

Please read and save this Repair Parts Manual. Read this manual and the General Operating Instructions carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. The Safety Instructions are contained in the General Operating Instructions. Failure to comply with the safety instructions accompanying this product could result in personal injury and/or property damage! Retain instructions for future reference. AMT reserves the right to discontinue any model or change specifications at any time without incurring any obligation.

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Periodic maintenance and inspection is required on all pumps to insure proper operation. Unit must be clear of debris and sediment. Inspect for leaks and loose bolts. Failure to do so voids warranty.

# 1-Inch Dewatering Pump



Refer to pump manual 1808-633-00 for General Operating and Safety Instructions.

## DESCRIPTION

These centrifugal pumps are engine driven, self-priming (to 15 ft. lift), portable units, shipped completely assembled and mounted. A clog-resistant, open impeller is used to handle clear or dirty liquids, but is not intended for the handling of large solids. A built-in check valve assists in priming and a mechanical seal prevents leakage. All seals are Buna N. Applications include sprinkling, spraying, irrigation, draining, or general dewatering. Handle liquids from 40° to 180° F (4° to 82° C). For use with nonflammable, non-abrasive liquids compatible with pump component materials.

## MAINTENANCE

### ⚠ CAUTION

*Pump model 4381-96 incorporates a 2-cycle engine as its driver. 2-cycle oil must be mixed with gasoline (24 parts gasoline to 1 part 2-cycle oil) to ensure performance and prevent severe engine damage. Refer to mixing instructions provided in the engine booklet and plates on the engine.*

### ⚠ WARNING

*To prevent accidental starting always remove spark plug or disconnect and ground spark plug wire before attempting to service or remove any component.*

## MECHANICAL SEAL REPLACEMENT

Refer to Figures 1 and 2

**IMPORTANT:** Always replace both seal seat and seal head (Ref. No. 4) to ensure proper mating of components!

1. Unscrew fasteners and remove pump casing (Ref. No. 8) and O-ring from adapter (Ref. No. 3).
2. Unthread fasteners and remove volute (Ref. No. 6) and flapper valve (Ref. No. 7) from adapter.
3. **A) 4381 ONLY:** Unscrew impeller from engine shaft. Remove impeller shim (Ref. No. 5) from engine shaft.  
**B) 4380 ONLY:** Remove impeller fastener (Ref. No. 5) by unscrewing in counterclockwise direction. Slide impeller and shims (Ref. No. 5) from keyed shaft.

**NOTE:** To keep shaft from turning, remove shroud from engine and hold flywheel in place. 4381-96 impeller is screwed on to the right (CW). To unscrew, turn impeller to the left (CCW) when facing impeller.

4. Unthread fasteners and remove adapter from engine mounting face.
5. Lay adapter face down on a flat, stable surface and press seal cartridge from adapter.
6. Pry seal seat from rear of impeller with a screwdriver or other suitable means. Clean recess in adapter for seal cartridge and recess in impeller for seal seat before inserting any new parts.
7. Inspect polished face (do not touch faces) of seal seat and polished face of seal head to ensure they are clean and not marred.
8. Press new seal head into recess in adapter. A sealing compound (such as silicon or Permatex) may be used to assure a water-tight fit on outside of seal head.
9. Wet rubber portion of seal seat with a light coating of soapy water.
10. Replace any impeller shims removed in disassembly (See Figure 1).

11. Press seal seat squarely into cavity in impeller. If seal seat does not press squarely into cavity, it can be adjusted in place by pushing on it with a piece of pipe, wooden dowel or the like. Always use a piece of cardboard between pipe and seal seat to avoid scratching polished face of seal seat. This is a lapped surface and must be handled very carefully.
12. Secure adapter on engine mounting face.
13. Install impeller back in place (CW), tightening until it is against shaft.
14. Remount volute, positioning O-ring in place.  
**IMPORTANT:** Always inspect O-ring. Replace when cracked or worn. Wet O-ring and flapper valve with oil or Vaseline for ease of assembly.
15. Remount casing.

## SHIM ADJUSTMENT

1. When installing a replacement engine, adapter, impeller, shaft sleeve, volute or casing, it may be necessary to vary the number of impeller shims (Ref. No. 5) that will be required. This is easily done by adding one shim more than was removed and reassembling the pump as described in MECHANICAL SEAL REPLACEMENT section.  
**NOTE:** When adding or removing shims, it is best to proceed with a 0.010" increment each time. Remove spark plug wire from engine and ground. While tightening unit together turn shaft (by pulling on recoil starter), etc.; feel for shaft seizing. If shaft begins to seize before fasteners are completely tight, disassemble pump and remove one shim and repeat assembly.
2. Once having added one shim more than original, ensure that volute (Ref. No. 6) and adapter (Ref. No. 3) are firmly fitted (check fasteners). When engine turns freely, add shims until it does strike, then remove a 0.010" shim. This should allow proper clearance.
3. Proper running clearance for impeller should be as close as possible to volute without striking; maximum clearance is 1/32" (0.032").
4. Follow above procedure until proper clearance is obtained. This will ensure maximum performance.

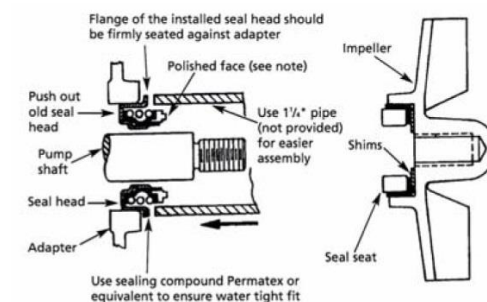


Figure 1 - Mechanical Seal Replacement

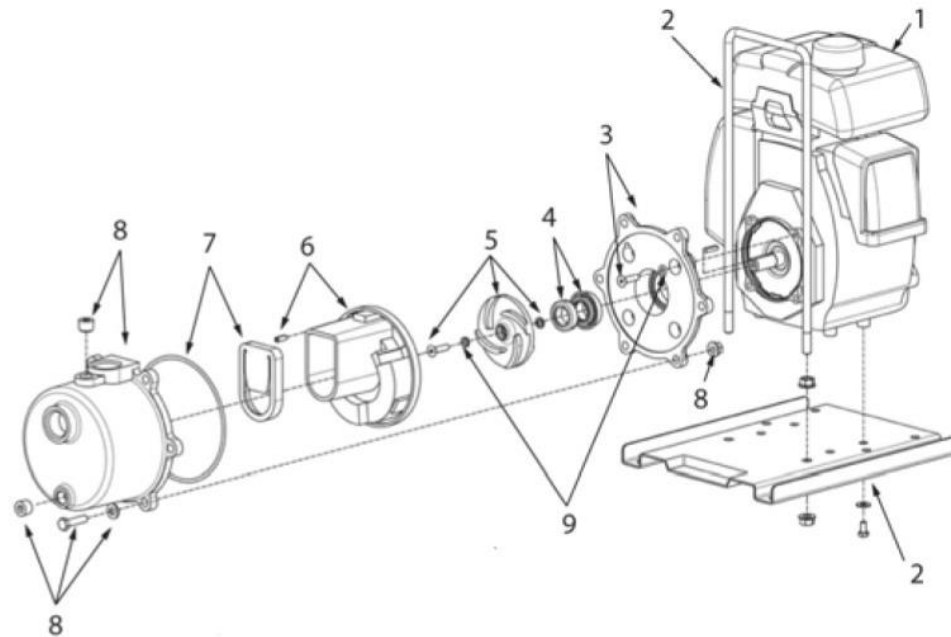
## ***For Repair Parts contact dealer where pump was purchased.***

Please provide following information:

-Model Number

-Serial Number (if any)

Part description and number as shown in parts list



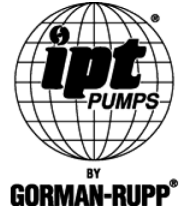
**Figure 2 – Repair Parts Illustration**

### **Repair Parts List**

Ref. No.	Description	Part Numbers for Models		Qty.
		4381-96	4382-96	
1	Engine	Disc' d	1639-044-00	1
2	Base	4380-102-00	4382-100-90	1
3	Adapter Kit	4380-030-96	4382-030-96	1
4	Seal Assembly – Buna	Incl. w/Ref KIT	Incl. w/Ref KIT	1
5	Impeller Kit	4380-010-96	4382-010-96	1
6	Volute	4380-150-96	4382-150-96	1
7	Flapper/O-Ring Kit	Incl. w/Ref KIT	Incl. w/Ref KIT	1
8	Casing Kit	4380-001-96	4382-001-96	1
KIT	Seal, Gasket, & O-Ring Kit	1009-999-B0	1009-999-B0	1
△	Garden Hose Adapter Pack	1696-073-00	1696-073-00	1
△	8 oz. 2-Cycle Oil (24:1 mix)	4381-170-00	N/A	1
(△)	Not Shown			



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## 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 and 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

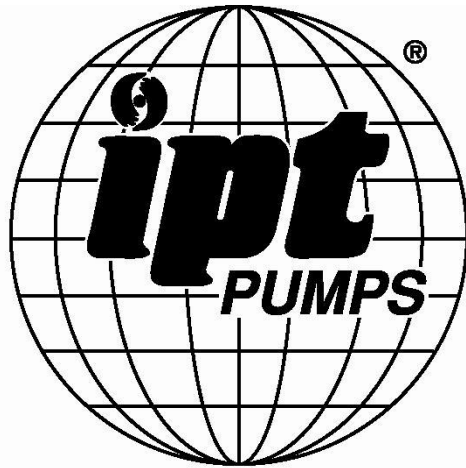
The sole and exclusive remedy for breach of this Warranty by a G-R Unit and the entire extent of its liability for such breach or for damages arising from the use of the products and parts covered under this Limited Warranty, shall be as follows:

- 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.
- To obtain the above remedy:
  - 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.
  - 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.
  - 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.
- 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.



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