

**ap**  
AURORA PUMP

A member of PENTAIR PUMP GROUP

# INSTRUCTION MANUAL

## REPAIR

### MODELS 382

# 6

#### SERVICE

Your Aurora pump requires no maintenance other than periodic inspection and occasional cleaning. The intent of inspection is to prevent breakdown, thus obtaining optimum service life. The pump is lubricated by the liquid being pumped and therefore does not require periodic lubrication. The motor, however may require lubrication, in which case, the motor manufacturer's recommendation should be followed.

#### REPAIRS

The pump may be disassembled using the illustrations and text provided. Although complete disassembly is covered, it will seldom be necessary to completely disassemble your Aurora pump.

The illustrations accompanying the disassembly instructions show the pump at various stages of disassembly. The illustrations are intended to aid in the correct identification of the parts mentioned in the text.

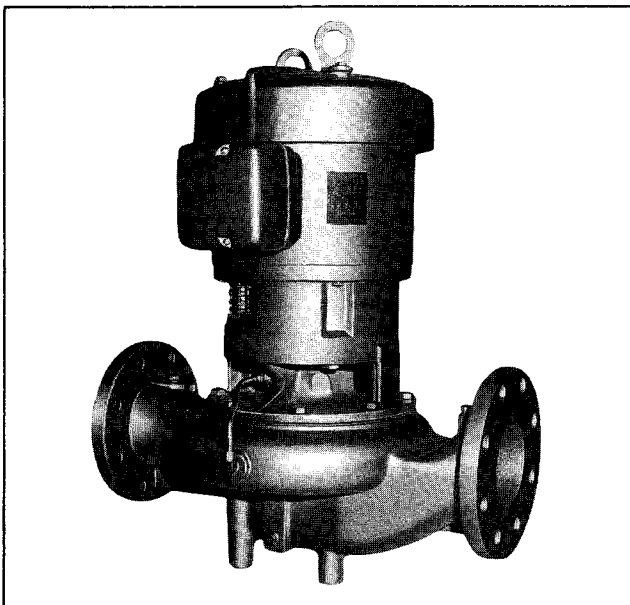
Inspect removed parts at disassembly to determine their reusability. Cracked castings should never be reused. Gaskets should be replaced at reassembly simply as a matter of economy; they are much less expensive to replace routinely than to replace as the

need occurs. In general it is economical to return to the manufacturer for repair only the motor and motor controller.

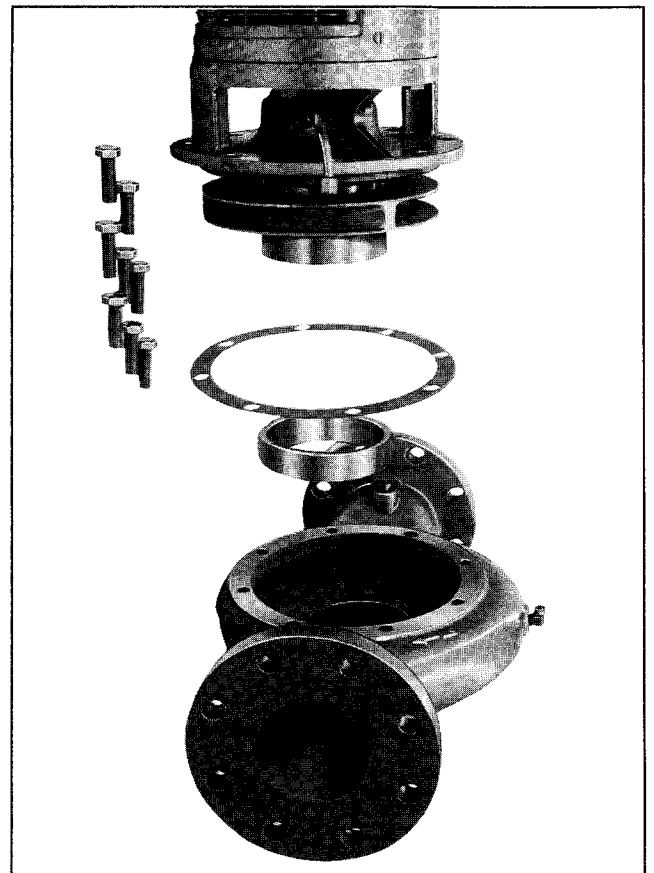
#### DISASSEMBLY

Disassemble only what is needed to make repairs or to accomplish inspection. Proceed to disassemble the pump as follows: (See Figure 2).

1. Break electrical connections to prevent any possibility of pump starting during disassembly.
2. Remove plugs (4) from casing (6) to drain pump.
3. Remove all relief, cooling, flushing, or drain lines from the pump, including compression connections (1 and 2) and tubing (3). Break suction and discharge connections only if it is desired to remove casing (6).



A. Assembled unit.



B. Casing, gasket and wearing ring removed.

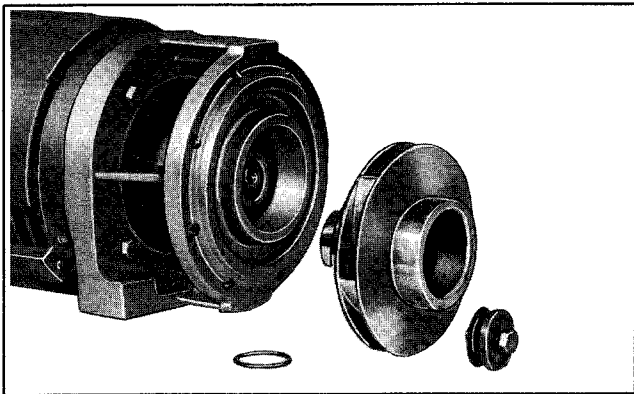
4. Remove capscrews (5) and lift pump assembly from casing (6). Remove gasket (8).

5. Unscrew impeller screw (9) and remove washer (9A) taking care not to damage gasket (9B).

6. Slide impeller (11) and impeller key (12) from shaft, again taking care not to damage gasket (10) located behind the impeller. Remove gasket (10).

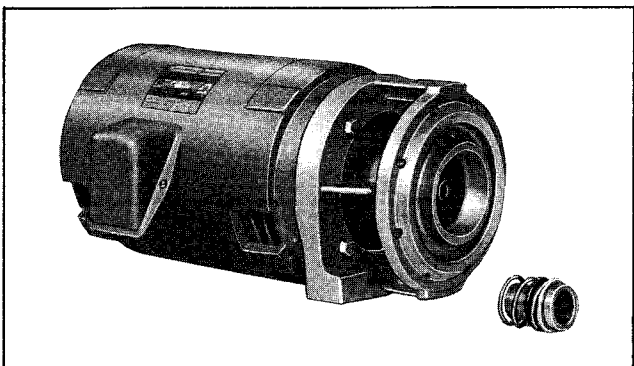
7. Wearing ring(s) (7 & 16) are pressed into their housings with an interference fit, and must be removed with a puller. New ring(s) should be used for reassembly, since it is likely that during removal this fit will be lost.

8. Impeller wear rings (optional - 14 and 15) are pressed on and must be cut off if replacement is necessary. If they are turned off on a lathe, take care not to cut into the impeller.



C. Impeller, O ring removed.

9. Slide sleeve (25) with rotating parts of mechanical seal (27) from the shaft. The sleeve should be carefully cleaned to remove any residue that may be remaining in the seal area. The rubber in the seal (27) may have become partially adhered to the sleeve. The sleeve must also be checked for abrasion or corrosion that can occur when fluid residue penetrates between the seal (27) and the sleeve (25). The sleeve under the seal may be polished lightly to a 32RMS finish before reassembly. Do not reuse a pitted sleeve. Pin (61) may be removed if necessary.

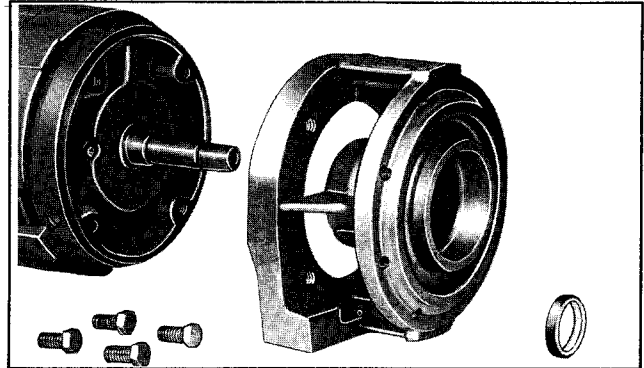


D. Mechanical seal removed.

**CAUTION**

The mechanical seal (see Figure 1) is a precision product and must be treated as such. During removal, great care must be taken to avoid dropping any part of the seal. Take particular care not to scratch the lapped faces on the washer or the sealing seat. Do not put a seal back into service until the sealing faces of the washer and seat have been lapped or replaced.

10. Unscrew capscrews (32) and remove bracket (35) from the motor.



E. Bracket, seal flexible cup and stationary seat removed.

11. The seal flexible cup and stationary seat should be pressed out of the bracket and the cavity cleaned of all residue. Make sure that the 1/32 inch radius in the seal seat cavity is not damaged during disassembly since a sharp edge can easily cut the flexible cup during reassembly.

12. Remove nameplate (34) and screws (33) only if replacement is needed.

**REASSEMBLY**

Reassembly will generally be in reverse order of disassembly. If disassembly was not complete, use only those steps related to your particular repair program.

1. The mechanical seal (27) (see Figure 1) cannot be installed as an assembly. It is necessary to have the seal seat properly in place before the balance of parts can be added. Thoroughly inspect the seal cavity in the bracket for burrs or nicks which could damage the seat of the seal. Apply a film of soap paste or flax soap (do not use oil or grease) to the seal seat and install, taking care to seat it evenly and squarely.

**NOTE**

If it is not possible to insert seat with fingers, place cardboard protecting ring furnished with seal over lapped face of seat and press into place with a piece of tubing having end cut square. The tubing should be slightly larger than the diameter of the shaft. Remove cardboard after seat is firmly in place.

MODELS 382

2. Position bracket (35) on the motor and secure with capscrews (32). Tighten screws evenly to assure proper alignment.

3. If nameplate (34) was removed, install and attach with screws(33).

4. Wipe the sealing faces of the seat and seal washer clean. Oil these surfaces with a clean light oil. Lightly oil the shaft sleeve (25). Slide the entire rotating assembly onto the sleeve. The shaft sleeve with the seal rotating assembly on it may now be replaced on the motor shaft. Spring tension will probably prevent the sleeve from remaining in position axially until the impeller is locked against it.

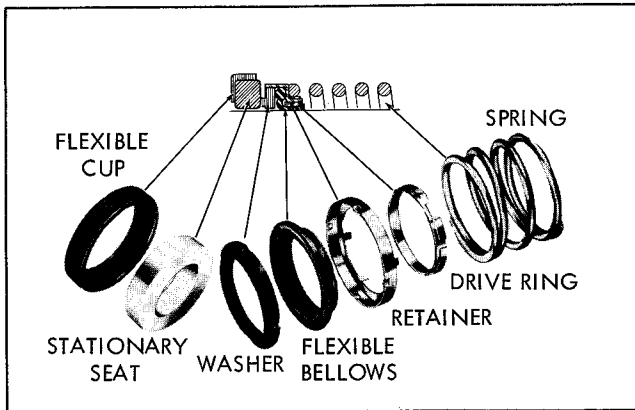


Figure 1. Mechanical Seal

5. Press wearing ring(s) (7 & 16) in casing (6) and bracket (35). Rings should not be hammered into place. Use a press, or clamp the parts in a bench vise, using wooden blocks to protect the rings. It may be necessary to pin or dowel the rings after assembly if the insert or casing has had rings replaced before, since each reassembly can stretch or tear metal and thereby loosen the fits. If the facilities are available, it is good practice to take a very light finish cut or to ream the inside diameter of the casing rings after pressing to restore round-

ness. When rings are pressed, they may get squeezed out of shape.

6. Place impeller wearing rings (optional - 14 and 15) on impeller (11), using the same care as for the case wearing rings. If the rings are to be trued on a lathe, do not clamp the impeller so tightly that it is permanently distorted.

7. Carefully place gasket (10) on motor end of impeller. Assemble key (12) and impeller (11) to motor shaft. Secure impeller with gasket (9B), washer (9A), and impeller screw (9).

8. Install the four pipe plugs (4) in the pump casing. Position the gasket (8) and casing (6) against the motor bracket and secure with screws (5).

10. Replace all relief, cooling, flushings, or drain lines from the pump including compression connections (1 and 2) and tubing (3). Connect discharge piping and suction piping if required, make sure to install gaskets on the flanged connections. Connect electricity to motor.

11. Read starting instructions before attempting to start pump.

STARTING PUMP AFTER REASSEMBLY

Do not start pump until all air and vapor has been bled and until making sure that there is liquid in the pump to provide the necessary lubrication. Without the fluid around it, the seal may be ruined in a few seconds of operation. It is possible that the mechanical seal may drip during the first few minutes to one hour of operation.

NOTE

WHEN ORDERING SPARE PARTS ALWAYS INCLUDE THE PUMP TYPE, SIZE, SERIAL NUMBER, AND THE PIECE NUMBER FROM THE THE EXPLODED VIEW IN THIS MANUAL.

ORDER ALL PARTS FROM YOUR LOCAL AUTHORIZED DISTRIBUTOR, FACTORY BRANCH SALES OFFICE OR THE FACTORY AT NORTH AURORA, ILLINOIS.

MODELS 382 LIST OF PARTS

1. Elbow	7. Wear Ring	11. Impeller	27. Seal
2. Connector	8. Gasket	12. Impeller Key	32. Capscrew
3. Tubing	9. Impeller Screw	14. Wear Ring	33. Screw
4. Plug, Pipe	9A. Washer	15. Wear Ring	34. Nameplate
5. Capscrew	9B. Gasket	16. Wear Ring	35. Bracket
6. Casing	10. Gasket	25. Sleeve	61. Pin

NOTES: 1. BRONZE FITTED CONSTRUCTION WILL BE FURNISHED AS STANDARD UNLESS SPECIFIED.  
 2. REFER TO FACTORY FOR SPECIAL ALLOYS.  
 3. AURORA PUMP RESERVES THE RIGHT TO SUBSTITUTE MATERIALS WITHOUT NOTICE.  
 4. PIECE NUMBERS 14 AND 15 ARE NOT FURNISHED AS STANDARD. WHEN FURNISHED IMPELLER MUST BE MODIFIED.

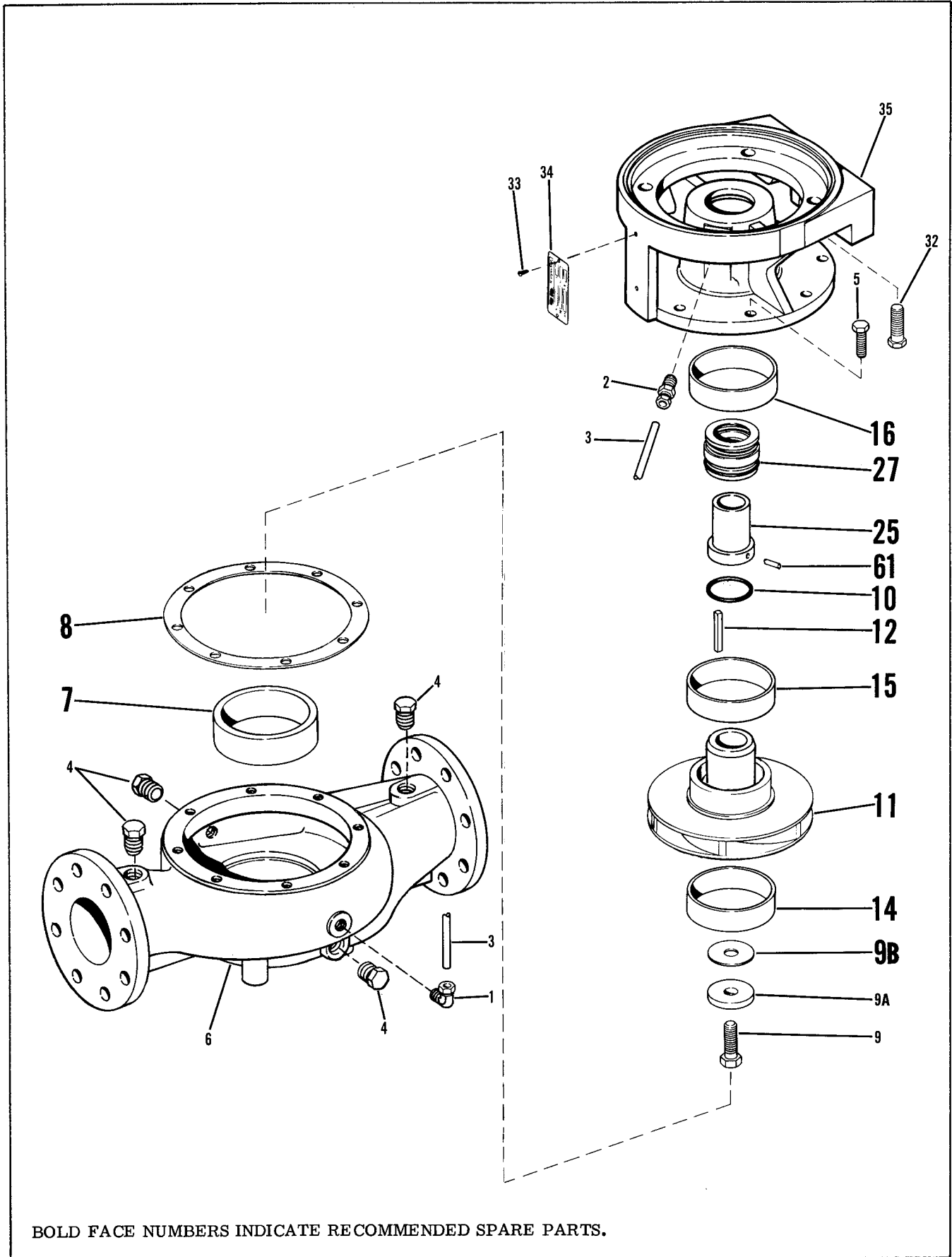


Figure 2. Exploded View