
Tampering with the factory-set engine speed settings.	The engine speed has been set at the factory to provide safe operation of the machine. Tampering with the engine speed adjustment could result in the attachments overheating.	Never attempt to speed up the engine to improve performance.
Inadequate ventilation of the pump.	Materials placed on, against or near to the pump, or operation of the pump in areas where the ambient temperature exceeds 40°C, may interfere with the proper ventilation of the machine and cause overheating, which may result in the ignition of those materials.	Operate the pump in a clean, dry and well-ventilated area. Do not operate the pump indoors or in any confined area. Never cover or place objects onto the pump.
Overfilling of the fuel tank.	Spilled fuel and its vapours can become ignited by hot surfaces or sparks.	Exercise extreme caution when filling the fuel tank to avoid spillages. Ensure that the fuel tank cap is securely tightened and check the engine for fuel leaks before switching on the machine. Allow for fuel expansion. Never refuel with the engine running.

10. Associated Risks and Preventative Measures

10.2 Risk of Injury and Property Damage When Transporting the Pump

Hazard	What could happen	How to prevent it
Fire, inhalation and damage to vehicle surfaces.	Fuel and oil can leak or spill and may result in a fire or breathing hazard and cause serious injury or death. Fuel and oil leaks can damage carpet, paint and other surfaces in vehicles and trailers.	Ensure that the fuel tap is set to the closed position before transporting the pump to avoid fuel leaks. Transport fuel only in a suitable container designed for that purpose. Always place the pump on a protective mat when transporting to protect vehicles from damage caused by leaks. Remove the pump from the vehicle immediately upon arrival at the destination.

10.3 Risk of Inhalation of Toxic Substances

Hazard	What could happen	How to prevent it
Petrol engines produce toxic carbon monoxide exhaust fumes.	Breathing exhaust fumes may cause serious injury or death.	Operate the pump in a clean, dry and well-ventilated area. Never operate the machine in enclosed areas such as garages, basements and sheds, or in any location inhabited by humans or animals. Keep children, pets and unauthorised personnel away from the machine at all times.

10.4 Risk of Unsafe Operation

Hazard	What could happen	How to prevent it
Operation of the pump in a careless manner.	All sources of energy carry the potential for injury. Unsafe operation or maintenance of the pump may lead to serious injury or death to you or others.	Review and understand all of the safety and operation instructions in this manual. Become familiar with the operation and controls of this machine, particularly how to switch it off quickly. Ensure that a fire extinguisher suitable for petrol fires is located within the working area. Keep children, pets and unauthorised personnel away from the machine at all times.
Operation of the pump in a suspended or uneven position.	The pump will not operate properly and may become damaged if it is not oriented correctly and may cause serious injury if it is not stable/secure.	Never operate the pump in a suspended or uneven position. Always place it on a flat, level and stable surface.

10. Associated Risks and Preventative Measures

10.5 Hot Surface Risks

Hazard	What could happen	How to prevent it
Contact with hot parts of the engine and other components.	Contact with hot surfaces, such as the engine exhaust components, may result in serious burns.	During operation, handle only the dedicated control and gripping surfaces of the pump. Keep children, pets and unauthorised personnel away from the pump at all times as they may be unable to identify the hazardous areas.

10.6 Risk of Injury from Moving Parts

Hazard	What could happen	How to prevent it
Contact with moving parts may result in serious injury.	The pump contains parts which rotate at high speed during operation.	These parts are covered by guarding to prevent injury. Never operate the pump without this complete guarding in place. Avoid wearing loose-fitting clothing and jewellery that could become caught in moving parts.

10.7 Risk of Injury During Lifting

Hazard	What could happen	How to prevent it
The pump is very heavy.	Attempting to lift an item unsafely or that is too heavy for your capability may result in serious injury.	When lifting, always keep the object near the vertical axis of your body. Do not use your back to lift heavy loads. This product should be carried by two people. Both people should crouch down, bending at the knees, and grip the underside of the unit. Using your legs to bear the weight, keep the item as close to your body's centre of gravity as possible. Avoid twisting your body when carrying the unit and instead turn your whole body using your feet.

11. Spares, Returns and Disposal

For spare parts, servicing, and repair and replacement options, please contact the Draper Tools Product Helpline for details of your nearest authorised agent.

Draper Tools will endeavour to hold any spare parts, if applicable, for seven years from the date that it sells the final matching stock item.

Any servicing or repairs carried out by unauthorised personnel or installation of spare parts not supplied by Draper Tools will invalidate your warranty.

Important: For safety, **ALWAYS** drain and clean the product of any oil, fuel, chemicals or other substances before returning it to Draper Tools or its authorised agent. Store these materials in suitable containers and dispose of them in accordance with local regulations. Draper Tools and its agents cannot be responsible for the disposal of these substances.

At the end of its working life, dispose of the product responsibly and in line with local regulations. Recycle where possible.

- **DO NOT** dispose of this product with domestic waste; most local authorities provide appropriate recycling facilities.
- **DO NOT** burn or mutilate batteries; this may release toxic or corrosive substances.
- Dispose of oil separately and in accordance with local regulations; **DO NOT** abandon it in the environment.



Draper Tools products are carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Contact information can be found at the back of this manual.

Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covers parts and labour for 12 months from the date of purchase. Where tools have been hired out, the warranty period covers 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

In all cases, to make a claim for faulty workmanship or materials within the standard warranty period, please contact or return the product to the place of purchase. Proof of purchase may be required.

If the place of purchase is no longer trading or if you experience any difficulties with your warranty, please contact Customer Services with the product details and your proof of purchase. Contact details can be found at the back of this manual.

If the tool is not covered by the terms of this warranty, repairs and carriage charges will be quoted and charged accordingly.

This warranty supersedes any other guarantees expressed or implied and variations of its terms are not authorised.

Your Draper Tools guarantee is not effective until you can produce, upon request, a dated receipt or invoice to verify your purchase within the guarantee period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

Draper Tools Limited

13. Explanation of Symbols



Do not expose to rain or wet conditions



WARNING!



Danger!
Highly flammable liquid



Wear ear defenders



Read the instruction manual



Hot surfaces, do not touch



CAUTION!
Risk of electric shock



WEEE –

Waste Electrical & Electronic Equipment

Do not dispose of Waste Electrical & Electronic Equipment in with domestic rubbish



Do not abandon in the environment



Keep away from sources of heat



Sound power level



Top up oil to the level indicated

Contact Details

Draper Tools

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Please contact the Draper Tools Product Helpline for repair and servicing enquiries.