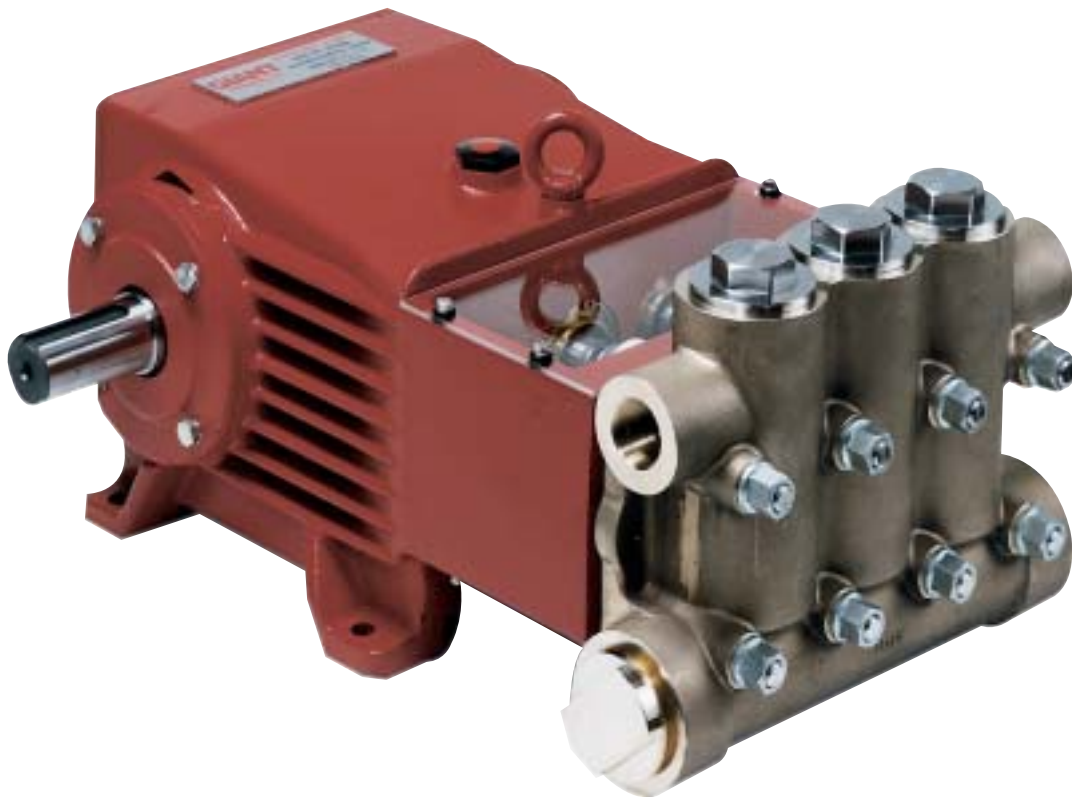


# Models

# GP7150A, GP7155A, GP7255A

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Updated 03/06

# 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 un-loader.

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 charts on pages 3 & 6.
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.

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## 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 Gear 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.

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

# Specifications

## Model GP7155A, GP7255A

	U.S.	Metric
Volume .....	65.8 GPM	250 LPM
Discharge Pressure .....	1500 PSI	100 Bar
Speed .....	2000 PSI	138 Bar
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
Fluid End Material GP7155A .....	Bronze	
Fluid End Material GP7255A .....	Nickle Plated Spheroidal Cast Iron	
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

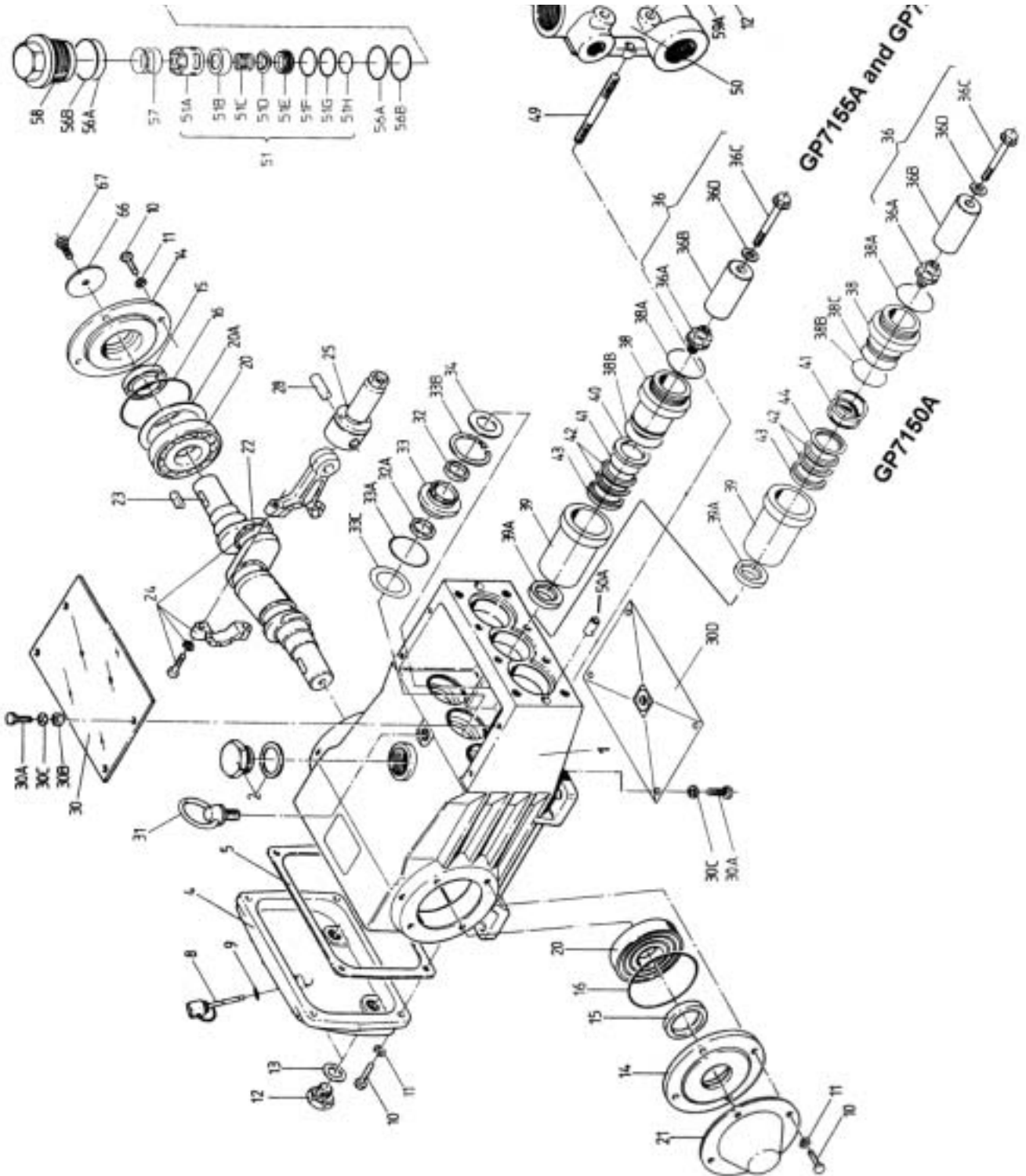
Horsepower ratings shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

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:

$$(GPH \times PSI) / 1450 = HP$$

<b>GP7155A, GP7255A PULLEY SELECTION &amp; HORSEPOWER REQUIREMENTS</b>								
PUMP PULLEY	MOTOR PULLEY	RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI	2000 PSI
12.75	9.00	479	45.0	25.7	32.1	41.8	48.2	64.3
12.75	9.75	531	49.9	28.5	35.6	46.3	53.5	71.3
12.75	10.75	585	55.0	31.4	39.3	51.1	58.9	78.6
12.75	11.70	638	60.0	34.3	42.9	55.7	64.3	85.7
12.75	12.75	700	65.8	37.6	47.0	61.1	70.5	94.0

# Exploded View - GP7150A/GP7155A/GP7255A



# Spare Parts List - GP7150A/GP7155A/GP7255A

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	07600	Crankcase	1	38	07794	Seal Case (GP7150A)	3
2	13000	Oil Filler Plug Assembly	1	38A	13156	O-Ring	3
4	07601	Crankcase Cover	1	38B	07721	O-Ring (GP7155A/GP7255A)	3
5	07602	Gasket, Crankcase Cover	1	38B	06258	O-Ring (GP7150A)	3
8	07603	Oil Dip Stick	1	38C	07635	Support Ring (GP7150A Only)	3
9	01009	O-Ring, Dip Stick	1	39	13157	Seal Sleeve (GP7155A/GP7255A)	3
10	13133	Hexagon Screw	12	39	07795	Seal Sleeve (GP7150A)	3
11	13134	Spring Washer	12	39A	07723	Compact Ring (GP7155A/GP7255A)	3
12	07109	Drain Plug	3	39A	07796	Compact Ring (GP7150A)	3
13	07182	Gasket, Drain Plug	2	40*	07797	Support Disc (GP7155A/GP7255A)	3
14	07607	Bearing Cover	2	41	13158	O-Ring (GP7155A/GP7255A)	3
15	07608	Radial Shaft Seal	2	41	07636	Tension Spring (GP7150A)	3
16	07184	O-Ring	2	42	07711	V-Sleeve (GP7155A/GP7255A)	6
20	07610	Taper Roller Bearing	2	42	07638	V-Sleeve (GP7150A)	6
20A	07611	Fitting Disc (Shim)	1-5	43	07712	Pressure Ring (GP7155A/GP7255A)	3
21	07612	Shaft Protector	1	43	07639	Pressure Ring (GP7150A)	3
22	13405	Crankshaft	1	44	07637	Support Ring (GP7150A only)	3
23	07614	Key	1	49	13159	Stud Bolt	8
24	13182	Connecting Rod Assy.	3	49A	13160	Hex Nut	8
25	13183	Crosshead Assy.	3	50	07790	Valve Casing (GP7155A)	1
28	13184	Crosshead Pin	3	50	07791	Valve Casing (GP7255A)	1
30	07619	Cover Plate	1	50	06628	Valve Casing (GP7150A)	1
30A	07225-0100	Hexagon Screw	8	50A	13162	Cylinder Stud	2
30B	13136	Grommet	4	51	08288	Valve Assembly	6
30C	08280	Washer	8	51A	08281	Spring Tension Cap	6
30D	13154	Cover Plate	1	51B	08282	Valve Spring Guide	6
31	07623	Eye Bolt	1	51C	07732-0100	Valve Spring	6
32	07624	Radial Shaft Seal	3	51D	13164	Valve Plate	6
32A	07625	Shaft Seal	3	51E	08283	Valve Seat	6
33	07626	Seal Retainer	3	51F	07653	O-Ring	6
33A	07627	O-Ring	3	51G	13166	Support Ring	6
33B	07628	Circlip	3	51H	07266	O-Ring	6
33C	07249	Fitting Disc	3	56	13167	Valve Adaptor	3
34	13137	Oil Scraper	3	56A	07658	O-Ring	6
36	07706	Plunger Pipe Assy. (GP7155A/GP7255A) (36 A-D)	3	56B	07635	Support Ring	6
36	07630	Plunger Pipe Assy. (36A-D)	3	56C	13166	Support Ring	3
36A	07667	Plunger Connection	3	56D	07653	O-Ring	3
36B	07793	Plunger Pipe (50mm)	3	57	13173	Tension Spring	6
36B	07666	Plunger Pipe (55mm) (GP7155A/GP7255A)	3	58	13170	Plug	3
36C	07664	Tension Screw	3	59A	07661	Copper Ring	1
36D	07665	Copper Ring	3	60	12251	Plug, 1-1/4" NPT	1
38	13155	Seal Case (GP7155A/GP7255A)	3	61	12252	Plug, 2-1/2" NPT	1
				66	13362	Disc For Crankshaft	1
				67	13358	Hexagon Screw	1

\* This item may be removed to add a third v-sleeve.

## Plunger Packing Kit

# 09526 - GP7150A

Item	Part #	Description	Qty.
38A	13156	O-Ring	3
38B	06258	O-Ring	3
39A	07796	Compact Ring	3
41	07636	O-Ring	3
42	07638	V-Sleeve	6

## Plunger Packing Kit

# 9220 - GP7155A & GP7255A

Item	Part #	Description	Qty.
38A	13156	O-Ring	3
38B	07721	O-Ring	3
39A	07223	Compact Ring	3
41	13158	O-Ring	3
42	07711	V-Sleeve	6

## 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	Valve Plate	1
51E	08283	Valve Seat	1
51F	07653	O-Ring	2
51G	13166	Support Ring	2
51H	07266	O-Ring	2
56A	07658	O-Ring	2
56B	07635	Support Ring	2
56C	13166	Support Ring	1
56D	07653	O-Ring	1

\* Note: When ordering a valve kit for a pump produced prior to 11/03, order kit #09222, which replaces part 08281 with p/n 13163. Kit 09222 does not require p/n 08282.



# Specifications

## Model GP7150A

	U.S.	Metric
Volume .....	54.5 GPM	206 LPM
Discharge Pressure .....	1900 PSI	131 Bar
Speed .....	700 RPM	
Inlet Pressure .....	140 PSI	10 Bar
Plunger Diameter .....	1.97"	50mm
Plunger Stroke .....	1.89"	48mm
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
Fluid End Material .....	Bronze	
Mechanical Efficiency @ 700 RPM .....	0.83	
Volumetric Efficiency @ 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:

$$(GPH \times PSI) / 1450 = HP$$

<b>GP7150A PULLEY SELECTION &amp; HORSEPOWER REQUIREMENTS</b>								
PUMP PULLEY	MOTOR PULLEY	RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI	1900 PSI
12.75	5.75	300	23.4	13.4	16.7	21.7	25.1	31.8
12.75	7.50	400	31.2	17.8	22.3	29.0	33.4	42.3
12.75	9.25	500	38.9	22.2	27.8	36.1	41.7	52.8
12.75	11.00	600	46.7	26.7	33.4	43.4	50.0	63.4
12.75	12.75	700	54.5	31.1	38.9	50.6	58.4	74.0

# GP7150A, GP7155A, GP7255A REPAIR INSTRUCTIONS

## TO CHECK VALVES

Loosen plugs (58), take out tension spring (57) and then remove the complete valve (51) with either a valve tool or an M16 hexagon screw. 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 valve hit the top of the valve plate (C) carefully with a bolt 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. Tighten plugs (58) to 107 ft. lbs.

## TO CHECK SEALS AND PLUNGER PIPE

Loosen nuts (49A) and remove pump head. 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.

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.

**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.

## MOUNTING VALVE CASING

Check O-rings on seal case (38). Clean surfaces of seal sleeves in gear box and sealing surfaces of valve casing. Push valve casing carefully on O-rings of seal case and centering studs (50A). Tighten nuts (49A) to 103 ft. lbs.

## 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.

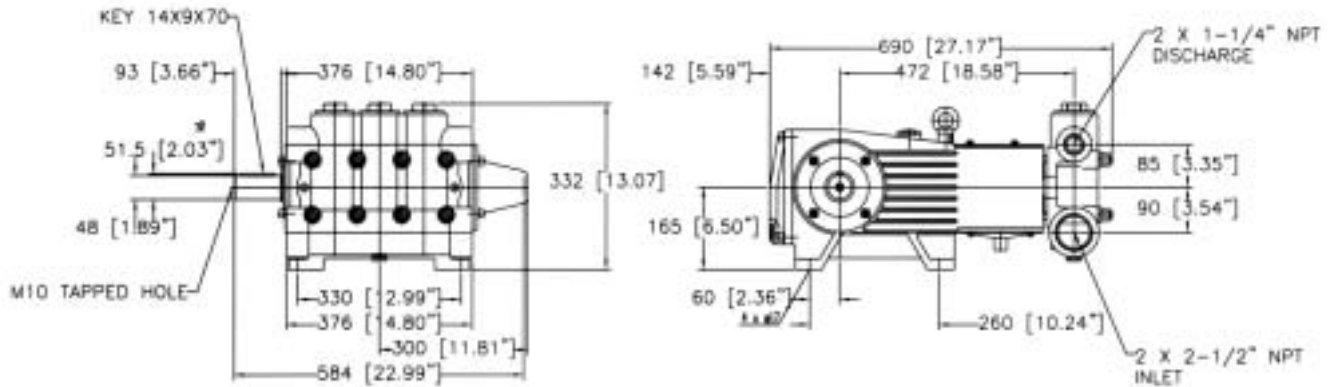
**Note:** Connecting rods are marked for identification. Do not twist con rod halves. Con rod is to be reinstalled in the same position on shaft journals. Check surfaces of connecting rod and crankshaft (22) take out bearing cover to one side and push out crankshaft taking particular care that the conrod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

**Note:** Seal (32A) must always be installed so that 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

<b>Preventative Maintenance Check-List &amp; Recommended Spare Part List</b>						
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)					X	
See page 5 for kit list Oil Seal Kit ( 1 kit/Pump)					X	
See page 5 for kit list Valve Assembly Kit ( 1 kit/pump)						X
See page 5 for kit list						

## GP7150A, GP7155A, GP7255A SERIES 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 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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**GIANT INDUSTRIES, INC.**

900 N. Westwood Ave.

P.O. Box 3187

Toledo, Ohio 43607

(419) 531-4600

FAX (419) 531-6836

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