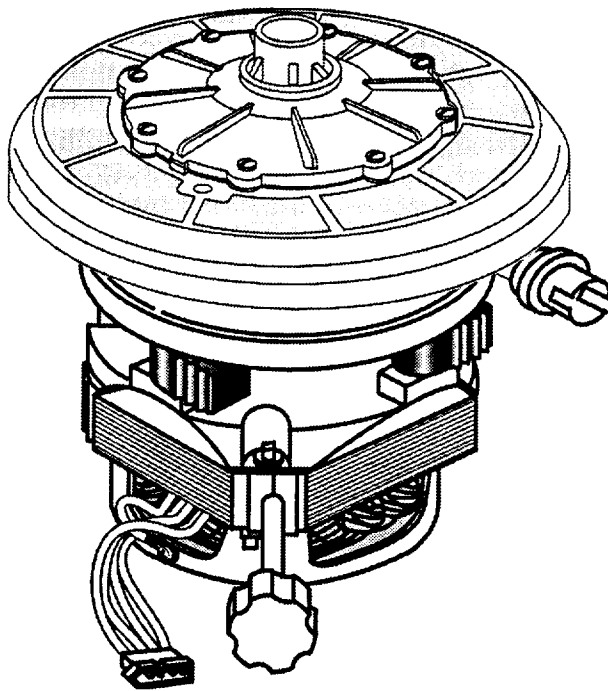




CONSUMER SERVICES TECHNICAL  
EDUCATION GROUP PRESENTS

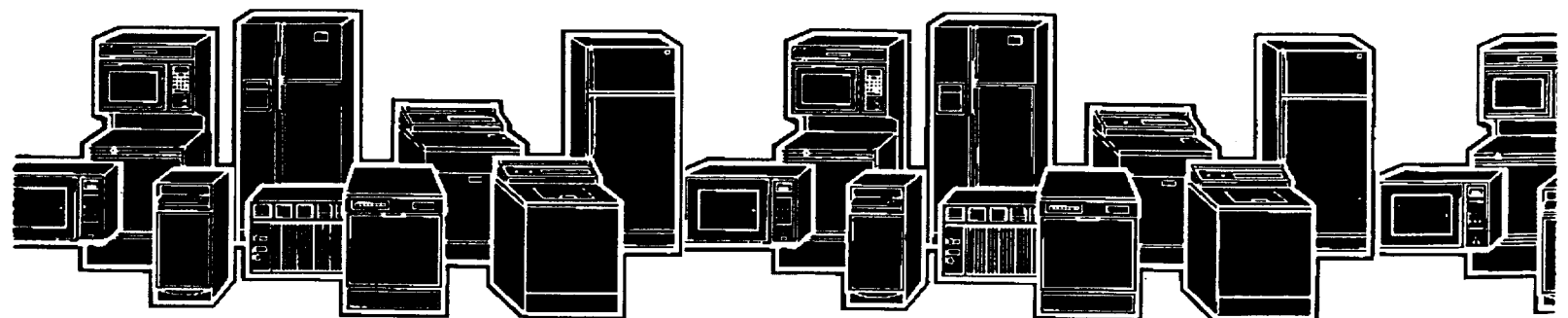
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# POWER CLEAN FILTER MODULE SERVICE

JOB AID  
Part No. 4322455

8-98



## INTRODUCTION

This Job Aid, *Power Clean Filter Module Service*, (Part No.4322455), provides the technician with information on servicing the Power Clean Filter Module Pump and Motor Assembly. This Job Aid is designed to assist in training and familiarization of the servicing procedures for the Power Clean Filter Module Pump and Motor Assembly and replaces any previous versions.

The Power Clean Filter Module has a limited two-year warranty. Details of this warranty can be found in the Section Four, **TECH TIPS**, page 17.

Technicians should be familiar with the service procedures for Whirlpool dishwashers, including how to remove the pump and motor assembly and how to check out the pump motor. For your reference, the pump removal and replacement and the motor check-out procedures are included in this Job Aid.

A companion video presentation, Part No. 4322454v is available to be used with this Job Aid.

## GOALS AND OBJECTIVES

The goal of this Job Aid is to provide detailed information that will enable the service technician to properly diagnose malfunctions and repair Power Clean Filter Module Pump and Motor Assemblies in Whirlpool Dishwashers.

The objectives of this Job Aid are to:

- Understand and follow proper safety precautions.
- Identify the various parts of the Power Clean Filter Module.
- Troubleshoot and diagnose malfunctions.
- Successfully perform the necessary repairs and return the dishwasher to operational status.



WHIRLPOOL CORPORATION ASSUMES NO RESPONSIBILITY  
FOR REPAIRS MADE ON OUR PRODUCTS BY ANYONE  
OTHER THAN AUTHORIZED SERVICE TECHNICIANS.


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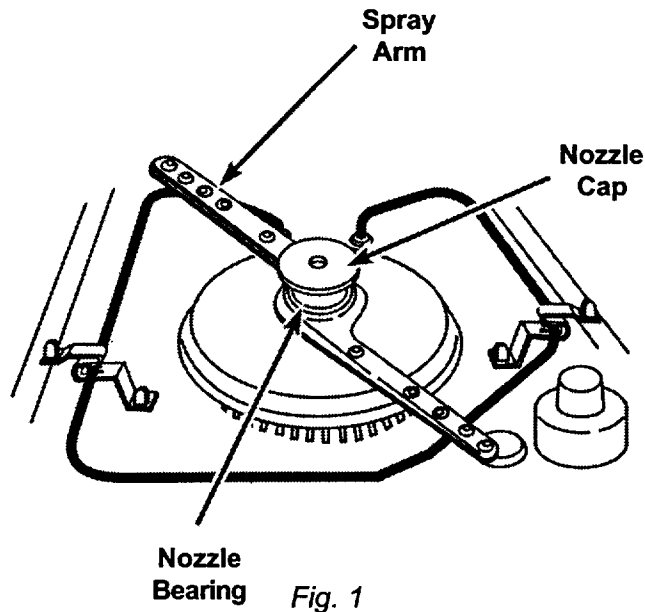
# Section One

## ACCESSING THE POWER CLEAN FILTER MODULE

### REMOVING THE PUMP MOTOR ASSEMBLY FROM THE DISHWASHER

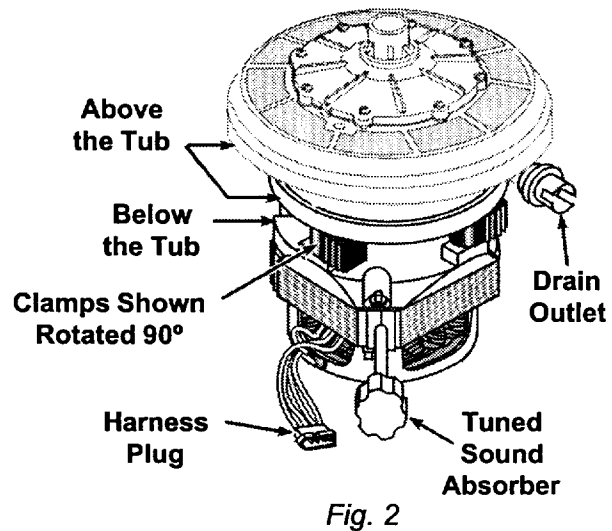
<b>⚠ WARNING</b>	
	<p style="text-align: center;"><b>ELECTRICAL SHOCK HAZARD</b></p> <p>Disconnect electrical power supply before servicing.</p> <p>Replace all panels before operating.</p> <p>Failure to do so could result in death or electrical shock.</p>

1. Unscrew and remove the nozzle cap. Remove the nozzle bearing and the spray arm. *(Fig. 1)*

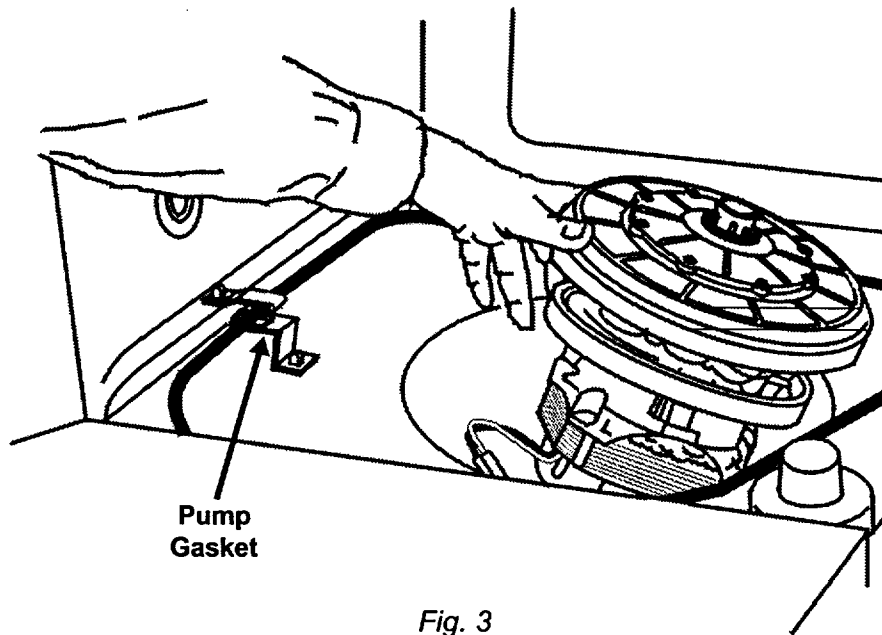


2. Carefully lay the dishwasher on its back.
3. Disconnect the motor harness disconnect plug. *(Fig. 2)*
4. Four rubber clamps secure the pump motor assembly to the tub. Rotate these inward 90°. *(Fig. 2)*
5. Remove the drain hose and clamp from the drain hose adapter. Unscrew the drain adapter. *(Fig. 2)*

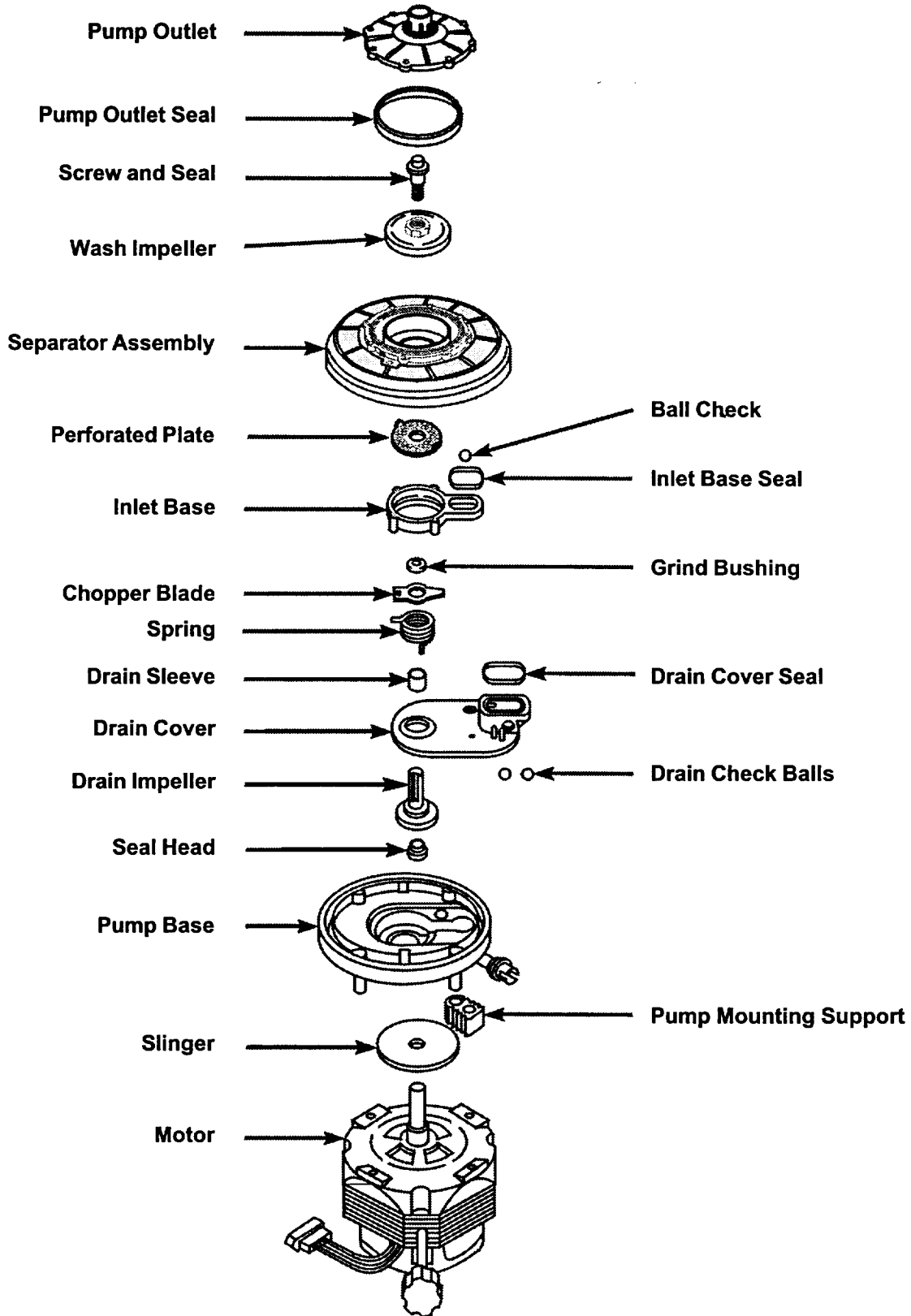
**NOTE:** A small container will be required to catch water from the drain hose after removal.



6. Stand the dishwasher upright.
7. Remove the pump and motor assembly by pulling up through the inside of the tub. (Fig. 3)



# SECTION TWO COMPONENT ACCESS COMPONENT LOCATION



# DISASSEMBLING THE POWER CLEAN FILTER MODULE

**IMPORTANT:** All seals and/or gaskets that are exposed during partial or complete tear down must be replaced. Be sure they are available before beginning tear down. CENTERING TOOL, PART NO. 303918, IS REQUIRED TO REBUILD THIS ASSEMBLY. NOS 15 AND 20 TORX SCREWDRIVERS WILL BE REQUIRED TO PERFORM THE FOLLOWING PROCEDURES.

1. Remove the eight (8) Torx screws that secure the pump outlet to the separator. (Fig. 4)

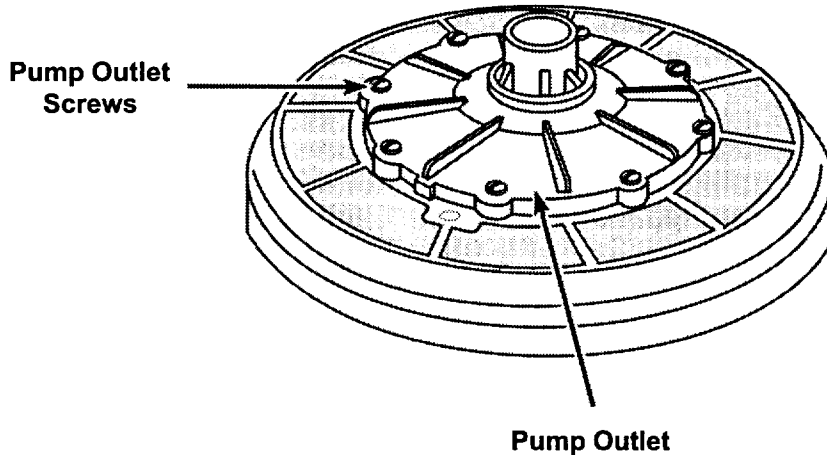


Fig. 4

2. Remove and discard the pump outlet seal. (Fig. 5)
3. Using an adjustable wrench, remove the wash impeller screw assembly. (Fig. 5)
4. Remove the wash impeller. (Fig. 5 - inset)

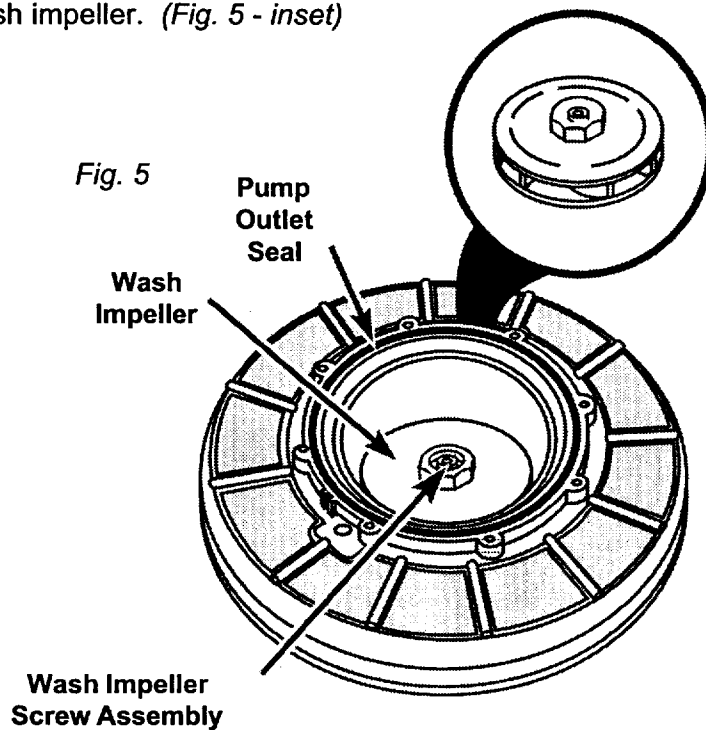


Fig. 5

5. Remove the three (3) Torx screws securing the separator to the pump base. (Fig. 6)

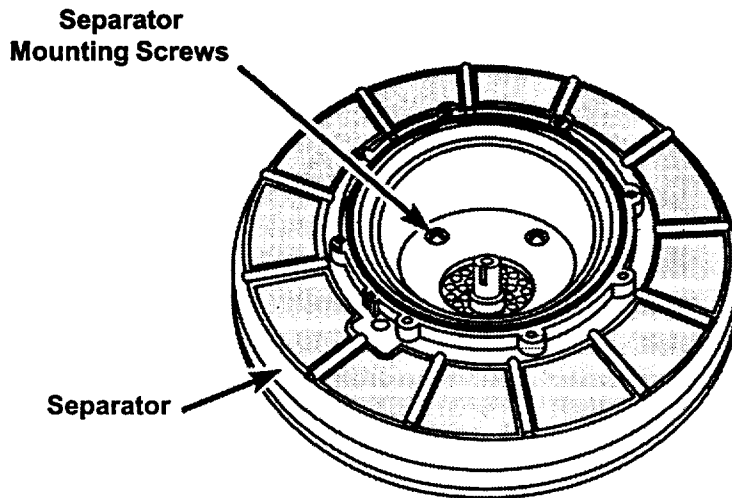


Fig. 6  
Top View of Separator

6. Remove the Torx screw securing the inlet base to the bottom of the separator. Remove and discard the inlet gasket. Do not lose the ball check. If the perforated plate is damaged, it must be replaced. (Fig. 7)

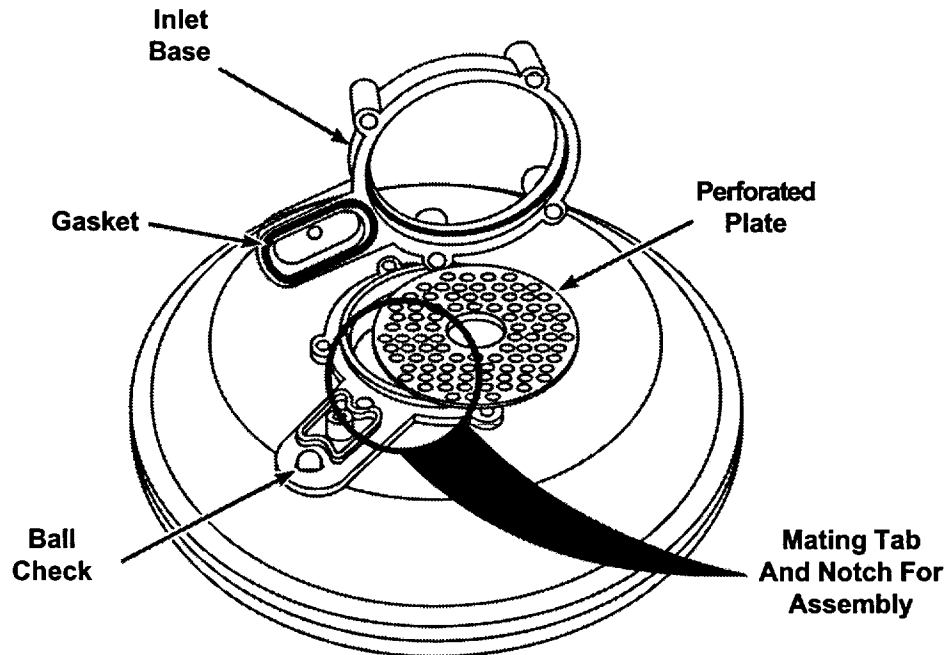


Fig. 7  
Bottom View of Separator



7. A damaged bushing, chopper blade and/or spring can be lifted off the drain impeller shaft. Remove and discard the inlet base seal. (Fig. 8)
8. If the spring retaining holes in the drain impeller are damaged, the drain impeller must be replaced. (Fig. 8)

**NOTE:** The drain impeller and its mating seal head assembly must be replaced in pairs.

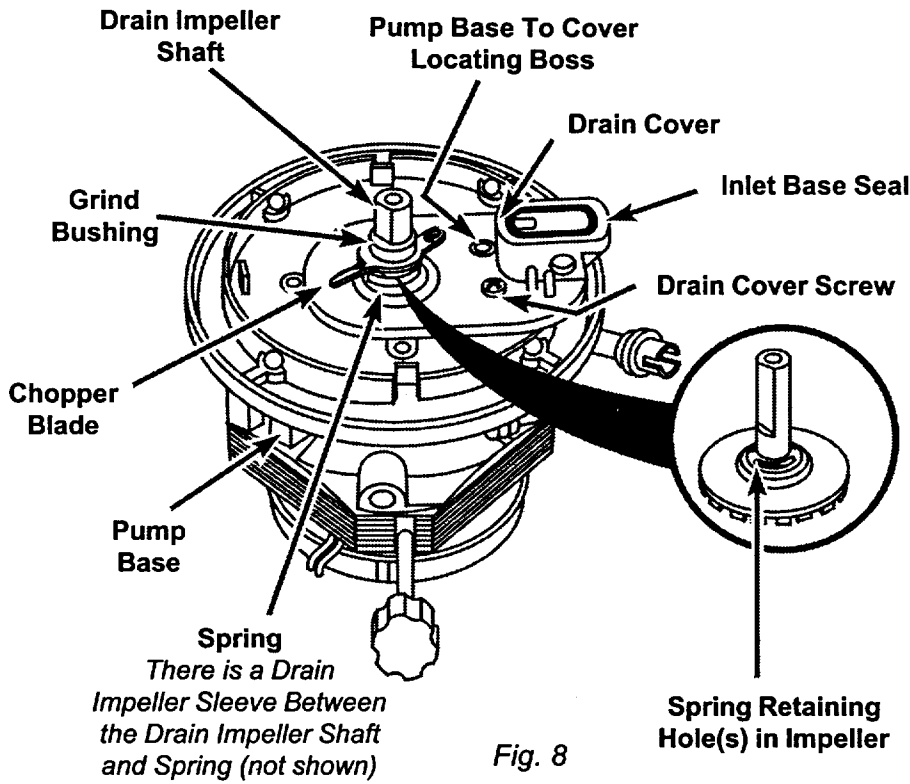


Fig. 8

10. To replace the drain impeller and seal the head assembly:
  - a. Remove the Torx screw securing the drain cover to the pump base and remove the drain cover. (Fig. 8)
  - b. Lift the drain impeller off the motor shaft. (Fig. 8)
  - c. Using a small screwdriver, pry the head seal assembly off. (Fig. 9)

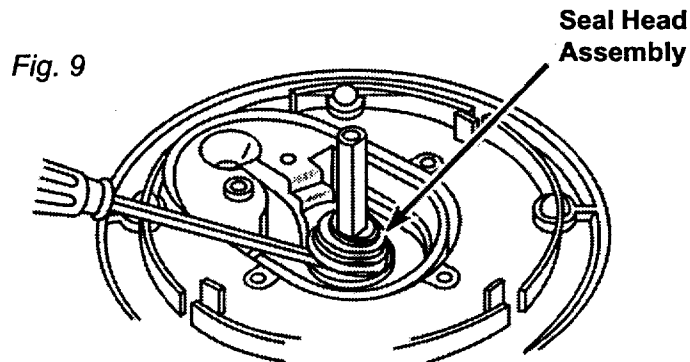


Fig. 9

11. Remove the four (4) Torx screws securing the pump base to the motor assembly. The pump mounting supports pivot on these screws. (Fig. 10)

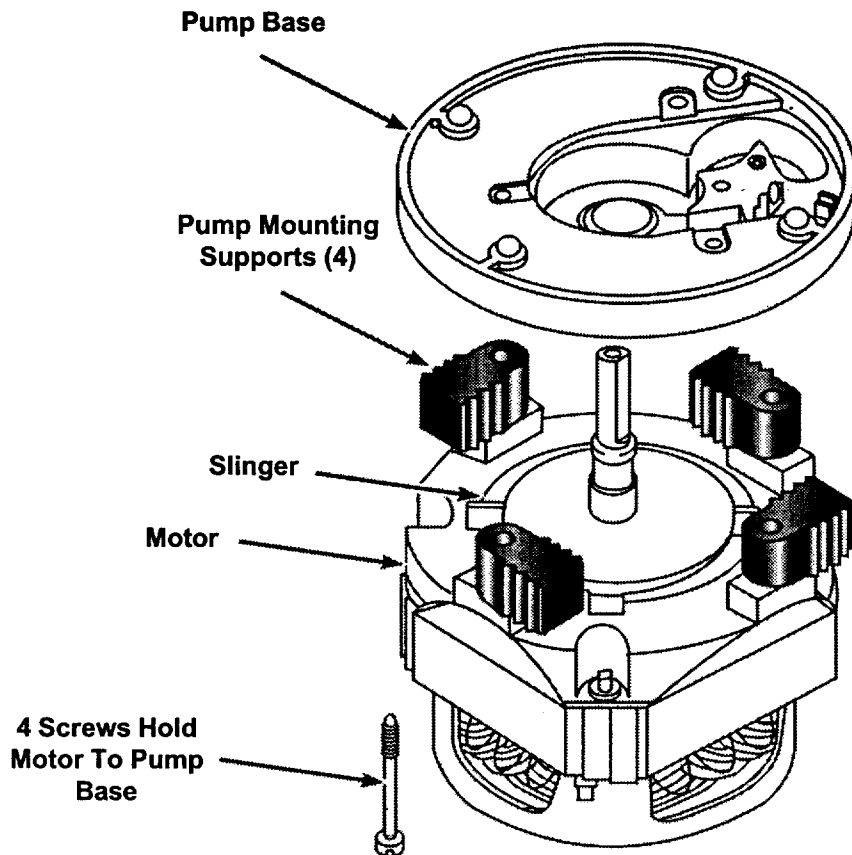


Fig. 10

## REASSEMBLING THE POWER CLEAN FILTER MODULE

1. Start the slinger down the motor shaft. Slide the small end of the centering tool down the shaft, pushing the slinger as far as possible. When it stops, the slinger will be properly positioned. (Fig. 11)

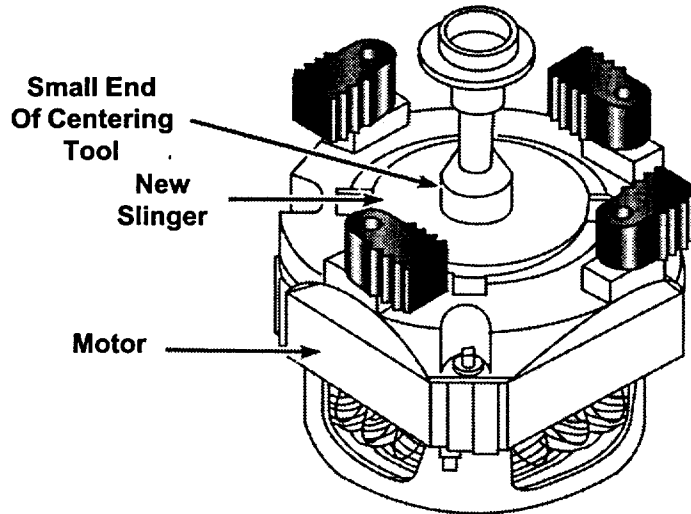


Fig. 11

2. Reassemble the pump base to the motor. Start the four (4) Torx screws. Be careful to avoid stripping the screws. Turn each screw counterclockwise until you can feel the threads backing off or bumping off each other. Then turn clockwise to engage. Be sure that the motor harness is about 90° counterclockwise from the drain port. **DO NOT TIGHTEN SCREWS YET.**
3. Slide the centering tool, small end first, down the shaft into the seal head opening to center the base to the motor. (Fig. 12)

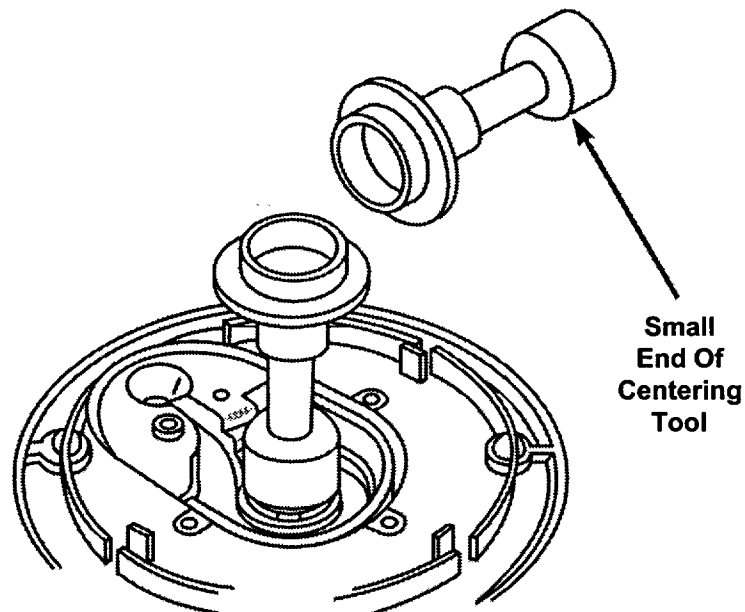


Fig. 12

4. Finish tightening the four (4) Torx screws securing the pump base to the motor.
5. Lubricate the seal head assembly with soapy water. Press down firmly with the large end of the centering tool and rotate tool approximately  $\frac{1}{4}$  turn. (Fig. 13-14)

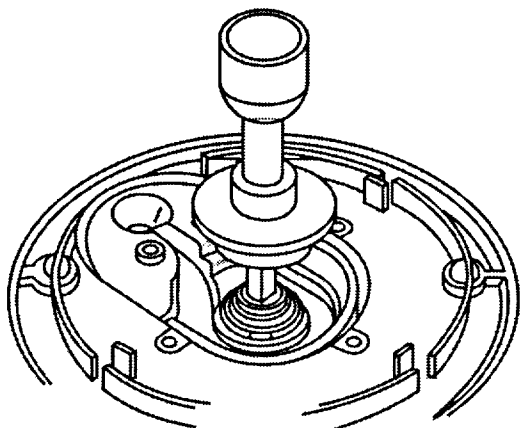


Fig. 13

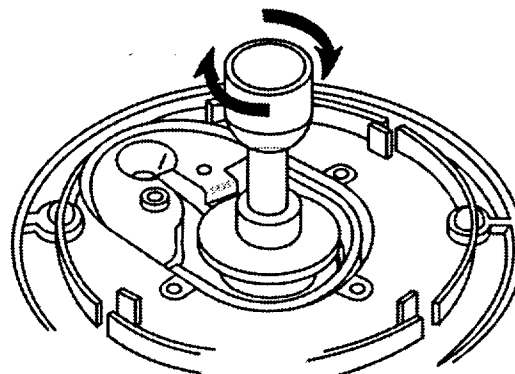


Fig. 14

6. Replace the drain impeller assembly and secure the drain cover to the pump base. Then replace the sleeve, spring, chopper and grind bushing. Insert a new seal. Make sure the spring is properly assembled to the chopper and seated in one of two retaining holes in the drain impeller. (Fig. 15)
7. Replace the drain cover screw.

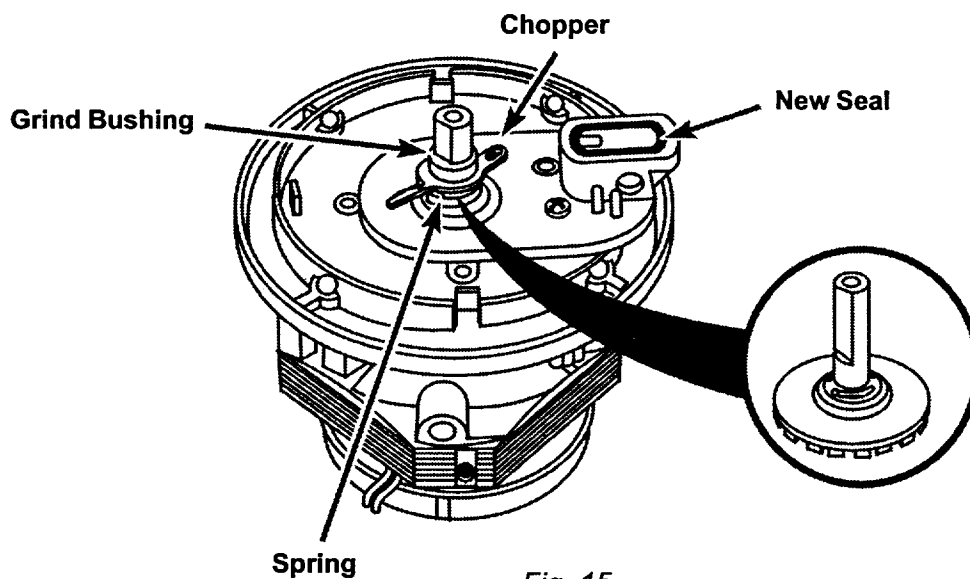


Fig. 15

8. Place a new seal in the water inlet base. Replace the perforated plate, making sure that the plate tabs are in the locating notches on the water inlet base. (Fig. 16)
9. Replace the Torx screw securing the water inlet base to the bottom of the separator. (Fig. 16)

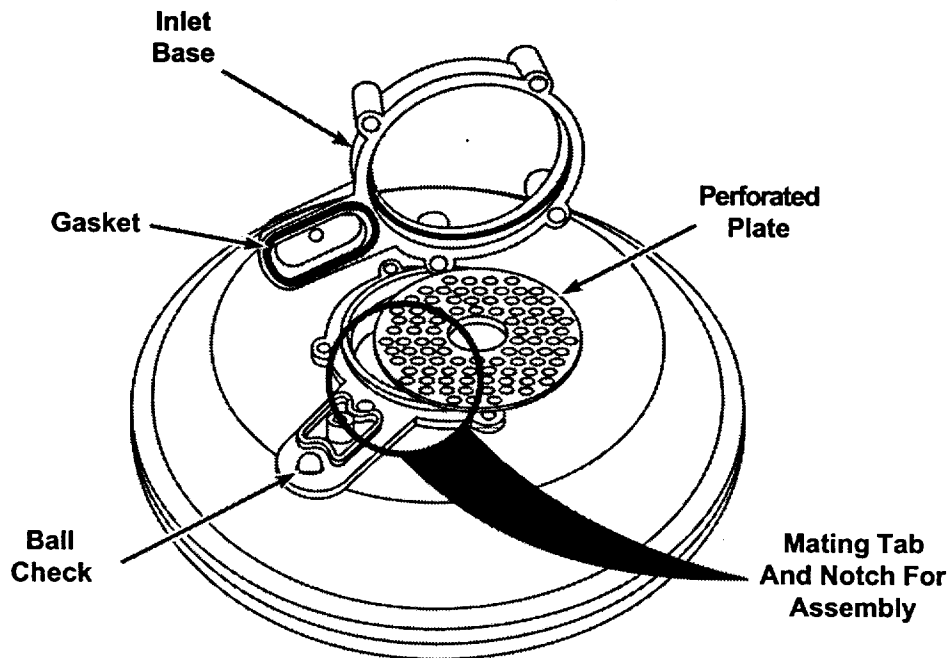


Fig. 16

10. Turn the separator over and start the four (4) Torx screws securing the separator to the pump base. Be careful to avoid stripping the screws. Turn each screw counterclockwise until you can feel the threads backing off or bumping off each other. Then turn clockwise to engage. **DO NOT TIGHTEN SCREWS YET.**
11. Slide the large end of the centering tool down over the drain impeller shaft so that the flange of the tool fits into the opening of the separator. This centers the separator to the rest of the assembly. Finish securely tightening the screws securing the separator and the new seal to the water inlet base. (Fig. 17)

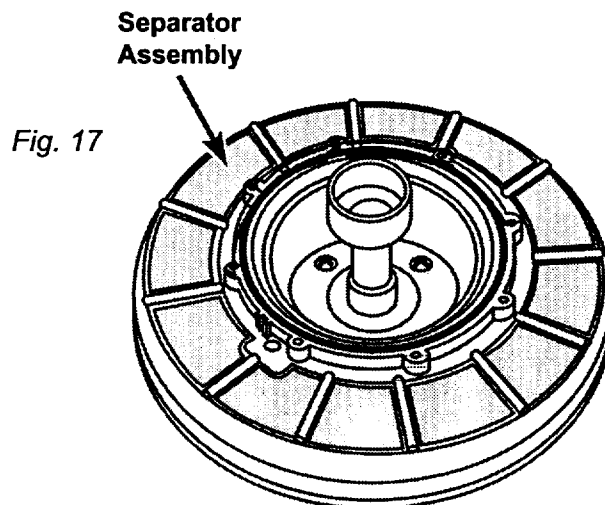
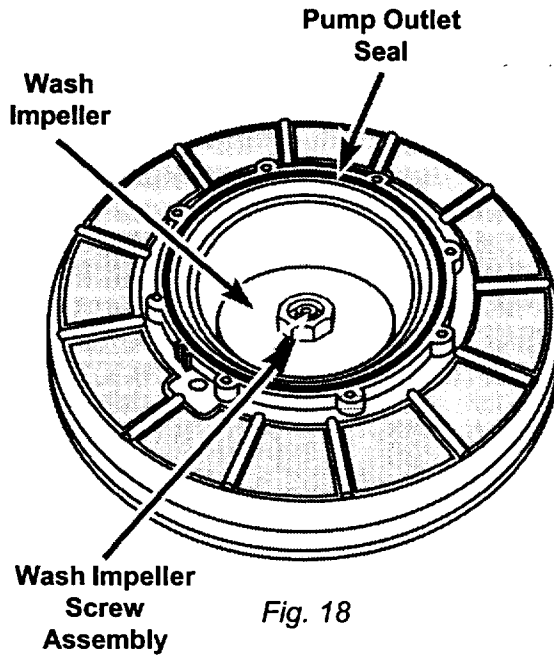


Fig. 17

12. Reassemble the wash impeller and the impeller screw assembly. (Fig. 18)
13. Rotate the impeller and listen for rubbing noises and check to see if the impeller can be moved up and down. If either occurs, parts have been left out or not tightened during reassembly.
14. Insert the new pump outlet seal into the retaining groove. (Fig. 18)



15. Replace the pump outlet cover. Make sure it is seated properly over the locator tabs on the separator. Be careful to avoid stripping the screws. Turn each screw counterclockwise until you can feel the threads backing off or bumping off each other. Then turn clockwise to engage. Finish tightening the eight (8) Torx screws. (Fig. 19)

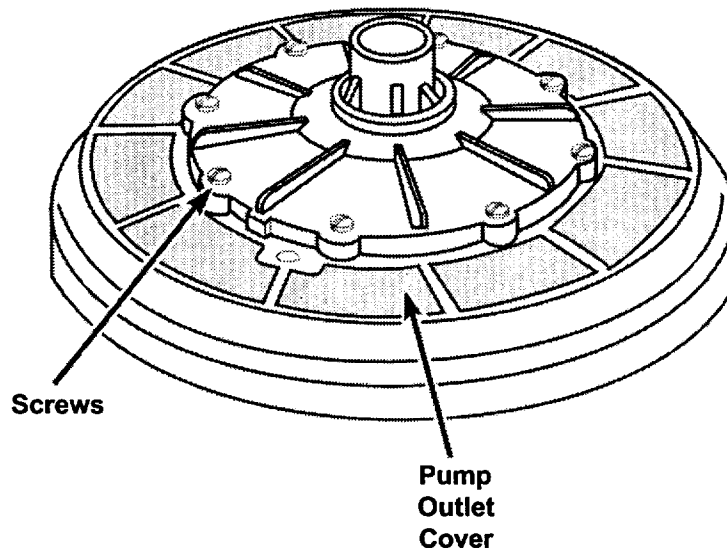


Fig. 19

# SECTION THREE

## DIAGNOSIS AND TROUBLESHOOTING

### TROUBLESHOOTING GUIDE

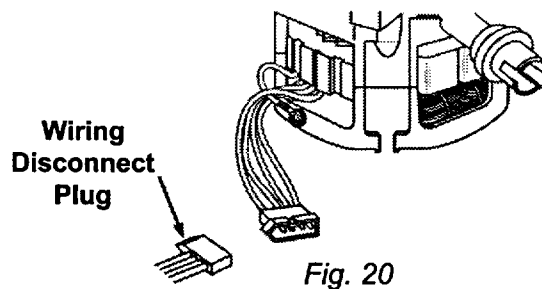
PROBLEM	POSSIBLE CAUSE	ACTION
<b>1. DISHES ARE NOT GETTING CLEAN</b>	Separator does not separate soil from water. Soil redeposits on dishes.	Replace separator.
	Torn or improperly installed drain cover seal does not allow soil to collect in separator. Soil redeposited on dishes.	Replace drain cover seal.
	Plugged pump - ball check not sealing or missing. Separator fills with soil, no room for new soil. Will not separate soil.	Replace ball check.
<b>2. DISH-WASHER VIBRATES.</b>	Wash impeller not tight and is wobbling due to improper assembly.	Tighten or replace if worn.
<b>3. DISH-WASHER MAKES A LOUD NOISE.</b>  <small>NOTE: A grinding noise that diminishes is sometimes caused by items such as bone particles and pits. This sound will go away and is normal. A grinding noise caused by some foreign objects will not go away. The customer should be informed on the cause of the noise and how to prevent it from recurring.</small>	Perforated plate and chopper blade touching because end of blade is bent by foreign object.	Install chopper kit.
	Chopper blade spring unwound because foreign object jammed between chopper blade and inlet base. Motor momentum causes spring to unwind and damage on of two spring retaining holes.	Install chopper kit.
	Defective drain impeller and seal head. Cracked ceramic seal in drain impeller or grit in seal head.	Install drain impeller kit.
	Defective motor bearing. Water leak due to defective seal or cracked pump base.	Replace motor.
<b>4 WATER LEAKING FROM UNDER DISH-WASHER</b>	Drain impeller and seal heads not centered on motor shaft (on angle) due to improper assembly. Failure to use pump centering tool.	Install drain impeller kit.
	Loose wash impeller screw due to improper assembly.	Tighten screw.
	Drain adapter loose due to improper assembly.	Tighten.

PROBLEM	POSSIBLE CAUSE	ACTION
4. WATER LEAKING FROM UNDER DISH-WASHER	Pump assembly not seated properly in tub. Improper assembly or dislodged during installation.	Reseat the pump.
5. THE DISH-WASHER MAKES A RUBBING SOUND.	Slinger rubbing on pump base or motor due to improper assembly. Failure to use pump centering tool.	Replace slinger.

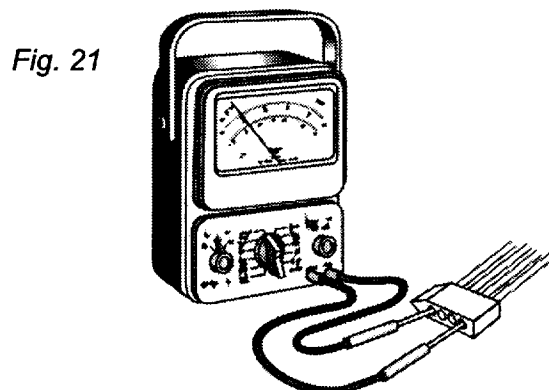
## COMPONENT TESTING

### DRIVE MOTOR

1. Verify that motor is not running.
2. Remove the toe panel by removing the four (4) screws (one at each corner of the toe panel).
3. Remove the wiring disconnect plug from the motor. (Fig. 20)



4. Set controls for wash or drain and pull out the timer knob.
5. Check for power supply to the motor by checking for 120 volts at terminals 1 and 4 in the wiring harness plug. If there is no power to the motor, check the timer and wiring. (Fig. 21)





6. Disconnect power to the dishwasher at the circuit breaker.
7. Check the pump motor windings by making continuity checks at motor disconnect plug. (Fig. 22)

Fig. 22

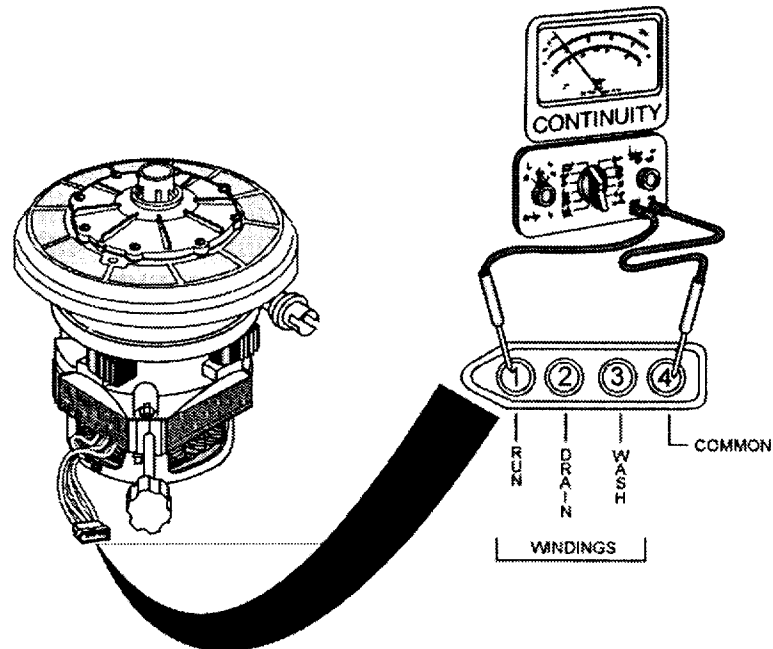
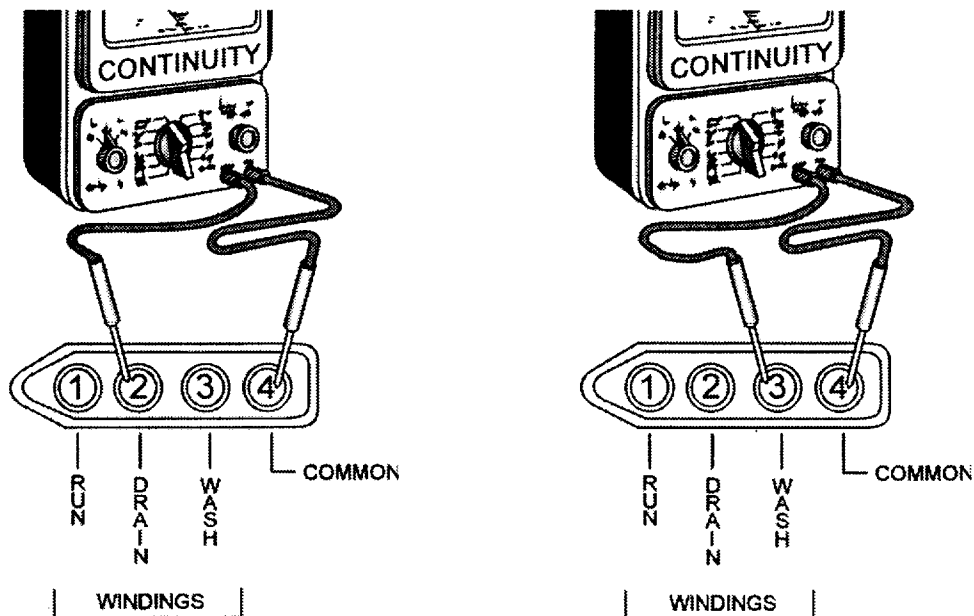


Fig. 23



If the overload is defective and does not reset after tripping out, the ohmmeter will not register resistance on any of the above check procedures. (Fig. 23)

To check for grounded winding, check from each terminal to the motor housing. The ohmmeter will register no resistance (continuity) if the winding is grounded.

**NOTE:** If the motor checks okay, check the timer and motor relay.

## SECTION FOUR TECH TIPS WARRANTY INFORMATION

LENGTH OR WARRANTY	WHIRLPOOL WILL PAY FOR
<b>FULL ONE-YEAR WARRANTY</b> FROM DATE OF PURCHASE	FSP™ replacement parts and repair labor to current defects in materials or workmanship. Service must be provided by an authorized Whirlpool service company.
<b>LIMITED ONE-YEAR WARRANTY</b> SECOND YEAR FROM DATE OF PURCHASE	FSP™ replacement parts for any part of the POWER CLEAN® filter module washing system if defective in materials or workmanship. These parts are shown on page 16.
<b>LIMITED FOUR-YEAR WARRANTY</b> SECOND THROUGH FIFTH YEAR FROM DATE OF PURCHASE	FSP™ replacement parts for Electronic Control system if defective in materials or workmanship.  For models with dishracks that are oyster-colored, FSP™ replacement parts for the top and/or bottom dishracks if they rust due to defective materials or workmanship.
<b>FULL TWENTY-YEAR WARRANTY</b> FROM DATE OF PURCHASE	FSP™ replacement parts and repair labor for the DURAPERM® tub and/or inner door should they fail to contain water due to defective materials or workmanship. Service must be provided by an authorized Whirlpool service company.
<b>WHIRLPOOL WILL NOT PAY FOR</b>	
<p>A. Service calls to:</p> <ol style="list-style-type: none"> <li>1. Correct the installation of the dishwasher.</li> <li>2. Instruct you how to use the dishwasher.</li> <li>3. Replace house fuses or correct house wiring or plumbing.</li> </ol> <p>B. Repairs when dishwasher is used in other than normal, single-family household use.</p> <p>C. Pickup and delivery. This product is designed to be repaired in the home.</p> <p>D. Damage to dishwasher caused by accident, misuse, fire, flood, acts of God or use of products not approved by Whirlpool.</p> <p>E. Any labor costs during limited warranty.</p> <p>F. Repairs to parts or systems resulting from unauthorized modifications made to the appliance.</p> <p>G. In Canada, travel or transportation expenses for customers who reside in remote areas.</p>	

**WHIRLPOOL CORPORATION AND INGLIS LIMITED SHALL NOT BE LIABLE UNDER THIS WARRANTY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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

**Outside the United States and Canada, a different warranty may apply. For details, please contact your authorized Whirlpool dealer.**

In you need service, first see the "Troubleshooting" section of this book. After checking "Troubleshooting," additional help is available by calling our Consumer Assistance Center telephone number, **1-800-253-1301**, from anywhere in the U.S.A. In Canada, you may call your Inglis Limited Appliance Service Branch.

## SERVICE PARTS LIST

<u>Item</u>	<u>Part No.</u>
Pump Centering Tool .....	303918
Pump Seal Kit .....	675703
(Contains pump outlet seal, inlet gasket, inlet base seal and wash impeller screw assembly.)	
Drain Valve Stem Kit .....	675496
(Contains stopper, stem and diaphragm assembly, spring pump outlet seal, inlet gasket and wash impeller screw assembly.)	
Chopper Kit .....	675500
(Contains chopper blade, sleeve and spring.)	
Drain Impeller Kit.....	675501
(Contains seal head assembly, drain impeller and pump centering tool.)	