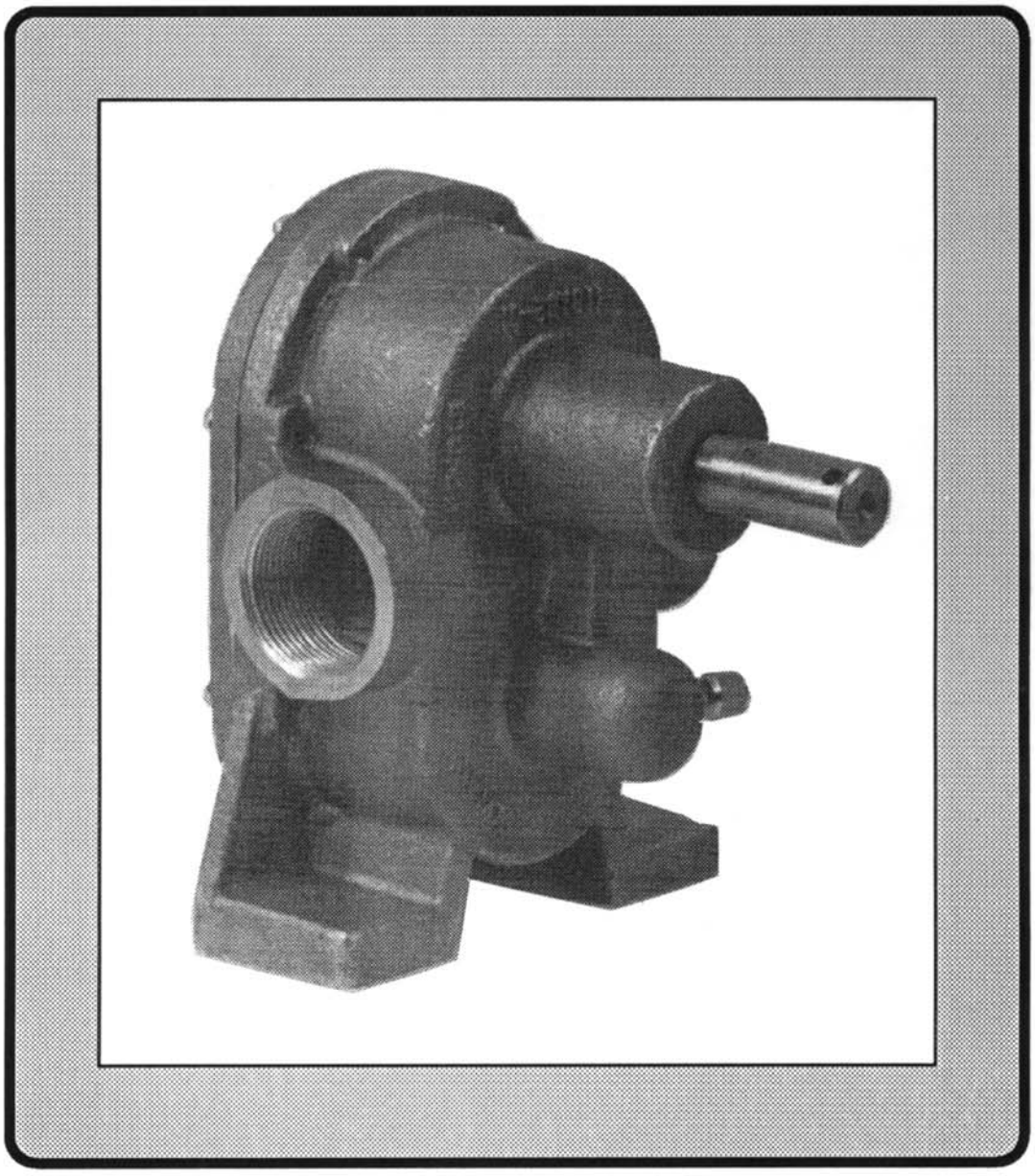
113778 BRASS GEAR PUMP
Parts & Instruction Manual



Price $10.00

CDS-JOHN BLUE COMPANY

DIVISION OF ADVANCED SYSTEMS TECHNOLOGY, INC.

290 Pinehurst Drive • Huntsville, Alabama 35806

P.O. Box 1607 • Huntsville, Alabama 35807

Telephone: (256) 721-9090 • Fax (256) 721-9091 • Toll Free: 1-800-253-2583

Printed in U.S.A.

12-M-14

Rev. 12/08

SAFETY PRECAUTIONS

- Equipment should be operated only by trained, responsible people!
- A careful operator is the best insurance against an accident.
- Fill system with WATER first and check output.
- Check all valves, fittings, hose clamps, etc. for tightness and soundness before admitting fluid to system.
- Replace hoses when worn, cracked or if leaking.

BE CAREFUL! REMEMBER, SAFETY IS NO ACCIDENT!

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TO THE OWNER

This manual has been prepared and illustrated to assist you in the maintenance of your CDS-JOHN BLUE PUMP.

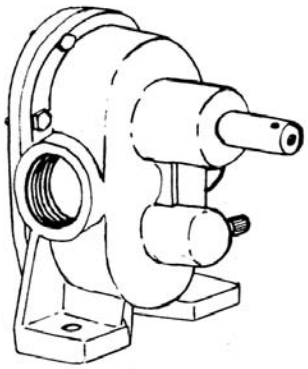
Enter your serial number and date of purchase in the space provided below for future reference in service information or for ordering parts.

Because our engineering department is constantly improving products, we reserve the right to make design and specification changes without notice.

Serial No.	Purchase Date

PUMP SPECIFICATIONS

Gear Width	1-3/4"
Inlet	1-1/4" FPT
Outlet	1-1/4" FPT
Rated Speed	600 RPM
Max. Pressure	250 PSI
Max. Output	18 GPM
Drive Shaft	3/4" Stainless Steel
Dimensions	7-1/4" x 5-1/2" x 8"
Weight	17 Lbs



The 113778 Brass Gear Pump is designed to give long life for spraying water and chemicals. This pump is a positive displacement gear pump. The housing and gears are made of brass with stainless steel shafts for use in spraying pesticides.

TRACTOR PTO MOUNTING

To mount on the tractor PTO, attach PTO coupler to the pump shaft and then install on the PTO shaft of the tractor. Be sure to secure the coupler to the pump shaft and the PTO shaft. Attach the torque bar to the mounting holes of the pump and attach the chain to the tractor drawbar so the chain will pull straight down on the pump. Be careful that the chain is not angled forward or rearward when standing directly over the pump.

MOUNTING OTHER THAN TRACTOR PTO

When driving the pump with an electric motor, hydraulic motor or a small gasoline engine, be sure to align the shaft of the pump to the shaft of the motor or engine. Use a flexible coupling to assure long service life.

PLUMBING

The 113778 Gear Pump is bi-rotational as both ports have the same 1-1/4" FPT threads. When looking directly at the pump shaft, use Figure 1 to determine which port is to be used for suction and which will be used for pressure.

The suction hose should be a wire reinforced hose to prevent collapse under vacuum. It is recommended that a suction strainer be used with this pump as particle build-up in the pump can reduce the life of the gears.

The discharge line should be equipped with a safety relief valve, a surge resistant pressure gauge (usually glycerin filled) and a manually operated bypass valve to return excess flow to the tank.

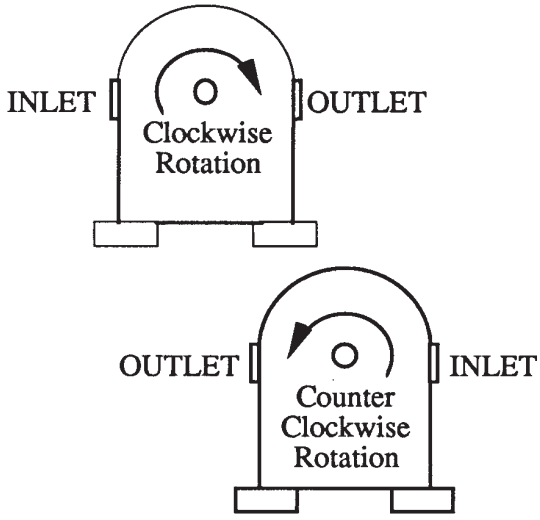


Figure 1

LUBRICATION

Grease the pump before starting the pump. The grease fittings have caps, and it is important to replace these caps after lubrication has been completed. Initial lubrication and additional lubrication during the first two hours of use and this is very critical in order to keep abrasive materials out of the bearings.

CARE AFTER SPRAYING

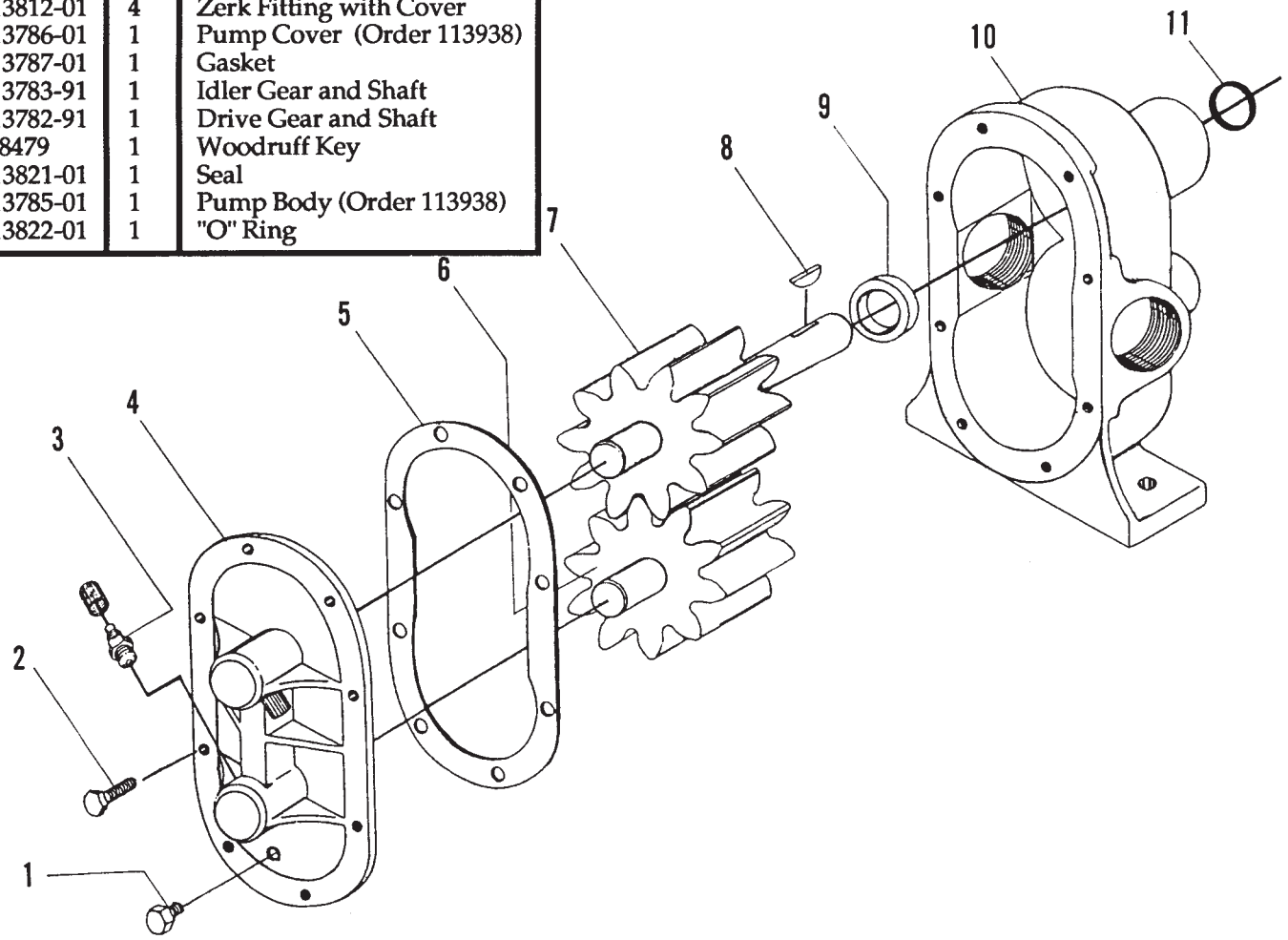
It is important to the life of the pump to flush out all chemicals immediately after use with a solution that will neutralize the liquid last pumped (refer to that manufacturer's instructions). This is necessary to prevent chemicals from drying in the pump and forming abrasive particles the next time pump is used. For Long-term storage (more than 2 weeks), use straight RV-antifreeze to fill the pump after the flushing procedure described above, and place plugs in the suction and discharge ports to keep the pump full and exclude air.

Trouble Chart

Symptom	Probable Cause	Correction
Will not pick up prime or low volume	(1) Strainer clogged (2) Suction hose leaking air or collapsed (3) Seal leaking (Should notice leaking around shaft) (4) Needs greasing (5) Pump air locked	Check strainer Check for air leaks or hose kinks Replace seal See lubrication section of book Remove discharge hose to allow air to escape
Surges badly and output too low	Broken or fouled valve or valve spring	Check Relief Valve
Output drops off as pressure is increased	(1) Drive belts slipping (2) Engine overloaded (3) Cover plate warped (4) Gears have too much end play (5) gears worn out	Tighten bolts Reduce speed ratio or use larger engine Replace cover plate Replace gears or plane down cover plate Replace gears

PARTS LIST

Item	Part No.	Qty.	Description
1	113823-01	1	1/8" Pipe Plug
2	90612	8	Cap Screw
3	113812-01	4	Zerk Fitting with Cover
4	113786-01	1	Pump Cover (Order 113938)
5	113787-01	1	Gasket
6	113783-91	1	Idler Gear and Shaft
7	113782-91	1	Drive Gear and Shaft
8	S-8479	1	Woodruff Key
9	113821-01	1	Seal
10	113785-01	1	Pump Body (Order 113938)
11	113822-01	1	"O" Ring



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This warranty shall not apply to any equipment which shall have been repaired or altered outside CDS-John Blue's factory in any way so as to affect its durability, nor which has been subjected to misuse, abuse, negligence or accident or operated in any manner other than in accordance with operating instructions provided by CDS-John Blue Company. This warranty does not extend to repairs made necessary by the use of inferior or unsuitable parts or accessories, or parts or accessories not recommended by CDS-John Blue Company.

CDS-John Blue Company makes no warranties in respect to parts, accessories, or components not manufactured by CDS-John Blue Company, same ordinarily being warranted separately by their respective manufacturers.

DIVISION OF ADVANCED SYSTEMS TECHNOLOGIES HUNTSVILLE, ALABAMA (256) 721-9090