

# TRASH-LIQUID MANURE Self-Priming Centrifugal Pumps

## ENGINE POWERED OPERATING INSTRUCTIONS

Examine your pump carefully and read instructions before operating. Check for parts which may have been lost, damaged or loosened in transit. Claims for damage in transit must be made by you to delivering carrier.

### TO PREPARE FOR OPERATION

1. Fill engine crankcase to proper level with a good grade of engine oil. See engine manufacturer instruction book for quantity and grade. Check and change oil at recommended intervals.
2. Fill fuel tank with clean Regular grade gasoline. DO NOT USE ETHYL GASOLINE. Industrial engines do not require it, and it can cause engine to gum up. Open fuel shut off valve on gas line to allow fuel to flow to carburetor.
3. Attach suction hose to pump suction which has external pipe threads. Use grease or thread sealer on threaded connections to make them air tight. Make sure that the hose does not leak and that the lining is not loose or it will collapse under suction and block the hose. When using hose with male and female couplings, hose gasket must be in place and seal properly. Attach hose end guard furnished with pump to end of suction hose and use it at all times.
4. Hose or pipe can be attached to discharge at top of pump to lead water away. To pump at maximum capacity, use hose or pipe of same or larger size than pump discharge.
5. Fill pump case with water through plug at top of cover.
6. All gaskets and O-rings must be air tight.
7. Priming time depends on height of suction lift, length of hose between pump and water level and speed of pump. Maximum practical suction lift is approximately 25 ft. vertically from surface of water to pump suction. Long suction lines on pumps that are located long horizontal distances from the water will also reduce capacity, due to increased friction losses. Faster priming and greatest capacity are attained at low suction lifts. FOR MAXIMUM PERFORMANCE, LOCATE PUMP CLOSE TO THE WATER. Pump will also prime faster at higher speeds.
8. Start and operate engine in accordance with engine manufacturers instructions.
9. Engines are equipped with variable speed controls so pump speed can be varied from maximum for pumping a large volume, to minimum, to match pump speed with seepage inflow.
10. Fill automatic grease cup for pump seal with a water resistant, soft, easy flowing grease equal to Mobilgrease MP. Do not use automobile water pump grease as it is too hard. Screw cross bar on grease cup to end of stem to put spring tension on grease for automobile feeding. Do not allow grease cup to run dry — pump seal must be lubricated at all times for proper operation.

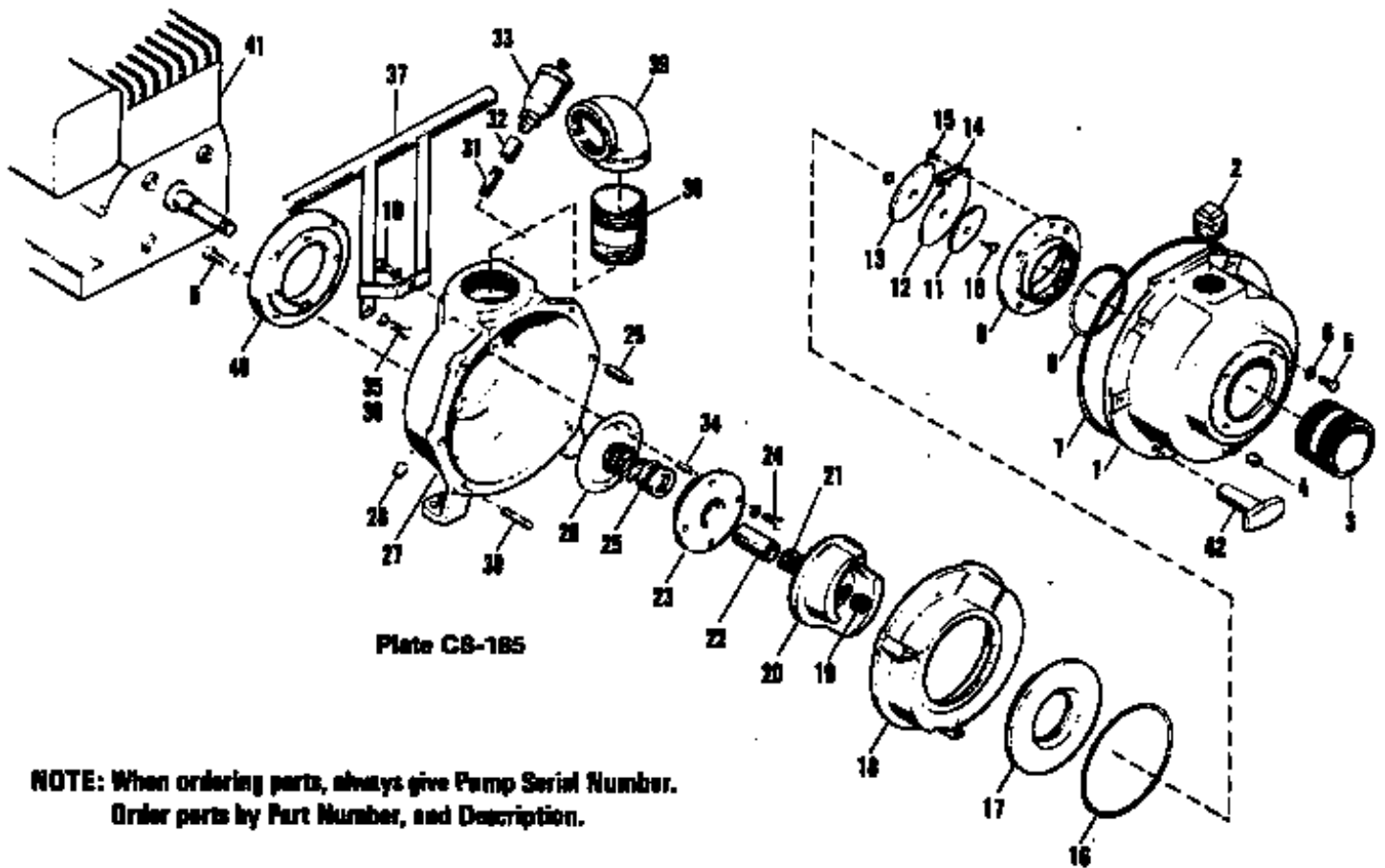
• Cedarburg, WI 53012

SCOT DIVISION OF ARDOX CORP. — HOME OFFICE

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**NOTE:** When ordering parts, always give Pump Serial Number.  
Order parts by Part Number, and Description.

Ref. No.	Part No.	Description	No. Req'd.
1	F3486	Cover (Aluminum or Cast Iron)	1
2		Square Head Pipe Plug, 1 1/4"	1
3	F3015	2" Suction Nipple	1
3	P3041	3" Suction Nipple	1
4		Square Head Pipe Plug, 1/2"	1
5		Hex. Screw, 3/8" x 1"	4
6		Stat-O-Seal Washer, 3/8"	4
7	P3486	"O" Ring, 11" I.D. x 1/8"	1
8	F3497	"O" Ring, 4 1/8" x 1/8"	1
9	P3489A	2" Suction Connection (Aluminum or Cast Iron)	1
9	F3489	3" Suction Connection (Aluminum or Cast Iron)	1
10		Hex. Screw, 3/8" x 3/4"	2
11	F3206	Flap Valve Washer	1
12	P3490	Flap Valve	1
13	F3492	Flap Valve Weight	1
14	P3491	Valve Blinder	1
15		Round Head Machine Screw, #10-32 x 5/8"	2
16	P3486	"O" Ring, 8 3/4" I.D. x 1/8"	1
17	P3493	Wear Plate	1
18	P3486	Volute	1
19		1"-14 Socket Jam Screw	1
20	P3487	Impeller	1
21	P3383	Impeller Shims	4-14
22	P4867	Shaft Seal Sleeve	1
23	F3454	Seal Seat Support (Aluminum or Cast Iron)	1

Parts List Continued from Page 2

Ref. No.	Part No.	Description	No. Req'd.
24		Hex. Screw, 1/4" x 3/4" .....	4
25	W105-6A	1 1/2" Double Grease Seal .....	1
26	P3455	Gasket .....	1
27	P3485	3" Pump Case (Aluminum or Cast Iron) .....	1
28	P3485A	2" Pump Case (Aluminum or Cast Iron) .....	1
28		Square Head Pipe Plug, 1/8" .....	2
29	P3458	Dowel Pin .....	2
30	P3458	Stud .....	4
31		Pipe Nipple .....	1
32		Pipe Coupling .....	1
33		Grease Cup .....	1
34		Groove Pin, 1/4" x 7/8" .....	1
35		Hex. Screw, 3/8" x 1 3/4" .....	2
36		Hex. Screw, 3/8" x 1 1/2" .....	2
37	P3494W	Lifting Handle .....	1
38		Discharge Nipple, 2" x 4" .....	1
38		Discharge Nipple, 3" x 3 1/2" .....	1
39		Discharge Elbow, 2" x 90° .....	1
39		Discharge Elbow, 3" x 90° .....	1
40	P3453	Engine Adapter (Aluminum or Cast Iron) .....	1
41	W1-D61	Briggs & Stratton Model No. 195432 .....	1
41	W1-G131	Wisconsin Model "S-8D" .....	1
41	W1-L2	Robin "EY27" .....	1
41	W1-G7	Lister "LT1" .....	1
41	W1-F5	Kohler "K181P" .....	1
42	P3496	Clamp Handle (Aluminum or Ductile Iron) .....	4

## MAINTENANCE AND SUGGESTIONS

1. Although this pump has been designed for handling both solids and raw sewage, the nature of these materials could cause a stoppage of flow and for this reason, easy access has been provided to both the impeller and case. For access to impeller, loosen 4 hand clamps and remove front cover. Volute, O-ring and wear plate are then loose and can be removed from case.
2. After considerable wear has occurred, original pump efficiency can be restored by replacing the impeller, volute and wear plate. To compensate for ordinary wear, wear plate can be replaced when worn. Impeller can be removed and additional shims added between impeller plug and engine shaft, bringing face of blades closer to wear plate, approximately .015 to .020" clearance.
3. If pump seal becomes worn, it will allow air to enter pump and prevent or slow up priming; it is indicated by leakage of grease or water.
4. Keep gasket O-rings and suction hose connection air tight, and replace when they become dry or cracked and have lost their resiliency.
5. Rubber flap valve in suction connection of pump must seat properly or water will syphon out of pump when it stops. Without priming water, pump will not prime when started again. If valve rubber or seat is badly worn, they should be replaced.
6. TO REMOVE IMPELLER AND SEAL
  - A. Soak all joints and threads with penetrating oil to ease removal
  - B. Turn off ignition or remove wire from spark plug to prevent accidental starting.
  - C. Keep pump shaft from turning by holding shaft with a pipe wrench, at cranking end of engine. Remove socket screw from end of shaft using socket key furnished with each pump. Unscrew impeller counter-clockwise by striking end of a block of wood held against vanes. Remove seal seat support and gasket from case. Remove seal rotating parts from seal sleeve on shaft. Remove seal seats and cups from seal support and pump case. Seal sleeve can remain on shaft unless it has been damaged. Clean grease from castings, seal sleeve and shaft before installing new seal.

NOTE: Complete seal assembly and seal sleeve can be replaced without removing pump case or engine adapter. With fixed suction hose or pipe-suction connection can remain intact by removing 4 screws and sliding cover forward over hose or pipe.
7. TO INSTALL NEW SEAL
  - A. Reverse procedure describing removal of seat. Lubricate seal sleeve, shaft and sealing surfaces with light oil to slide seal easily and to provide initial lubrication for seal. Rubber cups on stationary seats should also be oiled so they will slide into position easily. They must be firmly seated against shoulders do they will be square with the shaft. Sealing surface must be kept free from dirt and not marred in any manner. The surfaces are lapped to an extremely smooth finish and must be handled carefully to prevent damage which would shorten seal life. Rotating and stationary seal elements must always be replaced together, otherwise seal will not work, as wear occurs on both surfaces. Pack chamber with Mobil-grease MP or equal before assembling seal seat support.