

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.

©2012 American Machine & Tool Co., Inc. of PA, A Subsidiary of The Gorman-Rupp Company, All Rights Reserved.

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.

# 3-Inch Solids-Handling Pedestal Pump



Refer to pump manual 1808-635-00 for General Operating and Safety Instructions.

## DESCRIPTION

These high capacity, heavy-duty self-priming (to 20 ft. lift) pumps, are designed for direct coupling drive or pulley drive. Each pump is equipped with a clog-resistant cast iron impeller capable of handling solids up to 3/4" diameter. Pump is designed for operations involving irrigation and dewatering of excavations, basements, etc. Handles liquids from 40° to 180° F (4° to 82° C). For use with nonflammable, non-abrasive liquids compatible with pump component materials.

## SPECIFICATIONS

Suction Inlet.....	3" NPT
Discharge Outlet.....	3" NPT
Shaft Diameter.....	1 1/8"
Keyway.....	1/4 x 1/8 x 2 1/4"
Dimensions	
(Overall).....	L 20 1/2" x W 10 1/2" x H 13"
Weight.....	60 lbs.
Seals.....	3391-99 – Buna-N with carbon/ceramic faces
.....	3391-V9 – Viton with carbon/ceramic faces

## MAINTENANCE

### ▲ WARNING

*Make certain that unit is disconnected from power source before attempting to service or remove any components! If power disconnect is out-of-sight, lock it in open position and tag to prevent application power.*

## MECHANICAL SEAL REPLACEMENT

Refer to Figures 1 and 2

**IMPORTANT:** Always replace seal seat (Ref. No. 7), seal head (Ref. No. 6), and shaft sleeve (Ref. No. 5) to insure proper mating of mechanical seal components!

1. Remove pump casing (Ref. No. 2), casing seal (Ref. No. 8) and impeller (Ref. No. 3)

**NOTE:** Mechanical shaft seal consists of 2 faces, one stationary (seat) and other rotating (head). When removing seal refer to Figure 2, and carefully note position of seal faces and how they fit one to the other. Seat is installed in adapter (Ref. No. 9) and head (located around shaft) rides up against seat. The purpose of rubber components is to seal parts to housings and shaft and/or shaft sleeve. The purpose of stainless steel spring is to maintain pressure of carbon face to ceramic face.

## Performance Chart

Pump Speed RPM	Elec. Motor*		Sheave			GPM at Total Head in Feet										Max Head
	HP	RPM	Motor PD	Pump PD	No. of Grooves	10'	20'	30'	40'	50'	60'	70'	80'	90'		
1725	1 1/2	1800	3.0"	3.0"	1	6,600	3,120	-	-	-	-	-	-	-	-	23 ft.
	1 1/2	3600	2.5"	5.0"	1											
2800	5	1800	5.5"	3.5"	2	13,500	12,000	10,140	8,160	5,280	840	-	-	-	-	61 ft.
	5 1/2	3600	3.5"	4.5"	2											
3450	7 1/2	1800	7.0"	3.5"	2	17,100	15,900	14,700	13,200	11,460	9,900	7,800	5,100	1,500	-	92 ft.
	7 1/2	3600	3.5"	3.5"	2											

Note: RPM listed are synchronous, actual RPM is very close to 3450 for 3600 and 1725 for 1800.

(\*) Minimum electric motor HP required.

# 3-Inch Solids-Handling Pedestal Pump

## MAINTENANCE (Continued)

2. Remove shaft sleeve with sea head on it. Separate seal head from sleeve.
3. Remove adapter from bearing housing (Ref. No. 12), then using two screwdrivers or other suitable tools, remove seal seat from adapter.
4. Thoroughly clean all surfaces of seal seat cavity.
5. Using a clean cloth, wipe shaft and shaft sleeve and make certain that they are perfectly clean.

**NOTE:** Do not touch or wipe polished face of seal head.

6. Wet rubber portion of new seal seat with light coating of soapy water. Press seal seat squarely into adapter recess. Avoid scratching polished surface.

**NOTE:** Handle all seal parts with extreme care and attention to keeping them clean. Do not touch polished faces with your hands. Do not put lubricants of any kind on seal faces; this can cause seal to leak.

7. Inspect polished face of seal seat and polished face of seal head to insure they are clean and not marred.
8. Wet inside rubber portion of new seal head with a light coating of soapy water. Slide head onto shaft sleeve.

**IMPORTANT:** Before installing new shaft sleeve, apply a bead of non-hardening, pliable sealant (such as Permatex® Form-A-Gasket® No. 2) to motor shaft shoulder.

**NOTE:** Reinstall any shims or spacers, which may have been removed, onto pedestal shaft before installing impeller.

9. Screw impeller back in place, tightening until it is against shaft shoulder.
10. Replace adapter, gasket and casing and fasten with eight cap screws.
11. After assembly, turn shaft by hand slowly to check for striking of impeller on casing. If striking or rubbing occurs, adjust impeller shims (see Shim Adjustment) as required.
12. A short "run-in" period may be necessary to provide completely leak free seal operation.

## IMPELLER REPLACEMENT

Impeller (Ref. No. 3) is subject to wear only by abrasive action of sandy or dirty fluid. If badly worn, all these parts can be replaced easily, and pump thus restored to like-new operation.

**NOTE:** When clearance between impeller exceeds 1/16" at face of impeller or 1/8" on outside diameter of impeller, it may be necessary to take corrective action. The increased clearance can cause lengthened priming times and reduced pumping capacity. If both priming and capacity of your unit are satisfactory for your application, it is recommended that no corrective maintenance be performed regardless of what clearances on your unit may be developed, since the increased clearances in themselves are not generally harmful to your pump. Normally, new pump clearances can be restored by simply shimming behind impeller. (Add shim washers Ref. No. 4)

If diameter of impeller is badly worn or is shim washers do not restore clearances to less than 1/16" face dimension required, it is recommended that impeller be replaced.

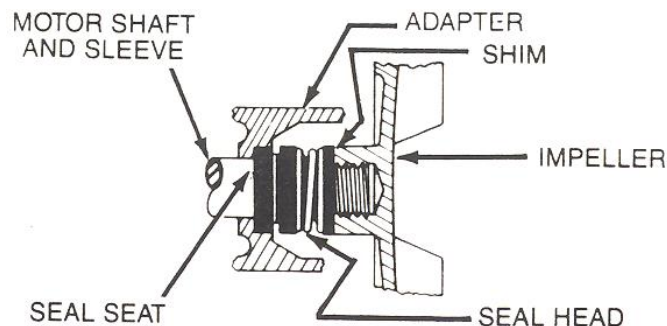


Figure 1- Mechanical Seal Replacement

## BEARING HOUSING SERVICE

1. Remove front pump assembly as described under "Mechanical Seal Replacement."
2. Remove shaft bearing (Ref. No. 15) and shaft (Ref. No. 16) as an assembly by first removing snap ring (Ref. No. 18). Push shaft bearing assembly out of bearing housing (Ref. No. 12) by rapping on threaded end of shaft with a rawhide mallet, or block of wood and hammer.
3. Ball bearings can now be removed from shaft.
4. If shaft bearings have been removed from shaft, replace by sliding bearing on shaft to shoulder. Replace shaft bearing assembly by sliding assembly into housing threaded end first. Push shaft bearing assembly completely in by gently tapping on keyway end of shaft with a rawhide mallet. Replace snap ring.
5. Reassemble pump as described in "Mechanical Seal Replacement."

## SHIM ADJUSTMENT

1. When installing a replacement impeller (Ref. No. 3) it may be necessary to vary number of shims (Ref. No. 4) that will be required. This is done by adding one shim more than was removed and reassembling pump as described.
2. Insure that casing is snugly in place and check shaft to make sure it is turning freely. If it turns freely, check to insure that adapter (Ref. No. 9) and casing (Ref. No. 2) are fitted metal to metal where they meet on outside. If they are not metal to metal, tighten cap screw (Ref. No. 10) and recheck shaft for free turning. Tighten carefully, turning shaft while tightening. If shaft seizes before cap screw are completely tight, disassemble pump and remove one shim and repeat reassembly.
3. If at any time during above operation shaft does not turn free or a metal to metal strike can be heard or felt when turning shaft, follow procedure indicated above and repeat procedure.
4. Above procedure insures that pump will have proper running clearance between impeller and casing and perform like a new unit.

## 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

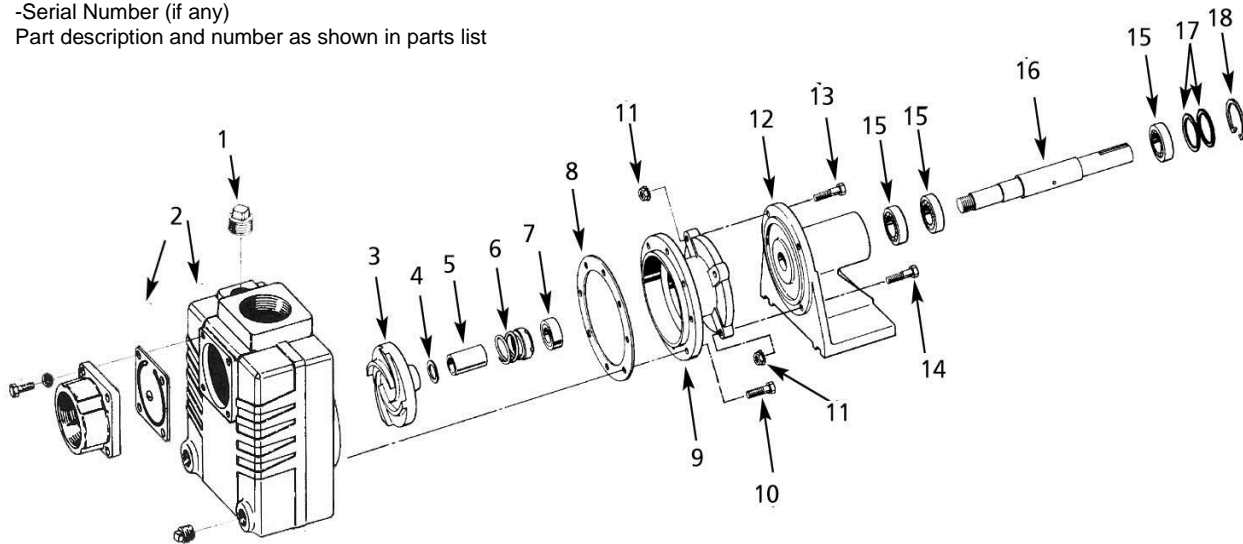


Figure 2 – Repair Parts Illustration

## Repair Parts List

Ref. No.	Description	Part Number for Models:		Qty.
		3391-99	3391-V9	
1	3/4" NPT Drain Plug	*(Incl. w/ Ref. 2)	*(Incl. w/ Ref. 2)	3
2	Casing Kit with Buna Flapper	2870-003-95	N/A	1
	Casing Kit with Viton Flapper	N/A	3270-002-95	1
3	Impeller Kit (includes Ref. Nos. 3 & 4)	2870-010-95	2870-010-95	1
4	Impeller Shim Package	1656-000-90	1656-000-90	1
5	Shaft Sleeve (See Ref. No. 9)	1555-140-03	1555-140-03	1
6 & 7	Seal Assembly - Buna-N	1640-163-90	N/A	1
	Seal Assembly - Viton	N/A	1640-163-91	1
8	Gasket	1546-000-00	1546-000-00	1
9	Adaptor Kit	3391-030-95	3391-030-95	1
10	5/16" - 18 UNC x 3/4" Washer Base Hex Head Cap Screw	*(Incl. w/ Ref. 2)	*(Incl. w/ Ref. 2)	8
11	3/8" - 16 Washer Base Hex Nut	*(Incl. w/ Ref. 9)	*(Incl. w/ Ref. 9)	4
12	Bearing Housing	1695-054-01	1695-054-01	1
13	3/8" - 16 UNC x 1 3/4" Hex Head Cap Screw	*(Incl. w/ Ref. 9)	*(Incl. w/ Ref. 9)	2
14	3/8" - 16 UNC x 2" Hex Head Cap Screw	*(Incl. w/ Ref. 9)	*(Incl. w/ Ref. 9)	2
15	Ball Bearing	1695-056-00	1695-056-00	3
16	Shaft Assembly	1695-060-00	1695-060-00	1
17	Bearing Shim Package (includes: (1) 0.005", (1) 0.010", (1) 0.20")	1695-020-90	1695-020-90	1
18	Snap Ring	1695-057-00	1695-057-00	1
↔	Shaft Key	1695-039-00	1695-039-00	1
(*)	Standard Hardware Item, Available Locally			
(↔)	Not Shown.			