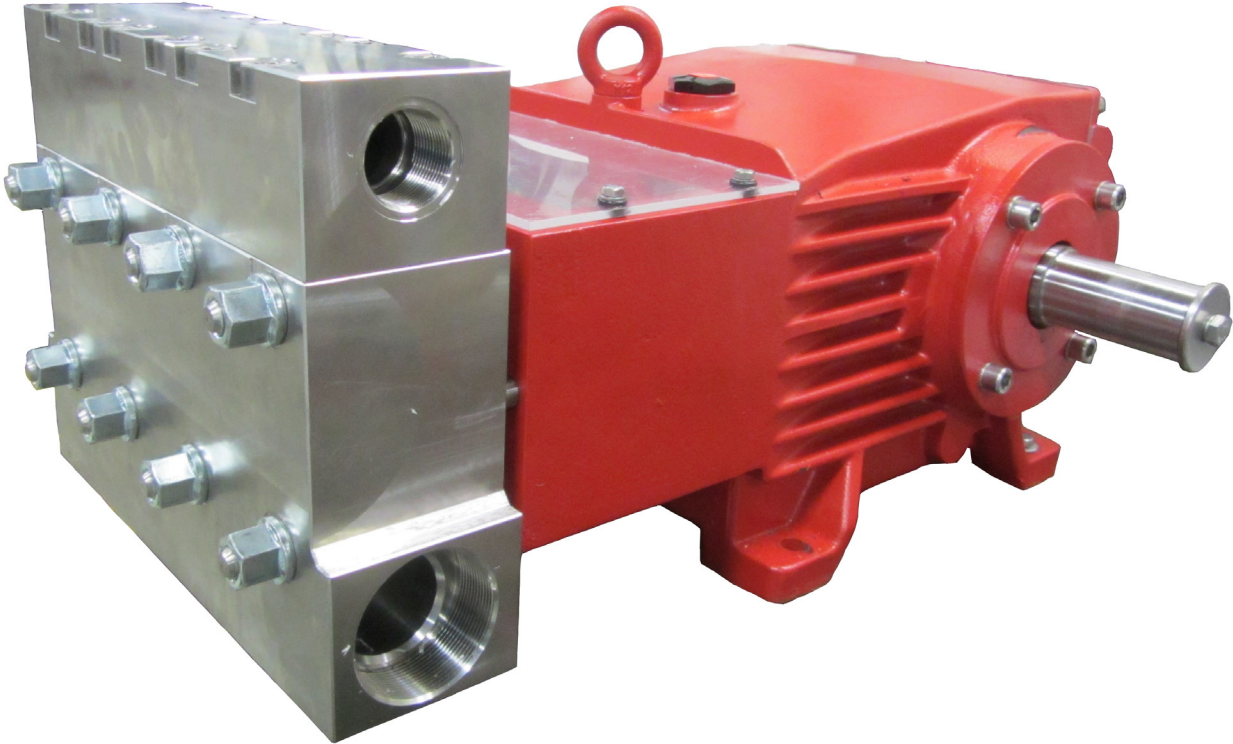


# Models

## GP7145-5000 and GP7255A-5000

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Updated 09/24

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# 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.

**IMPORTANT :** If mounted on a vehicle with the possibility of unlevelness and/or the pump speed is between 300 and 500 RPM, the volume of oil should be 1.9 Gal.(7.3 liters). To check, put the oil dipstick in the bore situated next to the eye bolt (31).

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 charts on pages 4 and 5. During operation, all rotating parts, shaft(s) and coupling, must be covered with a protective guard. Plunger area must have the cover plate (30) secured in place. Do not step on or place weight on the plate (30).

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

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.

**IMPORTANT:** The service life of the seals is maximized if a small amount of leakage occurs (a few drops per minute from each plunger). Leakage must be checked every day. If leakage becomes a constant dripping, the plunger seals must be changed.

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, or the 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.

**IMPORTANT:** When operating in high humidity or wide temperature fluctuations, oil must be changed if condensate or frothy oil occurs in crankcase.

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.

# SPECIFICATIONS

Model	Max. Flow		Pressure		Max. Speed	Max. Inlet Pressure		Plunger Diameter		Power Req'd	
	GPM	l/min	PSI	bar	RPM	PSI	bar	in	mm	BHP	kW
GP7145-5000	47.5	180	3000	200	750	145	10	1.77	45	98.3	73.7
GP7255A-5000	65.8	250	1500	100	700	145	10	2.17	55	68.1	50.8

	U.S.	Metric
Plunger Stroke.....	2.0"	52mm
Crankshaft Diameter.....	1.9"	48mm
Key Width.....	0.6"	14mm
Crankshaft Mounting.....		Either side
Shaft Rotation.....		Top of pulley towards manifold
Temperature of Pumped Fluids (max) ...	140 °F	60 °C
Inlet Ports.....		(2) 2-1/2" BSP
Discharge Ports.....		(2) 1-1/4" BSP
Weight.....	474 lbs.	215 Kg
Crankcase Oil Capacity.....	1.9 Gal.	7.3 Liters
Fluid End Material.....		Stainless Steel

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.

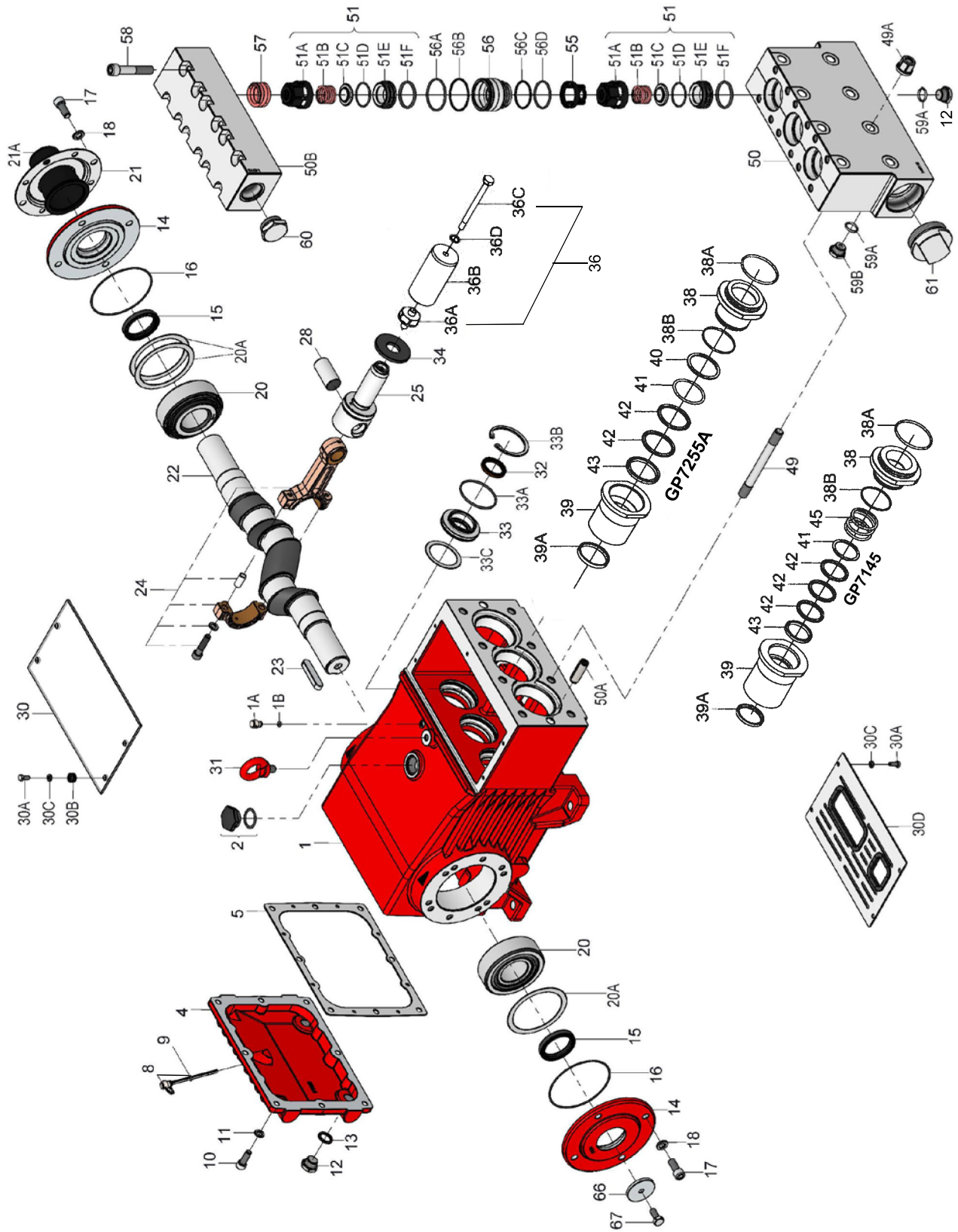
We recommend that a 1.15 service factor be specified when selecting an electric motor as the power source. To compute specific pump horsepower requirements, use the following formula:

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

GP7145-5000 Horsepower Requirements						
RPM	GPM	800 PSI	1000 PSI	1500 PSI	2000 PSI	3000 PSI
300	19.0	10.5	13.1	19.7	26.2	39.3
400	25.3	14.0	17.4	26.2	34.9	52.3
500	31.7	17.5	21.9	32.8	43.7	65.6
600	38.0	21.0	26.2	39.3	52.4	78.6
750	47.5	26.2	32.8	49.1	65.5	98.3

GP7255A-5000 Horsepower Requirements					
RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI
479	45.0	24.8	31.0	40.3	46.6
531	49.9	27.5	34.4	44.7	51.6
585	55.0	30.3	37.9	49.3	56.9
638	60.0	33.1	41.4	53.8	62.1
700	65.8	36.3	45.4	59.0	68.1

# Exploded View - GP7145-5000 and GP7255A-5000





## PARTS LIST - GP7145-5000 and GP7255A-5000

<u>ITEM</u>	<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY.</u>	<u>ITEM</u>	<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	07600	Crankcase	1	38	13155	Seal Case, GP7255A	3
1A	05525	Head for Oil Dipstick	1	38A	13156	O-Ring for 38	3
1B	01009	O-Ring	1	38B	06258	O-Ring for 38, GP7145	3
2	13000	Oil Filler Plug Assembly	1	38B	07721	O-Ring for 38, GP7255A	3
4	07601	Crankcase Cover	1	39	06171	Seal Sleeve, GP7145	3
5	07602	Gasket,Crankcase Cover	1	39	13157	Seal Sleeve, GP7255A	3
8	07603	Oil Dip Stick	1	39A	13290	Grooved Ring, GP7145	3
9	01009	O-Ring, Dip Stick	1	39A	07723	Grooved Ring, GP7255A	3
10	22706	Hexagon Screw	8	40	07797	Support Disc, GP7255 only	3
11	06725	Spring Washer	8	41	13296	Support Ring, GP7145	3
12	07109	Drain Plug	3	41	13158	Support Ring, GP7255A	3
13	07182	Gasket, Drain Plug	2	42	13294	V-Sleeve, GP7145	9
14	05644	Bearing Cover	2	42	07711	V-Sleeve, GP7255A	6
15	07608	Radial Shaft Seal	2	43	13293	Pressure Ring, GP7145	3
16	07184	O-Ring	2	43	07712	Pressure Ring, GP7255A	3
17	05642	Inner Hexagon Screw	8	45	13297	Tension Spring, GP7145 only	3
18	05039	Spring Washer	8	49	13159	Stud Bolt	8
20	07610	Taper Roller Bearing	2	49A	13160	Hexagon Nut	8
20A	07611	Fitting Disc (Shim)	1-5	50	07790-5000	Inlet Valve Casing	1
21	05645	Holder for Shaft Protector	1	50A	13162	Cylinder Stud	2
21A	05646	Shaft Protector	1	50B	07790A-5000	Discharge Valve Casing	1
22	13405	Crankshaft	1	51	05594	Valve Assembly	6
23	07614	Key	1	51A	05595	Spring Tension Cap	6
24	13182	Connecting Rod Assembly	3	51B	05450	Valve Spring	6
25	13183	Crosshead Assembly	3	51C	05247	Valve Plate	6
28	13184	Crosshead Pin	3	51D	05596	O-Ring	6
30	07619	Cover Plate	1	51E	05597	Valve Seat	6
30A	07225-0100	Hexagon Screw	8	51F	05166	O-Ring	6
30B	13136	Grommet	4	55	05647	Valve Spacer	3
30C	08280	Disc	8	56	13167-0100	Valve Adapter	3
30D	13154	Cover Plate	1	56A	07658	O-Ring	3
31	07623	Eye Bolt	1	56B	07635	Support Ring	3
32	07624	Radial Shaft Seal	3	56C	13166	Support Ring	3
33	07626	Seal Retainer	3	56D	07653	O-Ring	3
33A	07627	O-Ring	3	57	13173	Tension Spring	3
33B	07628	Circlip	3	58	05223	Inner Hexagon Screw	12
33C	07249	Fitting Disc	3	59A	06807	Steel Ring	3
34	13137	Oil Scraper	3	59B	07109-0400	Plug, 1/2" BSP	3
36	06165	Plunger Pipe Assembly (36A-D), GP7145	3	60	13151-0100	Plug, 1-1/4" BSP	1
36	07706	Plunger Pipe Assembly (36A-D), GP7255A	3	61	12568	Plug, 2-1/2" BSP	1
36A	07667	Plunger Connection	3	66	13362	Disc For Crankshaft	1
36B	05157	Plunger Pipe, GP7145	3	67	13358	Hexagon Screw	1
36B	07666	Plunger Pipe, GP7255A	3		07662	Valve Tool (Not Shown)	1
36C	06166	Tension Screw, GP7145	3		05210	Plunger Conversion Assy. (36-45), GP7145	1
36C	07664	Tension Screw, GP7255A	3		05211	Plunger Conversion Assy., (36-45), GP7255A	1
36D	07665	Steel Ring	3		17212	Crankcase Assembly, (2x12/1-34/49/49A/52A/66/67)	1
38	06167	Seal Case, GP7145	3				

## Repair Kits - GP7145-5000 and GP7255A-5000

### Plunger Packing Kit - GP7145-5000

# 09603

Item	Part #	Description	Qty.
38A	13156	O-Ring	3
38B	06258	O-Ring	3
39A	13290	Grooved Ring	3
41	13296	Support Ring	3
42	13294	V-Sleeve	9

### Oil Seal Kit

# 09221

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

### Valve Repair Kit

# 09659

Item	Part #	Description	Qty.
51	05594	Inlet Valve Assembly	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

### Plunger Packing Kit - GP7255A-5000

# 09220

Item	Part #	Description	Qty.
38A	13156	O-Ring	3
38B	07721	O-Ring	3
39A	07723	Grooved Ring	3
41	13158	Support Ring	3
42	07711	V-Sleeve	6

GP7145-5000 AND GP7255A-5000 Torque Specifications				
Position	Description	Thread	Lubrication Info	Torque Amount
10	Hexagon Screw	M10		33 ft.-lbs. (45 Nm)
12	Drain Plug	1/2" BSP		59 ft.-lbs. (80 Nm)
15	Radial Shaft Seal		Loctite 403	
17	Inner Hexagon Screw	M12		33 ft.-lbs. (45 Nm)
24	Connecing Rod Assembly	M10		30 ft.-lbs. (40 Nm)
32	Radial Shaft Seal		Loctite 403	
36A	Plunger Connection			33 ft.-lbs. (45 Nm)
36C	Tension Screw	M10	Loctite 243	30 ft.-lbs. (40 Nm)
39	Seal Sleeve		Copper Paste Crankcase Side	
49	Stud Bolt		Loctite 648 Crankcase Side	
49A	Hexagon Nut	M16		133 ft.-lbs. (180 Nm)
58	Inner Hexagon Screw	M14	Anti-Seize 350	107 ft.-lbs. (145 Nm)

Preventative Maintenance Check-List & Recommended Spare Part List						
Check	Daily	Weekly	50hr	Every 500 hrs	Every 1500 hrs	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	
Oil Seal Kit ( 1 kit/Pump)					X	
Valve Kit ( 1 kit/pump)						X

## GP7145-5000 and GP7255A-5000 Repair Instructions

### To Check Valves

Unscrew hexagon screws (58), remove pressure casing (50B). Take out tension spring (57), remove the complete valve (51) with either a valve tool or an M16 hexagon screw. Remove valve adaptor (56) and tension spring (57) with pull-out tool size 5. There is an o-ring (51H) under both the suction and discharge valves, each of which can be removed with a bent piece of wire.

To dismantle valves: screw valve seat (51) out of spring tension cap (51A). Check sealing surfaces and replace worn parts. Check o-rings and support rings.

Tighten hexagon screw (58) at 103 ft.-lbs. (140 Nm).

### To Check Seals and Plunger Pipe

Loosen nuts (49A) and remove pump head. Separate plunger connection (36A) from crosshead (25) by means of an open-end wrench (size 36).

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 (368), lighten tension screws (36C) to 29.5 ft.-lbs. (40 Nm).

Replace worn parts; grease seals with Silicone before installing.

**!Important!** Don't loosen the 3 plungers 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. When reassembling, lighten plunger screws (36A) to 33 ft.-lbs. (45 Nm).

### 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 onto o-rings of seal case and centring studs (50A). Tighten nuts (49A) to 103 ft.-lbs. (140 Nm).

### To Dismantle Gear

Take out plunger and seal sleeves as described above. Drain oil.

After removing the circlip 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 screws on the connecting rods (24).

**!Important!** Connecting rods are marked for identification. Do not twist con rod halves. Connecting rod is to be reinstalled in the same position on shaft journals.

Push connecting rod halves together with the crosshead as far as possible in to the crosshead guide.

Take out bearing cover to one side and push out crankshaft taking particular care that the connecting rod doesn't get bent.

Check surfaces of connecting rod and crankshaft (22).

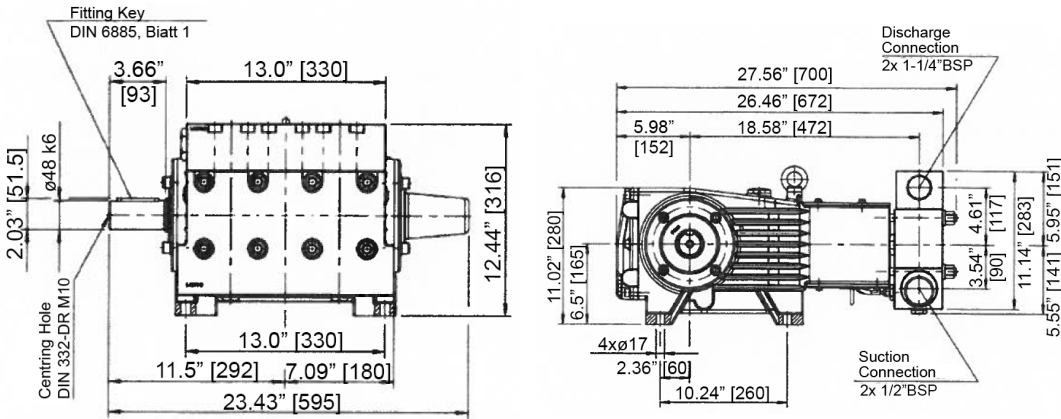
Reassemble in reverse order: Regulate axial play of the crankshaft clearance to minimum 0.1mm, maximum 0.15mm - by means of fitting disc (20A). Shaft should turn easily with little clearance.

Tighten screws (24) to 29.5 ft.-lbs. (40 Nm).

**!Important!** Connecting rod has to be able to be slightly moved sidewise at the stroke journals.

**!Important!** Seal (32A) must always be installed so that the seal-lip on the inside diameter faces the oil. Possible axial float of the seal adaptor (33) to be compensated with shims (33C).

# GP7145-5000 and GP7255A-5000 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. Five (5) years from the date of shipment for all pumps used in portable pressure washers with NON-SALINE, clean water applications.
2. Two (2) years from the date of shipment for Giant pumps used in car wash applications.
3. One (1) year from the date of shipment for all other Giant industrial and consumer pumps.
4. Six (6) months from the date of shipment for all rebuilt pumps
5. 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.



**WARNING:** This product might contain a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm.  
For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**GIANT**  
Performance Under Pressure

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