A Gorman-Rupp Company

Owner's Manual

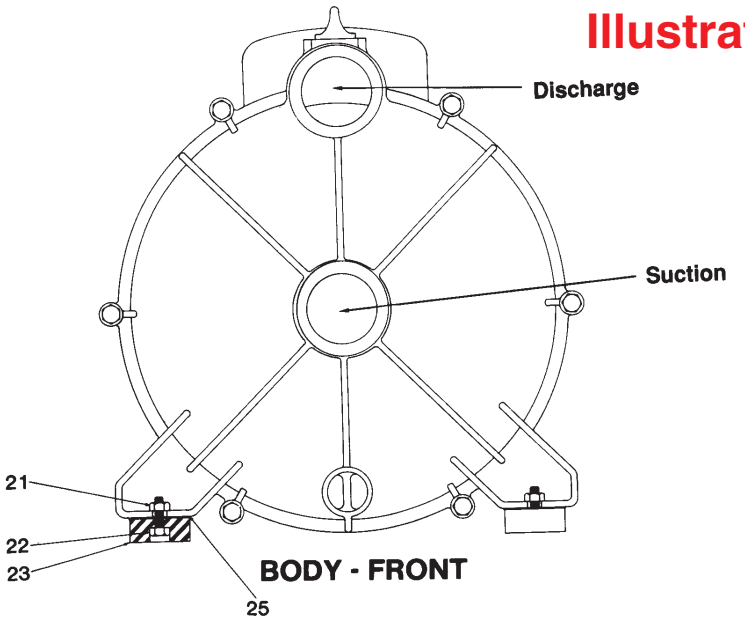
Model: 2P5

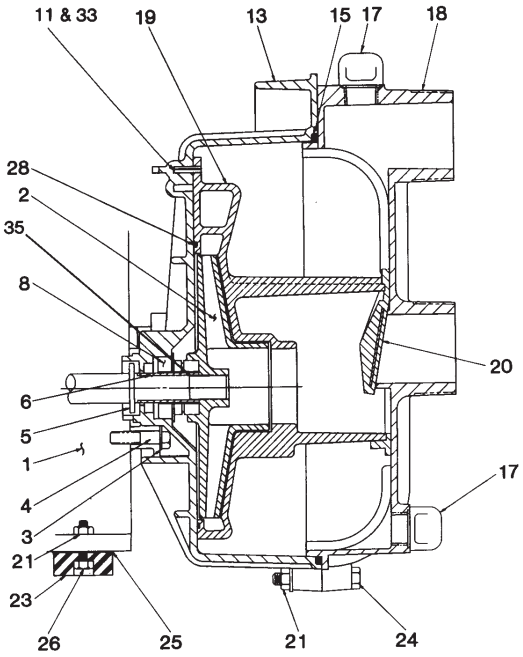
OPERATION AND MAINTENANCE OF SELF-PRIMING CENTRIFUGAL PUMPS HIGH PRESSURE

⚠ WARNING!

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Illustrations





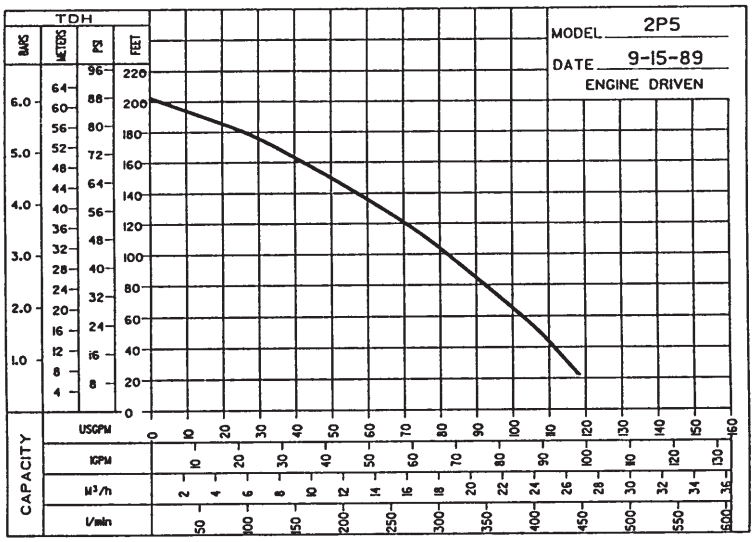
Parts List

REFERENCE NO.	PART NAME	QUANTITY	2P5
1 STD	ENGINE (5/8" THD SHAFT)	1	5HP
2 STD	IMPELLER-ALUMINUM	1	2- 124
2 ALT	IMPELLER-BRONZE	1	2- 124-B
3	SEALING WASHER (SET OF 4)	1	16- 233-1
4	BOLT 5/16-24 x 1.38 SST	4	19- 216
5	SLINGER	1	12- 117-B
6	SHAFT SLEEVE, SST	1	4- 110-A
8 STD	SHAFT SEAL, SIC-Viton®	1	3- 258-A
11	VOLUTE SCREW SST	2	20- 241
13 STD	BRACKET-ROTO FINISH	1	5- 128-1A
13 ALT	BRACKET-WHITE EPOXY	1	5- 128-2A
13 C.I. ALT	BRACKET-CAST IRON BLACK	1	5- 372-1A
15 STD	BODY O-RING, EPDM	1	12- 133
15 ALT	BODY O-RING, Viton®	1	12- 133-A
17 STD	PLUG & EPDM O-RING ASSY	2	11- 116-1
17 ALT	PLUG & Viton® O-RING ASSY	2	11- 116-1A
18 STD	BODY-ROTO FINISH	1	6- 129-1A
18 ALT	BODY-WHITE EPOXY	1	6- 129-2A
18 C.I. ALT	BODY-CAST IRON BLACK	1	6- 370-1A
19	VOLUTE-LARGE	1	1- 125-A
20 STD	CHECK VALVE-LARGE, EPDM	1	7- 136-1
20 ALT	CHECK VALVE-LARGE, Viton®	1	7- 136-1A
21	LOCKNUT 5/16	10	14- 167
22	BOLT 5/16 x 3/4	2	19- 232
23	RUBBER FEET	4	29- 237
24	BOLT 5/16 x 2	6	19- 226
25	FLAT WASHER 5/16 x 1-1/2	4	15- 138
26	BOLTS 5/16 x 1-1/2	2	19- 238
28 STD	O-RING EPDM	1	12- 175
28 ALT	O-RING Viton®	1	12- 175-A
33	ROLL PINS	2	21- 298
35	SHIM SET (SET OF 4)	1	22- 252-1
NOT SHOWN	STRAINER	1	44- 315
NOT SHOWN	SEAL & O-RING KIT EPDM STD	1	50- 005
NOT SHOWN	SEAL & O-RING KIT Viton® ALT	1	50- 005-A

Seal and O-Ring Repair Kit Contains;
Body-O-Ring, Sealing Washer Set, Volute-O-Ring, Plugs, Shaft Seal, Shaft Sleeve, Check Valve, Instruction Sheet, and Seal Installation Tool.

Viton is a registered trademark of DuPont Dow Elastomers.

When Ordering Repair Parts, Always Give the Following Information:
1. Identify pump model number.
2. Part name and number (not illustration number).
3. Quantity required.
4. Material specification if other than standard.



Troubles and Their Cures

If difficulties are experienced, in the majority of cases they can be traced to well-known causes. We suggest you check these points first to save needless expense.

If the Pump Fails to Prime:

A. Make sure that pump casing is full of cool liquid.

B. If difficulty continues, remove suction hose, start engine and hold a flat piece of rubber sheet, or other suitable material against the suction inlet. If the pump develops a strong pull against the material, the trouble is not in the pump. If there is no pull, the shaft seal may need replacing.

C. Examine suction hose or pipe connections. Air leaks in the suction line and connection to pump are the most frequent causes of priming trouble. Use new gaskets in hose coupling. New couplings sometimes require 2 gaskets. Lining of hose may also become loose and clog the hose.

D. Keep pump as close to the level of the liquid being pumped. It will give best performance on suction lifts less than 15 feet.

E. Be sure strainer is not clogged.

F. There are no parts or valves to become clogged or out of adjustment. The only requirement is that the pump case is full of liquid.

G. Keep your pump unit clean and properly serviced. Care in this respect will repay in many years of trouble-free operation.

Repair and Maintenance Instructions:

To disassemble pump follow these steps:

1. Remove body bolts (24) and nuts (21).

2. Remove body (18).

3. Remove the two stainless screws (11).

4. Follow these instructions for removing the impeller. Remove the impeller by rotating the impeller counter-clockwise. It may be necessary to strike the end of one of the impeller vanes with a wood block and hammer, or use a strap wrench, to start the counter-clockwise rotation.

5. If the mechanical shaft seal (8) needs replacing:
   a. With a screwdriver, pry the white seal ring and its rubber boot out of the back of the impeller.
   b. Remove the pump bracket (rear housing) (13) by removing the four bolts (4).
   c. To remove the seal assembly from the rear housing, drive it out from behind.

6. To replace the seal component in the rear housing, coat the bore in the housing where the seal goes with gasket material (Permatex or equivalent) and press the seal component into the housing by using an arbor press or drill press. Use a short piece of pipe that fits on the small flange of the seal case so that you are not pressing on the delicate, finely finished, carbon seal ring. Do not damage the seal face.

7. To replace the seal component in the impeller hub, lubricate the outside of the rubber boot with vegetable oil or soap and press the white ring and rubber boot into the hub using your two thumbs. Be certain that the seal ring is all the way down and even with the back of the impeller so that the ring does not wobble when the impeller rotates on the shaft. Do not damage the surface of the white ring.

8. Re-assemble the pump in the reverse manner from the dis-assembly. Use thread sealant on four bolts (4) that bolt bracket to engine.

WARNING!! DO NOT USE PUMP IN EXPLOSIVE ATMOSPHERE DO NOT PUMP VOLATILE OR FLAMMABLE LIQUIDS

Installation & Operating Instructions
Self-Priming Centrifugal Pump

Inspection — Look over the unit to see that no parts are missing or broken in shipment. An engine instruction book and pump instruction and parts list are supplied with each pump. Read instruction book carefully.

Placing Pump — Place the pump on a level, firm foundation, putting it as near as possible to the level of the liquid which is to be pumped, but never higher than 15 feet.

Connecting Hose — Connect the hoses or pipes to the suction and discharge fittings. If hose is used, be sure to use strongly reinforced hose on the suction side. Tighten hose couplings firmly, using the rubber gaskets furnished with the couplings. Hose or pipes should be supported independently and not carried by the pump.

Before Starting

1. A suction strainer should be attached to the suction hose or pipe. It is provided with holes or slots small enough to prevent big stones, etc. from damaging the impeller. Keep the strainer clean. If possible, suspend it to keep it from working into the sediment.
2. Fill the engine crankcase with oil as specified in the engine manual.
3. Fill the fuel tank with unleaded gasoline.
4. Fill the pump with liquid through the priming port on top of the pump case. Remember the pump is self-priming only when the pump is filled. It will prime and reprime itself without refilling. Refilling is necessary only if pump has been drained or if the fluid has been lost.

Priming Time — With a suction lift from 5 to 10 ft., the pump should discharge liquid in less than a minute. A suction life of 15 ft. (at sea level) should require not more than 2 minutes for initial prime. To further reduce priming time, the engine speed may be increased, after the engine is properly broken in. If pumping does not start within this time, shut off engine and check carefully to find the difficulty. (See TROUBLES AND THEIR CURES.)

Control — On high suction lifts, a higher engine speed is necessary than on low lifts. Therefore, on shallow lifts or when there is but little liquid to pump, save fuel and the engine by reducing the engine speed. (See engine manual.)

Discharge Valve — Valves on the discharge line should be opended slowly and closed slowly to avoid destructive water hammer (HYDRAULIC SHOCK).

Discharge Lines—Lines should be filled slowly until all air is out of the line to avoid water hammer on start up. It is important, if there are nozzles or other flow restricting devices on the discharge line, to fill the line slowly.

Check Valve — If discharge line runs vertically more than 30 ft., it is advisable to install a check valve in the discharge line near the pump to stop destructive liquid hammer when the pump is shut down. If this is done, it may be necessary to vent the top of the pump so that air can be expelled during automatic repriming. This air bleed may be accomplished by providing a ¼″ line from the top of the pump back to the liquid source. We will not assume any responsibility for damage to the pump if no check valve is used in the discharge line. Properly fueled and lubricated, your pump will run without attention.

Draining — During freezing weather, be sure to drain pump when it is not in use. Unscrew the drain plug and run engine about half a minute without pumping.

Storage — When pump is out of service for long periods, drain it and store in dry, well-ventillated room. Pull engine hard against compression so that valves will be sealed. (Never run pump dry for more than half a minute or the shaft seal may be damaged.)

Starting — Start the engine, following instructions in the engine manual.

Warning — Do not use pump in explosive atmosphere. Do not pump volatile or flammable liquids.

NOTES:

NOTES:

American Machine & Tool Co., Inc. of PA
(herein "AMT")
400 Spring Street
Royersford, PA 19468
Phone: (610) 948-3800
Fax: (610) 948-5300
www.amtpump.com

General Information

SALES POLICY: AMT products are sold through our established Distributors. We do not sell direct to the consumer or organization not entitled to trade recognition. Therefore, possession of our catalogs and/or price list(s) does not infer an offer to sell.

MINIMUM ORDER: We appreciate your order, however, all orders are subject to a minimum $35.00 net invoice charge (excluding freight). This applies to all pump and parts purchase orders.

PRICES: Prices are subject to change without notice. All orders accepted are subject to prices in effect at time of shipment.

PAYMENT TERMS: Terms, upon establishment of credit, are Net 30 days. Past due accounts may be subject to a service charge of 1.5% per month. Domestic or assignable letter of credit is required for all export trade.

PAST DUE ACCOUNTS: AMT reserves the right to withhold open account shipments on any past due account. Invoices are considered past due after thirty (30) days. In the interest of sound business, all orders are subject to approval of the Credit Department.

SHIPPING INSTRUCTIONS: All shipments will be made F.O.B. the factory. Where instructions for shipment do not appear on the order, the shipment will be made according to our best judgment. Full risk of loss (including transportation delays and losses) shall pass to the customer upon delivery of the products to the carrier at the F.O.B. point. When loss or delay occurs, primary responsibility for tracing rests with the customer. When there is LOSS or APPARENT VISIBLE DAMAGE to a shipment, when tendered for delivery, *DO NOT* give the carrier a clear receipt. Note such damage on the carrier's delivery receipt and *HAVE THE DRIVER SIGN THE RECEIPT.*

PRODUCT REVISIONS: AMT reserves the right to discontinue, change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such a change or improvement.

LEAD TIME: Products designated "Quick Ship Product", also referred to as "QSP" will normally be shipped within 24 hours of receipt of a non-cancellable purchase order. Only limited quantities of "QSP" pumps are available.

STANDARD LEAD TIME: Lead time is two weeks for all non "QSP" product. AMT reserves the right to revise lead times as required due to availability of materials and all other causes beyond our control.

VIP SHIPMENT: Select AMT and IPT branded pumps are available for next day shipment for non-QSP (Quick Ship Products) items and subjected to a specific model surcharge per unit noted in the respective price book. Requires calling for availability, confirmation and a non-cancellable purchase order or credit card payment prior to shipment. The expedited shipping charges are an additional cost added separately from the VIP charges per item. AMT reserves the right to revise lead times as required due to availability of materials and all other causes beyond our control. QSP quantities are limited as determined by AMT.

ALL purchase orders must be submitted via hard copy sent to AMT customer service department by fax, EDI or e-mail.

RETURN GOODS POLICY: Goods shall not be returned without a return goods authorization number (RGA) issued by AMT customer service. The RGA number must be listed on the packing list. Only current model and part numbers with a valid date code may be returned (within one year from date of purchase). **A 20% restocking and packaging charge will apply to all returns. All shipping charges must be pre-paid. No exceptions.**

ORDER CHANGES BY CUSTOMER: Orders in process may not be changed except with written consent and may be subject to special charges.

12 Month Limited Warranty

EXTENT AND DURATION OF LIMITED WARRANTY

Coverage: American Machine & Tool Company (herein "AMT") or IPT Pumps by Gorman-Rupp (herein "IPT") or Gorman-Rupp Industries Division of The Gorman-Rupp Company, Patterson, or the Gorman-Rupp Company (herein referred to as "G-R Unit") each individually warrants that its products and parts shall be free from defects in material ad workmanship for twelve (12) months from the date of purchase by the original end user when installation is made and maintenance is performed in accordance with G-R Unit's recommendations. Wear and tear resulting from use and items normally consumed in use are not covered.

EXCEPTIONS

(A) This Limited Warranty shall not apply to mechanical seals in AMT or IPT pumps and the following products and parts: engines, motors, trade accessories and all other products, components, parts and materials not manufactured by the G-R Units. These items may, however, be covered by the warranties of their respective manufacturers. (B) This warranty does not extend to or apply to any unit which has been repaired or altered at any place other than by a G-R Unit, or by persons not expressly approved by a G-R Unit to make repairs or alterations, nor to any unit the serial number, model number or identification of which has been removed, defaced or altered. (C) This warranty does not extend to any product manufactured by a G-R Unit, which has been subjected to mis-use, neglect, accident, improper installation, or use in violation of instructions furnished by a G-R Unit. (D) Pump Kits: This warranty does not extend to any product sold by a G-R Unit unassembled as a Pump Kit. Pump Kits are warranted against defects in material and workmanship for 60 days from the date of shipment from a G-R Unit. Any Pump Kit parts deemed defective by a G-R Unit will be replaced free of charge within 60 days of shipment. Pump Kits are not returnable for credit.

LIMITATIONS

THE G-R UNITS' SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THEIR PRODUCTS AND PARTS IS THIS LIMITED WARRANTY. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS AND/OR IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

EXCLUSIVE REMEDY AND DAMAGES

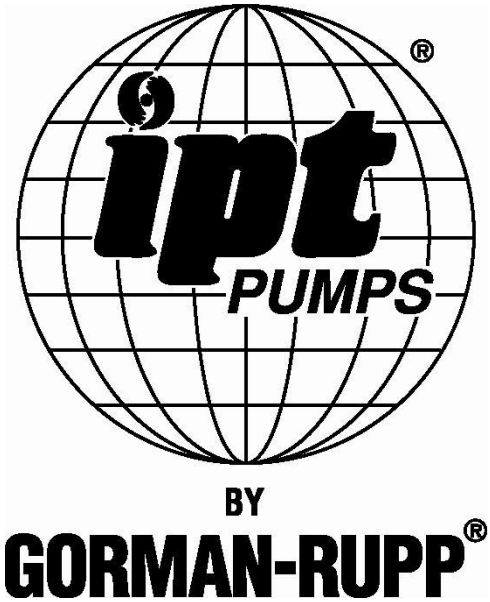
The sole and exclusive remedy for breach of this Warranty by a G-R Unit and the entire extent of its liability for such breach or for damages arising from the use of the products and parts covered under this Limited Warranty, shall be as follows:

1. **Repair or Replacement:** If inspection shows that any G-R Unit product or part covered under this Limited Warranty is defective in materials or workmanship, the G-R Unit shall repair or replace the defective or non-conforming product or part without charge, whichever the G-R Unit chooses. You must have properly maintained and used the product or part claimed to be defective in accordance with the maintenance schedule or manual, which comes with the product. No allowance will be made for labor, installation, removal, transportation or other charges incurred by you in connection with such repair or replacement.
2. To obtain the above remedy:
   - A. Immediately notify the G-R Unit upon discovery of the claimed defect in materials or workmanship and provide the serial number or date code of the product and/or part(s) or provide the G-R Unit with the invoice or bill of sale referencing the product by no later than the expiration date of the warranty period.
   - B. The G-R Unit will advise whether inspection will be necessary and how whether repair or replacement will be made. If inspection by the G-R Unit is necessary, the pump or defective part must be sent freight pre-paid to the G-R Unit. Return shipment will be F.O.B. the G-R Unit's plant.
   - C. **Return Goods Authorization Requirement:** No product will be accepted for return or replacement without the prior written authorization of the G-R Unit. Upon such authorization, and in accordance with instructions from the G-R Unit, the product will be returned to the G-R Unit, shipping charges prepaid by the Buyer.

3. **Damages:** The G-R Unit's liability for damages for breach of this Limited Warranty shall not exceed the amount of the purchase price of the product or part(s) in respect to which Such damages are claimed. **IN NO EVENT SHALL THE G-R UNITS BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES FOR BREACH OF THIS LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

A Gorman-Rupp Company



www.amtpump.com