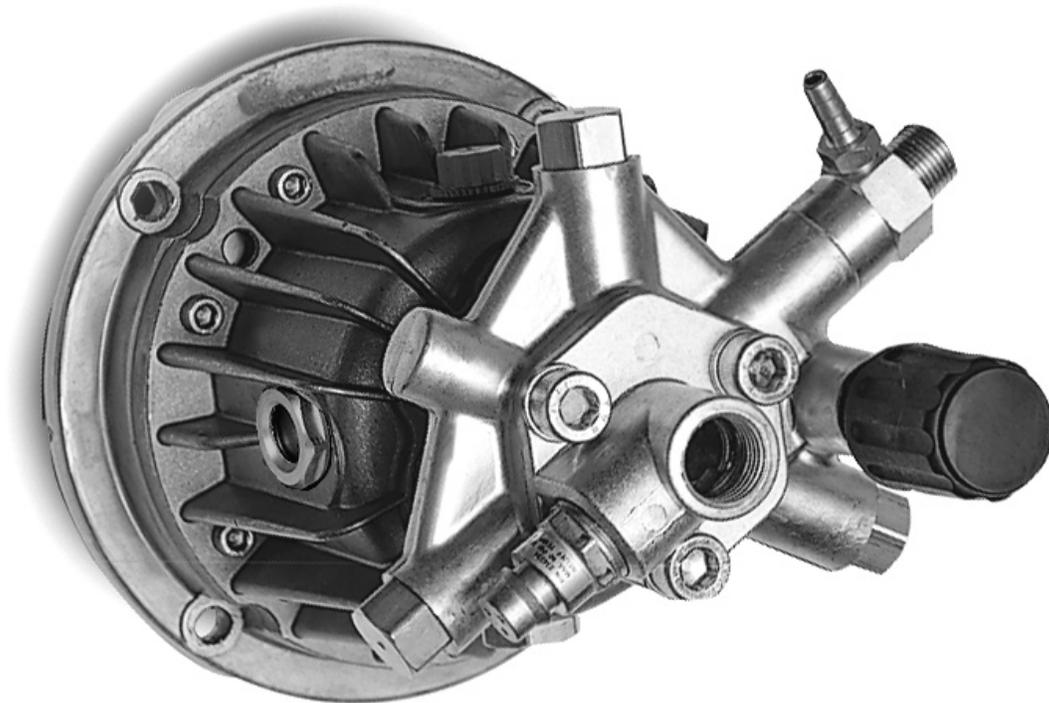


Models HR2020/HR2527A HR3025/HR3030 Pumps

Triplex Ceramic
Plunger Pump
Operating Instructions/
Repair and Service
Manual

Consumer Pumps



HR2527A shown

GIANT

MADE IN THE USA



Contents:

| | |
|-------------------------------|-------------|
| Installation Instructions: | page 2 |
| Pump Specifications: | pages 3-5 |
| Exploded View: | page 6 |
| Parts List: | page 7 |
| Kits/Torque Specs: | page 8 |
| Trouble Shooting Chart: | page 9 |
| Recommended Spare Parts List: | page 9 |
| Repair Instructions: | pages 10-11 |
| Dimensions/Warranty: | back page |

Updated 10/09

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. Maximum inlet fluid temperature is 80°F.
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.

6. Before beginning operation of your pumping system, remember: Check that the crankcase and seal areas have been properly lubricated per recommended schedules. Do not run the pump dry for extended periods of time. Cavitation will result in severe damage. Always remember to check that all plumbing valves are open and that pumped media can flow freely to the inlet of the pump.

Finally, remember that high pressure operation in a pump system has many advantages. But, if it is used carelessly and without regard to its potential hazard, it can cause serious injury.

IMPORTANT OPERATING CONDITIONS

Failure to comply with any of these conditions invalidates the warranty.

1. Prior to initial operation, Check for proper oil level. **DO NOT OVERFILL.**

**Use Giant Oil - P/N 01153
(20W-50 Synthetic)**

Crankcase oil should be changed after the first 50 hours of operation, then at regular intervals of 200 hours or less depending on operating conditions.

Since it is difficult to determine the oil level in the pump, check for signs of oil leakage around the pump before and during operation. The best areas to check are between the manifold and the crankcase and between the adapting plate and the engine / motor mounting surface. Lastly, you can see if there is any leakage around the vent cap (on the top of the pump).

If everything looks okay, continue to use the pump. At least once per year (or every 200 hours), remove the oil from the pump and replace with the required amount of oil. (See page 3)

2. Pump operation must not exceed rated pressure, volume, or RPM. A pressure relief device must be installed in the discharge of the system.
3. Acids, alkalines, or abrasive fluids cannot be pumped unless approval in writing is obtained before operation from Giant Industries, Inc.
4. Run the pump dry approximately 10 seconds to drain the water before exposure to freezing temperatures.

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

Specifications Model HR2020 Axial Pump

| | |
|-----------------------------------|----------------------------|
| Volume HR2020A | 1.8 GPM |
| Maximum Discharge Pressure..... | 2000 PSI |
| Maximum Inlet Pressure | Up to 90 PSIG ¹ |
| RPM..... | 3450 |
| Plunger Diameter..... | 16mm |
| Stroke | 3.5mm (4.8 ° angle) |
| Crankcase Oil Capacity | 4.5 fl. oz. |
| Temperature of Pumped Fluids..... | Up to 80 °F |
| Inlet Port | 1/2" NPT |
| Discharge Ports | 3/8" NPT |
| Shaft Rotation | Clockwise |
| Weight..... | 11.7 lbs. (5.3 kg) |
| Width..... | 6-9/16" |
| Height | 7-25/32" |
| Swash Plate Bore | 3/4" x 3/16" Keyway* |
| Valve Type | Polyamide Plastic |

¹ **A 25 PSIG minimum inlet pressure is required.**

*** For 5/8" bore, add 09134 kit.**

| HR 2020 ELECTRIC HORSEPOWER REQUIREMENTS | | | | | |
|--|-----|---------|---------|----------|----------|
| RPM | GPM | 250 PSI | 500 PSI | 1500 PSI | 2000 PSI |
| 3450 | 1.8 | 0.4 | 0.8 | 2.5 | 3.3 |

| HR 2020 GAS HORSEPOWER REQUIREMENTS | | | | | |
|-------------------------------------|-----|---------|---------|----------|----------|
| RPM | GPM | 250 PSI | 500 PSI | 1500 PSI | 2000 PSI |
| 3450 | 1.8 | 0.4 | 0.8 | 2.5 | 3.3 |

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:

$$\begin{aligned} \text{Electric HP} &= (\text{GPM} \times \text{PSI}) / 1450 \\ \text{Gas HP} &= (\text{GPM} \times \text{PSI}) / 1100 \end{aligned}$$

Specifications Model HR2527A Axial Pump

| | |
|-----------------------------------|----------------------------|
| Volume HR2527A | 2.5 GPM |
| Maximum Discharge Pressure..... | 2750 PSI |
| Maximum Inlet Pressure | Up to 90 PSIG ¹ |
| RPM..... | 3450 |
| Plunger Diameter..... | 16mm |
| Stroke | 5.3mm (7.1 ° angle) |
| Crankcase Oil Capacity | 4.5 fl. oz. |
| Temperature of Pumped Fluids..... | Up to 80 °F |
| Inlet Port | 1/2" NPT |
| Discharge Ports | 3/8" NPT |
| Shaft Rotation | Clockwise |
| Weight..... | 11.7 lbs. (5.3 kg) |
| Width..... | 6-9/16" |
| Height | 7-25/32" |
| Swash Plate Bore | 3/4" x 3/16" Keyway |
| Valve Type | Polyamide Plastic |

¹ **A 25 PSIG minimum inlet pressure is required.**

| HR2527A ELECTRIC HORSEPOWER REQUIREMENTS | | | | | |
|--|-----|----------|----------|----------|----------|
| RPM | GPM | 1000 PSI | 1500 PSI | 2000 PSI | 2750 PSI |
| 3450 | 2.5 | 1.7 | 2.6 | 3.4 | 4.7 |

| HR2527A GAS HORSEPOWER REQUIREMENTS | | | | | |
|-------------------------------------|-----|----------|----------|----------|----------|
| RPM | GPM | 1000 PSI | 1500 PSI | 2000 PSI | 2750 PSI |
| 3450 | 2.5 | 2.3 | 3.4 | 4.5 | 6.3 |

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:

Electric HP = (GPM X PSI) / 1450
 Gas HP = (GPM X PSI) / 1100

Specifications

Model HR3025/HR3030

Axial Pump

| | |
|--|----------------------------|
| Volume..... | 3.0 GPM |
| Maximum Discharge Pressure (HR3025)..... | 2500 PSI |
| Maximum Discharge Pressure (HR3030)..... | 3000 PSI |
| Maximum Inlet Pressure..... | Up to 90 PSIG ¹ |
| RPM..... | 3450 |
| Plunger Diameter..... | 16mm |
| Stroke..... | 5.9mm (8.0 ° angle) |
| Crankcase Oil Capacity..... | 4.5 fl. oz. |
| Temperature of Pumped Fluids..... | Up to 80 °F |
| Inlet Port..... | 1/2" NPT |
| Discharge Ports..... | 3/8" NPT |
| Shaft Rotation..... | Clockwise |
| Weight..... | 11.4 lbs. |
| Width..... | 6-7/16" |
| Height..... | 10-1/4" |
| Swash Plate Bore (HR3025)..... | 3/4"x3/16" Keyway |
| Swash Plate Bore (HR3030)..... | 1"x3/16" Keyway |
| Valve Type..... | Polyamide Plastic |

¹ **A 25 PSIG minimum inlet pressure is required.**

| HR 3025 ELECTRIC HORSEPOWER REQUIREMENTS | | | | | |
|--|-----|----------|----------|----------|----------|
| RPM | GPM | 1000 PSI | 1500 PSI | 2000 PSI | 2500 PSI |
| 3450 | 3.0 | 2.1 | 3.1 | 4.1 | 5.1 |

| HR 3025 GAS HORSEPOWER REQUIREMENTS | | | | | |
|-------------------------------------|-----|----------|----------|----------|----------|
| RPM | GPM | 1000 PSI | 1500 PSI | 2000 PSI | 2500 PSI |
| 3450 | 3.0 | 2.7 | 4.1 | 5.5 | 6.8 |

| HR 3030 ELECTRIC HORSEPOWER REQUIREMENTS | | | | | |
|--|-----|----------|----------|----------|----------|
| RPM | GPM | 1500 PSI | 2000 PSI | 2500 PSI | 3000 PSI |
| 3450 | 3.0 | 3.1 | 4.1 | 5.1 | 6.2 |

| HR 3030 GAS HORSEPOWER REQUIREMENTS | | | | | |
|-------------------------------------|-----|----------|----------|----------|----------|
| RPM | GPM | 1500 PSI | 2000 PSI | 2500 PSI | 3000 PSI |
| 3450 | 3.0 | 4.1 | 5.5 | 6.8 | 8.2 |

HORSEPOWER RATINGS:

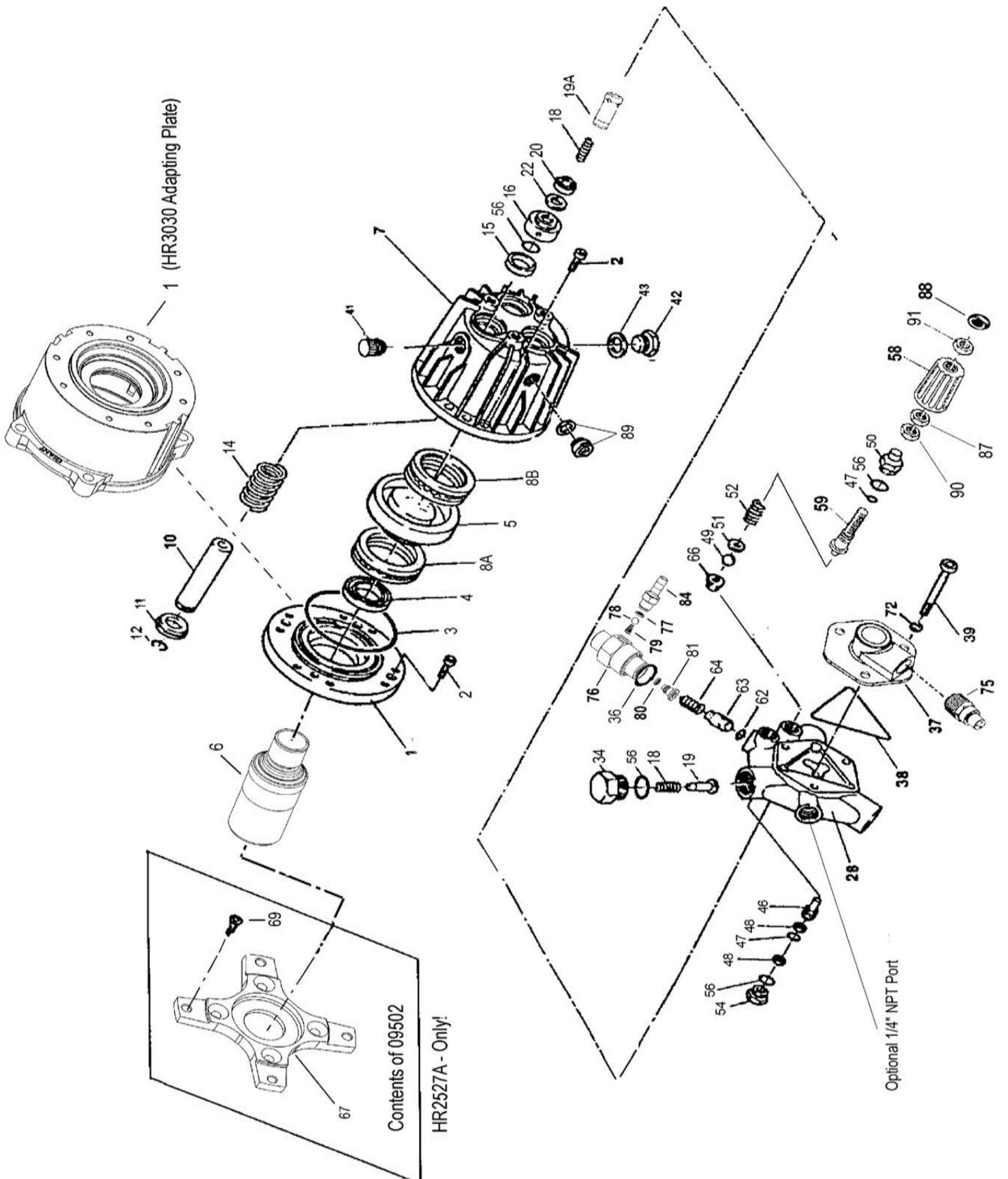
The rating shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

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:

$$\text{Electric HP} = (\text{GPM} \times \text{PSI}) / 1450$$

$$\text{Gas HP} = (\text{GPM} \times \text{PSI}) / 1100$$

HR2020/HR2527A/HR3025/HR3030 EXPLODED VIEW



HR2020/HR2527A/HR3025/HR3030 PARTS LIST

| ITEM | PART # | DESCRIPTION | QTY. | ITEM | PART # | DESCRIPTION | QTY. |
|------|---------------------|---|------|-----------------|--------------------|------------------------------------|------|
| 1* | 07874 | Adapting Plate (HR2020) | 1 | 43 | 08192 | Gasket | 1 |
| 1* | 06311 | Adapting Plate (HR2527A/HR3025) | 1 | 46 | 06423 | Piston | 1 |
| 1* | 06403 | Adapting Plate (HR3030) | 1 | 47 | 07937 | O-Ring | 2 |
| 2 | 07881A | Socket Head Cap Screw ¼" | 8 | 48 | 12031-0002 | Back-Up Ring | 2 |
| 3 | 07344 | O-Ring | 1 | 49 | 06227 | Ball, By Pass Valve | 1 |
| 4 | 07805 | Radial Shaft Seal | 1 | 50 | 06324 | Adjusting Plug | 1 |
| 5** | 07947 | 4.8° Wobble Plate (HR2020) | 1 | 51 | 07917A | Washer | 1 |
| 5** | 06419 | 7.1° Piece Wobble Plate (HR2527A) | 1 | 52 | 06608 | Adjusting Spring | 1 |
| 5** | 06402 | 8° Wobble Plate (HR3025/HR3030) | 1 | 54 | 06239 | Guide Plug | 1 |
| 6 | 06393 | Steel Shaft ¾" (HR2527A/HR3025) | 1 | 56 | 12007 | O-Ring | 8 |
| 6 | 06401 | Steel Shaft 1" (HR3030) | 1 | 58 | 07045 | Handwheel | 1 |
| 7 | 08089 | Crankcase | 1 | 59 | 06524 | Adjusting Screw | 1 |
| 8A* | 06264 | Rear Bearing , Complete (HR2020 only) | 1 | 62 | 12326 | O-Ring | 1 |
| 8A* | 06300 | Rear Bearing, Complete (except HR2020) | 1 | 63 | 12325 | Kick-Back Valve Cone | 1 |
| 8B** | 07930A | Front Bearing, Complete (HR2020 only) | 1 | 64 | 12328 | Kick-Back Valve Spring | 1 |
| 8B** | 06301 | Front Bearing, Complete (except HR2020) | 1 | 66 | 07935A | By Pass Valve Seat | 1 |
| 10 | 06319 | Plunger | 3 | 67+ | 06414 | Mounting Flange "X" Style (HR2527) | 1 |
| 11 | 06318 | Spring Disc Retainer | 3 | 69+ | 07467 | Bolt (HR2527) | 4 |
| 12 | 06291 | Clip Ring | 3 | 72 | 06224 | Washer | 3 |
| 14 | 07873 | Plunger Spring | 3 | 75 | 23422A | Thermal Valve | 1 |
| 15 | 06316 | Oil Seal | 3 | 76 | 06303 | Injector Retainer | 1 |
| 16 | 06317 | Spacer Ring | 3 | 77 | 12516-001 | O-Ring Viton | 1 |
| 18 | 07374 | Valve Spring | 6 | 78 | 23010-0100 | Ball, 7/32" Dia. ss | 1 |
| 19 | 06295 | Valve Cone (Discharge) | 3 | 79 | 23009 | Spring, Injector | 1 |
| 19A | 06267 | Valve Cone (Inlet) | 3 | 80 | 06312 | O-Ring | 1 |
| 20 | 06315 | V-Sleeve | 3 | 81 ^A | 06308 ^A | Orifice, 1.8mm | 1 |
| 22 | 06290 | Pressure Ring | 3 | 81 ^A | 06339 ^A | Orifice, 2.1mm | 1 |
| 28 | 06424 ⁺⁺ | Manifold | 1 | 81 ^A | 06340 ^A | Orifice, 2.3mm | 1 |
| 34 | 07379 | Manifold Plug | 3 | 84 | 12517 | Hose Barb | 1 |
| 36 | 07913 | O-Ring | 1 | 87 | 07044 | Locknut | 3 |
| 37 | 06313 | Suction Flange | 1 | 88 | 07046 | Cover | 1 |
| 38 | 07910A | O-Ring, Flange | 1 | 89 | 08250 | Sightglass w/gasket | 1 |
| 39 | 06320 | Stud Bolt | 3 | 90 | 07939 | Nut | 1 |
| 41 | 08083 | Oil Fill Cap | 1 | 91 | 07068 | Locknut w/Nylon Insert | 1 |
| 42 | 06273 | Oil Drain Plug | 1 | + | 09502 | Gasoline Flange Kit | |

A= See pump numbering system on page 8

* When ordering a 07847, please order 17001, which includes 7847, 07344, 07805, 06264 - HR2020

* When ordering a 06311, please order 17021 which includes 06311, 07344, 07805, 06300 - HR2527A/HR3025

* When ordering a 06403, please order 17038 which includes 06403, 07344, 07805, 06300 - HR3030

** When ordering a 07947 please order 17009, which includes 07947 and 07930A - HR2020

** When ordering a 06419, please order 17036, which includes 06419, 06393, & 06301 - HR2527A

** When ordering a 06402, please order 17051, which includes 06402, 06393 & 06301 - HR3025

⁺⁺ Available w/ 1/4" NPT gauge port (06424P)

HR2020/HR2527A/HR3025/HR3030 Repair Kits

Plunger Packing Kit # 09465

| <u>Item</u> | <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|-------------|---------------|--------------------|-------------|
| 22 | 06290 | Pressure Ring | 3 |
| 20 | 06315 | V-Sleeve | 3 |

Unloader Repair Kit # 09235

| <u>Item</u> | <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|-------------|---------------|-------------------------|-------------|
| 36 | 07913 | O-Ring | 1 |
| 47 | 07937 | O-Ring, Adjusting Screw | 2 |
| 48 | 12031-0002 | Teflon Back-Up Ring | 2 |
| 49 | 06227 | 8mm Ball | 1 |
| 56 | 12007 | O-Ring | 2 |
| 62 | 12326 | O-Ring | 1 |
| 66 | 07935A | By Pass Seat | 1 |

Valve Assembly Kit # 09466

| <u>Item</u> | <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|-------------|---------------|------------------------|-------------|
| 18 | 07374 | Valve Spring | 6 |
| 19A | 06267 | Guided P-Valve | 3 |
| 19 | 06295 | Discharge Valve Cone 3 | |

Oil Seal Kit # 09468

| <u>Item</u> | <u>Part #</u> | <u>Description</u> | <u>Qty.</u> |
|-------------|---------------|--------------------|-------------|
| 15 | 06316 | Plunger Oil Seal | 3 |

HR2020/HR2527A/HR3025/HR3030 SERIES TORQUE SPECIFICATIONS

| <u>Position</u> | <u>Item#</u> | <u>Description</u> | <u>Torque Amount</u> |
|-----------------|--------------|----------------------------|----------------------|
| 2 | 07881A | Socket Head Cap Screw 1/4" | 100 in-lbs. |
| 39 | 06320 | Stud Bolt | 360 in-lbs. |

GX and HR Pump Part Numbering System

| GX or HR Series | Flow | Pressure (in 100 psi increments) | | Injector Size | Thermal Relief Valve | Wobble Plate Shaft Bore |
|-----------------|--------|----------------------------------|---|---------------|----------------------|-------------------------|
| Vertical | 20=GPM | 25=2500 PSI | | 1=2.1 mm | 1=1/2" | 2=7/8" |
| Horizontal | 23=GPM | | | 2=1.8mm | | 1=3/4" |
| | 25=GPM | | | 3=2.3mm | | 3=1" |
| | | | | | | 4=5/8" |
| GX or HR | 2.5 | 25 | - | 1 | 1 | 1 |

For example, a GXV2525-112 is a GX pump that produces 2.5 GPM @ 2500 PSI, has a injector with a 2.1mm Orifice, 1/2" thermal relief valve and 7/8" wobble plate bore.

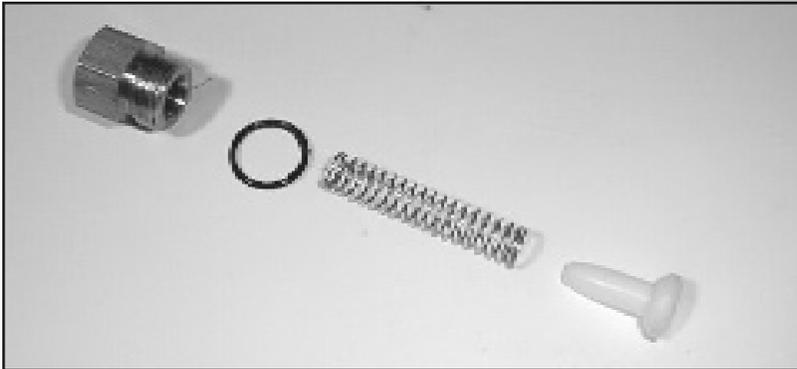
PUMP SYSTEM MALFUNCTION

| <u>MALFUNCTION</u> | <u>CAUSE</u> | <u>REMEDY</u> |
|--|---|--|
| The Pressure and/ or the Delivery Drops | Worn packing seals Broken valve spring Belt slippage Worn or Damaged nozzle Fouled discharge valve Fouled inlet strainer Worn or Damaged hose Worn or Plugged relief valve on pump Cavitation Unloader | Replace packing seals Replace spring Tighten or Replace belt Replace nozzle Clean valve assembly Clean strainer Repair/Replace hose Clean, Reset, and Replace worn parts Check suction lines on inlet of pump for restrictions Check for proper operation |
| Water in crankcase | High humidity Worn seals | Reduce oil change interval Replace seals |
| Noisy Operation | Worn bearings oil with Cavitation | Replace bearings, Refill crankcase recommended lubricant Check inlet lines for restrictions and/or proper sizing |
| Rough/Pulsating Operation with Pressure Drop | Worn packing Inlet restriction Accumulator pressure Unloader Cavitation | Replace packing Check system for stoppage, air leaks, correctly sized inlet plumbing to pump Recharge/Replace accumulator Check for proper operation Check inlet lines for restrictions and/or proper size |
| Pump Pressure Drop at gun Rated, Pressure | Restricted discharge plumbing | Re-size discharge plumbing to flow rate of pump |
| Excessive Leakage | Worn plungers Worn packing/seals Excessive vacuum Cracked plungers Inlet pressure too high | Replace plungers Adjust or Replace packing seals Reduce suction vacuum Replace plungers Reduce inlet pressure |
| High Crankcase Temperature | Wrong Grade of oil Improper amount of oil in crankcase | Giant oil is recommended Adjust oil level to proper amount |

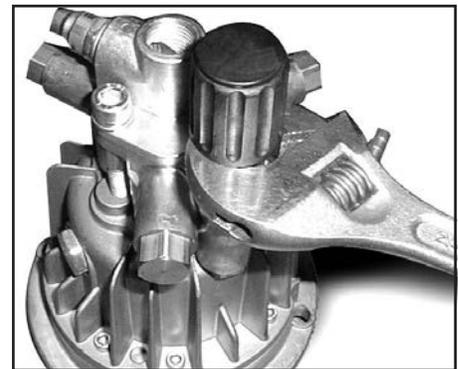
| Preventative Maintenance Check List & Recommended Spare Parts List | | | | | | |
|---|--------------|---------------|----------------|----------------------|-----------------------|-----------------------|
| Check | Daily | Weekly | 50 Hrs. | Every 500 hrs | Every 1500 hrs | Every 3000 hrs |
| Oil Level/Quality | X | | | | | |
| Oil Leaks | X | | | | | |
| Water Leaks | X | | | | | |
| Belts, Pulley | | X | | | | |
| Plumbing | | X | | | | |
| Recommended Spare Parts | | | | | | |
| Oil Change (1 quart) p/n 01153 | | | X | X | | |
| Plunger Packing Kit (1 kit/pump) See page 8 | | | | | | X |
| Oil Seal Kit (1 kit/pump) See page 8 | | | | | | X |
| Valve Spare Parts (1 kit/pump) See page 8 | | | | | | X |
| Unloader Repair Kit (1 kit/pump) | | | | | | X |

REPAIR INSTRUCTIONS - HR2020/HR2527A/HR3025/HR3030

NOTE: Always take time to lubricate all metal and nonmetal parts with a light film of oil before reassembly. This step will ensure proper fit, at the same time protecting the pump's nonmetal parts (elastomers) from cutting and scoring.



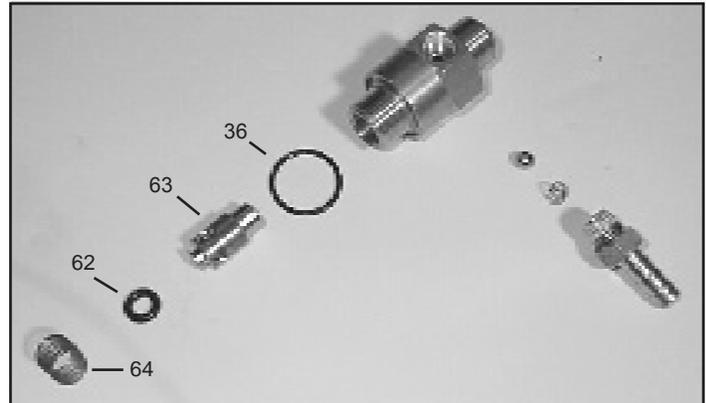
1. With a 19mm socket wrench, remove the three discharge valve plugs (34). Inspect the valve plug o-rings (56) for wear, and replace as necessary. Remove the valve spring (18) and valve cone (19) from the manifold (28). Inspect the parts for wear and replace as necessary.



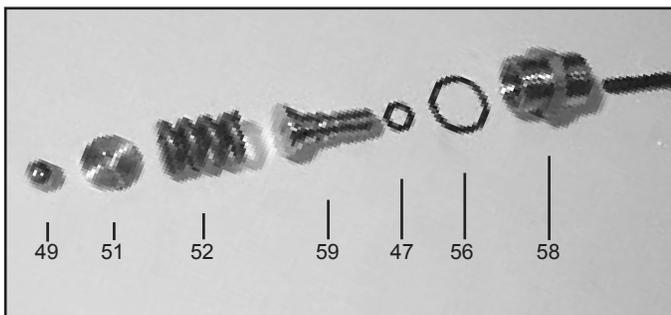
2. With a 19mm crescent wrench, remove the adjusting screw assembly (50, 56, 47, and 59). Unscrew the adjusting screw (59) from the adjusting screw plug (50).



3. With a crescent wrench, remove the injector retainer (76).



4. Inspect the o-ring (36) for wear and replace as necessary. Remove the kickback valve spring (64), kickback valve cone (63), and the o-ring (62) from the manifold (28). Inspect and clean the siphon injector and ball clean parts for wear and replace as necessary.



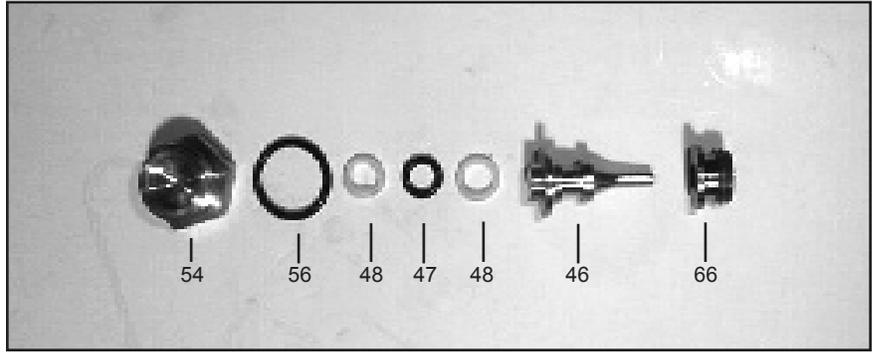
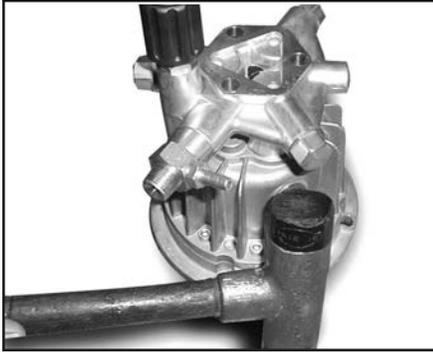
5. Inspect the o-rings (56 and 47) for wear and replace as necessary. Remove the adjusting spring (52), washer (51) and pass valve ball (49) from the manifold (28). Inspect the parts for wear and replace as necessary.



6. Next, remove the three manifold stud nuts (39) with a 17mm wrench. Remove the suction flange (37) and flange o-ring (38). Inspect the o-ring for wear and replace as necessary.

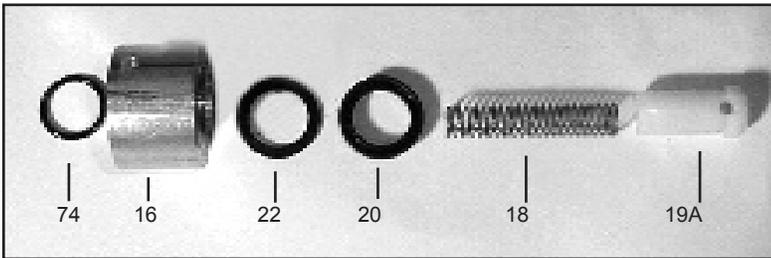
REPAIR INSTRUCTIONS - HR2020/HR2527A/HR3025/HR3030

NOTE: Always take time to lubricate all metal and nonmetal parts with a light film of oil before reassembly. This step will ensure proper fit, at the same time protecting the pump's nonmetal parts (elastomers) from cutting and scoring.

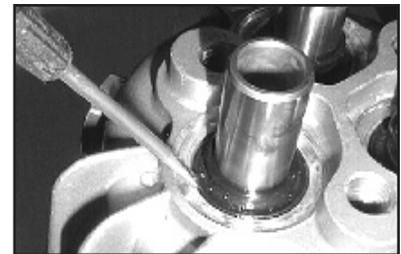


7. Tap the back of the manifold (28) with a rubber mallet to dislodge, and slide off the plungers (10). Take note of the position of the discharge port so as to place the port in the same position during reassembly.

8. With a 19mm socket wrench, remove the guide plug (54) and o-ring (56) from the manifold (28). Remove the piston (46), o-ring (47), and backup rings (48). Using a 7/32" Allen wrench, remove the bypass valve seat (66). Inspect the parts for wear and replace as necessary.



9. Remove the valve cones (19A), valve springs (18), v-sleeves (20) and pressure rings (22). Inspect for wear and replace as necessary. Remove the spacer ring (16) and flinger (56) from the plungers (10).

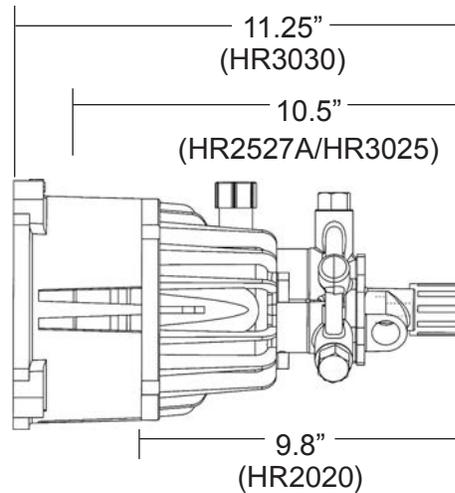
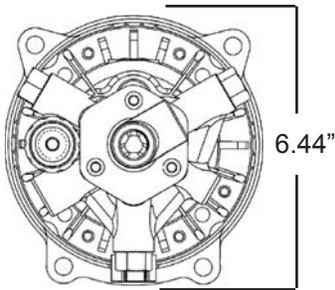


10. If the crankcase oil seals (15) are to be replaced, they can be removed by prying loose with a small screwdriver. Take care not to make contact with the plunger (10) and pry out the oil seals from their housing.

11. Reassemble in reverse order. Fill the crankcase until the proper amount of oil (see specifications page 3). The pump is now ready for operation.

Contact Giant Industries for service school information. Phone: (419) 531-4600

HR2020/HR2527A/HR3025/HR3030 SERIES DIMENSIONS



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 are guaranteed for the life of the pump. Our other pump parts, used in portable pressure washers and in car wash applications, are warranted for five years from the date of shipment for all pumps used in NON-SALINE, clean water applications.
2. One (1) year from the date of shipment for all other Giant industrial and consumer pumps.
3. Six (6) months from the date of shipment for all rebuilt pumps.
4. Ninety (90) days from the date of shipment for all Giant accessories.

This warranty is limited to repair or replacement of pumps and accessories of which the manufacturer's evaluation shows were defective at the time of shipment by the manufacturer. The following items are NOT covered or will void the warranty:

1. Defects caused by negligence or fault of the buyer or third party.
2. Normal wear and tear to standard wear parts.
3. Use of repair parts other than those manufactured or authorized by Giant.
4. Improper use of the product as a component part.
5. Changes or modifications made by the customer or third party.
6. The operation of pumps and or accessories exceeding the specifications set forth in the Operations Manuals provided by Giant Industries, Inc.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Giant Industries which are deemed to be defective due to workmanship or failure of material. A Returned Goods Authorization (R.G.A.) number and completed warranty evaluation form is required prior to the return to Giant Industries of all products under warranty consideration. Call (419)-531-4600 or fax (419)-531-6836 to obtain an R.G.A. number.

Repair or replacement of defective products as provided is the sole and exclusive remedy provided hereunder and the MANUFACTURER SHALL NOT BE LIABLE FOR FURTHER LOSS, DAMAGES, OR EXPENSES, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES DIRECTLY OR INDIRECTLY ARISING FROM THE SALE OR USE OF THIS PRODUCT.

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