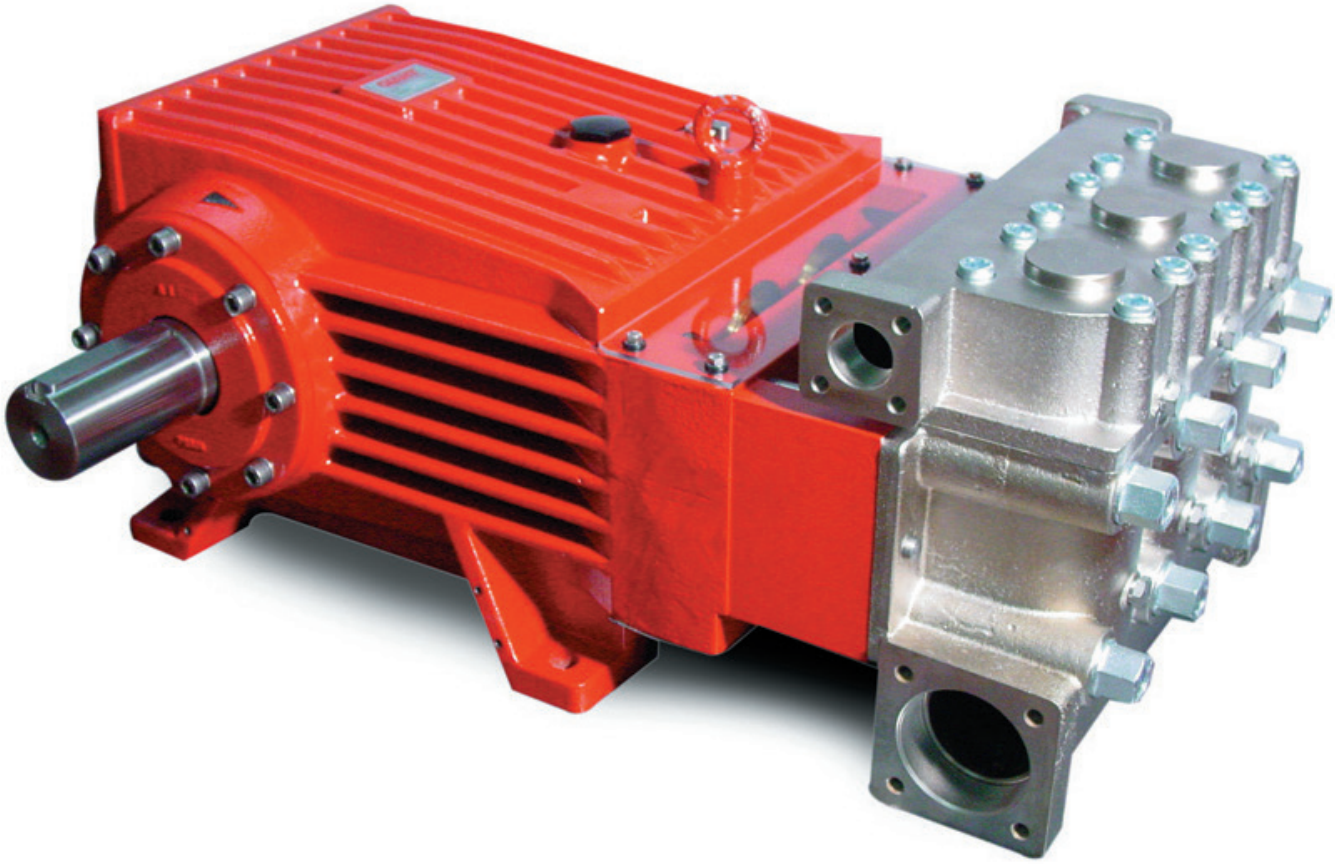
# Models

# GP8045A/GP8048A

**Triplex Ceramic Plunger Pump Models Manual**



GIANT
Performance Under Pressure

**Contents:**

# INSTALLATION INSTRUCTIONS

The stated figures are for maximum pressure and maximum speed (rpm) and apply for interval operation with cold water. Required NPSH refers to water (specific weight 1kg/dm$^3$, viscosity 1°E) at maximum permissible pump revolutions. Fluid medium: Clean water filtered to 50µm.

**Operation and Maintenance**

Check oil level prior to starting and ensure trouble-free water supply.
**IMPORTANT!** If there is a danger of frost, the water in the pump and in the pump fittings (particularly the unloader valve) must be emptied. The second discharge port can also be used and the pump run “dry” for 1-2 minutes for this purpose.
Oil: Use only 3.3 gallons (12.5 liters) of Giant Oil (p/n 01154) or ISO VG 220 GL4 (e.g. Aral Degol BG220) or SAE 90 GL4 gear oil. Initial change after 50 operating hours and then every 1000 operating hours or after one year of operation.
**IMPORTANT!** when operating in damp places or with high temperature fluctuations. Oil must be changed immediately should condensate (frothy oil) occur in the gear box.
**NPSH values must be observed**

**Cooling the Gear Oil**

Make sure that suction pulsation is sufficiently dampened – water column resonance must be avoided.

The maximum temperature of the water being pumped and which is also fed through the cooling system must not exceed 140 °F (60 °C).
When starting up for work, the pump must run first at zero pressure for approximately 1 minute.

**IMPORTANT!** The GP8000 series has a black arrow on the crankcase which shows the preferred direction of rotation. The preferred direction of rotation ensures oil is splashed onto the crosshead guides in the correct manner via the motion of the connecting rods – which is a particular advantage where continuous operation is involved.
The pump can also be run against the recommended direction of rotation if operated periodically or at reduced pressure. If so, the pump must be run in in this direction to smoothen the bearing areas. This is done by initially operating the pump at zero pressure for 30 minutes; thereafter the pressure is to be slowly increased over a period of an hour to the desired maximum operating pressure. Check the oil temperature during this process.

**IMPORTANT!** If there is a danger of frost, the pump and cooling system must be emptied. Note that travel wind can cause water in pumps fitted on open vehicles to freeze even if the outside temperature is above freezing point.
The torque tension on the valve casing nuts (49A) is to be checked after approximately 200 operating hours. Please see page 8 for torque specifications.
When checking the torque tension, the pump must be at zero pressure.

**IMPORTANT!** The service life of the seals is maximized if a minimal amount of leakage is present. A few drops of water can drip from each plunger every minute. Leakage has to be examined every day; the plunger seals must be changed should leakage become excessive i.e. constant dripping.

**Safety Rules**
**The operating instructions must be read and adhered to before performing any work on the pump or complete assembled unit. No responsibility will be carried by us for damage to materials or persons caused by improper handling of our pumps.**

Access to the pump is not allowed for unauthorized personnel. A safety valve is to be installed in accordance with the guidelines for liquid spraying units so that the admissible operating pressure cannot be ex- ceeded by more than 10%. Pump operation without a safety valve as well as any excess in temperature or speed limits automatically voids the warranty.

When the pump is in operation, the driven shaft side and its coupling must be covered by a protective guard. The plunger area must also be covered by the protective plate (30).
Do not step onto the protective plate (30) or put weight on it.
Pressure in the discharge line and pump must be at zero before carrying out any maintenance work to the pump or unit. Close off suction line. Disconnect fuses to ensure that the driving motor cannot be accidentally switched on. Make sure that the pump, the cooling system and all parts on the pressure side of the unit are vented and refilled, with pressure at zero, before starting the pump.

In order to prevent air or an air/water-mixture being absorbed and cavitation occurring, the pump npshr (net positive suction head required) and water temperature must be respected.

**Cavitation and/or compression of gases lead to uncontrollable pressure-kicks which can ruin the pump and unit parts and also be dangerous to the operator or anyone standing nearby.**

Giant plunger pumps are suitable for pumping clean water and other non-aggressive or non-abrasive media with a specific weight similar to water.

**Before pumping other liquids - especially inflammable, explosive and toxic media - the pump manufacturer must be consulted with regard to the resistance of the pump material. It is the responsibility of the equipment manufacturer and/or operator to ensure that all pertinent safety regulations are followed.**

# Specifications
# Model GP8045A

| | U.S. | (Metric) |
|---|---|---|
| Volume | Up to 48.9 GPM | (185 LPM) |
| Discharge Pressure | Up to 3170 PSI | (220 bar) |
| Power Consumption | 107 BHP | (80 kW) |
| Speed | | Up to 580 RPM |
| Inlet Pressure | Up to 145 PSI | (10 bar) |
| Plunger Diameter | 1.77” | (45mm) |
| Plunger Stroke | 2.83” | (72mm) |
| Crankshaft Diameter | 2.76” | (70mm) |
| Key Width | 0.55” | (14mm) |
| Crankshaft Mounting | | Either side |
| Shaft Rotation | Top of pulley towards manifold | |
| Temperature of Pumped Fluids | Up to 160 °F | (60 °C) |
| Inlet Ports | | (2) 3” BSP |
| Discharge Ports | | (2) 1-1/4” BSP |
| Weight | 771 lbs. | (350kg) |
| Crankcase Oil Capacity | 3.3 Gal. | (12.5 liters) |
| Fluid End Material | Nickle plated Spheroidical Cast Iron | |

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.

| GP8045A HORSEPOWER REQUIREMENTS | | | | |
|---|---|---|---|---|
| RPM | GPM | 1000 PSI | 2000 PSI | 3170 PSI |
| 300 | 25.3 | 17.4 | 34.9 | 55.3 |
| 400 | 33.7 | 23.2 | 46.5 | 73.7 |
| 500 | 42.2 | 29.1 | 58.2 | 92.3 |
| 580 | 48.9 | 33.7 | 67.5 | 106.9 |

**SPECIAL NOTE:**
The theoretical gallons per revolution (gal/rev) is 0.0843. To find specific outputs at various RPM, use the formula:

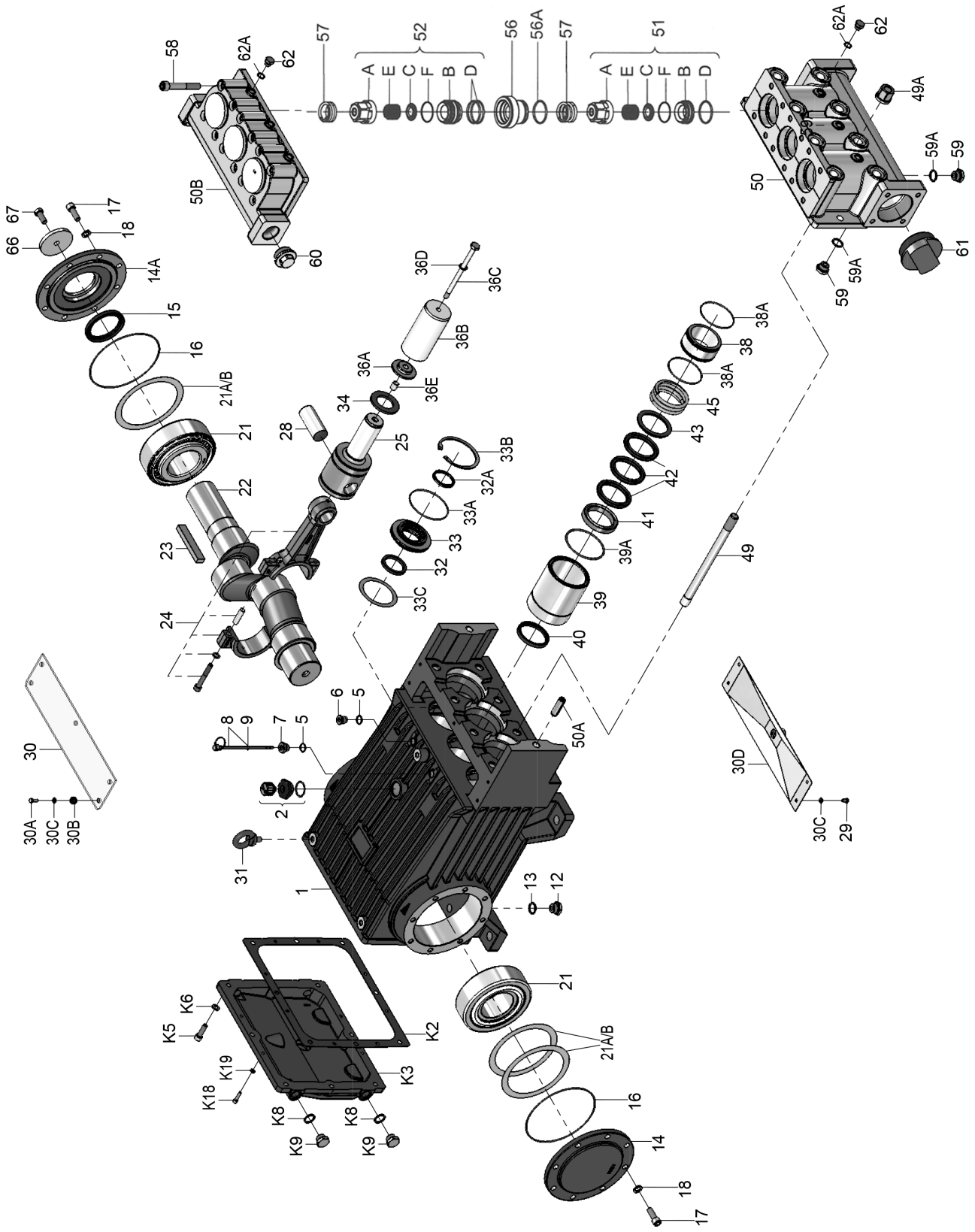
$$GPM = 0.0843 \times RPM$$

**HORSEPOWER RATINGS:**
The rating shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

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

$$\frac{GPM \times PSI}{1450} = HP$$

# EXPLODED VIEW - GP8045A/GP8048A



# GP8045A/GP8048A Parts List

| Item | Part | Description | Qty | Item | Part | Description | Qty |
|---|---|---|---|---|---|---|---|
| 1 | 05380 | Crankcase | 1 | 41 | 05391 | Pressure Ring (GP8048) | 3 |
| 2 | 06893 | Oil Filler Plug Assembly | 1 | 41 | 05392 | Pressure Ring (GP8045) | 3 |
| 5 | 22929 | Copper Washer | 2 | 42 | 05393 | Sleeve (GP8048) | 9 |
| 6 | 06273 | Oil Drain Plug | 1 | 42 | 05394 | Sleeve (GP8045) | 9 |
| 7 | 05381 | Plug, Oil Dip Stick | 1 | 43 | 05395 | Support Ring (GP8048) | 3 |
| 8 | 05035 | Oil Dip Stick Assembly | 1 | 43 | 05396 | Support Ring (GP8045) | 3 |
| 9 | 01009 | O-Ring | 1 | 45 | 05721 | Tension Spring (GP8048) | 3 |
| 12 | 07109 | Plug, 1/2” BSP | 2 | 45 | 07636 | Tension Spring (GP8045) | 3 |
| 13 | 06272 | Copper Ring | 2 | 49 | 05072 | Stud Bolt | 8 |
| 14 | 05036 | Bearing Cover, Closed | 1 | 49A | 05073 | Hexagon Nut | 8 |
| 14A | 05298 | Bearing Cover, Open | 1 | 50 | 05397 | Valve Casing | 1 |
| 15 | 05112 | Radial Shaft Seal | 1 | 50A | 13162 | Centering Stud | 2 |
| 16 | 05037 | O-ring | 2 | 50B | 05398 | Discharge Casing | 1 |
| 17 | 05038 | Inner Hexagon Screw | 16 | 51 | 05976 | Suction Valve Assembly | 3 |
| 18 | 05039 | Spring Ring | 16 | 51A | 05595 | Spring Tension Cap | 3 |
| 21 | 05044 | Tapered Roller Bearing | 2 | 51B | 05978 | Suction Valve Seat | 3 |
| 21A | 05042 | Fitting Disc | 1-5 | 51C | 05314 | Valve Plate | 3 |
| 21B | 05043 | Fitting Disc | 1-5 | 51D | 05408 | O-Ring | 3 |
| 22 | 05299 | Crankshaft | 1 | 51E | 05450 | Valve Spring | 3 |
| 23 | 05300 | Fitting Key | 1 | 51F | 05596 | O-Ring | 3 |
| 24 | 05047 | Connecting Rod Assembly | 3 | 52 | 05977 | Discharge Valve Assembly | 3 |
| 25 | 05048 | Crosshead c/w Plunger | 3 | 52A | 05595 | Spring Tension Cap | 3 |
| 28 | 05049 | Crosshead Pin | 3 | 52B | 05979 | Discharge Valve Seat | 3 |
| 29 | 05051 | Hexagon Screw | 4 | 52C | 05314 | Valve Plate | 3 |
| 30 | 05052 | Cover Plate | 1 | 52D | 05408 | O-Ring | 6 |
| 30A | 07225-0100 | Screw, 316 S.S | 5 | 52E | 05450 | Valve Spring | 3 |
| 30B | 13136 | Grommet | 5 | 52F | 05596 | O-Ring | 3 |
| 30C | 08280 | Washer | 9 | 56 | 04090 | Discharge Valve Adapter | 3 |
| 30D | 05050 | Splash Cover | 1 | 56A | 05408 | O-Ring | 3 |
| 31 | 07623 | Eye Bolt | 3 | 57 | 07173 | Tension Spring | 6 |
| 32 | 05058 | Radial Shaft Seal | 3 | 58 | 05087 | Hexagon Socket Screw | 12 |
| 33 | 03119 | Seal Retainer | 3 | 59 | 07109 | Plug, 1/2” BSP | 4 |
| 33A | 05056 | O-Ring | 3 | 59A | 06272 | Copper Gasket | 4 |
| 33B | 05054 | Clip Ring | 3 | 60 | 06909 | Plug, 1-1/4” BSP | 1 |
| 33C | 05059 | Fitting Disc | 3 | 61 | 05088 | Plug, 3” BSP | 1 |
| 34 | 05060 | Oil Shield | 3 | 62 | 05302 | Plug, 1/4” BSP | 6 |
| 36B | 05384 | Plunger Pipe (GP8048) | 3 | 62A | 06934 | Copper Gasket | 6 |
| 36B | 05385 | Plunger Pipe (GP8045) | 3 | 66 | 05303 | Disc for Crankshaft | 1 |
| 36C | 05062 | Tension Screw | 3 | 67 | 13433 | Hexagon Screw | 1 |
| 36D | 07665 | Copper Washer | 3 | K2 | 05027 | Seal for Gear Cover | 1 |
| 36E | 06900 | Centering Sleeve | 3 | K3 | 05028 | Gear Cover | 1 |
| 38 | 05386 | Seal Case | 3 | K5 | 22706 | Hexagon Socket Screw | 8 |
| 38A | 04840 | O-Ring | 6 | K6 | 08041 | Washer | 8 |
| 39 | 05388 | Seal Sleeve (GP8048) | 3 | K7 | 05030 | Connection for Oil Cooler | 1 |
| 39 | 05389 | Seal Sleeve (GP8045) | 3 | K8 | 06272 | Copper Seal | 4 |
| 39A | 05066 | O-Ring | 3 | K9 | 07109 | Plug, 1/2” BSP | 4 |
| 40 | 05390 | Seal Ring (GP8048) | 3 | K18 | 04158 | Hexagon Socket Screw | 4 |
| 40 | 13290 | Seal Ring (GP8045) | 3 | K19 | 05053 | Washer | 4 |

# Specifications
# Model GP8048A

| | U.S. | (Metric) |
|---|---|---|
| Volume | Up to 56.3 GPM | (213 LPM) |
| Discharge Pressure | Up to 2775 PSI | (190 bar) |
| Power Consumption | 107 BHP | 80 kW |
| Speed | Up to 580 RPM | 580 RPM |
| Inlet Pressure | Up to 145 PSI | (10 bar) |
| Plunger Diameter | 1.89” | 48mm |
| Plunger Stroke | 2.83” | 72mm |
| Crankshaft Diameter | 2.76” | 70mm |
| Key Width | 0.55” | 14mm |
| Crankshaft Mounting | | Either side |
| Shaft Rotation | Top of pulley towards manifold | |
| Temperature of Pumped Fluids | Up to 160 °F | (60 °C) |
| Inlet Ports | | (2) 3” BSP |
| Discharge Ports | | (2) 1-1/4” BSP |
| Weight | 771 lbs. | (350kg) |
| Crankcase Oil Capacity | 3.3 Gal. | (12.5 liters) |
| Fluid End Material | Nickle plated Spheroidical Cast Iron | |

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.

| GP8048A HORSEPOWER REQUIREMENTS | | | | |
|---|---|---|---|---|
| RPM | GPM | 1000 PSI | 2000 PSI | 2755 PSI |
| 300 | 29.4 | 20.3 | 40.6 | 55.9 |
| 400 | 39.2 | 27.0 | 54.1 | 74.5 |
| 500 | 49.0 | 33.8 | 67.6 | 93.1 |
| 580 | 56.8 | 39.2 | 78.3 | 107.9 |

**SPECIAL NOTE:**
The theoretical gallons per revolution (gal/rev) is 0.0979. To find specific outputs at various RPM, use the formula:

$$GPM = 0.0979 \times RPM$$

**HORSEPOWER RATINGS:**
The rating shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

We recommend 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:

$$\frac{GPM \times PSI}{1450} = HP$$

# GP8045A/GP8048A PUMP REPAIR KITS

## Plunger Packing Kits

**GP8045A - #09626**

| Item | Part # | Description | Qty. |
|---|---|---|---|
| 38A | 04840 | O-Ring | 6 |
| 39A | 05066 | O-Ring | 3 |
| 40 | 13290 | Seal Ring | 3 |
| 42 | 05394 | V-Sleeve | 9 |

**GP8048A - #09627**

| Item | Part # | Description | Qty. |
|---|---|---|---|
| 38A | 04840 | O-Ring | 6 |
| 39A | 05066 | O-Ring | 3 |
| 40 | 05390 | Seal Ring | 3 |
| 42 | 05393 | V-Sleeve | 9 |

## Valve Assembly Kit - GP8045 & GP8048

**Inlet Valve Kit - #09818**

| Item | Part # | Description | Qty. |
|---|---|---|---|
| 51 | 05976 | Inlet Valve Assembly | 3 |
| 56A | 05408 | O-Ring | 3 |

**Discharge Valve Kit - #09819**

| Item | Part # | Description | Qty. |
|---|---|---|---|
| 52 | 05977 | Discharge Valve Assembly | 3 |
| 56A | 05408 | O-Ring | 3 |

**Oil Seal Kit - #09584**

| Item | Part # | Description | Qty. |
|---|---|---|---|
| 32 | 05058 | Radial Shaft Seal | 3 |
| 33A | 05056 | O-Ring | 3 |

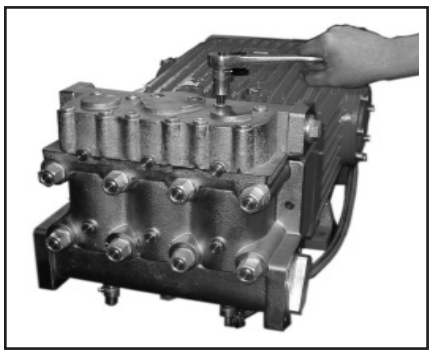
## GP8045A/GP8048A Lubrication Information/Torque Specification/Tool List

| Item # | Part # | Description | Lubrication | Torque | Tool |
|---|---|---|---|---|---|
| 1 | 05380 | Crankcase | Molycote Cu-Paste | N/A | |
| 17 | 05038 | Hexagon Socket Screw | N/A | 64 ft.-lbs. (87 Nm) | 10mm allen wrench |
| 24 | 05047 | Connecting Rod Hex Screw | N/A | 37 ft.-lbs. (50 Nm) | 8mm allen wrench |
| 32 | 05058 | Radial Shaft Seal | Loctite 403 | N/A | |
| 33B | 05054 | Clip Ring | N/A | N/A | Industrial Snap Ring Pliers |
| 36C | 05062 | Tension Screw | Loctite 243 | 30 ft.-lbs. (40 Nm) | 16mm socket |
| 49 | 05072 | Stud Bolt | Loctite 243 | N/A | |
| 49A | 05073 | Hexagon Nut (manifold) | N/A | 265 ft.-lbs. (360 Nm) | 30mm socket |
| 51/52 | 05399/05406 | Valve Assemblies | N/A | N/A | valve puller |
| 51B/52B | 05978/05979 | Valve Seats | Molycote Cu-Paste | N/A | |
| 58 | 05087 | Hexagon Socket Screw | Molycote Cu-Paste | 132 ft.-lbs. (180 Nm) | 12mm allen wrench |
| 79 | 07662 | Tool for Valve | N/A | N/A | |
| K4 | 05029 | Hex Countersunk Screw | N/A | 132 in.-lbs. (15 Nm) | |
| K5 | 07381 | Hexagon Socket Screw | N/A | N/A | 8mm allen wrench |
| K9 | 07109 | Plug, 1/2” BSP | N/A | N/A | |

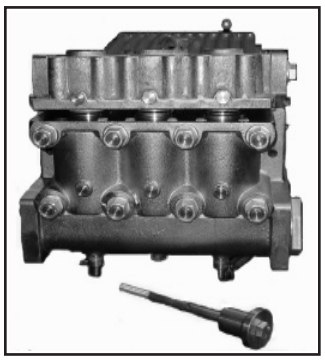
## GP8000 Trouble Shooting

| Problem | Cause | Solution |
|---|---|---|
| Pressure drops, water leaks | V-sleeves leak | Replace V-sleeves, examine surface of plunger |
| Pressure drops, pump becomes loud | Discharge or suction valve leaks | Replace valve |
| | Steam formation (cavitation) | Reduce suction height, reduce flow resistance in inlet line, clean inlet filter, lower water temperature |
| Irregular pressure | Worn valves | Examine valves |
| | O-Ring on the valves or inlet valve adapter leaks | Examine O-ring, examine valve casing for unevenness on the sealing surfaces |
| Oil leaks at visible part of plunger | Gear sealing is leaky | Examine seals and running surface of plunger |
| Dirty mile-colored frothy oil | Oil has mixed with water | Replace oil immediately, find and fix the cause |
| Oil leakage on the crankshaft | Shaft seal ring leaks | Check seal and shaft |
| Noise increases without loss of pressure | Worn bearing | Dismantle gear, examine all parts, replace worn parts, check oil level. If service life was too short, check excess strain or whether lubrication intervals were too long. Only specified lubricants are to be used |

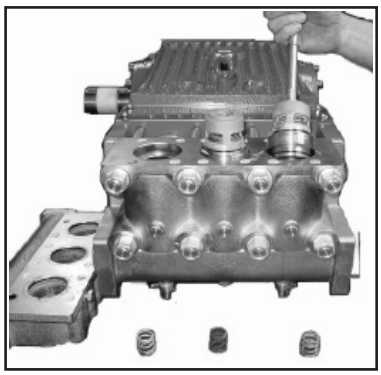
## Valve Inspection and Repair



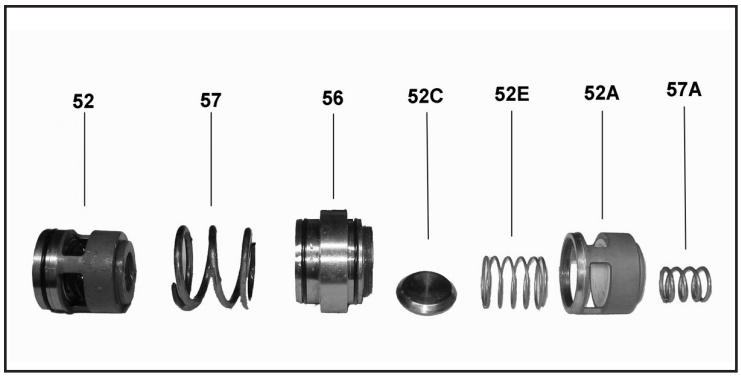
1) Remove bolts (58).



2) Remove discharge casing (50B) up and away.

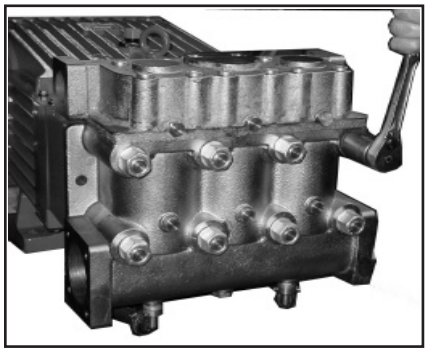


3) Take out pressure springs (57A). Pull out assembled valves (51 & 52) with fitting tool.

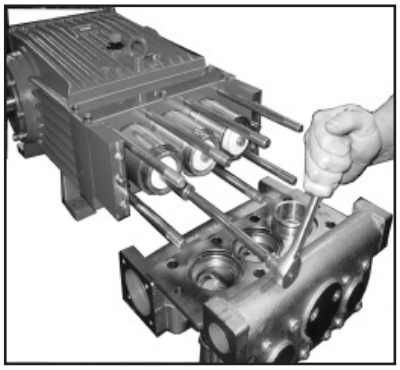



4) The spring tension cap (51A, 52A) is screwed together with the valve seat (51B or 52B). Screw off spring tension cap. Takeout springs (51E, 52E) and valve plate (51C, 52C). Check sealing surfaces and O-rings (51D, 52D). Replace worn parts. Coat threads of valve seat with silicon grease or molycote anti-seize Cu-7439 when reassembling. Before refitting the valves, clean the sealing surfaces in the casing and check for any damage. Tighten caps (58) at 133 Ft-lbs (180 Nm); check torque tension after 8-10 operating hours.

## To Check Seals and Plunger Pipe

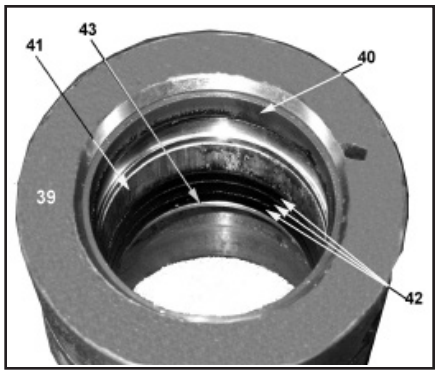


5) Remove hexagon nuts (49A) and valve casing together with seal case (38) from crankcase (1). If necessary, carefully tap the valve casing (50) past the centering stud (50A) using a rubber hammer.
**IMPORTANT!** If necessary, support the valve casing by resting it on wooden blocks or by using a pulley.

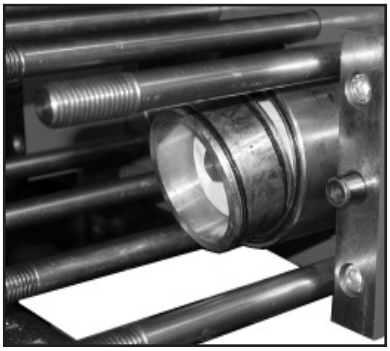


6) Remove tension screw (36C) and take seal sleeve (39) together with all mounted parts out of the drive. Pull plunger pipe out of the seal assembly and check for any damage. Carefully, remove seal rings (40) and sleeves (42) with a screw driver.

# GP8045A/GP8048A PUMP REPAIR INSTRUCTIONS

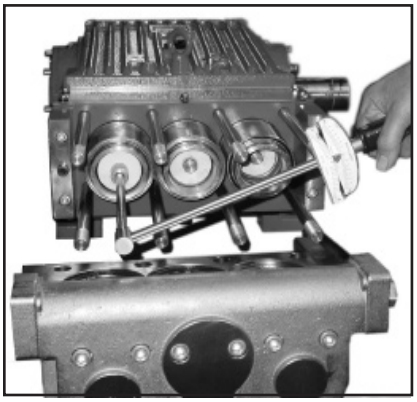



7) Important! Be careful not to damage the seal sleeve (39) and pressure ring (41). Check the inner diameter of the pressure ring for wear and if necessary replace together with seals (40) and (42). Clean all parts. New parts should be lightly coated with silicon grease before installation. Insert the seal unit (40, 41, 42 43) into the sleeve. Push the ceramic plunger carefully through the seals from the crankcase side. If necessary, the seals can be held tightly using a suitable pipe support held on the other side of the seal sleeve.



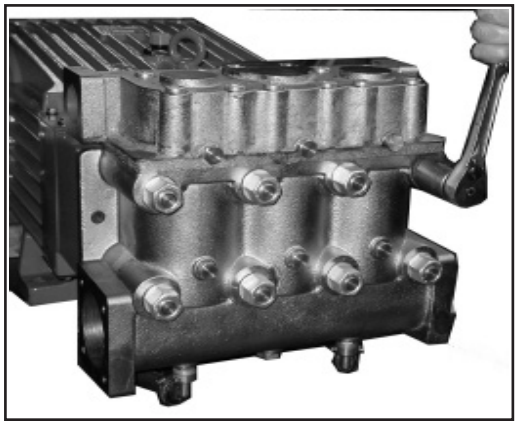
8) Take out the seal case (38) from the valve casing (if necessary secure 2 screwdrivers in the front O-ring groove to extract seal case). Coat seals with silicon grease before installing.

Important! Mounting surfaces of the crankcase and the valve casing must be clean and free of damage. The components must lie exactly and evenly on one another. The same exactness applies for all centering positions in the crankcase, pressure and valve casing.



9) Coat the seal sleeve lightly with anti-corrosive grease (e.g. molycote no. Cu-7439) in its fitted area towards the crankcase. Insert the seal sleeves in to their crankcase fittings.Coat the threads of the tension screw (36C) lightly with thread glue and insert it together with a new copper ring (36D) through the ceramic pipe. Turn the pump per hand until the plunger (25) rests against the plunger pipe. Tighten the tension screw at 30 Ft-lbs. (40 Nm).

Important! Thread glue must never come between the plunger pipe (36B) and centering sleeve (36E). Overtensioning of the plunger pipe by excessive tightening of the tension screw and/or dirt or damage on the mounting surfaces can lead to plunger pipe breakage. Insert the seal tension spring (45) and O-ring (39A) in to the seal sleeve (39).

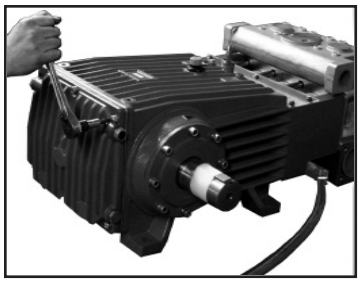


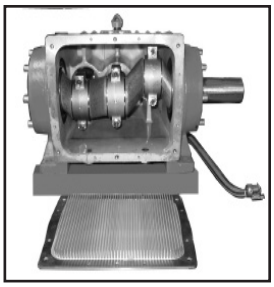
**Replacing Valve Casing:**

10) Put seal cases (38) in the centering holes of the valve casing, then push valve casing carefully on to centering studs (50A). Tighten hexagon screws (49A) evenly and crosswise at 265 Ft.-lbs. (360 Nm).

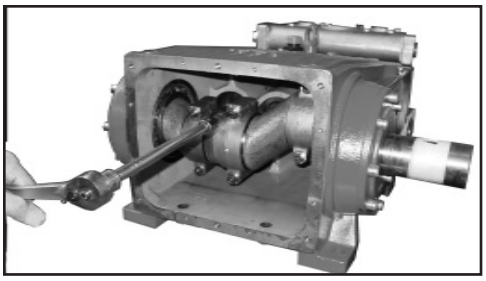
Important! The torque tension on the screws (49A) must be checked after 8-10 operating hours; the pump must be at zero pressure. Thereafter, the tension is to be checked every 200 operating hours.

## To Dismantle Crankcase Gear



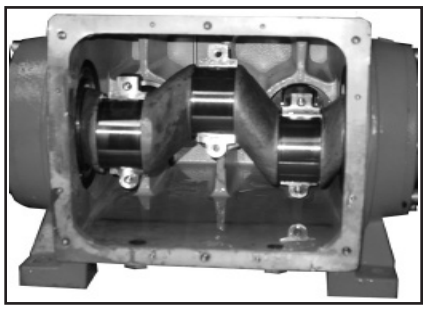


11) Take out plungers and seal sleeves as described above. Drain the oil by taking off the plug (12). After removing the clip ring (33B), lever out the seal retainer (33) with a screwdriver. Open hose adapter (K11) and remove gear cover (K3). Remove the cooling vane plate (K1) by removing the screws (K4)

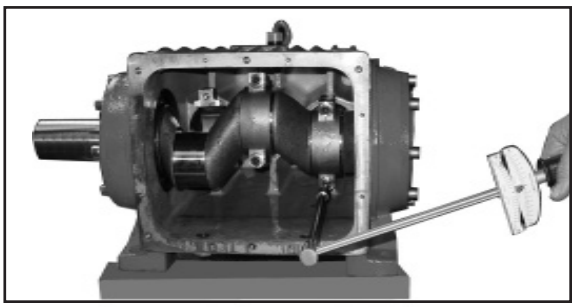


12) Remove the connecting rod screws (24).

Important! Connecting rods are marked 1 to 3 for identification. Do not twist connecting rod halves or interchange them. When reassembling, the connecting rod must be fitted in their exact original position on the crankshaft journals.



13) Push connecting rod halves together with the crosshead as far as possible into the crosshead guide. Take out bearing cover (14/14A) and push out crankshaft taking particular care that the con rod doesn't get bent. Check surfaces on the connecting rods (24), crankshaft (22) and crossheads (25). Check the surfaces of the crosshead guides in the crankcase for any unevenness.

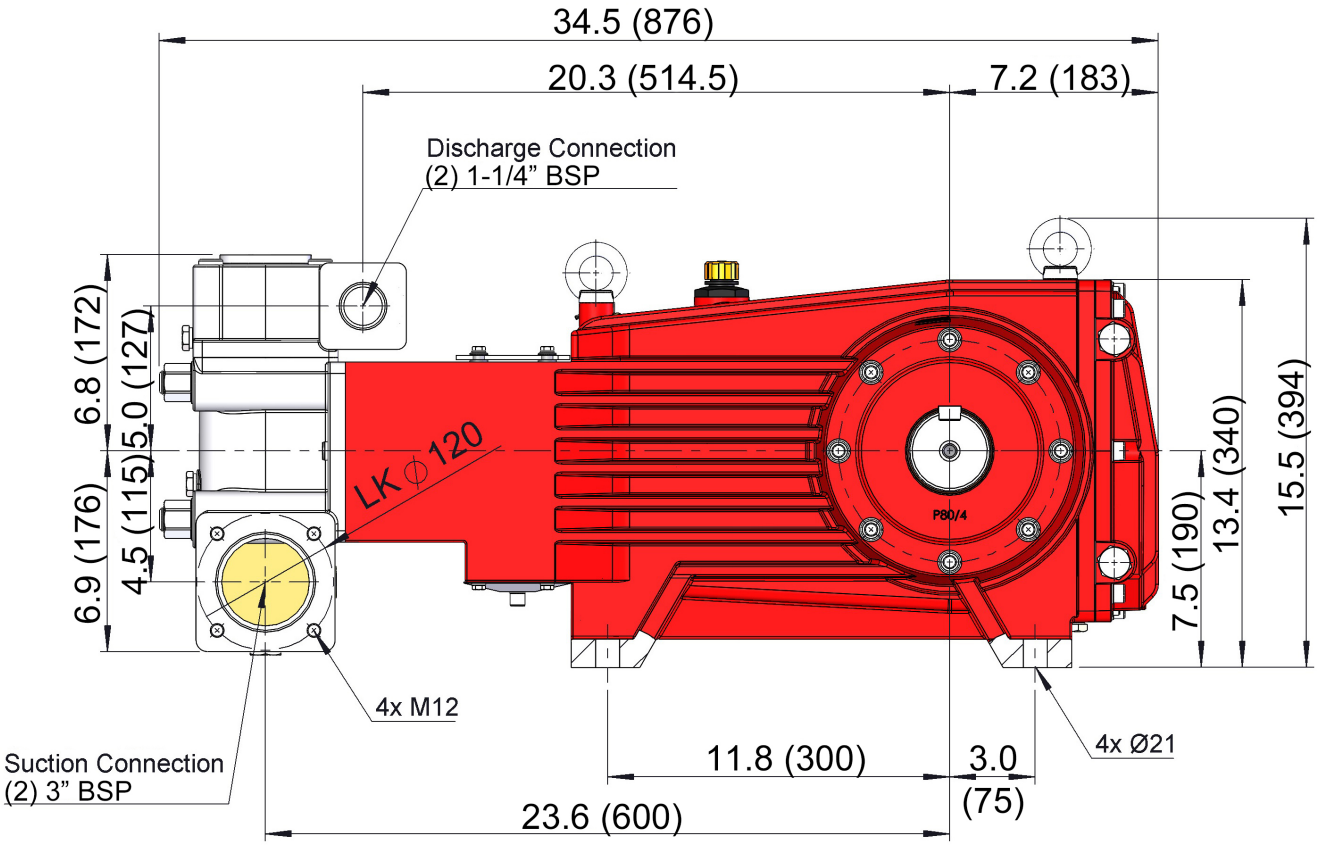


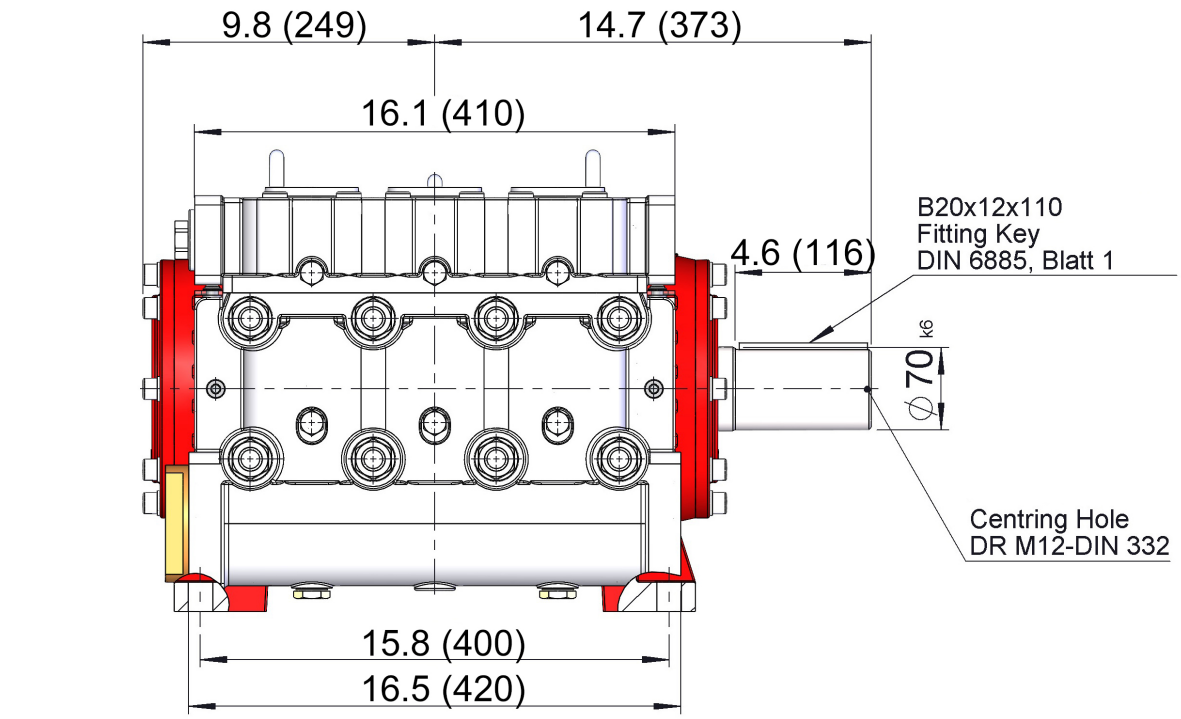
14) Reassemble in reverse order. Thread the long end of the crankshaft together with the inner bearing rings into the crankcase; then mount outer bearing ring (20) and spacer ring (22A). Mount connecting rod halves in their exact original position and tighten at 37 Ft-lbs. (50 Nm).
Important! Connecting rods must be able to move slightly sideways on the stroke journals.

14) Mount bearing cover (14A) and tighten screws (17) to 64 Ft-lbs. (87 Nm). Adjust axial play (clearance) on the crankshaft to minimum 0.1 mm / max. 0.15 mm using shims (21A/21B). The shaft should turn easily with little clearance. Connecting rod must sit exactly in the middle of each crank pin. Fit the bearing cover (14) and tighten the screws (17) at 64 Ft-lbs. (87 Nm). Seal (32A) must always be installed so that the seal lip on the inside diameter faces the oil. Possible axial float of the seal adapter (33) to be compensated with shims (33C).

Mount cooling plate (K1) and gear cover (K3) with their respective seals (K2). When assembling the cooling circuit line, make sure that the oil cooler connection (K7) is always joined to the upper connection (K3) of the gear cover.

## GP8045A/GP8048A Dimensions - in (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.

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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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Performance Under Pressure

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