



## HOW-TO BOOKLET #3019

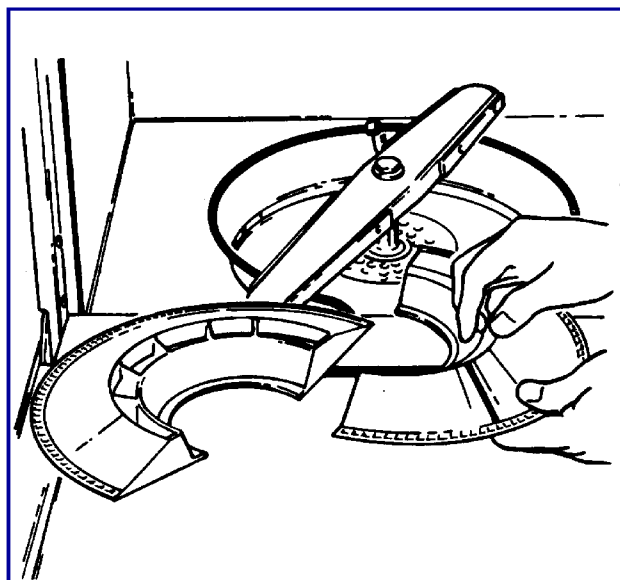
# DISHWASHERS



### TOOL & MATERIAL CHECKLIST

- Phillips/Standard Screwdrivers
- Adjustable Wrench
- Pliers
- Socket Wrench Set

*Read This Entire How-To Booklet for Specific Tools and Materials Not Noted in the Basics Listed Above.*



**Clogged Strainers** are easy to remove. The units are usually plastic or metal. To clean them, lift them out of the tub and run water from a faucet through the nooks and crannies.

There are two basic types of dishwashers: built-in and portable, although the portable model may be designed to be built-in if the situation warrants it at a later date. In design, dishwashers are basically the same, although some models may be more “advanced” with electronic gimmicks and other mechanical gimmicks. The purpose of the How-To Booklet is to help you troubleshoot dishwasher problems—the most common ones that probably are within your do-it-yourself skills and tool inventory. The information is in a “problem/solution” format: pick the problem and follow the solution to its conclusion.

But, first, if the dishwasher does not seem to be washing properly, check for any clogged filters—especially the one around the drain port (see illustration). If there is a water leak around the door, the leak indicates the need for a new gasket. But, first, try tightening the screws/bolts around the door that hold the gasket into place. If you need a gasket, furnish the dishwasher dealer with the name and model number of the machine. If the machine does not run at all, check the fuse or circuit breaker at the main electrical service panel to your home. If a new fuse blows out immediately, or the circuit breaker trips immediately, the machine is probably short-circuited. Call a pro.

## DISHWASHER WON'T START

Close the lid/door tightly and engage the door lock which usually is the power switch to the dishwasher. Then set the control knob to its "start" position. If the machine won't start, try flipping the door lock open-and-shut several times. A little jiggling could engage the switch. If the unit starts, the problem probably is in the door lock/switch, and it should be replaced.

You can reach the switch by removing the front door panel (on many models). Back out the screws/bolts around the door and lift off the panel, after you turn off the electric power. The switch usually is held by two screws/bolts and a wiring harness. Remove the bolts and the switch wires. Then install the replacement switch, connecting it to the harness and installing the screws/blots.

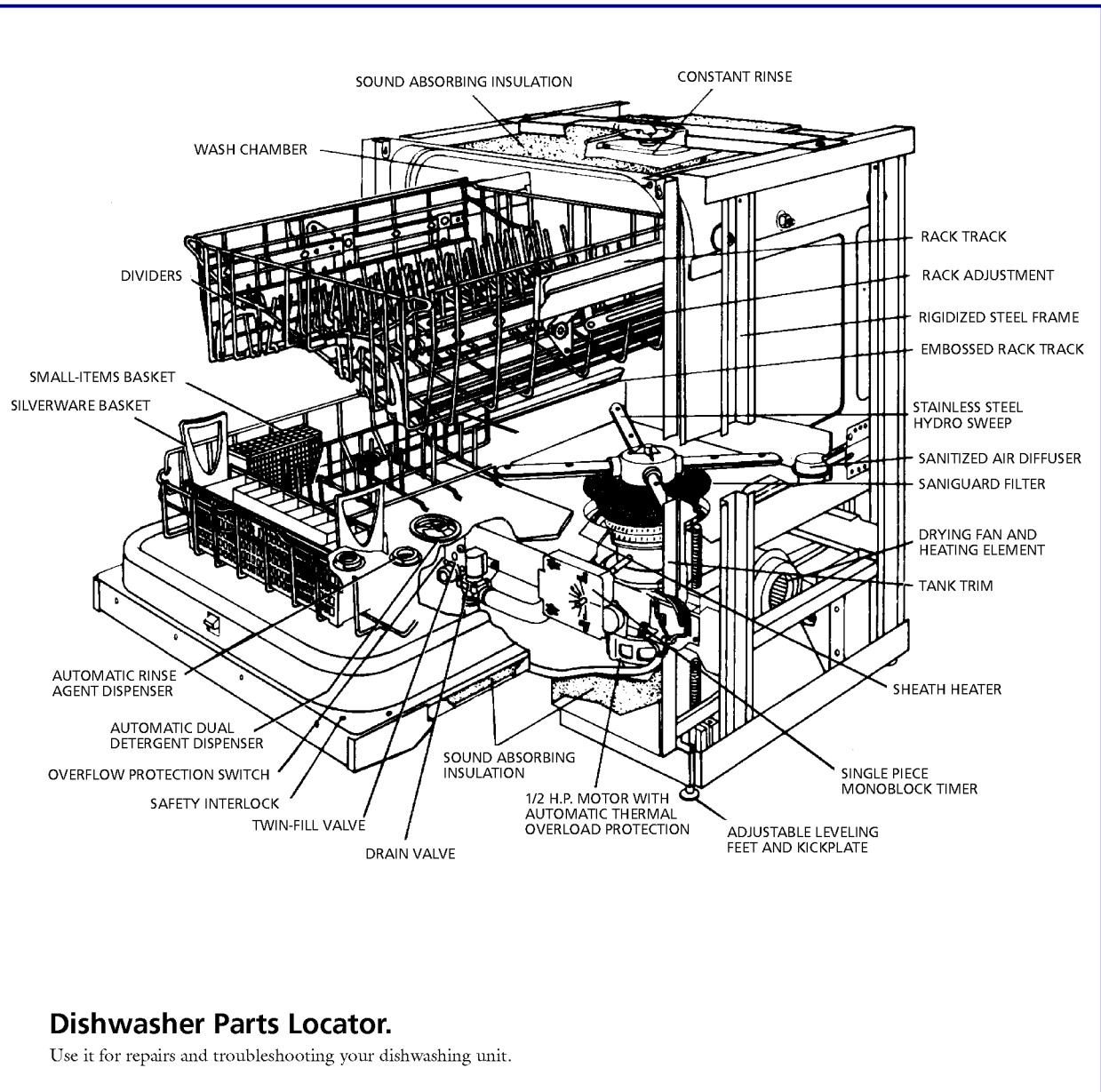
But before you replace the switch, make sure the dishwasher is receiving power. Check for a blown fuse or tripped circuit breaker.

Other no-start problems include weakened door hinge springs that can cause the latch/switch to malfunction. Or the door may be out of alignment causing a latch/switch misalignment.

## DISHWASHER LEAKS

The good news is that the leak may be very easy to solve by:

- 🏠 Positioning the dishes and pots and pans in racks so that the surfaces direct the water away from the door.
- 🏠 Filling the dishwasher and not overloading it. Too many dishes can cause leaks because the water can't drain properly from the dishes.
- 🏠 Using detergent made only for dishwashers.



### Dishwasher Parts Locator.

Use it for repairs and troubleshooting your dishwashing unit.

A faulty door seal can cause leaking. Try tightening the screws that hold the seal and the door panel to the door frame. If tightening doesn't work, the seal will have to be replaced. This is a fairly easy job, but the door panel (usually) will have to be removed for the replacement. Be sure to buy a gasket that fits the model and make of your dishwasher.

The seal or gasket will be held by retaining screws or clips. Once the screws/clips are removed you may have to pry out the seal.

Once the new gasket is in position, check the fit of the door against the gasket. You may have to adjust the door hinges or springs so the gasket fits snugly around the door opening. Too tight a fit can cause the leaking that you wanted to stop in the first place.

Other leaking problems can be caused by a faulty inlet valve, timer, water supply connection, or a water pump.

### FAST WATER DRAINAGE

If water in the tub drains extremely fast, the drain valve in the machine may be leaking. You might be able to stop this leak by simply tightening the valve. Or, the solenoid operating the valve is defective. Unless you have the proper electrical testing devices, call a repair person to test the solenoid and other electrical parts of the machine.

If you own a volt-ohm meter, you can test the solenoid by setting the meter to the RX100 scale. Hook the clips to the solenoid terminals. The reading should be 100-1000 ohms if okay.

### SLOW WATER DRAINAGE

Slow drainage may be easier to repair than fast drainage. Slow drainage probably is caused by blockage at the strainers at the bottom of the dishwasher.

If the dishwasher is portable, check the hoses to make sure that they are not kinked, causing slow drainage.

A faulty drain valve also can cause slow drainage, as can a malfunctioning motor (fast drainage, also). These are jobs for a professional repair person.

### DISHWASHER IS NOISY

First, check the motor for vibration. You may be able to see it wobbling while operating. If so, turn off the power and tighten the mounting bolts with a wrench. **Other possibilities:**

- 🔧 The machine needs to be leveled.
- 🔧 The sprayers are rubbing against the strainer or tub. Readjust them.
- 🔧 The machine needs to be isolated from the floor surface with rubber mounting pads.
- 🔧 The dishes are improperly set in racks.
- 🔧 The water level in the machine is too low. Check and clean the strainer.
- 🔧 A faulty inlet valve—if the noise is a knock.

### DIRTY DISHES

All dishes, pots, pans, and other items you wash in the dishwasher must be pre-cleaned before they are racked. The dishwasher is not a garbage disposer. Gobs of food and debris left on the dishes may not wash completely off. Also, this debris can cause the dishwasher to clog.

Dirty dishes can also be caused by poor dishwasher loading; the wrong type of detergent; the water not hot enough; a clogged strainer; a faulty timer; low water pressure; a bad solenoid.

Of this "possibilities" group, water not hot enough usually is the trouble. The element may be faulty or the thermostat on your water heater is not set high enough: 150 to 160 degrees.

### CYCLE LOCK

Timer switches sometimes can cause a dishwasher to malfunction. The timer switch turns the water on and off for the various cycles, tells the impellers when to turn, and the drain when to open and close.

If the machine stays in one cycle, or goes through just a couple of modes and then stops, chances are the timer is causing the problem.

A timer is fairly easy to change. First, check the make and model of the machine and buy a timer for it. Then remove the front panel of the dishwasher and find the switch. Because the timer has a number of wires connected to it (see illustrations), tag each wire and make a sketch of the switch so you can be sure of making the proper connections on the new one. The replacement is simple—take out the old and install the new switch. The timer usually is directly behind the control knob. The timer is self-contained. It's better to replace it completely than to have it repaired, although you may want to get bids on repairs.

If the timer is not the problem, suspect the cycle extender and selector switch, both of which can be malfunctioning and causing a foul-up in the wash/rinse/dry cycles. These switches should be tested before they are replaced and this is a job for a repair pro.

### WASHER WON'T FILL

The problem could be that the city water pressure is low. Try turning on sink and lavatory faucets and checking them for pressure. If you notice that these valves are "slow," check with the utility. The problem could be temporary.

If low water pressure is not the problem, the trouble could be in a malfunctioning inlet valve. This valve is either dirty, or a solenoid that controls it has stopped working properly. The part has screens which can stop the flow of water if they are dirty. On some models, this screen can be removed for cleaning. If the screen is badly corroded, it also can block water from entering the machine. If corroded, the screen should be replaced. Cleaning will solve the problem only temporarily.

If the machine is very slow to fill, the trouble also could be a faulty inlet valve. To test it, try turning off the power to the unit while it is in the “filling” cycle. If water continues to run into the tub with the power off, the problem is a faulty inlet valve. However, if the water stops when the power is turned off, suspect a broken timer.

### DOOR WON'T LATCH

This is a common complaint. The trouble usually is caused by a misaligned door latch plate that is held to the housing of the dishwasher with two screws—usually Phillips head screws.

Try loosening these screws, counterclockwise, and sliding the latch plate in a couple of different directions so it aligns with the latch handle. You'll have to arrive at alignment through trial-and-error, so have lots of patience.

If realignment does not solve the latching problem, look closely at the latch plate. It could be worn, causing the trouble. To replace, take off the old and screw on the new proposition.

Door latch problems also can be traced to a weakened or broken door spring or broken or twisted door hinge(s). Springs can be found at the bottom corners of the door. On some dishwasher models, holes are positioned in line so you can retension the springs by moving the spring hooks to other tensioning holes. However, if the springs are weak or broken and there aren't any tensioning holes, replace the springs in the door.

### DISH RACK WON'T WORK

Hopefully, the only problem is a rack off its track. Try pulling out on the rack so it comes completely out of the tub. then reposition it on its tracks inside the tub. If the roller wheels are broken or damaged, you might be able to replace the wheels via bolts that hold them onto the rack. However, many wheels are permanently attached to the rack. If so, and the wheels are broken or damaged, replace the entire rack.

**Note:** On some model dishwashers, you must remove a holding clip or pin to remove the rack. This device is located, usually, at the front of the roller rails near the door opening.

### DETERGENT DISPENSER BAD

Almost always a detergent dispenser that won't work is a detergent clogging problem. Make sure that soggy detergent isn't causing binding of the detergent hopper.

If detergent isn't the problem, it could be that the detergent hopper is spring-loaded and the spring has gone bad. You can replace the spring by removing the front panel of the door and removing the bolt or fastener that holds the dispenser to the back of the door.

### SWITCH INFORMATION

Dishwashers are operated by various internal switches that are impossible for a do-it-yourselfer to check without an ohm/volt meter. These parts include a float switch; heating element; inlet valve; drain valve; pressure switch; selector and timer switch. If you have a meter, below you will find the settings for it for the various switches mentioned above.

**Float switch.** Set to RX1; if meter reading is zero, switch is working. If reading is high, the switch is faulty and needs replacing.

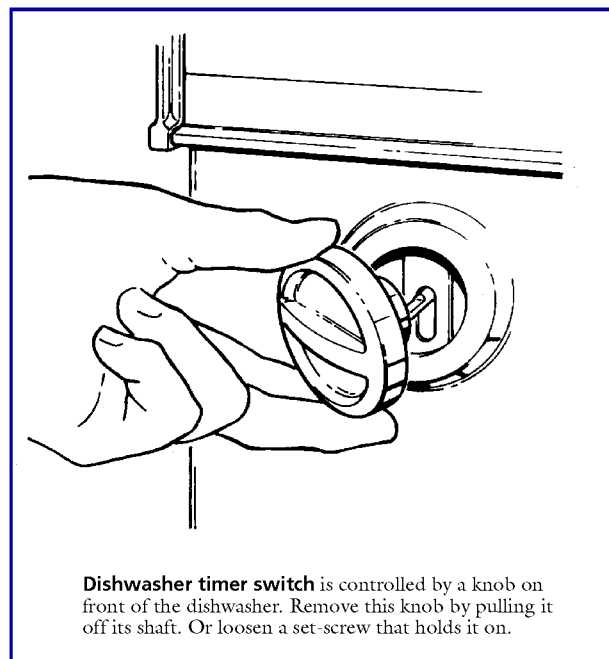
**Heater element.** Set to RX1. If reading is between 15 and 30, element is okay. If reading is over 30, replace the element.

**Inlet valve.** Set RX100 scale. If reading is 100 to 1000 ohms, solenoid is okay. If over this figure, replace it.

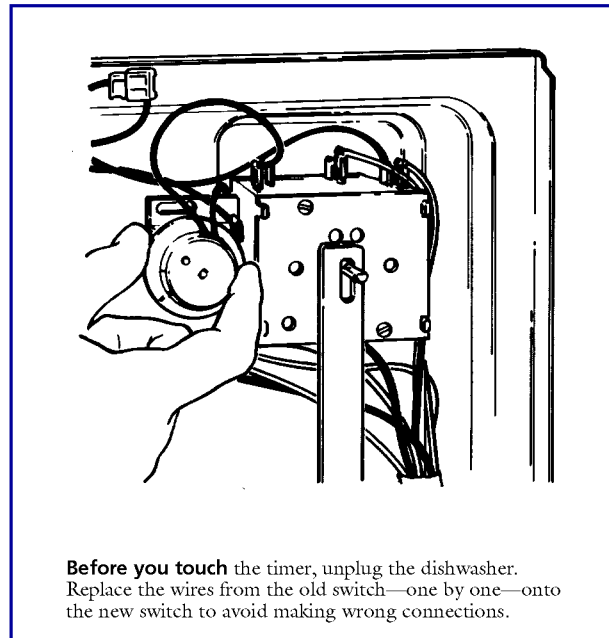
**Drain valve.** RX100 scale. If reading is 100 to 1000 ohms on the scale for the solenoid, the solenoid is okay. If higher, replace the solenoid.

**Pressure switch.** Set to RX1 scale. If meter reads zero, the switch is okay. If high, replace the switch.

**Timer switch.** Hook meter to extender switch; disconnect one of the leads to it. Set the meter on the RX1 scale. If meter reads zero, the switch is working. If the reading is high, replace this switch.



Dishwasher timer switch is controlled by a knob on front of the dishwasher. Remove this knob by pulling it off its shaft. Or loosen a set-screw that holds it on.



Before you touch the timer, unplug the dishwasher. Replace the wires from the old switch—one by one—onto the new switch to avoid making wrong connections.