

SAFETY WARNINGS



BEFORE OPERATING OR INSTALLING THIS PUMP, READ THIS MANUAL AND FOLLOW ALL SAFETY WARNINGS AND OPERATING INSTRUCTIONS.

WARNING: Carefully read the safety messages in this manual and on the pump. Keep this manual with the pump at all times.

ATTENTION: RENTAL COMPANIES AND PRIVATE OWNERS WHO RENT OR LEND THIS WATER PUMP TO OTHERS!

All persons to whom you rent or lend this pump must have access to and read this owner's manual. Keep this manual with the pump at all times and advise all persons who will operate the pump to read it. You must also provide personal instruction on how to safely operate the pump, and you must be available to answer any questions that the renter or borrower might have.

WARNING: When running, the engine on this pump produces carbon monoxide, an odorless, colorless, poison gas. Breathing carbon monoxide can cause nausea, fainting, or death.

- Operate this pump **ONLY** outdoors.
- Keep exhaust gas from entering a confined area through windows, doors, ventilation intakes, or other openings.



- Do not operate the pump inside any building, confined area, or enclosure such as basements, garages, or similar locations, even if doors and windows are open
- Make sure all connections are tight.
- Never use with flammable fluids.
- Turn off engine before servicing.
- If fuel is spilled, avoid creating any source of ignition until the fuel vapors have been cleaned up and removed.
- Review instructions before operating.
- Wear ear protection to reduce objectionable noise.

CAUTION: DO NOT OPERATE THIS PUMP DRY!

APPLICATION

Use this pump for water only, where the vertical suction head from the water level is 25 ft. (8m) or less. Head refers to the height of a column of water that can be delivered by the discharge of the pump (Figure 1). Suction head (or suction lift) is the vertical distance between the center of the pump and the surface of the liquid on the suction side of the pump. Discharge head is the vertical distance between the pump's discharge port and the point of discharge. Total head is

the sum of the suction head and the discharge head. The elevation above sea level and friction losses must be taken into consideration. **CAUTION: Do not operate this pump dry. Water is required to lubricate pump seal.** This pump has been tested and operated under actual working conditions. Engine, pump, and all accessories were found satisfactory. If the pump is not performing as specified, check **INSTALLATION** and **TROUBLESHOOTING** sections carefully.

INSTALLATION

- LOCATION:** For permanent installation, put the pump in a clean, dry, and ventilated place (Figure 1).
Keep the suction line as short as possible. This will allow the pump to operate at maximum performance and to ensure that the casing does not overheat due to the absence of water.
- MOUNTING:** Mount the pump on a rigid foundation to eliminate creeping due to vibration.
- SUCTION LINE:** Use a suction line the same size as the suction on the pump. If the suction pipe is long, increase it by one size to improve flow. Slope the suction line upwards to the pump to avoid air pockets in the line and hard priming.
- SUCTION PIPE:** Use thread compound on all pipe joints. Connections must be tight, and pipe should be clean and uncorroded.
- SUCTION HOSE:** If the suction line runs generally vertical, use an elbow on the hose to prevent kinking. Use double clamps on all hose joints. Connections must be tight, and a suction strainer is required to filter abrasive material.
NOTE: If you use the pump for dewatering, attach a suction screen to the suction line.
NOTE: The main cause of pumping problems is a leak in the suction line. Even a tiny leak reduces priming and pumping greatly.

OPERATION

⚠ CAUTION: DO NOT RUN THE PUMP BEFORE PRIMING IT. THE SEAL AND IMPELLER COULD BE PERMANENTLY DAMAGED.

- a) **PREPARING THE ENGINE:** Follow the engine manufacturer's instructions before operating.
- b) **PRIMING THE PUMP:** Remove the priming plug, fill the casing with water until full, and replace the plug. If the pump is below the level of the water that will be pumped (flooded suction), the pump will automatically fill up when the valves are open.
- ⚠ CAUTION: DO NOT OPERATE THIS PUMP DRY!**
- c) **START-UP:** Start the pump. In a flooded suction situation, the pump will discharge the water almost immediately. If the suction

line is above the water level being pumped, it will take a few minutes to lift the water to the casing and then to discharge it. If the suction line is quite long, the pump may overheat before the water in the suction line reaches the pump. In this case, turn the pump off and drain the casing. Wait a few minutes for the seal in the pump casing to cool down. **CAUTION:** If the overheated casing is filled while hot, damage to the seal will occur. Replace the drain plug and refill the casing with water. Replace the priming plug and restart the pump.

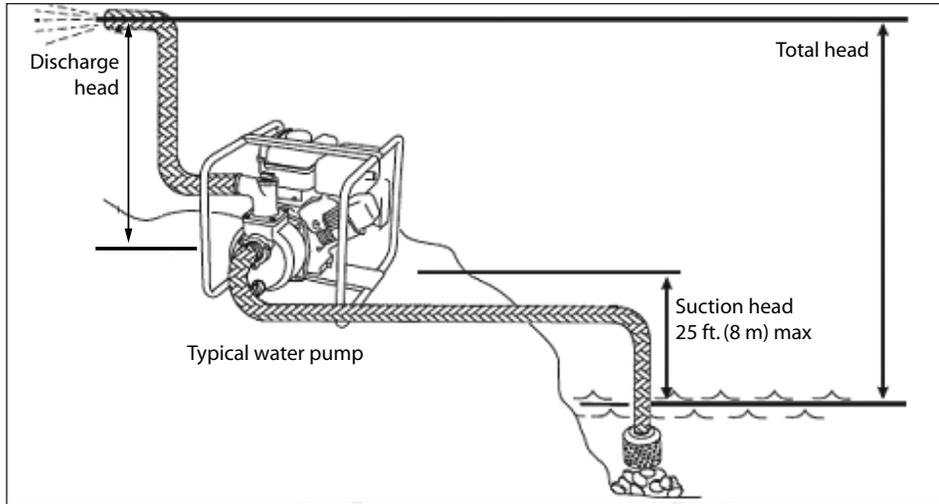


FIGURE 1

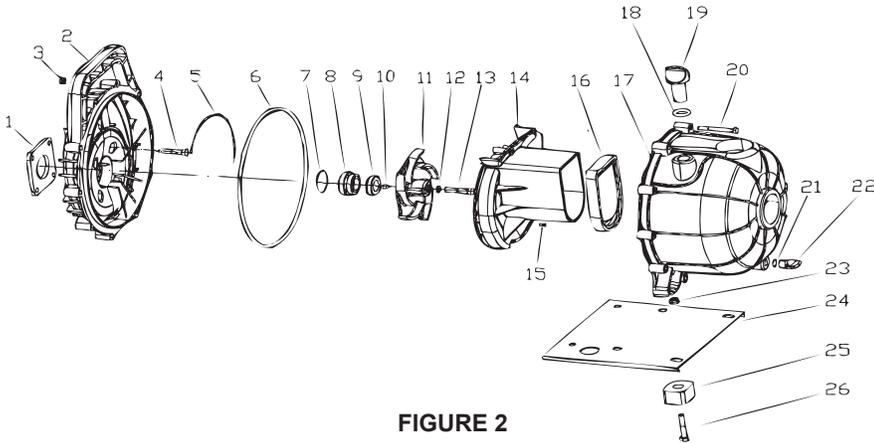


FIGURE 2

Replacement Parts				
Group	Description	Components	Part Number	UPC Code
A	Bracket Kit	1,2,3,4	617150	0 10121 14421 7
B	Seal Kit	5,6,7,8,9	617151	0 10121 14422 4
C	Impeller Kit	10,11,12,13	617152	0 10121 14423 1
D	Volute	14,15	617153	0 10121 14424 8
E	Check Valve	16	617154	0 10121 14425 5
F	Plug Kit	18,19,21,22	617155	0 10121 14426 2
G	Casing Kit	17,20	617156	0 10121 14427 9
H	Base Kit	23,24,25,26	617157	0 10121 14428 6

TROUBLESHOOTING

PROBLEMS	CAUSES	SOLUTIONS
Pump will not pump	Air leak in suction line.	Make sure suction hose is double clamped at joints, clamps are tight, fittings have thread compound and are tight, with no nicks or cuts in hose.
	The suction and/or discharge line(s) may be blocked, or the valve(s) are closed, faulty and/or blocked.	Check to see that the lines and valves are in good working order.
	The end of the suction line is not submerged.	Increase its length, or move pump closer to source of liquid.
	Total head is too high for this pump to work against.	Reduce total head or use a higher head pump.
Pump will not prime	Excessive suction lift (*1).	Move the pump closer to liquid source.
Priming takes a long time	Suction line is quite long.	Refer to START-UP under OPERATION.
	Air pockets or leaks in the suction line.	Check the line for loose connections.
Pump does not perform as well as it should	Flow is restricted due to: a) Debris build-up. b) Faulty or semi-open valve(s). c) Pipe or hose used is smaller than the thread sizes on the pump.	a) Clean the lines and fittings. b) Check to see that the valves are in good working order. c) Increase the size of hose or pipe to reduce friction losses.
	Insufficient submergence of the end of suction line.	The end of the suction line must be submerged.
	Excessively worn impeller (*2).	Replace impeller.
	Seal is damaged (*3). Liquid will be leaking through the middle of the adapter.	Replace the seal.
	Air pockets or leaks in the suction line.	Check suction line.
	Clogged impeller.	Remove casing to clean out.
Pump loses prime	Water level drops below the end of the suction line.	Increase length of suction line or move the pump closer to the water source.
Pump will not start	No fuel.	Add fuel.
	Faulty spark plug.	Replace spark plug.
Pump will not start, or starts but runs roughly	Low oil level.	Fill crank case to the proper level. Place pump on a flat, level surface.
	Choke in wrong position.	Adjust choke.
	Spark plug wire loose.	Attach wire to spark plug.
Pump shuts down during operation	No fuel.	Add fuel.
	Low oil level.	Fill crank case to the proper level. Place pump on a flat, level surface.

*1) Excessive suction lift must take into consideration:

- a) Size and length of pipe
- b) Pipe fitting
- c) Elevation above sea level

Including all of the above, we recommend that the total suction head not exceed 25 ft.

*2) An excessively worn impeller is mainly caused from cavitation, which is caused by a number of situations, such as:

- a) Restricted suction
- b) Excessive suction lift

*3) The seal may be damaged due to:

- a) Normal wear
- b) Overheating
- c) Pumping chemicals that this seal is not designed for.

Contact an authorized service depot for further assistance.

MAINTENANCE

- a) **ENGINE:** Refer to the engine manufacturer's instructions for any maintenance requirements.
- b) **DRAINING:** If the pump is subject to freezing temperatures, drain it by removing the drain plug and priming plug. After the water

has drained, run the pump for a few seconds to get the last of the water out of the casing. Make sure the suction and discharge lines are free of water.

 **WARNING:**

Store the pump in a well-ventilated area, away from heat, flame, or sparks.

LIMITED WARRANTY

For warranty consideration, the Red Lion brand (hereafter "the Brand") warrants that the products specified in this warranty are free from defects in material or workmanship of the Brand. During the time periods and subject to the terms and conditions hereinafter set forth, the Brand will repair or replace to the original user or consumer any portion of this product which proves defective due to materials or workmanship of the Brand. At all times the Brand shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. The Brand has the option to inspect any product returned under warranty to confirm that the warranty applies before repair or replacement under warranty is approved. This warranty sets forth the Brand's sole obligation and purchaser's exclusive remedy for defective product. Return defective product to the place of purchase for warranty consideration.

WARRANTY PERIOD - PRODUCTS: 12 months from date of purchase by the user. (No warranty on brushes, impeller or cam on models with brush-type motors and/or flex-vane impellers.) In the absence of suitable proof of the purchase date, the effective period of this warranty will begin on the product's date of manufacture.

WARRANTY PERIOD – EMISSIONS CONTROL SYSTEM: 24 months from date of purchase by the user. Please refer to the engine manufacturer's owner's manual for details regarding the emissions control system warranty (ECS Warranty).

LABOR, ETC. COSTS: The Brand shall IN NO EVENT be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or affixing any product, part, or component thereof.

PRODUCT IMPROVEMENTS: The Brand reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such change or improvement.

GENERAL TERMS AND CONDITIONS: This warranty shall not apply to damage due to acts of God, normal wear and tear, normal maintenance services and the parts used in connection with such service, lightning or conditions beyond the control of the Brand, nor shall it apply to products which, in the sole judgment of the Brand, have been subject to negligence, abuse, accident, misapplication, tampering, alteration; nor due to improper installation, operation, maintenance or storage; nor to excess of recommended maximums as set forth in the instructions.

Warranty will be VOID if any of the following conditions are found:

1. Product is used for purposes other than those for which it was designed and manufactured
2. Product not installed in accordance with applicable codes, ordinances, and good trade practices
3. Product connected to voltage other than indicated on nameplate
4. Pump used to circulate anything other than fresh water at approximately room temperature
5. Pump allowed to operate dry (fluid supply cut off)
6. Sealed motor housing opened or product dismantled by customer
7. Cord cut off to a length less than three feet

DISCLAIMER: Any oral statements about the product made by the seller, the Brand, the representatives, or any other parties do not constitute warranties, shall not be relied upon by the user, and are not part of the contract for sale. Seller's and the Brand's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the Brand of the product as described above. NEITHER SELLER NOR THE BRAND SHALL BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS), ARISING OUT OF THE USE OR THE INABILITY TO USE THE PRODUCT, AND THE USER AGREES THAT NO OTHER REMEDY SHALL BE AVAILABLE TO IT. Before using, the user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. **THE WARRANTY AND REMEDY DESCRIBED IN THIS LIMITED WARRANTY IS AN EXCLUSIVE WARRANTY AND REMEDY AND IS IN LIEU OF ANY OTHER WARRANTY OR REMEDY, EXPRESSED OR IMPLIED, WHICH OTHER WARRANTIES AND REMEDIES ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT EITHER APPLIES TO A PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESSED WARRANTIES GIVEN ABOVE.** Some states and countries do not allow the exclusion or limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.

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