

# Service

## Series "D" Plastic Tub Dishwashers

Models and manufacturing  
numbers in this manual

CDU300DB	P1307505W
CDU220DB	P1307506W
ADU7000DWW	P1307507W
ADU7000DBB	P1307508W
ADU7000DLL	P1307509W
ADU6000DWW	P1307510W
ADU6000DB	P1307511W
ADU5000DWW	P1307512W
ADU5000DB	P1307513W
ADU3000DB	P1307514W
ADU3000DWW	P1307515W
CDU300DB	P1309605W
CDU220DB	P1309606B
ADU7000D	P1309607W
ADU7000D	P1309608B
ADU7000D	P1309609L
ADU6000D	P1309610W
ADU6000D	P1309611B
ADU5000D	P1309612W
ADU5000D	P1309613B
ADU3000D	P1309614W
ADU3000D	P1309615B

This manual is to be used by qualified appliance technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

***Amana***

RS3300002  
Revision 0  
August 1997

# Important Information

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

## Important Notices for Consumers and Servicers



### WARNING

To avoid risk of serious injury or death, repairs should not be attempted by an unauthorized person, dangerous conditions (such as exposure to electrical shock) may result.



### CAUTION

Amana will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. For further assistance, please contact:

CONSUMER AFFAIRS DEPT.  
AMANA  
AMANA, IOWA 52204

**CALL** (1-800-843-0304) or  
**If no answer call** 1-319-622-5511 and ask for  
Consumer Affairs

If outside the United States contact:

AMANA  
ATTN: CONSUMER AFFAIRS DEPT.  
AMANA, IOWA 52204, USA  
Telephone: (319) 622-5511  
Facsimile: (319) 622-2180  
TELEX: 4330076 AMANA  
CABLE: "AMANA", AMANA, IOWA, USA

## Recognize Safety Symbols, Words, and Labels



### DANGER

**DANGER**—Immediate hazards which **WILL** result in severe personal injury or death.



### WARNING

**WARNING**—Hazards or unsafe practices which **COULD** result in severe personal injury or death.



### CAUTION

**CAUTION**—Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

# Contents

Important Information .....	2	<b>Service Information</b>	
<b>Product Information</b>		Water Valve and Inlet System .....	23
Models and Features .....	4	Disassembly .....	23
Model Identification .....	4	Water Valve Operation .....	23
Service Information .....	4	Float Switch .....	24
Mini-Manual Location .....	4	Disassembly .....	24
Features and Specifications .....	5	Recalibration .....	24
<b>Installation Instructions</b>		Motor/Pump Mechanism and Boots .....	25
Built-In Installation Instructions .....	6	Motor/Pump Mechanism Check .....	25
Preparing Cabinet Opening .....	6	Motor/Pump Removal .....	25
Preparing Electrical Wiring .....	6	Motor/Pump Replacement Parts .....	26
Preparing Hot Water Line .....	7	Reassembly .....	26
Preparing Drain Plumbing .....	7	Soft Food Disposer .....	26
Installing Dishwasher .....	7	Disassembly .....	26
<b>Use &amp; Care Instructions</b>		Drain Solenoid .....	27
Dishwasher-Safe Items .....	9	Racks .....	27
Loading Dishwasher .....	10	Rotating Upper Shower Arm .....	27
Preparing Dishes .....	10	Spray Arm .....	27
Top Rack .....	10	Filter System .....	28
Cup Retainer (some models) .....	10	Drain Action .....	28
Cup Shelf (some models) .....	10	Filter and Drain .....	28
Bottom Rack .....	10	Calrod Heater .....	28
Cutlery Basket .....	10	Sump Cover and Baffle Grid .....	28
Automatic Dishwasher Detergent Dispenser .....	11	Tub Corner Baffles .....	29
Changing Color Panels .....	12	Door Gasket Replacement .....	29
Changing Door Panel .....	12	Door Components .....	29
Changing Access Panel .....	12	Detergent Cup Cover And Latch .....	29
Before Calling for Service .....	12	Rinse Agent Injector .....	29
<b>Dishwasher Operation</b>		Drying Vent .....	30
Basic Operation .....	13	Control Panel Assembly .....	30
User Operation .....	13	Push Button Switches .....	30
Basic Components .....	14	Servicing Push Button Switch .....	31
Basic Functions .....	14	Push Button Switch Test .....	31
Fill with Hot Water .....	14	Switch Contact Chart .....	31
Wash Action .....	14	Snap On Electrical Components Cover .....	32
Drain .....	15	Timer .....	32
Dry .....	15	Timer Testing .....	32
Inlet, Tub, and Thermostat Temperatures .....	16	Latch Interlock Switches .....	33
120° Inlet Water Capability .....	16	Door Latch .....	33
Water Temperature Boost .....	16	Strike Adjust .....	33
<b>Operating Instructions</b>		Aluminum Trim Panel .....	33
CDU220 .....	17	Testing .....	33
CDU300 .....	18	Repair .....	33
ADU3000 .....	19	<b>Schematic Diagrams</b>	
ADU5000 .....	20	ADU3000 .....	34
ADU6000 .....	21	ADU5000 .....	36
ADU7000 .....	22	ADU6000 .....	38
		ADU7000 .....	40
		CDU220 .....	42
		CDU300 .....	44

# Product Information



## WARNING

Disconnect power and close water supply valve before servicing dishwasher. Never energize electrical power to dishwasher with any panels removed.

### Models and Features

All dishwasher models use one piece of channel steel as the main frame around tub and the two front legs. Rear legs are channel steel, and a steel bottom liner stiffens and supports tub bottom. A cross brace is used at the front for stiffness. Tub bottom brace supports the tub when filled with hot water and prevents deformation.

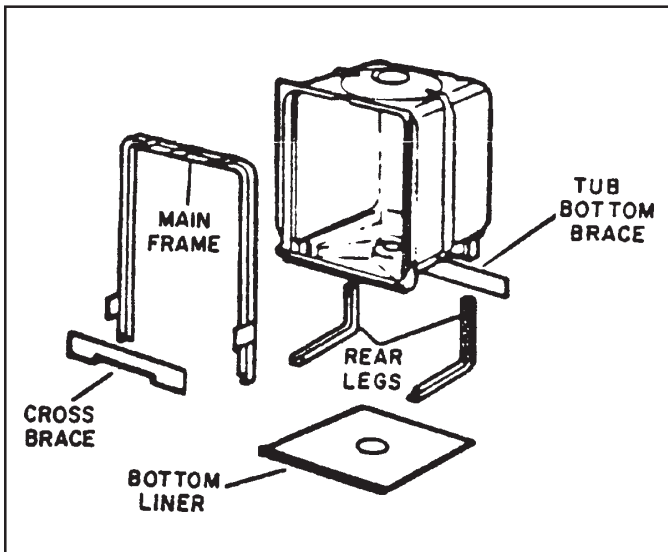


## WARNING

All ground wires removed during servicing must be reconnected to insure dishwasher is properly grounded.

Tub is not replaceable. If defective, the entire dishwasher must be replaced.

The models all have 120°F inlet water capability. Some models use a water heat thermostat and cycle extender to extend cycle time for water temperatures under 140°F. ADU3000, ADU5000, and ADU520 units use a timed system.



### Model Identification

Rating label, which gives the model number, is located on the left side of the tub at the front, and is visible when the door is opened. This series of models will have "P" numbers which identify the product.

### Service Information

Two different pieces of service literature will be available. The mini-manual comes with the product. This piece contains a schematic, cam chart, and abbreviated service information.

This service manual will contain all pertinent service reference information including schematics.

### Mini-Manual Location

The mini-manual is accessible when the access panel is removed.

The folded mini-manual is in a 6-inch x 3 1/4-inch envelope, which is placed between the tub and metal plate, on the right side.

# Product Information

## Features and Specifications

BRAND	AMANA				CALORIC		
MODEL	ADU7000	ADU6000	ADU5000	ADU3000	CDU520	CDU300	CDU220
Colors							
White	X	X	X	X	X	—	X
Black	X	X	X	X	X	X	X
Gold	—	X	—	—	—	—	—
Almond	X	X	X	X	X	X	—
Cup Shelf	2 Metal	2 Plastic	—	—	—	—	—
Silverware Basket	Super	Super	X	X	X	X	X
Timer							
Rotary	X	X	X	X	X	X	X
Push Buttons	10	7	5	2	—	2	5
Cycles							
Pots and Pans	X	X	X	—	X	X	—
Heavy Wash	X	X	—	—	—	—	—
Normal Wash	X	X	X	X	X	X	X
Light Wash	X	X	—	—	X	X	—
China/Crystal	X	—	—	—	—	—	—
Short Wash	X	X	X	X	—	—	—
Rinse and Hold	X	X	X	X	X	X	X
Plate Warmer	X	X	X	X	X	X	—
Options							
Delay Start	10 hours	6 Hours	—	—	6 Hours	—	—
Heated Dry On	X	X	X	X	X	X	X
Water Heat Boost	X	X	X	X	X	—	—
Timer	X	X	X	X	X	—	—
Calrods Watts	500	500	500	500	500	500	500
Sound	SofSound™	Premium	Premium	Standard	Delux	Standard	—
Washability							
Wash Levels	3	3	3	3	3	2	2
Mid Level Wash	Tower	Tower	Tower	Tower	Tower	Tower	Tower
Rinse Aid Indicator	X	X	X	—	—	—	—
Food Disposal	X	X	X	X	—	—	—

# Installation Instructions

## Built-In Installation Instructions

### Preparing Cabinet Opening

Dishwasher is designed to fit into a minimum 34 1/2" height and 24" width and depth. A minimum of 2" is required between dishwasher and perpendicular cabinet or wall. Dishwasher must not be installed more than 10' from sink for proper drainage.

**Note:** Complete enclosure is not provided with dishwasher. Installer must provide top, bottom, back and side enclosures.

## Preparing Electrical Wiring



### WARNING

To avoid electrical shock which can cause severe personal injury or death, open household circuit breaker to dishwasher before installing or servicing dishwasher. After installing or servicing dishwasher, reconnect power.

**Note:** Electrical wiring must meet local codes and ordinances. If wiring does not, contact a licensed electrician.

1. Cut 1 1/2" maximum hole in cabinet for cable or power cord. Wiring must enter within shaded area.

### 2. Connecting Dishwasher

#### Using Cable Direct Connection

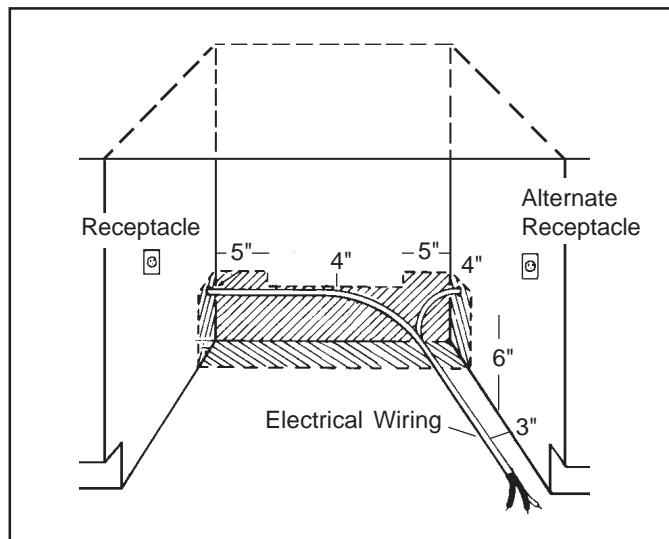
Route cable as shown. Cable must extend a minimum of 24" from back wall of cabinet.

#### Using Power Cord

Install a three-prong grounded receptacle in rear of sink cabinet next to dishwasher. Do not install receptacle in cabinet opening. Receptacle must be installed at least 6" but not more than 18" from cabinet opening.

#### Note:

Edges of cabinet opening for power cord must be smooth and rounded. If cabinet is metal, edges of opening must be covered with a rubber cord protector.

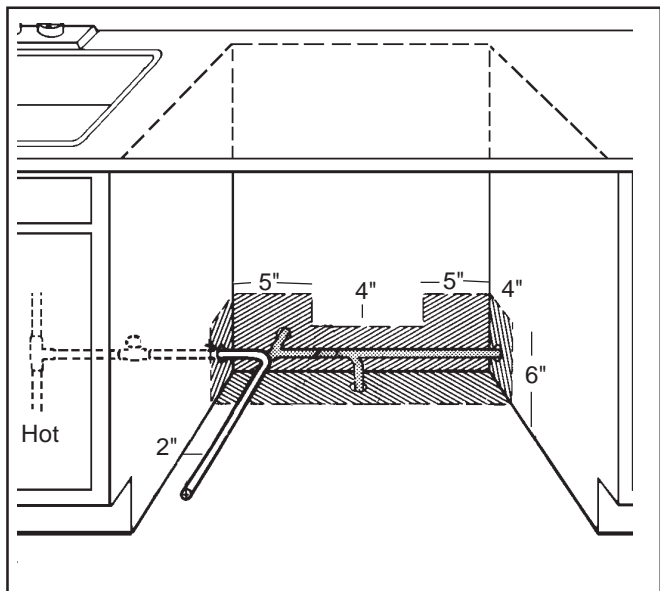


# Installation Instructions

## Preparing Hot Water Line

### Note:

- Plumbing must meet local codes and ordinances. If plumbing does not, contact a licensed plumber.
  - Hot water line must accommodate 3/8" copper tubing or 1/2" plastic tubing. Manual shut-off in hot water line is recommended.
1. Cut 1 1/2" hole in cabinet for hot water line. Hot water line must enter within shaded area.
  2. Flush water line to clean out debris.



## Preparing Drain Plumbing

### Note:

- Plumbing must meet local codes and ordinances. If plumbing does not, contact a licensed plumber.
- Edges of cabinet opening for drain hose must be smooth and rounded. If cabinet is metal, edges of opening must be covered with a rubber cord protector.
- An air gap must be used if drain hose is connected to house plumbing lower than 18" above floor level. All air gap devices must be capable of passing 3/8" steel ball to assure minimum drain line stoppages.

## Installing Dishwasher

### **!** WARNING

To avoid electrical shock which can cause severe personal injury or death, open household circuit breaker to dishwasher before installing or servicing dishwasher. After installing or servicing dishwasher, restore power.

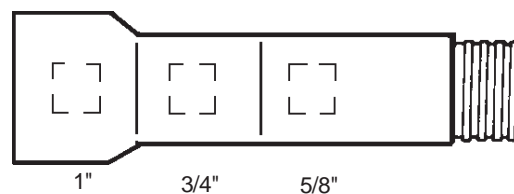
### **!** CAUTION

To avoid property damage, protect soft vinyl or other flooring with cardboard, rugs or other protective material during installation.

### **!** CAUTION

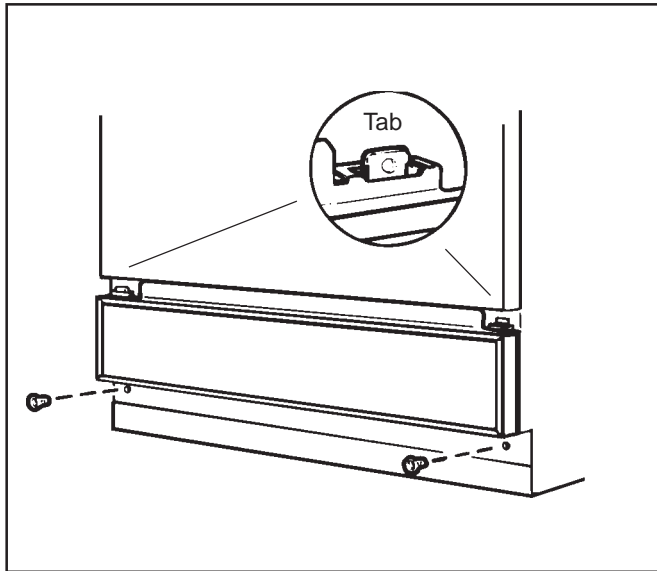
To avoid property damage, do not tilt dishwasher forward.

1. Cut end of drain hose at pre-marked line as necessary. Do not cut corrugated portion of drain hose.



# Installation Instructions

2. Remove access panel by removing screws then lifting panel up and over tabs.



3. Confirm drain hose is connected to drain hose valve.
4. Connect hot water line to water valve using a 90° elbow. Dishwasher water valve has a 3/8" N.P.S. internal thread.
5. Remove slotted hex head screws from wooden base. Lift dishwasher off wooden base. Discard wooden base and hex head screws.
6. Loosen leveling legs.
7. Push drain hose through opening in cabinet. Route drain hose through plastic strain relief and connect to disposer or drain using clamp. If connecting to a disposer, remove disposer hopper plug before making connection.

**Note:** If an air gap is not code required, drain hose must have a high drain loop, which is 18" minimum above floor level. This prevents back flow of water into dishwasher or water siphoning out during operation.

8. Attach power supply to rear of dishwasher junction box using a strain relief (not supplied). Connect wires using wire nuts (not supplied). Connect incoming black wire to black wire inside junction box. Connect incoming white wire to white wire. Connect incoming ground wire to green ground wire.



## DANGER

To avoid electrical shock which can cause severe personal injury or death, a ground wire must be provided by installer if house wiring is not two-wire with a ground wire. Otherwise dishwasher will not be grounded. When house wiring is aluminum, use U.L. approved antioxidant compound and aluminum-to-copper connectors.

9. Route power cord (if applicable) through opening in cabinet wall.
  10. Slide dishwasher into position. Any excess drain hose must be coiled under dishwasher.
  11. Check front of door for correct vertical alignment. If dishwasher is not aligned, adjust leveling legs until dishwasher is aligned with cabinets.
  12. Confirm door closes properly and latch engages. If door strikes cabinets or latch fails to engage, adjust leveling legs until properly aligned.
- Note:** Confirm dishwasher is flush with underside of countertop to reduce sound level.
13. Fasten dishwasher to underside of countertop by inserting screws and tightening. Screws must be driven straight into countertop to avoid interference with door.
  14. Replace access panel by reversing step 2.
  15. Plug power cord (if applicable) into outlet.
  16. Pour two quarts of water into dishwasher tub prior to starting dishwasher for the first time. Water acts as a lubricant and will prevent possible motor damage.
  17. Run dishwasher through a complete cycle to check for leaks.



# Use & Care Instructions

## Dishwasher-Safe Items

Material	Usually Safe	Exceptions	Special Instructions
Aluminum	Yes	Some colored anodized aluminum can fade.	Some darkening or spotting possible. Remove by scouring with soap-filled steel wool pads.
China/Stoneware	Yes	Antique, metal trimmed, hand-painted or over-the-glaze patterns fade. Gold leaf will discolor.	If in doubt, check with china/stoneware manufacturer or test wash one piece daily for at least a month. Compare with rest of set.
Crystal	Yes	Antique, metal trimmed, hand-painted or over-the-glaze patterns fade. Gold leaf will discolor.	Load securely to prevent movement. Check crystal manufacturer's instructions.
Glass	Yes	Milk glass may yellow.	—
Iron	No	—	—
Non-dishware such as filters, etc.	No	—	Damage to dishwasher and discoloration or staining of dishwasher may result.
Non-stick coatings	Yes	—	After washing, wipe non-stick coating with vegetable oil to keep coating from losing non-stick quality.
Pewter	No	—	
Plastics	Yes	—	If plastic does not say "dishwasher-safe", test one piece before washing entire set.
Stainless steel	Yes	—	Rinse if not washing immediately. Salty or acid foods can stain if left on.
Sterling silver and silver plate	Yes	Contact with stainless steel can damage silver. Washing with copper can leave a brown film.	Rinse if not washing immediately. Salty or acid foods can stain if left on. Powder detergent can cause black spots. Avoid placing under detergent dispenser.
Tin	No	—	—
Wood	No	—	—

# Use & Care Instructions

## Loading Dishwasher

### Preparing Dishes

Prerinsing of normal food soils is not necessary. Remove foods such as mustard, mayonnaise, vinegar, lemon juice that can cause discoloration of stainless steel.



### Caution

To avoid damage to pump, remove solids such as bones, meat trimmings, rinds, seeds, skins, or toothpicks.

### Top Rack

Top rack is for delicate, plastic or small dishware. Glasses fit best along the sides. Arrange stemware so that stemware cannot move easily. Do not let glasses or stemware touch each other.



### WARNING

To avoid personal injury or property damage, do not place plastic dishware in dishwasher unless marked "dishwasher-safe" or equivalent. For plastic dishware not marked, check manufacturer's recommendations.

Place sauce pans, mixing bowls and other dishware face down.

### Cup Retainer (some models)

Cup retainer secures tall cups and bowls in upper rack.

### Cup Shelf (some models)

Cup shelf features a fold down shelf for two levels of smaller dishware.

### Bottom Rack

Bottom rack is best for heavily soiled dishware. Fit plates and saucers between tines. Load dishware with soiled side facing center. Prop broiler pans and racks along edge.

**Note:** Do not load large dishware in front right corner of bottom rack. Large dishware prevents automatic dishwasher detergent from circulating in wash cycle.

Do not block wash tower or load tall dishware next to wash tower. Dishware must not prevent wash tower from rotating freely.

Do not let dishware extend through bottom rack. This could block wash arm and cause poor washing results.

### Cutlery Basket

Load cutlery basket evenly with dishware mixed. Small plastic dishware such as measuring spoons and lids are not recommended for automatic dishwashing. If placed in dishwasher, these items should be placed in center compartment.



### WARNING

To avoid personal injury or property damage, load sharp knives so knives do not touch door seal. Load knives in cutlery basket with handles up.

**Note:** Take out anything that might fall or extend through the bottom of basket.

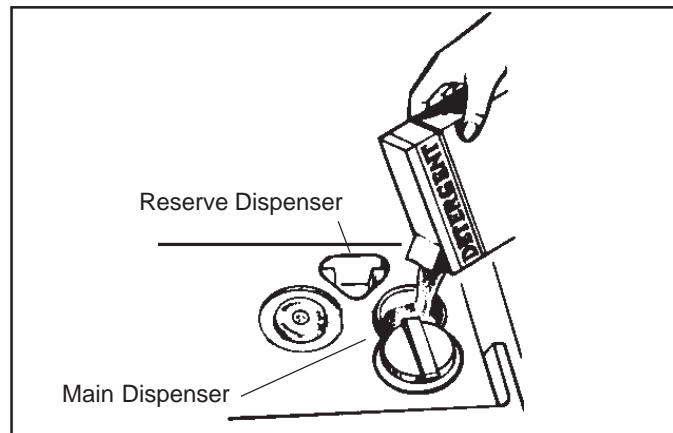
# Use & Care Instructions

## Automatic Dishwasher Detergent Dispenser

Use main dispenser for all wash programs except RINSE & HOLD. Reserve dispenser is for two cycle washes and if extra detergent is necessary.

1. Confirm cycle indicator dial is in *OFF* position, otherwise main dispenser will not close properly. Add automatic dishwasher detergent.
2. Close main dispenser.

**Note:** Open main dispenser after dispenser has been closed by unlatching door and rotating cycle indicator dial to *OFF* position. If dispenser contains automatic dishwasher detergent, partially open door before rotating cycle indicator dial. This reduces amount of spillage into tub.



## Automatic Dishwasher Detergent Usage Guide (Cycles vary from model to model)

Soft Water (0-3 Grains per Gallon)		
Cycles	Main Dispenser	Reserve Dispenser
POTS & PANS	1 Tablespoon minimum	1 Tablespoon minimum
HEAVY, NORMAL or LIGHT WASH	1 Tablespoon minimum	1 Tablespoon minimum
SHORT WASH	1 Tablespoon minimum	Optional*
Hard Water (4-10 Grains per Gallon)		
Cycles	Main Dispenser	Reserve Dispenser
POTS & PANS	1 1/2 Tablespoons minimum	1 Tablespoon minimum
HEAVY, NORMAL or LIGHT WASH	1 1/2 Tablespoons minimum	1 Tablespoon minimum
SHORT WASH	1 1/2 Tablespoons minimum	Optional*
Extremely Hard Water (Over 10 Grains per Gallon)		
Cycles	Main Dispenser	Reserve Dispenser
POTS & PANS	3 Tablespoons (Full)	2 Tablespoon (Full)
HEAVY, NORMAL or LIGHT WASH	3 Tablespoons (Full)	2 Tablespoon (Full)
SHORT WASH	3 Tablespoons (Full)	Optional*
A water softener should be installed if water hardness is over 19 grains per gallon.		
*Add automatic dishwasher detergent to reserve dispenser if two wash, three rinse cycle is desired.		

# Use & Care Instructions

## Changing Color Panels



### WARNING

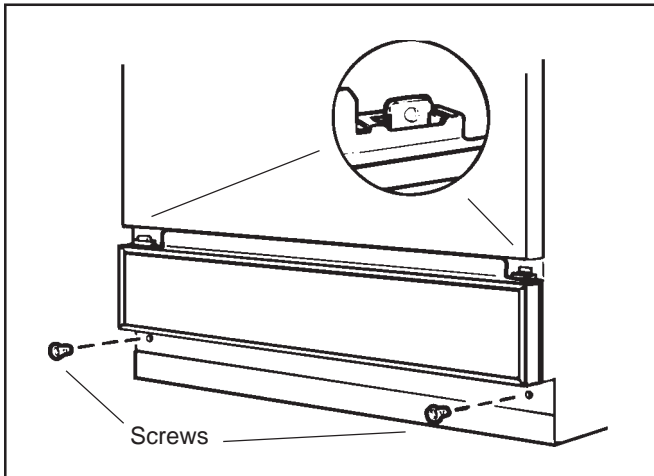
To avoid electrical shock which can cause severe personal injury or death, unplug power cord or open household circuit breaker to dishwasher before changing panels.

### Changing Door Panel

1. Remove door trim from one side of door by removing screws.
2. Slide out door panel. Turn door panel around and replace.
3. Replace trim by reversing step 1.

### Changing Access Panel

1. Remove access panel by removing screws then lifting panel up and over tabs.
2. Remove trim by removing screws.
3. Slide out access panel. Turn access panel around and replace.
4. Replace trim by reversing step 2.
5. Replace access panel by reversing step 1.



## Before Calling for Service

Dishwasher will not operate

- Check fuse or circuit breaker.

Automatic dishwasher detergent is left in dispenser

- Confirm dishwasher is loaded properly.
- Open dispenser and remove any hardened automatic dishwasher detergent.
- Confirm automatic dishwasher detergent is not old or wet.

Dishwasher makes unfamiliar sounds

- Confirm items are secure in dishwasher. Water may be causing items to rattle.
- If dishwasher has not been used regularly, set dishwasher to fill and pump out once every week. This will keep seals moist.

Small amount of water is standing in tub

- This is normal and keeps water seal lubricated.

Water will not pump out of tub

- Check air gap.
- Confirm sink is draining well.
- Run disposer if dishwasher is connected to disposal.

Suds are in tub

- Confirm detergent is for automatic dishwashers. Remove suds by opening door and letting suds evaporate. Add a gallon of cold water. Close and latch door. Pump out water by turning control dial until a drain period is reached.
- Confirm rinse aid dispenser is filled properly and any spills are wiped up.

Dishwasher leaks

- Confirm automatic dishwasher detergent is for automatic dishwashers.
- Confirm rinse aid dispenser is filled properly and any spills are wiped up.

Cloudiness appears on dishware

- See spotting or filming section.
- Cloudiness may be etching. Etching cannot be removed.

Dishware is chipped

- Confirm dishwasher is loaded properly.

Dishware is not dry

- Confirm water temperature is above 120°F.
- Confirm dishwasher is loaded properly.
- Unload bottom rack first. Water from dishes in top rack may be spilling.
- Check level of rinse aid in dispenser.

# Operation

## Basic Operation

For dishes to wash properly, consumer must load dishwasher correctly as described in Use and Care Section of this manual, and in more detail in the Use and Care Manual.

Spraying water must be able to reach all dishware surfaces. Dishes or utensils must not obstruct wash arm of telescoping wash tower.

Next, detergent must be added to dispenser and dispenser cover must be closed. Rinse aid dispenser (*RAD*) tank should contain enough rinse agent for dump in final rinse.

To operate dishwasher, close door and push interlock switch lever to the right. Turn timer knob to *Start*. For models with push buttons, momentarily press in on desired wash cycle push buttons. A timed fill of about 60 seconds will begin. During fill, pump and motor will run in recirculation mode. First two or three fills (depending on the cycle selected) are pre-washes—plain hot water flowing over dishware. If extra detergent cup has been filled, it dumps when door is closed to remove most of food residue. After each fill and pre-wash, there is a pumpout.

## User Operation

1. Load dishes correctly—so spray gets to all surfaces.
2. Add dishwasher detergent.
3. Add rinse agent—if desired.
4. Close and latch door.
5. Select desired wash cycle and dry mode.
6. Turn timer knob to *ON* on timer knob models.  
Push in cycle buttons for models with push buttons.

### 7. For *Normal* cycle:

3 Pre-washes

1 Detergent Wash

3 Rinses

8. If *Heated Dry*, timer runs to *OFF* with heater on.

If *Normal Dry*, timer runs to *OFF* with heater off.

Wash cycle follows pre-washes. Wash time will vary with cycle selection. If model includes water heat booster, heater is on during third pre-wash and during wash to increase water temperature and improve washability. Detergent cup cover opens approximately two minutes into *Wash* cycle. Three rinses follow wash.

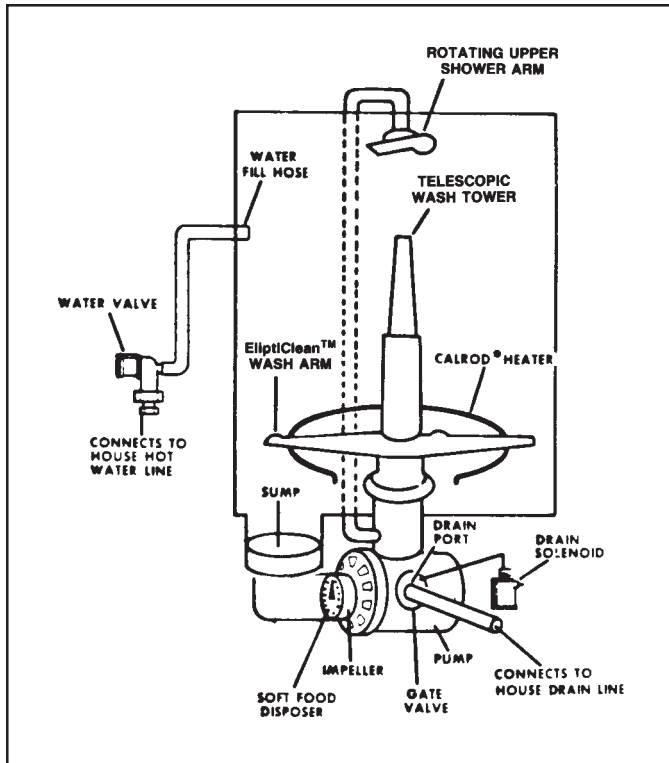
After final rinse, wet portion of cycle is completed and pump and motor stop. If *Heated Dry ON* has been selected, heater will be on during drying. If *Normal Dry* has been selected, heater will be off.

For *Rinse and Hold* cycle, turn to *R & H* dot on dial. This provides the two *Final Rinse* cycles only. Timer will continue to run to end of what would normally be *Heated Dry* cycle. For *Rinse and Hold* cycle, the *Normal Dry* selection should be made. Applying heat to *Rinse and Hold* dishes could bake on any remaining food particles and produce a washability complaint.

# Operation

## Basic Components

Illustration identifies the basic parts of the dishwasher. Hot water supply connects to water valve which controls flow through the water fill hose into side of tub.



When pump motor is energized, gate valve at the exit of pump controls whether water is recirculated back into tub (when drain solenoid is not energized) or out of drain port (when drain solenoid is energized). Sump at bottom of tub is connected to pump, so when pump motor is energized water is either drained out or recirculated.

At entry to pump a *Soft Food* disposer pulverizes small amounts of soft food which are pumped out of dishwasher during drain periods. Soft food disposer does not need to be cleaned by user.

Water recirculated into dishwasher tub goes up a hollow tube connected to a rotating wash arm (sometimes called spray arm) and telescoping wash tower. On some models, a port off the pump housing channels water up to enter the top of tub through the rotating upper shower arm.

Calrod® sheathed heating unit is located at bottom of tub.

## Basic Functions

During normal wash cycle, dishwasher performs these functions.

### Fill with Hot Water

Enough water is necessary to enable good washing action. Normal amount of water for a full fill is about 2.0 gallons. Some rinse fills are less.

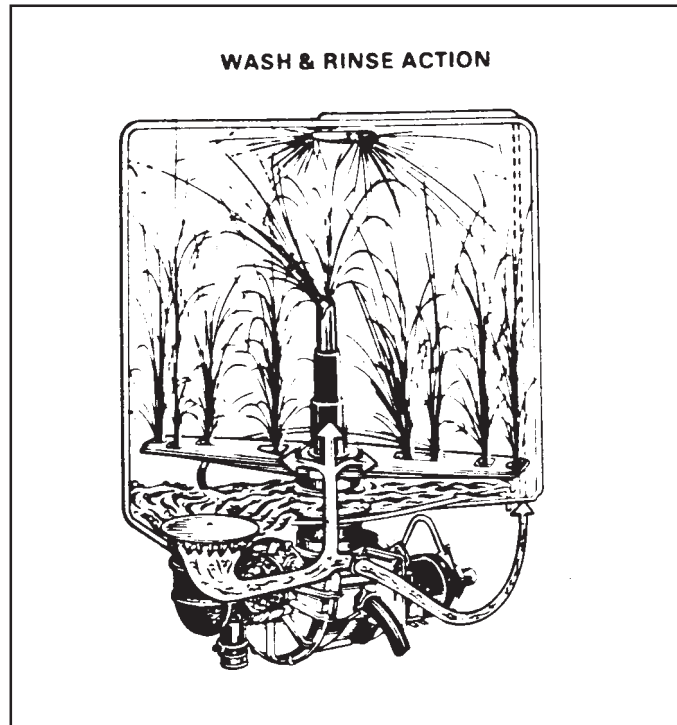
Actual water level in dishwasher is controlled indirectly; amount of water fill is determined by timer energizing water valve solenoid for a specified length of time. Water valve is designed to give a flow rate of 1.8 gallons per minute and is on for 1 minute. Fill would be 1.8 gallons under design conditions. Pump motor is energized during the fill period.

### Wash Action

Hot water is sprayed under pressure onto dishware. This is accomplished by pumping water up a hollow tube through tub bottom and into wash arm and three-section telescoping wash tower fastened to wash arm.

These components rotate from 12 to 40 RPM. Wash arm is powered by water jet at one end. Water sprayed on dishware falls to the bottom of the tub and then goes into sump and back to pump.

On some models there is a shower arm at top of tub. If used, water comes out of port in pump housing through a hose to upper shower arm. Water pressure rotates upper shower arm at about 100 RPM.



# Operation

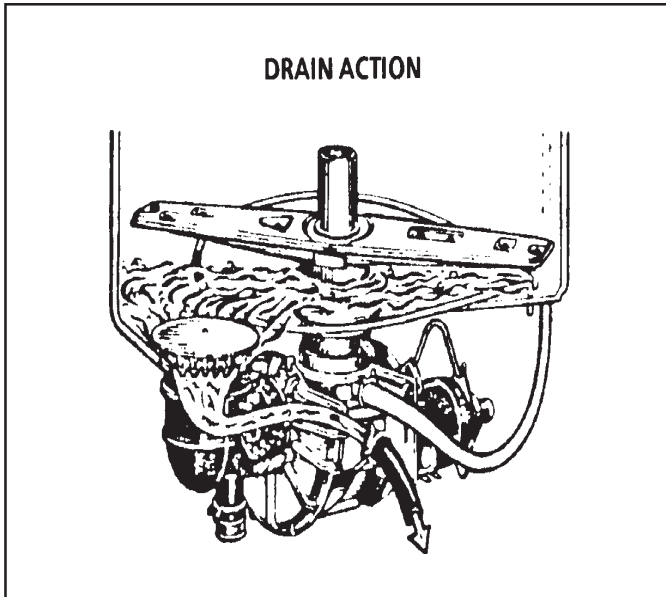
Action of wash system is exactly the same for washing and rinsing periods except detergent is introduced during wash period. A covered detergent cup is tripped and detergent is dispensed during main wash period (after fourth water fill in *Normal Wash* cycles).

First wash action period is usually called *Pre-wash*. Detergent can be used in the first wash period by filling the open detergent cup. Detergent falls out into tub when door is closed.

## Drain

When drain solenoid is energized, water is pumped out through drain hose into house plumbing. Pump motor turns the same direction during wash and drain action, but gate valve at exit of the pump is opened by drain solenoid and recirculating opening in bottom center of tub is closed.

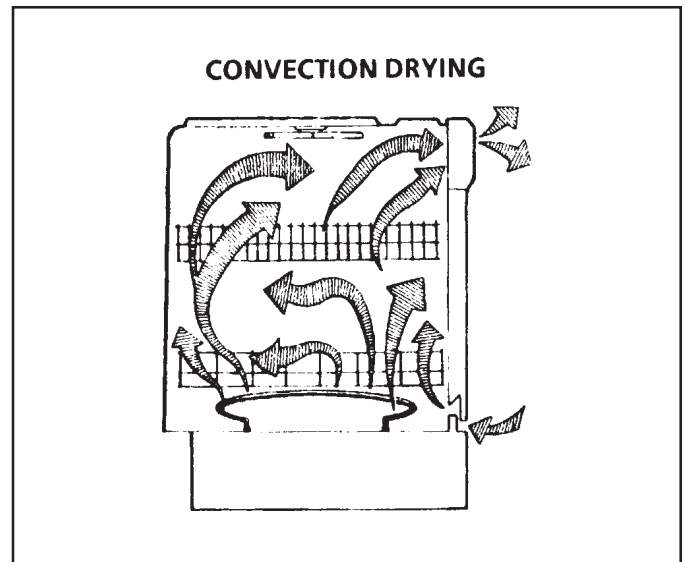
Some water will always be visible in sump area at the bottom of tub after drain to prevent pump water seal from drying out.



## Dry

After last drain out during washing cycle, the pump motor, which has run continuously until this point, is de-energized.

In convection drying systems, air enters tub at bottom of door and, as it is warmed, rises and exits through vent channel openings in top front of door. Vent opening is closed during washing and rinsing.

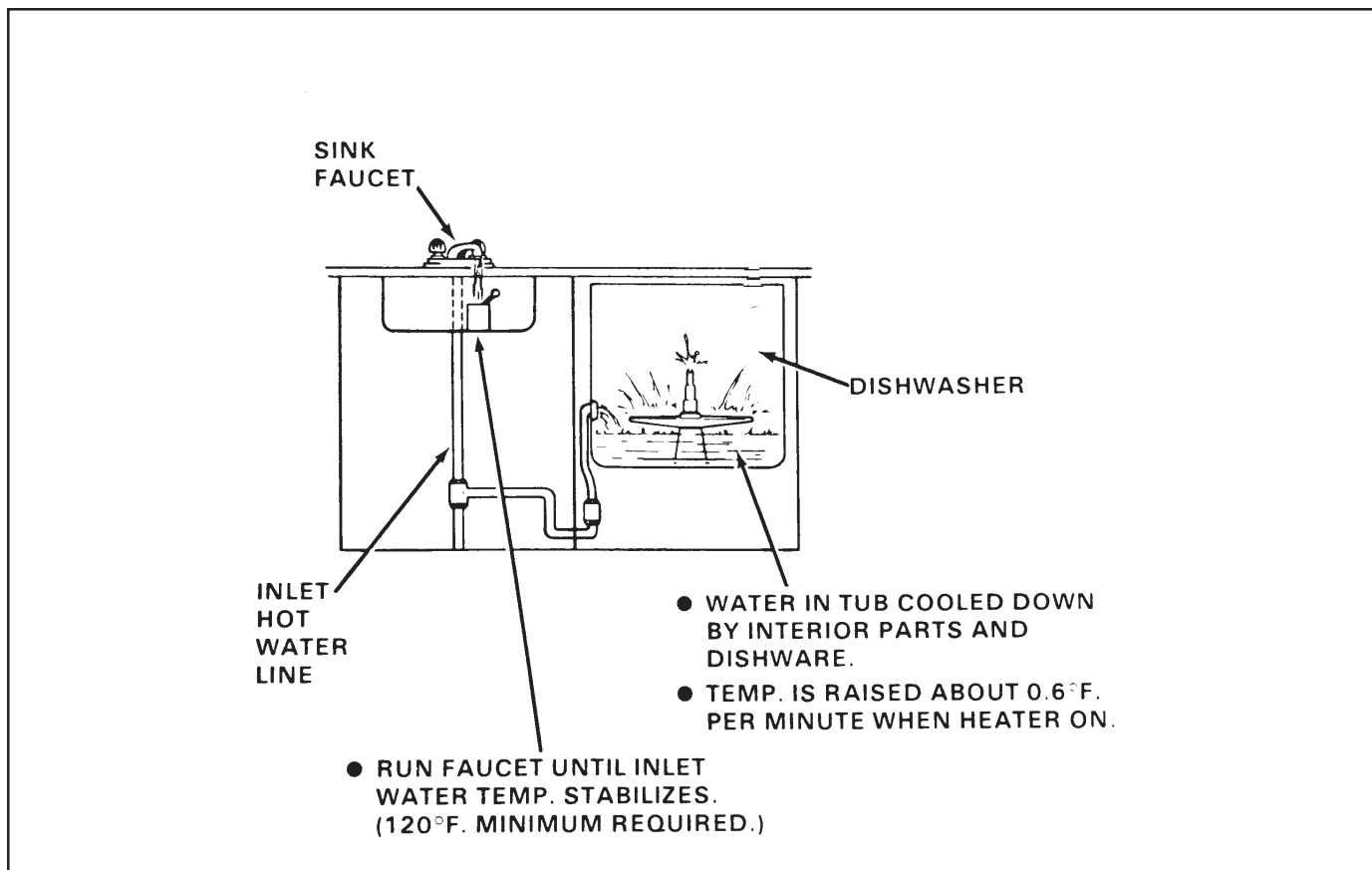


During heated dry, the calrod heater located in the bottom of the tub is energized, unless *Normal* no-heat drying is selected.

For *Heated Dry*, the calrod heater is on for about 32 minutes.

For *Normal Dry*, the heat remaining from the hot water used in washing and rinsing starts the drying process. However, it takes several hours for the dishes to completely dry.

# Operation



## Inlet, Tub, and Thermostat Temperatures

Drawing shows locations where water temperature is measured.

120°F inlet water temperature is, by definition, stabilized temperature when hot water is run at a sink close to dishwasher. The Use and Care Manual recommends a candy thermometer to measure water temperature as it runs into a glass.

## 120° Inlet Water Capability

Until 1983, most dishwashers required 140°F inlet water. 120°F capability means

1. saving energy by lowering water heater temperatures to 120°F.
2. best possible washing job is accomplished when water temperatures are above 120°F. Even if the water heater is set for 140°F, actual inlet water temperature is often less.

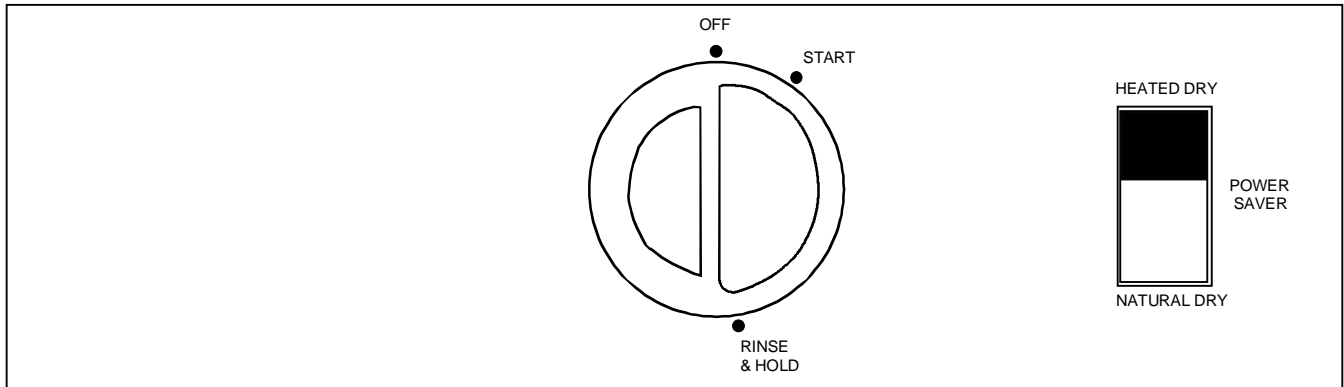
## Water Temperature Boost

When hot water runs into dishwasher tub at room temperature (normally 70°F), it cools down substantially after the first fill because the water is sprayed on the cold tub interior, racks, and dishware. During subsequent fills tub is not as cool and water does not cool down as much.

Highly featured models have *Water Temperature Boost* using calrod heater during wash periods. A timer is used to extend wash period and heat water for a specified time.

When calrod heater is on during wash or rinse, the water temperature is raised about 0.6°F for each minute it is on.



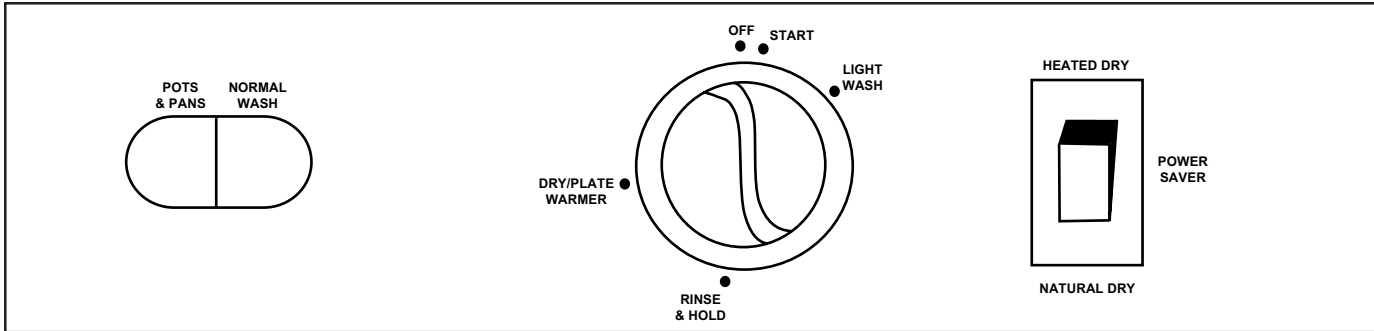


**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Select *HEATED DRY* or *NATURAL DRY*.
2. Turn knob to *Normal Wash*.
3. Latch door.

Cycle	Sequence	Water Used	Cycle Time
		(Gallons)	(Minutes)
NORMAL WASH Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.6	57
HEATED DRY Use for fast drying.			32
NATURAL DRY Use for no heat drying.			

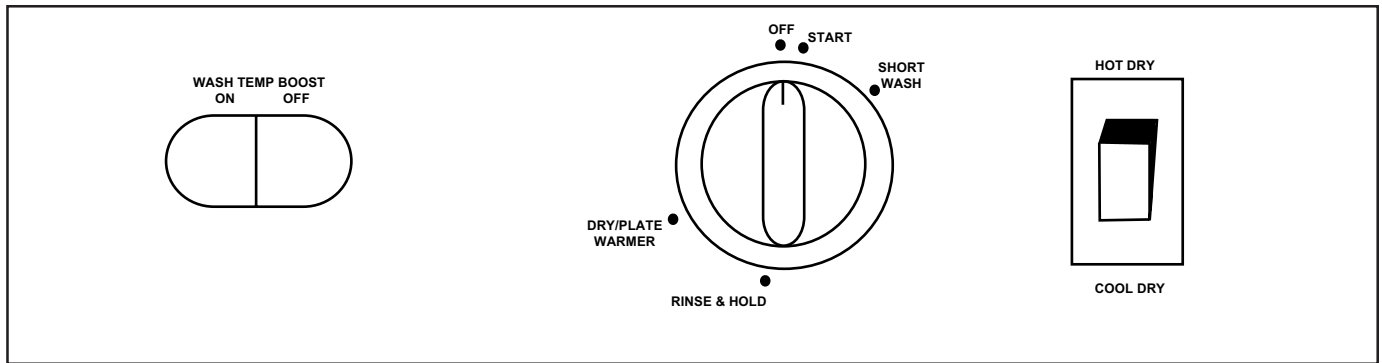


**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Push *POTS & PANS* or *NORMAL WASH* button, as desired.
2. Select *HEATED DRY* or *NATURAL DRY*.
3. Select *POTS & PANS* or *NORMAL WASH* cycle by turning knob to *START*.  
or  
Select *LIGHT WASH*, *RINSE & HOLD* or *DRY/PLATE WARMER* cycle by turning knob to appropriate setting.
4. Latch door.

Cycle	Sequence	Water Used	Cycle Time
		(Gallons)	(Minutes)
<b>POTS &amp; PANS</b> Use for excessively soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	10.3	96
<b>NORMAL WASH</b> Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.6	96
<b>LIGHT WASH</b> Use for lightly soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse	7.1	86
<b>RINSE &amp; HOLD</b> Use to prevent food from drying on items.	Rinse, Rinse	3.1	12
<b>DRY/PLATE WARMER</b> Use for drying and warming			32
<b>HEATED DRY</b> Use for fast drying.			32
<b>NATURAL DRY</b> Use for no heat drying.			



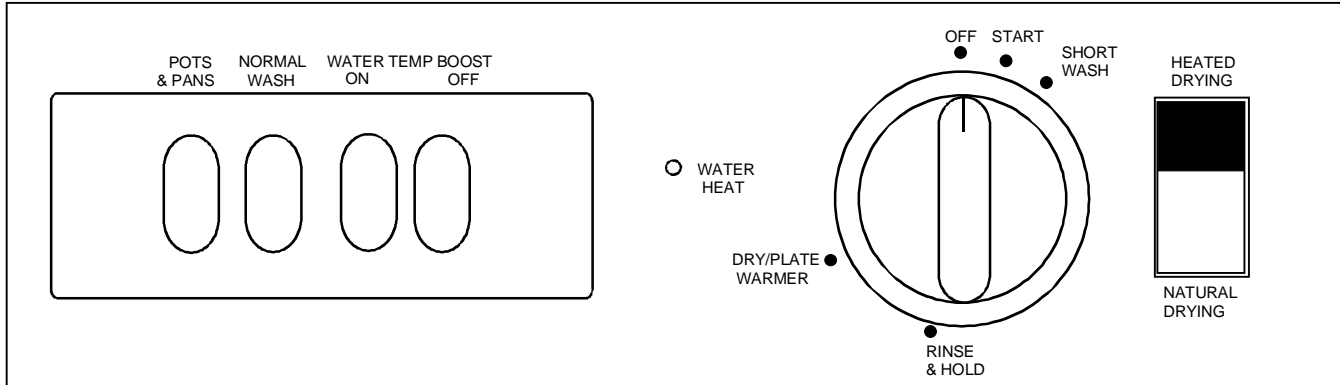
**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Push *WASH TEMP BOOST ON* button, if desired.
2. Select *HOT DRY* or *COOL DRY*.
3. Select *NORMAL WASH* cycle by turning knob to *START*.  
 or  
 Select *SHORT WASH*, *RINSE & HOLD* OR *DRY/PLATE WARMER* cycle by turning knob to appropriate setting.
4. Latch door.

Cycle	Sequence	Water Used (Gallons)	Cycle Time (Minutes)
NORMAL WASH Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.6	63
SHORT WASH Use for a quick cycle.	Wash/Rinse, Wash, Rinse, Rinse, Rinse	7.0	53
RINSE & HOLD Use to prevent food from drying on items.	Rinse, Rinse	4.3	12
DRY/PLATE WARMER Use for drying and warming			32
HEATED DRY Use for fast drying.			32
NATURAL DRY Use for no heat drying.			

\**WASH TEMP BOOST* Increases water temperature for improved wash performance.



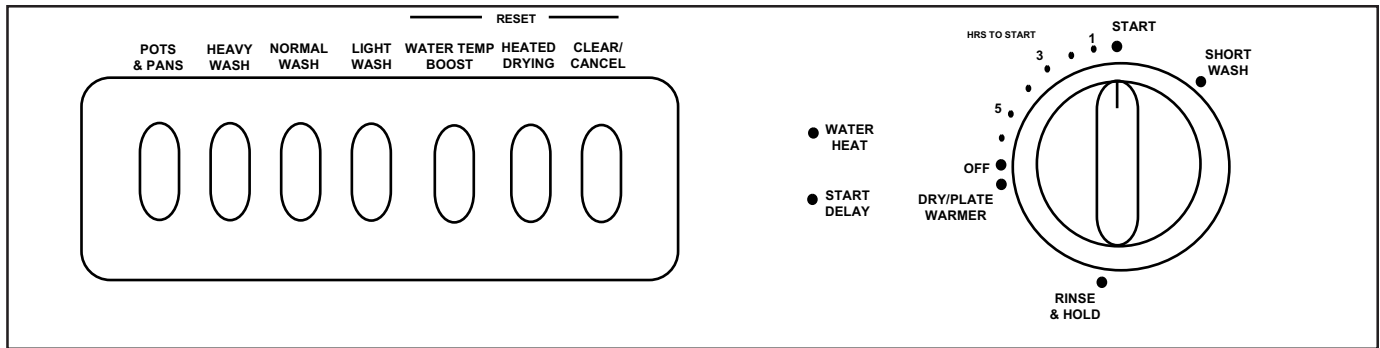
**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Push *WATER TEMP BOOST ON* button, if desired.
2. Select *HEATED DRYING* or *NATURAL DRYING*.
3. Select *POTS & PANS* or *NORMAL WASH* cycle by pushing *POTS & PANS* or *NORMAL WASH* button then turning knob to *START*.  
or  
Select *SHORT WASH*, *RINSE & HOLD* or *DRY/PLATE WARMER* cycle by turning knob to appropriate setting.
4. Latch door.

Cycle	Sequence	Water Used	Cycle Time
		(Gallons)	(Minutes)
POTS & PANS Use for excessively soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	10.2	63
NORMAL WASH Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.8	63
SHORT WASH Use for a quick cycle.	Wash/Rinse, Wash, Rinse, Rinse, Rinse	7.0	63
RINSE & HOLD Use to prevent food from drying on items.	Rinse, Rinse	4.3	12
DRY/PLATE WARMER Use for drying and warming.			32
HEATED DRY Use for fast drying.			32
NATURAL DRY Use for no heat drying.			

\*WATER TEMP BOOST increases water temperature for improved wash performance.

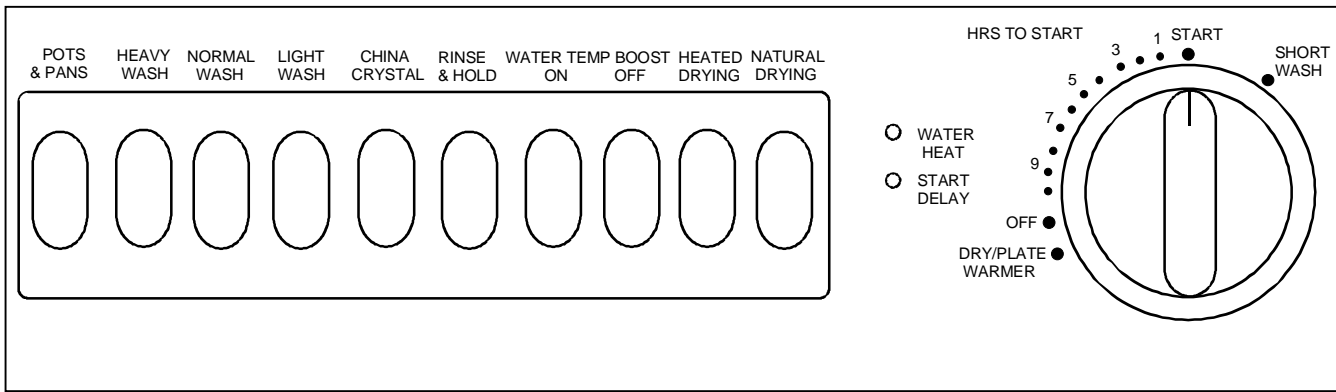


**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Push *WATER TEMP BOOST* button, if desired.
2. Push *HEATED DRYING* button, if desired.
3. If *START DELAY* is desired, turn knob clockwise to desired delay time.
4. If *START DELAY* is not desired, do one of the following:
  - Select *POTS & PANS*, *HEAVY WASH*, *NORMAL WASH* or *LIGHT WASH* cycle by pushing *POTS & PANS*, *HEAVY WASH*, *NORMAL WASH* or *LIGHT WASH* button then turning knob to *START*.
  - Select *SHORT WASH*, *RINSE & HOLD* or *DRY/PLATE WARMER* cycle by turning knob to appropriate setting.
5. Latch door.

Cycle	Sequence	Water Used	Cycle Time
		(Gallons)	(Minutes)
<b>POTS &amp; PANS</b> Use for excessively soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	9.9	63
<b>HEAVY WASH</b> Use for heavily soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	9.9	63
<b>NORMAL WASH</b> Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.4	63
<b>SHORT WASH</b> Use for a quick cycle.	Wash/Rinse, Wash, Rinse, Rinse, Rinse	6.9	55
<b>LIGHT WASH</b> Use for lightly soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse	7.7	63
<b>RINSE &amp; HOLD</b> Use to prevent food from drying on items.	Rinse, Rinse	3	9
<b>DRY/PLATE WARMER</b> Use for drying and warming			32
<b>HEATED DRY</b> Use for fast drying.			32
<b>CLEAR/CANCEL</b> Use for no heat drying.			



**Note:**

Before operating dishwasher, read "Important Safety Instructions" section in User Maintenance Instructions.

1. Push *WATER TEMP BOOST ON* or *OFF* button as desired.
2. Select *HEATED DRYING* or *NATURAL DRYING* as desired.
3. If *START DELAY* is desired, turn knob clockwise to desired delay time.
4. If *START DELAY* is not desired, do one of the following:
  - Select *POTS & PANS*, *HEAVY WASH*, *NORMAL WASH*, *LIGHT WASH*, *CHINA/CRYSTAL* or *RINSE & HOLD* cycle by pushing *POTS & PANS*, *HEAVY WASH*, *NORMAL WASH*, *LIGHT WASH*, *CHINA/CRYSTAL* or *RINSE & HOLD* button then turning knob to *START*.
  - Select *SHORT WASH*, *RINSing* or *DRY/PLATE WARMER* cycle by turning knob to appropriate setting.
5. Latch door.

Cycle	Sequence	Water Used	Cycle Time
		(Gallons)	(Minutes)
POTS & PANS Use for excessively soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	9.9	63
HEAVY WASH Use for heavily soiled items.	Wash/Rinse, Rinse, Rinse, Wash, Rinse, Rinse, Rinse	9.9	63
NORMAL WASH Use for average soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse, Rinse	8.4	63
SHORT WASH Use for a quick cycle.	Wash/Rinse, Wash, Rinse, Rinse, Rinse	6.9	55
LIGHT WASH Use for lightly soiled items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse	7.7	63
CHINA/CRYSTAL Use for delicate items.	Wash/Rinse, Rinse, Wash, Rinse, Rinse	7.3	63
RINSE & HOLD Use to prevent food from drying on items.	Rinse, Rinse	3	9
DRY/PLATE WARMER Use for drying and warming			32
HEATED DRYING Use for fast drying.			32
NATURAL DRYING Use for no heat drying.			

\*WATER TEMP BOOST increases water temperature for improved wash performance.

# Service Information

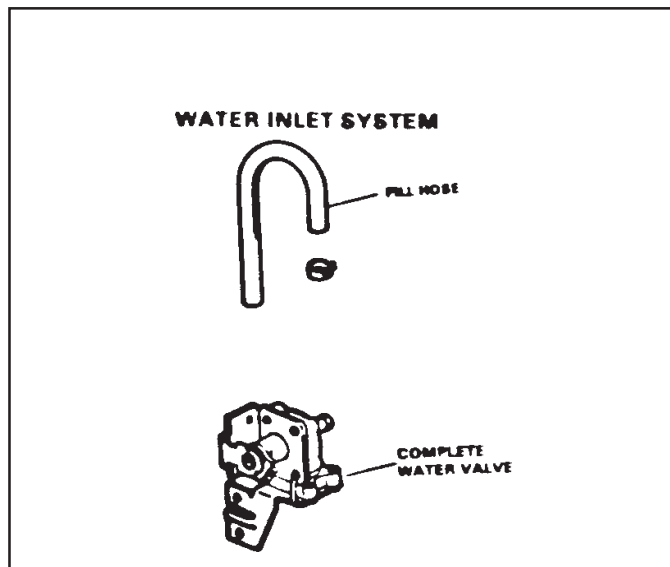
## Water Valve and Inlet System

Fill hose runs up left side of tub and is fastened by a clamp to fill funnel. Plastic tub has plastic fill funnel vibration-welded to the plastic tub. Plastic tub is not a replacement part.

A special insulator block is snapped over two water valve solenoid coil terminals. This block is anchored to the bracket to prevent harness leads from being pulled off solenoid terminals during installation.

### Disassembly

1. Remove two screws mounting water valve to left front frame.
2. To remove insulator block, unlatch two plastic tangs; one at front and one at harness end of block.



Fill Funnel is Welded to Plastic Tub

### Water Valve Operation

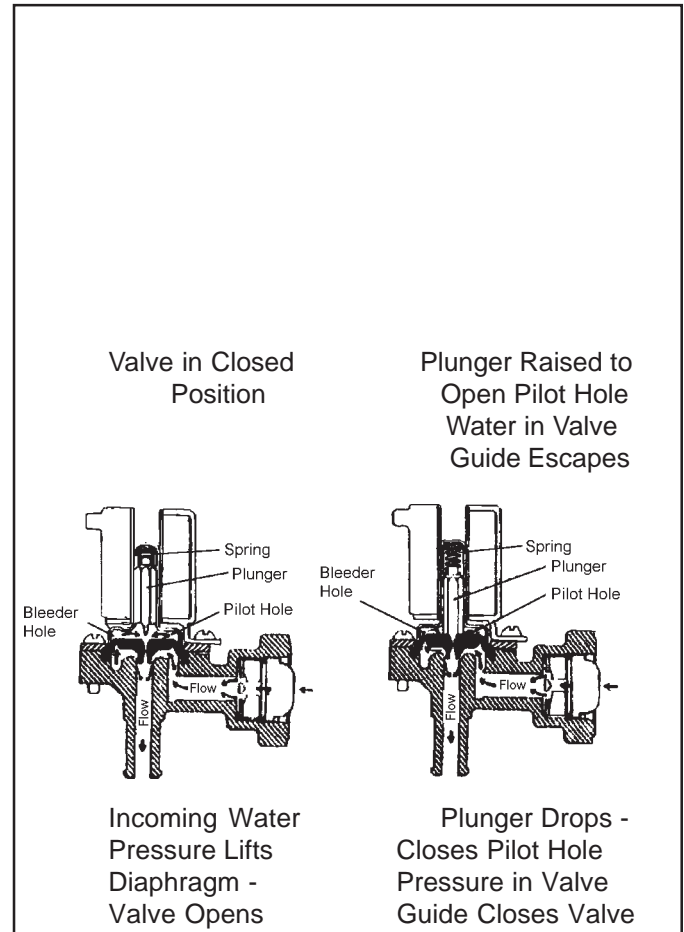
A hose connects to the outlet of the water valve and runs to a water inlet in the side of the tub. All inlets have an air break. Water valve operation is shown in drawings.

- Closed Position: Plunger closes center hole in diaphragm. Bleeder hose lets water pressure equalize in plunger housing.
- Solenoid Energized, Plunger Raised: Water flows out of plunger housing.
- Water Flow: Water line pressure pushes diaphragm up allowing water flow past diaphragm. Flow washer controls amount of water flow at 15 to 175 P.S.I. to constant 1.80 gallons/minute.

- Solenoid De-energized: Plunger closes center hole in diaphragm. Water through bleeder hole causes pressure in plunger guide to push down diaphragm and close valve.

**Note:** Water valve solenoid is controlled by switch contacts in timer, not by float switch.

With a full water fill, water level in tub bottom should be 3/8 inch to 1 inch above the pedestal in bottom of tub.



All water valves may be replaced as complete assemblies. Screen and washer gasket for water line connections are available in replacement kit.

Open solenoid coils and clogged or restricted screens are the most common faults.

# Service Information

Chart shown below outlines plumbing corrections that are recommended to reduce or eliminate water valve noise.

	POSSIBLE CAUSE	REPAIR
1.	Drain air gap restricted.	Clean air gap.
2.	Kink in drain hose.	Replace or reposition hose.
3.	Disposer stopped up. (Some installations don't have a drain air gap. Instead dishwasher drains directly into disposer.)	Run the disposer to clean it out. Clean out dishwasher port.
4.	Pump gate valve did not return after normal pump out.	Replace motor pump mechanism.
5.	Drain sensor switch closed or shorted.	Replace switch.
6.	Drain solenoid plunger stuck down.	Replace solenoid.
7.	Food soil in filter chamber.	Remove filter screen and check valve assembly in filter chamber. Clean if required.
8.	Check valve in filter chamber not sealing.	Swollen or distorted. Check leakage around threads.
9.	Pump inlet partially clogged.	Clean inlet sump.

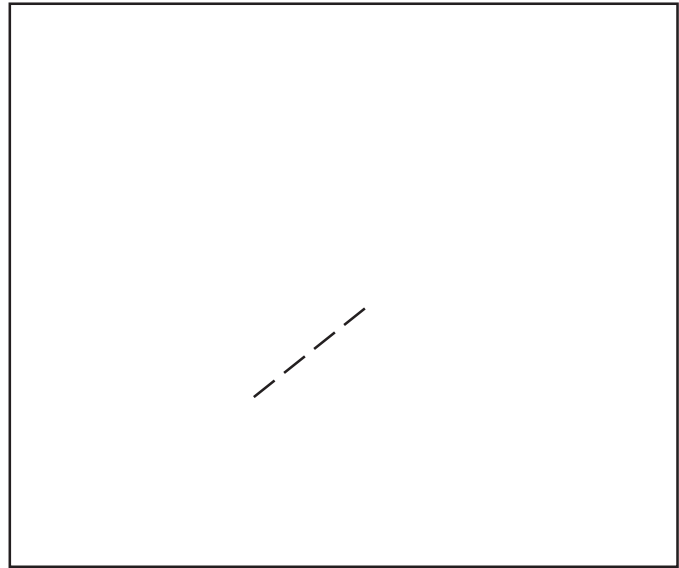
## Float Switch

The flood, or float, switch protects against overflow.

Switch itself is captured in a plastic housing mounted underneath tub bottom by a torx-head screw. Housing cover snaps into place holding switch in correct position. Housing also serves as an insulator over switch terminals.

Stem from float inside tub holds switch arm down in closed position during normal operation. Float is covered by a plastic domed cover at front left corner of tub. When water rises above a certain level in tub, float switch stem rises and switch contacts open to disconnect power to water valve solenoid.

Float switch will not furnish flood protection if water valve mechanically sticks in open position. It will furnish flood protection if timer stalls during fill period or if switch contacts in timer freeze closed.

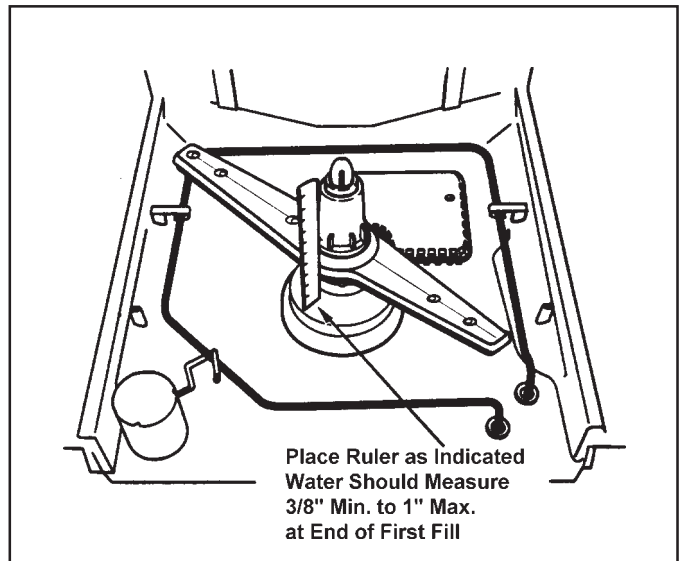


## Disassembly

1. Float switch can only be accessed from under tub.
2. Open snap cover on housing to remove switch.

## Recalibration

1. Hold scale or rule against bottom of switch bracket and center of large hole in bracket.
2. Press switch arm down until switch trips.
3. Read the dimension on the scale or rule at the point where switch trips. It should measure between 5/8 and 3/4 inch.
4. If adjustment is necessary, bend switch arm at point between stiffening rib and button on switch.





# Service Information

## Motor/Pump Mechanism and Boots

Pump mechanism is supported by wire hangers from metal plate under dishwasher tub.

Notice flexible plastic heat shield clipped into slots in metal plate under tub. Heat shield prevents some hot air from motor from blowing onto the electrical junction box so temperature does not rise above acceptable limits.

Because of the limited work space under tub, it is recommended dishwasher be pulled and tipped back to replace the pump mechanism.

Pump connector boot and sump boot are the same part and mount the same on all models.

Drain solenoid bracket is very heavy gauge to lessen chance of bracket being bent causing drain solenoid problems

All models use same pump mechanism. ADU7000 model has an induction motor; disassembly procedures are the same.

Snap insulator covers used on motor leads and drain solenoid terminals.

A plastic insulator block covers the harness lead terminals to the drain solenoid. Insulator block is anchored to solenoid to prevent pulling leads off during installation. Block is held together by two tangs, one on top and one at the harness end of block.

Two plastic insulator cylinders are used over the connector terminals on the black wire motor leads to capture terminals and prevent them from being pulled apart from harness leads. Limited vertical space can make removal of insulator cylinders difficult.

## Motor/Pump Mechanism Check



### WARNING

Power must be disconnected before attempting to measure electrical resistance.

Turn dishwasher on and attempt to run motor.

If motor does not run, and does not hum, check:

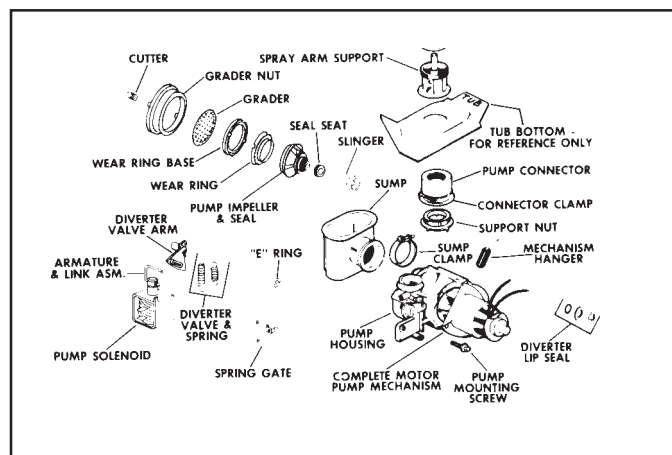
1. House fuse or circuit breaker.
2. Door switch.
3. Timer plug and harness connections at timer. Be sure terminals are fully seated.
4. Disconnect harness plug to motor leads. Check for 120 VAC.
5. After removing power, check motor winding continuity on RX1 scale.

If motor hums but does not pump, the cause may be mechanical lockup or frozen bearings, check:

1. Remove power. Try to turn fan blade clockwise to determine if seal is stuck and can be broken loose. If motor shaft cannot be turned, cutter blade may be blocked. Proceed to step 2.
2. On inside of dishwasher, remove sump cover. Remove grid and reach down into sump. Check for blockages such as bones, wire ties, glass or toothpicks. Check "pocket" on left side of sump; if it contains debris, clean thoroughly. If motor shaft still cannot be turned, replace motor/pump mechanism.

## Motor/Pump Removal

1. Remove sump cover and grid. With sponge or syringe, remove all water from sump.
2. Remove harness leads to motor.
3. Hose clamps fasten the sump boot and spray arm boot to the pump housing. Remove two 5/16" bolts from hose clamps. Find and loosen 5/16" bolt holding sump boot spring clamp. Loosen clamp from spray arm connector boot.
4. Disconnect drain hose and rotating upper shower arm hose.
5. Remove hanger that holds motor to tub.
6. Motor/pump mechanism can now be removed from under dishwasher. Some water will probably still be present in hoses or pump; protect floor and other areas if necessary to prevent damage.



# Service Information

## Motor/Pump Replacement Parts

The entire mechanism, including drain solenoid and associated parts, is available as a replacement part. In addition, these repair parts are furnished:

Drain Solenoid and associated parts—cutter, grader, seal impeller kit, slinger, pump housing, lip seal kit (diverter valve shaft).

The diverter (or gate) valve inside the housing is not replaceable.

## Reassembly

If mechanism is replaced with dishwasher in place, follow seven steps below in sequence. Following these steps should give the most reliable results because the mechanism can be moved around somewhat to correctly position the two bolts and clamps.

1. Connect spray arm boot, clamp screw at left, head to front.
2. Connect sump boot, clamp screw at bottom, head to left.
3. Install motor hangers.
4. Connect power shower hose (if used).
5. Connect drain hose.
6. Replace wiring and insulator blocks.
7. Check for water leaks.

## Soft Food Disposer

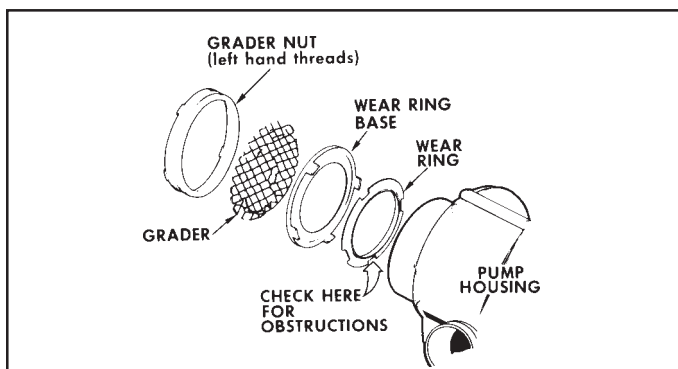
A spring cutter is used on the soft food disposer mechanism. A spring cutter is included in the cutter, grader, seal, impeller kit.

## Disassembly

1. Spring cutter: Remove grader nut, using flat-blade screwdriver or similar tool. Lift grader over spring cutter, and remove wear ring base and wear ring. These parts are shown in the illustration.

If smaller seeds or other foreign objects get caught between the wear ring and impeller, they can jam pump. The wear ring floats with the impeller and maintains water pressure around the circumference.

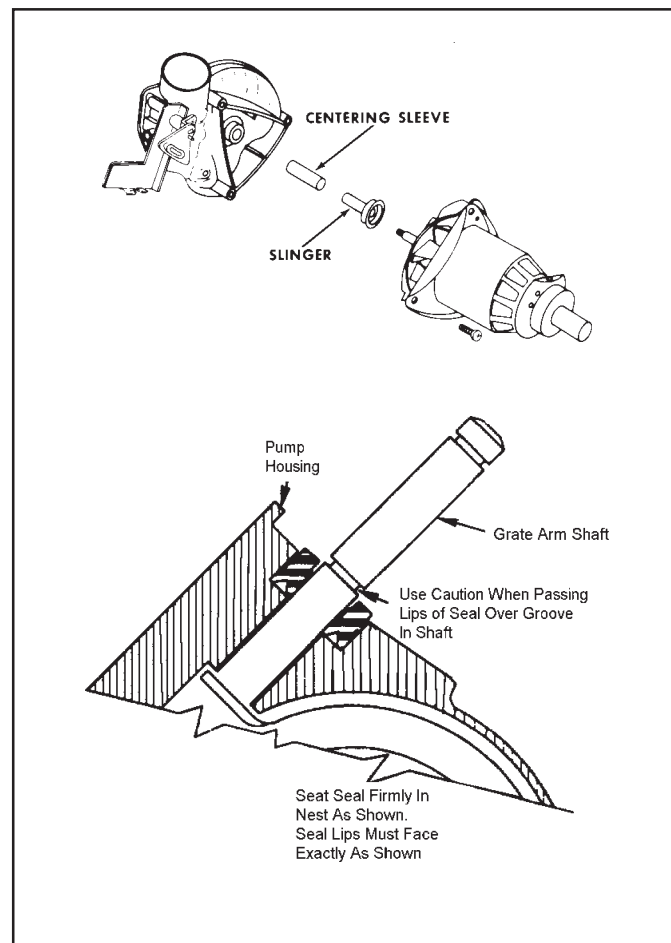
To remove the spring cutter, grasp the bottom edge of the spring with a long-nose pliers and turn counterclockwise.



2. Remove pump impeller. Hold motor fan blades and turn impeller with pliers.
3. Remove seal from impeller. Seal presses in place by hand. Seal seat remains in place in housing. Disassemble housing from motor to remove and replace seal seat.
4. The plastic slinger on the motor shaft must be replaced if slinger bulges out due to rust buildup on shaft. If slinger is not replaced, it can contribute to new seal leaking.

When reassembling housing, it is recommended centering sleeve be used to center motor shaft inside seal set in the housing. If centering sleeve is not used, be very careful to visually center motor shaft in seal seat when housing mounting screws are tightened.

5. Seal kit is furnished for replacing the water seal on diverter valve shaft where it enters pump housing. Seal washer, stainless steel washer, and retaining ring are included in kit.



# Service Information

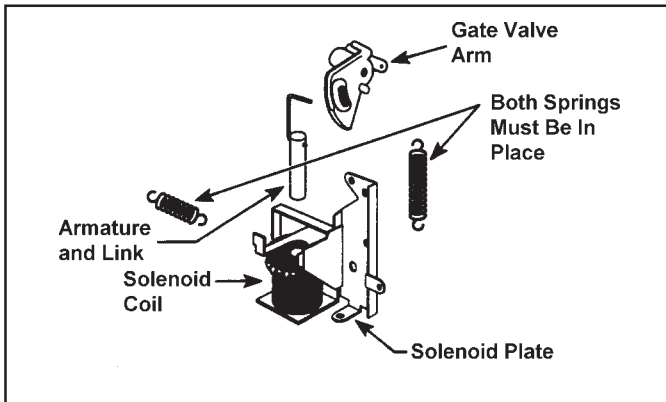
## Drain Solenoid



### WARNING

Power must be disconnected before attempting to measure electrical resistance.

1. Check continuity of solenoid coil on low ohm scale.
2. Check armature for binding. The armature should bottom before the gate is completely closed. Mounting plate must not be bent.
3. When replacing solenoid coil, both springs *must* be in place.



## Racks

The lower rack rollers are the same on all models.

Two slight depressions have been molded into inner door liner to avoid roll in of lower rack when pulled out for unloading. The two front rollers rest in these depressions when lower rack is fully pulled out.

To remove upper rack, remove plastic retainer caps on the ends of the slides. The retainer cap can be removed with a flat blade screwdriver, by prying back the member that fits into slide and then pivoting retainer cap inward. Assemble cap in reverse order.

## Rotating Upper Shower Arm

This option is not used on all models.

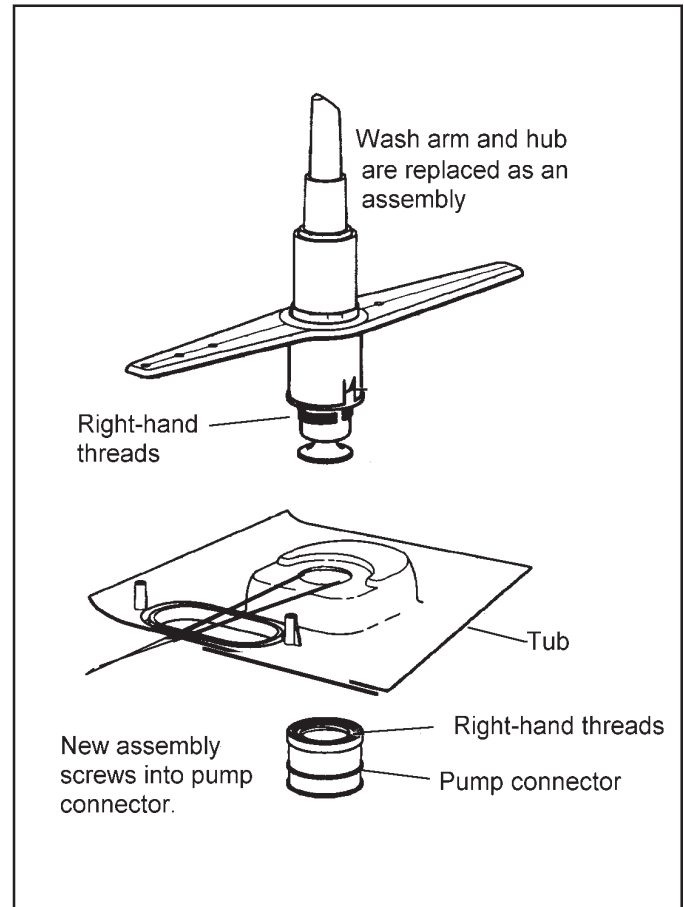
Hose to rotating upper shower arm connects to port in pump housing supplying water during wash and rinse periods. If upper shower arm is not used, a rubber cap is clamped over this port on pump housing.

Nozzle is a single plastic part which snaps into power shower spray arm. Studs on nozzle are inserted into top of the tub (from inside of tub). Metal palnut fasteners are then driven onto studs to secure plastic nozzle plate to top of tub.

## Spray Arm

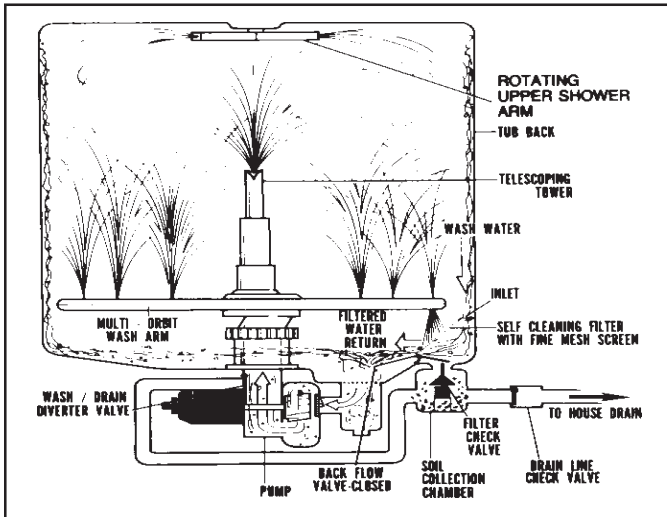
Spray arm speed should be between 12 and 35 RPM.

1. Spray arm must rotate freely. If it binds, remove tower (right hand threads).
2. Lift out tower assembly.
3. Inspect spray arm for seeds, bits of china, etc., that may clog holes—also check for slits or cracks along sides of arm.
4. Spray arm hub and entire spray arm assembly is removed and replaced as an assembly. Reverse to reassemble.



# Service Information

## Filter System



Drawing shows filter system in operation during wash action. Wash water splashes against and runs down back of tub. Eventually all wash water does this during wash period.

Soil-laden wash water flows through inlet into screened off area at bottom rear of tub. This water must flow through fine mesh screen filter to go back into tub sump for recirculation.

Filter check valve is spring-loaded to be open and allow heavy soil particles to go down into soil collection chamber where they are trapped during wash action.

Back flow valve inside tub under filter screen is held closed by being mechanically coupled to spring-loaded filter check valve.

Jet in bottom of spray arm constantly sprays water on filter screen to clean.

### Drain Action

During pump out period, drain water flows through soil collection chamber to flush out debris.

Water flow pressure pushes up filter check valve to seal opening from pump; flows through the soil collection chamber; then flows out to check valve mounted under front of tub. External drain line is connected to dishwasher at check valve. This check valve is mounted with Torx-head screws.

Normally closed drain check valve is opened by water pressure during pump out.

**Note:** If drain line is not 18 inches above floor level, pressure of water in tub will cause drain check valve to open and wash water will drain into drain hose during wash action.

## Filter and Drain

1. Remove filter screen. Check piston valve for jamming by toothpick or other object. Remove valve and check spring and rubber parts.
2. Check routing of hose system for kinks.
3. Drain line check valve must pass water in drain line direction only. Check for partially blocked drain line.

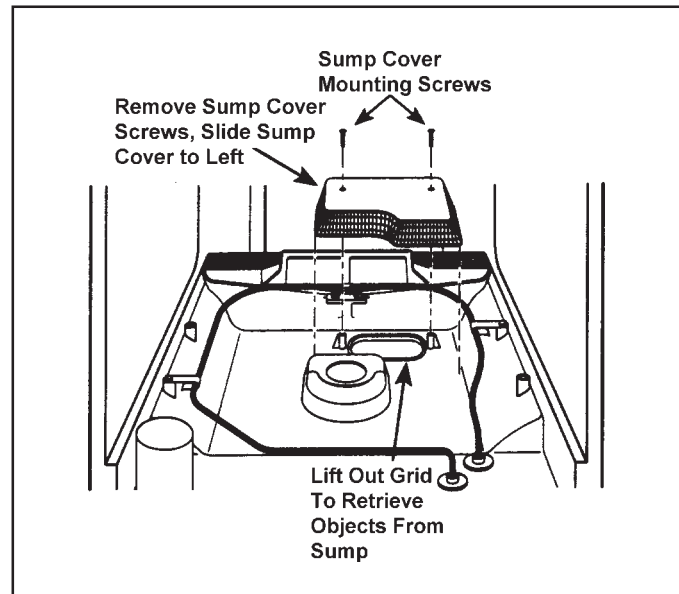
## Calrod Heater

Heater is mounted by nuts under the tub to legs or braces so heater sheath does not come into contact with tub.

## Sump Cover and Baffle Grid

Remove two screws hold sump cover and lift baffle grid out.

With sump cover and grid removed from inside tub, reach down into the sump boot and feel soft food cutter and grader screen at pump inlet. Remove foreign objects that block grader.



# Service Information

## Tub Corner Baffles

Two black baffles are used at front lower corners of tub. Use waterproof rubber cement on surface contacting tub and press baffles in place during installation.

## Door Gasket Replacement

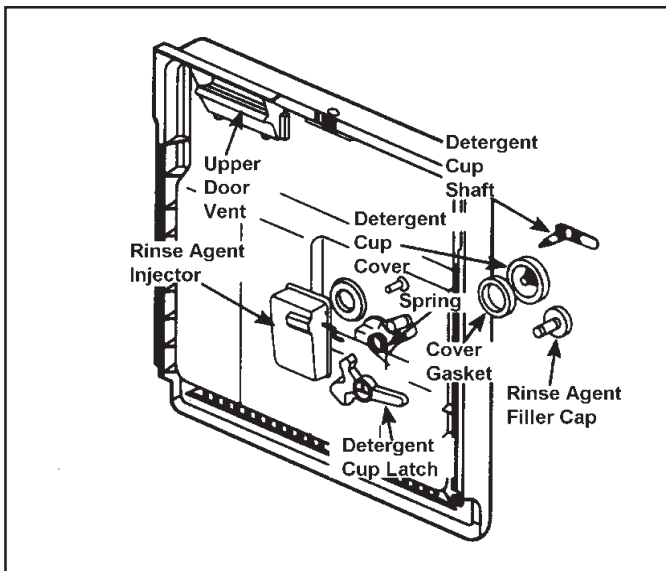
It is not necessary to remove door liner from dishwasher to replace gasket. To replace gasket, proceed as follows:

1. Open door and pull old gasket straight up and out of retainer slot, beginning at one end located at bottom of door liner. No clip or cement is used to hold gasket in place.
2. Position one end of new gasket about one inch from center line at bottom of door liner. Start pressing new gasket into slot at side of door liner near bottom.
3. Press gasket firmly into slot completely around two sides and top of door liner. (Liquid soap or silicone spray may be used to make this easier to do.)
4. Carefully bend gasket around lower corners of liner and press remaining two ends of gasket into slot along bottom edge of door liner.
5. There should be a one to two inch-gap between ends of gasket along bottom of liner.

## Door Components

Remove screw under door latch. Close latch halfway.

Then door components are accessible by removing three screws from each side of inner door and one screw at the top near latch. Carefully separate inner door panel from outer door panel and drop outer door.



## Detergent Cup Cover And Latch

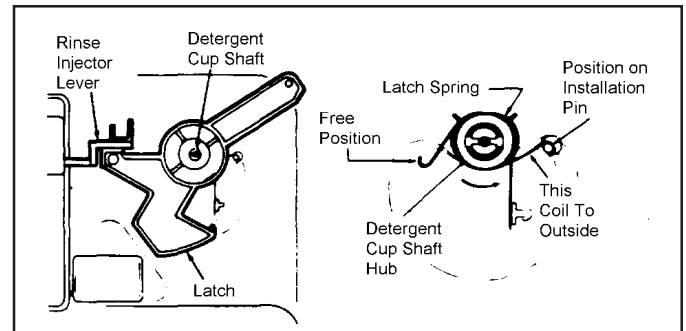
The detergent cup is molded as part of inner door panel. A cam on timer trips cup cover and rinse agent injector.

To remove detergent cup cover and handle shaft, push in fingers at end of shaft with a 1/4 inch socket.

To access detergent cup trip lever and spring, remove timer.

To replace detergent cup handle shaft and covers, follow steps below:

1. Position latch spring on shaft hub as shown below. Wind spring counterclockwise to hook end on installation pin.
2. Position shaft and cup with handle pointing up (cover open).
3. Position latch on handle shaft as shown below, then press onto shaft until fingers snap in place.
4. Turn latch counterclockwise to position end of spring onto latch tang.



## Rinse Agent Injector

Rinse agent injector can easily be removed as follows:

1. Remove power lower assembly (left hand threads).
2. Using top end of center section, press fingers of rinse agent injector inward while pulling injector off door.
3. In reassembling, simply snap in place.

# Service Information

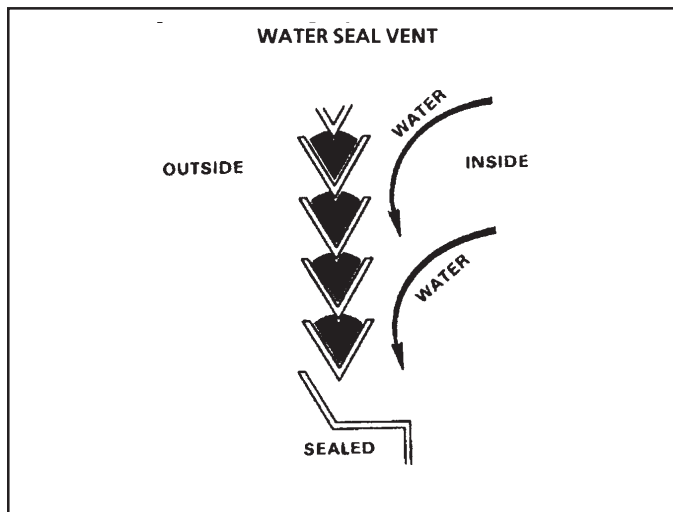
## Drying Vent

The grid and baffle are welded together for a one-piece assembly, mounted by two screws.

Inner door flange above vent is flame treated to keep water beads from forming. Top inside surface of tub is similarly treated.

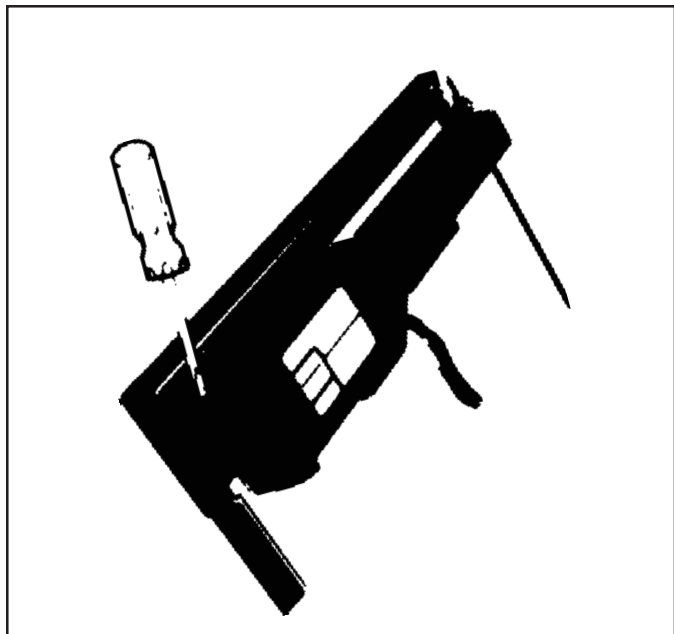
During wash and dry it is normal to see water vapor coming through vent.

During wash and rinse periods, vent opening in inner door is sealed off by water splashing up into grooves in vent assembly as shown in illustration below. At beginning of dry cycle, when wash action stops, water in these grooves drains off opening vent during dry.



## Control Panel Assembly

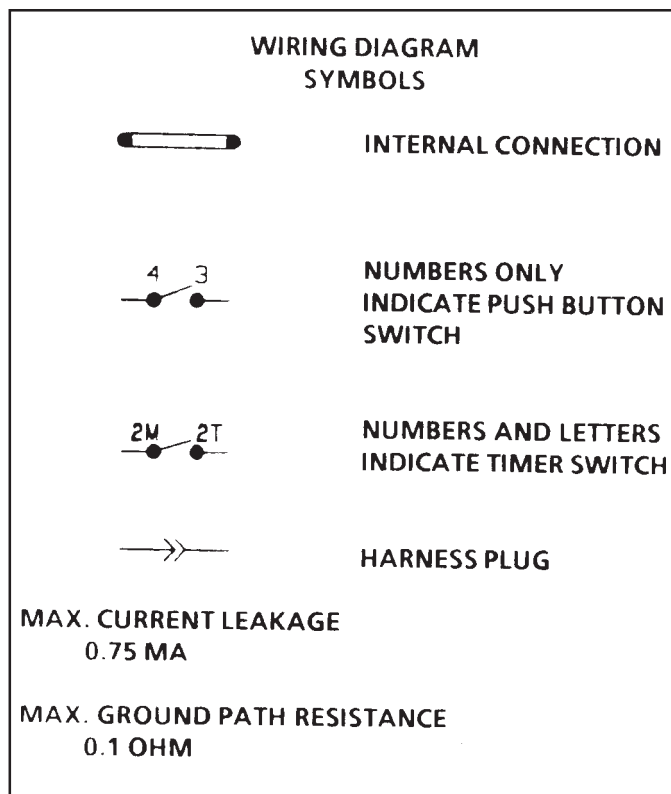
Remove cover by lifting tab at each end.



## Push Button Switches

Switch contacts are opened or closed when a specific push button cycle selection is pressed in. Together with switches in timer control, push button switches set up specific electrical circuits for cycle selected.

For the push button switch, the switch contacts remain closed or open throughout the cycle; the timer switch contacts open and close as the timer cam turns through 360 degrees.



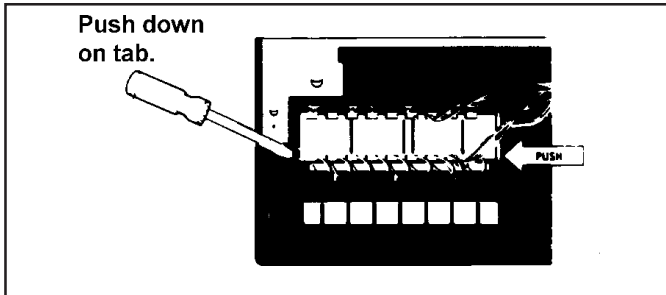
# Service Information

## WARNING

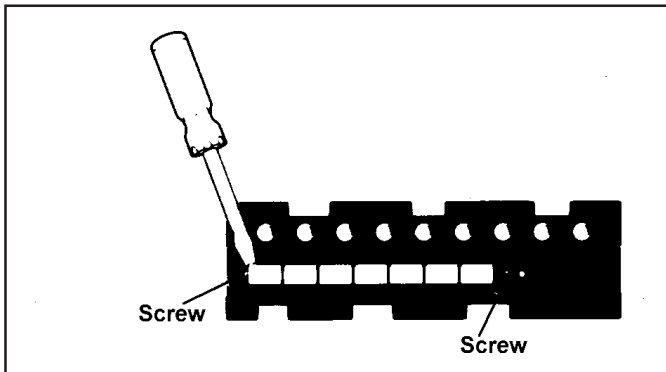
Power must be disconnected before attempting to measure electrical resistance.

### Servicing Push Button Switch

1. Remove switch bracket assembly by prying open tabs and sliding assembly back.



2. Pull off buttons to replace switches. Buttons are not all put on in same position. Note position of each button for reassembly.



### Push Button Switch Test

## WARNING

Power must be disconnected before attempting to measure electrical resistance.

1. Remove power from dishwasher.
2. Remove all wire leads from switch terminals before making check.
3. Press cycles indicated on pushbutton switch chart, and check continuity of switch terminals as indicated.

### Switch Contact Chart

A chart titled "Switch" is included with timer cam chart and schematic wiring diagram in all mini-manuals. This chart tells which switch contacts are open and closed when each of the push buttons is depressed. For example, when *NORMAL* is selected, switch contacts 5-6, 9-10, and 17-16 are closed. Each contact is designated by a number, as opposed to a number and a letter for timer switches.

SWITCH	1-2	5-6	9-10	21-22
RINSE & HOLD				
CHINA CRYSTAL				
LIGHT WASH				
NORMAL WASH				
POTS & PANS				
HOT DRY				
COOL DRY				

 CLOSED  
 OPEN

# Service Information

## Snap On Electrical Components Cover



### CAUTION

Always replace snap on electrical component covers after service is completed.

Remove two screws at top of door. Disconnect plug and snap off cover.

## Timer

Timer mounting plate is fastened with two screws at top, and two tabs at bottom.

The harness connector block plugs into timer. Two harness connectors are used on models with rapid advance timer.

With timer removed, detergent cup trip lever, spring, timer trip cam and timer knob are accessible.



### CAUTION

To prevent breaking knob, do not pry knob out from front side of escutcheon.

On some models, timer knob is captured in plastic escutcheon by two tabs on knob. To remove knob, press in on tabs.

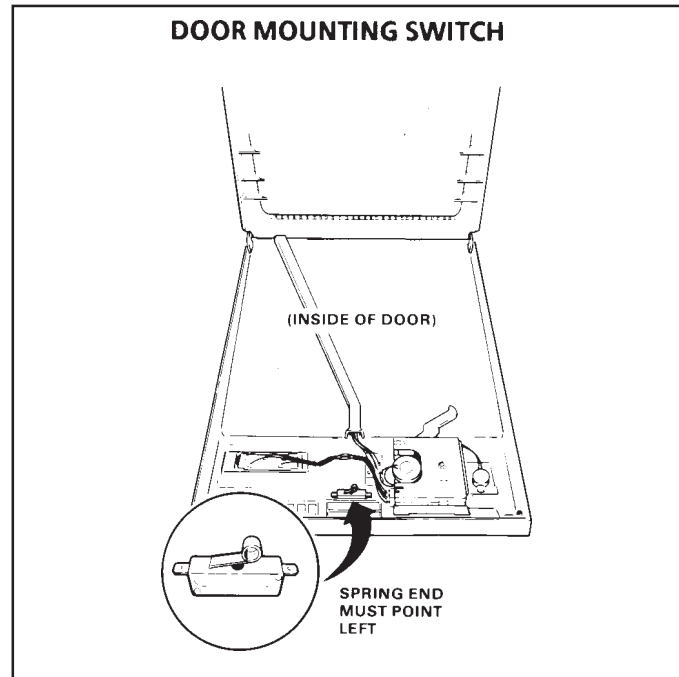
## Timer Testing

Close door and press *NORMAL WASH* button, to start dishwasher.

1. Check advance of timer. If it doesn't advance, remove power and check continuity of timer drive motor. If tests positive, restore power and check for voltage at timer motor.
2. Turn control dial slowly through cycle, using coin in slot of indicator dial. Listen for operation of water valve, drain solenoid and detergent cup.
3. If any component fails to operate, remove power from dishwasher and check continuity of component. If tests positive, restore power and check for voltage to component from timer control.

## Latch Interlock Switches

Two interlock switches are used and snap in place. Assemble with flat end of coil spring pointing to left as shown.





# Service Information

## Door Latch

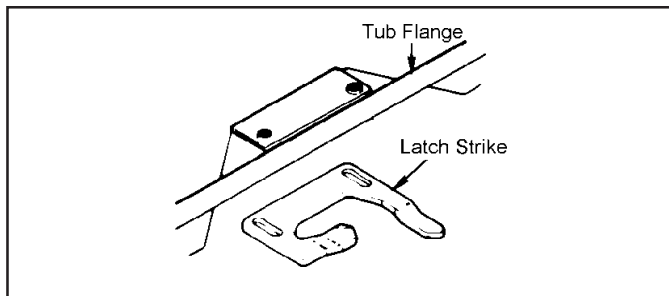
Door latch mechanism fits onto rear of inner door panel and is replaceable as an assembly.

Mechanism can be left in place, and can be latched to hold inner door panel in place while outer door panel and escutcheon assembly is lowered to open position. Dishwasher can then be operated with water by manually closing door interlock switch contacts.

Door interlock switches mounted to back of control panel escutcheon are closed when door latch is closed—handle moved all the way to right.

## Strike Adjust

Latch strike may be adjusted by loosening two mounting screws and sliding strike toward rear of tub to increase latching force and reduce the possibility of leaks around door gasket. If latch closes too hard—slide strike out slightly.



## Aluminum Trim Panel

This trim is held onto plastic escutcheon by tabs which are bent over. To remove, straighten tabs.

## Wiring Harness and Connector Plug



### WARNING

To avoid an open circuit by damaging or crimping wires, do not pull on terminal block wires when removing block from timer.



### CAUTION

Disconnect power cord and close water supply valve before servicing dishwasher. Never energize electrical power to dishwasher with any panels removed.

To insure dishwasher is properly grounded, always replace any ground wires removed during servicing.

Harness leads go directly from timer connector plug or push button switch terminals to components.

## Testing

Check voltage at a component (such as water valve or a pump motor) before replacing as being inoperative.

If no voltage at component, suspect harness connector block as possible cause. Check for

- Terminal not secured in block.
- Connect plug halves not pushed together tightly.
- Arcing or burning at terminal.

Use ohmmeter to check for continuity through terminals in circuit or use a voltmeter to check for voltage on one side of block but not on other side.

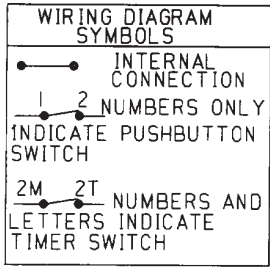
## Repair

Complete harnesses for dishwashers are not supplied as replacement parts.

Use a wire crimper tool to securely fasten new terminals onto wiring harness leads.

# Schematic Diagrams

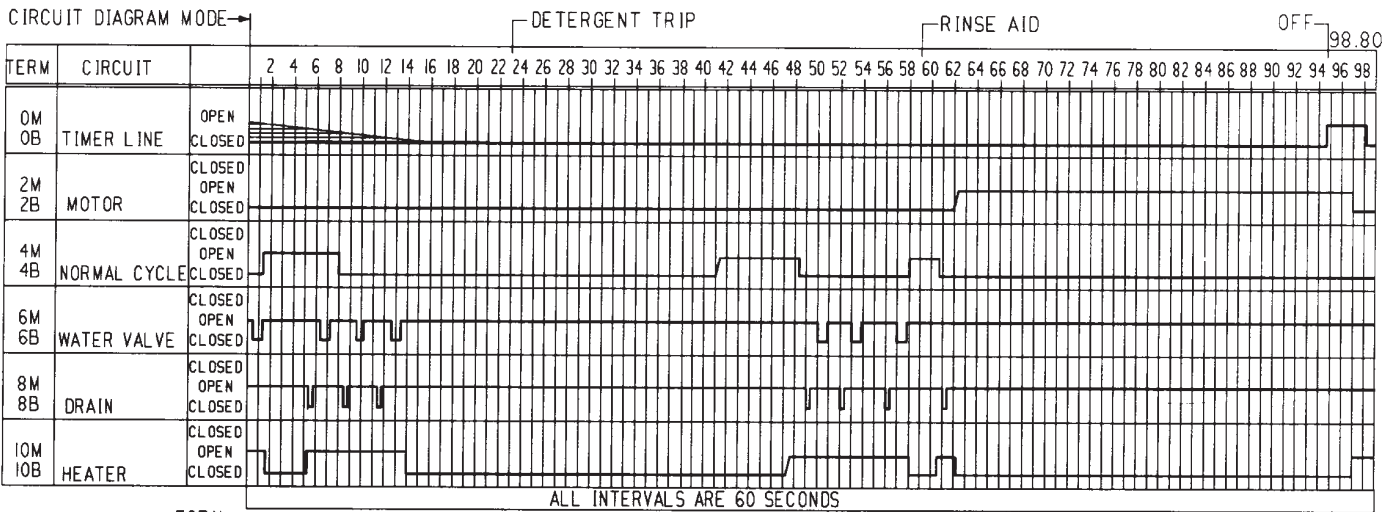
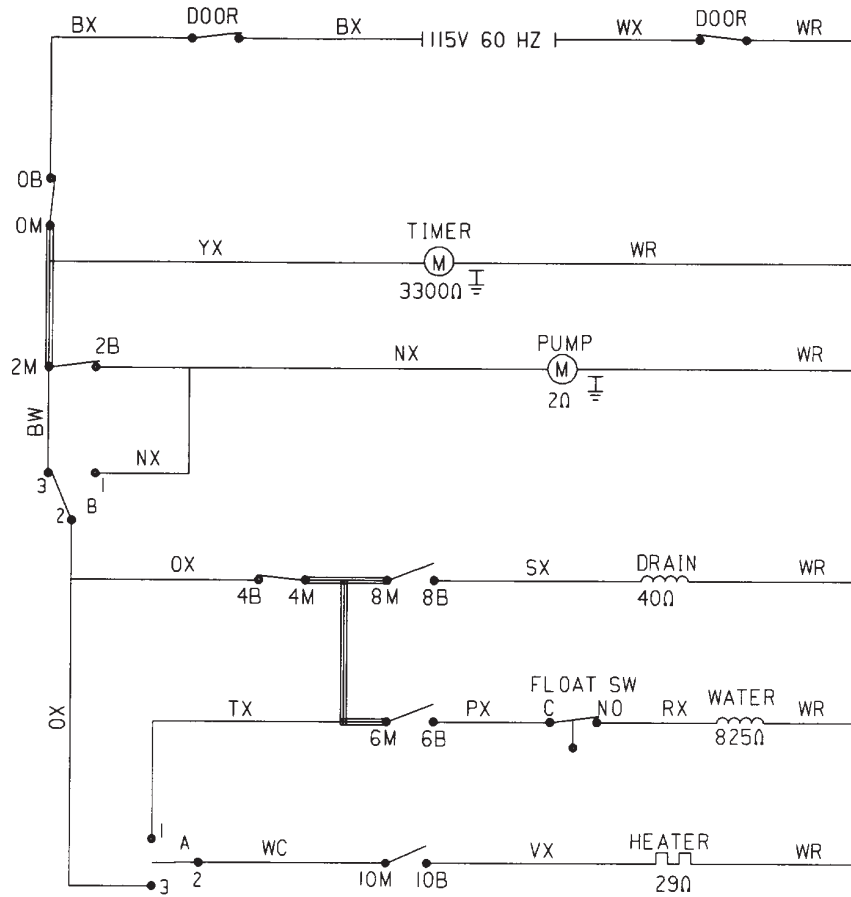
165D3344P001



MAX. CURRENT LEAKAGE  
0.75 MA.  
MAX. GROUND PATH RESISTANCE  
0.1 OHM

SWITCH	A			B		
	1-2	2-3	3	1-2	2-3	3
WASH BOOST ON		■				
WASH BOOST OFF	■					
HEATED DRY					■	
AIR DRY				■		

■ CLOSED  
□ OPEN  
M MOMENTARY

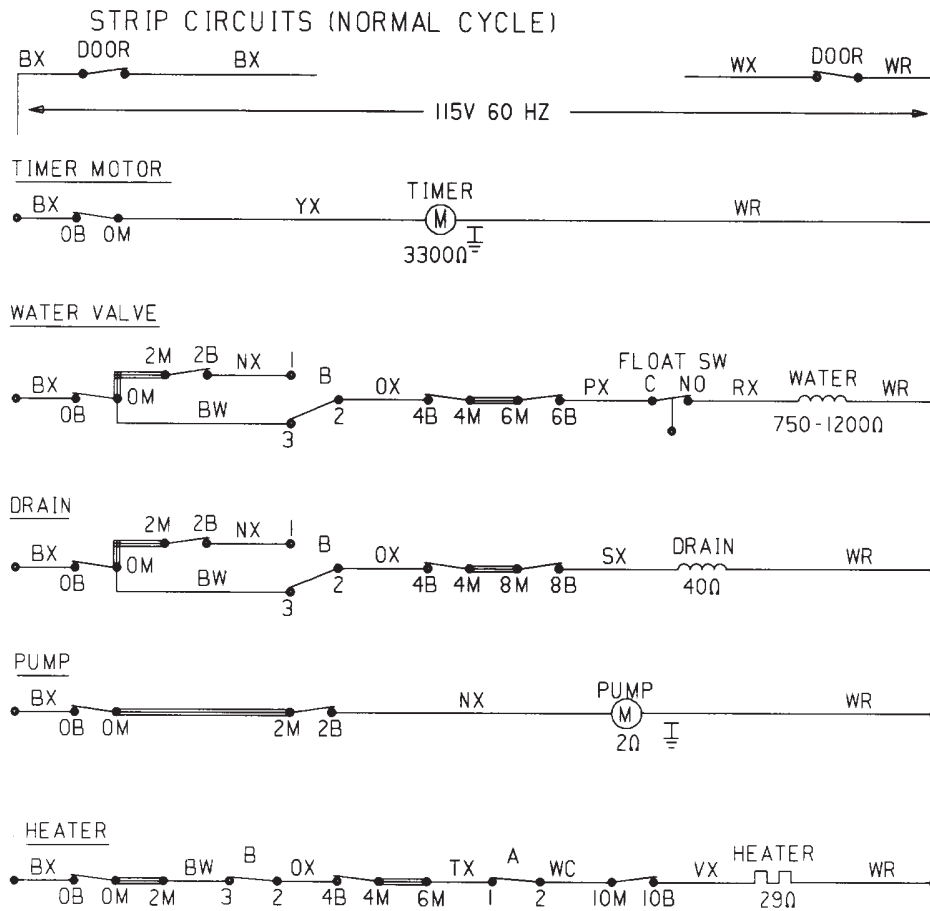


ALL INTERVALS ARE 60 SECONDS

CYCLES	TOTAL MINUTES	PRE-WASH	WASH	RINSE	DRY
NORMAL WASH (DIAL) 96	96	9.5	37.5	3+4+5	34
SHORT WASH (DIAL) 86.5	86.5	3	37.5	3+4+5	34
RINSE & HOLD (DIAL) 12	12			3+4+5	
PLATE WARMER (DIAL) 34	34				34

ADU3000

# Schematic Diagrams

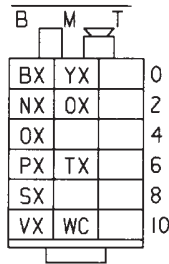


WATER FILLS	
FILL NO.	TIME (SECONDS)
1	56
2	56
3	42
4	56
5	42
6	53
7	56

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
AX	LT. BLUE	RX	RED
BX	BLACK	SX	GRAY
CX	BROWN	TX	TAN
NX	DK. BLUE	VX	PURPLE
OX	ORANGE	WX	WHITE
PX	PINK	YX	YELLOW

THE "X" INDICATES ONE SOLID COLOR-NO TRACER. WIRES WITH TRACER SHOW BOTH COLORS. EXAMPLE-WR IS WHITE WITH RED TRACER.

TIMER TERMINAL LOCATIONS

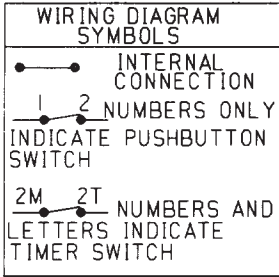


TIMER PLUG LEAD COLORS

ADU3000

# Schematic Diagrams

165D3350P001

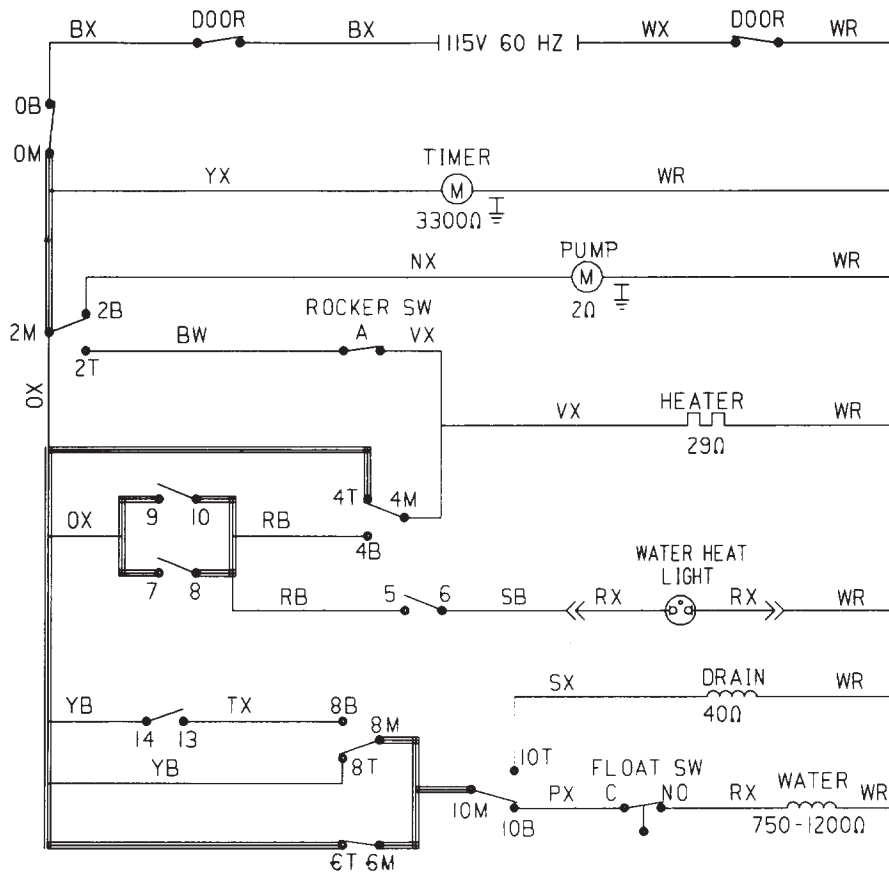


MAX. CURRENT LEAKAGE 0.75 MA.  
MAX. GROUND PATH RESISTANCE 0.1 OHM

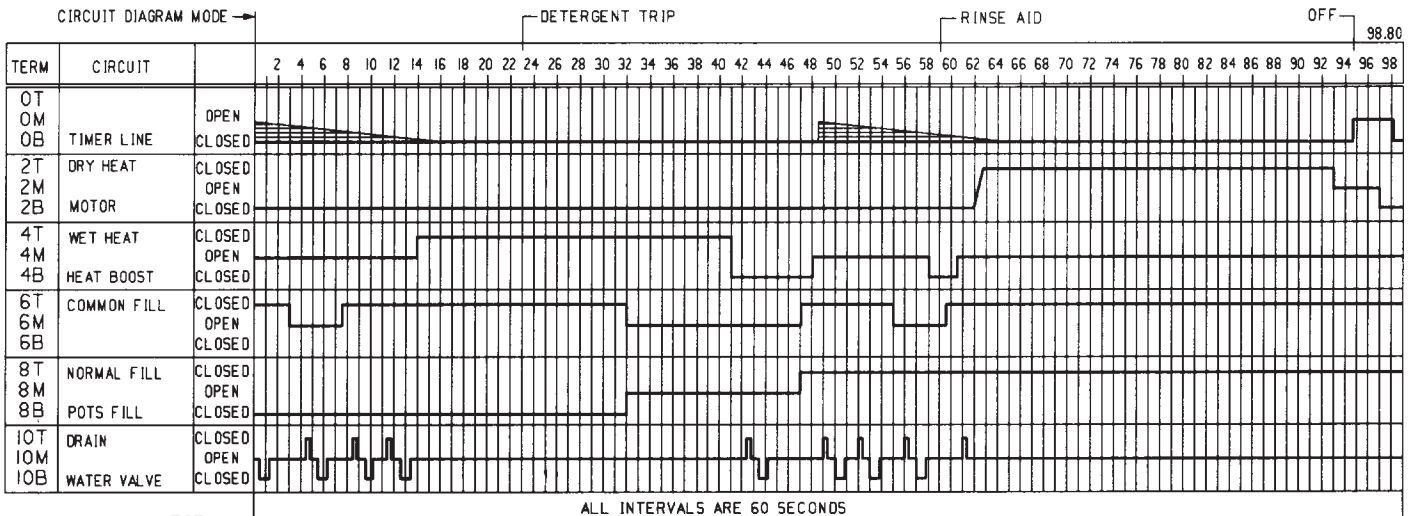
SWITCH	A
HEATED DRY	<input checked="" type="checkbox"/>
AIR DRY	<input type="checkbox"/>

SWITCH	5	7	9	13
POTS & PANS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NORMAL WASH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WATER HEAT ON	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WATER HEAT OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CLOSED  
 OPEN  
M MOMENTARY



CIRCUIT MAY NOT REQUIRE ALL TIMER CONTACTS SHOWN

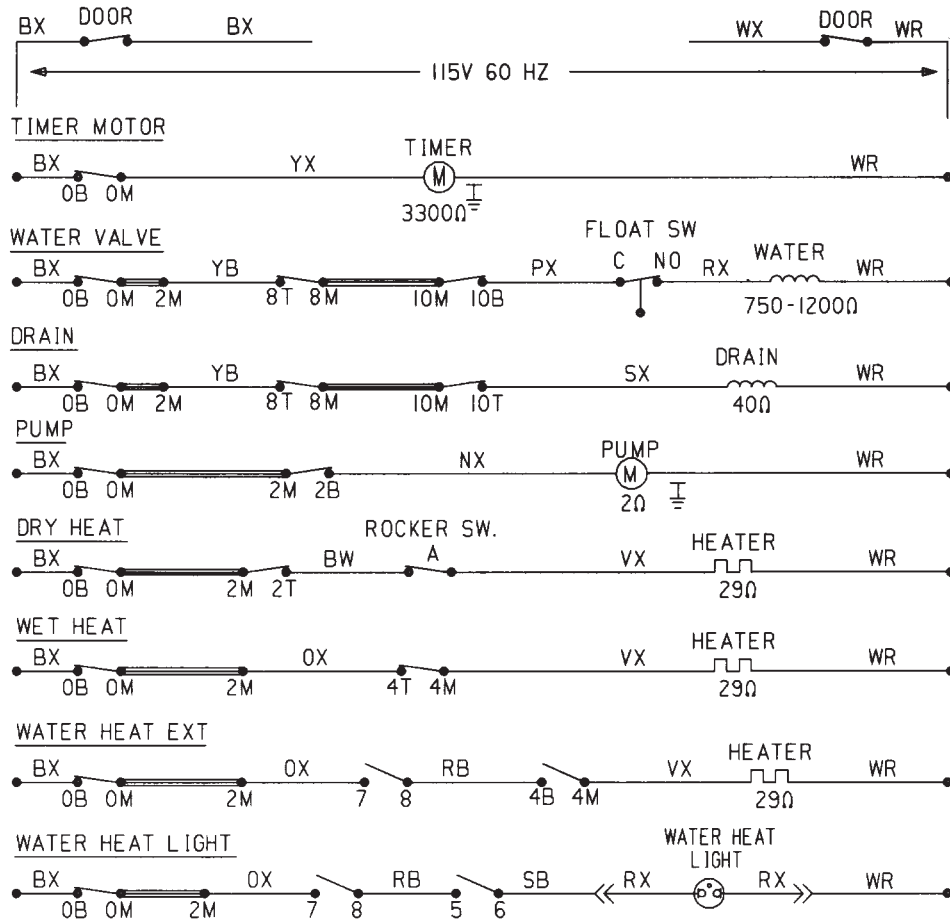


CYCLES	TOTAL MINUTES	PRE-WASH	WASH	RINSE	DRY
POTS & PANS	96	5.5 + 4 + 3	37.5	3 + 4 + 5	34
NORMAL WASH	96	9.5 + 3	37.5	3 + 4 + 5	34
SHORT WASH (DIAL) 86.5	86.5	3	37.5	3 + 4 + 5	34
RINSE & HOLD (DIAL) 12	12			3 + 4 + 5	
PLATE WARMER (DIAL) 34	34				34

ADU5000

# Schematic Diagrams

## STRIP CIRCUITS (NORMAL CYCLE)

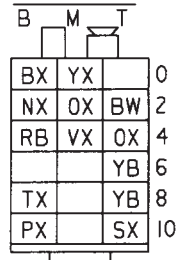


WATER FILLS	
FILL NO.	TIME (SECONDS)
1	56
2	56
3	42
4	56
5	53
6	42
7	53
8	56

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
AX	LT. BLUE	RX	RED
BX	BLACK	SX	GRAY
CX	BROWN	TX	TAN
NX	DK. BLUE	VX	PURPLE
OX	ORANGE	WX	WHITE
PX	PINK	YX	YELLOW

THE "X" INDICATES ONE SOLID COLOR-NO TRACER. WIRES WITH TRACER SHOW BOTH COLORS. EXAMPLE -WR IS WHITE WITH RED TRACER.

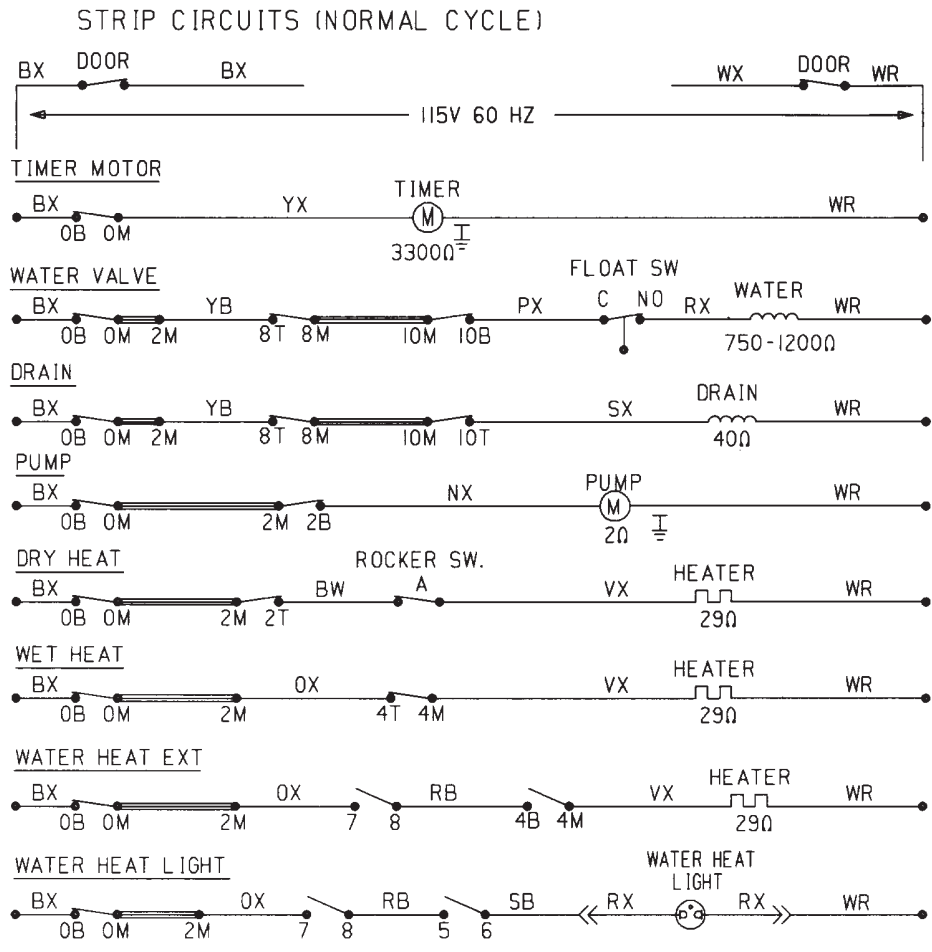
### TIMER TERMINAL LOCATIONS



ADU5000



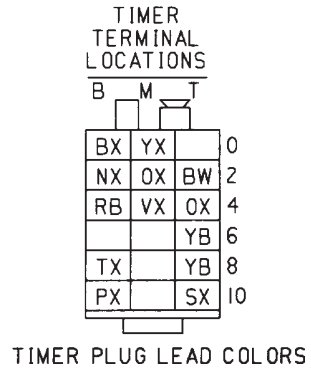
# Schematic Diagrams



WATER FILLS	
FILL NO.	TIME (SECONDS)
1	56
2	56
3	42
4	56
5	53
6	42
7	53
8	56

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
AX	LT. BLUE	RX	RED
BX	BLACK	SX	GRAY
CX	BROWN	TX	TAN
NX	DK. BLUE	VX	PURPLE
OX	ORANGE	WX	WHITE
PX	PINK	YX	YELLOW

THE "X" INDICATES ONE SOLID COLOR- NO TRACER. WIRES WITH TRACER SHOW BOTH COLORS. EXAMPLE -WR IS WHITE WITH RED TRACER.

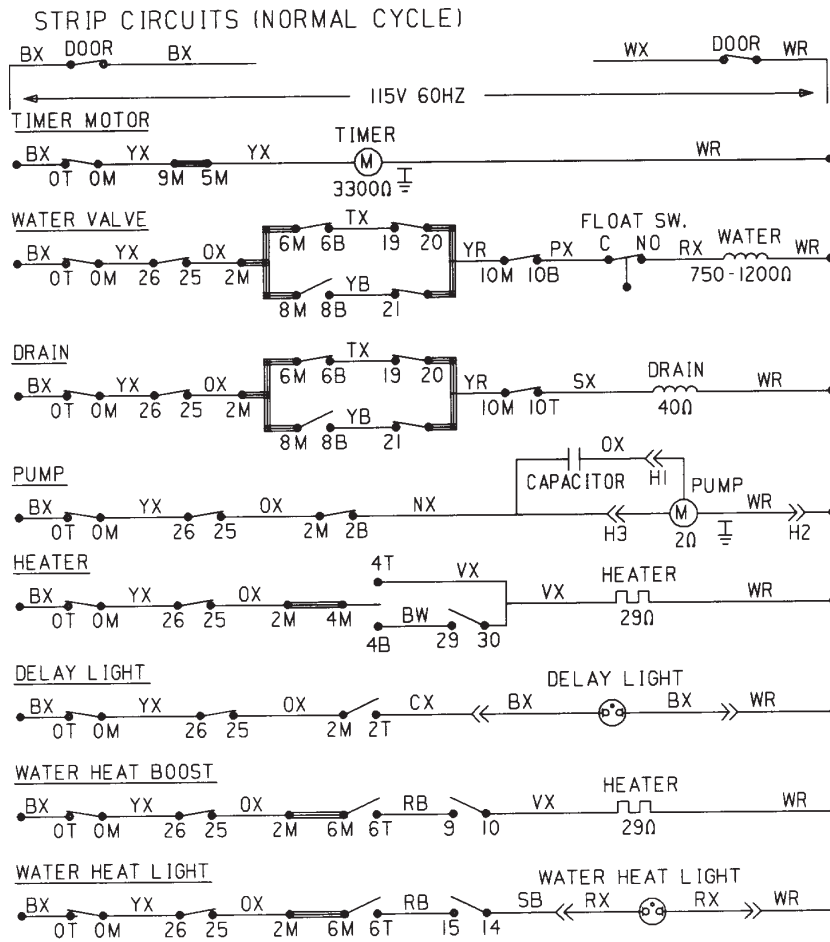


## ADU6000





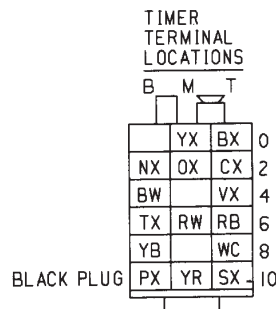
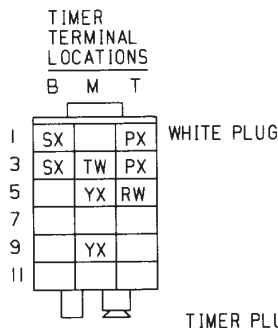
# Schematic Diagrams



WATER FILLS		
FILL NO.	TIME (SECONDS)	CHINA CRYSTAL
1	56	53
2	56	42
3	40	42
4	56	42
5	40	42
6	53	42
7	53	

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
AX	LT. BLUE	RX	RED
BX	BLACK	SX	GRAY
CX	BROWN	TX	TAN
NX	DK. BLUE	VX	PURPLE
OX	ORANGE	WX	WHITE
PX	PINK	YX	YELLOW

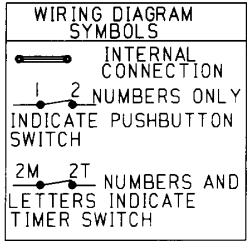
THE "X" INDICATES ONE SOLID COLOR - NO TRACER. WIRES WITH TRACER SHOW BOTH COLORS. EXAMPLE -WR IS WHITE WITH RED TRACER.



ADU7000

# Schematic Diagrams

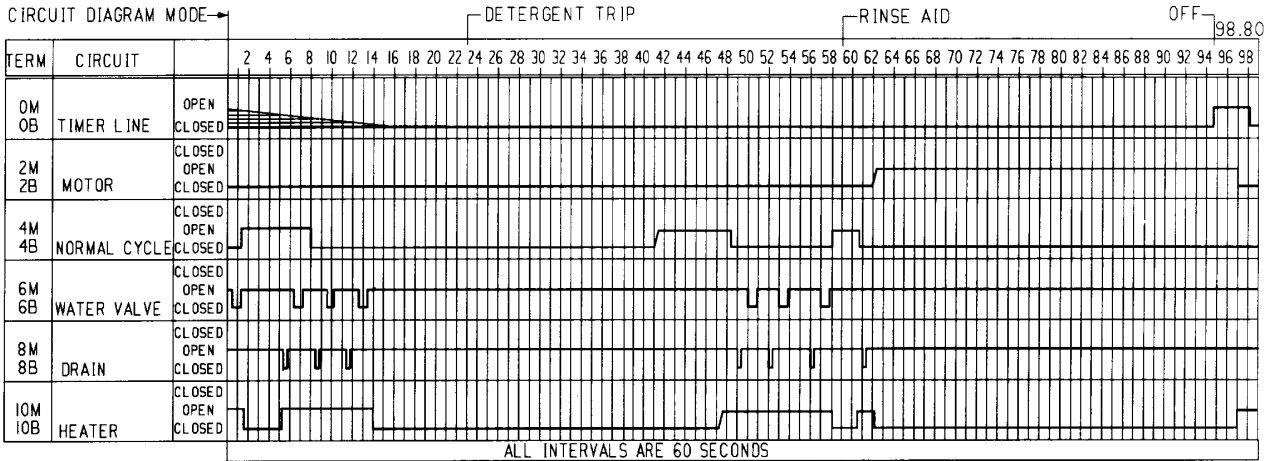
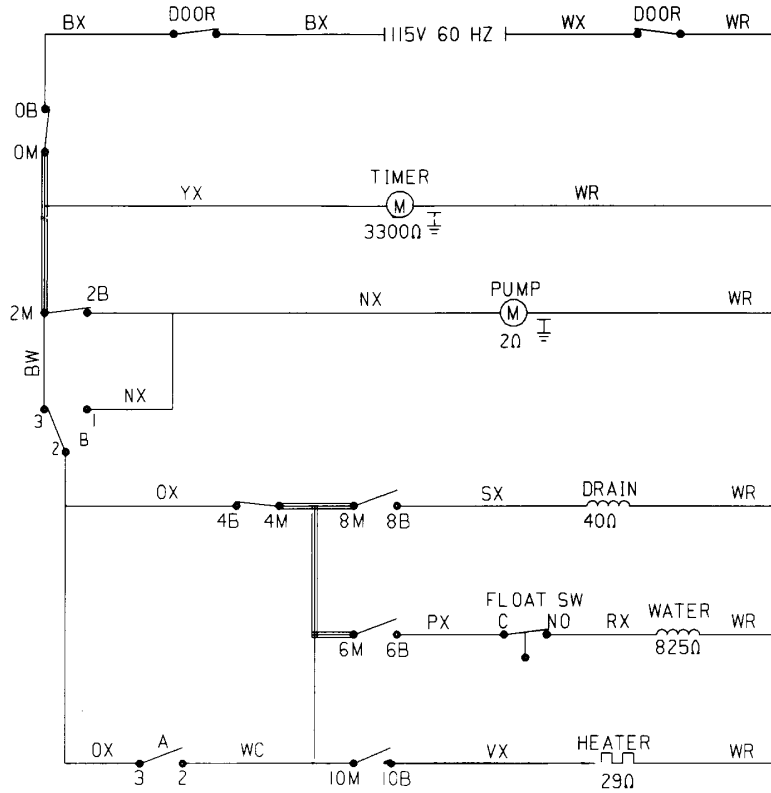
165D3341P001



MAX. CURRENT LEAKAGE  
0.75 MA.  
MAX. GROUND PATH RESISTANCE  
0.1 OHM

SWITCH	A	B
POTSCRUBBER	2-3	1-2
NORMAL WASH		
HEATED DRY		
AIR DRY		

■ CLOSED  
□ OPEN  
M MOMENTARY

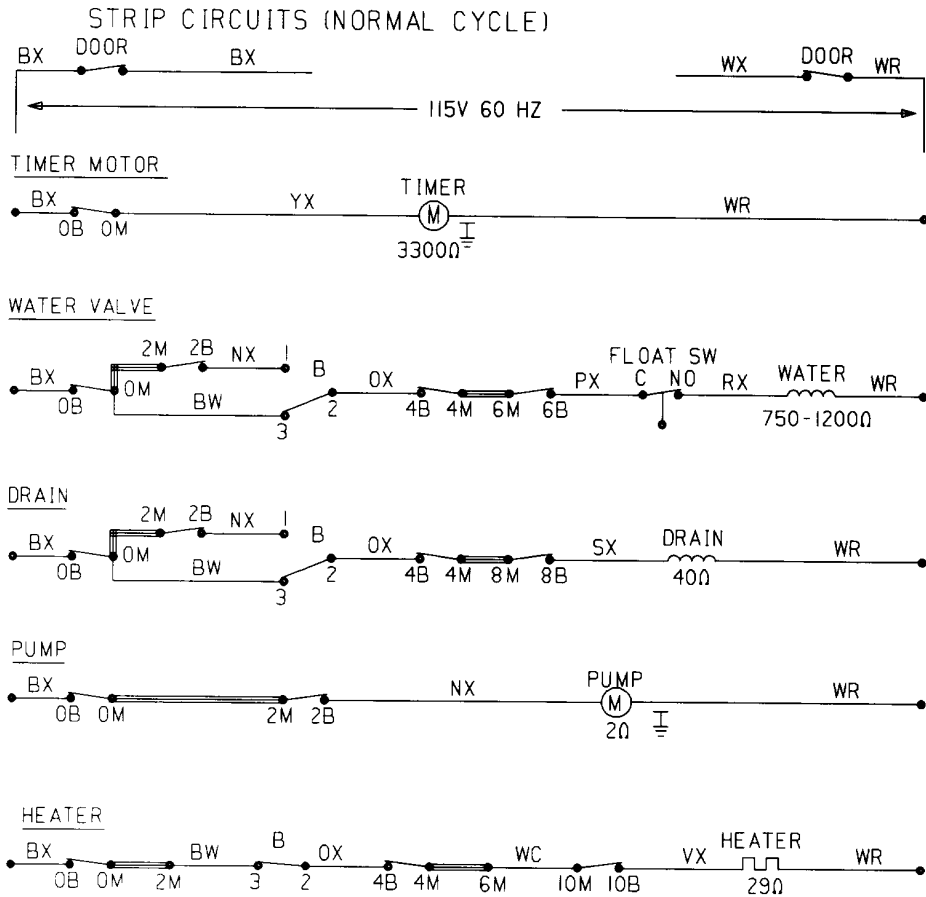


CYCLES	TOTAL MINUTES	PRE-WASH	WASH	RINSE	DRY
POTSCRUBBER	96	5.5 + 4 + 3	37.5	3 + 4 + 5	34
NORMAL WASH	96	9.5 + 3	37.5	3 + 4 + 5	34
*SHORT WASH (DIAL)	86.5	3	37.5	3 + 4 + 5	34
RINSE & HOLD (DIAL)	12			3 + 4 + 5	
PLATE WARMER (DIAL)	34				34

\* UNIT WILL HAVE EITHER "SHORT WASH", "LIGHT WASH" OR "WATER SAVER" CYCLE DEPENDING ON MODEL: REFER TO TIMER GRAPHICS

CDU220

# Schematic Diagrams

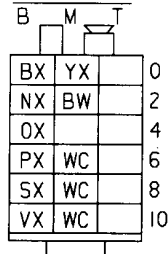


WATER FILLS	
FILL NO.	TIME (SECONDS)
1	56
2	56
3	42
4	56
5	42
6	53
7	56

COLOR CODE			
LETTERS	COLOR	LETTERS	COLOR
AX	LT. BLUE	RX	RED
BX	BLACK	SX	GRAY
CX	BROWN	TX	TAN
NX	DK. BLUE	VX	PURPLE
OX	ORANGE	WX	WHITE
PX	PINK	YX	YELLOW

THE "X" INDICATES ONE SOLID COLOR-NO TRACER. WIRES WITH TRACER SHOW BOTH COLORS. EXAMPLE-WR IS WHITE WITH RED TRACER.

TIMER TERMINAL LOCATIONS

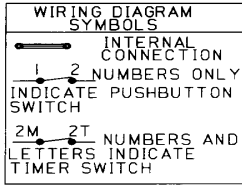


TIMER PLUG LEAD COLORS

## CDU220

# Schematic Diagrams

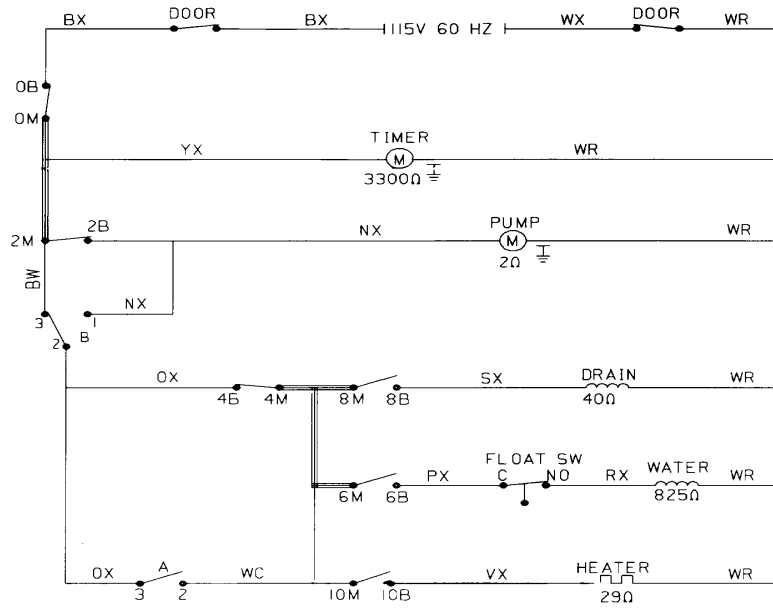
I65D334IP001



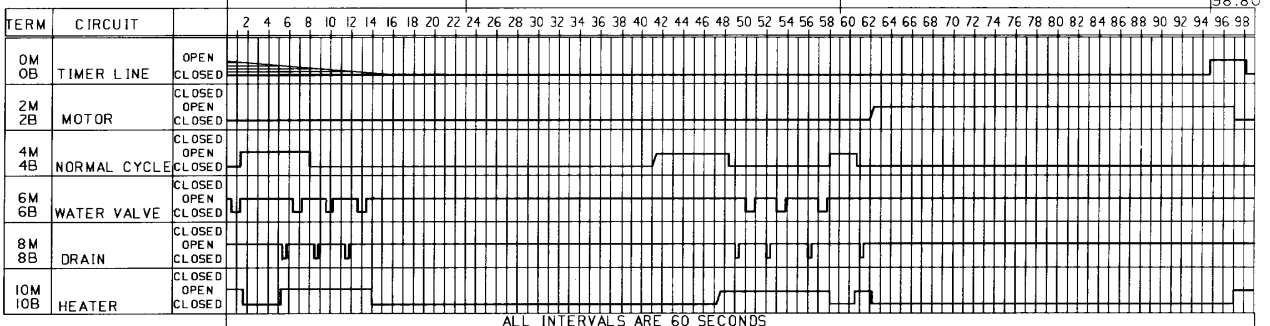
MAX. CURRENT LEAKAGE  
 0.75 MA.  
 MAX. GROUND PATH RESISTANCE  
 0.1 OHM

SWITCH	A	B
POTSCRUBBER	2-3	1-2
NORMAL WASH		
HEATED DRY		
AIR DRY		

■ CLOSED  
 □ OPEN  
 M MOMENTARY



CIRCUIT DIAGRAM MODE →

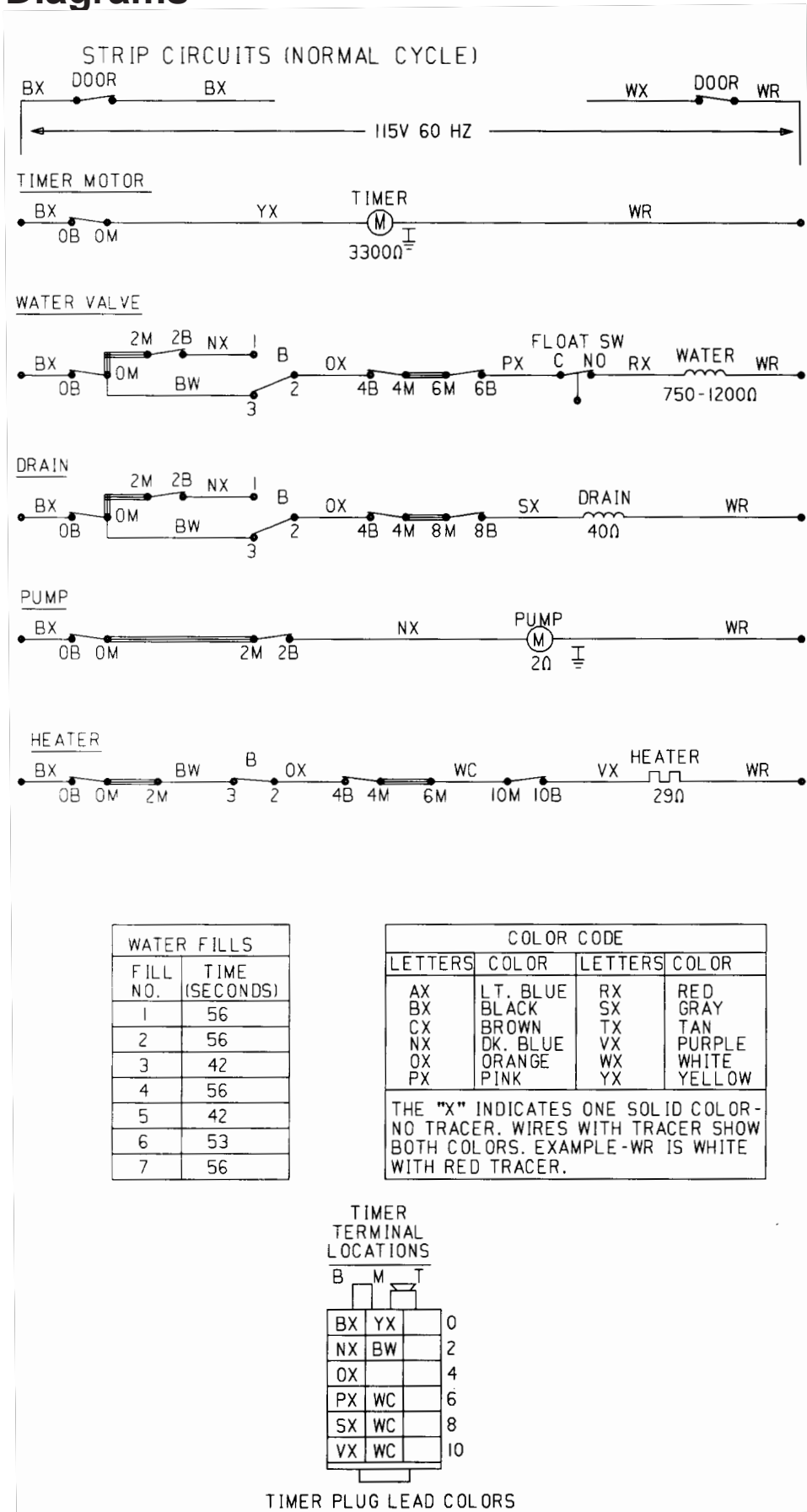


CYCLES	TOTAL MINUTES	PRE-WASH	WASH	RINSE	DRY
POTSCRUBBER	96	5.5	37.5	13	34
NORMAL WASH	96	9.5	37.5	13	34
*SHORT WASH (DIAL)	86.5		37.5	13	34
RINSE & HOLD (DIAL)	12			13	
PLATE WARMER (DIAL)	34				34

\* UNIT WILL HAVE EITHER "SHORT WASH", "LIGHT WASH" OR "WATER SAVER" CYCLE DEPENDING ON MODEL: REFER TO TIMER GRAPHICS

CDU300

# Schematic Diagrams



## CDU300