



W. Robinson & Sons

Self-Priming **Aluminium**
Centrifugal Pumps
Assembly & Operating Instructions

Model	DE-50XD YR/DE-80XD YR
Serial No.	
Engine No.	
Year of Manufacture	

CE

REV. 030322 1626

W. Robinson & Sons (EC) Ltd

Self-Priming Aluminium Centrifugal Pumps Assembly and Operating Instructions

These instructions should be kept with the respective pump unit at all times and referred to as often as necessary.

This manual has been compiled to give all of the necessary information to allow for the safe installation and operation of the W. Robinson Ltd range of Aluminium Centrifugal Pumps. Following these simple instructions will ensure operator safety and prolong the life of the equipment.

This manual and any other literature supplied should be read thoroughly before attempting to operate any supplied unit. Pay particular attention to any instructions given relating to your personal safety or to the safety of others who may be in the general area of the operating unit, also specific instructions relating to the starting and stopping of petrol and diesel engines.

Our policy is to improve our product continuously and we therefore reserve the right to change specifications, models or designs without notice or obligation.

EC DECLARATION OF CONFORMITY

W. Robinson & Sons (EC) Ltd
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Declares that this equipment conforms to the following directives,
2006/42/EC, 2000/14/EC, 2014/30/EU

D.J. Robinson
Technical Director



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2. Equipment Variants and Options

Special Note

Safety Warning

Verify the chemical compatibility of the liquid you wish to pump with the materials your pump is made from. If you are unsure of the compatibility please contact your local dealer or the service department of W. Robinson Ltd. Do not use a pump that is chemically incompatible with the liquid you intend to pump. Material failures in pumps caused by chemical incompatibility can cause incidents, which in turn could lead to serious personal injury or even death. Such incidents can also cause serious environmental damage.

This manual deals specifically with aluminium body pumps with cast iron internal components

Fig 1, Centrifugal Pumps.

Model No	Drive	Ports (Inch)	Flow L.p.m	Max Head Metre	Max SG	Weight Kg**	Dimensions LxWxH	*SPL LwA dB	*GSPL LwA dB	Group

*SPL = Sound Power Level on equipment representative of this type.

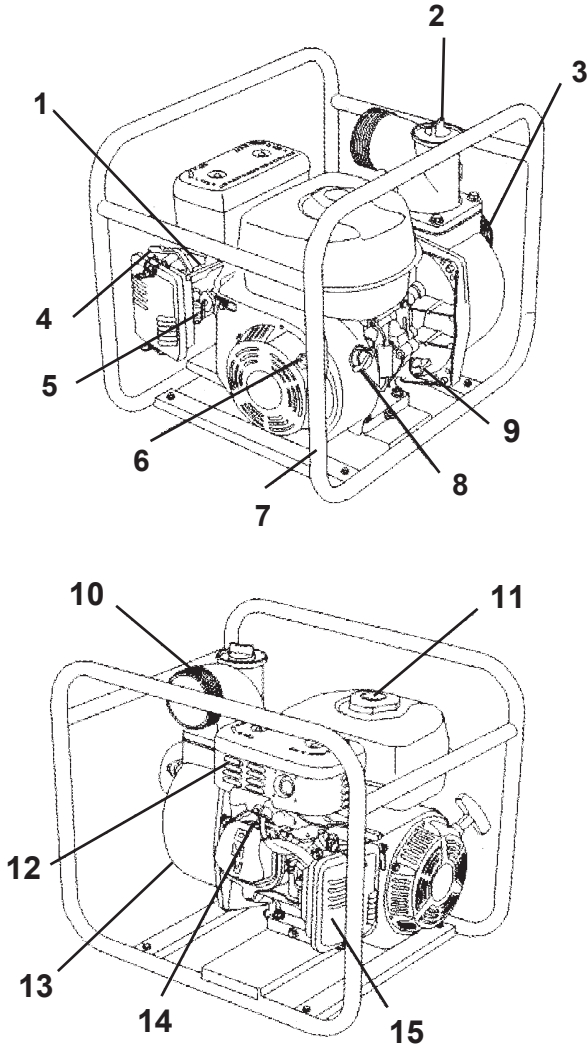
*GSPL = Guaranteed Sound Power Level for this equipment.

** Care should be taken when moving or lifting pump assemblies, they have uneven centres of gravity and may topple when handled.

3.0 General Safety

- 3.1 Centrifugal pump units should only be used by fully trained, competent persons. They should not be used by untrained or inexperienced users. Follow the instructions in this manual and any other supplementary you may be given.
- 3.2 Pump units should never be set in places where they could become a danger to the general public. They should be supervised or securely guarded at all times.
- 3.3 Centrifugal pump units should never be used for pumping incompatible chemicals, flammable or explosive liquids. The pumping of incompatible liquids can lead to fire or explosion, resulting in death or serious injury.
- 3.4 Never operate pump units in a confined space or an explosive atmosphere, the charging and discharging of fuel tanks is forbidden unless the area is well ventilated.
- 3.5 Always site pumps on firm level ground. Vibration caused during the pumping operation may cause the pump to move. Assess any possible danger associated with this and if necessary tether the unit to a solid post.
- 3.6 Never operate any equipment with the guards removed.
- 3.7 Ensure that the pumps drive motor is isolated before working on the pump unit. Petrol and diesel engines should be immobilised so they cannot start. The unit should be declared safe before proceeding with any required service.
- 3.8 Do not apply any heat to a Pump and Motor installation.
- 3.9 The pump body should not be subjected to any internal pressure greater than 2.6 bar, (38 psi). Over pressurisation may be caused by pump shaft speeds of more than 3600 rpm, the quick closing of discharge valves, running over discharge hoses, flooded suctions with a high positive pressure, or the pumping of liquids with a specific gravity, (SG) greater than recommended. (see fig 1).
- 3.10 Protective clothing. Operators and assistants should assess the local hazards associated with the liquid being pumped. The recommended protective clothing as prescribed by COSHH and any other method of hazard analysis should be worn at all times during the installation, pumping and servicing operations.

Fig 4, Description of main features



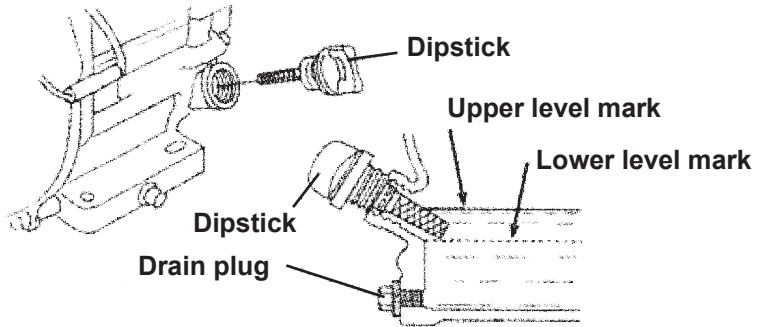
List of main features

- | | |
|-----------------------------|---------------------|
| 1. Throttle lever | 9. Dipstick |
| 2. Pump priming filler plug | 10. Outlet pipe |
| 3. Intake pipe | 11. Fuel filler cap |
| 4. Choke lever | 12. Muffler |
| 5. Fuel tap | 13. Spark plug |
| 6. Recoil Starter | 14. Pump drain plug |
| 7. Frame | 15. Air cleaner |
| 8. Engine switch | |

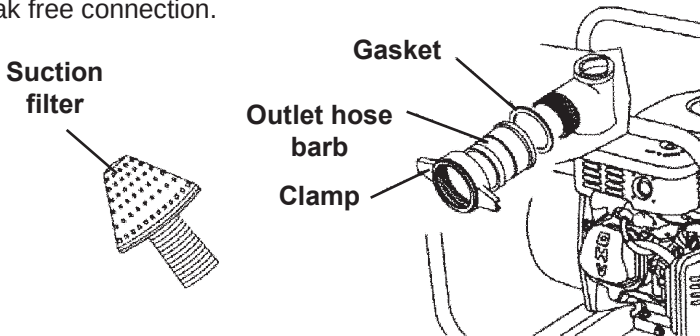
Note: Typical pump layout

5.0 Installation

5.1 Fill the engine with the necessary oil and fuel. Refer to engine manufacturers handbook for recommended oils and fuels.



5.2 Screw the Inlet and Outlet Quick Release Couplings into their respective ports. Do not over tighten the screw thread. Attach hoses to inlet and outlet hose bars and secure with good quality hose clips, ensuring a leak free connection.



5.3 When pumps are installed into permanent situations using solid pipe work use at least 0.5m of flexible pipe on the suction and discharge ports to reduce the possibility of vibration damage.

5.4 Long suction and delivery hoses should be supported to reduce possible stress damage to the pump body.

5.5 If flexible hoses are to be laid across roadways ensure they are protected by ramps, planks etc. (see fig 5). Vehicles running across hoses not only damage the hose but also will send shock waves into the pump body, causing mechanical damage or over pressurisation.

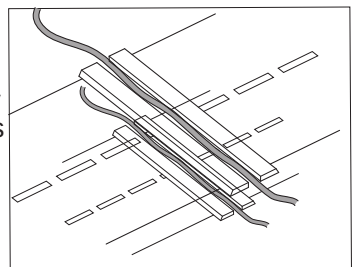


Fig 5 Protect hoses laid across roadways

6.0 Operation

6.1 Preparing to pump

6.1.1 Please ensure that the pump you have selected is suitable for the purpose for which it is to be used. If you have any doubts about the suitability of the pump for the liquid to be pumped please seek further advice.

WARNING

DO NOT PUMP FLAMMABLE OR EXPLOSIVE LIQUIDS.

6.1.2 Check the oil level on the engine.

6.1.3 Before starting the pump drive fill the pump body with clean water. Avoid running a dry pump for prolonged periods. Dry seals will fail and the pump will then leak.

6.1.4 Make sure that all of the hose connections are airtight. Air ingress on the suction port/hose will make the pump difficult to prime and will reduce the pumping efficiency.

6.1.5 Always locate the pump as close as possible to the liquid being pumped, this will keep the suction hose as short as possible. Short hoses will improve the efficiency of the pump. Ensure that the ground under the pump is firm and level and that the pump cannot move during the pumping operation.

6.1.6 When sucking liquid from a ditch or a pit always use a Suction Filter. Tie the filter so it does not touch the muddy bottom, or place the filter on a pile of large clean stones, (fig 6). Alternatively it can be tied inside a large clean bucket, (fig 7). Both methods will protect the pump from unnecessary damage due to the ingress of stones etc.

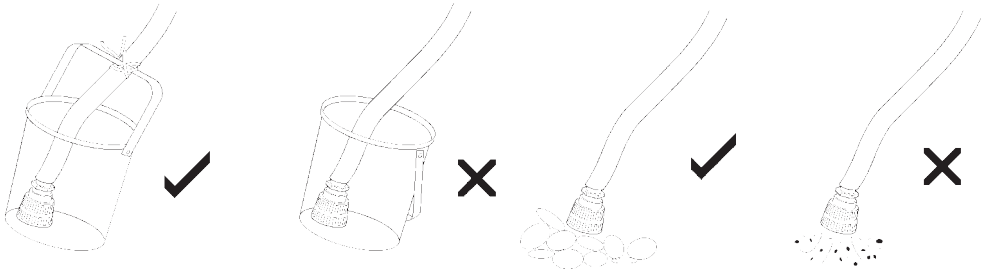


Fig 7 Protecting the suction filter from unnecessary debris

Fig 6 Protecting the suction filter from unnecessary debris

6.2 Pumping

- 6.2.1 Start the drive motor. Refer to the accompanying literature, which relates to the specific type of drive motor fitted.
- 6.2.2 Open all suction and delivery valves. The unit should now be pumping as required. If you experience any problem in the pumping operation refer to section 8, Fault Finding.

6.3 General

- 6.3.1 Do not run the pump for prolonged periods with the delivery line closed or restricted, this will cause the pumped liquid to overheat damaging the pump and in extreme cases explosion.
- 6.3.2 After use, drain and clean (internally and externally) the pump body and the attaching hoses. In frosty weather additional protection should be given to the pump and its hoses to protect them from frost damage.

7.0 Maintenance

7.1 Routine maintenance

Maintenance activity	Frequency
Inspect / top up oil levels Engine	Each and every use.
Clean water inlet and suction line filters	Each and every use.
Inspect the suction and pressure hoses and their respective connections for damage and air tightness.	Each and every use.
Pneumatic tyres, where fitted. Check for wear, damage and abrasion. Check tyre pressures inflate to 0.7 bar, (10 PSI).	Check weekly
Change engine oil, only replace the oil with one recommended by the manufacturer. See supplementary literature.	Change as recommended by the engines manufacturer

8.0. Fault Finding

Symptom	Probable causes?.	Corrective actions
Pump will not prime or retain prime after operation.	Air leak in suction line. Clogged valve or strainer	Replace or repair Clean or replace
Flow rate is low	Incorrect speed Inlet / outlet pipes are clogged or damaged Clogged or worn impeller Outlet pipe is restricted or undersized High pressure in the outlet pipe.	Check drive speed Clean or replace Clean or replace Flush out piping and or replace Check and reduce pressure
Pump runs but there is no fluid	Faulty suction pipe Pump is located too far from the liquid being pumped Inlet / outlet valves closed Clogged inlet strainer Valves clogged Discharge height is too great Suction lift is too great.	Replace Relocate Clean or replace Clean or replace Clean or replace Reduce the height Lower the pump
Liquid drips from the point where the drive shaft enters the pump backing plate, when the pump is full of liquid.	Damaged seal assembly	Replace seals
The pump starts and stops pumping.	Fouled impeller Faulty mechanical seal Leak in the suction hose Leak in the suction valve Leak in the suction connection	Clean Replace seals Repair or replace Repair or replace Repair or replace
Excessive noise while the pump is in operation.	Pump not secured to firm foundation Piping not supported to relieve any strain on the pump assembly Restricted suction line Cavitation.	Secure properly Support piping Clean and or replace A Reduce pump speed B Increase the size of the inlet C Viscosity of pumped material too high.

9.0 After use storage

- 9.1 Disconnect the suction and pressure hoses rinsing clean and allow to dry.
- 9.2 Flush the pump body with clean water, drain by removing the drain plugs. Replace plugs when completely drained. Remove dirt from exterior of pump.
- 9.3 Ensure the pump is clean and dry before storage, store in a dry frost proof place.

10.0 Disposal

- 10.1 At the end of its useful life this pump unit must be disposed of in a responsible manner following any specific requirements of the local authority in which the pump unit is located.
- 10.2 Drain any unused fuel from the fuel tank and the residual engine and lubricating oils. Dispose of these oils in a manner, which is acceptable to your local authority.
Do not dispose of by allowing them to drain into a sewer or watercourse or pollute land.
- 10.3 Remove the plastic components, dispose of by recycling or in general refuse whichever is the locally approved manner.
- 10.4 Metallic parts should be sent for recycling via an approved metal merchant.
- 10.5 Any fitted tyres should be removed from their rims and sent for recycling via an approved contractor.

