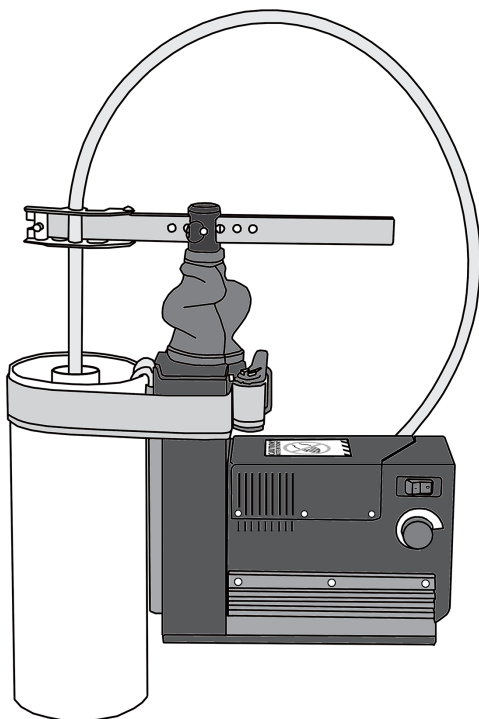


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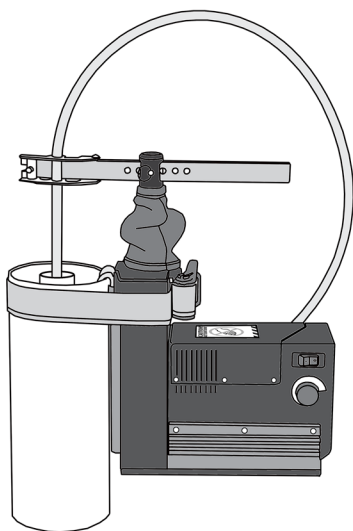


Hydrolift-2 Tubing Actuator Owner's Manual

FEATURES

HYDROLIFT-2 TUBING ACTUATOR

The Waterra Hydrolift-2 is an electrically powered mechanical drive mechanism which pumps water by repeatedly lifting and dropping a length of tubing and a footvalve assembly that is extended below the water surface in a well.



The Hydrolift-2 components include a 700 watt (3/4 hp) electric D.C. motor integral with a 15:1 gear reducer which drives a linear pump mechanism. This drive mechanism includes a sliding post that extends beyond the pump body and supports the tubing clamp arm.

The pump is designed to hang from the protective well casing and is secured in place with a ratchet belt. All components on the pump are fully adjustable to permit operation in wells of varying diameters. The pumping speed is also fully adjustable to accommodate variable well depths and flow rate requirements.



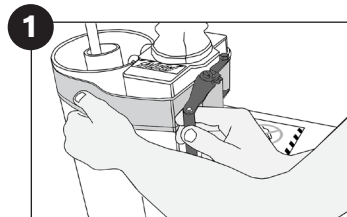
WARNING!

The Hydrolift-2 is not intended for operation in wet conditions. Waterra recommends to ensure that you are well insulated in order to avoid shocks. Use rubber gloves and rubber boots and do not splash water on the Hydrolift. Keep the extension cord dry and out of puddles.

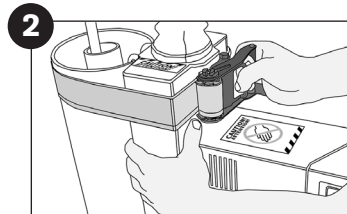
Stand clear of the Hydrolift-2 when in use. The rapid up and down motion of the drive shaft creates a potential hazard. Never move the pump when connected to a power source.

ASSEMBLY & OPERATION

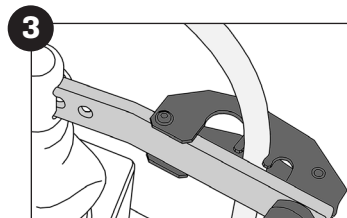
When using a Waterra Hydrolift-2 pump to purge and sample a monitoring well, it is very important to always ensure that the Hydrolift-2 is firmly strapped onto the protective casing or PVC pipe, and will not come loose while in operation. If the pump is not properly attached it may fall off the casing, causing injury and possibly damaging the pump and other equipment.



1) Hang the Hydrolift-2 on the PVC or protective casing by the front forks on the Hydrolift. The Hydrolift is supplied with a ratchet belt which is used to securely fasten the machine to the PVC or protective casing of the well. The ratchet belt can be loosened by rotating the handle such that it is parallel with the body of the ratchet. The cam on the handle will disengage the ratcheting mechanism when in this position. Pull some belt off of the ratchet with the handle in this position, giving you enough belt to loop over the PVC or protective casing.

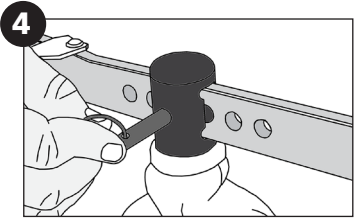


2) When the belt is in position, use the ratchet handle to tighten the belt so that the Hydrolift is securely attached to the well.

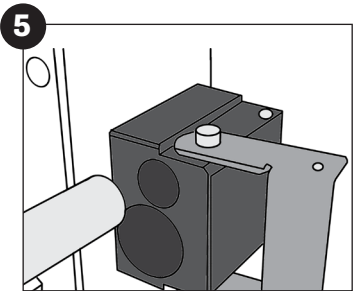


3) Open the Tubing Clamp, located on the adjustable clamp arm and place the tubing in the clamp's jaws, ensuring that you leave enough tubing (approx. 5") above the jaws to allow the tubing to reach the tubing discharge clamp. Also ensure that the tubing clamp and pump are positioned so that the tubing will not chafe on the well casing and that adequate clearance exists between the reciprocating shaft and the well head. Then tighten the clamp until the jaws are completely closed. The tubing clamp is designed to accept 1" OD, 5/8" OD and 1/2" OD polyethylene or Teflon tubing.

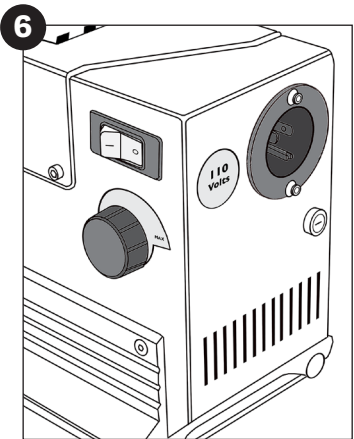
ASSEMBLY & OPERATION (cont'd)



4) Lock the clamp arm in place by inserting the clevis pin through the fork and the mating hole in the clamp arm.



5) Before starting the Hydrolift-2, check again that the unit is firmly attached to the well casing and that sufficient tubing (approximately 5 feet) exists between the tubing clamp and the tubing discharge clamp.



6) Adjust the speed control knob to the minimum setting. Check that the unit is switched off before attaching the power cord.

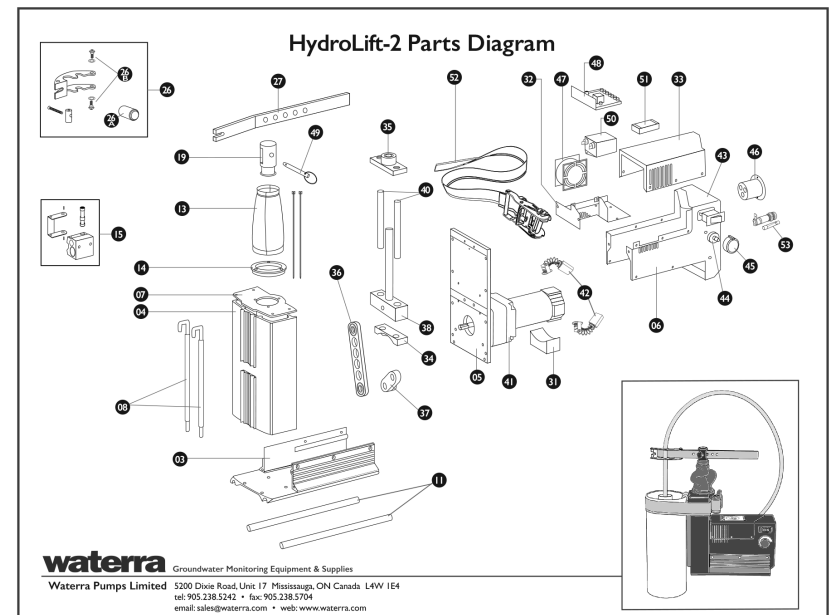
ROUTINE MAINTENANCE

HYDROLIFT NEOPRENE BOOT AND DRIVE SHAFT

It is important that the Neoprene Boot **13** is inspected on a regular basis for holes, tears or abrasion. This part protects the mechanical components from dirt and water which will aggravate wear. If this part becomes worn or damaged, replace it immediately.

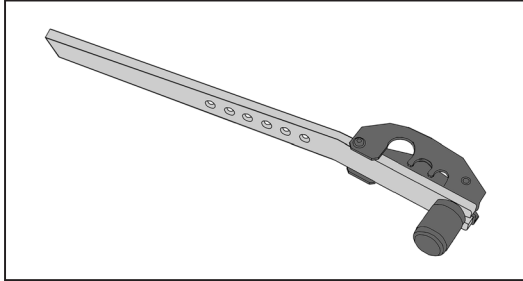
The Neoprene Boot can easily be removed by first removing the Tubing Clamp Bracket **26**, Clamp Arm **27** and Clevis Pin **49** from the machine. Then snip the two cable ties located at the top and the bottom of the Neoprene Boot which secure it to the machine. Slide the Neoprene Boot up over the Fork **19**. This will provide some access to the Slide Rails **40** on the Sliding Block **38**. The Slide Rails can be lubricated with white grease.

We recommend that after every 100 hours of use, all screws be checked and tightened if loose. We also recommend that you return your Hydrolift-2 pump to Waterra if it develops a mechanical problem or if it needs maintenance. Keep your pump clean, as this will improve the lift and reliability of the machine.

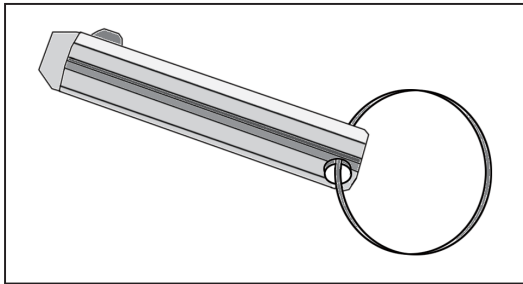


The complete Hydrolift-2 Parts Diagram can be viewed on our website: www.waterra.com.

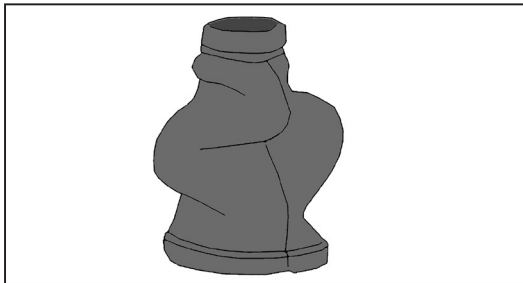
PARTS LIST



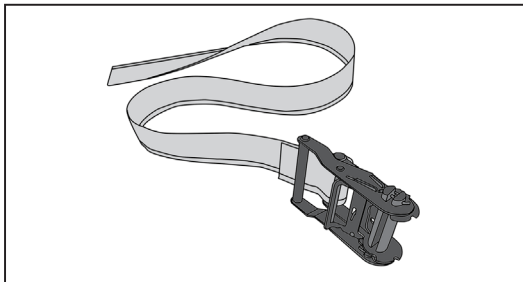
*CLAMP ARM & TUBING-
CLAMP BRACKET*



CLEVIS PIN



NEOPRENE BOOT



RATCHET BELT

WARRANTY

Waterra Pumps Limited and Waterra USA Inc. ("Waterra") warranty that each new Hydrolift-2, under normal use and maintenance, will be free from any defects in material or workmanship for a period of 6 months following the date of purchase.

Necessary repairs shall be made and replacement parts provided at no cost to the consumer when Waterra acknowledges that such defects are attributable to faulty material or workmanship at the time of manufacture. This warranty is not transferable.

EXCLUSIONS AND CONDITIONS

The Waterra Warranty **does not cover** any repairs required as a result of collision, accident, striking an object, abuse, misuse, lack of required maintenance or use of an incorrect power source.

The Waterra Warranty **does not cover** any repairs required as a result of any attachments, parts or devices installed or repairs done by a party other than Waterra Pumps Limited.

The Waterra Warranty **does not cover** any Hydrolift-2 that has been modified, altered, disassembled or remodeled.

The Waterra Warranty **does not cover** normal maintenance service such as tightening screws, bolts or fittings.

The Waterra Warranty **does not cover** lubrication and the replacement of parts required for normal maintenance services including wires, fuses, belts, lubricants and other expendables susceptible to natural wear.

The Waterra Warranty **is not valid** if the well probe is not paid for in full within 60 days of the invoice date.

OWNER'S OBLIGATION

The owner agrees to follow all safety procedures outlined with this equipment and follow the maintenance schedule as indicated in this Owner's Manual. A record must be kept of regular inspections and maintenance performed.

WARRANTY (cont'd)

DISCLAIMER

To the extent that the law permits, Waterra Pumps Limited disclaims any responsibility for the loss of time or use of the Hydrolift-2, shipping costs or any other indirect, incidental or consequential damage, inconvenience, commercial loss or personal injury. *The warranty is not valid if the product is not paid for in full within 60 days of the invoice date.*

RETURNING A HYDROLIFT-2 TO WATERRA

Waterra requires that all customers notify Waterra prior to returning their Hydrolift-2 under the Waterra warranty program. The Hydrolift-2 will only be accepted if it has been thoroughly cleaned and decontaminated. Hydrolifts must be properly packaged prior to shipping. Please contact Waterra in order to obtain a shipping address.

CONTACTING WATERRA

Waterra maintains a website at www.waterra.com. That site will have our current phone numbers and return addresses. In addition, this manual will be maintained on the site.

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