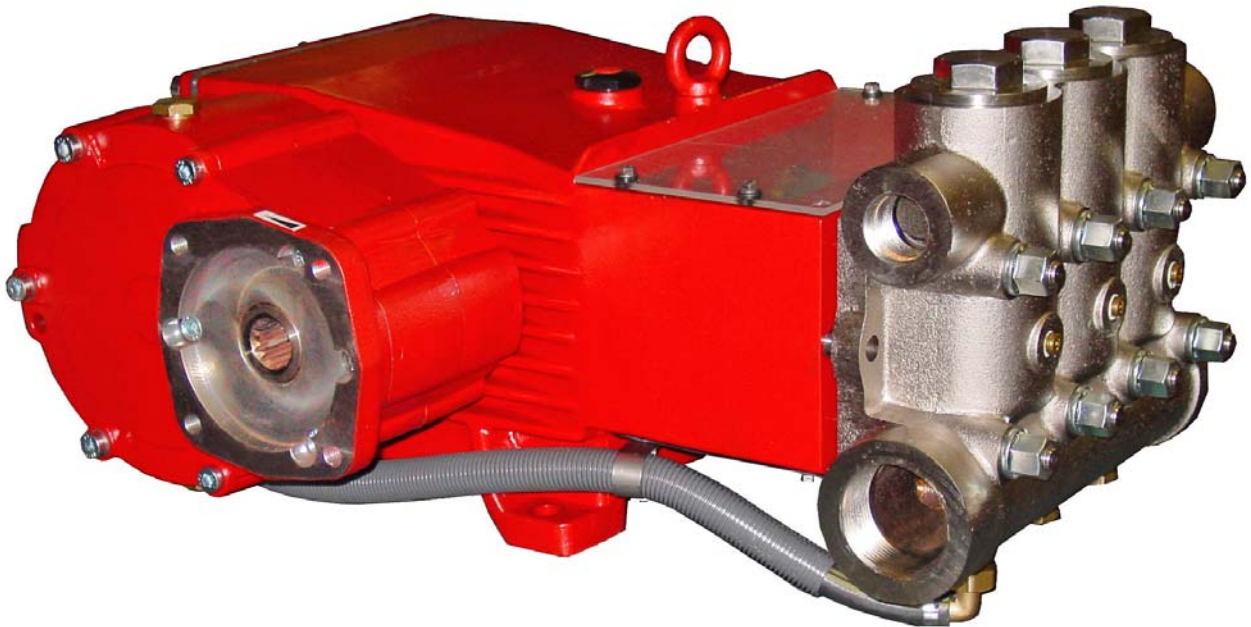


# Model GP7555GBHS

## Gearbox Versions for Hydraulic Drive Applications



### **Contents:**

Installation Instructions:	page 2
Pump Specifications:	page 3
Dimensions:	page 3
Exploded View:	page 4
Parts List:	page 5
Kits:	page 6
Torque Specifications:	page 6
Maintenance Information:	page 6
Repair Instructions:	page 7
Warranty Information:	back page

# 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 86° F (30° C), it is important to insure a positive head to the pump to prevent cavitation.
3. A tube fitting on the side of the pumphead which allows the circulation of water between the valve casing and seal sleeves to take place. The tube fitting must always be mounted on the same side as the suction line.
4. 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.

5. 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.

6. 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.

7 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 the oil level is between the two lines on the oil dipstick. **DO NOT OVERFILL. SAE 80 Industrial Gear oil may be used.** 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.

# Specifications Model GP7555GBHS

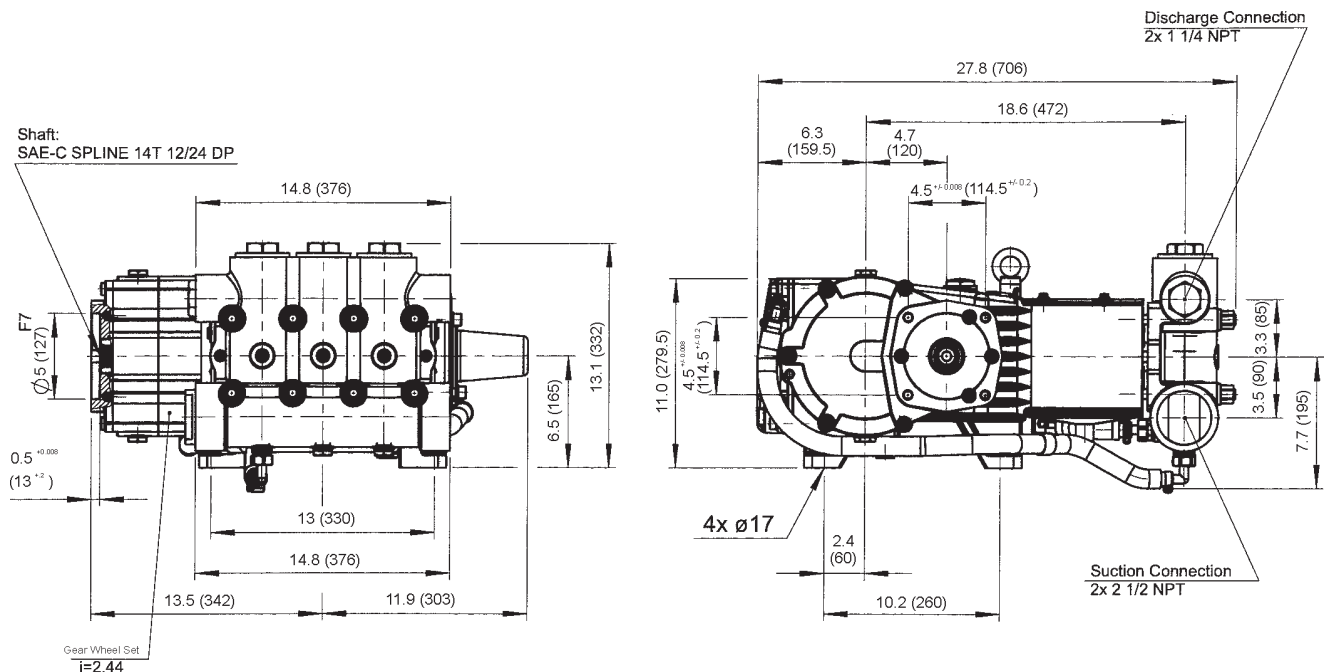
	U.S. ....	Metric
Volume .....	84.5 GPM .....	320 L/min
Discharge Pressure .....	2000 PSI .....	2000 Bar
Crankshaft Speed .....		900RPM
Inlet Pressure .....	-4.35 to 90 PSI .....	-0.3 to 10 Bar
Plunger Diameter .....	0.87" .....	22mm
Plunger Stroke .....	1.89" .....	48mm
Crankshaft Bore .....		SAE-C Spline 14T 12/24DP
Key Width .....		14mm
Crankshaft Mounting .....		Either side
Shaft Rotation .....		Hydraulic Gear towards back of the pump
Temperature of Pumped Fluids .....	86 °F .....	30 °C
Inlet Ports .....		(2) 2-1/4" NPT
Discharge Ports .....		(2) 1-1/4" NPT
Weight .....	375 lbs. ....	170 kg
Crankcase Oil Capacity .....	2.1 Gal. ....	8 Liters
Fluid End Material .....		Nickel-Plated Sheroidal Cast Iron

## For the Application of a Hydraulic Motor:

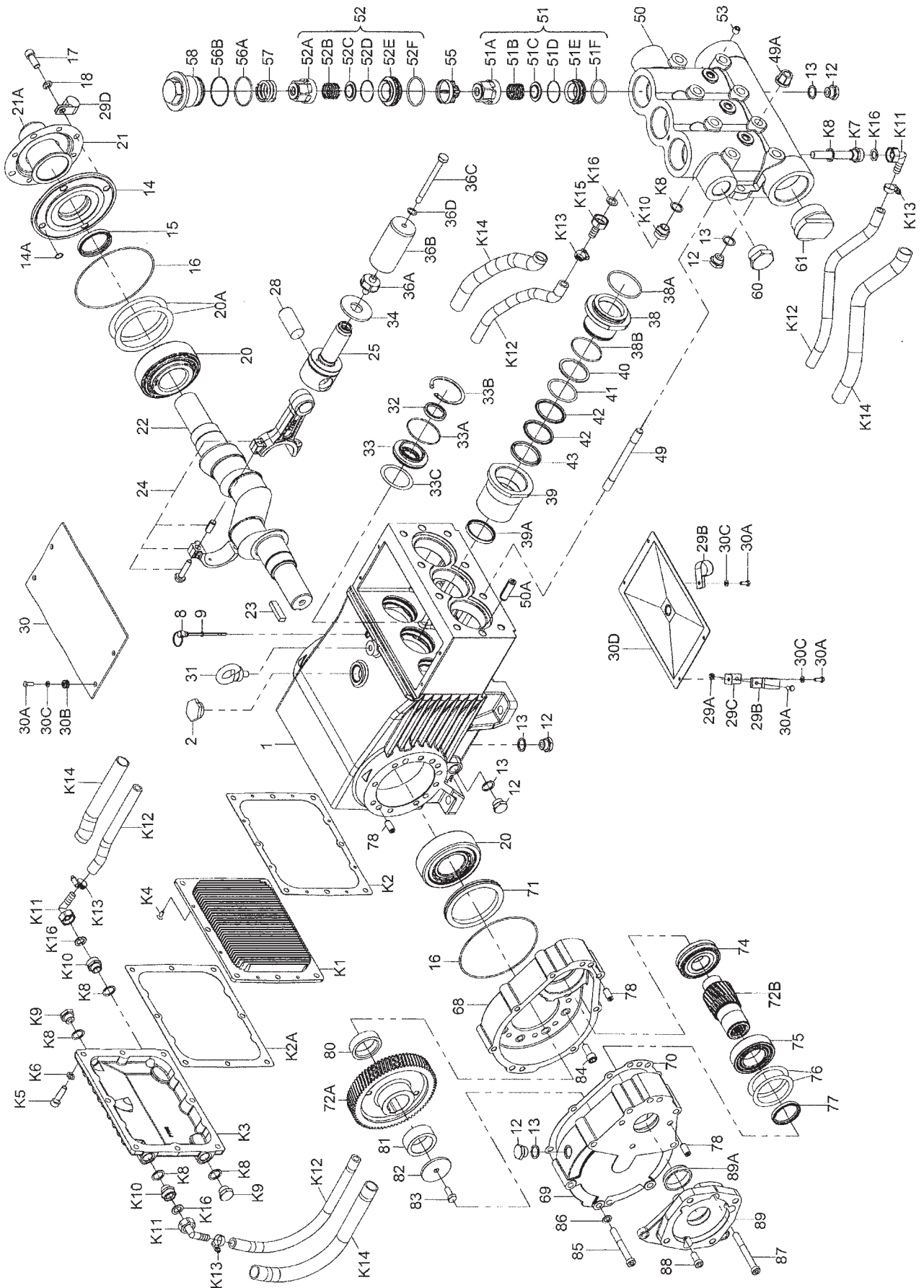
To Determine the Torque of a Hydraulic Motor --  $(\text{GPM} \times \text{PSI} \times 36.77) / \text{RPM} = \text{Torque (in-lbs)}$

GP7555 Gear Ratios and Input Speeds	
Gear Ratio	Input Speed
1.67:1	1500
2.0:1	1800
2.44:1	2200

## GP7555GB-HS DIMENSIONS - Inches (mm)



# Exploded View - GP7555GBHS



## GP7555GBHS PARTS LIST

<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	05769	Crankcase	1	51C	05247	Valve Plate	3
2	13000	Oil Filler Plug Assembly	1	51D	05596	O-Ring	3
8	07603	Oil Dip Stick	1	51E	05597	Inlet Valve Seat	3
9	01009	O-Ring, Dip Stick	1	51F	05166	O-Ring	3
12	07109	Drain Plug	9	52	05600	Discharge Valve Assembly	3
13	06272	Copper Seal for 12	9	52A	05595	Spring Tension Cap	3
14	05770	Bearing Cover	1	52B	05450	Valve Spring	3
14A	12204	O-Ring	4	52C	05247	Valve Plate	3
15	05771	Radial Shaft Seal	1	52D	05596	O-Ring	3
16	05772	O-Ring	2	52E	05598	Discharge Valve Seat	3
17	05642	Hexagon Socket Screw	4	52F	05599	O-Ring	3
18	05039	Spring Washer	4	53	22610	Plug, 1/4" NPT	3
20	05773	Taper Roller Bearing	2	55	05647	Valve Spacer	3
20A	05774	Fitting Disc (Shim)	1-5	56A	07658	O-Ring	3
21	05645	Shaft Guard Holder	1	56B	07635	Support Ring	3
21A	05646	Shaft Guard	1	57	13173	Tension Spring	3
22	05775	Crankshaft	1	58	06682	Plug, M64 x 2	3
23	05776	Key	1	60	12251	Pluge, 1-1/4" NPT	1
24	05777	Connecting Rod Assy.	3	61	05170	Plug, 2-1/2" NPT	1
25	05778	Crosshead Assy.	3	68	05782	Bottom Casing for Gear	1
28	05779	Crosshead Pin	3	69	05783	Top Casing for Gear	1
29A	07408	Hexagon Nut	1	70	05784	Gear Seal	1
29B	05383	Bracket 2 f. Cooling Hose	2	71	05785	Centering Ring	1
29C	05662	Fixing Bracket	1	72	05786	Gear Wheel Set, 1=2.44	1
29D	05381	Bracket 2 f. Cooling Hose	1	74	05787	Self-Aligning Roller Bearing	1
30	07619	Cover Plate	1	75	05788	Cylinder Roller Bearing	1
30A	07225-0100	Hexagon Screw	9	76	07117	Fitting Disc	5
30B	13136	Grommet	4	77	05789	Radial Shaft Ring	1
30C	08280	Disc	8	78	05665	Cylindrical Pin	6
30D	13154	Cover	1	80	05790	Spacer Ring 1 for Gear	1
31	07623	Eye Bolt	1	81	05791	Spacer Ring 2 for Gear	1
32	07624	Radial Shaft Seal	3	82	05802	Fixing Plate for Gear	1
33	07626	Seal Retainer	3	83	13358	Hexagon Screw	1
33A	07627	O-Ring for Seal Retainer	3	84	05792	Hexagon Socket Screw	7
33B	07628	Circlip for 33	3	85	05702	Hexagon Socket Screw	3
33C	07249	Fitting Disc	3	86	07159	Washer	3
34	13137	Oil Scraper (Flinger)	3	87	05793	Hexagon Socket Screw	5
36	07706	Plunger Assy. (36A-36D)	3	88	05655	Hexagon Socket Screw	1
36A	07667	Plunger Connection	3	89	05794	Gear Flange, Hollow Shaft	1
36B	07666	Plunger Pipe	3	89A	05795	Centering Ring, Hollow Shaft	1
36C	07664	Tensioning Screw	3	07662		Valve Tool (not shown)	1
36D	07665	Copper Ring	3				
38	13155	Seal Case	3	90	05750	Oil Cooler Assembly	1
38A	13156	O-Ring	3	K1	05797	Cooling Vane Plate	1
38B	07721	O-Ring	3	K2	05798	Seal for Gear Cover	1
39	13157	Seal Sleeve	3	K2A	05852	Seal for Cooling Vane Plate	1
39A	07723	Grooved Ring	3	K3	05799	Gear Cover	1
40	07797	Support Ring	3	K4	05029	Hexagon Head	
41	13158	O-Ring	3			Countersunk Screw	8
42	07711	V-Sleeve	6	K5	05800	Hexagon Socket Screw	8
43	07712	Pressure Ring	3	K6	06725	Washer	8
49	13159	Stud Bolt	8	K7	05755	Connection for Oil Cooler	1
49A	13160	Hexagon Nut	8	K8	06272	Copper Seal	6
50	07791	Valve Casing	1	K9	07109	Plug, 1/2" BSP	2
50A	13162	Centering Stud	2	K10	05031	Reducing Nipple	3
51	05594	Inlet Valve Assembly (51A-51F)	3	K11	05032	U-Joint Connector with Nut	4
51A	05595	Spring Tension Cap	3	K12	05033	Tube for Cooler	2
51B	05450	Valve Spring	3	K13	05402	Hose Clamp	4
				K14	05403	Hose Guard	2
				K16	05405	Flat Gasket	4

## Repair Kits - GP755GBHS

### Plunger Packing Kit - # 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

### Oil Seal Kit - # 09221

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

### Inlet Valve Kit - # 09659

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

### Large Discharge Valve Kit - # 09660

Item	Part #	Description	Qty.
52	05600	Discharge Valve Assembly	1
55	05647	Valve Spacer	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

### Small Discharge Valve Kit \*

#### # 09661

Item	Part #	Description	Qty.
51B	05450	Valve Spring	1
51C	05247	Valve Plate	1
51D	05596	O-Ring	1
52F	05599	O-Ring	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

\* The discharge valve seat (item 52E) can be flipped over and used. If it is damaged on both sides, order kit # 09660.

## GP755GBHS Torque Specifications

Position	Item#	Description	Torque Amount
24	13182	Connecting Rod Assembly	30 ft.-lbs. (40 NM)
36C	07664	Tension Screw	30ft.-lbs. (40 NM)
49A	13160	Hexagon Nut	103 ft.-lbs. (140 NM)
58	13170	Plug	107 ft-lbs (145 NM)

Preventative Maintenance Check-List & Recommended Spare Part List							
Check		Daily	Weekly	50hr	Every	Every	Every
					500 hr	1500 hr	3000hr
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

# GP7555GBHS Repair Instructions

## TO CHECK VALVES

Loosen plugs (58), take out tension spring (57) and then remove the complete valve assembly (#51 & 52) with either a valve tool or an M16 hexagon screw. Check sealing surfaces and replace worn parts. The discharge valve seat (# 52E) can be used on both sides. If you re-use it, make sure you switch the O-Ring (#51D) to the opposite side. Check O-rings and support rings. Tighten plugs (58) to 107 ft.-lbs. (145 NM).

## TO CHECK SEALS AND PLUNGER PIPE

Loosen nuts (49A) and remove pump head (50). Separate the plunger connection (36A) from the crosshead (25) by means of an open-end wrench (size 36mm). Pull seal sleeves (39) out of their fittings in the crankcase (1). Take the seal case (38) out of the seal sleeve (39). Examine the plunger parts (36A-36D), seals (42 & 39A) and O-rings (38A & 38B). When replacing the plunger pipe (36B), tighten tension screws (36C) to 30 ft. lbs. (40 NM). 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 valve adapter (56) when the pump is being turned. Seal life can be increased if the pre-tensioning 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 (38A & 38B) on the seal case (38). Clean surfaces of seal sleeves in gear box and sealing surfaces of valve casing (50). Push the valve casing carefully on the O-rings of the seal case and centering studs (50A). Tighten nuts (49A) to 103 ft. lbs. (140 NM).

## TO DISASSEMBLE GEAR

Take out plunger (36) and seal sleeves (39) as described above. Drain the oil. After removing the circlip ring (33B), lever out seal retainer (33) with a screw driver. Check seals (32 & 33A) and surfaces of crosshead (25). Remove the crankcase cover (4). Loosen inner hexagon screws on the connecting rods (24).

**Note:** Connecting rods are marked for identification. Do not twist connecting rod halves. Each connecting rod is to be reinstalled in the same position (and orientation) on the crankshaft journals.

Push the connecting rod halves as far into the crosshead guide as possible. Check the surfaces of connecting rod and crankshaft (22). Take out the bearing cover (14) to one side and push out crankshaft taking particular care that the connecting rod doesn't bend. Re-assemble in reverse order. Regulate axial bearing clearance to a minimum of 0.1mm and a maximum of 0.15mm by means of fitting discs (20A). The crankshaft should turn easily and with little clearance. Tighten screws (24) to 30 ft.-lbs. (40 NM).

**Important!** The connecting rod has to be able to slightly move sideways at the crankshaft journal.

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

## 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.

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.



GIANT INDUSTRIES, INC., 900 N. Westwood Ave., P.O. Box 3187, Toledo, Ohio 43607  
PHONE (419) 531-4600, FAX (419) 531-6836, [www.giantpumps.com](http://www.giantpumps.com)  
© Copyright 2011 Giant Industries, Inc.