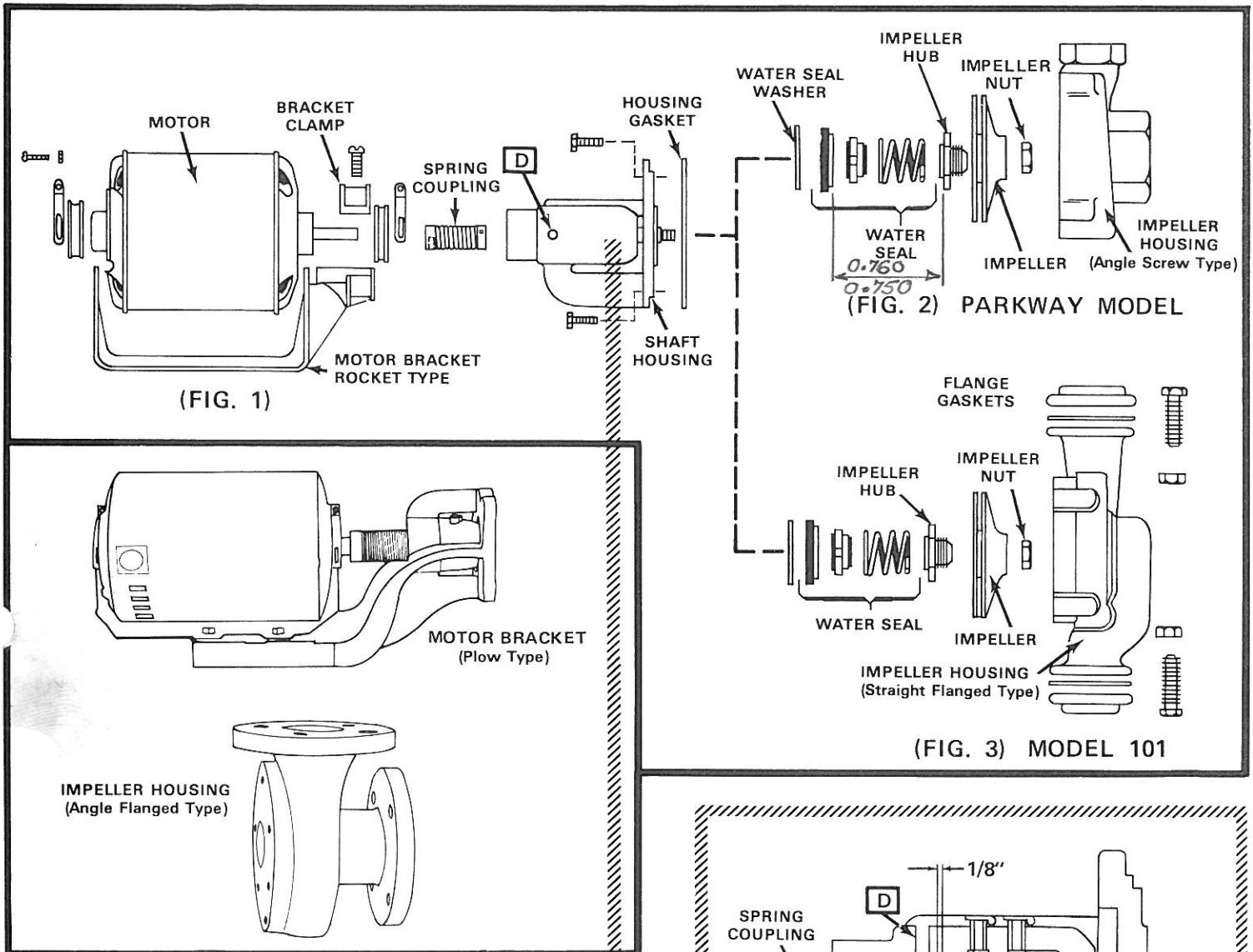


Repair and Service of Edwards Even-Flow Circulators



TECHNICAL NOTES

Service Notes: CIRCULATOR



REPLACEMENT OF WATER-SEAL ASSEMBLY

1. SHUT OFF ELECTRICAL POWER SUPPLY!
2. Close water feed valve and either flow control or zone control valves if boiler is so equipped. Drain entire boiler.
3. Remove 4 Bolts from **Circulator Shaft Housing** and remove entire assembly or motor bracket and circulator from the **Impeller Housing** which will remain in the pipe.
4. Parkway Model: Slowly rotate circulator **Impeller Assembly** by hand until set-screw is visible in **Set-Screw Access Hole (D)**. Insert Allen wrench in set-screw so that shaft may be prevented from rotating while unscrewing **Impeller Assembly** with socket wrench clockwise, (left handed thread) and removing from shaft. (See Fig. 5)
5. Model 101: Slowly rotate circulator **Impeller Assembly (C324)** by hand until set-screw is visible in **Set-Screw Hole (D)**. Insert Allen wrench in set-screw so that shaft may be prevented from rotating while **Impeller Retaining Nut (E)** is unscrewed clockwise (left handed thread) with a socket wrench. Remove impeller retaining nut and carefully remove impeller from shaft. (See Fig. 5)

Continued...

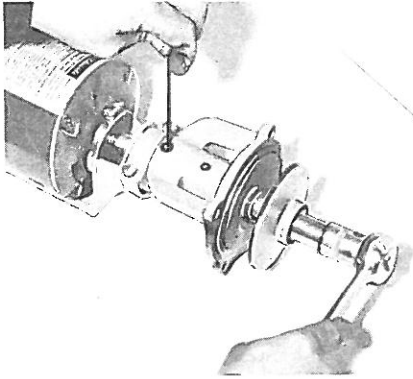


FIG. 5

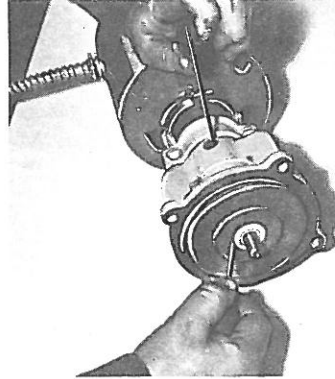


FIG. 6

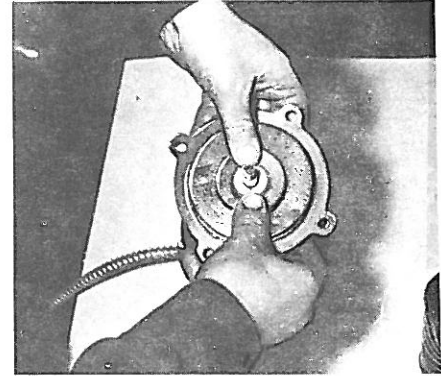


FIG. 7

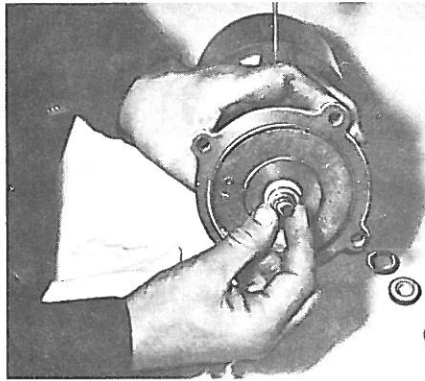


FIG. 8

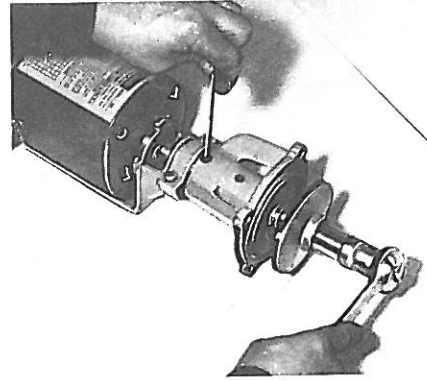


FIG. 9

INSTRUCTIONS FOR WATER SEAL REPLACEMENT
"PK" or 140 - 17-1/8 CIRCULATOR

6. Now the **Water Seal Assembly** may be removed part by part and should be laid out on a piece of paper to note the order of part removal so that later re-assembly may be made in sequence. Using a blunt knife between ceramic and rubber portion of the seal located in the casting, remove the ceramic, then the rubber. Be sure that the brass washer remains in place. Clean the casting with detergent in the area formerly occupied by the seal just removed. (See Fig. 6)
7. Polish the shaft with crocus cloth (lightly oiled) and then clean with detergent (dishwashing strength) to remove all oil. Apply cellophane (Scotch) tape to threaded portion of shaft so that all threads are covered to prevent damage to seal.
8. Check again that the brass retaining washer is in place. Dip the new ceramic-rubber seal in water and slide it into the casting over the taped threaded shaft, so that the polished ceramic side is exposed. (See Fig. 7)
9. Check to see that the polished ceramic seal face is clean; then insert shaft seal over the threaded shaft so that the carbon face is in contact with the ceramic face (the opposite end of the seal is rubber. (See Fig. 8)
10. Next, install the spring.
11. Install the **Impeller Nut Assembly**, remembering that the assembly screws on the shaft counter clockwise since it is a left hand thread. (See Fig. 9)
12. Be sure impeller has not been bent (if it has been bent, straighten it so that it runs true). Reassemble **Motor Circulator** shaft assembly to housing using a new gasket. First be sure the old gasket is completely removed from mating parts of the casting.
13. Rotate circulator shaft to be sure impeller does not rub against casting. If impeller rubs, install an additional gasket.
14. Check the spring coupling adjustment. Refer to Fig. 4; the circulator end of the coupling should be approximately 1/8" from the oil seal(s) of the circulator. Then the motor shaft slack should be taken up in attaching the other end of the spring coupling to the motor shaft; maintain approximately 1/32" gaps or spacing between the individual coils of the spring coupling.
15. **NOTE:** Never run the circulator dry for more than a few seconds. The seal is designed to run in water.

