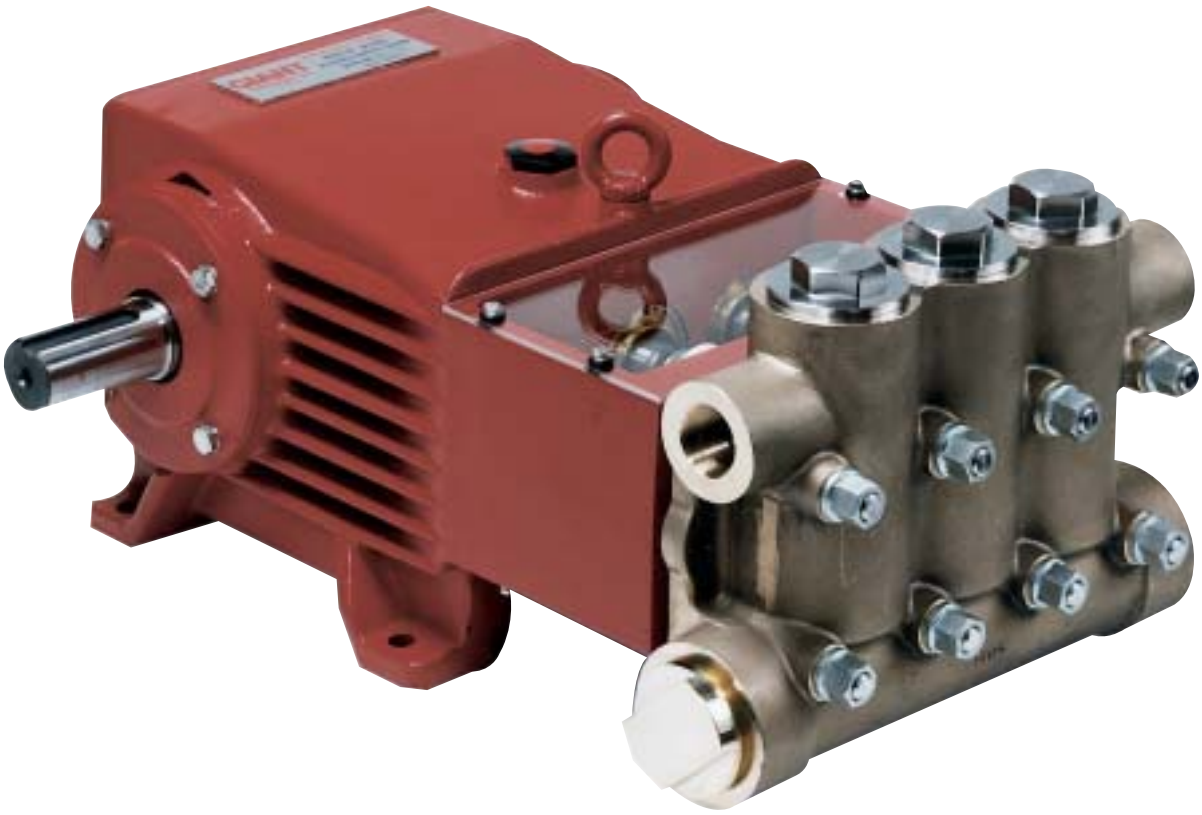
Triplex Ceramic
Plunger Pump Manual

Model
GP7155-5100



GIANT

Contents:

INSTALLATION INSTRUCTIONS

Installation of the Giant Industries, Inc., pump is not a complicated procedure, but there are some basic steps common to all pumps. The following information is to be considered as a general outline for installation. If you have unique requirements, please contact Giant Industries, Inc. or your local distributor for assistance.

1. The pump should be installed flat on a base to a maximum of a 15 degree angle of inclination to ensure optimum lubrication.

2. The inlet to the pump should be sized for the flow rate of the pump with no unnecessary restrictions that can cause cavitation. Teflon tape should be used to seal all joints. If pumps are to be operated at temperatures in excess of 140° F, it is important to insure a positive head to the pump to prevent cavitation.

3. The discharge plumbing from the pump should be properly sized to the flow rate to prevent line pressure loss to the work area. It is essential to provide a safety bypass valve between the pump and the work area to protect the pump from pressure spikes in the event of a blockage or the use of a shut-off gun.

4. Use of a dampener is necessary to minimize pulsation at drive elements, plumbing, connections, and other system areas. The use of a dampener with Giant Industries, Inc. pumps is optional, although recommended by Giant Industries, Inc. to further reduce system pulsation. Dampeners can also reduce the severity of pressure spikes that occur in systems using a shut-off gun. A dampener must be positioned downstream from the unloader.

5. Crankshaft rotation on Giant Industries, Inc. pumps should be made in the direction designated by the arrows on the pump crankcase. Reverse rotation may be safely achieved by following a few guidelines available upon request from Giant Industries, Inc. Required horsepower for system operation can be obtained from the chart on page 3.

6. Before beginning operation of your pumping system, remember: Check that the crankcase and seal areas have been properly lubricated per recommended schedules. Do not run the pump dry for extended periods of time. Cavitation will result in severe damage. Always remember to check that all plumbing valves are open and that pumped media can flow freely to the inlet of the pump.

Finally, remember that high pressure operation in a pump system has many advantages. But, if it is used carelessly and without regard to its potential hazard, it can cause serious injury.

IMPORTANT OPERATING CONDITIONS
Failure to comply with any of these conditions invalidates the warranty

1. Prior to initial operation, add oil to crankcase so that oil level is between the two lines on the oil dipstick. DO NOT OVERFILL. **Use Giant Recommended Oil** (p/n 01154), which is equivalent to SAE 85-90W Industrial Grear Lube. Crankcase oil should be changed after the first 50 hours of operation, then at regular intervals of 500 hours or less depending on operating conditions.

2. Pump operation must not exceed rated pressure, volume, or RPM. A pressure relief device must be installed in the discharge of the system.

3. Acids, alkalines, or abrasive fluids cannot be pumped unless approval in writing is obtained before operation from Giant Industries, Inc.

4. Run the pump dry approximately 10 seconds to drain the water before exposure to freezing temperatures.

Preventative Maintenance Check-List & Recommended Spare Part List

Check	Daily	Weekly	50hr	Every 500 hr	Every 1500 hr	Every 3000hrs
Oil Level / Quality	X					
Oil Leaks	X					
Water Leaks	X					
Belts, Pulley		X				
Plumbing		X				
		Recommended Spare Part				
Oil Change (p/n 01154)			X	X		
Plunger Packing Kits(1 kit/Pump) See page 5 for kit list					X	
Oil Seal Kit (1 kit/Pump See page 5 for kit list)					X	
Valve Assembly Kit (1 kit/pump) See page 5 for kit list						X

NOTE: Contact Giant Industries for Service School Information. Phone: (419)-531-4600.

Specifications - Model GP7155-5100

	U.S.	Metric
Volume	65.8 GPM	250 LPM
Discharge Pressure	1500 PSI	100 Bar
Crankshaft Speed		700 RPM
Inlet Pressure		Up to 700 RPM
Plunger Diameter	2.17”	55mm
Plunger Stroke	2.05”	52mm
Crankshaft Diameter	1.89”	48mm
Key Width	0.55”	14mm
Crankshaft Mounting		Either side
Shaft Rotation		Top of pulley towards manifold
Max.Temperature of Pumped Fluids	140 °F	60 °C
Inlet Ports		(2) 2-1/2" NPT
Discharge Ports		(2) 1-1/4" NPT
Weight	374 lbs.	170 kg
Crankcase Oil Capacity	1.6 Gal.	6.0 liters
Mechanical Effecency @ 700 RPM		0.83
Volumetric Effecency @ 700 RPM		0.96

Consult the factory for special requirements that must be met if the pump is to operate beyond one or more of the limits specified above.

PULLEY INFORMATION

Pulley selection and pump speed are based on a 1725 RPM motor and "B" section belts. When selecting desired GPM, allow for a ±5% tolerance on pumps output due to variations in pulleys, belts and motors among manufacturers.

1. Select GPM required, then select appropriate motor and pump pulley from the same line.
2. The desired pressure is achieved by selecting the correct nozzle size that corresponds with the pump GPM.

HORSEPOWER INFORMATION

Horsepower ratings shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

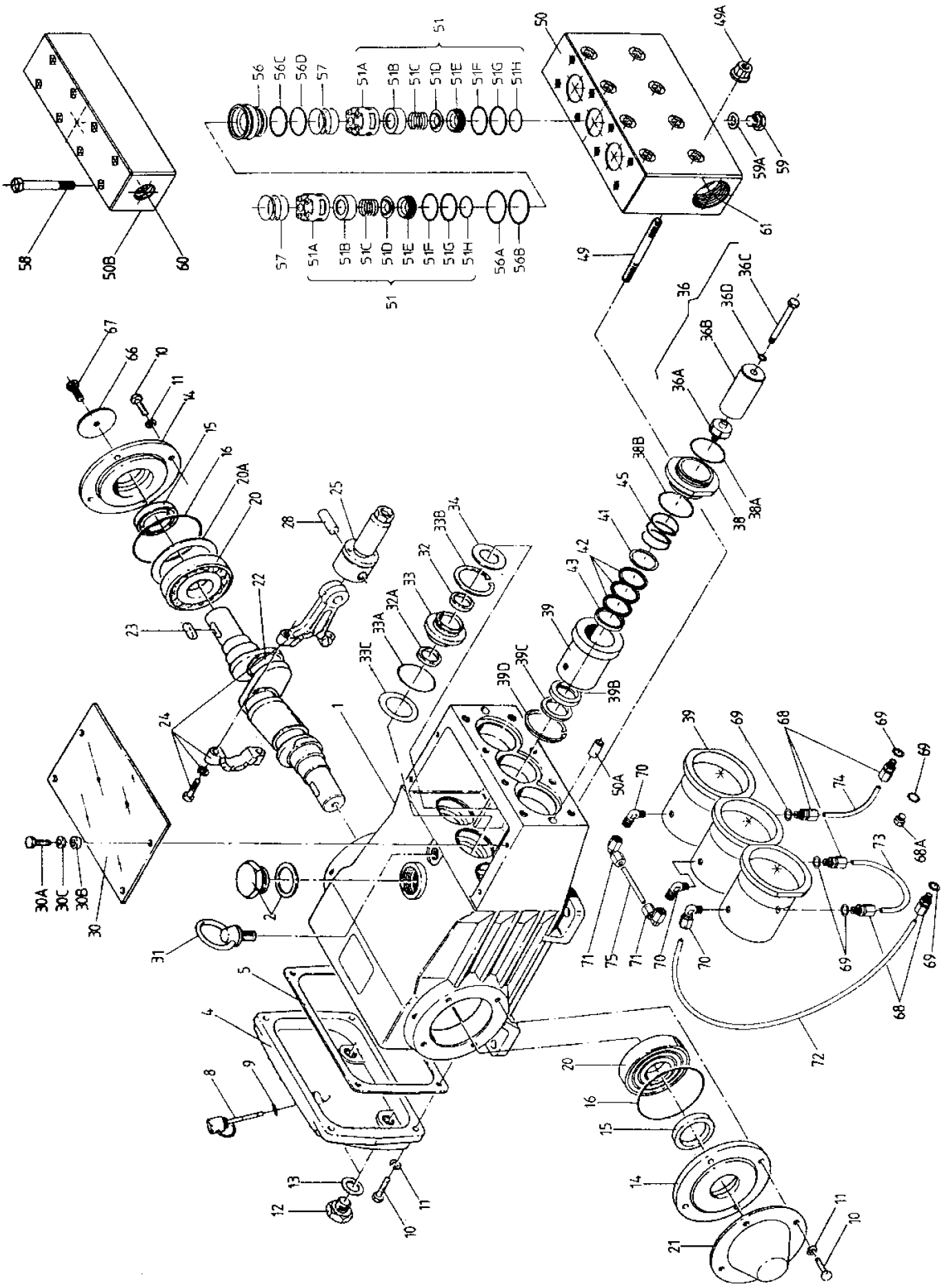
We recommend that a 1.1 service factor be specified when selecting an electric motor as the power source. To compute specific pump horsepower requirements, use the following formula:

(GPH X PSI) / 1450 = HP

GP7155-5100 PULLEY SELECTION & HORSEPOWER REQUIREMENTS

RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI
479	45.0	25.7	32.1	41.8	48.2
531	49.9	28.5	35.6	46.3	53.5
585	55.0	31.4	39.3	51.1	58.9
638	60.0	34.3	42.9	55.7	64.3
700	65.8	37.6	47.0	61.1	70.5

Exploded View - GP7155-5100



Spare Parts List - GP7155-5100

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	07600	Crankcase	1	39B	07723-0100	Compact Ring	3
2	13000	Oil Filler Plug Assembly	1	39C	07797-0100	Support Disc	3
4	07601	Crankcase Cover	1	39D	05218	Clip Ring	3
5	07602	Gasket, Crankcase Cover	1	41	05219	Sleeve Support Ring	3
8	07603	Oil Dip Stick	1	42	07711	V-Sleeve	9
9	01009	O-Ring, Dip Stick	1	43	07712-0100	Pressure Ring	3
10	13133	Hexagon Screw	12	45	05220	Pressure Spring	3
11	07109-0400	Spring Washer	12	49	13159	Stud Bolt	8
12	07109	Drain Plug	3	49A	06958	Hex Nut	8
13	07182	Gasket, Drain Plug	2	50	07790-5000	Valve Casing	1
14	07607	Bearing Cover	2	50A	13162	Cylinder Stud	2
15	07608	Radial Shaft Seal	2	50B	05221	Discharge Casing	1
16	07184	O-Ring	2	51	08288-0100	Valve Assembly	6
20	07610	Taper Roller Bearing	2	51A	08281	Spring Tension Cap	6
20A	07611	Fitting Disc (Shim)	1-5	51B	08282	Valve Spring Guide	6
21	07612	Shaft Protector	1	51C	07732-0100	Valve Spring	6
22	13405	Crankshaft	1	51D	13164-0100	Valve Plate	6
23	07614	Key	1	51E	08283	Valve Seat	6
24	13182	Connecting Rod Assy.	3	51F	07653-0001	O-Ring	6
25	13183-0100	Crosshead Assy.	3	51G	13166	Support Ring	6
28	13184	Crosshead Pin	3	51H	06613	O-Ring	6
30	07619	Cover Plate	1	56	05222	Valve Adaptor	3
30A	07225-0100	Hexagon Screw	8	56A	07658	O-Ring for 56	3
30B	13136	Grommet	4	56B	07635	Support Ring for 56A	3
30C	08280	Washer	8	56C	13168	Support Ring for 56D	3
30D	13154	Cover Plate	1	56D	07653	O-Ring	3
31	07623	Eye Bolt	1	57	13173	Tension Spring	6
32	07624	Radial Shaft Seal	3	58	05223	Hexagon Screw	8
32A	07625	Shaft Seal	3	59	07109-0400	Plug, 1/2” BSP	1
33	06950	Seal Retainer	3	59A	06807	Steel Ring	1
33A	07627	O-Ring	3	60	12251-0100	Plug, 1-1/4” BSP	1
33B	06951	Circlip	3	61	12252-0100	Plug, 2-1/2” BSP	1
33C	07249	Fitting Disc	3	66	13362	Disc For Crankshaft	1
34	13137	Oil Scraper	3	67	13358	Hexagon Screw	1
36	07706-0100	Plunger Pipe Assy.	3	68	06588	Screw-in Connector	5
36A	07667-0100	Plunger Connection	3	68A	06589	Plug, 1/8” BSP	1
36B	07666	Plunger Pipe	3	69	07204-0100	Steel Ring	6
36C	07664-0100	Tension Screw	3	70	06768	Threaded Elbow	3
36D	07755-0100	Steel Ring	3	71	05224	Elbow joint	2
38	13155-0100	Seal Case	3	72	05225	Curved leakage pipe	1
38A	13156	O-Ring	3	73	05226	Pipe Bend,180°	1
38B	07721	O-Ring	3	74	05227	Pipe Bend, 90°	1
39	13157-0100	Seal Sleeve	3	75	05228	Straight leakage pipe	1

Plunger Packing Kit - # 09609

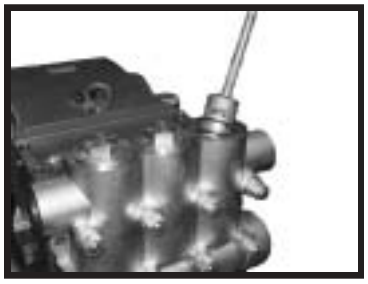
Item	Part #	Description	Qty.
38A	13156	O-Ring	3
38B	07721	O-Ring	3
42	07711	V-Sleeve	9

Oil Seal Kit - # 09221

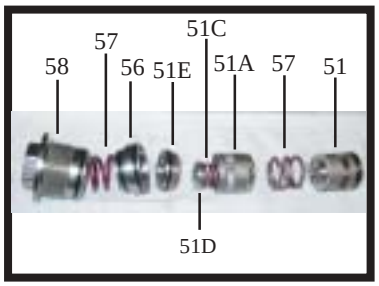
Item	Part #	Description	Qty.
32	07624	Radial Shaft Seal	3
32A	07625	Shaft Seal	3
33A	07627	O-Ring	3

Valve Kit - # 09606

Item	Part #	Description	Qty.
51B	08282	Valve Spring Guide	1
51C	07732-0100	Valve Spring	1
51D	13164-0100	Valve Plate	1
51E	08283	Valve Seat	1
51F	07653-0001	O-Ring	2
51G	13166	Support Ring	2
51H	06613	O-Ring	2
56A	07658	O-Ring	2
56B	07635	Support Ring	2
56C	13168	Support Ring	1
56D	07653	O-Ring	1



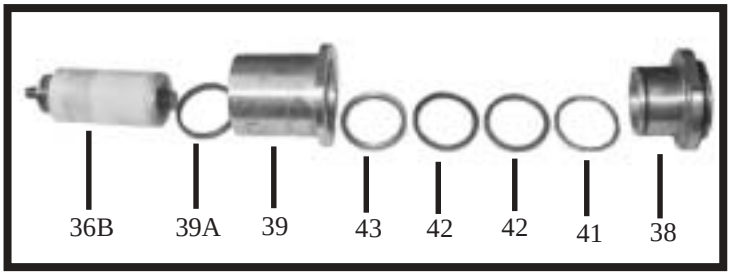
To Check Valve Assemblies
1. Loosen plugs (58), take out tension spring (57) and then remove the complete valve assembly (51) with either a valve tool or an M16 hexagon screw.



2. Remove valve adapter (56) and tension spring (57) with pull-out tool size 5. There is an O-ring (51G) under both the suction and the discharge valve each of which can be removed with a bent piece of wire.To disassemble unscrew the spring tension cap (51A) and press the valve seat (A) out of the spacer pipe (E). Check sealing surfaces and replace worn parts. Check O-rings and support rings. Reinstall all parts in reverse order and tighten plugs (58) to 107 ft. lbs.

To Check Seals & Plungers.
3.Loosen nuts (49A) and remove pump head. CAUTION: Don't loosen the 3 plunger connections (36A) before the valve casing has been removed otherwise the tension screw (36C) could hit against the spacer pipe (51E) when the pump is being turned. Seal life can be increased if the pretensioning allows for a little leakage. This assists lubrication and keeps the seals cool. It is therefore not necessary to replace seals before the leakage becomes too heavy and causes output and operating pressure to drop.

4. Separate plunger connection (36A) from crosshead (25) by means of two open-end wrenches (size 22 and 27). Pull seal sleeves (39) out of their fittings in the crankcase.



5. Take seal case (38) out of seal sleeve (39). Examine plunger parts (36A-36D), seals (42,39A) and O-rings.
When replacing plunger pipe (36B), tighten tension screws (36C) to 30 ft. lbs.
Replace worn parts; grease seals with silicone before installing

TO DISASSEMBLE GEAR
Take out plunger and seal sleeves as described above. Drain oil. After removing the circleclip ring (33B), lever out seal retainer (33) with a screw driver. Check seals (32, 32A, 33A) and surfaces of crosshead. Remove crankcase cover (4). Loosen inner hexagon screws on the connecting rods (24) and push con rod halves as far into the crosshead guide as possible.

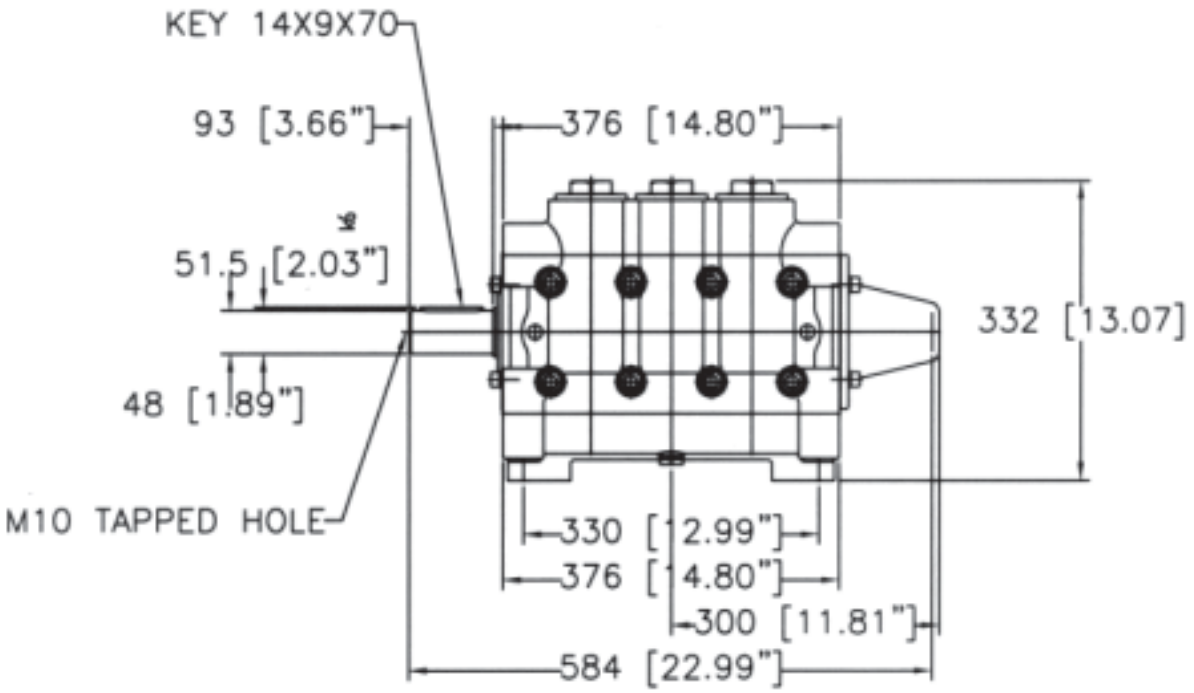
Note: Connecting rods are marked for identification. Do not twist con rod halves. Con rod is to be reinstalled in the same position on shaft journals.Check surfaces of connecing rod and crankshaft (22) take out bearing cover to one side and push out crankshaft taking particular care that the conrod doesn't gt bent.

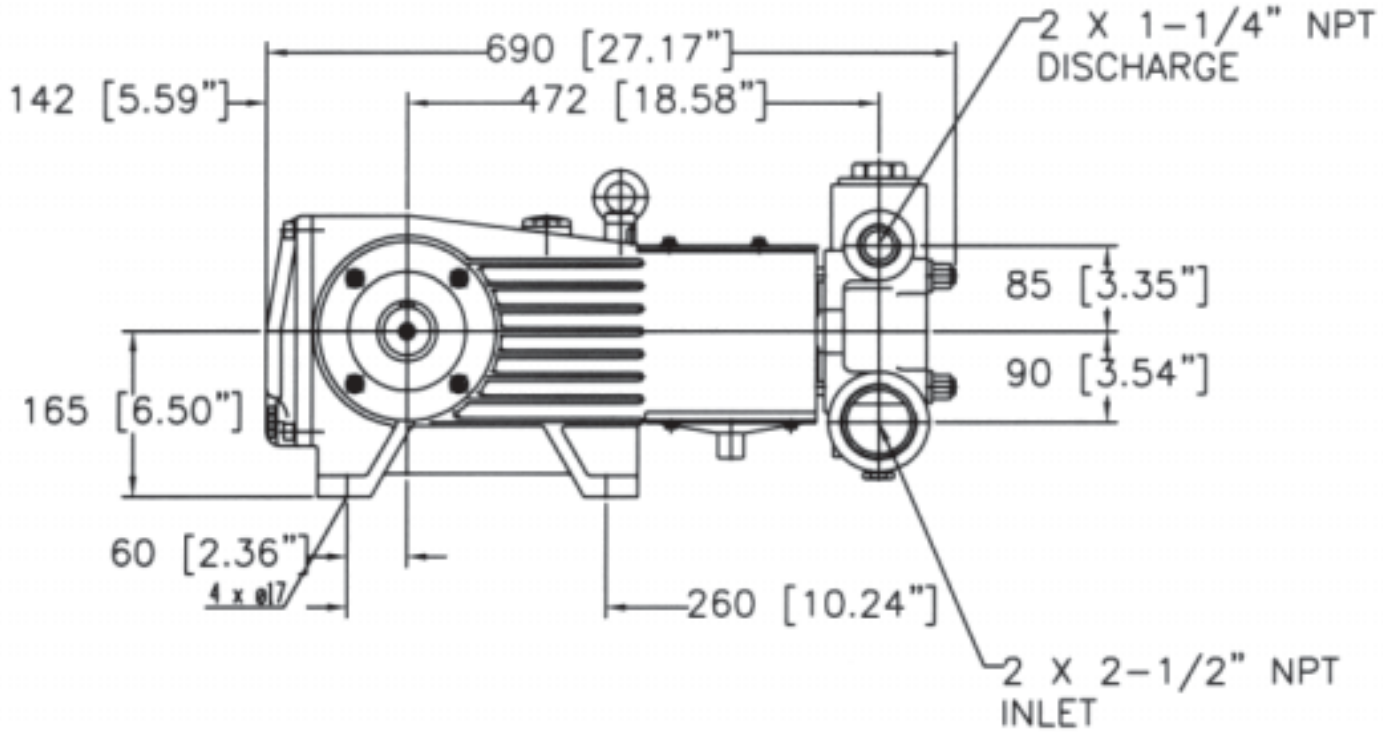
Note: Seal (32A) must always be installed so taht the seat up on the inside diameter faces the oil.

Reassemble in reverse order: Regulate axial bearing clearance minimum 0.1mm, maximum 0.15-by means of fitting disc (20A) shaft should yturn easily with little clearance. Tighten inner hexagon screws to 30 ft. lbs.

Note: Connecting rod has to be able to be slighty moved sidewise at the stroke journals.

GP7155-5100 Pump Dimensions - Inches (mm)





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 self-service 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 dateof 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.

THE LIMITED WARRANTY SET FORTH HEREIN IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATION, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED BY THE MANUFACTURER.

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