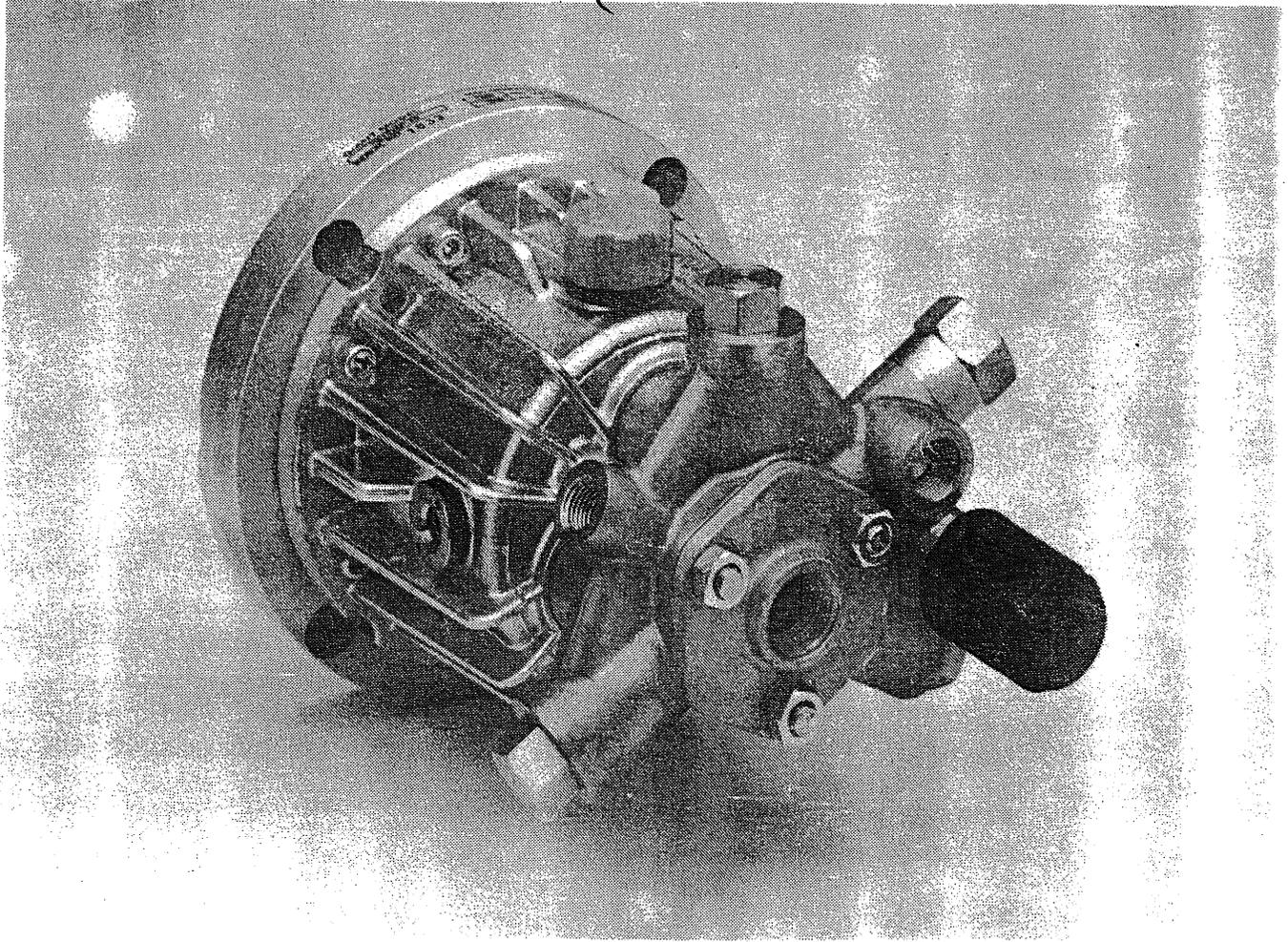


Series R51000 - 3B

Direct Drive
Triplex Plunger Pump
Operating Instructions/
Repair, and Service
Manual



GIANT

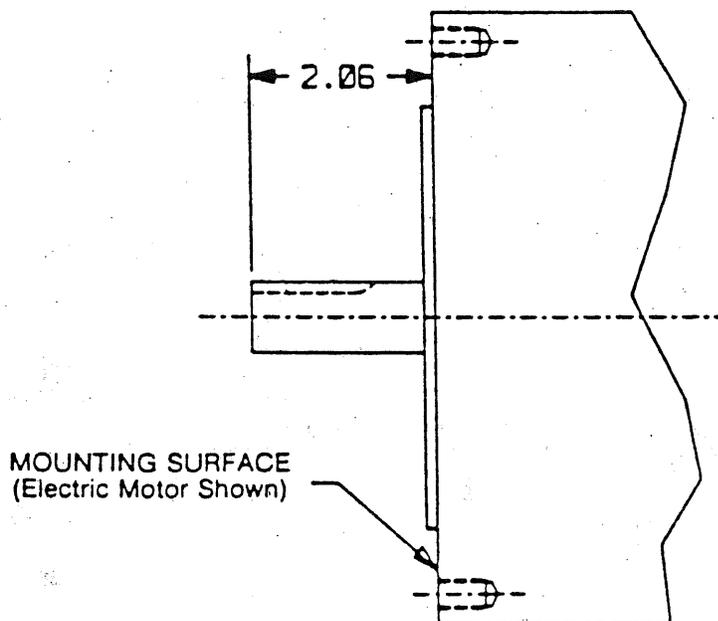
Contents:
Installation Instructions
Parts List
Trouble Shooting
Repair Instructions
Dimensions and Weight
Warranty Information

WARNING

THE R51000 SERIES PUMP
IS CONSTRUCTED TO BE MOUNTED TO:

- a) A GAS ENGINE HAVING A MAXIMUM SHAFT LENGTH* OF 2.43"
(MINIMUM SHAFT LENGTH OF 2.0").
 - b) AN ELECTRIC MOTOR HAVING A MAXIMUM SHAFT LENGTH OF 2.06"
(MINIMUM SHAFT LENGTH OF 1.62").
- USING A MOTOR OR ENGINE HAVING A SHAFT LONGER (OR SHORTER)
THAN STATED ABOVE WILL RESULT IN

SEVERE CRANKCASE DAMAGE



*Gas Engine Shaft length of 2.43" is based on using Giant Products Co. Small Engine Mounting Kit #09103 to adapt the R51000 Series Pump to a gas engine. Allowable shaft length may vary if using an adapting kit other than Giant Products #09103.

NOTE: The shaft key used on your motor/engine must be kept as long as possible but must not extend past the end of the shaft. We recommend using a key which utilizes at least 90% of the available keyway on the motor/engine shaft.
Example: If available keyway on engine shaft is 1.5" use a key which is at least 1.35" long.

MODEL R51026P-3B & R51026C-3B SPECIFICATIONS 3 PLUNGER AXIAL PUMP W/ ELECTRIC MOTOR OR GAS ENGINE MOUNTING†

Volume	See rating chart below
Max. Discharge Pressure	See rating chart below
Max. Inlet Pressure (R51026P-3B)	40 PSIG *
(R51026C-3B)	90 PSIG *
RPM	See rating chart below
Plunger Diameter	18mm
Stroke	5.0mm (6.3° angle)
Crankcase Capacity	4.5 fl. oz.
Temperature of Pumped Fluids	160° Max. *
Inlet Port	1/2" NPT
Discharge Port	(2) 3/8" NPT
Shaft Rotation	Either Direction ***
Weight	11.7 lbs. (12.7 lbs. w/#09103 Kit)
Length	9" (9-3/8" w/Kit #09103)
Width	6-9/16"
Height	6-9/16"
Swash Plate Bore	3/4" x 3/16" Keyway ****
Valve Type (R51026P-3B)	Polyamide Plastic
(R51026C-3B)	Stainless Steel

* See important operating conditions on page 2.

** 25 PSIG minimum inlet pressure is required.

*** The pump itself can be driven in either direction of rotation, however, the cooling fan on TEFC motors must always be positioned so that cooling air is drawn from the non-drive end of the motor towards the pump.

**** For applications requiring swash plate bore sizes other than 3/4", consult factory.

† Special Notes for Gasoline Engine Mounting:

A gasoline engine adapting kit, part #09103, is available from Giant Products Co. and is required when mounting pump to gasoline engines. The adapting plate is constructed to fit engines having a 1-5/8" pilot diameter, 3-5/8" bolt circle, and a 3/4" shaft diameter. The maximum allowable distance from the engine mounting surface to the end of the shaft (and shaft key) is 2-7/16" using Giant Products Kit #09103. SEVERE DAMAGE TO THE CRANKCASE WILL OCCUR IF THE SHAFT OR SHAFT KEY EXTENDS TOO FAR INTO THE CRANKCASE.

Special Notes for Electric Motor Mounting:

1. The pump is constructed to fit a NEMA 56, C face, motor frame having a special 3/4" shaft diameter with a 3/16" wide key. Maximum shaft length from motor mounting surface is 2-1/16". SEVERE DAMAGE TO THE CRANKCASE WILL OCCUR IF THE SHAFT OR SHAFT KEY EXTENDS TOO FAR INTO THE CRANKCASE.

R51026P-3B & R51026C-3B HORSEPOWER REQUIREMENTS

RPM	GPM	500 PSI	700 PSI	900 PSI	1100 PSI	1300 PSI	1500 PSI
3000	2.7	0.9	1.3	1.7	2.0	2.4	2.8
3200	2.9	1.0	1.4	1.8	2.2	2.6	3.0
3450	3.1	1.1	1.5	1.9	2.3	2.8	3.2

Note: Above brake horsepower ratings shown are the pump requirements. For applications using gas engines, the power output of the engine will be greater than the brake horsepower listed. Consult with engine manufacturer for recommendation.

We recommend a 1.1 service factor be specified when selecting an electric motor as the power source.

To compute specific pump horsepower requirements use the following formula:

$$\frac{\text{GPM} \times \text{PSI}}{1460} = \text{hp}$$

1460

MODEL R51036C-3B SPECIFICATIONS 3 PLUNGER AXIAL PUMP w/ELECTRIC MOTOR FLANGE

Volume	2.3 GPM
Max. Discharge Pressure	1500 PSI
Max. Inlet Pressure	90 PSIG* *
RPM	1725
Plunger Diameter	18mm
Stroke	7.1mm (9.0° angle)
Crankcase Capacity	4.5 fl. oz.
Temperature of Pumped Fluids	160° Max.*
Inlet Port	1/2" NPT
Discharge Port	(2) 3/8"NPT
Shaft Rotation	Either Direction* **
Weight	11.7 lbs.
Length	9"
Width	6-9/16"
Height	6-9/16"
Swash Plate Bore	3/4 "x 3/16" Keyway****
Valve Type	Stainless Steel

*See important operating conditions on page 2.

**For vacuum inlet pressures, consult factory.

***The pump itself can be driven in either direction of rotation, however, the cooling fan on TEFC motors must always be positioned so that cooling air is drawn from the non-drive end of the motor towards the pump.

****For applications requiring swash plate bore sizes other than 3/4", consult factory.

Special Notes:

1. The R51036C-3B pump is constructed to fit a modified NFMA 56, C face, motor frame having a special 3/4" shaft diameter with a 3/16" wide key. Maximum shaft length from motor mounting surface is 2-1/16". SEVERE DAMAGE TO THE CRANKCASE WILL OCCUR IF THE SHAFT OR SHAFT KEY EXTENDS TOO FAR INTO THE CRANKCASE.

2. Positive inlet pressures are recommended.

R51036C-3B HORSEPOWER REQUIREMENTS							
RPM	GPM	500 PSI	700 PSI	900 PSI	1000 PSI	1200 PSI	1500 PSI
1725	2.3	0.8	1.1	1.4	1.6	1.9	2.4

Note: Above brake horsepower ratings shown are the pump requirements. For applications using gas engines, the power output of the engine will be greater than the brake horsepower listed. Consult with engine manufacturer for recommendation.

We recommend a 1.1 service factor be specified when selecting an electric motor as the power source. To compute specific pump horsepower requirements use the following formula:

$$\frac{\text{GPM} \times \text{PSI}}{1460} = \text{hp}$$

MODEL R51076C-3B SPECIFICATIONS

3 PLUNGER AXIAL PUMP W/ ELECTRIC MOTOR OR GAS ENGINE MOUNTING†

Volume	See rating chart below
Max. Discharge Pressure	See rating chart below
Max. Inlet Pressure	90 PSIG **
RPM	See rating chart below
Plunger Diameter	18mm
Stroke	6.2mm (7.8° angle)
Crankcase Capacity	4.5 fl. oz.
Temperature of Pumped Fluids	160° Max. *
Inlet Port	1/2" NPT
Discharge Port	(2) 3/8" NPT
Shaft Rotation	Either Direction ***
Weight	11.7 lbs. (12.7 lbs. w/#09103 Kit)
Length	9" (9-3/8" w/Kit #09103)
Width	6-9/16"
Height	6-9/16"
Swash Plate Bore	3/4" x 3/16" Keyway ****
Valve Type	Stainless Steel

*See important operating conditions on page 2.

**25 PSIG minimum inlet pressure is required.

***The pump itself can be driven in either direction of rotation, however, the cooling fan on TEFC motors must always be positioned so that cooling air is drawn from the non-drive end of the motor towards the pump.

****For applications requiring swash plate bore sizes other than 3/4", consult factory.

† Special Notes for Gasoline Engine Mounting:

A gasoline engine adapting kit, part #09103, is available from Giant Products Co. and is required when mounting pump to gasoline engines. The adapting plate is constructed to fit engines having a 1-5/8" pilot diameter, 3-5/8" bolt circle, and a 3/4" shaft diameter. The maximum allowable distance from the engine mounting surface to the end of the shaft (and shaft key) is 2-7/16" using Giant Products Kit #09103. **SEVERE DAMAGE TO THE CRANKCASE WILL OCCUR IF THE SHAFT OR SHAFT KEY EXTENDS TOO FAR INTO THE CRANKCASE.**

Special Notes for Electric Motor Mounting:

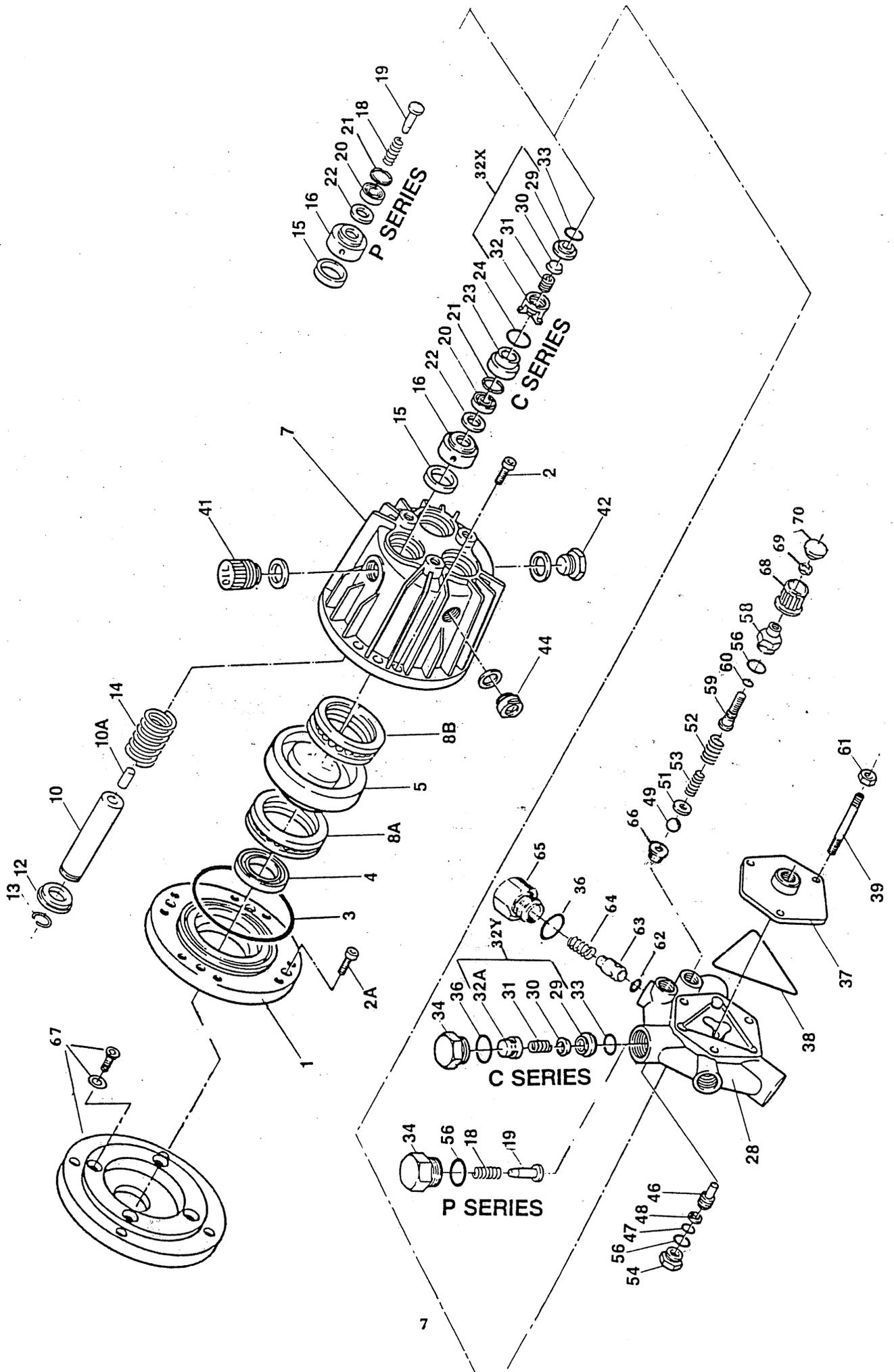
1. The pump is constructed to fit a NEMA 56, C face, motor frame having a special 3/4" shaft diameter with a 3/16" wide key. Maximum shaft length from motor mounting surface is 2-1/16". **SEVERE DAMAGE TO THE CRANKCASE WILL OCCUR IF THE SHAFT OR SHAFT KEY EXTENDS TOO FAR INTO THE CRANKCASE.**

R51076C-3B HORSEPOWER REQUIREMENTS							
RPM	GPM	500 PSI	700 PSI	900 PSI	1100 PSI	1300 PSI	1500 PSI
1725	1.9	0.7	0.9	1.2	1.4	1.7	2.0
3100	3.5	1.2	1.7	2.2	2.6	3.1	3.6

Note: Above brake horsepower ratings shown are the pump requirements. For applications using gas engines, the power output of the engine will be greater than the brake horsepower listed. Consult with engine manufacturer for recommendation.
We recommend a 1.1 service factor be specified when selecting an electric motor as the power source.

To compute specific pump horsepower requirements use the following formula:

$$\frac{\text{GPM} \times \text{PSI}}{1460} = \text{hp}$$



PARTS LIST R51000 SERIES

ITEM #	PART #	DESCRIPTION	QTY.	ITEM #	PART #	DESCRIPTION	QTY.
1	07874	Adapting Plate, Sold Only w/Part #08120*	1	32	07492	Inlet Valve Spring Retainer (C-Series Pumps)	1
2	07881	Socket Head Cap Screw 1/4"	8	32A	07907	Discharge Valve Spring Retainer (C-Series Pumps)	3
2A	07435	Socket Head Cap Screw 3/8"	4	32X	07841	Inlet Valve Assembly, Complete (C-Series Pumps)	3
3	07344	O-Ring	1	32Y	07946	Discharge Valve Assembly, Complete (C-Series Pumps)	3
4	07805	Radial Shaft Seal	1	33	07853	O-Ring (C-Series Pumps)	6
5	07891	Swash Plate, Sold Only w/Part #08123** (R51026P-JB & R51026C-JB)	1	34	07379	Valve Plug (P-Series Pumps)	3
5	07951	Swash Plate, Sold Only w/Part #08123** (R51036C-JB)	1	36	07928	Valve Plug (C-Series Pumps)	3
5	07947	Swash Plate, Sold Only w/Part #08123** (R51016P-JB & R51016C-JB)	1	36	07913	O-Ring (C-Series Pumps)	4
5	07949	Swash Plate, Sold Only w/Part #08123** (R51076C-JB)	1	37	07909	O-Ring (P-Series Pumps)	1
5	07889	Swash Plate, Sold Only w/Part #08123** (R51046C-JB)	1	38	07910	Suction Flange	1
5	07894	Swash Plate, Sold Only w/Part #08123** (R51056C-JB)	1	39	07911	O-Ring	1
7	08251	Crankcase	1	39	07921	Threaded Stud (P-Series Pump)	1
8A	07927	Rear Bearing, Complete	1	41	07912	Threaded Stud (C-Series Pump)	3
8B	07930	Front Bearing, Complete	1	42	07428	Oil Fill Plug w/Gasket	3
10	08257	Plunger (R51026P-JB)	1	44	08250	Oil Drain Plug w/Gasket	1
10	08258	Plunger (R51026C-JB)	3	46	07914	Oil Sight Glass w/Gasket, 1/2" Thread ***	1
10	08258	Plunger (R51036C-JB)	3	47	07915	Piston (Sold only w/Item #54)	1
10	08258	Plunger (R51046C-JB)	3	48	07916	O-Ring	1
10	07925	Plunger (R51016P-JB)	3	49	07416	Back-up Ring	1
10	07925	Plunger (R51016C-JB)	3	51	07917	Ball, By-pass Valve	1
10	08258	Plunger (R51076C-JB)	3	52	08194	Washer	1
10	07924	Plunger (R51056C-JB)	3	53	07919	Adjusting Spring	1
10A	07486	Insert, Plunger (P-Series Pumps)	3	54	07920	Pressure Spring	1
12	07821	Spring Disc	3	56	12007	Guide Plug (Sold only w/Item #46)	1
13	07822	Retaining Ring	3	58	07936	O-Ring (P-Series Pumps)	5
14	07873	Plunger Spring	3	59	07938	O-Ring (C-Series Pumps)	2
15	08356-0010	Viton Oil Seal	3	60	07937	Plug, Adjusting Screw	1
16	07899	Spacer Ring	3	61	07939	Adjusting Screw	1
18	07374	Valve Spring (P-Series Pumps)	3	62	12326	Nut	3
19	07375	Valve Cone (P-Series Pumps)	6	63	12325	O-Ring	1
20	08252	V-Sleeve, Must order w/ #10011	6	64	12328	Kick-Back Valve Cone	1
21	10011	O-Ring	3	65	12340	Kick-Back Valve Spring	1
22	07904	Pressure Ring	3	66	07935	Kick-Back Valve Spring Retainer	1
23	07900	Stuffing Box (C-Series Pumps)	3	67	09103	By-pass Valve Seat	1
24	07901	O-Ring (C-Series Pumps)	3	68	07045	Small Engine Mounting Kit (Sold Separately)	1
28	07905	Manifold (P-Series Pumps)	3	69	07044	Handwheel	1
28	07908	Manifold (C-Series Pumps)	1	70	07046	Locknut	1
29	07849	Valve Seat (C-Series Pumps)	1			Cover	1
30	07491	Valve Seat (C-Series Pumps)	6				
31	07906	Valve Plate (C-Series Pumps)	6				
		Valve Spring (C-Series Pumps)	6				

QTY	DESCRIPTION	QTY	DESCRIPTION	QTY	DESCRIPTION
15	Plunger Spring	3	58	07936	Plug, Adjusting Screw
	56-0010 Viton Oil Seal	3	59	07938	Adjusting Screw
16	Spacer Ring	3	60	07937	O-Ring
18	Valve Spring (P-Series Pumps)	3	61	07939	Nut
19	Valve Cone (P-Series Pumps)	6	62	12326	O-Ring
20	V-Sleeve, Must order w/ #10011	6	63	12325	Kick-Back Valve Cone
21	O-Ring	3	64	12328	Kick-Back Valve Spring
22	Pressure Ring	3	65	12340	Kick-Back Valve Spring Retainer
23	Stuffing Box (C-Series Pumps)	3	66	07935	By-pass Valve Seat
24	O-Ring (C-Series Pumps)	3	67	09103	Small Engine Mounting Kit (Sold Separately)
28	Manifold (P-Series Pumps)	1	68	07045	Handwheel
29	Manifold (C-Series Pumps)	1	69	07044	Locknut
30	Valve Seat (C-Series Pumps)	6	70	07046	Cover
31	Valve Plate (C-Series Pumps)	6			
	Valve Spring (C-Series Pumps)	6			

* Part #08120 consists of two pieces (front race & cage) of a three piece bearing assy. The third piece of this assembly (rear race) is pressed into the flange.

** Part #08123 consists of two pieces (front race & cage) of a three piece bearing assembly. The third piece of this assembly (rear race) is pressed into the swash plate.

*** Pumps manufactured prior to 5/91 require sight glass p/n 07846.

R51000 REPAIR KITS

Part #09121	Part #09122	Part #09128
<u>Plunger Packing Kit</u>	<u>Valve Assembly Kit (P Series)</u>	<u>Unloader Repair Kit</u>
3-08252 V-Sleeve	6-07374 Valve Spring	3-12007 O-Ring, Adapter
3-10011 O-Ring	6-07375 Valve Cone	1-12326 O-Ring
3-07904 Pressure Ring		1-07915 O-Ring, Piston
Part #09122	Part # 09144	1-07916 Back-Up Ring, Piston
<u>Valve Assembly Kit (C Series)</u>	<u>Oil Seal Kit</u>	1-07416 Ball, By-Pass Valve
3-07841 Inlet Valve Assembly, Complete	3-08356-0010 Oil Seal	1-07935 Seat, By-Pass Valve
3-07946 Discharge Valve Assembly, Complete		1-07937 O-Ring
6-07853 O-Ring, Valve Seat		1-07913 O-Ring

PUMP SYSTEM MALFUNCTION

<u>MALFUNCTION</u>	<u>CAUSE</u>	<u>REMEDY</u>
The Pressure and/ or the Delivery Drops	Worn packing seals Broken valve spring Belt slippage Worn or Damaged nozzle Fouled discharge valve Fouled inlet strainer Worn or Damaged hose Worn or Plugged relief valve on pump Cavitation Unloader	Replace packing seals Replace spring Tighten or Replace belt Replace nozzle Clean valve assembly Clean strainer Repair/Replace hose Clean, Reset, and Replace worn parts Check suction lines on inlet of pump for restrictions Check for proper operation
Water in crankcase	High humidity Worn seals	Reduce oil change interval Replace seals
Noisy Operation	Worn bearings Cavitation	Replace bearings, Refill crankcase oil with recommended lubricant Check inlet lines for restrictions and/or proper sizing
Rough/Pulsating Operation with Pressure Drop	Worn packing Inlet restriction Accumulator pressure Unloader Cavitation	Replace packing Check system for stoppage, air leaks, correctly sized inlet plumbing to pump Recharge/Replace accumulator Check for proper operation Check inlet lines for restrictions and/or proper size
Pressure Drop at Gun	Restricted discharge plumbing	Re-size discharge plumbing to flow rate of pump
Excessive Leakage	Worn plungers Worn packing/seals Excessive vacuum Cracked plungers Inlet pressure too high	Replace plungers Adjust or Replace packing seals Reduce suction vacuum Replace plungers Reduce inlet pressure
High Crankcase Temperature	Wrong Grade of oil Improper amount of oil in crankcase	Giant oil is recommended Adjust oil level to proper amount

REPAIR INSTRUCTIONS R51000 SERIES

NOTE: If replacing the high pressure water seals (20), take time to first soak the seals in warm water for thirty minutes. This is necessary to ensure proper sealing upon start-up of the pump.

15. To reassemble, replace the plunger assemblies (10, 10A and 11) and plunger springs (14) into the crankcase (7), making sure the plunger springs are properly seated against the spring disc retainers (11).

NOTE: When mounting the swash plate (5) onto the adapting plate (1), be certain to lubricate both the shaft seal (4) and the ring which is pressed onto the swash plate. Take care not to damage the lips of the shaft seal when mounting.

16. Next, place the adapting plate (1) flat on a table. Place the o-ring (3) around the pilot on the adapting plate. Position the rear bearing (8A), swash plate (5) with race, and front bearings (8B) on top of the adapting plate. Make certain that the plunger assemblies (10, 10A, and 11) and the plunger springs (14) are pushed into the crankcase (7) as far as possible. Then wrap a rubber band tightly around the plungers (on the manifold (28) side) to secure them in place, as the next step is to turn the crankcase upside down and position it on the adapting plate and bearings. Press down firmly on the crankcase to secure the crankcase on the adapting plate, making certain that the swash plate (5) is properly positioned against the adapting plate. Replace the socket head screws (2) and tighten securely in a sequential pattern to 100 in.-lbs. Remove the rubber band used to hold the plungers in place.
17. Replace the oil seals (15), making sure the lips of the seal face the crankcase (7). Place the flingers (74) over the plungers (10).
18. Replace the spacer rings (16) over the plungers (10) and seat into the crankcase (7). Make certain that the weep holes are facing towards the oil drain plug (42).
- 19A. For "P" Series, insert the valve spring (18) and valve cone (19) into the plungers (10).
- 19B. For "C" Series, place the v-sleeve (20) with the grooved sides pointing down into the stuffing box (23). Place the pressure rings (22) on the plungers against the spacers (16). Place the o-ring (24) on stuffing box. Grease the end of the plungers (10). Press the stuffing box with the seals onto the plungers and seat firmly against the spacer ring (16). Next replace the o-ring (33). Reassemble the suction valve assembly (32X) with the tapered surface of the valve seat (29) facing up and the tapered surface of the valve plate (30) facing down. Position the spring (31) and snap the valve seat into the valve spring retainer (32). Position the assembly into the suction valve housing making certain that the leg of the valve spring retainer is not blocking the liquid passages in the manifold (28).
20. Assemble the adjusting screw (59) with o-ring (60) into the adjusting screw plug (58). Assemble the o-ring (56) onto the adjusting screw plug.
21. Replace the bypass valve seat (66) using a 7/32" Allen wrench. (A sealing compound such as Loctite 572 should be applied to the threads to ensure a proper seal.) Drop the ball (49) onto the seat. Replace the washer (51) with the concave side toward the ball. Next, replace both springs (53 and 52). Replace the adjusting screw assembly (from the above) and tighten down with a 19mm wrench.
22. Insert the piston (46) with o-ring (47) and backup rings (48) into the manifold (28). Screw in the guide plug (54) with o-ring (56) and tighten.
23. Replace the kickback valve cone (63) with o-ring (62) and kickback valve spring (64) in place. Assemble the o-ring (36) onto the kickback valve spring retainer (65). Screw the kickback valve spring retainer into the manifold (28) and tighten.
- 24A. For "P" Series, place the valve cones (19) and valve springs (18) into the discharge bores. Replace the valve plugs (34) with o-rings (56) and tighten.
- 24B. For "C" Series, replace the o-ring (33) into the discharge valve bore. Next, assemble the discharge valve assembly (32Y) as described above in step 19B. Position the assembly into the discharge valve housing. Replace the valve plug (34) with o-ring (36) and tighten.
25. Grease the end of the plungers (10). Replace the manifold (28) over the plungers (10) and seat firmly against the spacer rings (16). If necessary, gently tap manifold with a rubber mallet.
27. Grease the suction flange o-ring (38) and place it into the groove on the suction flange (37). Replace the stud bolts (39) and washers (72) and tighten bolts to 220 in.-lbs.
29. Fill the crankcase with 4.5 fluid ounces of oil. The pump is now ready for operation.

R51000 SERIES TORQUE SPECIFICATIONS

<u>Position</u>	<u>Item#</u>	<u>Description</u>	<u>Torque Amount (ft.-lbs)</u>
2	07881A	Socket Head Cap Screw	100 in.-lbs.
39	06200	Stud Bolt	220 in.-lbs.

To Disassemble Gear End

1. Loosen Inner Hexagon Screws (49) for the Valve Casing (43) with an allen wrench. Carefully remove Valve Casing from the Crankcase (1).
2. Loosen Inner Hexagon Screws (10) for the Crankcase Cover (4) with an allen wrench and remove Crankcase Cover.
3. Loosen Hexagon Screws (17) for the Bearing Covers (14) with a wrench and remove Bearing Cover.
4. Drain oil from the Crankcase (1) by removing Drain Plug (12) with a 3/4" wrench.
5. Loosen Connecting Rod Screws (24) with an allen wrench. Push the stems of the connecting rods as far as possible into the crosshead guides. Carefully push out the Radial Shaft Seals(31).

Important!!

Connecting Rods (24) are marked for identification. Do not twist Connecting Rod halves. Connecting Rods must be reinstalled in the same position on the Crankshaft (22) journals.

6. While slightly turning the Crankshaft (22), hit it out carefully to one side with a rubber hammer.

Important!!

Do not bend Connecting Rod (24) shank.

7. Check the surfaces of the Crankshaft (22), Connecting Rods (24), Crosshead Assemblies (25) as well as the Radial Shaft Seals (15 and 31) and Taper Roller Bearings (20).

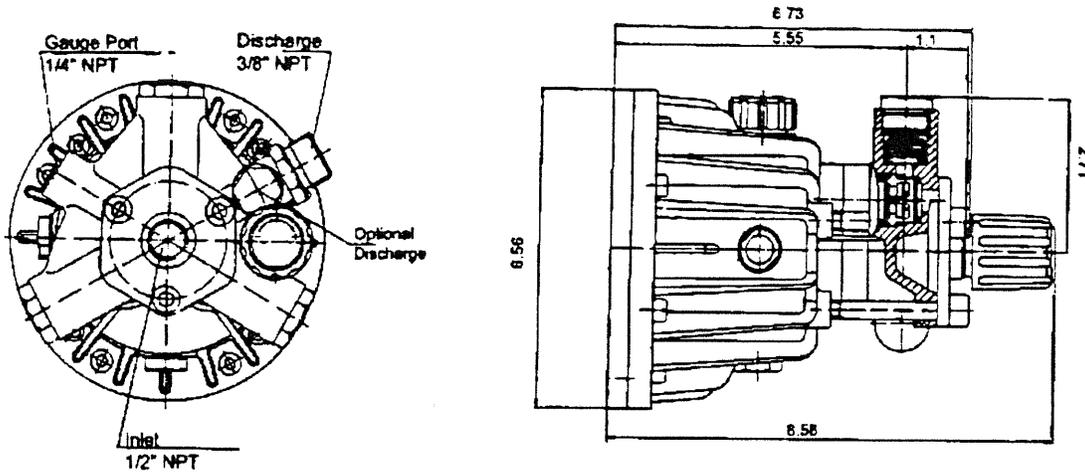
To Reassemble Gear End

1. Using a soft tool, such as brass or wooden dowel, press in the outer bearing ring until it lines up with the outer edge of the bearing hole. Assemble the Bearing Cover (14) together with the Shaft Seal (15) and O-Ring (16).
2. Fit the Crankshaft (22) with pressed-on bearing parts through the bearing hole on the opposite side. Press in outer bearing ring and push it inwards with the Bearing Cover (14) while keeping the Crankshaft in the vertical position and turning it slowly so that the taper rollers of the bearings touch the edge of the outer bearing ring.
3. Adjust axial bearing clearance with Fitting Discs (20A) which are 0.1mm each. The Crankshaft (22) should turn easily with very little clearance. Tighten Inner Hexagon Screws on the Connecting Rods (24) to 26 ft.-lbs..

Important!!

There should be enough clearance for the Connecting Rods (24) to move sideways a little on the journals.

R51000 Dimensions (inches)



GIANT INDUSTRIES LIMITED WARRANTY

Giant Industries, Inc. pumps and accessories are warranted by the manufacturer to be free from defects in workmanship and material as follows:

1. For portable pressure washers and car wash applications, the discharge manifolds will never fail, period. If they ever fail, we will replace them free of charge. Our other pump parts, used in portable pressure washers and in car wash applications, are warranted for five years from the date of shipment for all pumps used in NON-SALINE, clean water applications.
2. One (1) year from the date of shipment for all other Giant industrial and consumer pumps.
3. Six (6) months from the date of shipment for all rebuilt pumps.
4. Ninety (90) days from the date of shipment for all Giant accessories.

This warranty is limited to repair or replacement of pumps and accessories of which the manufacturer's evaluation shows were defective at the time of shipment by the manufacturer. The following items are NOT covered or will void the warranty:

1. Defects caused by negligence or fault of the buyer or third party.
2. Normal wear and tear to standard wear parts.
3. Use of repair parts other than those manufactured or authorized by Giant.
4. Improper use of the product as a component part.
5. Changes or modifications made by the customer or third party.
6. The operation of pumps and or accessories exceeding the specifications set forth in the Operations Manuals provided by Giant Industries, Inc.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Giant Industries which are deemed to be defective due to workmanship or failure of material. A Returned Goods Authorization (R.G.A.) number and completed warranty evaluation form is required prior to the return to Giant Industries of all products under warranty consideration. Call (419)-531-4600 or fax (419)-531-6836 to obtain an R.G.A. number.

Repair or replacement of defective products as provided is the sole and exclusive remedy provided hereunder and the MANUFACTURER SHALL NOT BE LIABLE FOR FURTHER LOSS, DAMAGES, OR EXPENSES, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES DIRECTLY OR INDIRECTLY ARISING FROM THE SALE OR USE OF THIS PRODUCT.

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