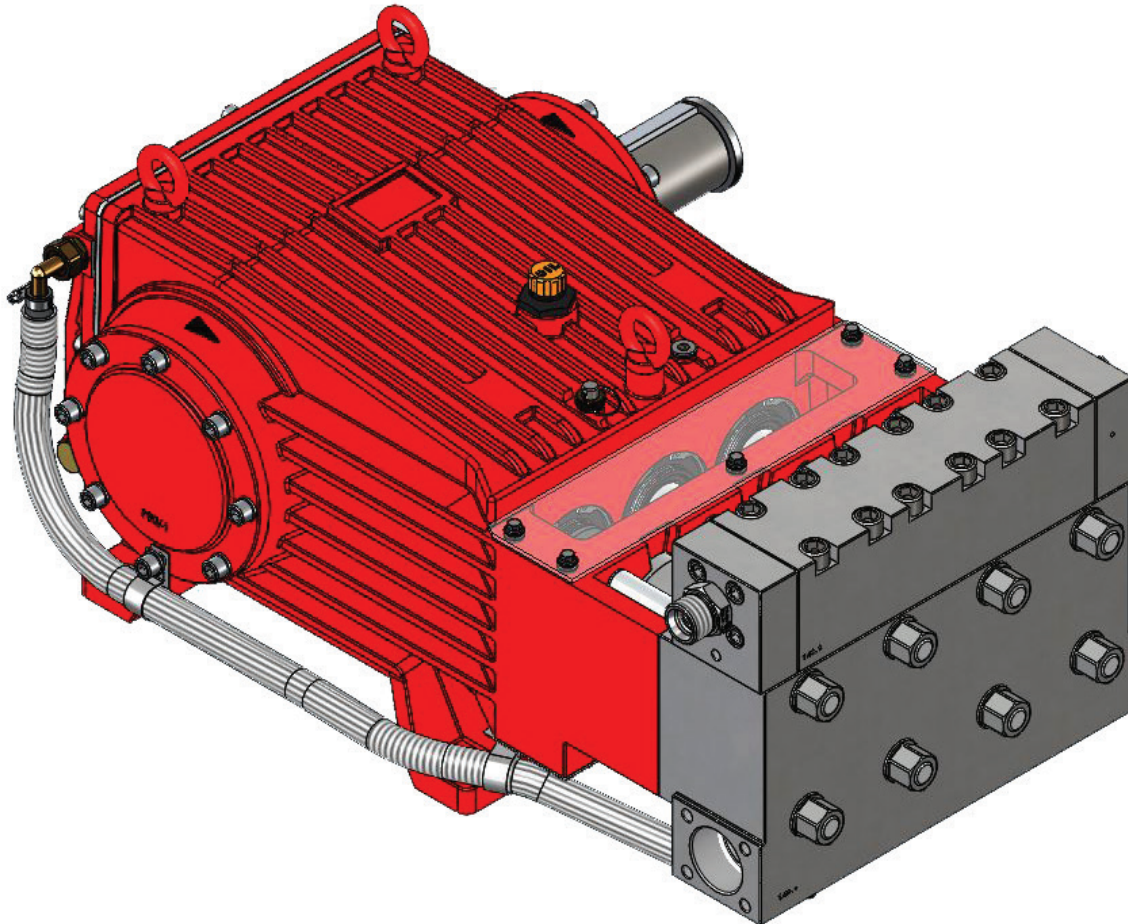


Model GP8035/GP8035A/ GP8040/GP8040A

Triplex Ceramic
Plunger Pump
Models Manual

"A" version = NPT inlet and discharge ports



Updated 10/23

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Installation Instructions

The stated figures are for max. pressure and max. speed (rpm) and apply for interval operation with cold water.

Required NPSH refers to water (specific weight 1kg/dm³, viscosity 1°E) at max. permissible pump revolutions.

Fluid medium: Clean water filtered with 50µm.

**higher water temperatures possible with separate crankcase cooling system; the manufacturer is to be contacted in this case.

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 litres) of ISO VG 220 GL4 (e.g. Aral Degol BG220) or SAE 90 GL4 gear oil (Giant's p/n 01154). Initial change after 50 operating hours and then every 1000 operating hours after one year latest.

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

IMPORTANT! The water input pressure must not exceed 29 PSI (2 bar) when using the integrated system for cooling the gear oil (standard version).

If a separate cooling circuit maximum 29 PSI (maximum 2 bar) is installed, it is then possible to have an input pressure of up to maximum 145 PSI (maximum 10 bar) on the suction side.

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

IMPORTANT! The pumps can be run without gear oil cooling in continuous operation **up to** a power rating of **107.2 HP (80 kW)** or with major intermittent operation at full performance (see page 2 regarding the definition for intermittent operation).

If operational power **exceeds 107.2 HP (80 kW)** or if continuous operation is the case, the pump must be run with the integrated oil cooling system. The max. temperature of the water being pumped and which is also fed through the cooling system must not exceed 86 °F (30 °C). The water amount which is fed into the cooling system depends on the pump speed and is approximately 1.85 GPM (7.0 l/min) at 580 pump rpm. The cooling water is sucked in by one of the pumping chambers and pumped away.

IMPORTANT! If higher medium temperatures or liquids other than water are involved or aggressive media such as seawater, demineralised water etc., the pump must be fitted with a separate cooling circuit. The separate cooler must have a cooling efficiency of 1700 watt. If there is a danger of frost, an appropriate amount of antifreeze must be mixed into the cooling circuit.

When starting up for work, the pump must run first at zero pressure for approximately 1 minute.

IMPORTANT! The GP8035/GP8040 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 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.

Installation Instructions

IMPORTANT! The pump and cooling system must be emptied if there is a danger of frost. Travel wind can cause water in pumps fitted on open vehicles to freeze even if the outside temperature is above freezing point.

To empty the cooling circuit, remove the joints (K11/K15) on the pump head (50). Blow out the circuit liquid at the joint connection (K11/K7) using compressed air.

The torque tension on the valve casing nuts (49A) is to be checked after approximately 200 operating hours. Please see page 8 for the torque values.

The pump must be at zero pressure when checking the torque tension.

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 (=constant dripping).

Definition of intermittent operation: operation at full performance for not more than altogether 20 minutes an hour, with the pump running without pressure or turned off in between. For example, this can be full load operation for 5 minutes four times an hour with 10 minute breaks in between or continuous full load operation for 20 minute followed by a 40 minute break.

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 exceeded 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) nor 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 get switched on accidentally. 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, positive suction head 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 Industries 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 adhered to.

Specifications - Models GP8035/GP8035A

| | U.S. | (Metric) |
|------------------------------------|------------------|------------------------------|
| Volume..... | Up to 29.1 GPM | (110 LPM) |
| Discharge Pressure | Up to 7250 PSI | (500 bar) |
| Crankshaft Speed | | Up to 580 RPM |
| Power Required..... | 142 HP | 106 kW |
| Inlet Pressure | Up to 29 PSI | (2.0 bar)* |
| Plunger Diameter..... | 1.38" | 35 mm |
| Plunger Stroke..... | 2.83" | 72 mm |
| Pinion Shaft Diameter..... | 2.76" | 70 mm |
| Fitting Key | | B20 x 12 x 110, DIN 6685 |
| Crankshaft Mounting | | Either side |
| Crankshaft Rotation..... | | Towards Manifold of pump |
| Temperature of Pumped Fluids | Up to 86 °F | (30 °C)** |
| Inlet Ports | | (2) 2" BSP (NPT for GP8035A) |
| Discharge Ports | | (2) 1" BSP (NPT for GP8035A) |
| Weight | 793 lbs. | (360kg) |
| Crankcase Oil Capacity | 3.3 Gal. | (12.5 liters) |
| Fluid End Material..... | | Stainless Steel |
| NPSHR..... | 27.9 ft. of head | 8.5 mWs |

(The specifications above are based on maximum pressure and maximum RPM for intermittent duty using cold water.)

* If a separate cooling circuit is installed, the maximum inlet pressure would be 145 PSI (10 Bar).

** If higher temperatures are needed, use a separate cooling circuit. Consult factory

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.

| GP8035 Horsepower Requirements | | | | | |
|--------------------------------|------|----------|----------|----------|----------|
| RPM | GPM | 1000 PSI | 2500 PSI | 5000 PSI | 7250 PSI |
| 300 | 15.1 | 10.4 | 26.0 | 51.9 | 75.3 |
| 400 | 20.1 | 13.8 | 34.6 | 69.2 | 100.3 |
| 500 | 25.1 | 17.3 | 43.3 | 86.5 | 125.4 |
| 580 | 29.1 | 20.1 | 50.2 | 100.3 | 145.5 |

SPECIAL NOTE:

The theoretical gallons per revolution (gal/rev) is 0.050.
To find specific outputs at various RPM, use the formula:

$$\text{GPM} = 0.050 \times \text{RPM}$$

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:

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

Specifications - Models GP8040/GP8040A

| | U.S. | (Metric) |
|------------------------------------|--------------------|------------------------------|
| Flow | 39.6 GPM | (150 LPM) |
| Discharge Pressure | 5500 PSI | (380 bar) |
| Maximum Crankshaft Speed | | 580 RPM |
| Power Required..... | 146 BHP..... | 109 kW |
| Inlet Pressure | Up to 29 PSI | (2.0 bar)* |
| Plunger Diameter..... | 1.57" | 40 mm |
| Plunger Stroke..... | 2.83" | 72 mm |
| Pinion Shaft Diameter..... | 1.77" | 45 mm |
| Fitting Key | | B20 x 12 x 110, DIN 6685 |
| Crankshaft Mounting | | Either side |
| Crankshaft Rotation..... | | Towards Manifold of pump |
| Temperature of Pumped Fluids | Up to 86 °F | (30 °C)** |
| Inlet Ports | | (2) 2" BSP (NPT for GP8040A) |
| Discharge Ports..... | | (2) 1" BSP (NPT for GP8040A) |
| Weight | 767 lbs. | (349 kg) |
| Crankcase Oil Capacity | 3.3 Gal. | (12.5 liters) |
| Fluid End Material..... | | Stainless Steel |
| NPSHR..... | 24.6 ft.-head..... | 7.5 mWs |

(The specifications above are based on maximum pressure and maximum RPM for intermittent duty using cold water.)

Based on driver type, input speeds may vary.

* If a separate cooling circuit is installed, the maximum inlet pressure would be 145 PSI (10 Bar).

** If higher temperatures are needed, use a separate cooling circuit. Consult factory.

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.

| GP8040-5100 HORSEPOWER REQUIREMENTS | | | | | |
|-------------------------------------|------|----------|----------|----------|----------|
| RPM | GPM | 2000 PSI | 3000 PSI | 4000 PSI | 5500 PSI |
| 300 | 20.5 | 28.2 | 42.4 | 56.6 | 77.9 |
| 400 | 27.3 | 37.7 | 56.5 | 75.3 | 103.7 |
| 500 | 34.1 | 47.0 | 70.6 | 94.1 | 129.6 |
| 580 | 39.6 | 54.6 | 81.9 | 109.2 | 150.5 |

SPECIAL NOTE:

The theoretical gallons per revolution (gal/rev) is 0.0683.
To find specific outputs at various RPM, use the formula:

$$\text{GPM} = 0.0683 \times \text{RPM}$$

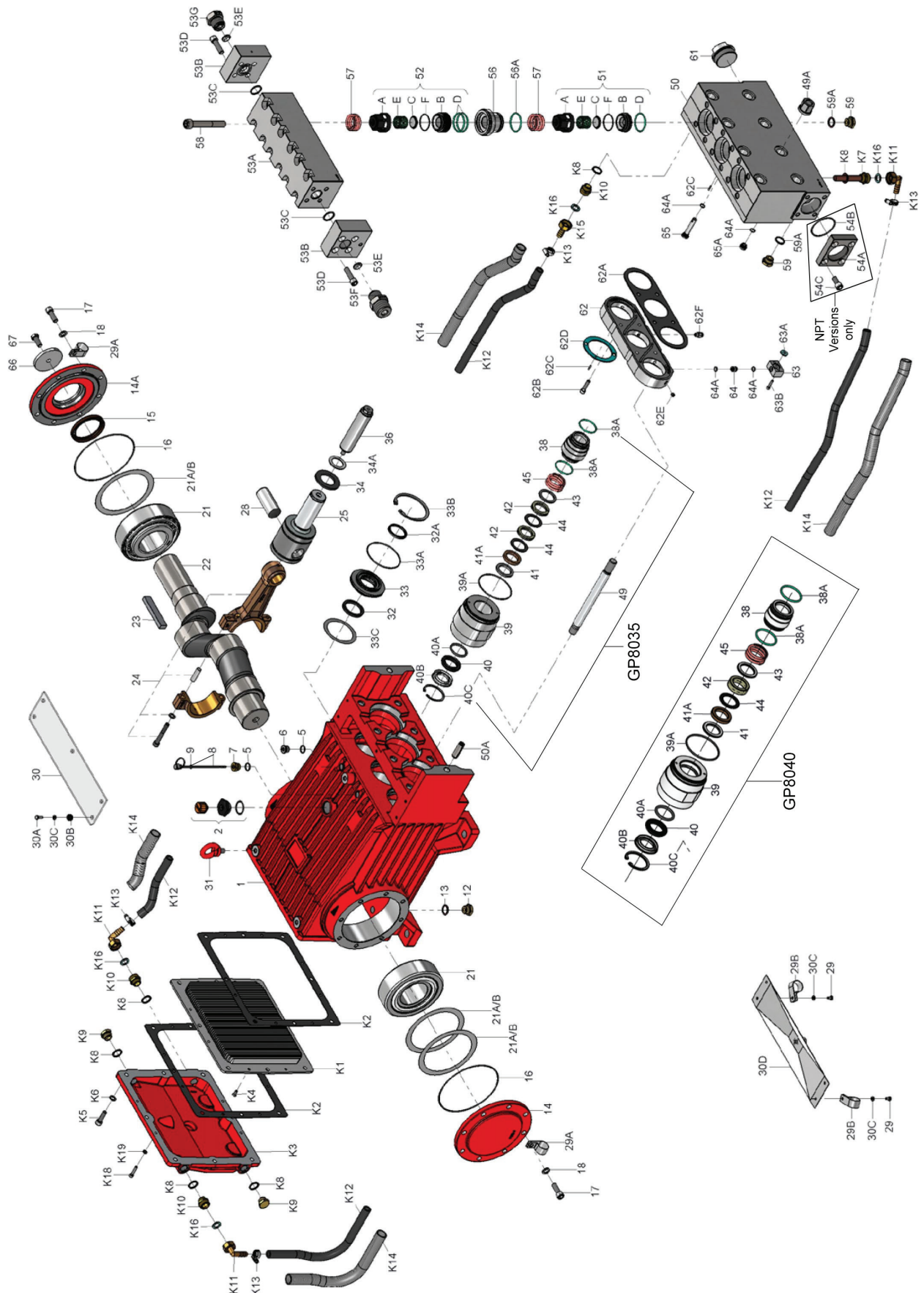
HORSEPOWER RATINGS:

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:

$$\frac{\text{GPM} \times \text{PSI}}{1450}$$

Exploded View - GP8035(A) & GP8040(A) Pumps



Part List - GP8035(A) & GP8040(A) Pumps

| Item | Part | Description | Qty | Item | Part | Description | Qty |
|------|------------|---------------------------------|-----|------|------------|--------------------------------------|-----|
| 1 | 05380 | Crankcase | 1 | 50A | 13162 | Centering Stud | 2 |
| 2 | 06893 | Oil Filler Plug Assy. with Vent | 1 | 51 | 05837 | Inlet Valve Assembly | 3 |
| 5 | 22929 | Seal | 2 | 51A | 05595 | Spring Tension Cap | 3 |
| 6 | 12256 | Plug | 1 | 51B | 05838 | Inlet Valve Seat | 3 |
| 7 | 05656 | Plug, 3/8" BSP | 1 | 51C | 05752 | Valve Plate | 3 |
| 8 | 05035 | Oil Dipstick Assembly | 1 | 51D | 05408 | O-Ring | 3 |
| 9 | 01009 | O-Ring | 1 | 51E | 05450 | Valve Spring | 3 |
| 12 | 07109 | Plug, 1/2" BSP | 2 | 51F | 05596 | O-Ring | 3 |
| 13 | 06272 | Copper Gasket, 1/2" BSP | 2 | 52 | 05839 | Discharge Valve Assembly | 3 |
| 14 | 05036 | Bearing Cover Closed | 1 | 52A | 05595 | Spring Tension Cap | 3 |
| 14A | 05298 | Bearing Cover Open | 1 | 52B | 05840 | Discharge Valve Seat | 3 |
| 15 | 05112 | Radial Shaft Seal | 1 | 52C | 05752 | Valve Plate | 3 |
| 16 | 05037 | O-Ring | 2 | 52D | 05408 | O-Ring | 6 |
| 17 | 05038 | Hexagon Socket Screw | 16 | 52E | 05450 | Valve Spring | 3 |
| 18 | 05039 | Spring Ring | 16 | 52F | 05596 | O-Ring | 3 |
| 21 | 05044 | Tapered Roller Bearing | 2 | 53A | 03585 | Discharge Casing | 1 |
| 21A | 05042 | Fitting Disc | 1-5 | 53B | 03586 | Connection Plate | 2 |
| 21B | 05043 | Fitting Disc | 1-5 | 53C | 07704 | Copper Seal | 2 |
| 22 | 05299 | Crankshaft | 1 | 53D | 03587 | Hexagon Socket Screw | 8 |
| 23 | 05300 | Fitting Key | 1 | 53E | 03588 | Lens Gasket | 2 |
| 24 | 05047 | Connecting Rod Assembly | 3 | 53F | 03589 | Connection Nipple, 1" (MNPT version) | 1 |
| 25 | 05048 | Crosshead c/w Plunger | 3 | 53F | 03589-BSP | Connection Nipple, 1" (MBSP version) | 1 |
| 28 | 05049 | Crosshead Pin | 3 | 53G | 03590 | Plug, 1" BSP | 1 |
| 29 | 05051 | Hexagon Screw | 4 | 54A | 03591 | Adapter, 2" (FNPT version) | 1 |
| 29A | 05381 | Bracket 1 for Cooling Hose | 2 | 54B | 13286 | O-Ring (NPT version) | 1 |
| 29B | 05383 | Hose Shell for Cooling Hose | 2 | 54C | 03592 | Hexagon Socket Screw (NPT version) | 4 |
| 30 | 05052 | Cover Plate | 1 | 56 | 05409 | Discharge Valve Retainer | 3 |
| 30A | 07225-0100 | Hexagon Screw | 5 | 56A | 05408 | O-Ring | 3 |
| 30B | 13136 | Grommet | 5 | 57 | 07173 | Tension Spring | 6 |
| 30C | 08280 | Washer | 9 | 58 | 05753 | Hexagon Socket Screw | 12 |
| 30D | 05050 | Splash Cover | 1 | 59 | 07109 | Plug, 1/2" BSP | 3 |
| 31 | 07623 | Eye Bolt | 3 | 59A | 06272 | Copper Gasket, 1/2" BSP | 3 |
| 32 | 05058 | Radial Shaft Seal | 3 | 61 | 05841 | Plug, 2" BSP | 1 |
| 32A | 03118 | Oil Scraper | 3 | 62 | 05842 | Intermediate Casing | 1 |
| 33 | 03119 | Seal Retainer | 3 | 62A | 05843 | Flat Seal | 1 |
| 33A | 05056 | O-Ring | 3 | 62B | 05754 | Hexagon Socket Screw | 4 |
| 33B | 05054 | Clip Ring | 3 | 62C | 22764 | Serrated Pin | 4 |
| 33C | 05059 | Fitting Disc | 3 | 62D | 05844 | Flat Leakage Seal | 3 |
| 34 | 05060 | Oil Shield | 3 | 62E | 06106 | Allen Grub Screw | 2 |
| 34A | 05830 | Locking Disc | 3 | 62F | 04583 | Connector | 1 |
| 36 | 05743 | Plunger Pipe (GP8035) | 3 | 63 | 05845 | Drip Return Joint | 2 |
| 36 | 05816 | Plunger Pipe (GP8040) | 3 | 63A | 05757 | Leakage Seal | 2 |
| 38 | 05831 | Seal Case (GP8035) | 3 | 63B | 05811 | Hexagon Socket Screw | 4 |
| 38 | 05817 | Seal Case (GP8040) | 3 | 64 | 05846 | Drip Return Nipple | 2 |
| 38A | 05408 | O-Ring (GP8035) | 6 | 64A | 11507-0001 | O-Ring | 6 |
| 38A | 05818 | O-Ring (GP8040) | 6 | 65 | 05847 | Drip Return Connection | 1 |
| 39 | 05832 | Seal Sleeve (GP8035) | 3 | 65A | 05848 | Drip Return Plug | 1 |
| 39 | 05819 | Seal Sleeve (GP8040) | 3 | 66 | 05303 | Disc for Crankshaft | 1 |
| 39A | 05617 | O-Ring | 3 | 67 | 13433 | Hexagon Screw | 1 |
| 40 | 05744 | Sleeve (GP8035) | 3 | 79 | 07662 | Tool for Valve | 1 |
| 40 | 05820 | Sleeve (GP8040) | 3 | | | | |
| 40A | 05745 | O-Ring (GP8035) | 3 | 78 | 05849 | Oil Cooler Assembly | 1 |
| 40A | 05821 | O-Ring (GP8040) | 3 | K1 | 05026 | Cooling Vane Plate | 1 |
| 40B | 05746 | Pressure Ring (GP8035) | 3 | K2 | 05027 | Seal for Gear Cover | 2 |
| 40B | 05822 | Pressure Ring (GP8040) | 3 | K3 | 05028 | Gear Cover | 1 |
| 40C | 05474 | Clip Ring (GP8035) | 3 | K4 | 05029 | Hexagon Head Countersunk Screw | 8 |
| 40C | 13217-0100 | Clip Ring (GP8040) | 3 | K5 | 07381 | Hexagon Socket Screw | 8 |
| 41 | 05833 | Pressure Ring (GP8035) | 3 | K6 | 08041 | Washer | 6 |
| 41 | 05823 | Pressure Ring (GP8040) | 3 | K7 | 05741 | Connection for Oil Cooler | 1 |
| 41A | 05747 | Guide Ring (GP8035) | 3 | K8 | 06272 | Copper Gasket, 1/2" BSP | 6 |
| 41A | 03559 | Guide Ring (GP8040) | 3 | K9 | 07109 | Plug, 1/2" BSP | 2 |
| 42 | 05748 | Rope Packing (GP8035) | 6 | K10 | 05031 | Connecting Branch | 3 |
| 42 | 05825 | Triple Coiled Ring (GP8040) | 3 | K11 | 05032 | Hose Adaptor | 3 |
| 43 | 05749 | Support Disc (GP8035) | 3 | K12 | 05033 | Tube for Cooler | 2 |
| 43 | 05826 | Support Disc (GP8040) | 3 | K13 | 05402 | Hose Clamp | 4 |
| 44 | 05751 | Support Ring (GP8035) | 6 | K14 | 05403 | Hose Guard | 2 |
| 44 | 05827 | Support Ring (GP8040) | 3 | K15 | 05404 | Hose Coupling Nut | 1 |
| 45 | 06098 | Tension Spring (GP8035) | 3 | K16 | 05405 | Flat Gasket for Oil Cooler | 4 |
| 45 | 13297 | Tension Spring (GP8040) | 3 | K18 | 04158 | Hexagon Socket Screw | 4 |
| 49 | 05834 | Stud Bolt | 8 | K19 | 05053 | Washer | 4 |
| 49A | 05073 | Hexagon Nut | 8 | | | | |
| 50 | 05835 | Valve Casing | 1 | | | | |

Pump Repair Kits - GP8035(A) & GP8040(A)

Plunger Packing Kits

GP8035 - # 09707

| Item | Part # | Description | Qty. |
|------|--------|--------------|------|
| 38A | 05408 | O-Ring | 6 |
| 39A | 05617 | O-Ring | 3 |
| 40 | 05744 | Sleeve | 3 |
| 40A | 05745 | O-Ring | 3 |
| 41A | 05747 | Guide Ring | 3 |
| 42 | 05748 | Rope Packing | 6 |
| 44 | 05751 | Support Ring | 6 |

GP8040 - # 09708

| Item | Part # | Description | Qty. |
|------|--------|--------------|------|
| 38A | 05818 | O-Ring | 6 |
| 39A | 05817 | O-Ring | 3 |
| 40 | 05820 | Sleeve | 3 |
| 40A | 05821 | O-Ring | 3 |
| 41A | 03559 | Guide Ring | 3 |
| 42 | 05825 | Rope Packing | 3 |
| 44 | 05827 | Support Ring | 3 |

Inlet Valve Kit - #09709

| Item | Part # | Description | Qty. |
|------|--------|----------------|------|
| 51 | 05837 | Valve Assembly | 3 |
| 56A | 05408 | O-Ring | 3 |

Discharge Valve Kit - #09710

| Item | Part # | Description | Qty. |
|------|--------|----------------|------|
| 52 | 05839 | Valve Assembly | 3 |
| 56A | 05408 | O-Ring | 3 |

Oil Seal Kit - #09584A

| Item | Part # | Description | Qty. |
|------|--------|-------------------|------|
| 32 | 05058 | Radial Shaft Seal | 3 |
| 32A | 03118 | Oil Scraper | 3 |
| 33A | 05056 | O-Ring | 3 |

GP8035(A) & GP8040(A) TORQUE SPECIFICATIONS

| Position | Item # | Thread | Description | Lubrication Info | Torque Amount |
|----------|-------------|----------|-----------------------------------|-------------------------------------|-----------------------|
| 12 | 07109 | 1/2" BSP | Plug, 1/2" BSP | | 59 ft.-lbs. (80 Nm) |
| 15 | 05112 | | Radial Shaft Seal | Loctite 403 | |
| 17 | 05038 | M12 | Hexagon Socket Screw | | 64 ft.-lbs. (87 Nm) |
| 24 | 05047 | M10 | Connecting Rod Assembly | | 37 ft.-lbs. (50 Nm) |
| 32 | 05058 | | Radial Shaft Seal | Loctite 403 | |
| 36 | 05743/05816 | | Plunger Pipe | | 33 ft.-lbs. (45 Nm) |
| 39 | 05832/05819 | | Seal Sleeve | Anti-Seize 350 Crankcase Outside | |
| 49 | 05834 | M20 | Stud Bolt | Loctite 648 Crankcase Side | |
| 49A | 05073 | M20 | Hexagon Nut | | 266 ft.-lbs. (360 Nm) |
| 53D | 03587 | M12 | Hexagon Socket Screw | | 64 ft.-lbs. (87 Nm) |
| 53F | 03589 | | Connection Nipple, 1" NPT | Anti-Seize 350 | |
| 53G | 03590 | | Plug, 1" BSP | Anti-Seize 350 | |
| 58 | 05753 | M16 | Hexagon Socket Screw | Anti-Seize 350 | 155 ft.-lbs. (210 Nm) |
| 59 | 07109 | 1/2" BSP | Plug, 1/2" BSP | | 59 ft.-lbs. (80 Nm) |
| 62B | 05754 | M8 | Hexagon Socket Screw | | 17 ft.-lbs. (22.5 Nm) |
| 62E | 06106 | M8 | Allen Grub Screw | Loctite 243 | 17 ft.-lbs. (22.5 Nm) |
| 63B | 05811 | M5 | Hexagon Socket Screw | | 53 in.-lbs. (6 Nm) |
| K4 | 05029 | M6 | Hexagon Head Countersunk Screw | | 133 in.-lbs. (15 Nm) |
| K5 | 07381 | M10 | Hexagon Socket Screw | | 33 ft.-lbs. (45 Nm) |
| K9 | 07109 | 1/2" BSP | Plug, 1/2" BSP | | 59 ft.-lbs. (80 Nm) |
| K18 | | M6 | Hexagon Socket Screw | | 133 in.-lbs. (15 Nm) |

Repair Instructions - GP8035(A) & GP8040(A) Pumps

To Check Valves

Loosen screws (58), lift discharge casing (50B) up and away. Take out pressure springs (57). Pull out assembled valves (51 and 52) with fitting tool (p/n 07662).

Dismantling valves: the spring tension cap (51A, 52A) is screwed together with the valve seat (51B or alternatively 52B). Screw off spring tension cap, take out springs (51E, 52E) and valve plate (51C, 52C). Check sealing surfaces and O-rings (51D/F, 52D/F, 56A).

Replace worn parts.

Coat threads of valve seat with silicon grease or molybdate anti-seize Cu-7439 when reassembling. Before re-fitting the valves, clean the sealing surfaces in the casing and check for any damage.

Tighten screws (58) at 155 ft.-lbs. (210 Nm); check torque tension after 8-10 operating hours.

To Check Seals and Plunger Pipe

Screw off hexagon nuts (49A) and hose coupling (K11 and K15), re-move pump head together with seal case (38) and intermediate casing (62) from crankcase (1). If necessary, carefully tap the valve casing (50) past the centring stud (50A) using a rubber hammer.

IMPORTANT! If necessary, support the pump head by resting it on wooden blocks or by using a pulley.

Take off flat leakage seal (62D) and check.

Screw off Plunger (36) from crosshead w. plunger (25) and take seal sleeve (39) together with all mounted parts out of the drive.

Pull plunger out of seal assembly and check for any damage. Clean centring and top-surface of crosshead w. plunger (25). Take out tension spring (45) Lever whole seal unit (41-44) carefully out off the seal sleeve with a screwdriver from the backside. Check plunger surface and seals. Check O-rings (39).

Renew damaged parts.

Check Leakage seal (40) and O-ring (40A) after removing off clip-ring (40C) and pressure ring (40B) and renew if necessary.

IMPORTANT! Be careful not to damage seal sleeve (39) pressure ring (41) and guide ring (41A). Check the inner diameter of the pressure ring and guide ring for wear and if necessary replace together with seals (42) and support ring (44). Clean all parts. New parts should be lightly coated with silicon grease before installation.

Insert the seal unit (41-45) in to the sleeve. Push the plunger (36) care-fully 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.

Take out the seal case (38) from the intermediate casing (62) and check O-rings (38A) (if necessary secure 2 screwdrivers in the front O-ring groove to extract seal casing from intermediate casing). Coat O-rings with silicon grease before installing.

IMPORTANT! Mounting surfaces of the crankcase, seal sleeves, in-termediate casing and 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 centring positions in the crankcase, intermedi-ate casing, pressure- and valve casing.

Coat the seal sleeve lightly with anti-corrosive grease (e.g. molybdate no. Cu-7439) in its fitted area towards the crankcase. Insert seal sleeves in to their crankcase fittings.

IMPORTANT! Watch the even milled surfaces on the seal sleeves. They must stand vertically on each other.

Turn the pump per hand until the plunger (25) rests against the plunger (36). Tighten plunger (36) with 33 ft.-lbs. (45 Nm).

Insert the seal tension spring (45) in to the seal sleeve (39).

Repair Instructions - GP8035(A) & GP8040(A) Pumps

Mounting Valve Casing:

Press seal cases (38) with the stepped OD dia. 65 carefully to its stop in the centring holes of the intermediate casing. Mount flat leakage seal (62D).

IMPORTANT! The flat leakage seal (62D) must be positioned with its $\varnothing 3$ bore onto the notched pin (62C) on the intermediate casing. The leakage return bores in the intermediate casing and in the seal sleeves must stay open by the cut-outs in the seal (62D).

Push valve casing (50) together with intermediate casing (62) carefully on to the centring studs (50A).

Tighten hexagon nuts evenly and crosswise at 266 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

Take out plungers and seal sleeves as described above.

Drain oil by removing plug (12).

After removing the clip ring (33B), lever out the seal retainer (33) with a screwdriver. Open hose adaptor (K11).

Screw off gear cover (K3) and remove the cooling vane plate (K1) by removing the screws (K4). Screw off 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 rods must be fitted in their exact original position on the crankshaft journals.

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 not to bend the connecting rod.

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.

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 .

Mount connecting rod halves in their exact original position and tighten at 37 ft.lbs. (50 Nm).

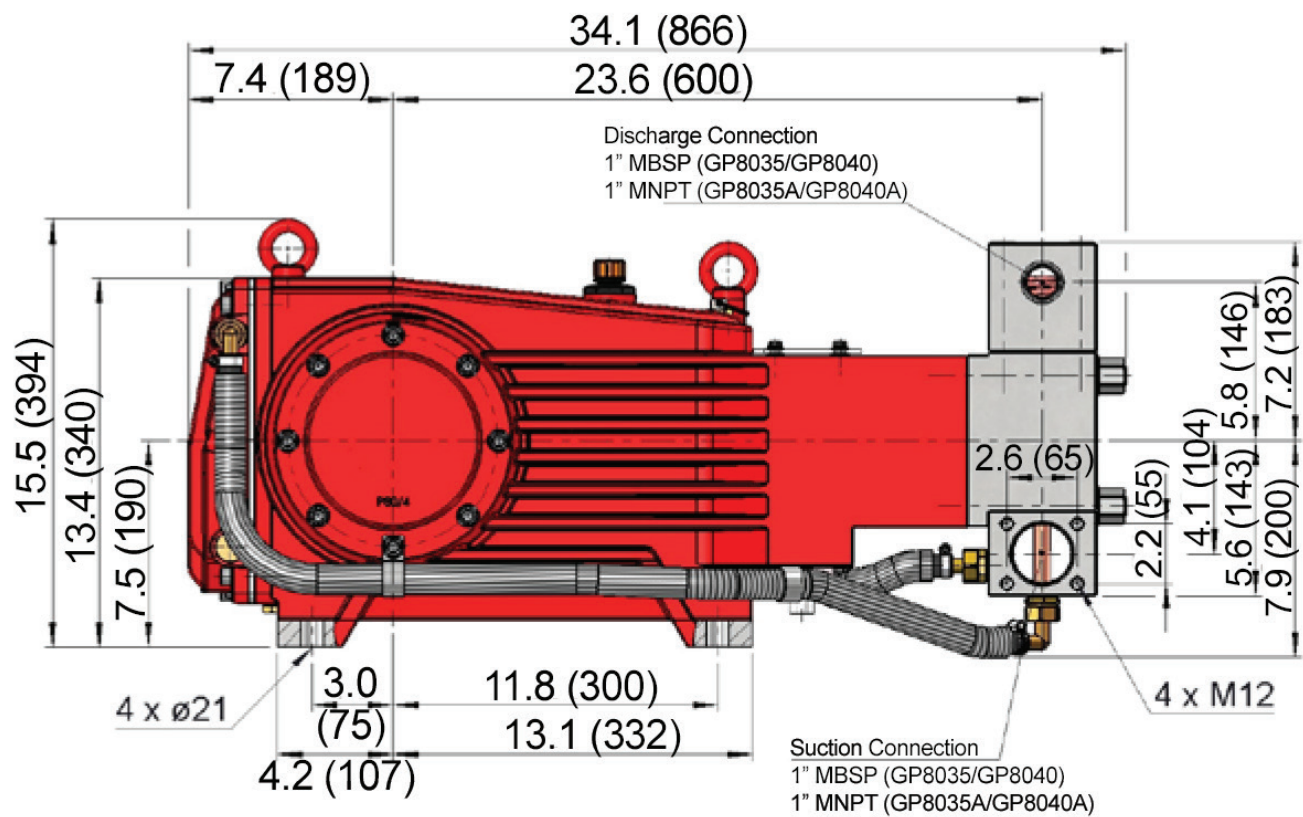
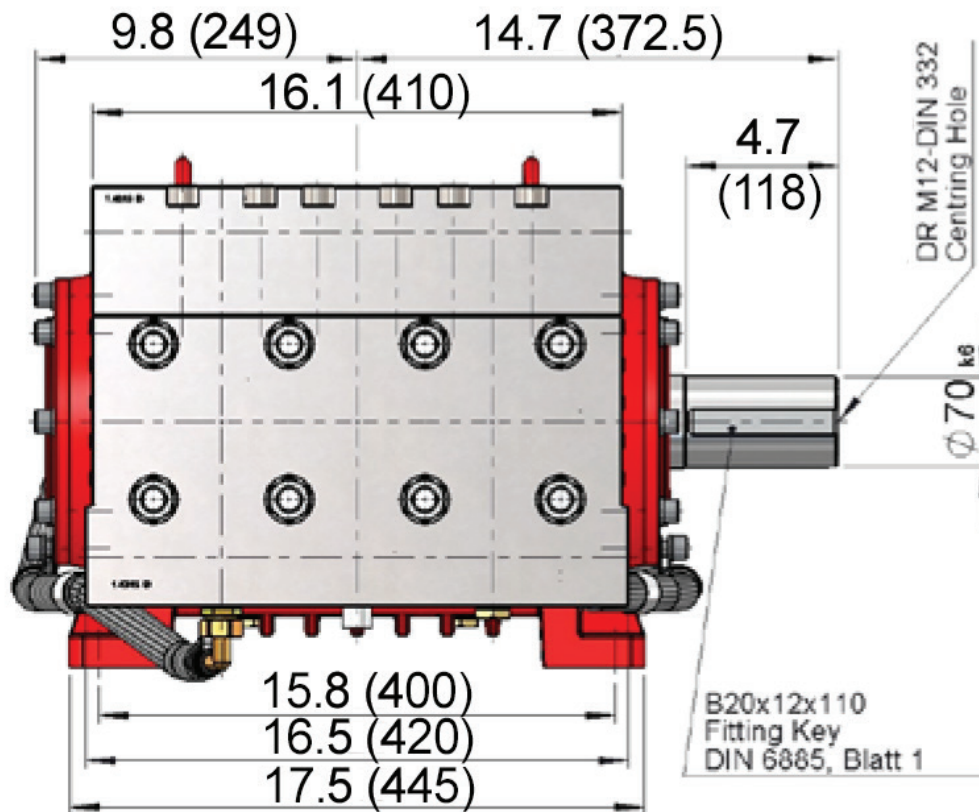
IMPORTANT! Connecting rods must be able to move slightly sideways on the stroke journals. Mount bearing cover (14A) and tighten screws (17) at 64 ft.-lbs. (87 Nm).

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 rods 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).

IMPORTANT! Possible axial float of the seal adaptor (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 the oil cooler connection (K7) is always joined to the upper connection (K3) of the gear cover.

Pump Dimensions - GP8035(A) & GP8040(A) Pumps - 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.

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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



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