

**MAYTAG**

**Maytag**

**Gas & Electric  
S1000 Models  
Service Manual**

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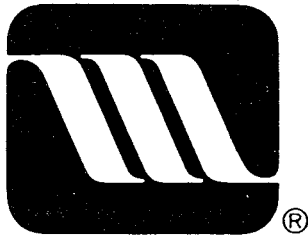
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# MAYTAG



# Section 1

# Introduction

## PRODUCT OVERVIEW

### WASHER SECTION

The washer section of the S1000 is essentially the same as all of the other washers. We have used the power unit from the deep tub washer and the standard sized tubs to shorten the height of the washer top. A single-speed motor is used with the Fabric-Matic system for Delicate, Regular and Permanent Press cycles.

Low voltage relays are used for the interfacing between the computer controls and the motor for On/Off control (run relay) and direction control (reversing relay) for agitate and spin operations.

The water valve is a special low voltage DC version of the valve we have been using on the standard washers. The coils are designed for operation on 24 volts direct current. Operation is direct from the computer control board and does not require relay interfacing.

### DRYER SECTION

The dryer section is a shortened-depth version of the "12" model dryers. Using the same front and rear bulkheads as the "12" model dryers and a "shorter" tumbler, the depth of the dryer is 21 inches overall. Drum capacity is 4.7 cubic feet. That is approximately the size of the "Halo-Of-Heat" dryers and is a match to the washer capacity.

Internal construction is the same as the "12" model dryers and service procedures are very similar.

As in the washer section, low voltage relays are used to interface the computer controls with the line-voltage standard components, such as the motor and heating element (electric models) or gas valve assembly (gas models).

A choice of moisture sensing electronic controlled or time controlled drying is made through touch-pad entry on the control face.

The heat input is matched to the capacity of the dryer. The electric element is approximately 4,600 watts at 240 volts AC and the gas valve is rated at 18,000 BTU/hour. The electric element wire is the same material and diameter as the regular element but is shorter in overall length. The gas valve is very similar to the regular dryer except for the location of the outlet port and the size of the orifice. Supplied only for natural gas, it is convertible to LP. Check your parts catalog for correct part number.

The controls system for both the washer and dryer are covered in the Cycle Description and in the Controls Section.

# SE/SG1000 STACKED WASHER/DRYER

Dimensions - 27-1/2 W x 27-1/2 D x 73 H (min.)

Uncrated Weight - Approximately 340 lbs.

## KEY FACTS - WASHER

**Capacity:** Standard size tub.

**Water Use (Full Cycle):** 34 gal. - Large (16 gal.)  
27 gal. - Medium (12 gal.)  
20 gal. - Small (9 gal.)

**Operating Speed:** Agitation 63 o.p.m; spin 618 r.p.m.

**Drive Motor:** 1/3 HP, 120 VAC, 60 Hz, reversible, thermoprotected, automatic reset.

**Power:** .1 - .17 kwh depending on cycle.

**Hose Lengths:** Inlet four feet; drain four feet.

**Draining:** There is a built-in siphon break; 15/16" I.D. hose.

**Installation Requirements:** Hot and cold connections with water pressure between 30-120 p.s.i. range.  
140°F.-150°F. hot water; 60°F.-75°F. cold water.  
A drain.  
120-volt electrical outlet properly grounded and polarized;  
protected by 15 amp fuse or circuit breaker.

## KEY FACTS - DRYER

**Air Flow:** 180 CFM

**Exhaust:** 4" duct permits up to a maximum of 50 feet rigid aluminum ductwork. Subtract eight feet for each 90° elbow; eight feet for an exhaust hood. Dryer vented out the back.

**Motor:** 1/4 HP; 120-volt; 60 Hz thermoprotected against overload; auto reset.

**Heat Source:**

**Electric:** Nichrome helix coil, 240-volt, 3-wire, 4,600 watts, 30 amp fuses.

**Gas:** Single port burner, 18,000 BTU/hour; electric ignition; automatic shutoff.

**Capacity:** 4.7 cubic feet

**Drum Speed:** 50 r.p.m.

## FEATURES

### Washer

- Microprocessor Touch Control
- Digital Display
- Full Size Capacity
- Built-in Filter
- Fabric Softener Dispenser
- Bleach Dispenser
- Tub Light
- Lid Lock

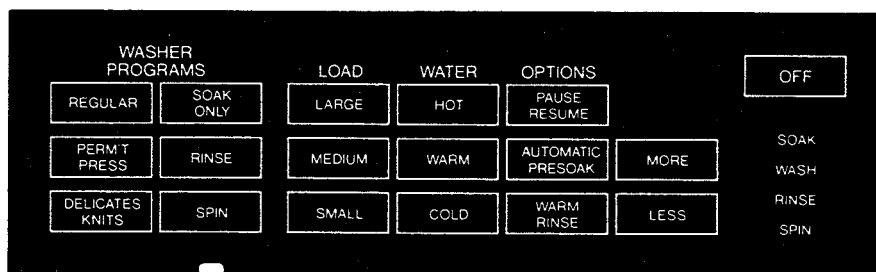
### Dryer

- Microprocessor Touch Control
- Digital Display
- Full Size Capacity
- Electronic Time Control
- Electronic Moisture Sensor Control
- Regular Cycle
- Permanent Press Cycle
- Press Care

## CYCLE DESCRIPTION

### WASHER

- Regular cycle
- Permanent press cycle
- Delicate/knits cycle
- 2 soak cycles
- 5 temps combination
- 3 water levels
- Adj.wash/soak time
- Cycle sequence lights



## WASHER CONTROL

### PROGRAMS

#### When You Press "Regular" Pad:

1. Washer immediately begins filling with warm water, press "Hot" pad for hot wash or "Cold" pad for cold wash. Rinse will be cold unless "Warm Rinse" pad is pressed. Spray rinse is always cold.
2. The "Large" fill is automatically selected. Press "Medium" or "Small" pad to adjust water level to load size.

Large - 16 gal. fill

Medium - 12-1/2 gal. fill

Small - 9 gal. fill

3. Ten minutes of wash time is automatically selected. Press and hold down "Less" pad for less than 10 minutes of wash time (display will count down), or press and hold down "More" pad for more wash time (display will count up to 19 minutes).

**When you press "Permanent Press" pad:**

1. Washer immediately begins filling with warm water. Press "Hot" pad for hot wash or "Cold" pad for cold wash. Cool-down and deep rinse will always be cold.
2. The "Large" fill is automatically selected. Press "Medium" or "Small" pad to adjust water level to load size.
3. Eight minutes of wash time is automatically selected. Press and hold down "Less" pad for less wash time (display will count down), or press and hold down "More" pad for more wash time (display will count up to 19 minutes).

**When you press "Delicate/Knits" pad:**

1. Washer immediately begins filling with warm water. Press "Hot" pad for hot wash and "Cold" pad for cold wash. Rinse will be cold unless "Warm Rinse" pad is pressed. Spray rinse is always cold.
2. The "Large" fill is automatically selected. Press "Medium" or "Small" pad to adjust water level to load size.
3. Six minutes of alternate periods of agitation and soak is automatically selected. Press and hold "Less" pad for less soak or press "More" pad for longer periods of soak (display will count up to 19 minutes).

**When you press "Soak Only" pad:**

1. The "Large" fill is automatically selected. Press "Medium" or "Small" pad to adjust water level to load size.

2. 19-minute soak with brief periods of agitation is automatically selected. Press and hold "Less" for less soak time. If the "More" pad is pressed, the display will go from "19" to "--". This indicates the washer will fill, agitate briefly, and soak until the user returns to the washer and presses "Spin" pad to spin the water out of the tub.

**When you press "Rinse" pad:**

1. Washer immediately begins filling with cold water. Press "Warm Rinse" pad for warm rinse.
2. The "Large" fill is automatically selected. Press "Medium" or "Small" pad to adjust water level to load size.
3. One minute of rinse is automatically selected. Press and hold "More" pad for more rinse time (up to eight minutes) and press and hold "Less" pad for less time.

**When you press "Spin" pad:**

1. Washer will immediately begin spinning, spin for five minutes, and shut off.
2. You can increase spin time to eight minutes by pressing "More" pad or decrease to one minute by pressing "Less" pad.

**NOTE:** Program selections can be changed until wash fill is complete.

## **SPECIAL OPTIONS**

### **PAUSE/RESUME**

When you press the "Pause/Resume" pad once, a "P" appears in the display, the washer will pause and remain in a pause mode until you push the pad a second time to resume the cycle. The washer will always resume the cycle at the point at which it was stopped. The indicator light is on when the washer is in a pause mode and goes out



when the cycle is resumed. If you press the "Pause/Resume" pad while the washer is filling, it will complete the fill before it goes into the pause mode. This is so you have access to water with the lid open.

**IMPORTANT:** If you press the "Pause/Resume" pad to open the washer lid while the washer is filling, you must press the "Pause/Resume" pad again *after* the lid is closed so the washer will continue the cycle once fill is complete. If you fail to cancel pause, the washer will signal every minute after fill is complete until you press "Pause/Resume".

## **AUTOMATIC PRESOAK**

This option can only be selected after the Regular, Permanent Press, or Delicate/Knits cycle has been selected. The wash time for these cycles must be selected before choosing Automatic Presoak. This option provides a soak and agitate period of 19 minutes ahead of the selected cycle. The presoak time can be shortened by pressing and holding the "Less" pad. Upon the completion of Presoak, the cycle will advance into the main wash without draining and refilling.

## **ADDITIONAL FEATURES**

### **OFF PAD**

Anytime the "Off" pad is pushed, the washer will stop immediately and cancel all selections.

### **LID LOCK**

Anytime the lid is closed and the washer is in any mode of operation, the lid is locked. The lid will unlock immediately during fill and agitate when the "Pause/Resume" or "Off" pads are pressed. (The washer will continue filling with lid open when "Pause/Resume" pad is pushed during the first fill.) The

washer will not agitate or spin with the lid open. If the user has placed the washer in a pause mode and then tries resuming the cycle with the lid open, an "L" will appear in the display and an electronic tone will sound two beeps every minute to remind you the lid is open. If the lid is closed and the "Pause/Resume" pad is pressed, the cycle will resume.

If the washer is in the spin mode and the "Pause/Resume" or "Off" pad is pressed, the washer will stop, but the lid will remain locked for six seconds to assure the washer has stopped spinning.

## **UNBALANCE**

Anytime the washer goes into unbalance, the washer will go into a pause mode and a "U" will appear in the display. An electronic tone will sound twice every minute. The load is rearranged and the "Pause/Resume" pad is pressed to resume the cycle.

## **DISPLAY**

A number in the display notes the time in minutes remaining in that portion of the cycle indicated by the four sequence lights (soak, wash, rinse, spin).

"P" indicates the washer is in pause due to pressing "Pause/Resume" pad.

"U" indicates the washer is in a pause due to an unbalance condition.

"L" indicates the washer is in a pause due to the lid being open and unlocked.

"--" This symbol indicates the washer will remain in the soak mode until the "Spin" pad is pressed.

-" This symbol is displayed during the wash-spin of the Permanent Press cycle because it is not a specific duration of time.

"IE" indicates the washer is in a pause due to malfunction of the lid lock or the lid is not properly closed.

The following chart shows the relationship between the function being performed, the amount of time for that function, what the washer display LED's are showing, and which cycle LED is on.

**REGULAR CYCLE**

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
FILL	-	10	WASH
AGITATE	10	10	"
PAUSE	2 SEC.	6	RINSE
SPIN	2	6	"
SPIN/SPRAY	1	4	"
SPIN	1	3	"
FILL	-	2	"
AGITATE	2	2	"
PAUSE	2 SEC.	5	SPIN
SPIN	5	5	"
OFF			

**PERMANENT PRESS CYCLE**

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
FILL	-	8	WASH
AGITATE	8	8	"
PAUSE	2 SEC.	"	RINSE
PARTIAL SPIN	-	"	"
FILL-COLD	-	4	"
SOAK	1	4	"
PAUSE	2 SEC.	3	"
SPIN	2	3	"
FILL-COLD	-	1	"
AGITATE	1	1	"
PAUSE	2 SEC.	3	SPIN
SPIN	3	3	"
OFF			

**DELICATE/KNITS CYCLE**

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
FILL	-	6	WASH
AGITATE	1	6	"
SOAK	4	5	"
PAUSE	2 SEC.	4	SPIN
SPIN	4	4	"
OFF			

---

**INFINITE SOAK**

---

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
FILL	-	"--"	SOAK
AGITATE	2	"--"	"
OFF			

---

**RINSE**

---

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
FILL	-	1	RINSE
AGITATE	1	1	"
PAUSE	2 SEC.	5	SPIN
SPIN	5	5	"
OFF			

---

**SPIN**

---

<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>CYCLE LED</b>
PAUSE	2 SEC.	5	SPIN
SPIN	5	5	"
OFF			

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**NOTES:**

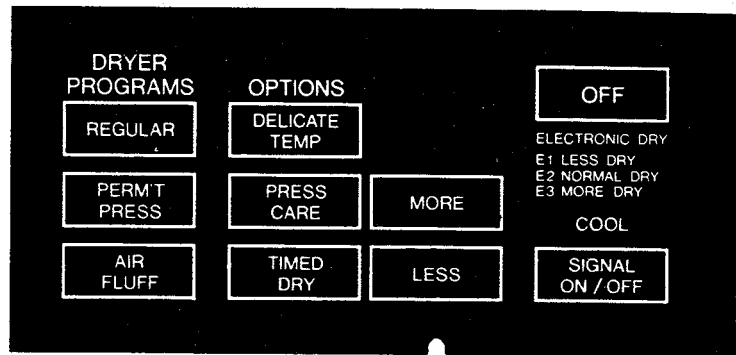
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1. There is a two-second delay concurrent with the fill preceding each agitate to insure that the motor has stopped before reversing.
2. The partial spin following the main wash in Permanent Press is terminated upon resetting the water level pressure switch or after two minutes if reset does not occur.
3. The Presoak option is identical to the Soak program above except that the final spin is omitted.

# CYCLE DESCRIPTION

## DRYER

- 2 Heat Settings
- Air Fluff
- Selectable End-Of-Cycle Signal
- Self-Diagnostics
- Eye-Level Loading
- Adjustable Degree-Of-Dryness
- Cool Light
- Saves Floor Space
- Electric Ignition (Gas)



## DRYER OPERATION:

### PROGRAM KEYS:

1. Pressing one of the three program keys powers up the control, if not already, and initiates the selected program. All other dryer keys are inoperable until a program selection is made.
  2. Program selection may be changed at any time, except when Air Fluff is selected, all other program keys are locked out.
  3. Selection of a new program or reselection of the same program with the dryer running cancels the previous program selection and begins the new. New program selections do not cancel option key selections, except where inappropriate to the program selected.
  4. An electronic tone will sound (four beeps) at the end of cool-down. The signal can be turned off or on any time the dryer is operating by pressing the "Signal On/Off" pad.
- cycle. A "cool" indicator light tells the consumer when the dryer is in cool-down. Also, "5" (five minutes) will appear in the display at the beginning of cool-down.

## DRYER CONTROL

### PROGRAMS

#### When you press "Regular" pad:

1. The dryer will operate in the electronic moisture sensing mode with a five-minute cool period at the end of the

#### When you press "Permanent Press" pad

1. The dryer will operate in the electronic moisture sensing mode with a 10-minute cool period at the end of the cycle. The "Cool" indicator light will come at the beginning of cool-down while the display will count down the last seven minutes of the 10-minute cool-down.

2. The degree of dryness automatically selected will be normal dry and "E2" will appear in the display. By pressing the "More" pad, "E3" will appear in the display and the control will operate at a "more dry" degree of dryness. By pressing the "Less" pad, "E1" will appear in the display and the control will operate at a "less dry" degree of dryness.
3. The dryer will operate using the regular temperature heat mode. By pressing the "Delicate Temp" pad, the dryer will operate using the delicate temp heat mode.
4. An electronic tone will sound (four beeps) every 20 seconds during the last seven minutes of the cool-down period. The signal can be turned off or on any time the dryer is operating by pressing the "Signal On/Off" pad.

**NOTE:** You can change back and forth from the Regular to Permanent Press program and from Regular to Delicate temperature anytime. Press Care can be added or deleted any time during the cycle.

**If you press "Air Fluff" pad:**

1. The dryer will operate with no-heat tumbling.
2. "20" (20 minutes) will appear in the display. A small indicator light on the pad will light. This time can be increased by pressing and holding down the "More" pad (up to 99 minutes) or decreased by holding down "Less" pad. Upon initial pressing of "More" or "Less" pad, display will change in one-minute intervals until display reaches a multiple of five, then the display will change in five-minute intervals.
3. Once Air Fluff has been selected, it locks in on that program and you must press "Off" to select a new program.

## SPECIAL OPTIONS

### Timed Dry

This option can be selected after either the "Regular" dryer program or the "Permanent Press" program have been selected. This changes the drying mode from electronic sensing to timed dry. When using the timed dry option with "Regular", "40" (40 minutes) will appear in the display. This time can be increased or decreased by pressing and holding either the "More" or "Less" pad. When using the timed dry option with Permanent Press, "35" (35 minutes) will appear in the display. This time can be increased or decreased as described above. The timed dry option can be cancelled by pressing the "Timed Dry" pad again and the dryer will return to electronic moisture sensing.

### Press Care

This option can be used with the Permanent Press program in either the electronic sensing mode or the timed dry mode. Press Care provides 33 minutes of cool-down at the end of the Permanent Press cycle instead of the 10 minutes normally provided. After three minutes of cool, the signal will sound every two minutes except during the last two minutes, the signal will sound every 20 seconds. The signal can be turned off by pressing the "Signal On/Off" pad.

### Delicate Temp

The temp option can be used with Regular or Permanent Press in the electronic or timed dry mode. This option can be cancelled by pressing the "Delicate Temp" pad again. The dryer then operates in the regular heat mode.

**NOTE:** If more heated dry is desired once cool-down has begun, the dryer must be turned off and reprogrammed.

# ADDITIONAL FEATURES

## INDICATOR LIGHTS

Each pad has a small indicator light to let you know the control has acknowledged your instructions.

If you open the door while the dryer is running, the program light will blink letting you know you must press that pad to restart the dryer. Option lights will not blink when the door is opened and do not have to be reset.

The "Cool" light will be on any time the dryer is in the cool-down portion of the cycle.

## OFF

Any time this pad is pressed, the dryer will shut off, cancelling all programs.

# SELF-DIAGNOSTICS

This dryer is equipped with certain diagnostic functions. If certain errors in the control occur, a number followed by the letter "E" will appear in the display as follows:

"9E" - malfunction in dryer door circuit.

"8E" - malfunction in motor relay circuit.

"7E" - temperature control error (thermistor circuit fault or dryer too hot). Check vent.

"6E" - temperature control error (thermistor circuit fault or ambient temperature too cool).

All other LED's will go off and no dryer will be operable, including the "Off" key.

To reset control, disconnect power to dryer for one minute. Investigate and correct condition which led to "Error Code" response.

---

## DRYER PROGRAMS

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The following chart shows the function, time point in cycle, display read-out, and condition of cool-down indicator LED.

---

### REGULAR - ELECTRONIC CONTROL MODE

---

FUNCTION	TIME	DISPLAY*	COOL LED
HEAT	+	E2	NO
HEAT	2 + + +	E2	NO
COOL-DOWN	5	5	YES

\*The "More" pad will change to "E3" dryness level. The "Less" pad will change to "E1" dryness level.

---

### PERMANENT PRESS - ELECTRONIC CONTROL MODE

---

FUNCTION	TIME	DISPLAY*	COOL LED
HEAT	+ + +	E2	NO
HEAT	2 +	E2	NO
COOL-DOWN	3	E2	YES
COOL-DOWN	7 + +	7	YES

\*The "More" pad will change to "E3" dryness level. The "Less" pad will change to "E1" dryness level.

---

## REGULAR - TIMED DRY MODE

---

<b>FUNCTION</b>	<b>TIME*</b>	<b>DISPLAY</b>	<b>COOL LED</b>
HEAT	35	40	NO
COOL-DOWN	5	5	YES

\*The "More" pad will increment the time to a maximum of 99 minutes. The "Less" pad will step the time down to the cool-down period and then off if pressed and held.

Upon initial pressing of one of these pads, the display will change in intervals of one minute. When the display reaches a multiple of five, the intervals of change will be five minutes. When 95 is reached, the interval will change back to one minute and will not go beyond 99 minutes.

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## PERMANENT PRESS - TIMED DRY MODE

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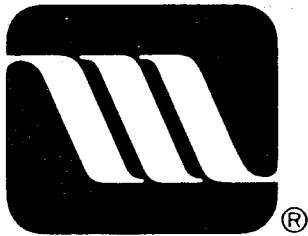
<b>FUNCTION</b>	<b>TIME</b>	<b>DISPLAY</b>	<b>COOL LED</b>
HEAT	32	35	NO
COOL-DOWN	3	3	YES
COOL-DOWN	7 + +	7	YES

### NOTES:

- + The length of time devoted to this heat cycle depends on the dryness selected. The minimum time is 40 seconds if F1 is selected, otherwise it is 3 minutes.
- + + Permanent Press with the Press Care option has a final cool-down of 30 minutes instead of 7 minutes.
- + + + This additional heat cycle is 0 minutes for E1 and 9 minutes for E3.





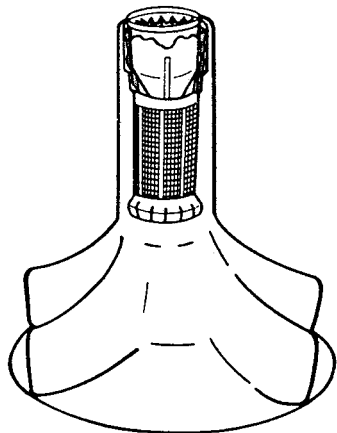


## FABRIC SOFTENER DISPENSER

The built-in fabric softener dispenser, located in the top of the filter agitator is designed to dispense fabric softener into the final rinse automatically. **Since bleach and granular detergents should not be used in the final rinse, they should not be placed in the dispenser cup.** Always follow the manufacturer's directions for usage of fabric softener.

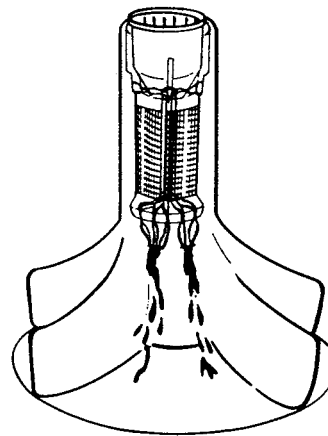
Place diluted softener in dispenser cup before starting washer. During agitation, it remains in the cup.

At the start of the spin for the final rinse, the softener is spun up to the top of the cup and leaves the cup through the slots around the top circumference of cup.



The softener is held in the filter cap by centrifugal force during the remainder of the spin cycle.

At the end of the spin, the softener drains down through the agitator into the washbasket as the water enters for the final rinse.



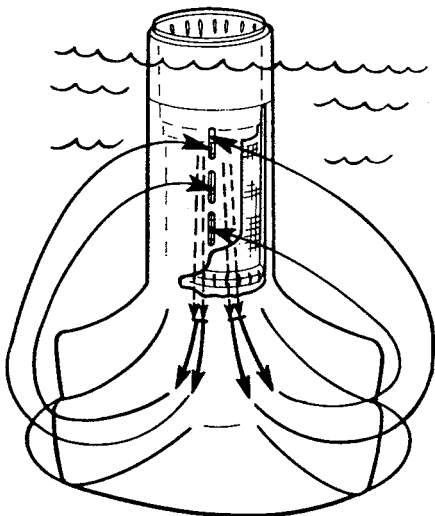
**CAUTION:** Do not interrupt the spin cycle when fabric softener is being used. This will cause the softener to be dispensed prematurely and it will not be properly utilized. This can result in "grease" spots on the clothes.

# AGITATOR

The "power fin" agitator creates a unique water action which pushes water through the clothes while moving them from the top of the water to the bottom and then up again. The water action tends to keep the clothes away from the agitator and out toward the tub.

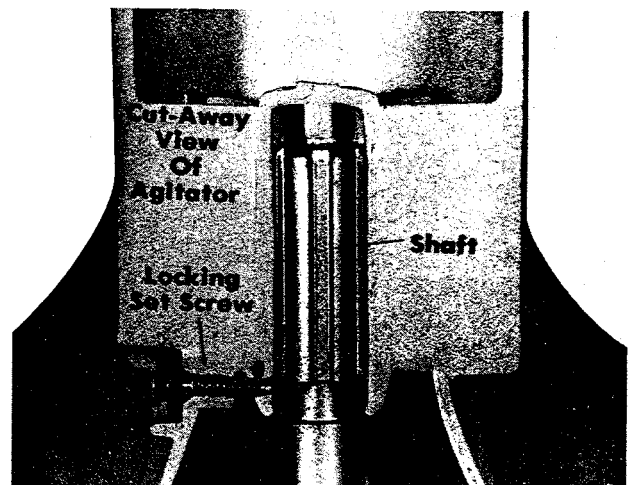
The water circulation pattern keeps the water constantly moving through the lint filter.

Water enters the barrel of the agitator through the slots around the top. It passes through the lint filter and comes out the holes at the bottom of the agitator barrel.



**Keep in mind the lint filter in the barrel of the agitator is only a secondary method of lint removal.** The majority of lint is removed through the holes in the tub during the spin cycle. Maytag's "swirl-away" action spins the lint-laden water out through the holes and down the drain.

To remove the agitator, remove the set screw holding the agitator in place and pull up. Be sure set screw is replaced and securely tightened when the agitator is replaced.



**NOTE:** It will help to pull the washer unit slightly forward. This will allow you to slide the lid back further to provide greater clearance for the agitator skirt.

# WATER VALVE OPERATION

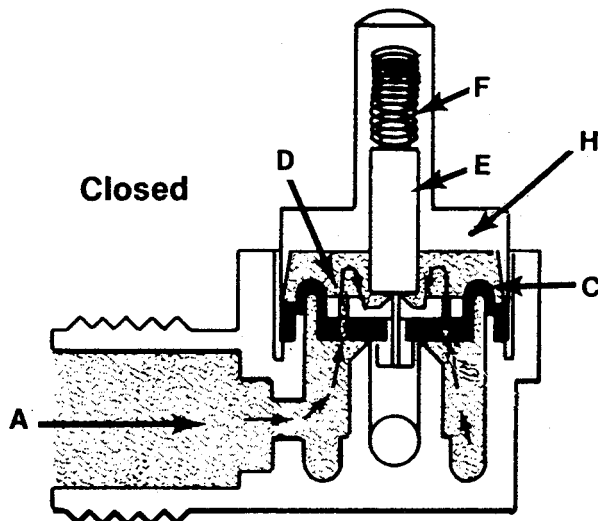
**This is a 24 volt DC valve, do not test on line voltage.**

The following is an explanation of the operation of the water valve and points out the importance of the filter screens.

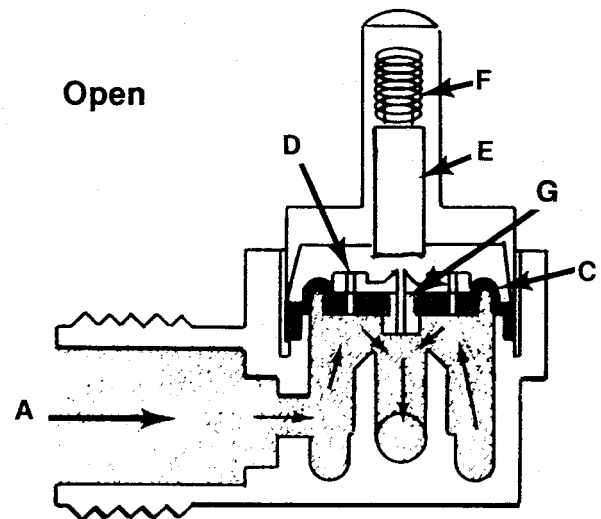
Filter screens **MUST** be used in the inlets of the water valve to minimize unnecessary valve failure. These screens are used in the valve inlet to prevent foreign materials from entering the valve. Particles of sand, soil or mineral deposits gathering in the valve can block the diaphragm "open" or hinder solenoid plunger operation.

## WATER FLOW

The water valve is designed to operate in a pressure range of 30 to 120 p.s.i. If for example, the water pressure at the inlet valve is 40 p.s.i., water from inlet "A" is pushing against diaphragm "C" at 40 p.s.i. The solenoid plunger "E" and spring "F" alone are not strong enough to keep the diaphragm in a closed position, blocking the flow of water until the solenoid is energized. To do this, small bleed holes "D" about the size of a pin, are put in the diaphragm to allow water to flow into the plunger area "H". The water in the plunger area equalizes the pressure on both sides of the diaphragm. The spring pushes the plunger down into the center of the diaphragm closing center opening, until the solenoid is energized.



During the fill portion of the cycle, the solenoid is energized, creating an electromagnetic field and pulling the plunger "E" away from the diaphragm. This allows water to escape out the opening "G", thus having little pressure in the plunger area. The water pressure from the supply forces the diaphragm "C" open and allows water to run under the diaphragm and out the outlet of the valve and into the washer. When the washer fills to selected water level, the solenoid is de-energized and the plunger spring "F" pushes the plunger back into the diaphragm opening "G". Water is forced through the bleed holes "D" until an equal pressure is attained on both sides of the diaphragm thus stopping the flow of water to the washer.



Assume for a moment, the solenoid is energized and the washer is filling. If a foreign particle reaches the water valve "A" and there are no screens to stop the particles, it continues on into the valve to the diaphragm "C" and the particle lodges in the small bleed hole. This permits the water to continue to flow under the diaphragm, to the outlet and into the tub, because the water cannot pass through the bleed holes to equalize pressure on both sides of the diaphragm to close the diaphragm seat.

## INLET HOSE SCREENS

Both the inlet hoses have screens to help filter out the foreign material that may have come from the water source. A fine mesh screen is used in the water valve inlet to filter out the material that may pass through the inlet hose screen. **Always check both inlet hose and valve screens.**

IF FILTER SCREENS HAVE BEEN REMOVED, BE SURE SCREENS ARE REPLACED TO MINIMIZE UNNECESSARY VALVE FAILURE.

## NO FILL

Check water valve coils for continuity. These checks should be made with the electrical supply disconnected from the washer. The water valve coil should have a resistance of between 140 and 160 ohms. For convenience, the Maytag appliance test meter scale is marked open and closed to indicate continuity or an incomplete circuit. If there is an incomplete circuit, there is a bad coil. If a coil is bad, the water valve should be replaced.

**NOTE:** The water valve solenoid coils are intended for 24 volt DC operation. **Do not** test using a motor test cord.

## OVERFILL

Put machine into a fill, preferably a warm setting. While the washer is filling, push the off pad or pull the power cord. If the water valve does not stop flow of water, the valve is at fault. If the water flow stops, the problem is electrical. Check water level control, micro-processor and wiring.

## SLOW FILL

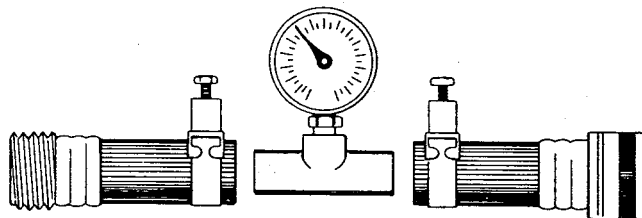
1. Check screens at faucet for sediment build-up.

2. Check screens at water valve for sediment build-up.
3. Check water pressure. The water pressure should be between 30 p.s.i. and 120 p.s.i. - dynamic (flow) pressure.

**NOTE:** If washer fills (Large setting) in five minutes or less, water valve is operating normally.

A flow-pressure tester can be made up easily using locally available fittings and water pressure gauge.

### Water Pressure Gauge



**Static pressure:** Pressure when valve is closed.

**Dynamic (flow) pressure:** Pressure when valve is open and water is flowing. If this pressure is below 20 lbs. p.s.i., water valve may not operate properly. If pressure is above 80 lbs. p.s.i., water line "hammer" is probable.

## WATER VALVE REMOVAL

**Unplug washer and dryer. Shut off both hot and cold water faucets.**

Slide the washer out from the dryer support stand. Place a pan or bucket below the hoses directly under the water valve. Remove both hoses catching excess water in pan. Remove the 5/16" screw that holds the bracket to the cabinet.

Loosen the clamp and remove the outlet hose from the valve. Some water will come out; catch in the pan. Note wire colors on the valve terminals and remove the wires. Remove two 5/16" screws holding the valve to the bracket.

## **WATER VALVE INSTALLATION**

Mount the new valve to the bracket with two 5/16" screws. One pink/black wire will go to each electrical solenoid with an orange wire going to the hot water side of the valve. The remaining wire (blue/black) will be attached to the cold water solenoid. Reinstall the hose and clamp on the outlet of the valve. Reinstall the 5/16" screw in the bracket. Reinstall the hot water hose to the side marked with an "H" on the bracket.

The cold water side will be marked with a "C". Turn the water faucets back on and check for leaks at the valve. Slide the washer back into position and plug in the electrical cords. Push the "Regular" pad and the "Hot" pad. Let water run for a short time and then check temperature of the water coming into tub. If the water is hot, then press the cold. If this water is cold, you know that you have the hoses hooked up correctly. If the temperatures are incorrect, simply shut off the water faucets and reverse the fill hoses.

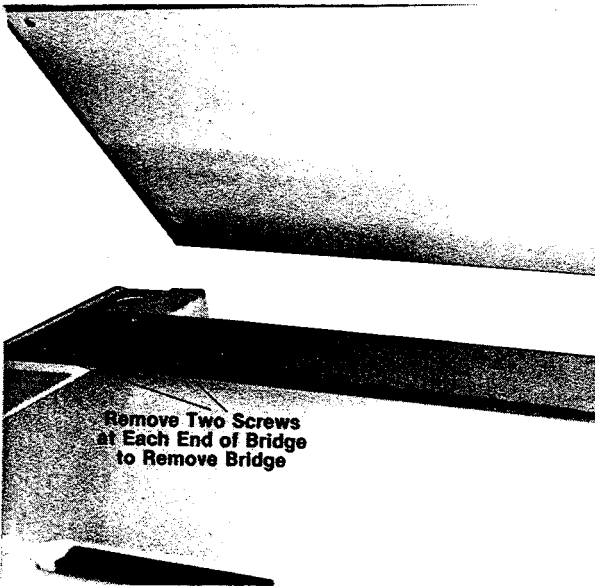
**NOTE:** Depressing the Pause/Resume pad during fill will override the lid lock mechanism allowing the lid to open providing access for checking the temperature of incoming water.

# LID

The lid on the S1000 slides back to gain access to the inner tub of the washer.

## To remove lid:

1. Pull washer out away from dryer support stand.
2. Remove four Phillips head screws securing bridge for top cover and remove bridge.



3. Lift lid off.

## LID COMPONENTS

### KEY HOLE GLIDE

#### To remove glide:

Squeeze glide together and lift up through key hole slot in lid.

#### To replace glide:

Squeeze glide together and push through key hole slot in lid.

### LATCH HOOK

Remove latch hook by removing single screw securing hook to lid.

### HANDLE

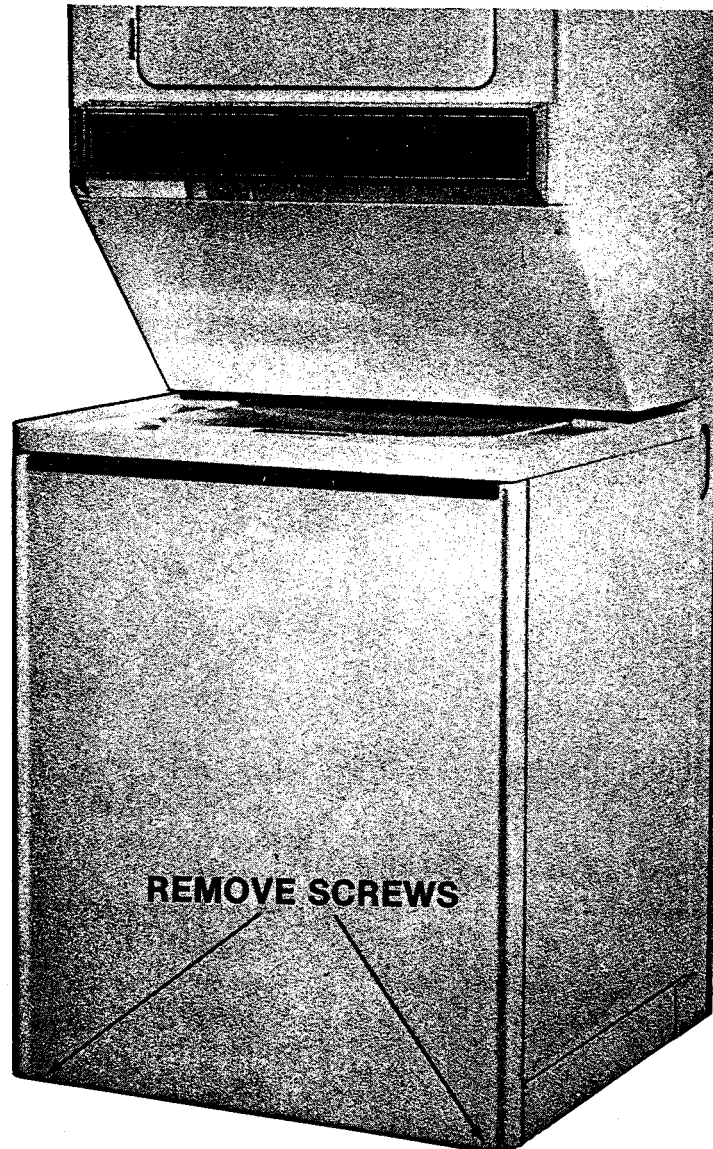
Remove handle by removing two nuts securing handle to lid.

# ACCESS TO WASHER

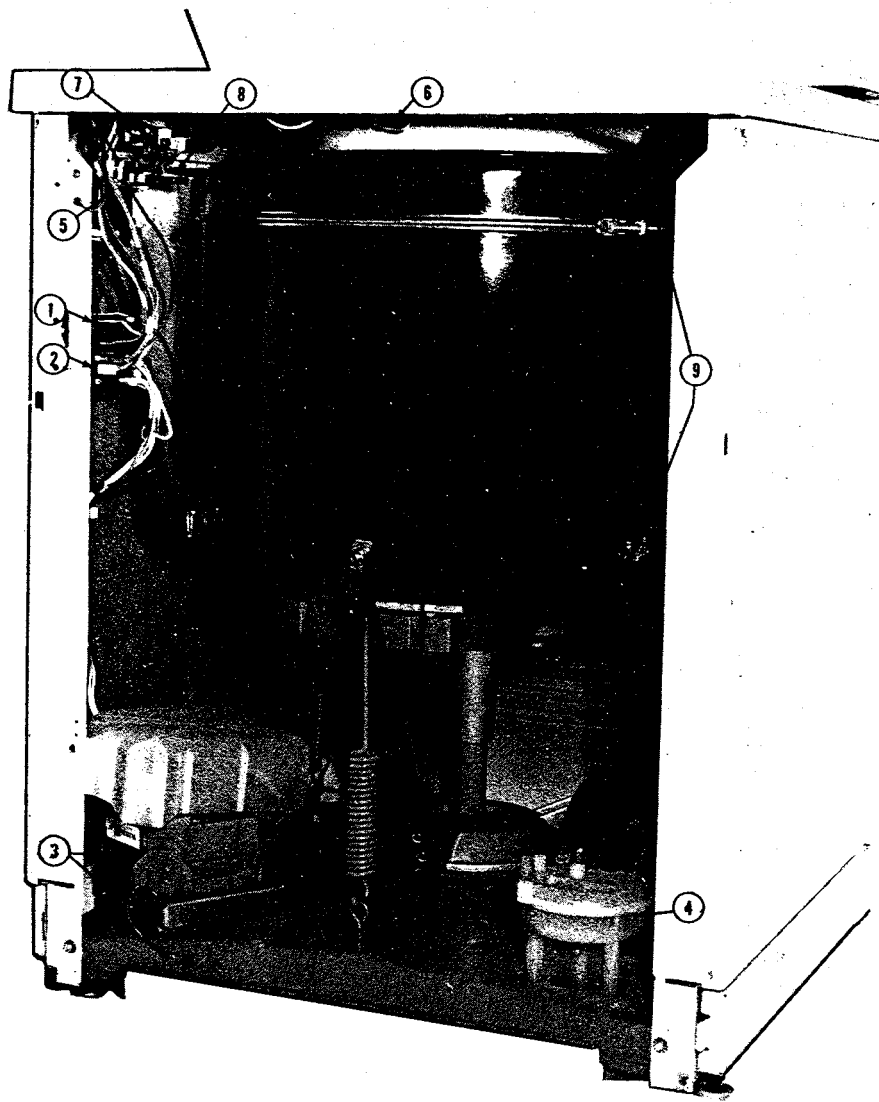
## FRONT PANEL

Remove two 5/16" hex head screws located at the lower corners of the front panel. You will note they screw straight into the cabinet rather than at an angle.

Swing panel out to about a 45 degree angle and lower slightly to disengage clips at top of panel to washer top.



**This Provides Access To:**

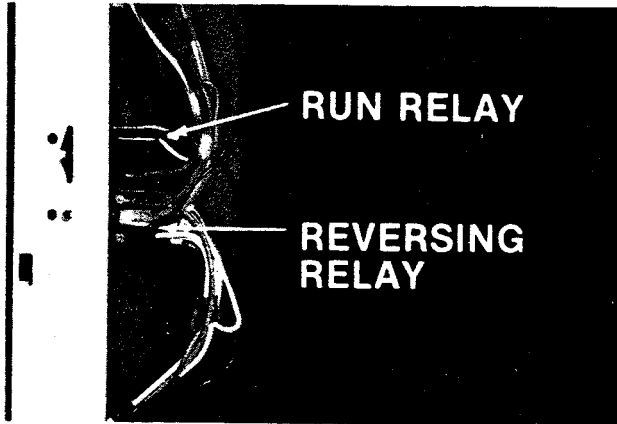


- ① **Drive Motor Run Relay** - top relay, left cabinet flange.
  - ② **Drive Motor Reversing (spin) Relay** - lower relay, left cabinet flange.
  - ③ **Motor and Motor Carriage (mount)** - at the left front corner of the base frame.
  - ④ **Water Pump** - at the right front corner of base frame.
  - ⑤ **Water Level Control** - left cabinet flange near top.
  - ⑥ **Tub Lamp** - under top cover approximately centered.
  - ⑦ **Lid Lock Mechanism (including lid switch and lock solenoid)** - top left front corner of cabinet.
  - ⑧ **Out of Balance Sensor Switch Assembly** - top left side of cabinet just behind lid lock mechanism and positioned in line with tub cover clamp band.
  - ⑨ **Bleach Inlet and Hose Connections** - hoses and hose clamps from tub to pump.
- Inspection** - of additional components in cabinet.



# MOTOR RUN RELAY

The motor run relay is the top relay of the two relays mounted along the left cabinet flange of the washer. It is a single pole, single throw type and when energized completes the line-one feed from the lid switch to the motor. Both the lid switch and the run relay must be closed for power to reach the motor.



To check relay unplug both washer and dryer power cords.

1. Remove wires from run relay.
2. Measure resistance of relay coil across small terminals (yellow/black to gray). Resistance should be approximately 490 ohms.

An infinite reading indicates an open coil and requires relay replacement.

3. Reinstall coil wires (smaller terminals).
4. Connect ohmmeter across larger terminals.
5. Reconnect dryer power cord (leave washer unplugged).

**CAUTION:** The following is a live voltage check. Use appropriate care.

6. Program the spin cycle by pressing the SPIN pad.

The relay should be energized and the ohmmeter should show zero ohms resistance (continuity). If relay pulls in

but ohmmeter does not show continuity, relay contacts have failed and the relay should be replaced.

7. If relay does not pull in, measure DC voltage across coil. If no voltage, check microprocessor or wiring. If 24VDC is measured, replace relay.

## To remove relay:

1. Remove all wires from relay.
2. Pull spring clip back and slide relay out.

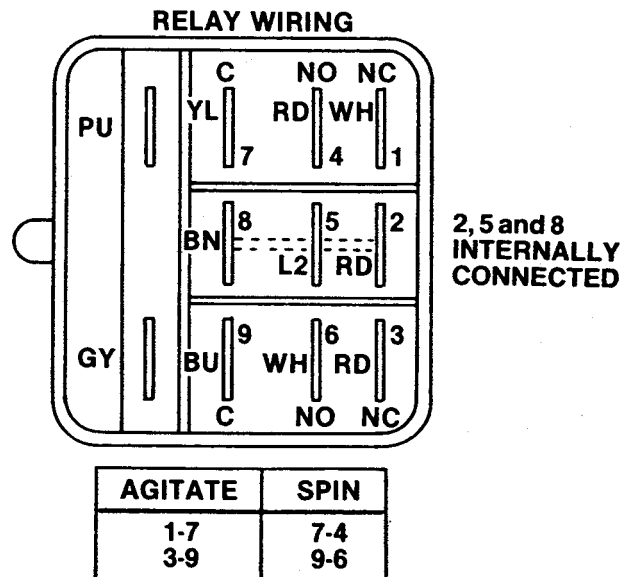
**NOTE:** The relay has a tab which fits through a slot in the cabinet flange to assist in mounting and location of the relay.

# MOTOR REVERSING (SPIN) RELAY

The spin relay is a double pole, double throw type switch. When not energized, this relay is wired to run the motor for agitate.

When energized, the relay contacts reverse the start-winding connections to the motor (blue and yellow wires) and causes it to start and run for spin.

If the washer fails to spin, check the reversing relay.



To check reversing relay, unplug both washer and dryer cords.

1. Remove wires from reversing relay.
2. Measure resistance of relay coil (gray to purple). Should show approximately 350 ohms.

An infinite reading indicates an open coil and requires relay replacement.

3. Reinstall coil wires (gray and purple).
4. Connect ohmmeter across red to yellow on relay.
5. Reconnect dryer power cord (leave washer unplugged).

**CAUTION:** *The following is a live voltage check. Use appropriate care.*

6. Program the spin cycle by pressing the SPIN pad.

With the coil energized the ohmmeter should show 0 ohms resistance (continuity). If not, replace relay.

7. Unplug dryer power cord and connect ohmmeter across white to blue on relay.
8. Reconnect dryer power cord and reprogram spin cycle.

With the coil energized the ohmmeter should again show 0 ohms resistance (continuity). If not, replace relay.

## LIVE TEST (USE CAUTION)!

1. Unplug both washer and dryer power cords.
2. Reverse (interchange) the blue and yellow wiring on the reversing relay.

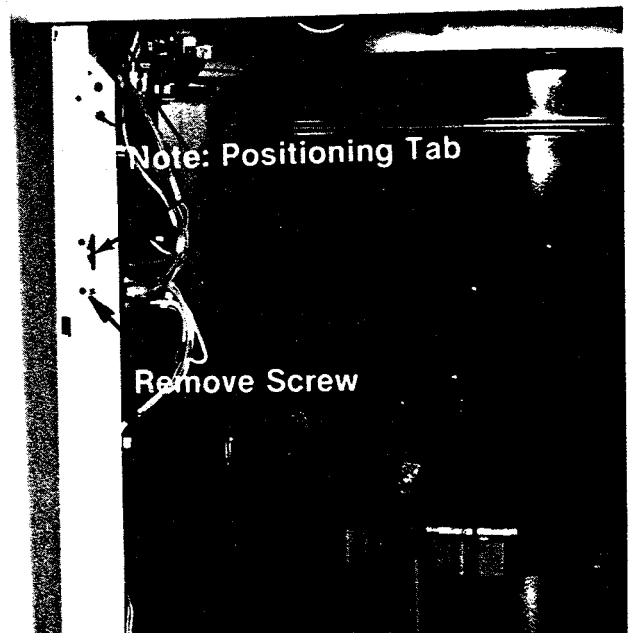
3. Reconnect both power cords.
4. Program the spin operation. If the washer now spins you know that the motor will reverse and that mechanically the washer helical drive mechanism is operating. Relay contact could be stuck, replace reversing relay.

If the washer will only spin, the contacts in the reversing relay could also be stuck. Unplug both washer and dryer power cords, reverse the blue and yellow wires as in previous example and check operation. If agitation is achieved, check for constant voltage at relay coil (relay energized constantly).

If constant voltage, check microprocessor. If there is no voltage during the agitate period, but the washer spins, then change the relay.

### To remove relay:

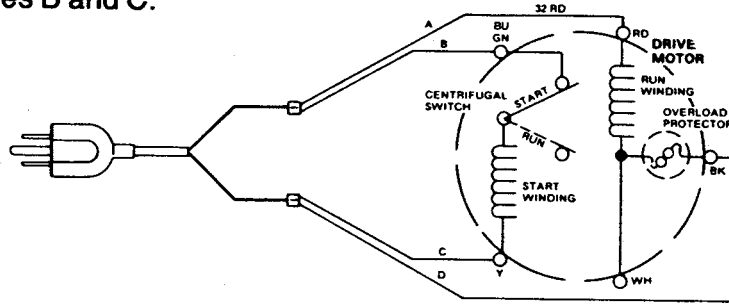
1. Remove all wires from relay.
2. Remove 1/4" screw securing relay and spring clip to cabinet flange. Note positioning tab for ease in mounting and locating relay and spring clip.



# MOTOR

## USING THE 38183 MOTOR TEST CORD FOR MOTOR TESTING HOOKING UP THE MOTOR TEST CORD

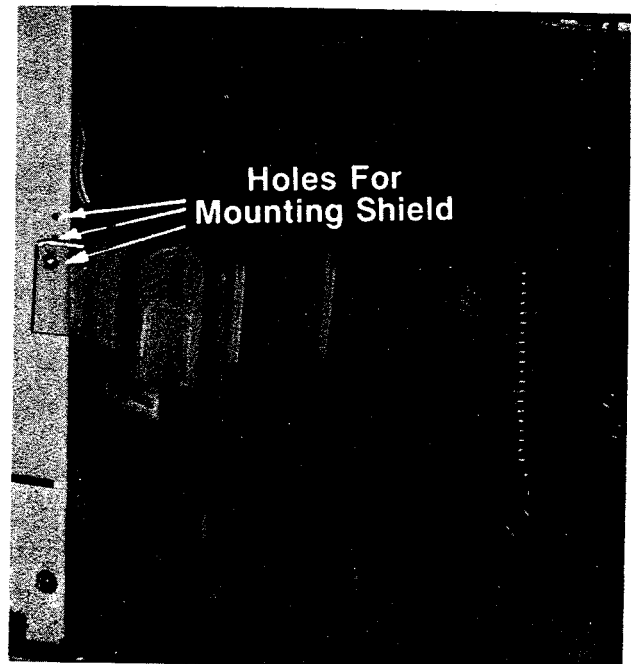
**NOTE:** If the washer spins instead of agitates with the motor test cord connected as shown, reverse wires B and C.



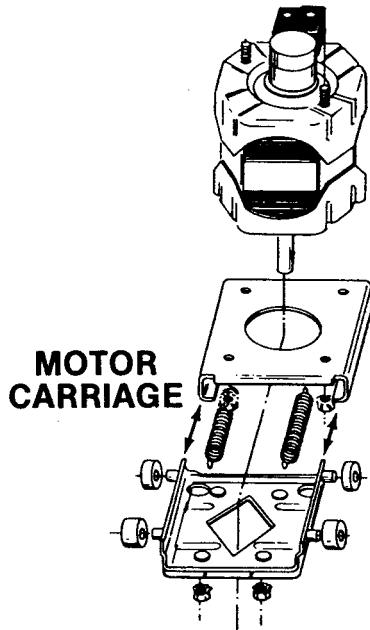
**TEST CORD CONNECTION TO CHECK 2-1805 (SINGLE SPEED) MOTOR FOR AGITATION**

## MOTOR SHIELD

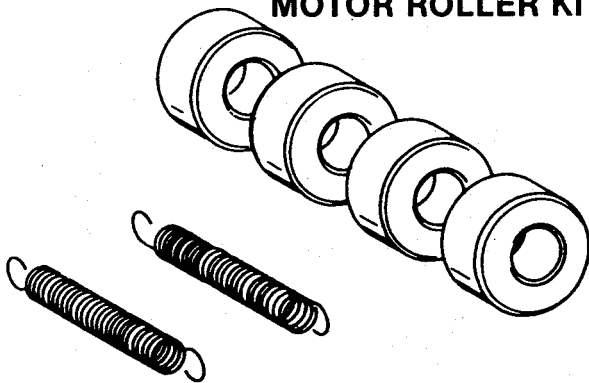
Three holes in the cabinet flange allow positioning of the shield to insure that it will not interfere with the motor sliding in the carriage. Once installed, move the motor in the carriage, to insure that the end bell does not hit the cover. When installing a new motor, the shield may need to be moved from the original mounting position.



## MOTOR AND CARRIAGE



### MOTOR ROLLER KIT



## MOTOR REPLACEMENT

The drive motor is attached to the upper section of the motor base by the motor studs and nuts. Motor replacement necessitates removing the motor base from the washer base.

1. Pull washer out and away from mounting stand. Unplug power cord and multiple harness connector from washer.
2. Remove front panel.
3. Remove wires from motor.

4. Tilt washer and remove drive belt and pulley from motor shaft.
5. Remove nuts holding motor base to base frame and remove motor base and motor.
6. Disengage tension springs and remove mounting nuts. (To remove two of the nuts, align upper and lower sections and insert socket through the slots into lower section.)

To remove motor from bracket, stand motor (shaft up) and lift off. With motor removed, carriage and rollers are accessible for service.

Clean the motor base of any dirt or lint. Replace motor on motor base and to base frame. Lubricate the track and glides with Maytag 2-3959 poly grease. When motor base is attached to base frame, mount with slotted end of lower carriage to the back.

After the motor has been replaced, it will not be necessary to check or make a drive belt adjustment as the correct tension is automatically applied by the two motor tension springs. It will be necessary to check the pump belt for proper adjustment.

## MOTOR GROUND WIRE

A 7" green ground wire is attached to the right-hand rear of the motor carriage to the washer base. This ground wire provides additional protection for the service technician. To maintain all grounding provisions provided with the appliance, the ground wire must be reinstalled any time removal of the wire is required.

## LOW VOLTAGE

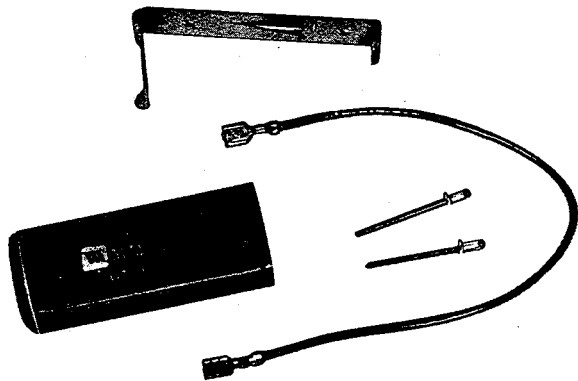
In some installations with low voltage, the washer motor will hum and fail to start spinning. If a motor remains too long in the start winding, it will overheat and trip on the overload protector. With a start capacitor added in series with the start winding, the motor will develop additional starting torque helping it out of the start winding faster. By

giving the motor this additional torque, it will not overheat and open the motor overload protector as readily under low voltage conditions.

Keep in mind that the main problem is low voltage, which should be corrected. A start capacitor is helpful for voltage ranges below 110 volts. Below 105 volts, installing a start capacitor may or may not help.

## 2-6103 CAPACITOR KIT

To make installation of a capacitor easier, we have available a 2-6103 capacitor kit. This kit consists of the following items and instructions.



### 2-6103 CAPACITOR KIT

1	2-11149	Clip for capacitor
1	2-832	Capacitor
1	2-3237	Green No. 17 wire
2	2-10720	Pop rivet

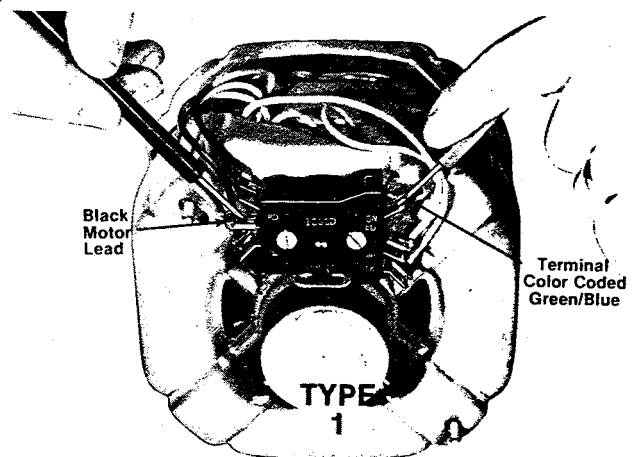
## MOTOR SWITCH

### 2-1664 MAYTAG MOTOR

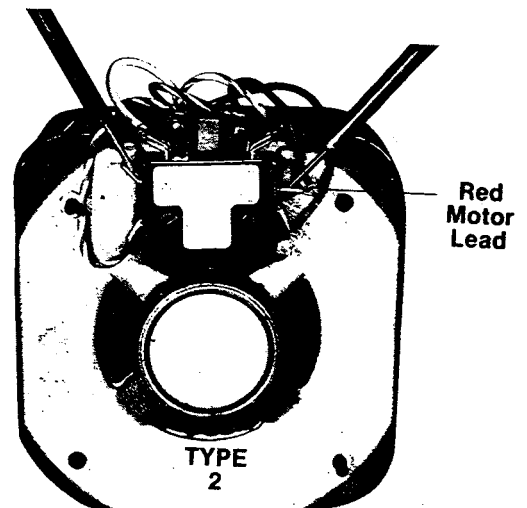
Check your parts catalog for the correct switch for the motor being serviced.

### SWITCH IN START POSITION

1. Disconnect the wire harness leads from the motor switch and attach one ohmmeter lead to the blue switch terminal. Attach the other ohmmeter lead to the terminal on which the black motor lead wire is attached. (This terminal is not marked.)

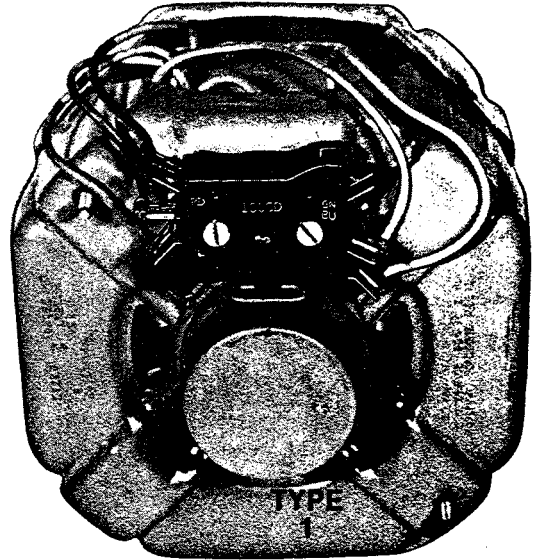
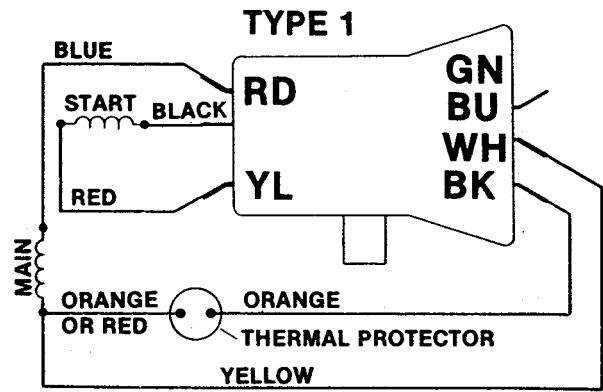


2. With the meter set at RX1, you should have "0" ohms resistance. If not, replace the motor switch (open contact).



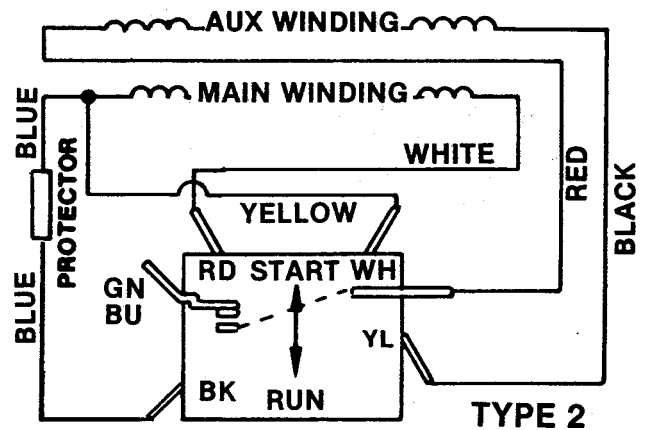
## SWITCH IN RUN POSITION

1. Attach one ohmmeter lead to the blue/green switch terminal. Attach the other lead to the terminal on which the black motor lead wire is attached (red lead on Type 2 motor).
2. Locate the centrifugal switch arm (between switch and shaft) and push arm toward shaft.
3. With the meter set at RX1, you should read an open circuit (no continuity). If not, replace the motor switch (contact stuck).



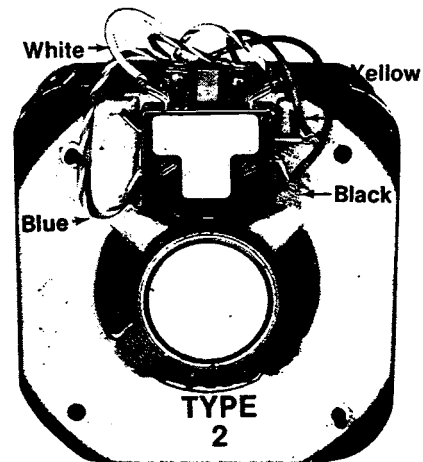
## SWITCH REPLACEMENT

1. Remove wire harness leads from the switch terminals.
2. Remove the two switch mounting screws holding the motor switch to the motor and save them to mount the new switch.
3. Remove the motor leads from the switch. (Note position of the wires on the switch.)



## INSTALLATION OF SWITCH

1. Connect the motor leads to the new switch before mounting the switch to the motor. Shown in the following drawing and photo is the correct positioning of the motor leads to the motor switch.

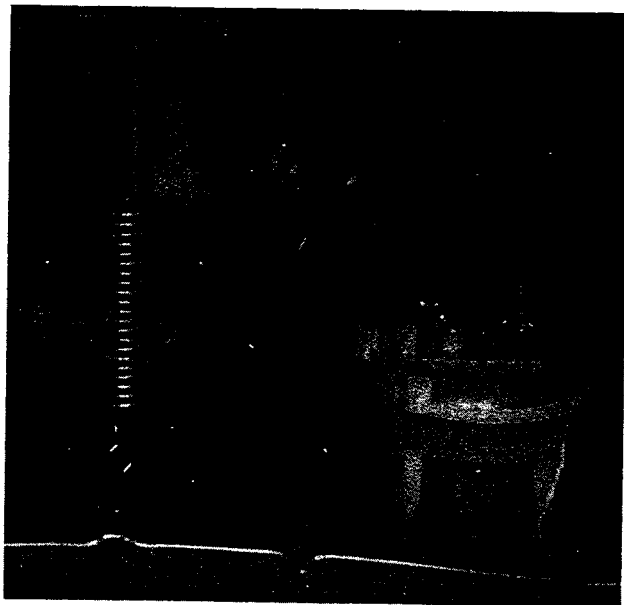


2. The centrifugal switch arm should remain seated evenly in the motor end shield notches and the spring clip should remain fixed in place in the notch provided in the end shield. If not, reposition them before attaching the motor switch.
3. Attach the new switch on the motor end shield with the two mounting screws removed previously.
4. With the motor in the start position (motor not running), check to be sure the centrifugal switch arm is in position.
5. Match colors of washer wire harness to colors on switch terminals and reattach wire harness.

## PUMP REMOVAL

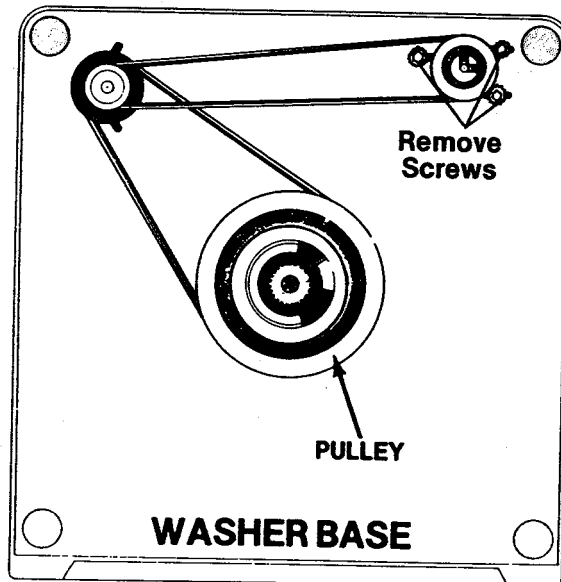
Pull washer out and away from mounting stand. Unplug power cord and multiple harness connector from washer.

Remove the front panel of the washer. Next place a shallow pan or towel under the hoses of the pump. Remove the two hoses from the pump, catching the water that is trapped in the hose.



Tilt the washer back and remove the belt. Remove the three 5/16" screws from the

pump. The pump can now be lifted from the base. **NOTE:** A 6" length of 4 x 4 lumber makes a good safety block to place under the left front washer leg.



Once the pump has been installed, the hoses reconnected and the pump belt is in position, adjust the pump belt.

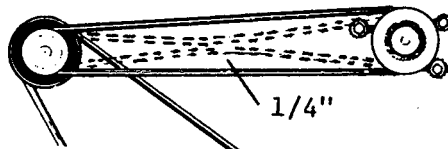
## ADJUSTMENT OF PUMP BELT TENSION

Whenever the pump or pump belt is replaced, adjustment of the pump belt should be checked.

The pump mounting slots in the washer base are long enough to provide an adequate range of adjustment.

### To adjust:

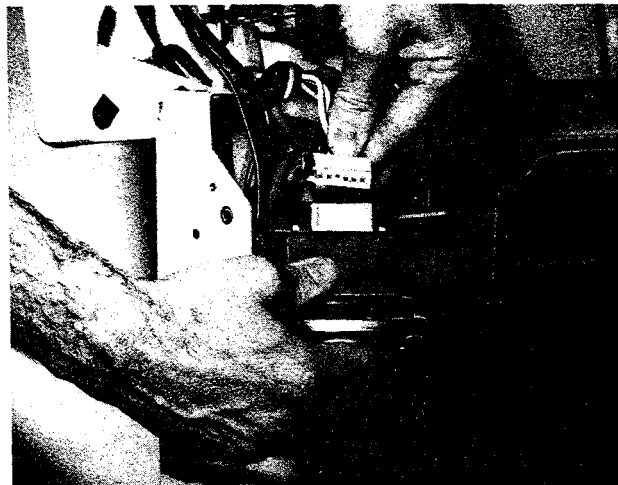
Tilt washer back, grasp and pinch pump belt together making sure there is no more than 1/4" between inner surface of belt.



Tighten three screws securing pump to base. Recheck belt for proper adjustment after washer has been tipped back down.

If necessary, tilt the washer again, loosening the pump mounting screws so that the pump can be adjusted to obtain the correct maximum 1/4" dimension.

Reinstall front panel, and replace washer in mounting stand.



## WATER LEVEL CONTROL

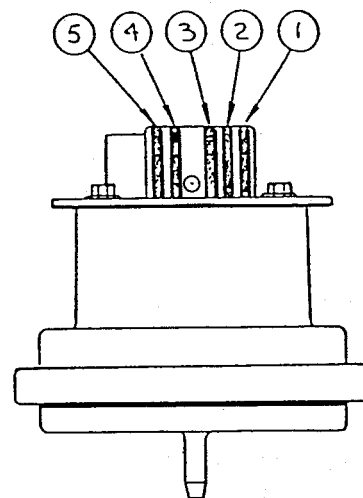
The water level control is just that, a control. On our other washers "water level control" and "pressure switch" have been used interchangeably. That is because a switching action took place at a predetermined water level. A common input was "toggled" or switched from a "fill" contact to a "run" contact.

In the water level control of the S1000 washer there is no "toggle action." As pressure is exerted against the diaphragm of the water level switch, a set of wiper contacts is moved across an etched pattern of conductors on a printed circuit board as the water level changes from empty to full.

This water level control operates on the 24 volt DC control circuit.

You will note there are five connections in the edgeboard connector socket and on the printed circuit board. The circuits made by the wiper contacts at each water level tells the microprocessor controller just where the water level is at any given time. The common side of the water valve circuit is connected through Connections 4 and 5 and is opened in the event of an overflow.

**NOTE:** Contact numbering begins with No. 1 furthest to the right in the bank of three contacts and Contact No. 5 furthest to the left in the bank of two contacts.



### To check water level control:

1. Unplug both washer and dryer power cords.
2. Remove edgeboard connector.
3. Check for continuity as follows:

**Empty** - should show continuity 1-3 and 4-5.

**Small** - should show continuity 4-5 only.

**Medium** - should show continuity 1-2 and 4-5.

**Large** - should show continuity 1-2, 1-3 and 4-5.

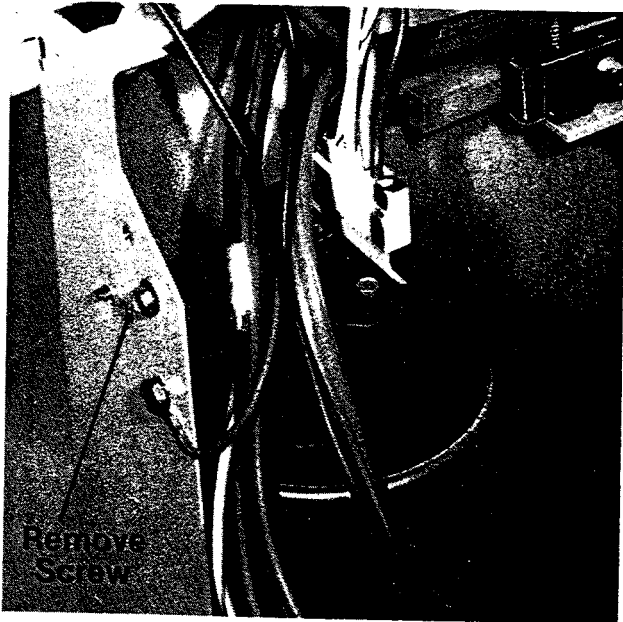
**Overflow** - will show no continuity 4-5.



**NOTE:** You may find removal of the water level control will allow easier checking of the circuit board assembly.

**To remove water level control:**

1. Unplug both washer and dryer power cords.
2. Remove 1/4" screw securing control to cabinet flange.



3. Remove poly bag used to cover control. **NOTE:** This poly bag should be retained and reused for protection of the control from moisture.
4. Remove 5-pin edgeboard connector.
5. Remove air dome hose (secured with Corbin clamp).

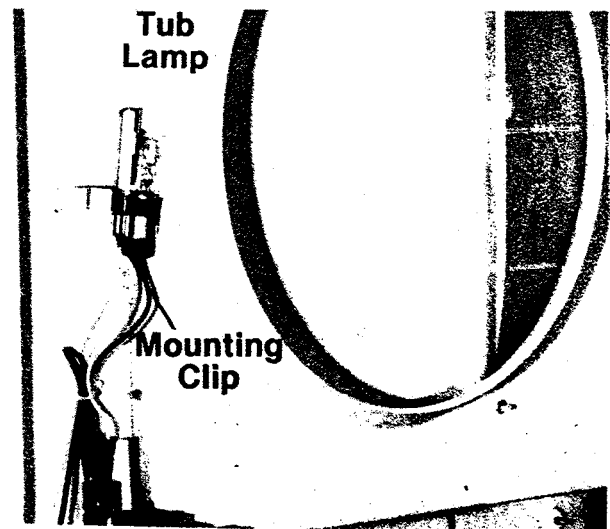
When replacing the water level control note the presence of the positioning tab for ease in mounting.

## TUB LAMP

A 15 watt bayonet base lamp is positioned under the front center of the top cover to light the interior of the washer basket.

**To remove this lamp:**

1. Pull socket from mounting clamp.
2. Pull on wire leads to socket to relieve tension on socket.
3. Turn lamp counterclockwise to release lamp.
4. Reinstall lamp by pulling on leads and turning lamp clockwise as you insert it into the socket.
5. Snap lamp socket back into mounting clamp.



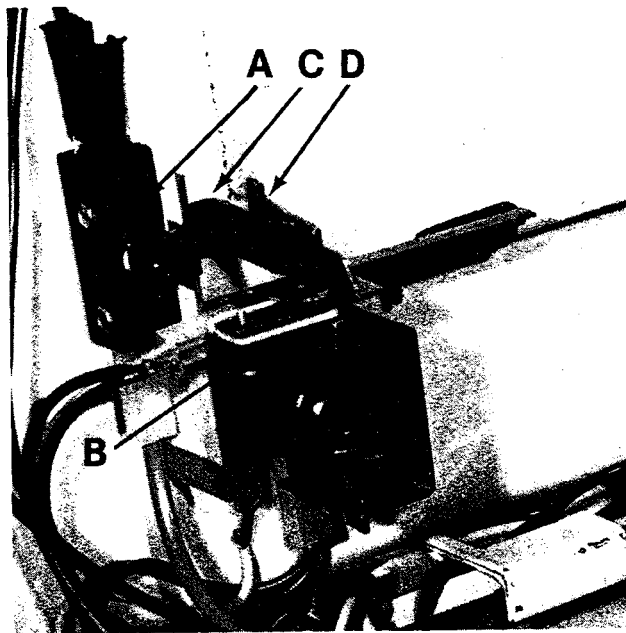
# LID LOCK ASSEMBLY

## HOW IT WORKS

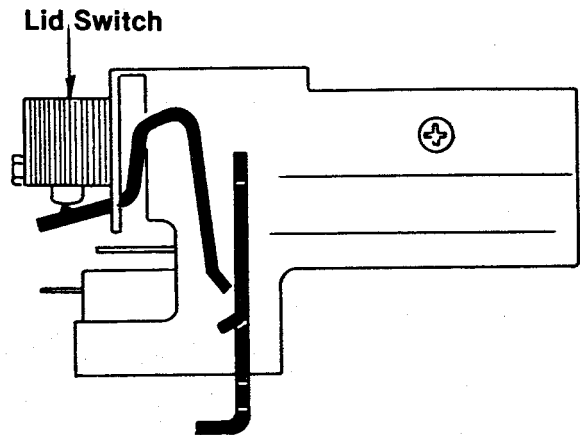
The lid lock assembly performs three functions:

1. Detects when lid is fully closed (forward).
2. Controls power to the motor relay.
3. Mechanically "locks" the lid in closed position before the microprocessor will energize the motor.

Two electrical switches, the lid switch (A) (upper and larger) and lock switch (B) (lower and smaller) along with the lid switch lever (C) and lid latch lever (D), control operation of the lid lock assembly.

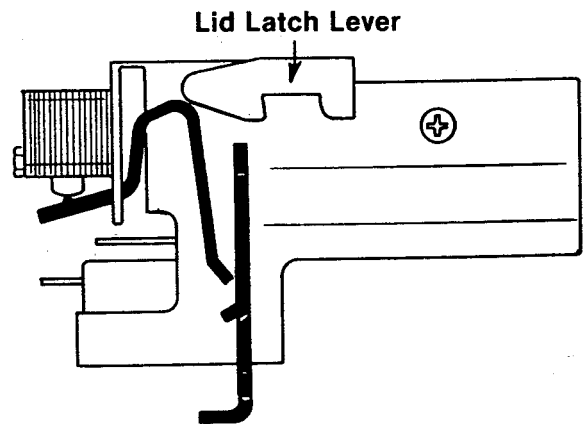


The lid switch is a single-pole, double-throw switch. When the lid is open (back) power is directed to the tub lamp. When the lid is closed (pulled forward), the lid latch hook engages the lid switch lever. The lid switch lever is pushed down by the hook, pivoting the lever arm and closing the lid switch. With the lid switch closed, line voltage is available to the motor run relay.



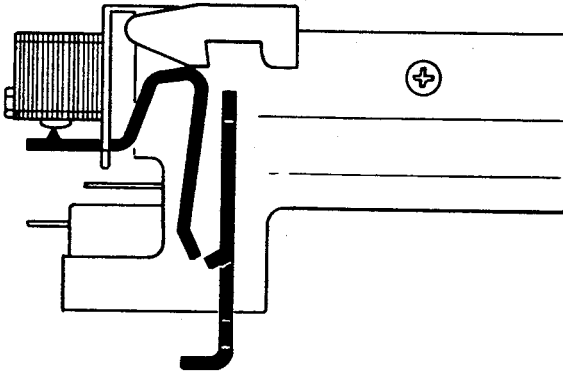
The lid lock switch is used to assure that the microprocessor will not activate the motor circuit if the lid is not closed and locked.

If the lid is not closed, the tabs on the lid switch lever and lid latch lever lock. If the lid lock solenoid is energized with the lid not fully closed, for example if "Pause/Resume" is pressed without closing the lid, the solenoid will not be able to lift the lid latch lever enough to activate the lid lock switch.

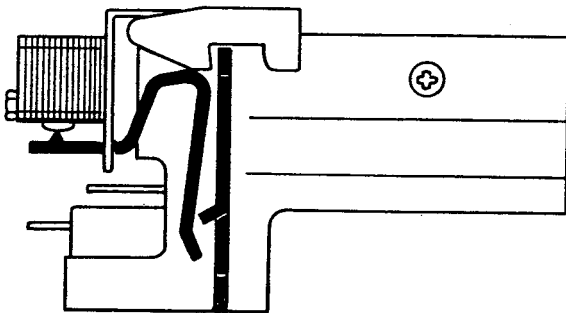


When the lid lock switch is not activated the "controller" will signal (two beeps) and an "L" will appear in the washer digital display.

With the lid closed, the lid latch hook will depress the lid switch lever. The lever will be pivoted clear of the lid lock lever so that the tabs will clear.



Once a program is selected and the microprocessor engaged, the lid lock solenoid is energized and the lid lock lever will be raised into the notch of the lid latch hook. As the lever is raised the lid lock switch is activated. This assures the microprocessor the lid is closed and locked before the program proceeds.



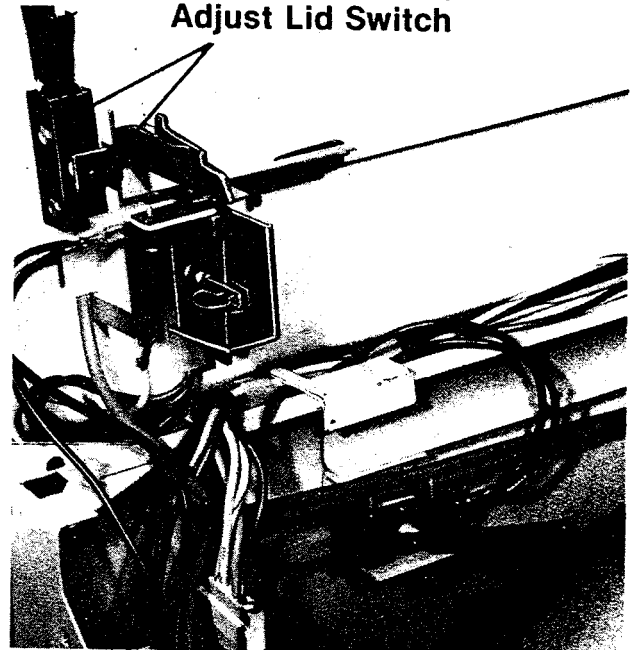
This will also lock the lid until the solenoid is released.

## ADJUSTMENTS

Only the lid switch can be adjusted. The lid lock switch is fixed and cannot be adjusted.

The lid switch is secured to the mounting bracket by two screws and a twin fastener. The screw holes in the bracket are slotted to allow vertical adjustment.

**Loosen Screws To  
Adjust Lid Switch**

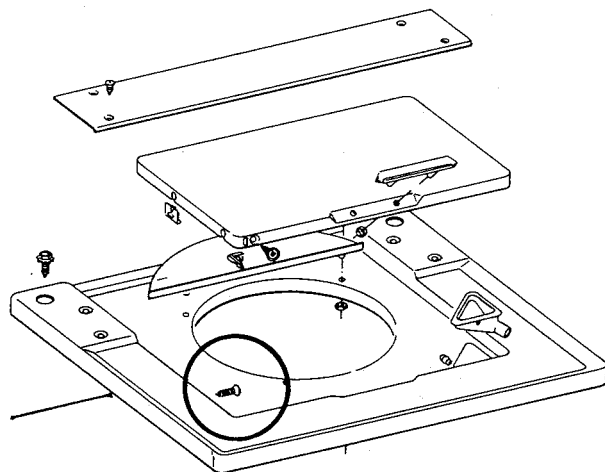


The adjustment shall be made with the washer lid open. The lid switch must be positioned so the switch lever is in contact with the lid switch button. Pivot the lid switch lever. A "click" should be heard when lever is pressed, and again when released. Be sure mounting screws are tightened securely.

## REMOVAL

The lid lock assembly is mounted to the washer top with one screw through the washer lid recess on the front left side. **DO NOT OVERTIGHTEN THIS SCREW.** Make sure the nylon washers are in place under screw head and between the assembly

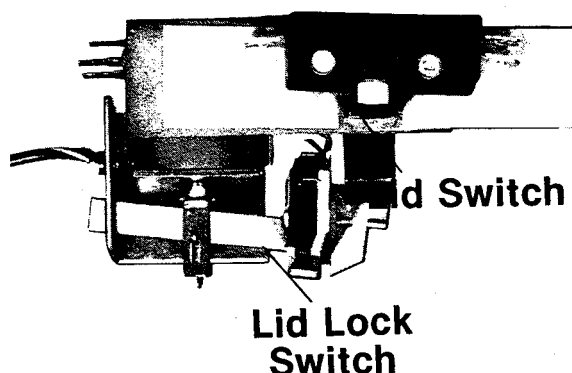
bracket and washer top. Exercise care not to chip porcelain.



## LID LOCK ASSEMBLY COMPONENTS

### LID SWITCH

The lid switch is secured to the bracket with a fastener and two 1/4" screws. When activated the switch should show a closed circuit (continuity), from L1 to black (Com. to N.O.). When not activated the switch should show continuity from L1 to white (Com. to N.C.).



### LID LOCK SWITCH

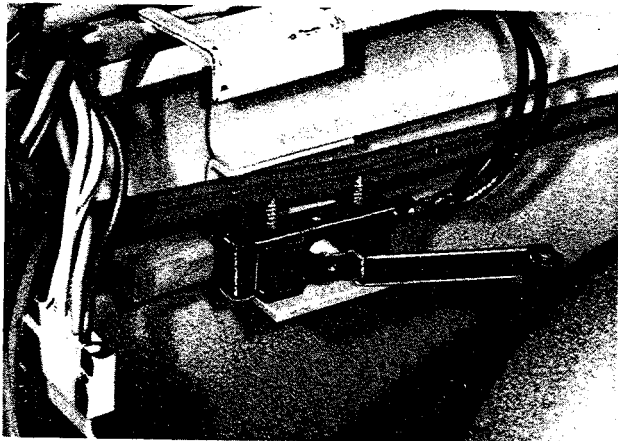
The lock switch is secured to the bracket with one Pozi-Driv screw. When activated the lock switch should show a closed circuit (continuity) from brown to gray (Com. to N.O.).

### LID LOCK SOLENOID

This solenoid operates on 24 volts direct current (VDC). DO NOT TEST WITH 120 volt AC as damage will result. The resistance of the solenoid as measured with an ohmmeter is approximately 150 ohms. The solenoid is secured to the bracket with two 1/4" screws. It will also be necessary to remove the spring which retains the lid latch arm from the solenoid plunger.

## OUT OF BALANCE SWITCH

The unbalance switch is a lever operated single pole, single throw, normally open switch. It is mounted near the front on the left side cabinet brace. The switch is mounted on a bracket with two screws and a twin fastener.



In an unbalance condition, the tubs and support assembly will oscillate on the damper pads in a circular motion. As long as the unbalance is not severe, the gyroscopic action of the balance ring around the top of the washbasket can compensate for the unbalance. If the unbalance is more than normal, the area of oscillation will increase to the point that the tub cover will contact the out of balance switch arm. When the switch is activated, the microprocessor will shut the washer off, sound two beeps, and display a "U" in the washer digital display.

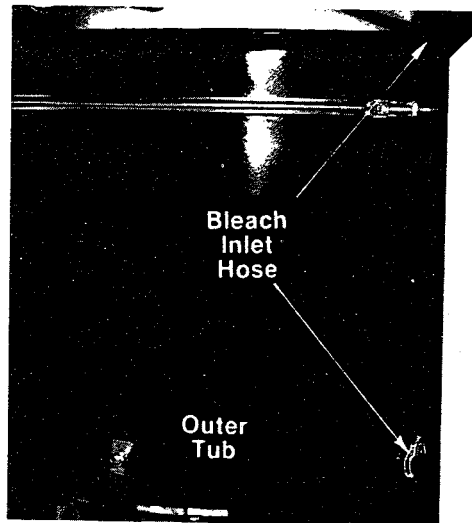
## UNBALANCE ADJUSTMENT

The washer should operate with an approximately 5 lbs. out of balance condition. If adjustment is found to be necessary, loosen the two screws holding the switch and move either toward the tub or cabinet to achieve this setting.

**NOTE:** Adjusting the switch away from the tub reduces sensitivity to unbalance conditions.

## BLEACH INLET HOSE

The bleach injector system is located on the right-hand side of the product. Bleach is poured directly into the bleach inlet, flowing through the bleach hose and into the bottom of the outer tub.



Diluting of the bleach occurs during the fill and agitation portion of the cycle. During the spin a deflector inside of the outer tub prevents the wash water from being pumped up the bleach tube.

### To Remove Bleach Injector System:

If it is necessary to remove and replace the bleach inlet, first remove the front panel and pull bleach hose off of inlet spout.

Remove the four screws holding the top cover and raise the top cover slightly. Use a block to hold top cover 3" to 4" above the tub cover. Use a blocking material that will not damage the tub cover.

With top cover in this position press down firmly on bleach inlet until it is removed through the bottom of the top cover. Before replacing the inlet, examine the gasket in the top cover. If damaged it should be replaced before replacing the new bleach inlet.

### To Replace Bleach Inlet:

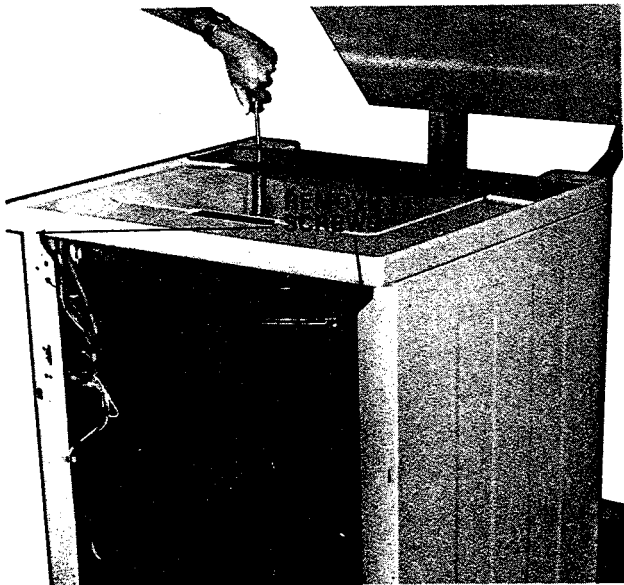
When replacing the bleach inlet, apply warm water to the bleach inlet and gasket.

Push the inlet up and into position from the bottom of the top cover. Use silicone sealant on bottom side of inlet to prevent leaks around inlet. Lower the top cover and replace the screws. Replace hose to spout of bleach inlet and replace front panel.

## WASHER TOP REMOVAL

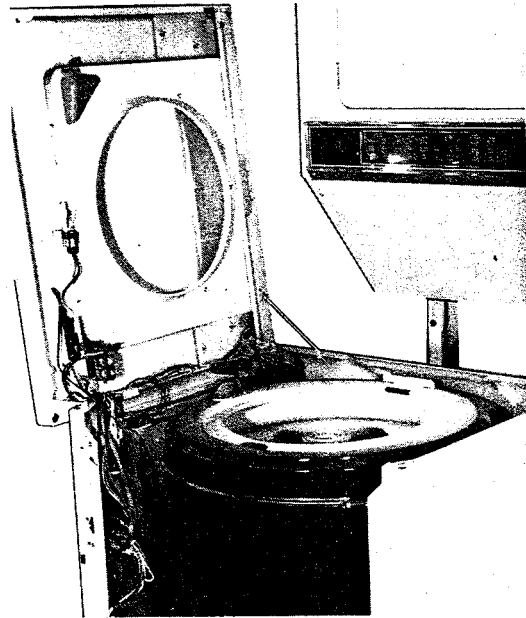
*Observe caution to avoid floor damage.*

1. Grasp side flanges of cabinet and pull washer unit forward in track of dryer stand. Make sure washer top cover will clear front of the dryer when top cover is lifted.
2. Remove bleach hose from bleach inlet.
3. Remove two front corner screws that secure top to cabinet. These screws go up into top from underneath.



4. Remove screws in back left and right corners of top that goes into cabinet corner brackets.

Top can now be lifted and pivoted to the left side. A restraining cord will hold top in a stable upright position. **CAUTION:** *When lifting top protect side of cabinet.*



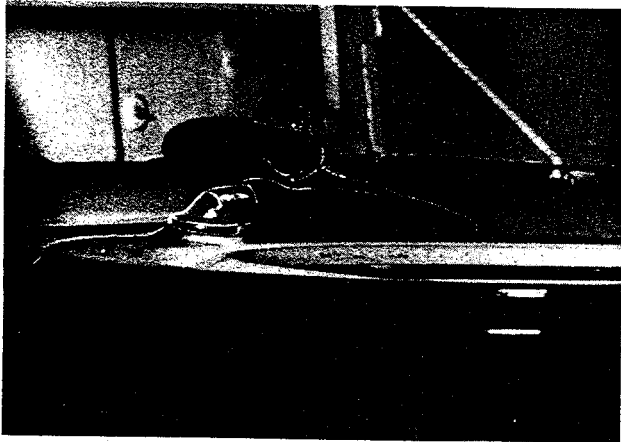
### Access is now provided to:

1. **Water Injection System** - back left corner.
2. **Tub Cover** - around top of inner and outer tubs.
3. **Inner Tub** - (washbasket).
4. **Center Shaft Seal.**
5. **Mounting Stem and Boot Seal** - located under inner tub.
6. **Bleach Deflector Spout.**
7. **Outer Tub and Tub Bearing.**
8. **Transmission.**
9. **Damper.**

## WATER INJECTOR SYSTEM

Water from the water valve enters the tub through an anti-siphon injector valve system.

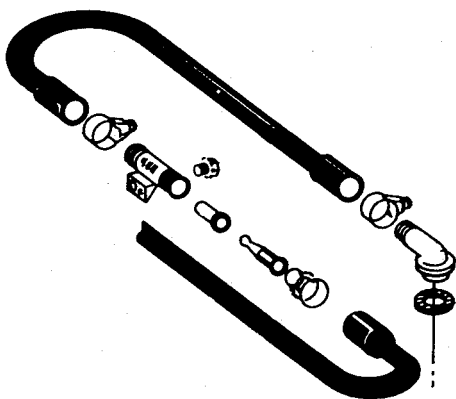
The parts involved are the injector hose (from the water valve to the injector housing), the injector nozzle (a closed-end nozzle with slots in the sides), the injector valve (a rubber sleeve which fits tightly over the injector nozzle), the injector housing (the nozzle and valve go inside the housing), and the injector tube (the hose between the injector valve housing and the tub cover).



The "1000" model washers use a twist-to-lock injector tube elbow which fits into the openings in the tub cover. In addition to the locking injector tube elbow, water from oversplash is easily drained back into the tub through drain holes strategically placed in the tub cover.

#### To disassemble injector system:

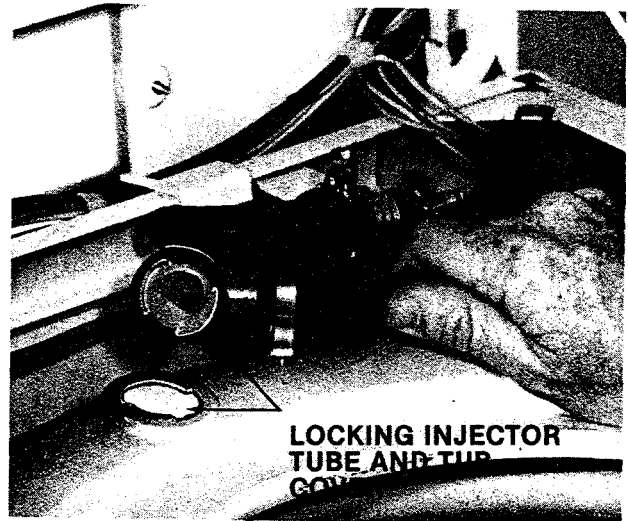
1. Remove clamps holding hoses to sleeve.
2. Remove screw holding sleeve to mounting bracket.
3. Remove injector valve and nozzle from sleeve. The nozzle inserts into the rubber valve. Separate nozzle and valve.



**NOTE:** When replacing nozzle or valve, roll lip of rubber valve over end of nozzle.

#### To remove locking injector elbow:

1. Rotate fill elbow clockwise until tabs of elbow match up with slots in tub cover. Lift elbow out.

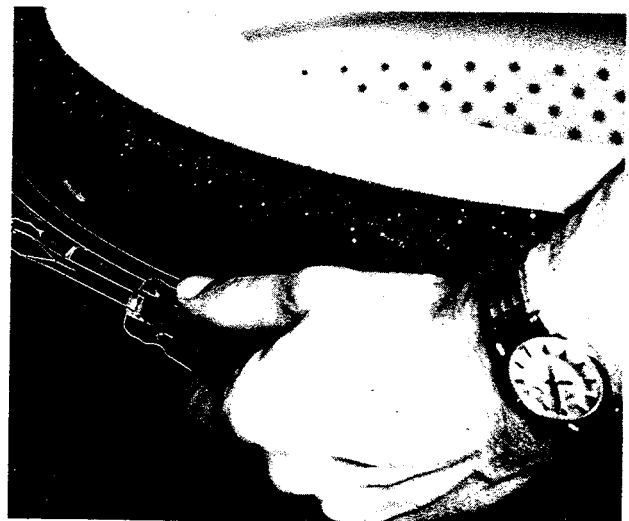


Reverse procedure to reinstall locking injector elbow.

## TUB COVER

It will be necessary to remove the front panel, then loosen and tilt the top cover to remove the tub cover.

Loosen and remove the tub cover clamp and lift the tub cover up and off the outer tub.



### Tub cover adjustment:

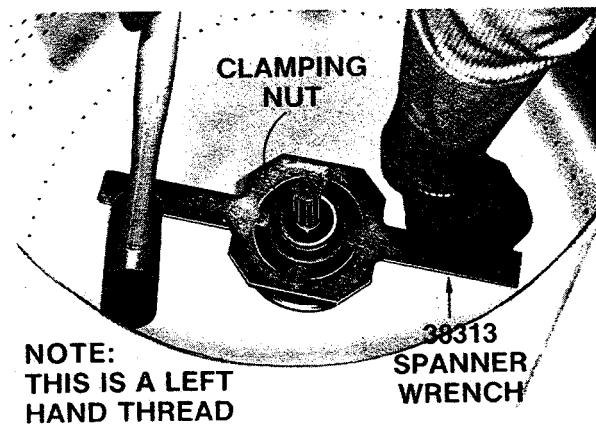
When reassembling the tub cover and gasket, be sure all sides of the gasket are clean. Be sure that the triangular rubber gasket is not twisted. All sides of the gasket are equal and it will make no difference which side is placed against the tub and tub cover. Wet the gasket before repositioning between the tub cover and outer tub to facilitate installation.

With the tub cover in place, tighten the clamp just enough to hold the tub cover in place prior to final adjustment. From this point it will probably be necessary to raise the tub cover slightly for final adjustment. Final adjustment may be observed with the front panel removed and the top cover lowered into position. When making final adjustment the tub cover should be:

1. Adjusted high enough to prevent the washbasket from rubbing against the bottom of the tub cover.
2. Lower top cover and adjust so that the tub cover is as close as possible but does not contact the inner lip of the top cover opening. When the tub cover is adjusted correctly, tighten the tub clamps. **In general adjust tub cover as high as possible.**

### INNER TUB

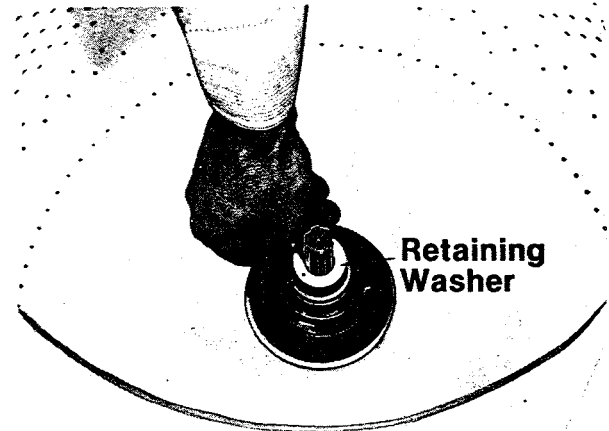
**Tub Clamp Nut** - Use caution in enameled tub. Use 38313 spanner wrench to rotate nut clockwise (this is a left-hand threaded nut). Remove tub nut and clamp ring.



**NOTE:** When removing tub, lift out carefully, avoiding contact with threads of the mounting stem and damage to porcelain on the tub.

### CENTER SHAFT SEAL

1. Pry out lock ring for retaining washer.
2. Remove retaining washer.



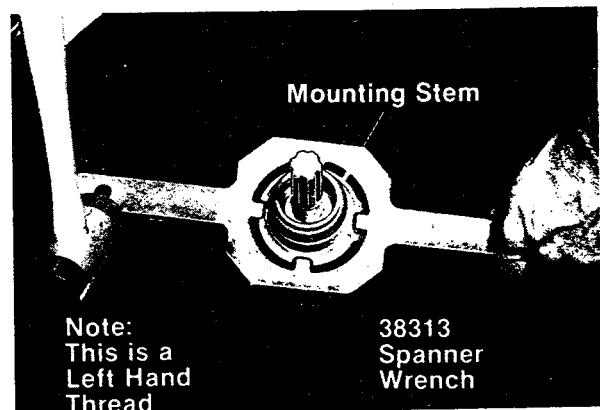
In some cases of persistent leaks in the center seal area, an additional (second) retaining washer will provide extra pressure on the seal.

3. Remove seal by prying out.

### MOUNTING STEM

To remove:

Completely remove 1/8" Allen set screw from flute of mounting stem. Using 38313 spanner wrench, rotate mounting stem clockwise (left-hand thread) to unscrew stem.





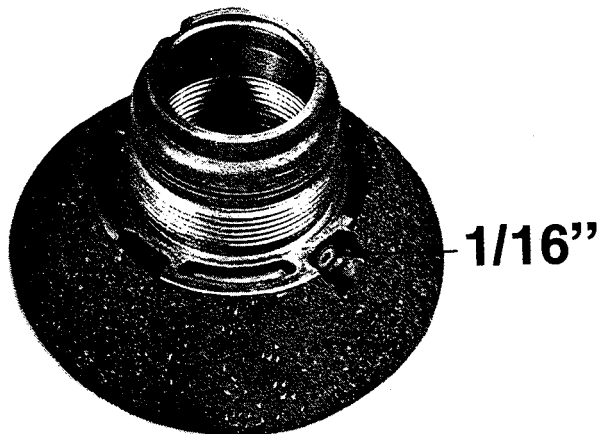
**NOTE:** When reassembling the mounting stem:

1. Center seal grease should be used on the mounting stem threads prior to assembly. When the mounting stem has been turned on the center plate stem and hand-tightened, use the spanner wrench to seat the mounting stem. Tap the spanner wrench several times with a mallet to seat.

When tightening the mounting stem, do not overtighten. Factory specifications call for 20 ft. lbs. of torque as normal and no more than 80 ft. lbs. of torque if additional tightening is required to move set screw position. If you overtighten, there is a chance of swedging the tub bearing sleeve and creating "drag" in spin.

2. Before inserting the set screw into the mounting stem, lubricate the hole in the mounting stem with Maytag 56016 grease. Be sure to tighten the set screw securely.

**NOTE:** When replacing the set screw, it should be securely tight. The end of the set screw should protrude about 1/16" out of the mounting stem. If the set screw goes in further than flush, it is probably going into the recessed groove. If this happens, back the set screw out and tighten the mounting stem another 1/8 turn. Then retighten the set screw. **The set screw must not be seated in the groove.**



## BOOT SEAL

### To remove:

Grasp boot seal below carbon seal face and rotate seal clockwise and lift to remove. Do not apply pressure to carbon seal face to avoid cracking carbon ring.

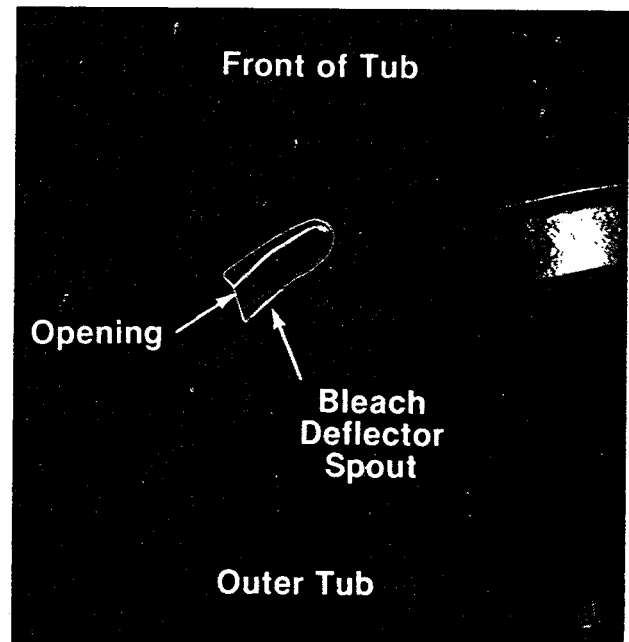
### To replace:

Wet inside bottom lip of boot seal. Turning clockwise, twist down against tub lip and seat evenly.

Lubricate carbon ring on top of boot seal with thin film of transmission oil.

## BLEACH DEFLECTOR SPOUT

With the inner tub removed, the bleach deflector spout may be removed. Pull the tab off from the outside and snap deflector out. It must be replaced with the body of the housing to the right of the tub opening to prevent water from being forced out during spin. (Tub spins counterclockwise.)



## OUTER TUB

### To remove:

Remove three bolts from tub support braces. Hold bolt head on inside of tub to prevent rotation of bolt which could damage seal washer.

**Note disassembly sequence:** nut, lock washer, rectangular washer, tub brace, fiber washer.



Push tub bolt into tub to remove.

Remove tub-to-pump hose at tub outlet spout.

Remove pressure switch hose from water level control or from tub spout.

Lift outer tub free of washer.

**NOTE:** When replacing tub bolts be sure a short bolt is used in the front brace.

## TUB BEARING

### To remove:

Support tub with pieces of 2 x 4 to prevent damage to outlet spout.

Place protective cloth over tub bearing and press bearing from tub by stepping on bearing.

### To replace tub bearing:

1. Turn tub over and start bearing into bottom of tub.

**NOTE:** Caution should be exercised to see that the tub bearing is started into the tub straight to prevent an egg-shaping when seated in the tub.

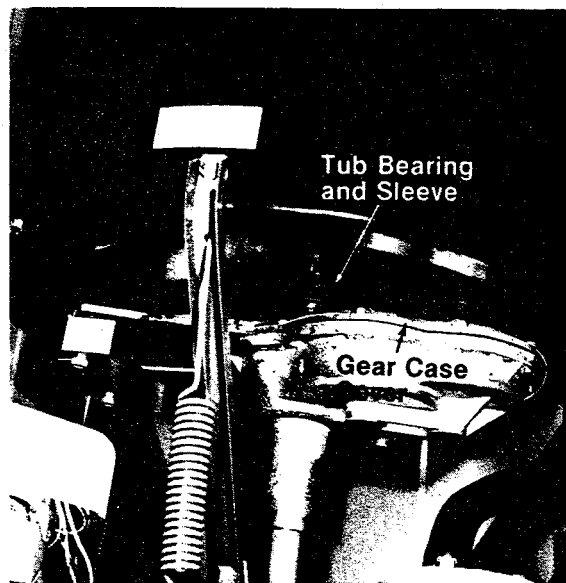


2. Press bearing into place by applying pressure. To avoid getting dirt in the bearing, place a protective cloth over the bearing.

## SEAL LEAKS

If water leaks from the center shaft seal or boot seal, it will show up on top of the gear case cover. A few minutes of looking with a flashlight will direct you to the seal that is leaking.

When you look up under the outer tub, you will be able to see the bottom of the tub bearing and the bottom of the tub bearing sleeve where it sits on top of the gear case cover.



If the water is coming from the slots in the tub bearing, suspect a boot seal leak.

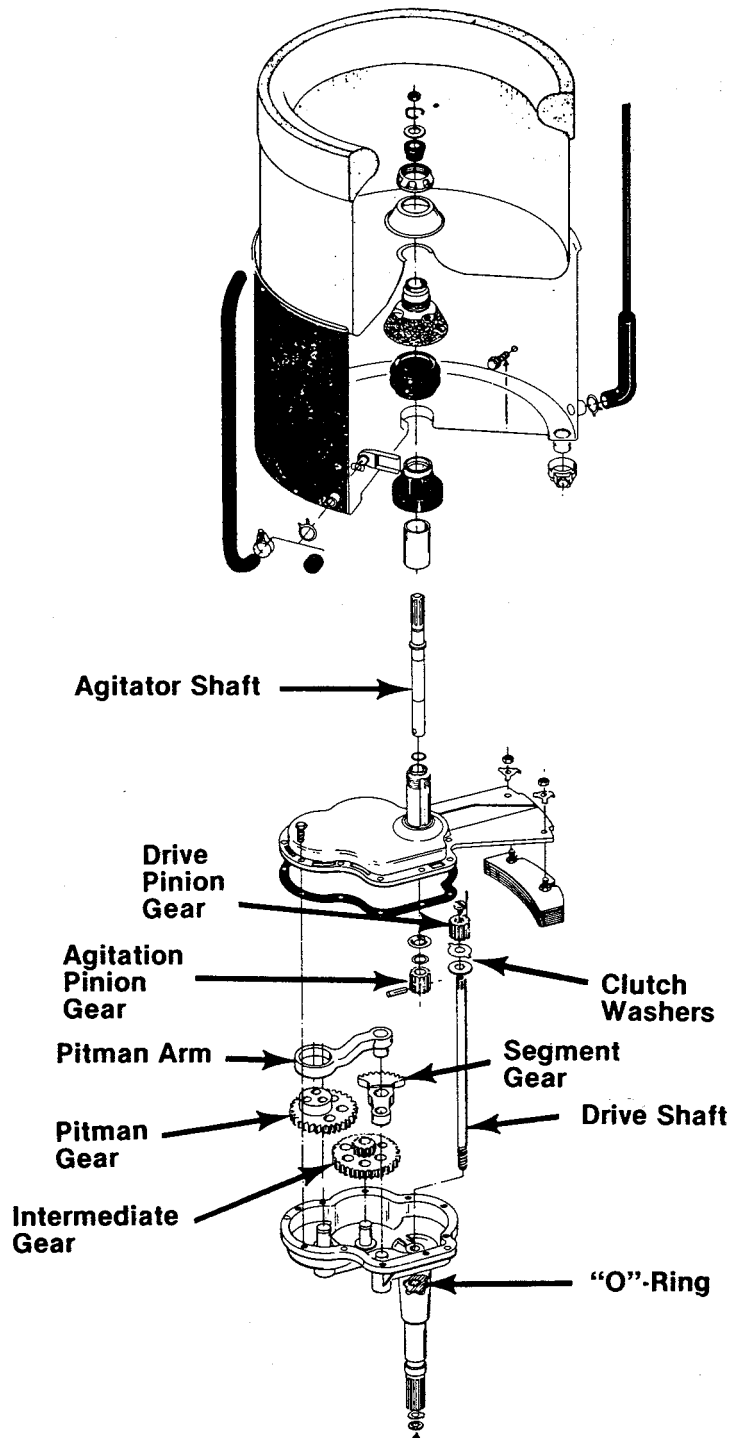
If the water is coming out underneath the bearing sleeve right down on the gear case cover, suspect a center shaft seal leaking or mounting stem set screw leak.

# TRANSMISSION

With both tubs removed, you can remove the top half of the transmission.

If the entire transmission is being removed, the drive lug and main drive pulley must be removed. This will allow the complete transmission to be lifted out of the washer.

**If you have a transmission failure under the five-year transmission warranty, the complete transmission may be replaced.**



# HOW IT WORKS

## POWER UNIT

The helical drive mechanism used on the Maytag washer is simple--not requiring a special device or linkage normally used to shift the washer from agitation to spin.

As you look at the following drawings, keep in mind that the parts shown in dark (damper, brake housing, brake drum and outer race of the spin bearing) are attached to the base and never rotate.

The drive mechanism utilizes a reversible motor and a helical (threaded) drive shaft. A pulley which is threaded to the helical drive shaft moves either up or down the shaft dependent upon the direction it is turned by the drive motor by means of a drive belt.

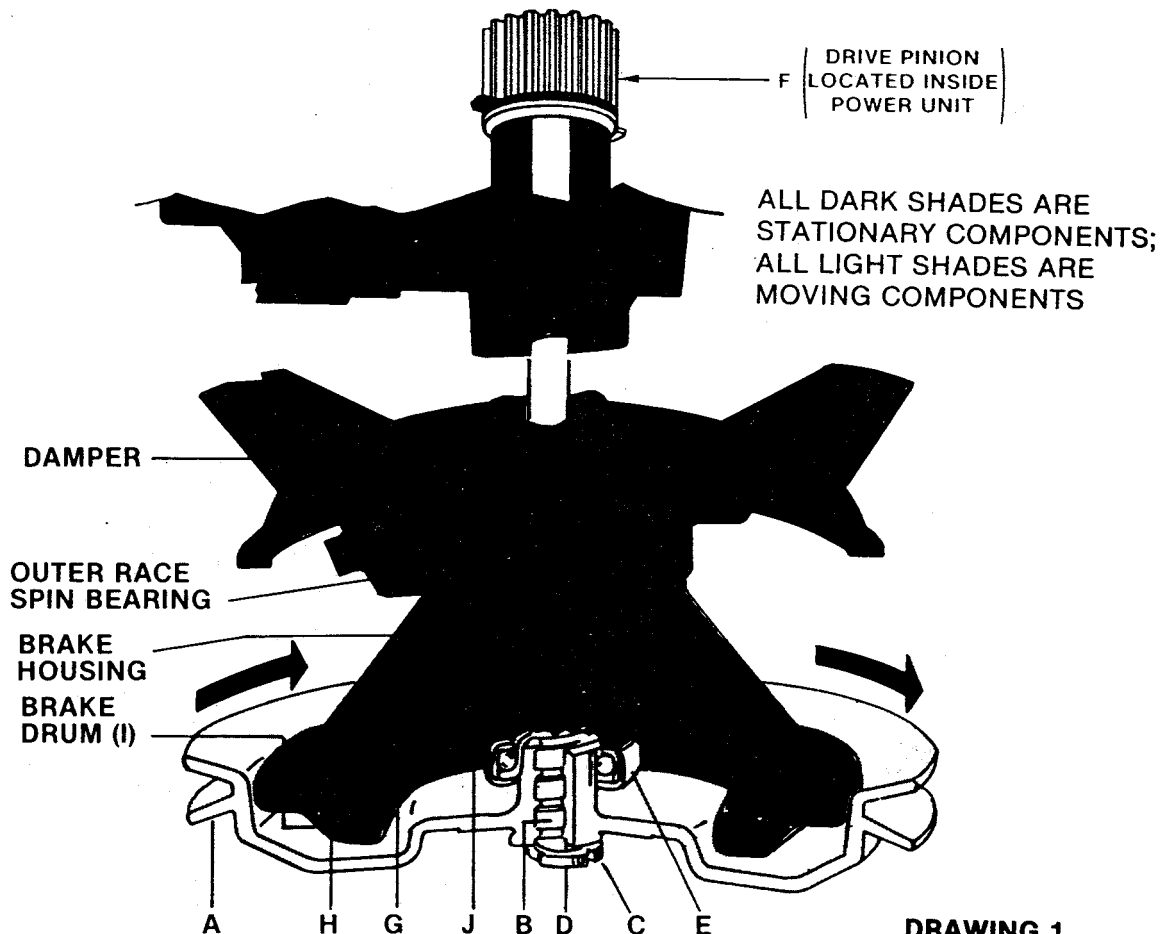
## AGITATION

With the pulley (A) being turned clockwise as indicated in the drawing, it moves down the helical drive shaft (B). As it rotates down the shaft, a lug (C) on the pulley comes against the drive lug (D) which is splined to the helical drive shaft.

At this point the drive shaft turns with the pulley. The pulley bearing (E) which is resting on top of the pulley, also rotates with the pulley, drive lug and helical drive shaft.

At the top of the drive shaft is a splined gear (F) which, as it rotates, drives a series of gears causing the agitator to move back and forth in an arc creating the water action for the wash.

The tub and transmission are held in place and cannot turn because the brake rotor (G) and brake shoe (H), which is splined to the transmission, is being held down against the brake drum (I) by the brake spring (J).



## SPIN

When the motor reverses, the pulley will turn in the direction indicated in Drawing 2. This causes the pulley (A) and bearing (E) to turn. The pulley climbs the threads on the helical drive shaft (B) overcoming the force of the brake spring (J) and lifts the brake rotor (G) and brake shoe off the brake drum (I).

As the pulley climbs the shaft and overcomes the force of the brake spring there is a downward pull on the shaft.

Within the transmission there are two washers which act as a spin clutch. This is a friction clutch consisting of a bronze washer (K) which is splined to and turns with the agitator shaft, and between this washer and the pinion gear is a steel washer (L) with ears, which is keyed to the transmission housing.

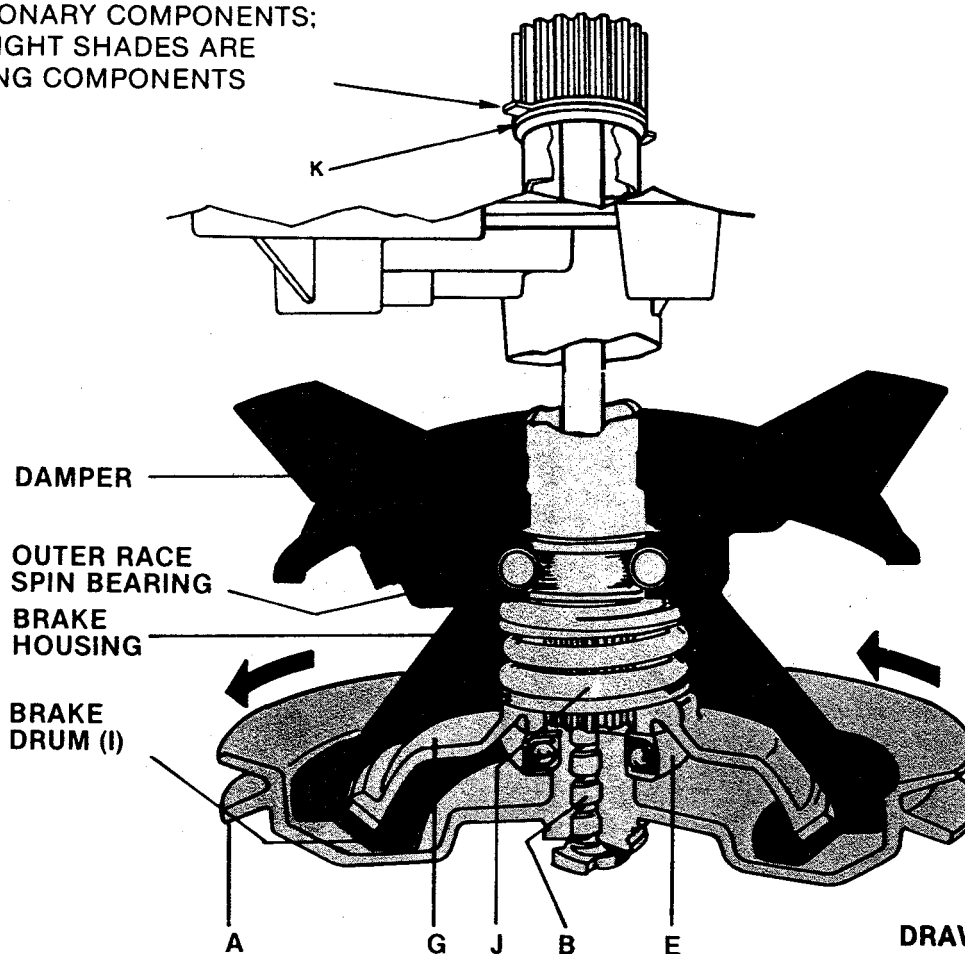
As the helical shaft is pulled downward the two clutch washers under the pinion are forced together. This is done rapidly and slippage occurs only during the first two or three revolutions, until the film of oil between the two clutch washers is forced out.

The drive occurs when the washers are forced together and the pulley has climbed the shaft as far as it can. The driving force has locked the pulley, brake rotor, drive tube, and gear case together and all will turn as a unit in the same direction as the pulley is turning, causing the tub to spin (counterclockwise viewed from the top).

## SPIN CYCLE COMPLETED

When the washer reaches the end of the spin cycle, the driving force is removed. Thus, there is no force supplied to lock the components together or to compress the

ALL DARK SHADES ARE  
STATIONARY COMPONENTS;  
ALL LIGHT SHADES ARE  
MOVING COMPONENTS



DRAWING 2

brake spring. The momentum of the spinning tub drives the pulley downward allowing the brake spring to press the brake rotor down. The rotor presses the oil in the lip

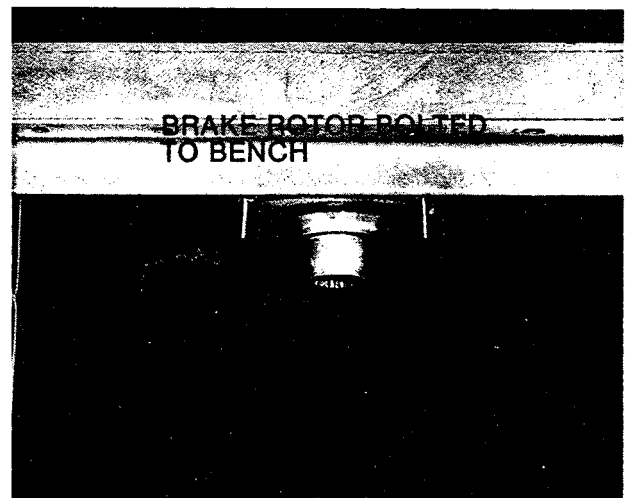
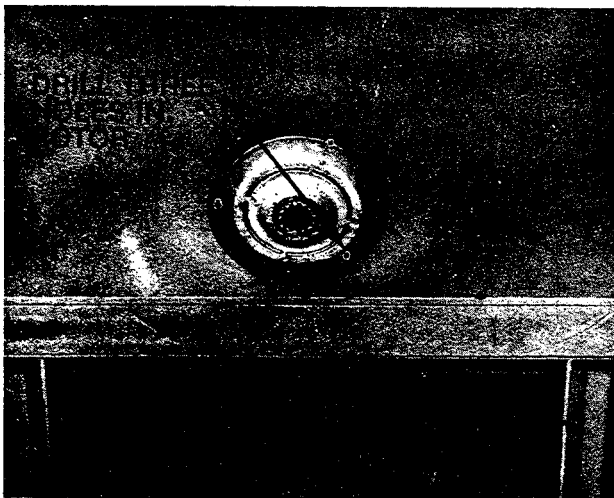
of the brake drum out of the way and contacts the drum surface and stops the tub.

**NOTE:** Stop time should be less than six seconds.

## TRANSMISSION (POWER UNIT, GEAR CASE)

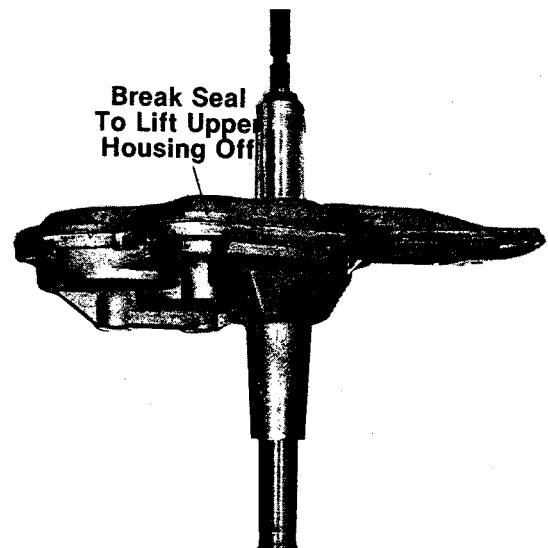
The transmission assembly can be repaired or replaced.

A convenient holder can be made by securing an extra brake rotor under a workbench surface which has a hole cut through.



### To disassemble power unit:

1. Remove eight bolts holding the center plate to the power unit.
2. Using a rubber or wooden mallet, sharply rap the center plate to break the gasket seal.
3. Remove center plate from power unit by lifting off.



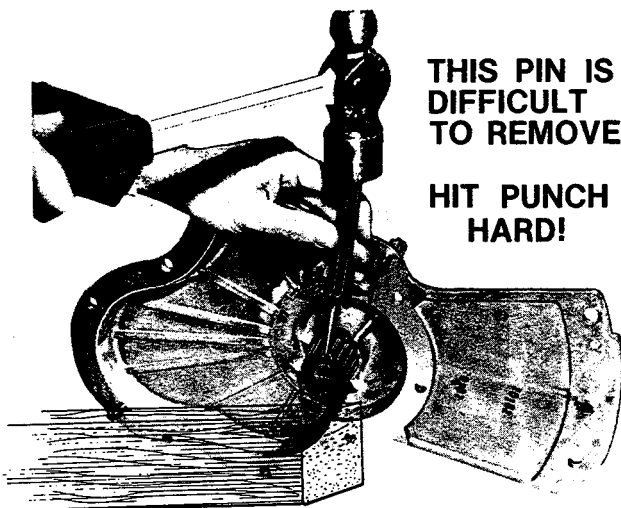
**NOTE:** Center plate must be lifted straight up to avoid binding on the locating fins. Use a screwdriver and insert between center plate and power unit. Pry all the way around until locating pins are free and remove center plate. When replacing, clean gasket surface on center plate and power unit and use a new gasket. At this point, the power unit could be practically serviced, since the segment, pitman and intermediate gears are accessible.

## UPPER GEAR HOUSING

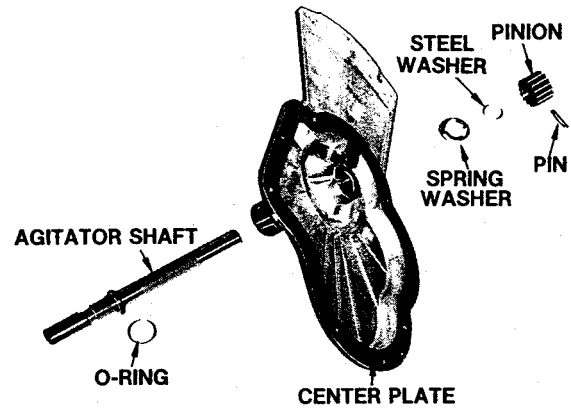
We suggest replacement of the complete upper housing rather than its attempted repair.

Should repair of the upper housing be attempted:

1. Support center plate firmly to avoid damaging plate.
2. Use a punch and large hammer to drive out the pin holding the agitator drive pinion to the center shaft. This will require several hard hits to accomplish. **Always support the pinion in some manner when driving out the pin to avoid damaging the agitator shaft.**



3. The pinion, steel washer and spring washer may be removed.
4. The agitator shaft may now be removed from the center plate by turning and pulling the shaft out.



**NOTE: ORDER OF COMPONENTS**

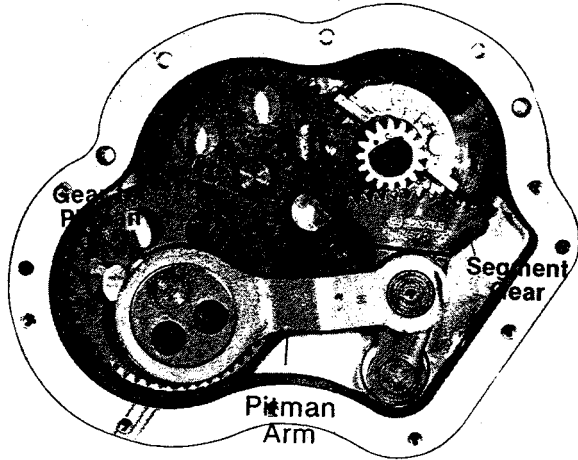
Further field service of the center plate such as bearing replacement is not recommended. To reassemble center plate, reverse the above procedure, checking all parts carefully. Center plate bearing should be checked and if there is any indication of wear on the mating parts of the agitator shaft and center plate, the center plate should be replaced.



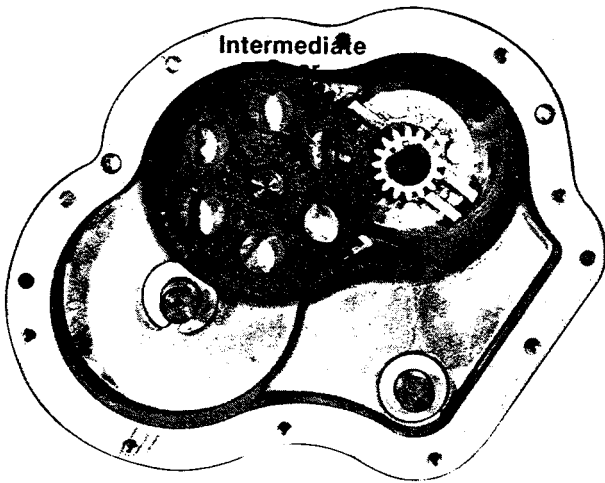
# LOWER GEAR HOUSING

To remove gears:

1. Remove gear for pitman.



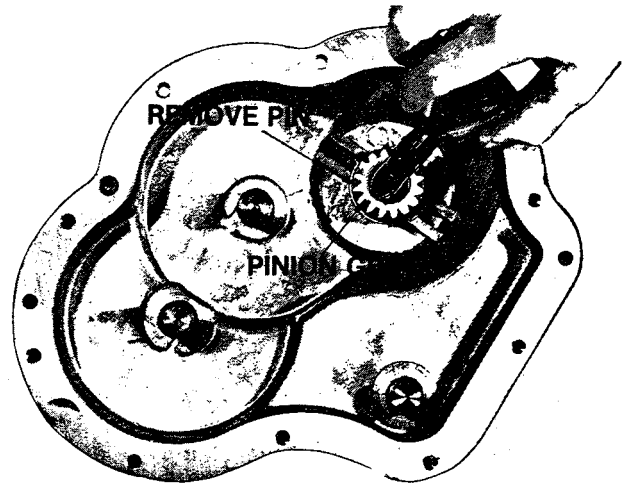
2. Remove intermediate gear.



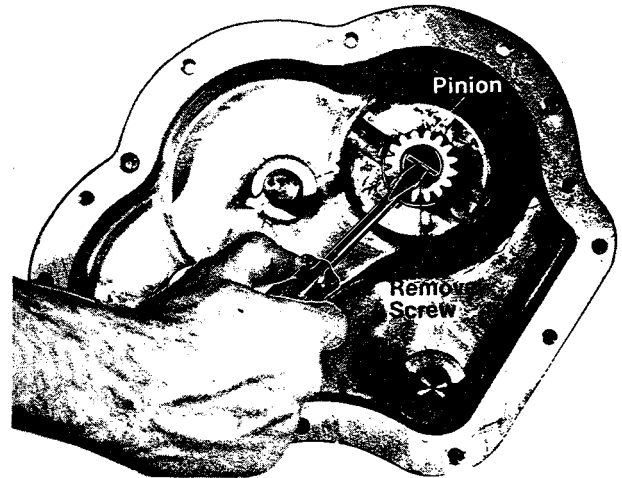
3. Remove gears.

4. Remove pin from pinion gear using a pair of side cutters to pry up. When replacing the pinion gear, the pin must be inserted

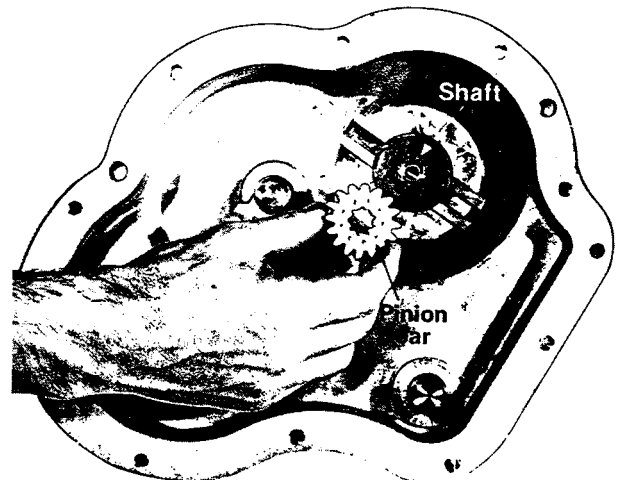
into a new hole since the hole used originally has been enlarged.



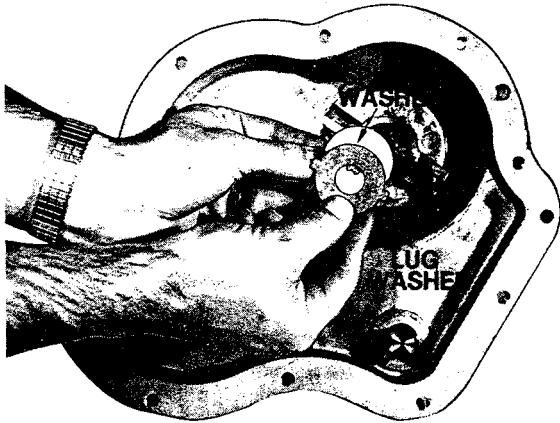
5. Remove screw holding pinion to center shaft.



6. Lift pinion gear off center shaft.



- Remove spline washer and lug washer. Note order of assembly. Spline washer goes on first.

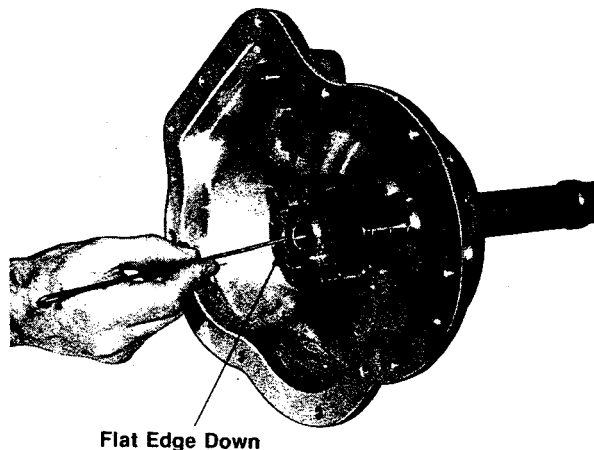


- Remove center shaft by pulling and turning clockwise to avoid damaging the "O" ring seal in the drive tube.

## "O" RING SEAL

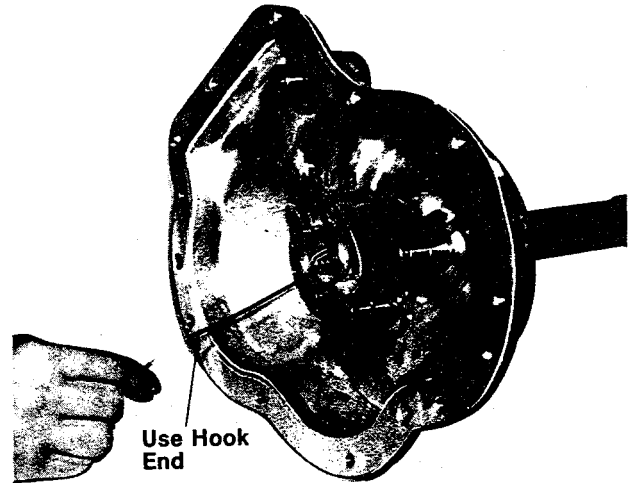
A damaged "O" ring seal will allow power unit lubricant to leak down the drive tube. The seal is positioned in a groove in the drive tube approximately 1-1/2" from the upper end of the housing.

A handy tool for removing and replacing the seal can be constructed from a short piece of coat hanger. Make a hook on one end of the hanger and on the opposite end, bend the tip down at approximately a 45 degree angle. File the tip down to a flat sharp edge.

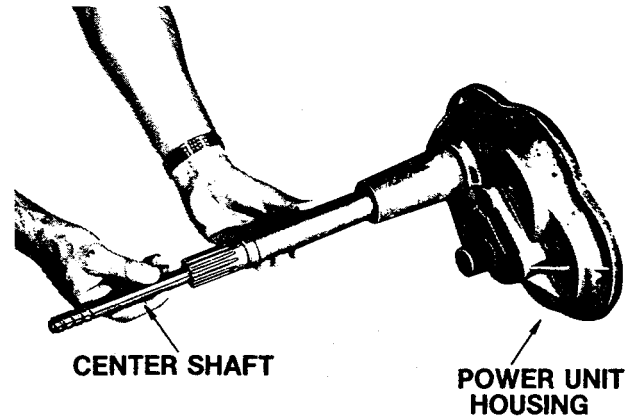


## To remove "O" ring seal:

- Insert tool (with flat sharp end down) into tube and pry "O" ring out of groove.



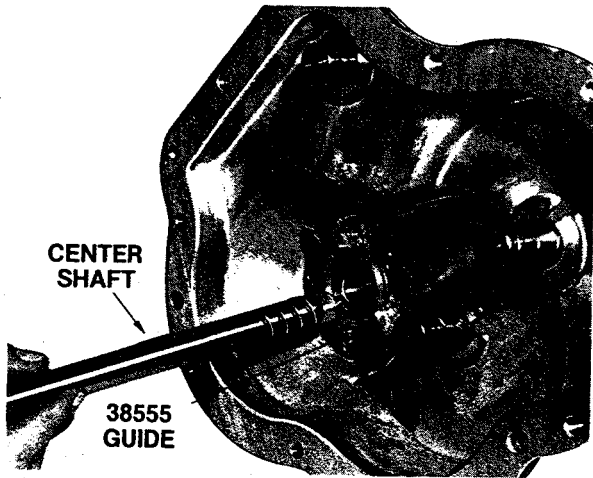
- Using opposite end of tool, hook "O" ring and pull out.



## To replace "O" ring:

- Insert center shaft into drive tube end of power unit housing to a point just below the groove for the "O" ring.
- Place "O" ring in housing end of tube and push into groove with hook end of tool. Make sure "O" ring is completely seated in groove.
- Place Maytag guide, Part No. 38555, over helical drive portion of shaft to prevent damage to "O" ring seal. For additional protection, coat guide with power unit oil.

4. Insert center shaft into power unit housing.



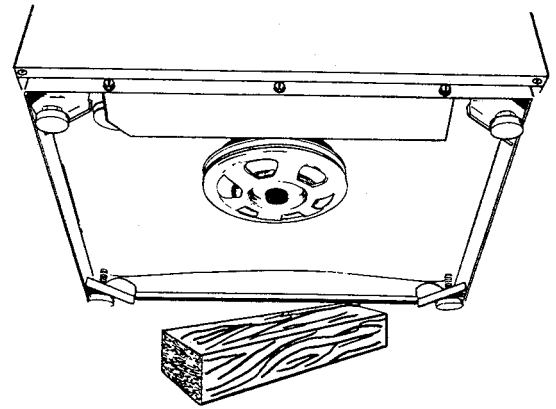
The components may now be reassembled by reversing the procedure outlined for disassembly.

Use new gasket between upper and lower housing and new power unit oil, Part No. 56080.

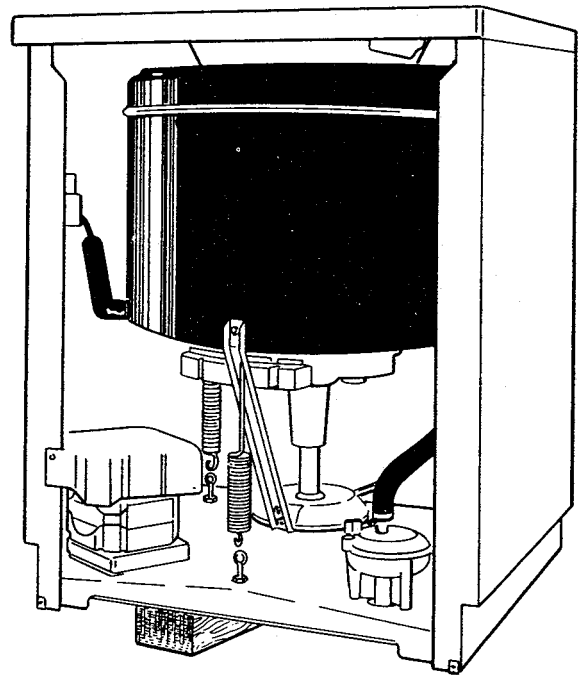
## DAMPER AREA SERVICE

### To replace or lubricate damper pads:

1. Remove two screws holding front panel and remove front panel.
2. Slide washer forward.
3. Remove bolts holding top cover and raise top cover.
4. Remove nuts from three eyebolts. Nut positions can be marked by placing strips of electrical tape around bolts just above nuts before loosening.
5. Remove tub to pump hose from tub.
6. Remove drive belt.
7. Tip washer back and lay 4 x 4 wood block under center drive pulley.

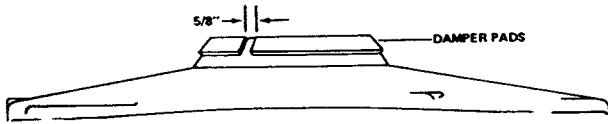


8. Set washer down on top of the wood block.



9. The complete assembly of the tubs and damper should be pushed up from the base far enough to get to the damper pads.
10. Scrape old pads from base.
11. Use a degreasing agent such as alcohol to remove any grease from area.
12. Apply rubber adhesive, Maytag Part No. 55978, to area where old pads were removed.
13. Apply pads to base and let dry. The top surface of pad should be located  $\frac{3}{32}$ "

below center opening in base. The distance between pads should be about 5/8".



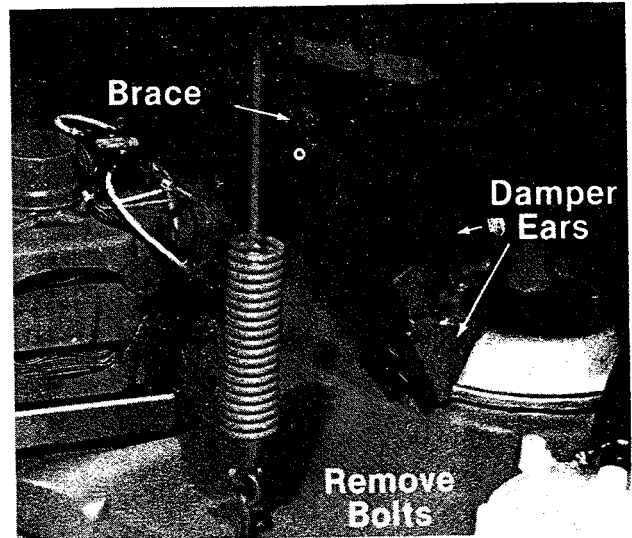
14. Lubricate damper pads with silicone grease, Maytag Part No. 2-4999, or 2-3959 (jar).
15. Reassemble washer.
16. Check tub centering and adjust if needed using nuts on eyebolts.

## DAMPER REPLACEMENT

### If damper replacement is needed:

1. Remove brake package.
2. Remove tub to pump hose at bottom of tub.
3. Remove injector tube from tub cover. (Turn elbow clockwise 1/4 turn.)

4. Remove nuts from centering spring eyebolts.
5. Lift entire assembly (tubs, gear case, damper, etc.) out of washer and lay on floor. (We didn't say this would be easy.)
6. Remove bolts from damper ears which secure tub braces.



7. Raise old damper toward tub bottom to free it from tub braces.
8. Turn damper so ears clear tub braces and pull down and off of spin tube.
9. Install new damper using reverse order being sure boss for brake clip will be aligned toward water pump position.

# ACCESS TO BELTS, DRIVE PULLEY, BRAKE PACKAGE, ROTOR BEARING AND RADIAL BEARING

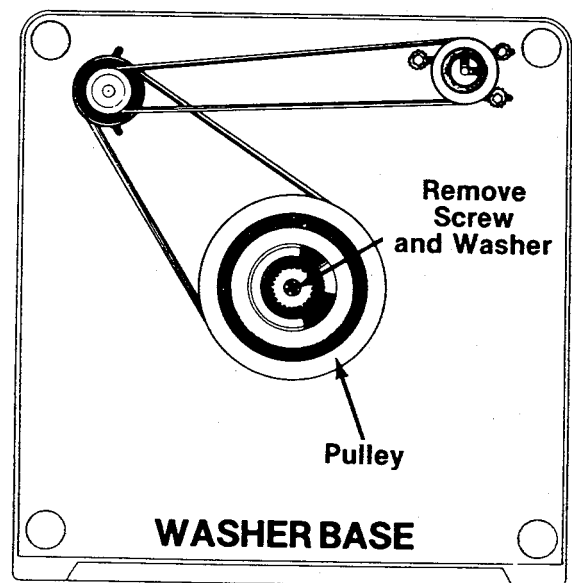
Pull washer forward out of dryer support stand. Tip washer back and block the front corner(s) with a 4 x 4 piece of wood.

## BELTS

The pump belt is the longer and narrower of the two belts. It runs across the front of the washer base frame, connecting the pump to the motor pulley. The pump belt is easily removed by walking the belt off either the pump or motor pulley.

**NOTE:** Adjustment of the belt should be checked whenever the pump or pump belt is replaced. Refer to PUMP section in this manual.

The drive belt is the shorter and wider of the two belts. It runs diagonally across the washer base frame, connecting the main drive pulley to the motor pulley. The drive belt is easily removed by walking the belt off either the drive pulley or motor pulley. There is no adjustment of the drive belt.



## DRIVE PULLEY AND ROTOR BEARING

The drive pulley must be removed to gain access to the bearing or to remove the brake package. To remove pulley:

1. Remove drive and pump belts and rubber cap covering hub of pulley.
2. Remove screw and washer from bottom of drive shaft.

3. Remove the splined drive lug from the drive shaft.
4. Turn pulley counterclockwise to remove it from the helical shaft. The rotor bearing is located above the drive pulley.

**NOTE:** When replacing rotor bearing make sure it is placed on drive pulley with cupped side down over hub of pulley.

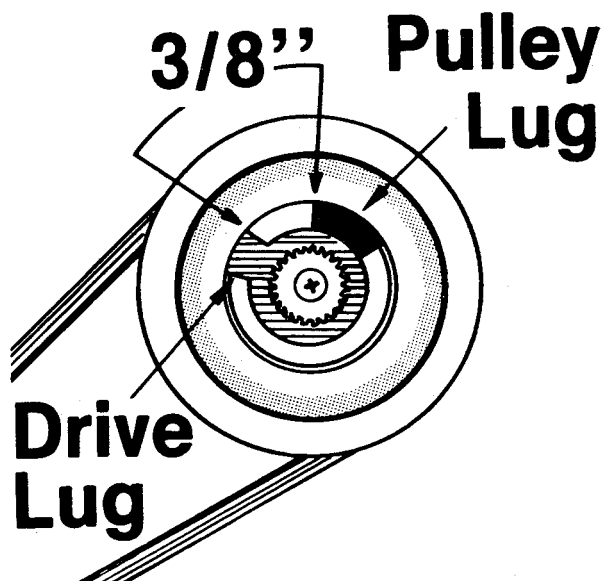
## SETTING THE DRIVE LUG

Turn the drive pulley onto the shaft and run it up as tight as you can (you may have to hold washtub or transmission). This will bottom out the transmission in the brake rotor. Note position of raised portion of drive pulley hub.

Install the drive lug on the end of the drive shaft directly across from the pulley lug (180 degrees) with the pulley still run up tight. One side of the drive lug is flat compared to the other side. This flat side should be toward the pulley.

Release the pulley and let it drift down against the drive lug.

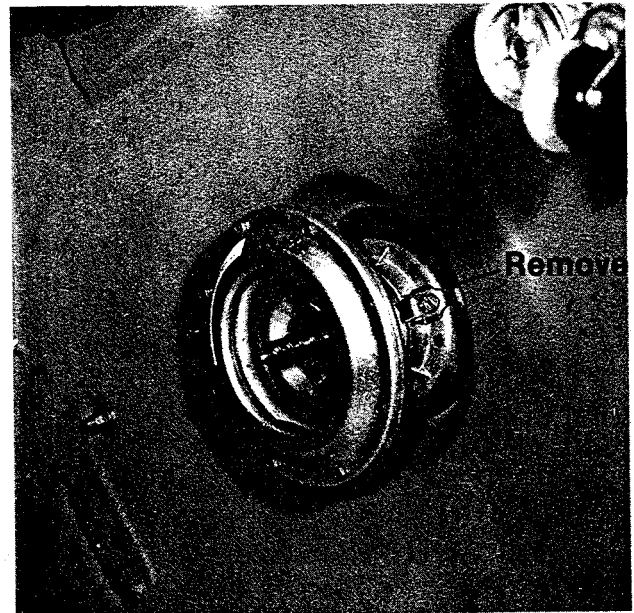
Now run the pulley back up the drive shaft just until you begin to encounter resistance. Check the positions of drive lug and pulley lug. Wherever the pulley lug ends up, consider this to be the 12 o'clock position. The drive lug should be at 9 o'clock. If not, reposition drive lug (with pulley at this point of resistance). The two lugs should have about 1/4" to 3/8" space between them.



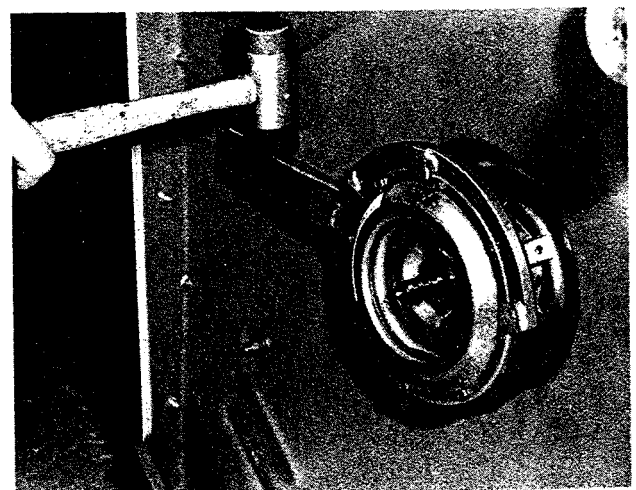
## BRAKE PACKAGE REMOVAL

After drive pulley has been removed, the brake assembly can be removed as follows (power unit in place):

1. With tub block in place, the tubs and power unit will be parallel with the cabinet. Remove hex bolt and retainer clip in damper holding the brake package.



2. Use the 38315 special tool to unscrew the brake package assembly from the damper. When the brake package is free, pull out to disengage it from the spline surface of the drive tube.



3. After brake package has been removed, the radial bearing may be removed from top of brake package by tapping on the side of the brake package.

**NOTE:** Complete replacement rather than attempted repair of the brake package is recommended.

**To replace brake package:**

1. Place radial bearing in top of brake package.
2. Use a coating of center seal grease to protect bearing from water.
3. Insert brake package onto drive tube splines.
4. Start threads of brake package into damper, turning in by hand. This won't be easy because you have to lift the tub and transmission.
5. Be sure that tub block is in place keeping tubs aligned so as to prevent binding on brake package threads.
6. When turning brake package into the damper, allow power unit to turn so that you do not have to overcome the friction of the brake.
7. When threaded tight, use special tool 38315 and hammer to seat brake package firmly in place.
8. Locate retaining clip and tighten damper bolt securely into damper.

## **DRY BRAKE**

The normal symptom of a dry brake package is a screeching noise at the end of the spin cycle as the tub comes to a stop.

The brake can be lubricated without removing it from the washer.

**To lubricate brake:**

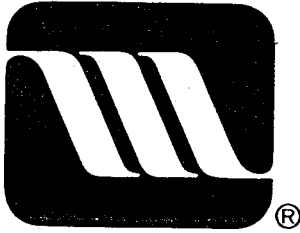
1. Disconnect the electrical supply to the washer.
2. Put tub block in tub and lay washer back far enough to get to the pulley and brake.
3. Block left front leg to prevent washer from falling.
4. Squirt about one tablespoon of power unit oil, Maytag Part No. 56080, over lip of brake package. An oil squirt can works very well (or take pulley off.)
5. Turn the pulley on the shaft until the brake is disengaged. With the brake disengaged, the oil will run under the brake lining. Turn the pulley several times to insure proper lubrication.

## **RADIAL BEARING**

The radial bearing sits on top of the brake package. Once the brake package has been removed the bearing can be removed from the brake package housing by tapping on the side of the brake package.



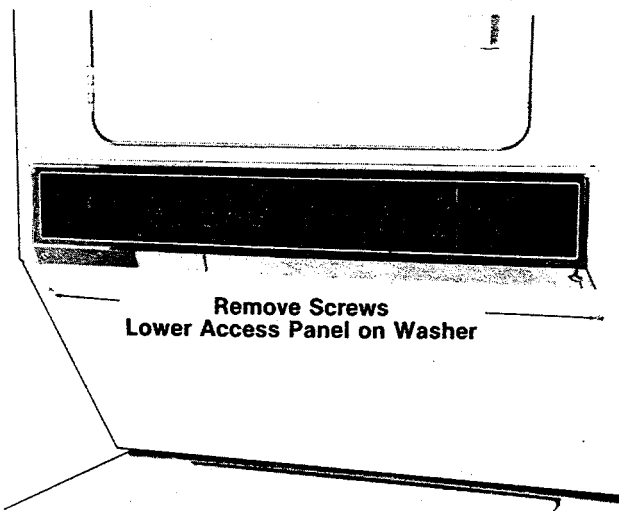




## DRYER ACCESS

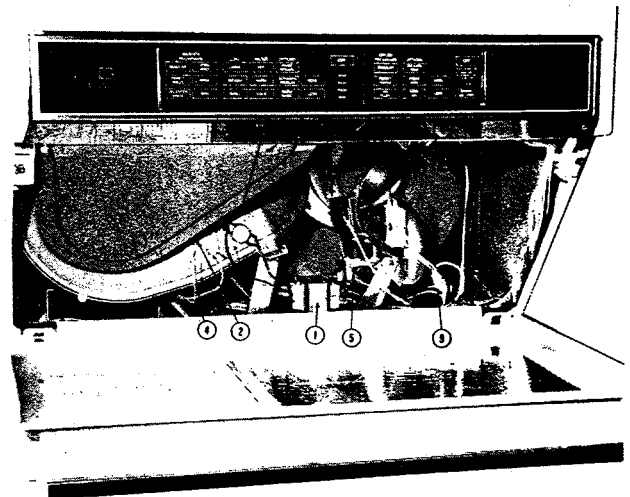
### ACCESS PANEL

Two screws secure the dryer access panel.



Lower panel onto washer top. This panel will hold screws, small parts, tools, etc. while you work on the dryer section and will protect the washer top.

Access Is Now Provided To:



1. Transformer.
2. Thermistor temperature sensor.
3. Regular cycling thermostat.
4. Drive motor run relay.
5. Gas valve assembly.
6. Radiant heat sensor.
7. Igniter.
8. High limit thermostat.
9. Heater relay.
10. Burner cone/heater chamber.
11. Heating element.

## TRANSFORMER

The transformer steps 120 volts AC primary voltage down to two secondary voltages.

The 26.4 volt AC output provides operating power for the motor and heater relays in the dryer and for the motor run relay, motor reversing relay, water valve solenoids and lid lock solenoid in the washer section. A full-wave bridge rectifier on the microprocessor board converts the 26.4 volts AC to 24 volts DC to operate the DC components in both sections.

The 10 volt AC output provides operating power for the microprocessor circuits, the displays and individual light emitting diodes for the various option selections. Timing reference signals are derived from this secondary. This output is also changed to DC by a bridge rectifier circuit on the microprocessor board and is further filtered and regulated for the microprocessor controller power.

A fast acting MOV (metal oxide varistor) is connected across the primary input terminals to suppress line voltage surges which could damage the microprocessor. The MOV can be replaced by clipping off the old MOV and soldering the new one to the clipped leads.

The transformer is secured to the dryer base by two screws. Observe wiring when replacing the transformer.

### To check:

Primary (White to Yellow/Black) - should show continuity (19 ohms) or 120VAC

Secondary (Red/Black to Red/Black) should show continuity (1 ohm) or 10 VAC.

Secondary (Blue to Blue) should show continuity (1.2 ohms) or 26 VAC.

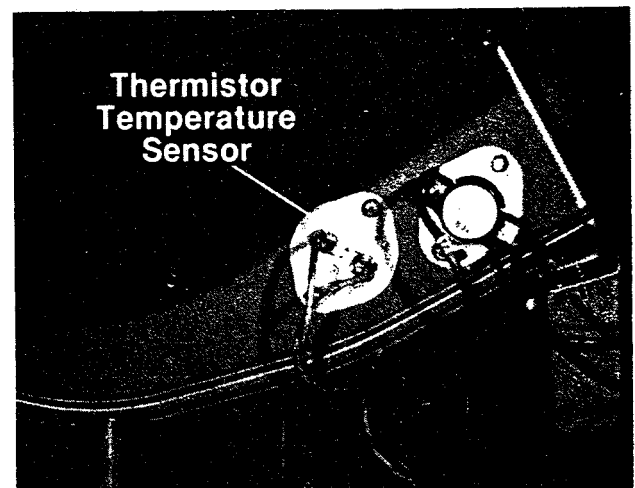
**CAUTION:** Always disconnect dryer power cord before making continuity checks or taking resistance readings. Always use extreme care when making live voltage readings!

## THERMISTOR TEMPERATURE SENSOR

The thermistor is a solid state device whose resistance will change inversely with temperature change. At room temperature the thermistor will measure about 100,000 ohms. That will drop to about 18,000 ohms at 140°F.

The thermistor is used to check ambient temperature in addition to being used as the sensing element for the delicate temperature selection. The dryer will not operate at freezing temperatures and will also shut down if the thermistor senses temperatures above 180°F.

The thermistor is mounted much like a thermostat with two screws in the blower housing cover. It is mounted to the left of the regular cycling thermostat. Note that the terminals are smaller than on the cycling thermostat and that the thermistor is in the low voltage control circuit. **Do not test with line voltage test cords.** The thermistor is neither position or polarity sensitive. Mount in opening either way and place Purple/Black 17 wires on terminals either way.



### To check:

The thermistor should show resistance across terminals of about 100,000 ohms at room temperature.

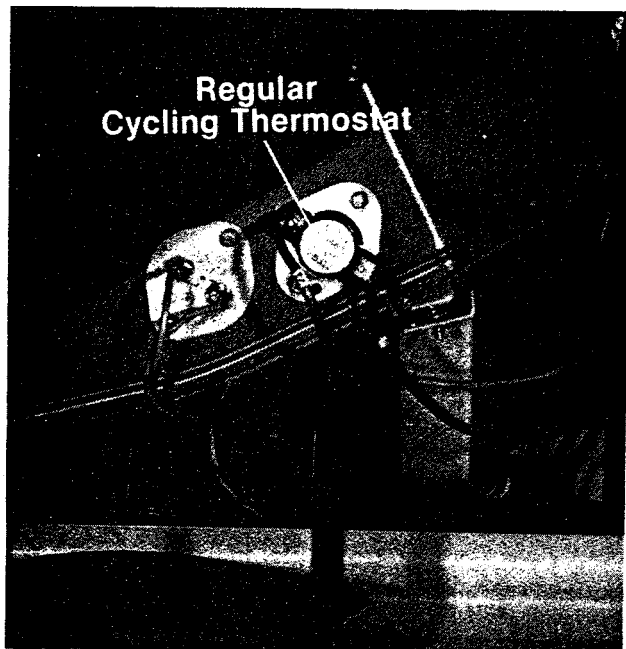
**CAUTION:** Always disconnect dryer power cord before making continuity checks or taking resistance readings.

## REGULAR CYCLING THERMOSTAT

This is a heat-activated, bi-metal-operated normally closed (continuity) switch. The thermostat is in the current path of the heat source and handles line voltage level current.

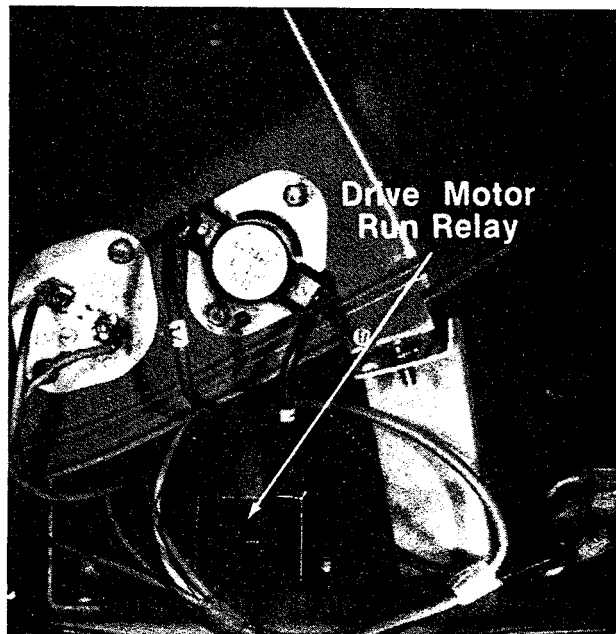
The thermostat is normally closed (continuity) at room temperatures and opens on temperature increase. The thermostat is rated to maintain an average temperature of 150°F. at the thermostat position.

Two screws secure the thermostat to the blower housing cover.



## DRIVE MOTOR RUN RELAY

This single pole single throw normally open relay is operated by the 24 volt DC microprocessor circuit. Do not test coil with motor test cord!



The relay is located under the blower housing to the right of the motor mount bracket. Two screws secure the relay to the dryer cabinet base. Note wiring when replacing this relay.

### To check:

Coil portion of relay should show continuity across terminals (White/Red to Red).

Resistance reading: 520 ohms across coil terminals.

**CAUTION:** Always disconnect the dryer power cord before making continuity checks or taking resistance readings.

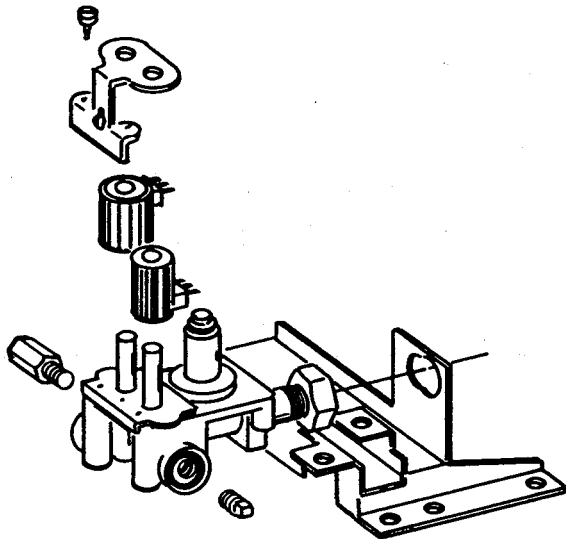
Switch portion of relay should show continuity with coil energized and wires pulled off (Yellow/Black to Gray).

**CAUTION:** Always use extreme care when making checks where live voltage is available to the component being checked.

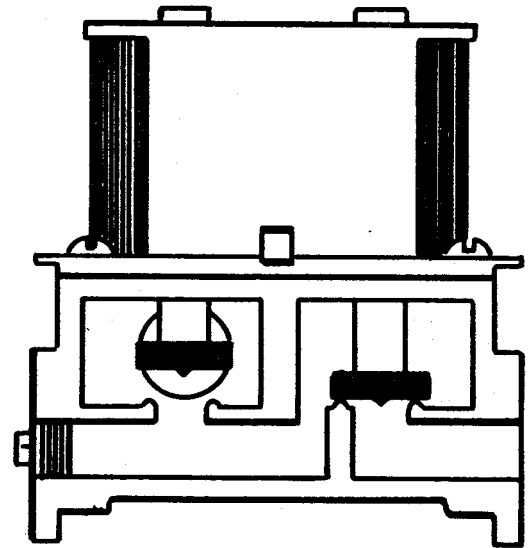
# GAS VALVE ASSEMBLY

## OPERATION

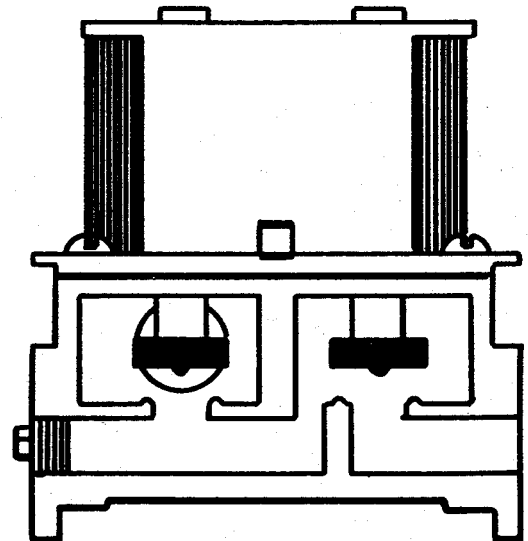
The gas valve assembly is actually two gas valves in one compact body. After passing through a pressure regulator set for 3.5 water column inches of gas pressure, the gas must then move through two solenoid operated valves before being released into the combustion cone through an orifice sized for 18,000 BTU per hour heat output.



The first valve uses a split coil on the rear guide tube. Neither of the two coils contained in this solenoid produce enough magnetic pull individually to lift the armature in the valve and open the passage for gas. Both are required to be energized to develop enough pull to open the valve. Once the armature has been lifted and is in the up position, the holding coil alone has enough pull to hold the armature in the open position. The booster portion of this solenoid can then be dropped out of the circuit and the valve can remain open on the strength of the holding coil alone.

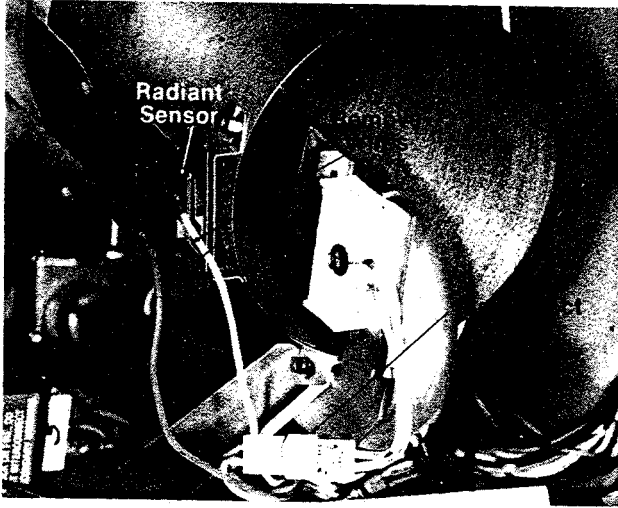


The second valve is opened by the secondary coil mounted on the front guide tube. The secondary coil alone produces the magnetic pull necessary to open this valve.

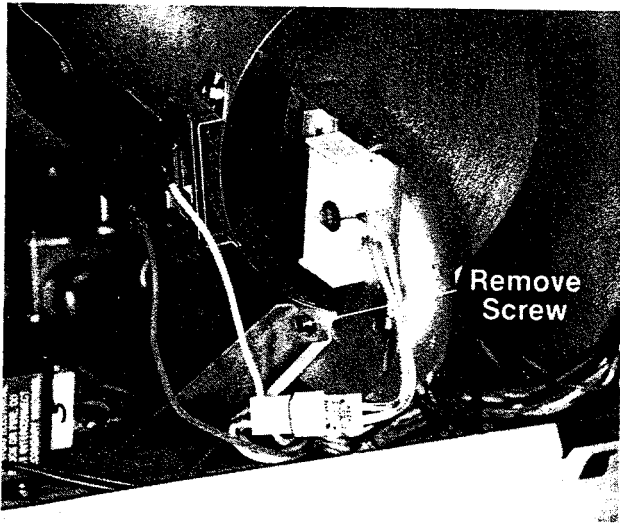


## To remove the valve assembly:

1. Remove wiring from radiant sensor and separate wire connector to the igniter.



2. Remove one 5/16" screw securing burner assembly to brace. **NOTE:** There is no air shutter adjustment on the burner assembly.

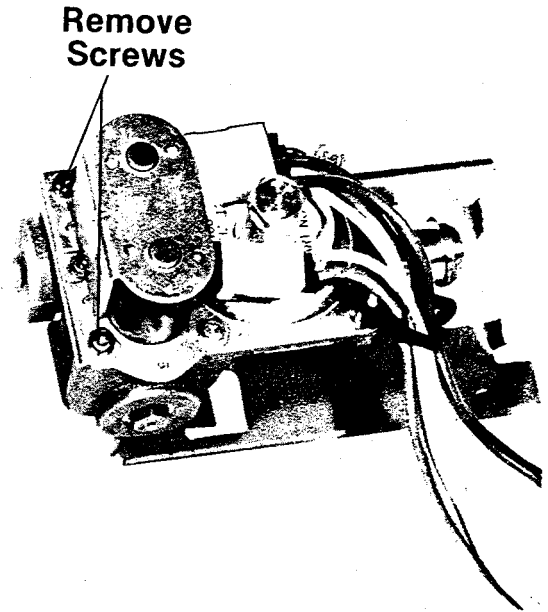


3. Remove gas line and nipple. (Be sure gas has been turned off at union fitting.)
4. Remove wiring from gas valve coils.
5. Gas valve and bracket mount through slots in base frame. Remove two screws securing bracket to base and remove entire assembly to the left to disengage.
6. Remove two 1/4" screws securing valve to bracket if complete replacement of the valve is necessary.

## COILS

### To remove:

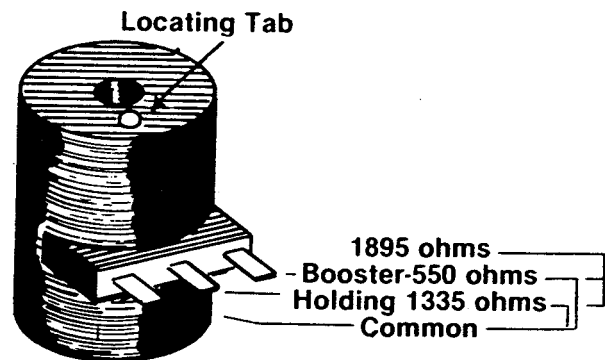
1. Remove 2 Phillips head screws holding coils to valve. **NOTE:** There are no seals disturbed upon coil removal.



When replacing the coils note the locating pins which will help in proper mounting of the coils.

### To check:

Secondary Coil - 1250 ohms resistance



**CAUTION:** Always disconnect dryer power cord before taking resistance readings.

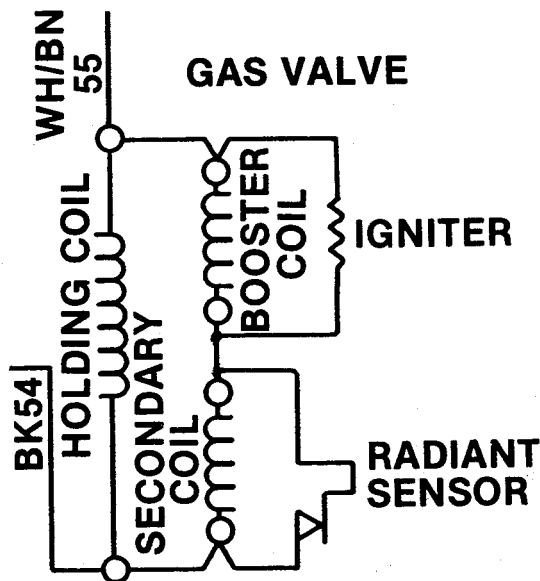
## Radiant Sensor

The radiant sensor operates as a thermostat but is primarily reactive to radiant heat energy produced by the igniter and burner.

Mounted at about the 9:00 o'clock position on the combustion cone, the radiant sensor "looks" at the igniter and burner through a rectangular window cut in the side of the combustion cone.

The radiant sensor contacts are normally closed, opening in reaction to the intense radiant heat produced by the igniter as it reaches operating (ignition) temperatures.

The radiant sensor is wired in parallel with the secondary coil. With the contacts in, the radiant sensor closed, electrical current is shunted around the secondary coil, preventing its operation. When the contacts open in reaction to igniter radiant heat, the secondary coil becomes part of the valve operating circuit.



### To remove:

1. Remove wires from sensor.

2. Remove screw holding sensor to heat cone. **NOTE:** A tab on the sensor engages a slot on the heat cone.



### To check:

The radiant sensor should show continuity (closed circuit) between its contacts. If no continuity is seen, (open circuit) replace the sensor.

## IGNITER

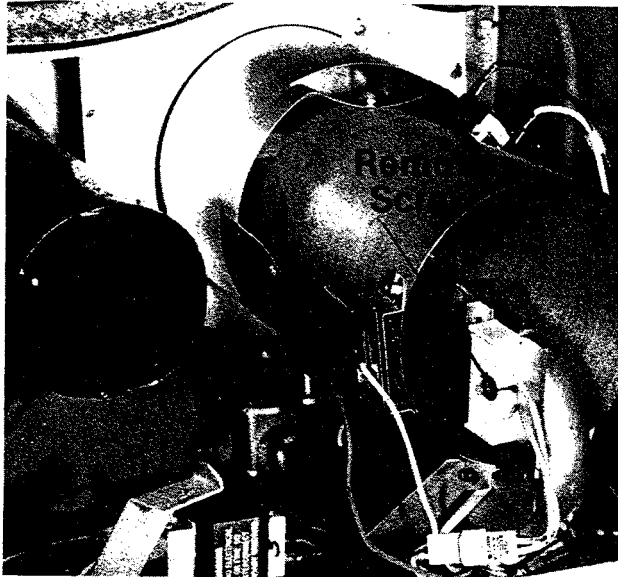
The silicon carbide material in the igniter is directly heated by the current flow when full line voltage is applied to the igniter terminals. The igniter will reach temperatures in excess of 1800°F. in a very short time. As this heating occurs the igniter will glow very brightly. It is to the "brightness" (radiant heat) that the radiant sensor reacts and opens its contacts.

In addition to the heating, a change in resistance takes place in the igniter. Because of its carbon content, the resistance will decrease with a temperature increase.

### To remove:

Unplug igniter from gas valve (plug type connector).

The igniter is mounted to the burner assembly with one screw. Use care in handling the igniter as the material is very brittle.



### To check:

Continuity should be seen across the prongs of the plug type connector of the igniter.

Resistance reading - 180-400 ohms resistance.

## HIGH LIMIT THERMOSTAT

### GAS

This thermostat is positioned at the 2:00 o'clock position at the intake of the combustion cone. Set to open at 220°F., this thermostat is cooled by the intake air being pulled into the combustion cone. Under

normal operating conditions this thermostat is insulated from the burner heat by the air flow. It is when this air flow is restricted or interrupted that the high limit thermostat reacts to open the electrical circuit to the gas valve.

## ELECTRIC

Positioned at the 10:00 o'clock position on the electric heater chamber this thermostat is normally closed below 200°F. Like the high limit on the gas burner cone, the electric high limit reacts to reduction in air flow to cycle the heating element off to prevent overheating.

The Canadian electric dryers use a double pole single throw (four-terminal) thermostat.

### To remove:

The high limit thermostats are secured to the heat cones by screws.

## HEATER RELAY

The heater relay is operated by 24 volt DC from the microprocessor board. The single pole single throw contacts are normally open except when the coil is energized to call for heat.

The terminal configurations for the relays used in the gas dryers and the electric dryers are different. The terminals on the relay used in the gas dryers are located on the top of the relay. The terminals on the heavier relay used for the electric dryers (and repair for both gas and electric) are located on the end of the relay.

### To remove:

The relay is mounted to the dryer base under the heat cone with two screws. Observe wiring when replacing this relay.

**To check:**

Coil portion of relay should show continuity across terminals (Red to Brown/Black).

Resistance reading: 490 ohms resistance.

**CAUTION:** Always disconnect dryer power cord before making continuity checks or taking resistance readings.

Switch portion of the relay should show continuity with coil energized and wires pulled off (Yellow/Black to Brown).

**CAUTION:** Always use extreme care when making checks when line voltage is available to the component being checked.

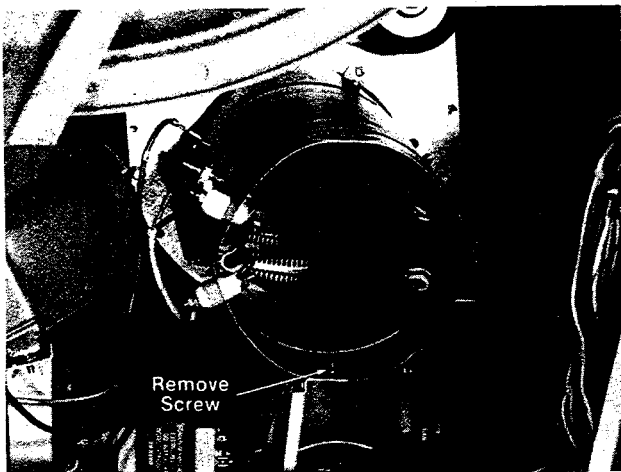
## BURNER CONE/HEATER CHAMBER

### ELECTRIC

The heat cone holds the heating element in the electric dryer.

**To remove:**

1. Remove 2 screws holding cone cover in place.
2. Remove screw in front of cone holding cone to base.



3. Remove screw at back of cone holding cone to inlet air duct.
4. Remove wires to hi-limit thermostat and heating element.

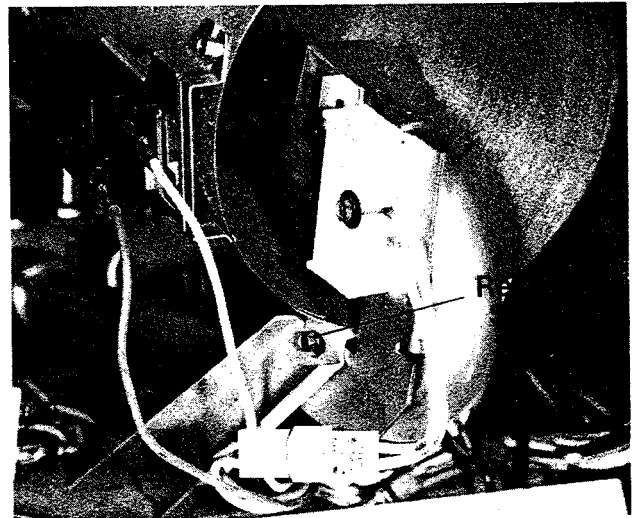
The entire heat cone may now be removed from the dryer.

### GAS

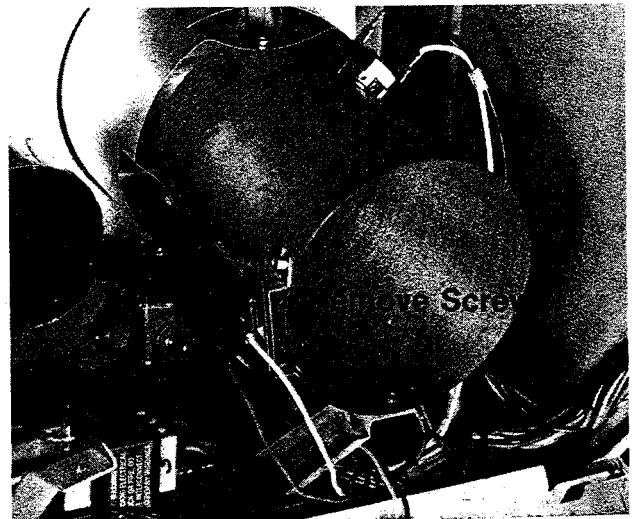
The heat cone on gas models surrounds the burner assembly.

**To remove:**

1. Remove screw securing burner assembly and pull burner assembly out from heat cone.



2. Remove screw in front of cone holding cone to bracket from base frame.





3. Remove screw at back of cone holding cone to inlet air duct.
4. Remove wires to hi-limit thermostat and radiant sensor.

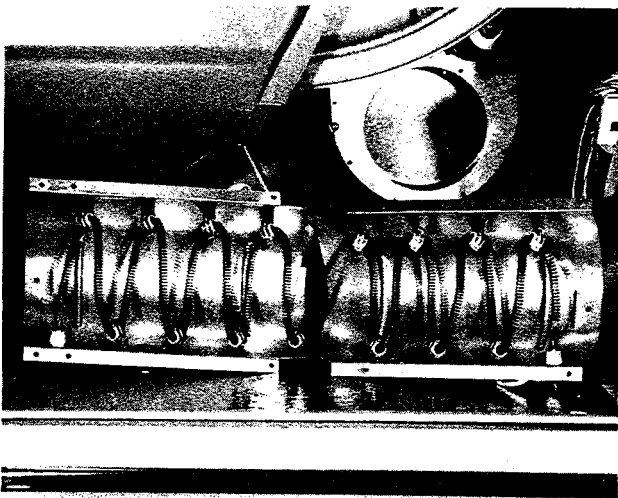
The entire heat cone may now be removed from the dryer.

## HEATING ELEMENT

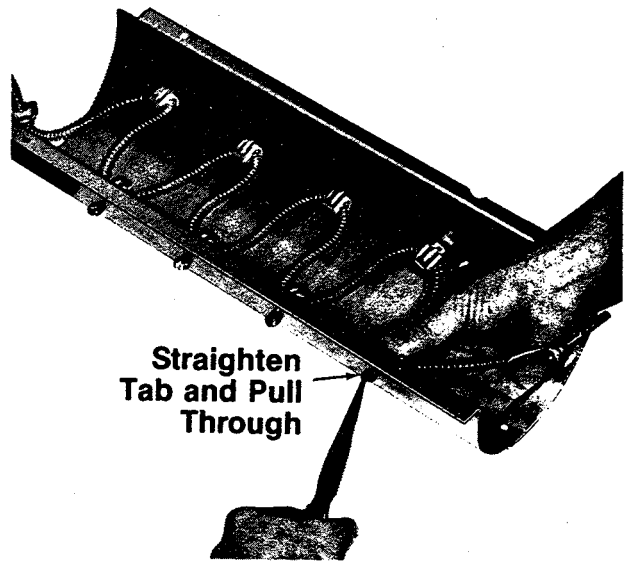
The heating element is a 4600 watt element located inside the heat cone.

### To replace the element:

1. Remove heat cone from dryer.
2. Remove four screws holding cone halves together and lay halves side-by-side.



3. Remove nuts from insulators holding ends of element.
4. Using pliers, squeeze and straighten insulator clips and push clips out of heat cone halves. Thread insulators off of original elements.

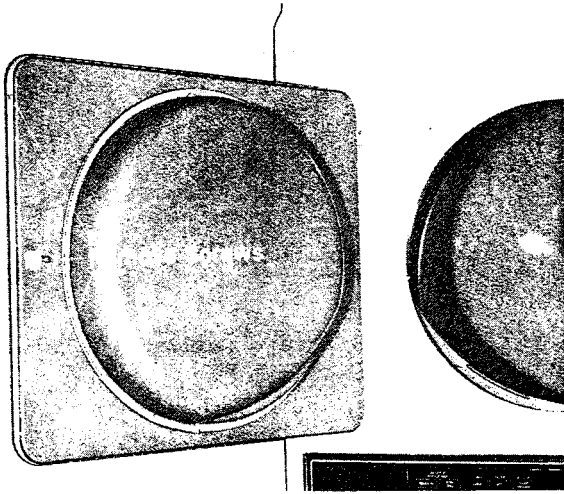


5. Inspect insulators, replace any that are damaged.
6. Drop insulators over new element (there are 15).
7. Place looped ends of new element over terminal studs and replace nuts. (don't overtighten, you may crack insulator)
8. Reinsert insulator clips and secure by twisting tabs with pliers. Maintain slight tension on the element as clips are reinstalled.
9. Be very careful when installing new element so the element is not stretched. If you come up short or long on element at end, go back and readjust the element from the beginning. Do not stretch the last part of the element to fit. Check for cracked insulators. Any that are damaged should be replaced.
10. Be sure element does not touch insulator clip. Also, make sure the electrical connections are tight.

# DRYER FRONT PANEL SERVICE

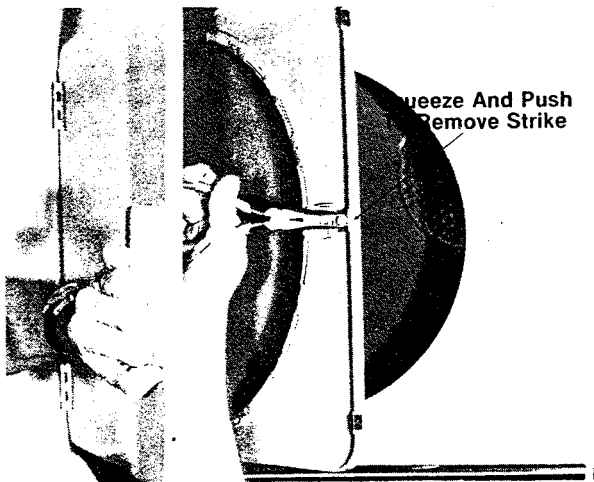
## Door Assembly

Remove screws from outer edge of door and screws which hold top of handle.



## Door Strike

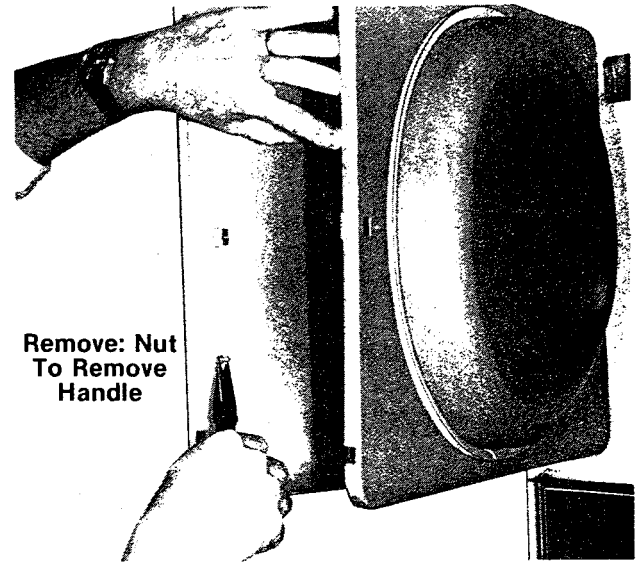
Separate door panels enough to get to back of door strike with pliers.



Squeeze strike and push out of inner door panel. Note strike retainer plate on inside of door panel.

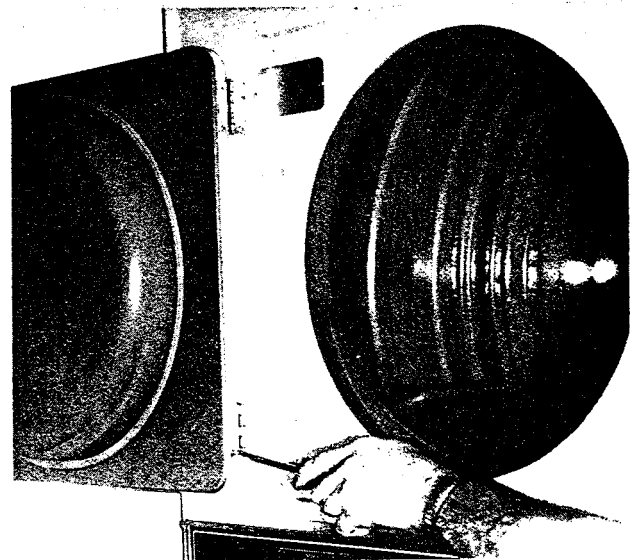
## Door Handle

Remove palnut from stud on door handle.



## Door Removal

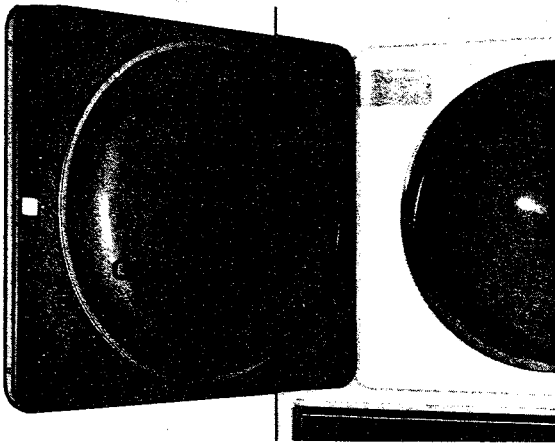
1. Open door.
2. Support door and remove hinge screws from door.



Do not remove hinge screws from cabinet as the twin fasteners in the cabinet will drop and front panel will have to be removed to resecure.

## Door Seal

1. Open door.
2. Grasp one end of door gasket and pull from tabs around door.



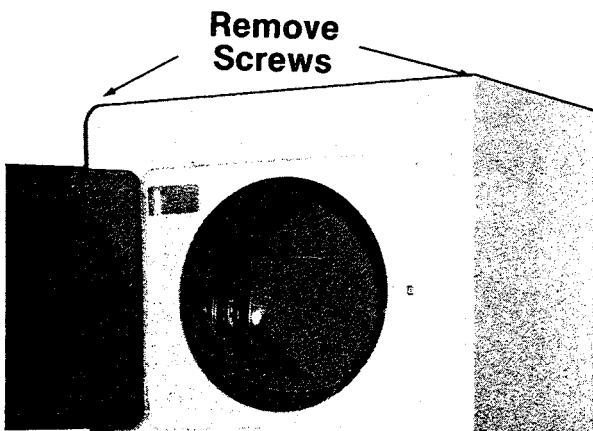
3. When installing new gasket, start feeding one end behind one of the tabs and each successive tab around the door.
4. Work the ends of the gasket to the bottom of the door.

**NOTE:** It may be necessary to cut about 1/2" from one end of the replacement gasket.

## FRONT PANEL REMOVAL

Disconnect dryer power cord or turn off power at fuse box or circuit breaker.

At top corners of front panel, remove two screws.



Carefully lean front panel out at the top and disconnect wires from door switch and wire retainers.

With panel held in position, disconnect wires from the spark gap on the right bulkhead support and from the tumbler sensor. Note lower sensor wire has an insulated terminal.

Disconnect all three connectors from microprocessor circuit board. Carefully set front panel down.

## Access Is Now Available To:

1. Door switch
2. Door Hinges
3. Front panel seal
4. Spark gap assembly
5. Front bulkhead and components
6. Tumbler & belt
7. Blower assembly and drive motor
8. Idler assembly
9. Drum rollers
10. Rear bulkhead and components

## Door Switch

1. Remove front panel or tilt out enough to get to switch.
2. Squeeze the expanded tabs on the switch body and push out through front panel.
3. Note switch position (button toward door center) for replacement.

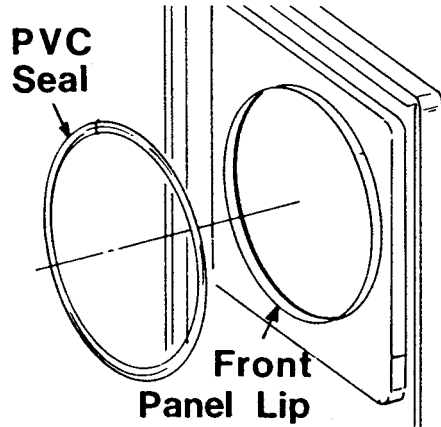
## Door Hinges

1. Remove door.
2. Remove front panel or tilt out enough for access to twin fasteners.
3. Remove screws from hinges.

## Front Panel Seal

Remove seal by pulling off.

Replace seal by rolling new seal over front panel lip.



## SPARK GAP ASSEMBLY

The spark gap serves a singular purpose of suppressing static electricity between the sensors and the microprocessor board. Static is allowed to discharge from the terminals of the spark gap to the grounding plate, through 4 small holes located in the plastic film separator.

### To remove:

1. Remove both wires from the spark gap terminals.
2. Remove screw securing spark gap assembly to front bulkhead.

### To check:

The spark gap should show no continuity between each terminal and ground. Continuity should be seen from the grounding plate to ground.

**Service Tip:** Should a premature shut off of the dryer be experienced, check for a short of the spark gap to ground (continuity seen from spark gap terminal to ground). If continuity is seen, a problem with the plastic film separator allowing contact between the ground plate and spark gap terminals has developed.

# TUMBLER AND RELATED COMPONENTS

## FRONT BULKHEAD REMOVAL

Remove screws from support brackets on each side of front bulkhead (tumbler front).

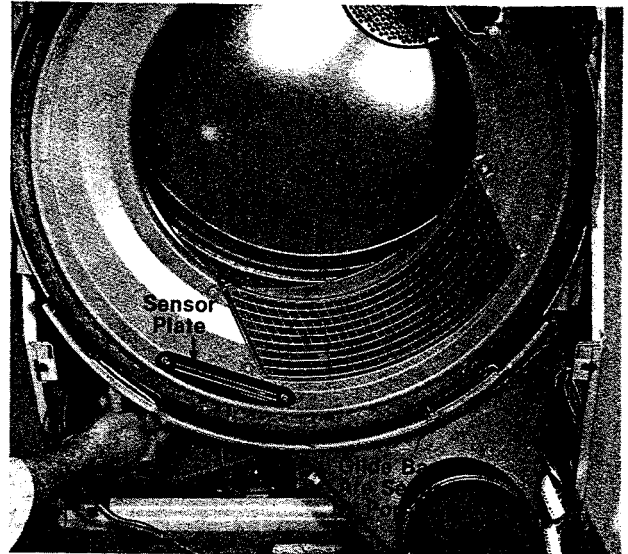


Lift up slightly to disengage tabs on bulkhead supports from holes in cabinet flanges. Pull front bulkhead forward to remove.

The front bulkhead acts as the front of the tumbler and provides the support for the front of the tumbler.

### Front Tumbler Glides (Bearings)

A pair of Poly-Teflon® glide strips are mounted along the lower edge of the front bulkhead. These strips are backed up by cork urethane support strips and are secured to the bottom flange of the bulkhead with pop rivets.



To replace the glides, drill the rivets out and replace with new rivets or screws.

### Front Air Seal

A Teflon® coated felt seal is secured to the bulkhead with adhesive. The seal is doubled over to provide tension against the front lip of the tumbler. Note direction of overlap on felt seal. Tumbler turns clockwise.

### Sensor

Two contact strips which are contacted by the clothes as they tumble. The moisture content of the clothes is detected electrically by the sensor.

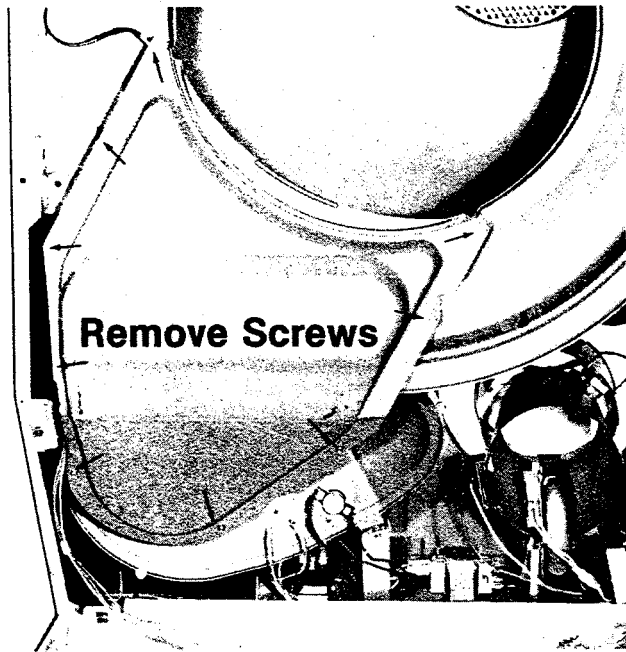
The sensor can be replaced without removing front panel.

1. Open dryer door and remove sensor screws.

2. Pull sensor into tumbler and disconnect wires.
3. Connect wires to new sensor (insulated terminal on bottom) and reinstall. Wires can also be reconnected by removing lower access panel.

## Outer Half of Air Duct

Remove screws around edge of duct cover.



## Guides for Lint Filter and Filter Seal

1. Remove duct cover.
2. Remove screws which secure filter guides.
3. Filter seal is secured with rubber adhesive.

## Air Duct

Remove screws from inside front bulkhead.

# TUMBLER AND BELT

## Drive Belt and Tumbler Removal

### *DISCONNECT POWER TO DRYER*

1. Remove lower access panel.
2. Remove front panel.
3. Remove front bulkhead.
4. Unhook lower end of idler tension spring from blower support brace.
5. Reach in between blower and tumbler with left hand and blower and base with right hand. Push idler roller to the left releasing belt tension.
6. Push belt off of idler roller toward back of dryer.
7. Bring idler roller back to the right enough to allow belt to clear motor pulley.
8. Slip belt out over tumbler.
9. Lift tumbler out front of cabinet.

## INSTALLING DRIVE BELT

1. Install tumbler in position on rear rollers.
2. Put belt around tumbler with flat side of belt against tumbler.
3. With idler spring disconnected from base frame, push idler roller to the left.
4. Form a loop with the excess belt at the bottom. Place this loop over the motor pulley (Figure 1).

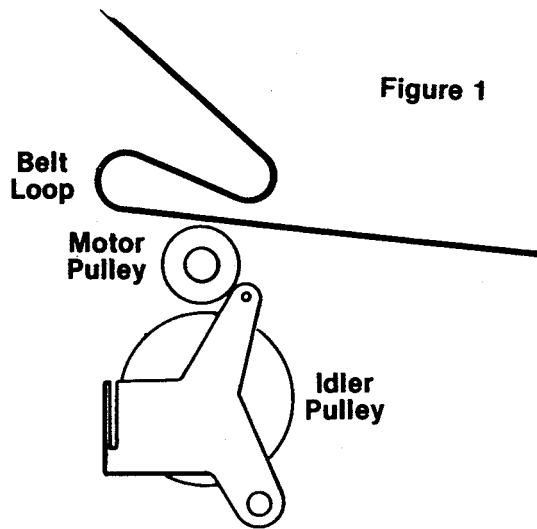


Figure 1

5. Route the loop over and between the motor pulley and the idler pulley (Figure 2).

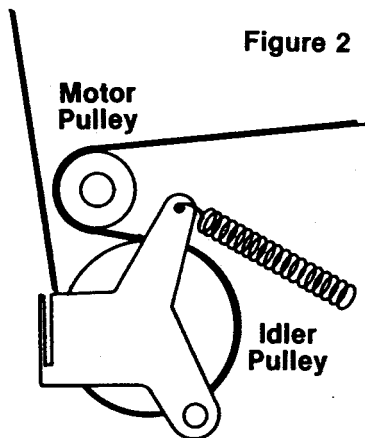


Figure 2

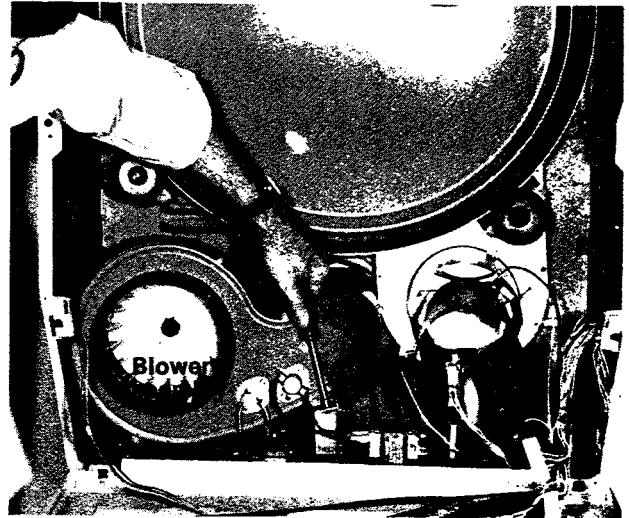
6. Belt is then routed around the idler pulley, making sure the belt runs inside the idler arm belt guide.
7. Rehook idler spring.
8. Rotate the tumbler clockwise a couple of revolutions to allow belt to properly align itself.

## BLOWER ASSEMBLY AND DRIVE MOTOR

The blower and motor can be removed as a one-piece assembly for ease in service.

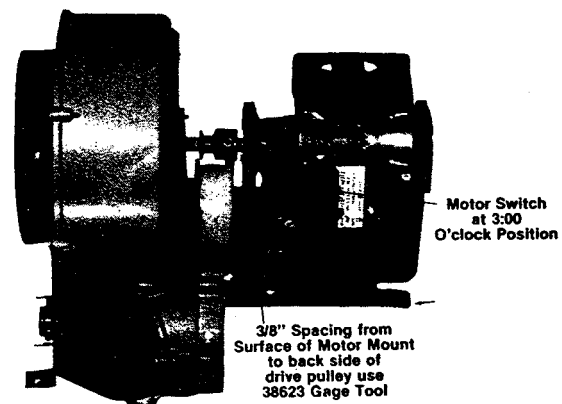
### To remove:

1. Remove screw securing blower to front base frame bracket.



2. Remove two screws at front corners of motor bracket.
3. Remove wires from thermostat and thermistor. Remove dryer wire harness wires from motor switch. Do not disconnect the wires that come out of the motor, from the motor switch. **NOTE:** There is no wire on the yellow motor terminal.
4. Lift up slightly and pull motor and blower assembly out the front of the dryer.

**NOTE:** The two tabs on the motor bracket fit in slots on the motor base platform.



Motor Switch at 3:00 O'clock Position

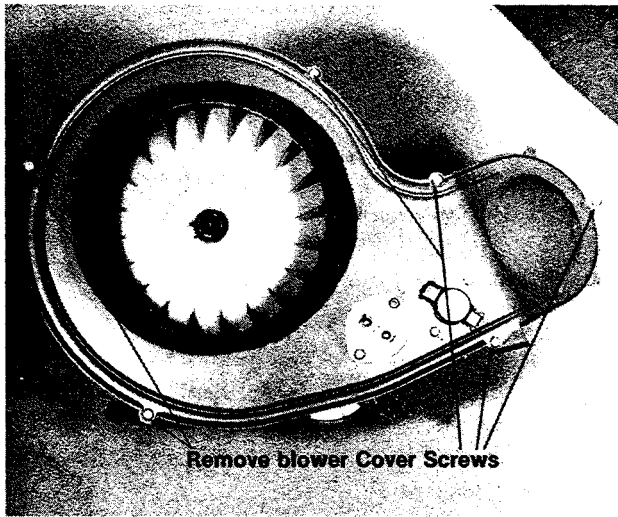
3/8" Spacing from Surface of Motor Mount to back side of drive pulley use 38623 Gage Tool

- Place motor and blower assembly on protected surface to continue disassembly.

## BLOWER DISASSEMBLY

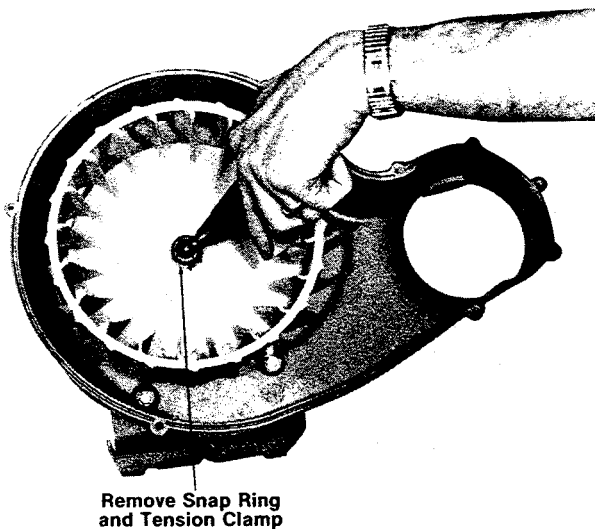
### BLOWER COVER

Remove six screws that secure blower cover.



### BLOWER IMPELLER

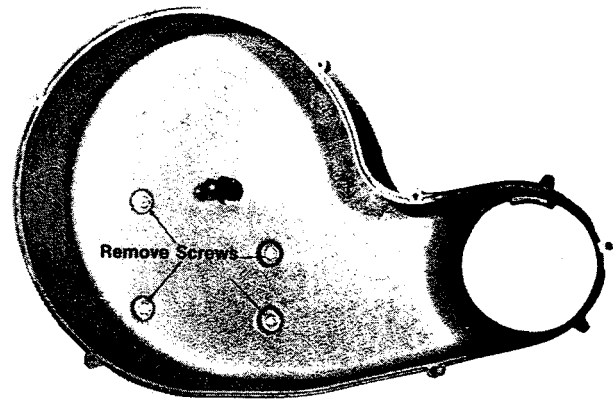
- Remove snap ring from motor shaft.



- Use pliers to squeeze and remove the tension clamp around the blower wheel hub.
- Pull blower from shaft. If it is hard to pull you may want to slip a screwdriver blade down into the slots of the hub. This will expand hub slightly and make impeller removal easier.

### BLOWER HOUSING

Remove four screws which hold blower housing to motor bracket.



## DRIVE MOTOR AND IDLER ASSEMBLY

### MOTOR REMOVAL

Use a large blade type screwdriver to press down and slightly out on ears of motor mount clamps.

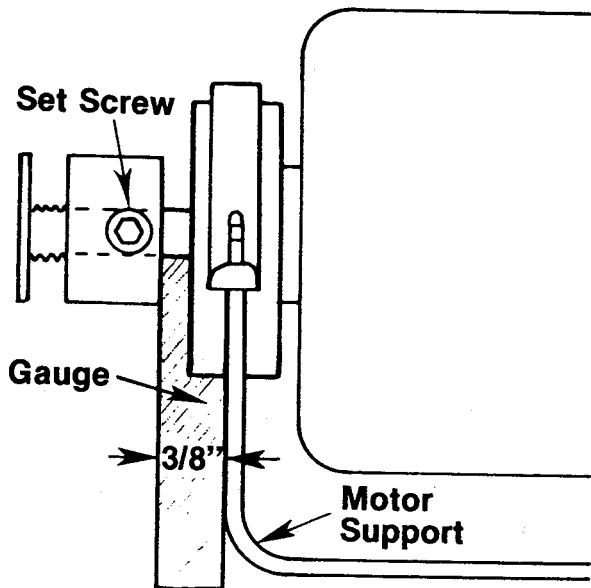




When replacing a motor, note position of motor switch (3 o'clock). It will also be necessary to transfer the motor pulley and rear blower impeller snap ring to the new motor shaft.

## MOTOR PULLEY ADJUSTMENT

The center of the belt groove on the motor pulley should be positioned over the center of the crown of the idler pulley. A gauge (Part No. 38623) should be used to align the motor pulley with the idler pulley. This gauge will provide approximately a 3/8" spacing between the motor support and back edge of the motor pulley.



## IDLER ASSEMBLY

1. Remove front panel.
2. Remove tumbler front.
3. Remove tumbler.
4. Remove spring and screw holding assembly.

**NOTE:** When replacing the idler assembly apply a light coating of 56016 Maytag center seal grease to the motor support where it is contacted by the spacer for the idler.

## IDLER PULLEY

1. Remove clip from shaft with snap ring pliers.
2. A fiber washer is located on both sides of the pulley. Be certain these are replaced when you reassemble these parts.

## REAR DRUM ROLLERS

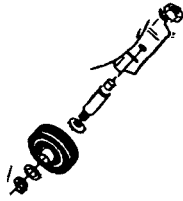
The tumbler roller consists of a rubber tire bonded to a plastic hub.

There are two roller and bearing assemblies attached to the tumbler rear. Normally the rollers will run slightly behind the drum radius. If the rollers are riding up on the tumbler radius, check for bent rear roller brackets. If a bracket is bent, replace tumbler rear.

1. Remove front panel.
2. Remove tumbler front.
3. Remove tumbler.
4. Remove retaining ring from groove in shaft.
5. Remove fiber washer.
6. Remove roller.
7. To remove roller shaft remove nut on back.

**NOTE:** There is a spacer washer behind the roller. When replacing parts, be certain the order of the replacement is correct.

1. Nut.
2. Shaft for roller.
3. Metal washer.
4. Roller.
5. Fiber washer.
6. Retaining ring.



## TUMBLER REAR FELT SEAL

The seal fits around the front circumference of the tumbler rear. It is a natural felt seal which is doubled over for self-adjusting tension. The surface which comes in contact with the revolving tumbler is coated with a layer of Teflon® to provide a slick durable wear surface.

1. The felt seal for the rear tumbler can be replaced from the front of the dryer. However, for ease in servicing, we recommend removal of the tumbler rear from the dryer.
2. Remove the old seal and as much adhesive as possible. A heat gun or hairdryer will help. Thoroughly clean surface where new seal will be installed.
3. The Teflon® coated side (which is the lighter of the two colors) goes against the tumbler. The seal is then looped in a "U" shape so the slot edge of the lighter colored side is cemented to the tumbler back. Part No. 55978 rubber adhesive is used to hold the seal.

## TUMBLER REAR

The tumbler rear is secured to the back panel by four screws. It is finished with an epoxy powder coat which is a very smooth surface, resistant to scratches and abrasion.

The tumbler rear acts as a support for two roller assemblies which support the tumbler and weight of the load.

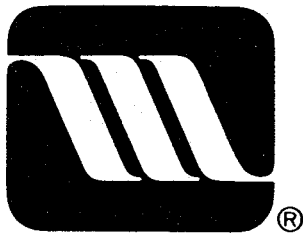
### Removal:

1. Remove front panel.
2. Remove tumbler front.
3. Remove tumbler and belt.
4. Remove heat cone.
5. From back of dryer, remove four screws holding tumbler back assembly and remove assembly.

## INLET DUCT

To replace the inlet duct, it will be necessary to remove tumbler rear. The inlet duct is secured to the tumbler rear by three screws, one at top and two at the bottom under the felt seal.

# MAYTAG



## Section 4

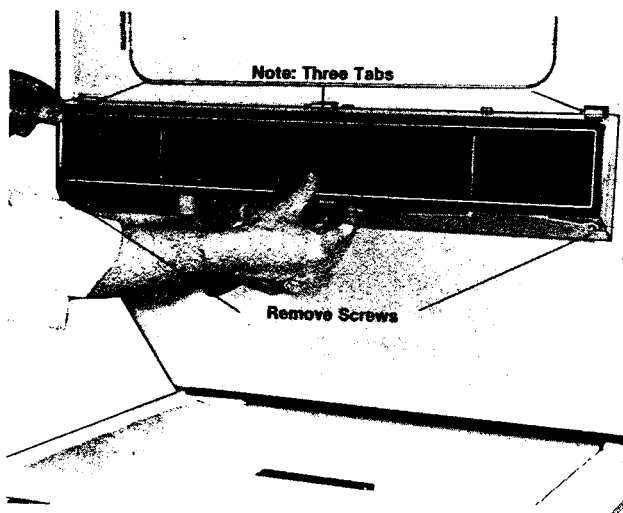
# Controls

### CONTROL CENTER

The control center contains the microprocessor board, touch pad assembly and Piezo electric speaker. Removal of the control panel will allow access to these components.

#### To remove control panel cover:

Remove two screws securing control panel cover to dryer front panel. Note control panel has three tabs at the top.



### MICROPROCESSOR BOARD & TOUCH PAD ASSEMBLY

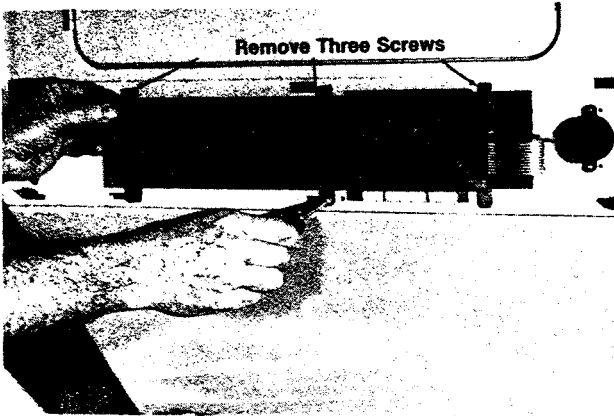
The microprocessor board is an electronic circuit board which is located behind the touch pad on the control panel. It is used to control the various cycles and functions on both the washer and dryer.

The touch pad provides a means to input cycle and function selections to the microprocessor board. The touch pad is connected to the microprocessor board through a connecting strip.

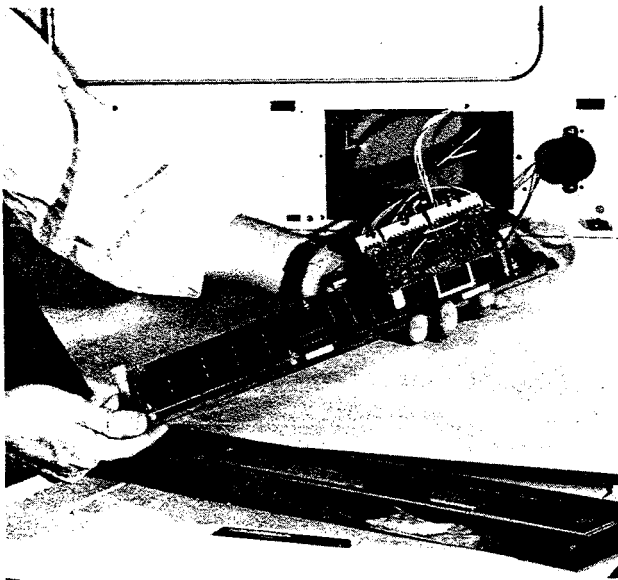
#### To remove:

1. Disconnect dryer power cord.
2. Remove control panel cover.

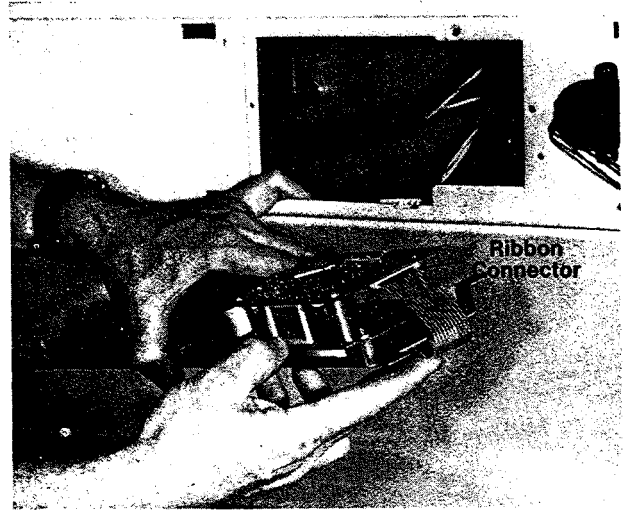
3. Remove three screws securing touch pad assembly and microprocessor board to dryer front panel.



4. Tip complete assembly forward and disconnect Piezo electric speaker and the 4, 9 and 11 pin edgeboard connectors.



5. Remove six nuts securing microprocessor board to touch pad assembly.
6. Remove the touch pad connecting strip from the connector on the microprocessor board.



#### To check microprocessor board:

1. Disconnect dryer power cord.
2. Remove lower access panel.
3. Disconnect 9 and 11 pin edgeboard connectors from the microprocessor board.  
**NOTE:** The 4 pin edgeboard connector must remain in place in order to provide power to the board.
4. Install the 38207 circuit test board making sure the internal pins of the circuit test board connector contact the conductive circuitry on the microprocessor board.
5. Plug dryer power cord back in.
6. Depress and hold the signal ON/OFF pad on the dryer and then depress the REGULAR pad on the washer.

The microprocessor board will check itself and provide a "good" or "bad" signal.

"Good" signal - initial display should show "-18" on washer and "88" on dryer. Subsequent displays will show "11" on both digital displays. All lights should be lit.

"Bad" signal - initial display should show "-18" on washer and "88" on dryer. Subsequent displays will show "--" on both displays.

**NOTE:** The check on the microprocessor board can only be terminated by depressing the dryer "OFF" pad.

The microprocessor board also has the ability of self-diagnostics without use of the circuit test board. It can automatically scan all functions of operation and if a problem exists terminate operation while giving one of the following on the digital display:

#### WASHER DISPLAY

U - Unbalanced load.  
L - Lid open.  
P - Pause/resume mode selected.  
IE - Lid lock switch problem.

#### DRYER DISPLAY

6E - Thermistor circuit problems or low operating temperature.  
7E - Thermistor circuit problems or high operating temperatures.  
8E - Motor relay circuit problems.  
9E - Dryer door circuit problems.

## PIEZO ELECTRIC SPEAKER

#### To remove:

1. Remove control panel cover.
2. Remove two screws securing speaker to dryer front panel.



3. Disconnect wire connector from speaker to microprocessor board.

#### To check:

Replace the speaker with a new speaker. If new speaker responds, original speaker was inoperative.

# CONTROL TESTING

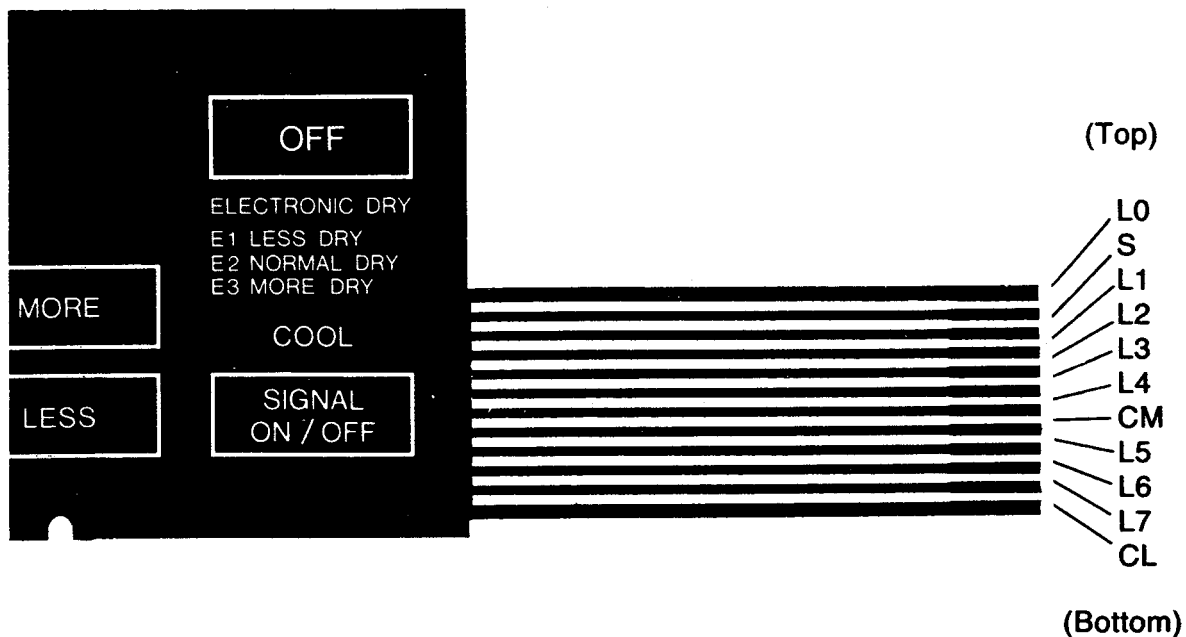
A built-in self-diagnostic test program can be initiated from the touch pad. To call this program up:

1. Press the washer OFF pad, then the dryer OFF pad.
2. Press and hold the dryer signal ON/OFF pad.
3. Press the washer Regular Program pad (while still holding the dryer signal ON/OFF pad.)

The cycle and option indicators will blink on and off. The washer display will show "-18", the dryer display will show "88", and the speaker will sound four times. The indicator and readouts will continue to cycle on and off until the diagnostics check is terminated by pressing the dryer "OFF" pad.

# TOUCH PAD TESTING

The touch pad can be checked for proper closures by using the following tables. The conductive traces read from top to bottom as follows:



Press each selection as indicated in tables and check for less than 100 ohms resistance.

<b>L1 to:</b>		
Washer	Presoak	L6
Washer	Less	L0
Dryer	Press Care	L4
Dryer	Timed Dry	L3
Dryer	More	L5
Dryer	Signal ON/OFF	L2

<b>L0 to:</b>		
Washer	Permanent Press	L6
Washer	Soak Only	L7
Washer	Rinse	L5
Washer	Cold Fill	L3
Washer	Small Load	L4
Washer	Less	L1
Washer	Warm Fill	L2

<b>L2 to:</b>		
Washer	Warm Fill	L6
Washer	Warm Rinse	L0
Washer	OFF	L7
Dryer	Air Fluff	L4
Dryer	Del Temp	L5
Dryer	Less	L3
Dryer	Signal	L1

<b>L3 to:</b>		
Washer	Medium Load	L6
Washer	Cold Fill	L0
Washer	Pause/Resume	L7
Dryer	Regular	L5
Dryer	Permanent Press	L4
Dryer	Timed Dry	L1
Dryer	Less	L2

<b>L4 to:</b>		
Washer	Spin	L6
Washer	Small Load	L0
Washer	Hot Fill	L7
Washer	More	L5
Dryer	Permanent Press	L3
Dryer	Air Fluff	L2
Dryer	Press Care	L1

<b>L5 to:</b>		
Washer	Delicate/Knits	L6
Washer	Rinse	L0
Washer	Large Load	L7
Washer	More	L4
Dryer	Regular	L3
Dryer	Delicate Temp	L2
Dryer	More	L1

<b>L6 to:</b>		
Washer	Regular	L7
Washer	Permanent Press	L0
Washer	Delicate/Knits	L5
Washer	Spin	L4
Washer	Warm Fill	L2
Washer	Presoak	L1

<b>L7 to:</b>		
Washer	Regular	L6
Washer	Soak Only	L0
Washer	Large Load	L5
Washer	Hot Fill	L4
Washer	Pause/Resume	L3
Washer	OFF	L2
Dryer	OFF	L1

<b>S to:</b>		
Washer	Regular	CL
Washer	Permanent Press	CL
Washer	Delicate/Knits	CL
Washer	Soak Only	CL
Washer	Rinse	CL
Washer	Spin	CL
Dryer	Regular	CM
Dryer	Permanent Press	CM
Dryer	Air Fluff	CM

The following listing shows the contacts made for each of the control panel touch pads.

### Washer Section:

#### Washer Programs

Regular	CL to S	L6 to L7	Soak Only	CL to S	L7 to L0
Permanent Press	CL to S	L6 to L0	Rinse	CL to S	L5 to L0
Delicate/Knits	CL to S	L6 to L5	Spin	CL to S	L4 to L6
Load Size			Water Temp.		
Large	L5 to L7		Hot	L4 to L7	
Medium	L3 to L6		Warm	L2 to L6	
Small	L4 to L0		Cold	L3 to L0	
Options					
Pause/Resume	L3 to L7		OFF	L2 to L7	
Presoak	L1 to L6		More	L4 to L5	
Warm Rinse	L0 to L2		Less	L0 to L1	

### Dryer Section

#### Dryer Programs

Regular	L3 to L5	S to CM
Permanent Press	L3 to L4	S to CM
Air Fluff	L4 to L2	S to CM

#### Options

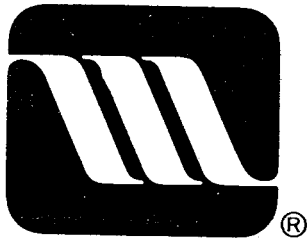
Delicate Temp.	L2 to L5		
Press Care	L1 to L4	More	L1 to L5
Timed Dry	L1 to L3	Less	L2 to L3
OFF	L1 to L7	Signal ON/OFF	L1 to L2

An open contact on any of the touch pad positions would indicate a failed touch pad assembly.

Substitution of a new touch pad assembly is also a suggested test method to determine if a fault lies in the touch pad assembly.



# MAYTAG



# Section 5 Electrical Test Equipment

## SCHEMATICS AND TROUBLESHOOTING

### 38559 MAYTAG APPLIANCE TEST METER



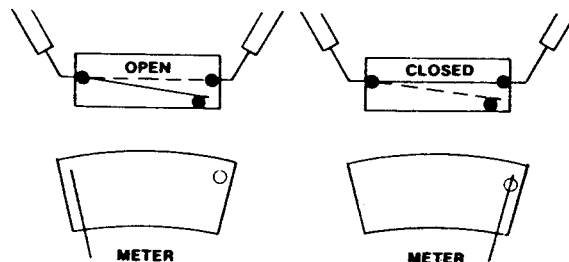
38559 APPLIANCE TEST METER

The Maytag Appliance Test Meter is a multi-purpose tester combining an AC-DC voltage tester with a multi-range ohmmeter.

The obvious advantages of being able to check electrical components and circuits without power applied is one of the features of the ohmmeter. Multiple ranges allow accurate determination of resistances of both single components (such as water valve coils) and entire circuit paths. Resistance is measured in "ohms".

For the most part, we will only be concerned with continuity. Is there a path or not? References are made between a "closed" (continuity) reading and an "open" (no continuity) reading. One note, when you get an "open" reading, try a higher resistance

range (setting). A very high resistance appears as an "open" on the lower ranges. For best accuracy always "re-zero" meter when changing ranges and/or the physical position of an ohmmeter.



**CAUTION:** Always be sure the power has been disconnected before making resistance measurements. Failure to do so will result in damage to your meter! Internal batteries provide all the power needed to make resistance checks. They should be checked at least once a year and replaced as needed.

When checking components, external wiring should be disconnected to eliminate false readings through external paths.

**SET METER FOR USE AS FOLLOWS:**

1. Calibrate meter by touching test probes together and turning adjusting dial until meter reads "0" on green (top) scale. Recheck calibration whenever adjusting dial for ohms setting is changed. (Replace battery if adjustment will not bring meter reading to "0".)
2. Select the scale most easily read and place test probes on respective terminals. When checking a switch the reading would normally be either open or closed. A reading of 70 on the R x 10 scale would for example be 700 ohms resistance.

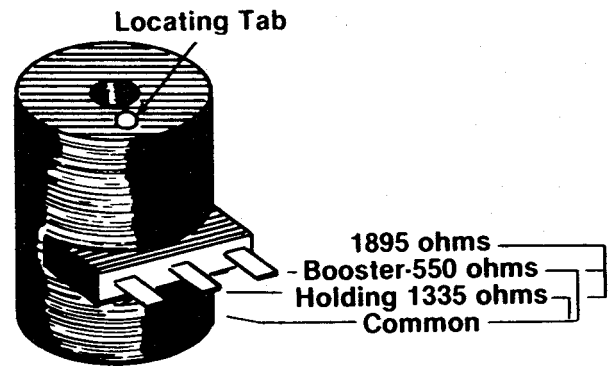
The following chart shows typical resistance values for some of the components found on the S1000.

**WASHER**

<b>Water Valve Solenoid Coil</b>	140 - 160 ohms
<b>Motor Windings</b>	
Main winding	2 ohms
Start Winding	4 ohms
<b>Lid Lock Solenoid</b>	150 ohms
<b>Motor Relay Coil</b> (small terminals)	490 ohms
<b>Motor Reversing Relay Coil</b> (small terminals)	350 ohms

**DRYERS**

<b>Heating Element</b>	12 ohms
<b>Gas Valve</b>	
Disconnect harness plugs from gas valve coils. Measure resistance across terminal coils.	
<b>Gas Valve Coils</b>	
<b>Secondary</b>	1250 ohms



**Drive Motor**

Red Terminal to gray terminal 1.5 ohms

In order to measure resistance of both windings, check the red and gray wires. They should be removed from the motor start switch.

**Run Winding** 2.25 ohms  
**Start Winding** 3 ohms

**Glow Bar Igniter**

Because of the make-up of the igniter, the resistance will vary over a rather wide range. Values from 180 ohms to 400 ohms would be typical with an igniter at room temperature.

**Thermistor** 50K to 300K ohms  
 Avg. of 150K ohms  
 About 18K at 140°F.

**Heater Relay Coil** 490 ohms  
 (small terminals)

**Motor Relay Coil** 520 ohms  
 (small terminals)

**VOLTAGE CHECKS**

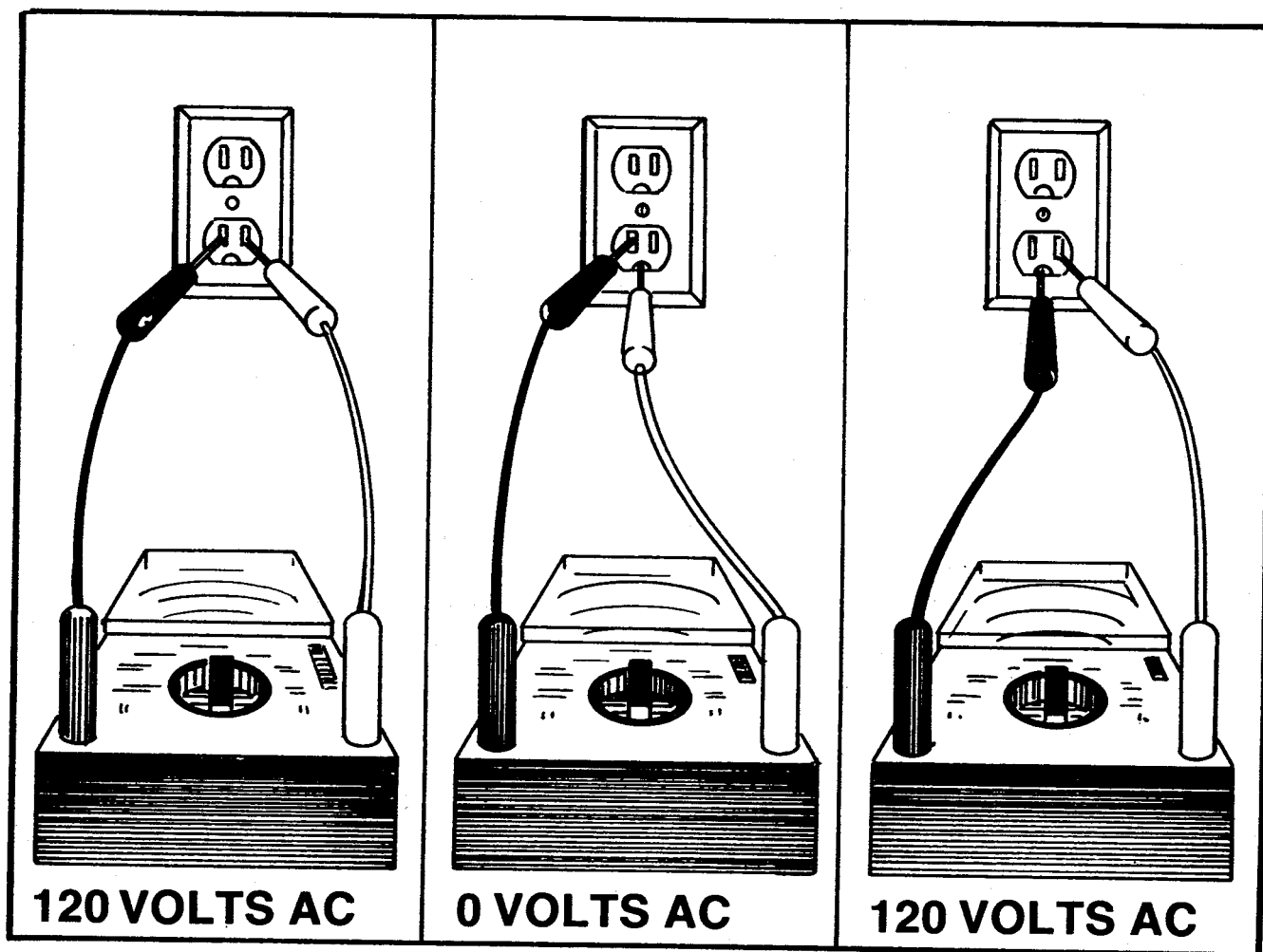
For the most part these checks will consist of taking readings at the wall receptacle in order to determine the availability of voltage to the product. Voltage checks on individual components of a product are not recommended due to the possibility of electrical shock. Component part testing is best accomplished through continuity checks with a 38559 Maytag appliance test meter.

**NOTE:** Use of the meter on voltage higher than the indicated range may cause permanent damage to the meter. To prevent damage, first select highest range and then lower the range for readings which fall within the lower scale.

**SET UP METER FOR USE AS FOLLOWS:**

1. Turn selector knob to desired meter function and appropriate range.

2. Plug black lead into socket marked (-) (black).
3. Plug red lead into socket marked (+) (red).
4. Place test leads into receptacle in order to determine voltage available.



## GROUNDING & POLARITY

The receptacle used for all Maytag products operating on 120 VAC must be properly grounded and polarized.

The power cord used on the appliances is equipped with a three (3) prong polarized

grounding plug for protection against shock hazard and should be plugged directly into a properly grounded and polarized receptacle.

***Do not cut or remove the grounding prong from this plug.***

It is the responsibility of the person installing the appliance to assure it is adequately

grounded and polarized at the point of installation taking into consideration local conditions and requirements. In cases where only a two (2) prong receptacle is available, it is the personal responsibility of the customer to have it replaced with a properly grounded and polarized 3 prong receptacle. All grounding and wiring should be done in accordance with national and local codes. **USE OF ADAPTERS IS NOT RECOMMENDED BY THE MAYTAG COMPANY** unless the receptacle has been grounded through the center plate cover screw.

***Insure That the Wall Outlet is Properly Polarized and Grounded.***

## **USING VOLTMETER AS A CONTINUITY TESTER**

While we normally think of continuity testing as only an ohmmeter function, a voltmeter can also be used. The primary difference is that power is applied to the circuit under test and appropriate caution must be exercised.

The voltmeter is connected across the component terminals with the wires still in place and with power disconnected. The meter is set for the 300 volt range and power is reconnected. A voltage reading indicates a voltage drop across the component. There should be **no voltage drop** across closed switch contacts or fuses.

The voltmeter connected across thermostat terminal, as an example, will show no reading when the thermostat is calling for heat and will show line voltage when the thermostat cycles.

This type of continuity testing is an excellent method at locating questionable switch contacts. Any voltage drop across closed switch contacts indicates poor electrical contact. The resultant internal heating can shorten component life.

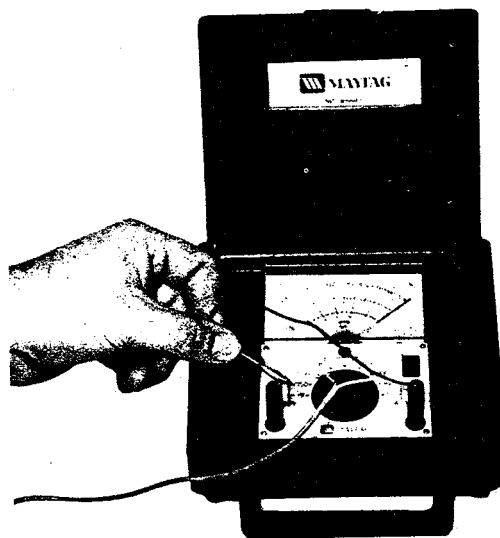
## **USING METER – TEMPERATURE READINGS (50° F. TO 300° F.)**

**Dryer** - Air temperature readings can be taken at the lint filter by removing the filter and placing the accessory temperature probe (Part No. 38562) directly in the center of the lint filter opening and replace the lint filter. Cycling of the thermostats can be observed as can the temperature of the exhaust air.

**Washer** - Water temperature readings are most accurate when the temperature probe is lowered partially into a full tub of water (HOT-COLD-WARM).

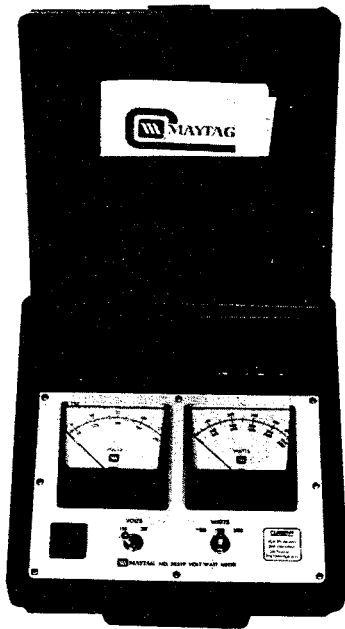
### **SET UP METER FOR USE AS FOLLOWS:**

1. Turn selector knob to TEMP.
2. Insert black negative lead of temperature probe into black socket marked (-) (negative).
3. Insert red positive lead of temperature probe into red socket marked (+) (positive).
4. To calibrate meter, touch black plug from red positive lead to black negative lead and turn calibration dial until needle aligns with CAL.



5. Probe is ready to use - read blue scale on meter face marked TEMP.

# 38519 VOLT-WATTMETER



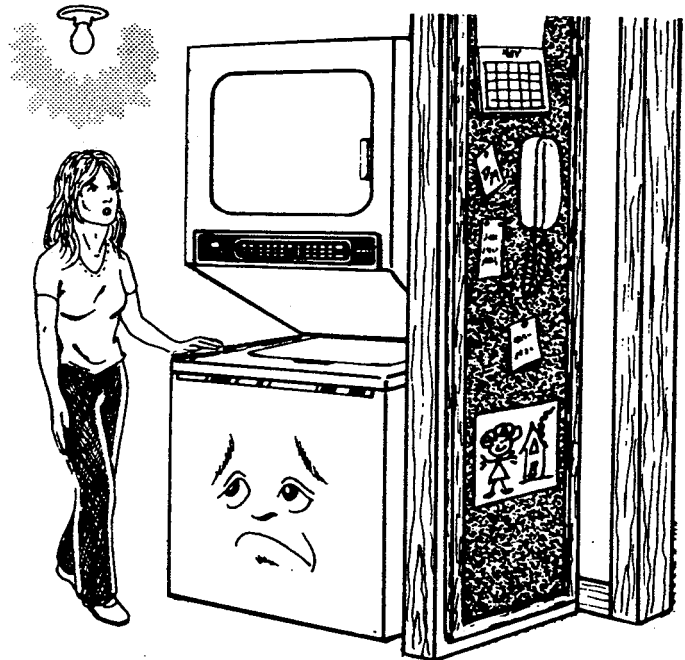
38519 MAYTAG  
Volt - Wattmeter

Since the Maytag volt-wattmeter reads true power consumed and line voltage, it is especially useful in pinpointing appliance malfunctions. Service diagnosis can often be made without removing so much as the first screw.

Each product has a "normal" wattage rating and this normal value is used as a basis for comparison with wattage readings being taken on a unit under test. Readings which are above the normal range of wattage consumption indicate an electrical problem or increased mechanical load on the mechanism being driven by the motor. Such things as worn parts or bearings will show up as high wattage draw.

Wattage readings which are lower than normal indicate the unit being checked is not doing the proper amount of work for which it is designed. As an example, a belt which slips excessively will not require the normal power from the motor, resulting in a low wattage reading.

Of equal importance is the ability of the power line to supply power without an excessive voltage drop. With the volt-wattmeter both voltage and wattage draw can be observed at the same time, during the initial start phase of the unit. Voltage drops of 10% or less from the rated voltage are considered acceptable for proper unit operation. A line voltage drop in excess of 10% would indicate a wiring problem. Larger wiring to the outlet or the installation of a start capacitor (normally done with automatic washers) in series with the drive motor may help solve this problem. Where power to the main circuit panel also drops during the start phase, the local power company should be consulted. A voltage drop is often indicated by dimming lights or slow starting of motors.



## SET UP METER FOR USE AS FOLLOWS:

**Step 1.** Before connecting the meter to the power source and with instrument in its operating position, zero both meters. The zero adjusting screw is located at the lower center of each meter cover. Turn this screw either left or right until the needle rests over zero on the left edge of each meter scale. **NOTE:** Back off slightly from the final setting to minimize pressure on the zero adjusting

mechanism. This will extend the long term stability of the setting.



**Step 2.** Set meter range toggle switches for expected voltage and wattage to be measured. You may want to refer to the normal wattage reading charts on Page 5-7 for a general idea of wattage switch settings. If in doubt set switch to highest range and reset if voltage or wattage levels fall within a lower range. **Important:** When set for the 300 volt range the wattmeter will not operate on the 0-500 watt setting. This is for the protection of the meter.

**Step 3.** Plug the three (3) wire polarized cord into a three (3) wire polarized and properly grounded receptacle.

**Step 4.** Plug the power cord of the unit being tested into the panel receptacle on the volt-wattmeter. Operate the unit being checked. The voltmeter will indicate voltage supplied to the unit while the wattmeter will indicate the true power being consumed.

Power surges such as that used in the starting of a motor will read high on the watts

scale or possibly even "peg" the meter. This momentary surge is normal and the meter is designed to withstand this type of overload. After the initial starting surge is over, the meter reading will decrease as the power consumed is reduced.

The current capacity of the wattmeter is as follows:

- 40 amps momentary (starting surge)
- 20 amps intermittent (long enough to get a stable reading)
- 10 amps continuous

Avoid overloading the meter by disconnecting it immediately if wattage readings are above safe levels. Loads up to 1200 watts may be connected through the instrument for an extended length of time. Loads measuring between 1200 and 2000 watts should be disconnected as soon as a reading can be made.

## WATTAGE READINGS IN EXCESS OF 2000 WATTS

Wattage beyond the range of the 38519 Maytag volt-wattmeter can be calculated by taking a current (amps) reading with the 38186 Maytag clamp-on ammeter and then multiplying this reading by the measured applied voltage to the load.

A simple formula is used to calculate wattage. (Watts = Amps x Volts.)

**NOTE:** This formula does not take into consideration the power factor which will be a number of one or less and indicates the resistance vs. reactive nature of the circuit. Fortunately, in most instances the load will be mainly resistive so that the calculated value will be meaningful.

## WATTAGE CHARTS

### WASHERS

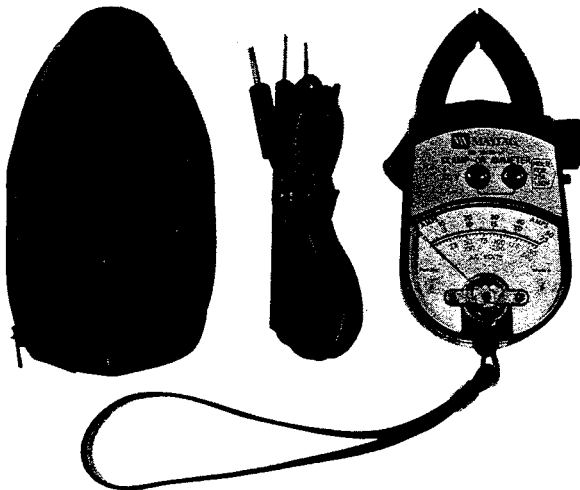
The following chart shows normal wattages for the S1000 washer. The average reading we provide is based upon a line voltage of 120 volts.

	Average	Range
Agitate Full Tub	380 Watts	360-420 440 Max.
Spin Acceleration Empty Tub	600 Watts	580-640 660 Max.
Full Spin Speed	380 Watts	350-400 420 Max.

### DRYER

Gas	300 watts
Electric	4800 watts

## 38186 CLAMP-ON AMMETER



Each circuit in an appliance has a "normal" current draw which is an indication of the performance of that circuit. Current draw levels, less than or more than normal, give

clues to malfunctions. The clamp-on ammeter measures these currents without breaking the circuit by measuring the strength of the magnetic field developed around each conductor. Current is read by separating the conductors and clamping the jaws of the ammeter around each conductor on which current is to be read. Low amperage readings indicate problems such as damaged heating elements, excess belt slippage, etc. High amperage readings indicate the unit being tested is operating under an increased mechanical or electrical load. Worn parts, bearing problems or low voltage will show up as low amperage readings.

**NOTE:** Overloads on a circuit breaker or fuse can be traced to the product being tested or the circuit breaker (or fuse) by checking the product's current draw. If the amperage reading is less than the breaker reading, the breaker or fuse box is at fault.

### USE OF AMMETER ON DRYER

There are two currents of concern to us in an electric dryer; the heating element current and the drive motor current. These currents can be measured by use of a "split line cord" extension for the dryer cord or by attaching the ammeter to the respective power line wires at the dryer terminal block. Current measured should be 20 amps on the heating element side of the line, 22 amps on the drive motor side of the line and 4 amps on the center or neutral line.

## AMPERAGE CHART

### WASHER

	Full Tub	6.0 amps
Spin-Start	Water in Tub	6.5 amps
Spin	Full Speed Water Out	6.0 amps

**NOTE:** A wattmeter reading will provide better information than an ammeter as it gives a more accurate indication and responds faster than an ammeter.

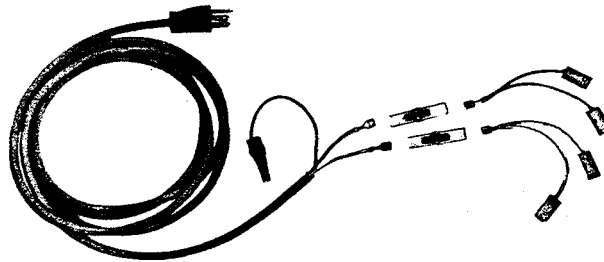
## DRYERS

Gas Dryers -	Ignition	7.0 amps
	Burner	4.5 amps
	Air Only	4 amps
Electric Dryers -	Line 1	22.0 amps
	Line 2	20.0 amps
	Neutral	4 amps

## VOLTAGE CHECKS WITH AMMETER

Voltage readings may be taken by using the leads supplied with the meter. The meter is preset to read on the 0-300 VAC scale but can be dropped down to 0-150 VAC range by depressing the red button on the side of the meter.

## 38183 MOTOR TEST CORD



The motor test cord may be used to electrically check operation of the drive motor while still installed in the unit. Testing of the motor in this manner merely determines whether or not it will run independently of other electrical components.

In order to make accurate motor tests, proper connection of the motor test cord is very important. Depending on the internal wiring in a motor, color codes for proper electrical connection may vary. With the aid of the following drawings, installation of the motor test cord may be done quickly and accurately.

**NOTE:** Always plug test cord into a grounded receptacle.

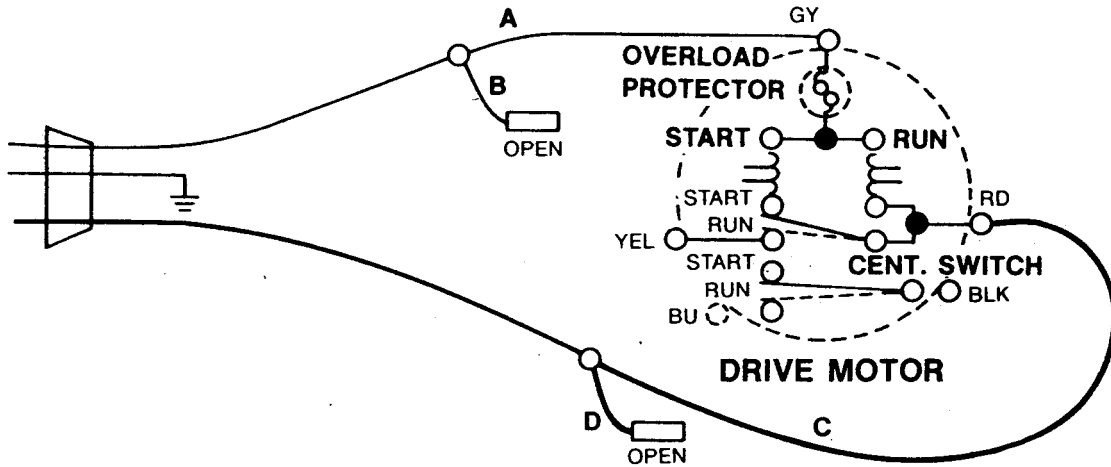


## DRIVE MOTOR TEST - DRYER

The motor may be checked in the dryer or removed and checked on the bench.

### 3-6055 DRIVE MOTOR

Two test leads are required to check operation of the 3-6055 drive motor. To check the motor for running, hook up test cord as shown.



## CHECKING HEAT CONTACTS - MOTOR CENTRIFUGAL SWITCH

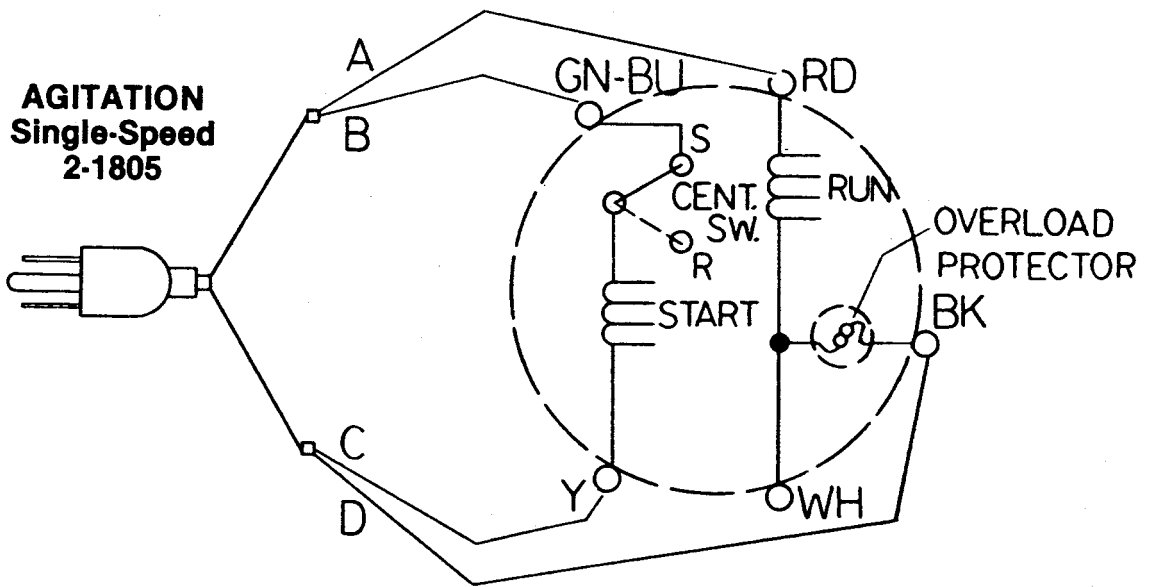
1. Disconnect dryer power source.
2. Gain access to motor and remove blue and black leads from motor switch.
3. Use either of the following test methods using appropriate caution.
  - A. Live test - use caution.**
    1. Using two 2-1110 wiring coupler connect blue and black wires removed from motor switch.
    2. Reconnect dryer to power and set for heat cycle.
    3. Start dryer, if heat is produced, replace motor switch or motor. If no heat, continue additional circuit checks.
  - B. Insulate wires removed from motor switch.**
    1. Using clip adapters supplied with the Maytag Appliance Test Meter attach meter probes to the blue and black motor switch terminals.
    2. Arrange probe leads away from any moving parts and set meter on RX1 range.
    3. Reconnect dryer to power source and start dryer, continuity on meter indicates good switch. No continuity, replace motor switch or motor.
    4. Open door to stop dryer. When motor stops, motor switch contacts must open, if not replace switch or motor.

# DRIVE MOTOR TEST - WASHER

The motor may be checked in the washer or removed and checked on the bench.

## 2-1805 (2-1664) SINGLE SPEED - REVERSIBLE - DRIVE MOTOR

All four leads of the test cord are required to test the washer drive motor. The following drawing shows installation of the test cord on 2-1805 drive motor, (agitate cycle). Reversing the motor to spin is accomplished by reversing Wires B and C.



# MANOMETERS

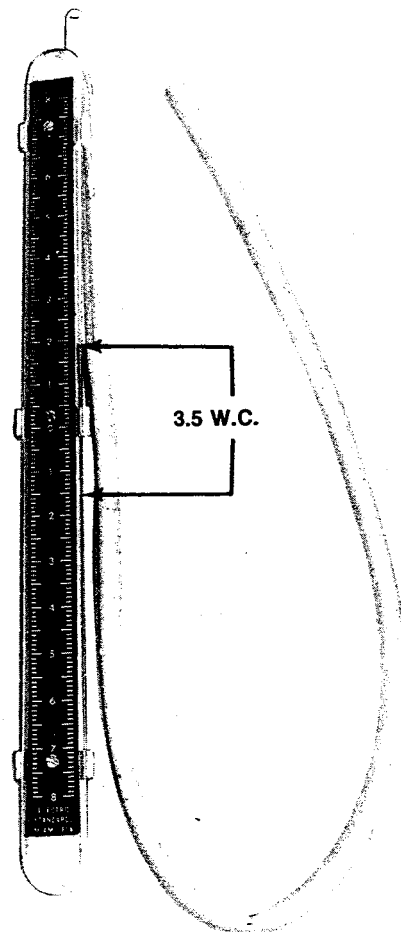
An insufficient gas flow can cause problems. Therefore, checking the gas pressure at the time service calls are performed may prevent a call back.

Gas pressure can be checked with an instrument called a "manometer". This device can tell you if there is a "low" LP tank, restricted gas flow, bad gas valve, a malfunctioning pressure regulator, too many gas appliances operating off of a small supply line, or an improperly converted appliance from Natural to LP gas.

Even though other types of manometers exist, the type of manometer we will discuss in this article is a "U"-shaped tube in which water is added. Both ends are open so the water can equalize and seek it's own level, which of course will be the same in both legs of the "U"-shaped tube.

A flexible rubber hose is connected to the lower open end of the "U" tube and that hose is then connected to the gas source. Gas pressure is exerted on only one of the water columns, pushing it down. The water level then would rise in the other column. A measurement of the differential in water levels is then taken as the measure of gas pressure.

We commonly use 3.5" of water column (W.C.) as the pressure setting in Natural gas valve for Maytag clothes dryers. The LP valves and/or tank regulators are usually set at 11" W.C. for dryers.



## HOW TO USE

Open access panel for dryer.

1. Turn off the gas at the in-line shutoff.
2. Install a 5/16" tapered fitting at the gas valve pressure tap. Use thread seal tape or compound on fitting.
3. Fill the open end of the manometer tube with water until each side equalizes at "0" water column.
4. Push the end of the manometer hose on fitting.

5. Turn gas on (check for leaks) and run the dryer in a heat cycle. Read the manometer with the burner on.

**NOTE:** Once test is completed, make sure plug is resealed in the gas valve with pipe seal before placing the dryer back into normal operation. Check for a gas leak. This should be done with a soap or bubble solution. **NEVER USE OPEN FLAME TO CHECK FOR GAS LEAKS.**

If the Natural or LP gas reading is too high, it can burn the flame spreader. (This can also be caused by the wrong orifice or improper air mixture. But if these two things are okay, then check the gas pressure.)

# 38207 CIRCUIT BOARD TESTER

To check microprocessor board:

1. Disconnect dryer power cord.
2. Remove lower access panel.
3. Disconnect 9 and 11 pin edgeboard connectors from the microprocessor board. **NOTE:** the 4 pin edgeboard connector must remain in place in order to provide power to the board.
4. Install the 38207 circuit test board making sure the internal pins of the circuit test board connector contact the conductive circuitry on the microprocessor board.
5. Plug dryer power cord back in.
6. Depress and hold the ON/OFF pad on the dryer and then depress the REGULAR pad on the washer.

The microprocessor board will check itself and provide a "good" or "bad" signal.

"Good" signal - initial display should show "-18" on washer and "88" on dryer. Subsequent displays will show "11" on both digital displays. All lights should be lit.

"Bad" signal - initial display should show "-18" on washer and "88" on dryer. Subsequent displays will show "--" on both displays.

**NOTE:** The check on the microprocessor board can only be terminated by depressing the dryer "OFF" pad.

## TROUBLESHOOTING THE S1000 FOR ELECTRICAL FAILURES

SYMPTOM	CAUSES	TEST PROCEDURE	SOLUTION
Control will not function and no pad will respond.	No power to transformer.	Check transformer input for 120 VAC	Reset breaker, replace fuse, plug in machine.
	Transformer	Check transformer for 10 and 26 VAC outputs	Replace transformer
	Wire Harness	Check for 10 and 26 VAC at the control board.	Replace wiring
	Touch Pad	Plug electric ribbon of a new touch pad assembly into ribbon connector.	Replace membrane switch
	Control Board	If all above checks pass	Replace control board
Control will not stay on unless a program pad is held down	Control Board	Replace control board	Replace control board
An LED or display segment won't light	Control Board	Initiate the visual diagnostics. If any led or segment won't light.	Replace control board
Relay, water valve, or lid lock will not function	Transformer	Check transformer for 26 VAC output	Replace transformer
	Wire Harness	Check for 26 VAC on the control board	Replace wiring
	Control Board	Insert diagnostic board (38207) and perform diagnostic check.	Replace control board
	Wire Harness	Check for 24 VDC at the board and the relays	Replace wiring
	All relays have failed opened	Turn on each machine (dryer and washer) and check each relay for contact closure. Check relay coils for continuity.	Replace relays
Motor runs continuously	Run Relay Engaged	Check for constant 24V to relay coil (control board problem) check for stuck relay contact (relay problem)	Replace relay or control board
Washer will only agitate	Reversing Relay	Check for 24V to coil on spin. Check coil continuity.	Replace reversing relay.
Washer will only spin	Reversing Relay	Check for constant 24V to relay coil (control problem) Check for stuck relay contact (Relay problem)	Replace relay or control board.

SYMPTOM	CAUSES	TEST PROCEDURE	SOLUTION
Washer will not spin or agitate	No power to washer	Check for 120 VAC input to the washer	Plug in washer. Reset breaker or replace fuse.
	Lid Open	'L' will persist in washer display if lid isn't shut	Shut lid
	Lid Switch	Check for continuity across lid switch with the lid shut	Replace lid switch
		Check for continuity from control board output to motor run relay and from relay contacts to the motor	Replace wiring
	Motor	Perform motor check	Replace motor
	Control Board	Insert diagnostic board (38207) and perform diagnostic test	Replace control board
Washer spins instead of agitates	Reversing (Spin) Relay	With power off check relay for welded contacts	Replace reversing relay
	Control Board	Insert diagnostic board (38207) and perform diagnostic test.	Replace control board
Washer agitates in spin cycle	No voltage to relay	Check for 24V across relay coil - (control board problem)	
	Reversing (Spin) Relay	Put washer into spin and check for contact closure	Replace relay
	Control board	Insert diagnostic board (38207) and perform diagnostic test	Replace control board
	Wire harness	Check for continuity from spin relay to control board output and from spin relay contacts to the motor terminals.	Replace wiring
Washer will not fill	No water to machine.	Check faucets.	Turn on faucets
	Overflow Switch	Check for continuity across switch - 4 to 5	Replace pressure switch if open
	Water Valve	Check for continuity across valve solenoids. This is 24V valve do not use motor test cord to check!	Replace valve
	Water Level Switch	Check continuity of pressure switch. (See schematic)	Replace pressure switch if necessary
	Wire Harness	Check for continuity from board output to valve coil	Replace wiring
	Control Board	Insert diagnostic board (38207) and perform diagnostic test	Replace board

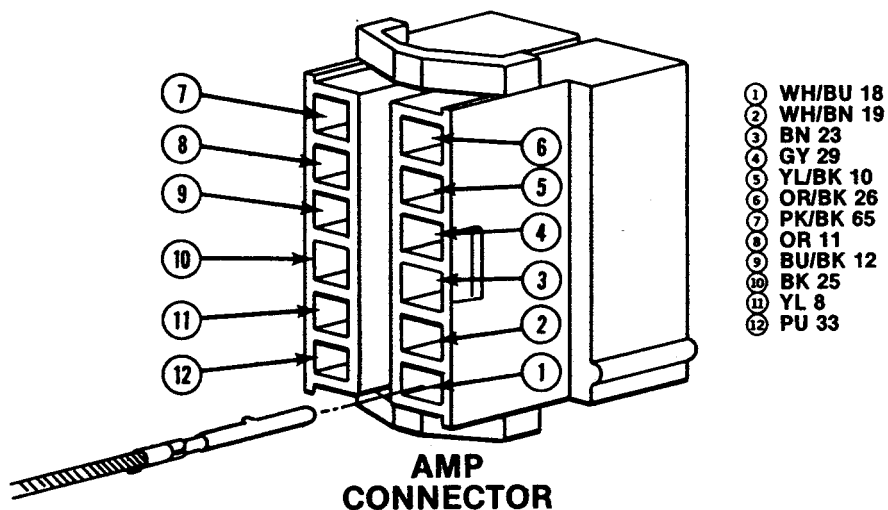
<b>SYMPTOM</b>	<b>CAUSES</b>	<b>TEST PROCEDURE</b>	<b>SOLUTION</b>
Washer fills until the overflow switch disengages, level too high	Water Level Switch	Check continuity of pressure switch (See schematic)	Replace pressure switch
	Wire harness	Check for continuity from the water level switch outputs to their board inputs	Replace wiring
	Control Board	Insert diagnostic board (38207) and perform diagnostic test	Replace control board
Washer overflows	Water Valve	Turn control off. If the washer continues to fill replace valve  See above	Replace valve
Water levels are not right, washer agitates dry	Water level sensors	Check continuity of pressure switch	Replace pressure switch
	Control board	Insert diagnostic board (38207) and perform diagnostic test	Replace control board
	Wire harness WH/BU & WH/BN Wires switched	Check for continuity from the water level switch outputs to their board inputs.	Switch or replace wiring
'L' persists in washer display	Lid lock switch and linkage	Check for continuity across lid lock switch with the lid closed	Replace lid switch
	Lid lock solenoid	Check lid lock solenoid actuation with the lid closed.	Replace lid lock solenoid
	Control board	Insert diagnostic board (38207) and perform diagnostic test  Check for continuity from lid lock switch to its board input	Replace control board  Replace lid switch
1E persists in washer display	Lid lock switch	With the lid open check for no continuity across the lid lock switch	Replace lid lock switch
	Check control board	If previous test passed:	Replace control board
9E appears in dryer display (dryer door circuit)	Check door switch wiring	Unplug machine for 1 minute, then return power to machine. If 9E continues to occur when machine is on:	Replace necessary parts (door switch, control board)
	Door switch	Run diagnostic check with 38207 diagnostic board	
Dryer motor will not run	Door open	Dryer program LEDs will blink with the dryer door open	Shut door

SYMPTON	CAUSES	TEST PROCEDURE	SOLUTION
Dryer motor will not run	Door switch	With the door closed check for continuity across switch	Replace door switch
	Wire harness	Check for continuity from door switch to its board input. Also check for continuity from the control board output to motor relay and from the relay contacts to the dryer motor.	Replace wiring
	Motor	Perform motor test with test cord	Replace motor
	Control board	Insert diagnostic board (38207) and perform diagnostic test	Replace control board
	Motor relay	Select a dryer cycle and check for relay contact closure	Replace motor relay
No heat	Cycling thermostat (regular)	Check for continuity across thermostat with the machine off	Replace cycling thermostat
	High limit thermostat	Check for continuity across thermostat with machine off	Replace high limit thermostat
	Heater or gas valve	Check for continuity across heater or resistance readings across valve coils.	Replace heater or coil
	Motor	Check for continuity across the start switch with the dryer motor on	Replace motor or motor switch
	Wire harness	Check for continuity from control board (actuator) output to heater relay and from the relay contacts to the heater or gas valve coils	Replace wiring
	Control board	Insert diagnostic board and perform diagnostic test	Replace control board
	Heater relay	Put dryer into a time dry program and check relay operation	Replace heater relay

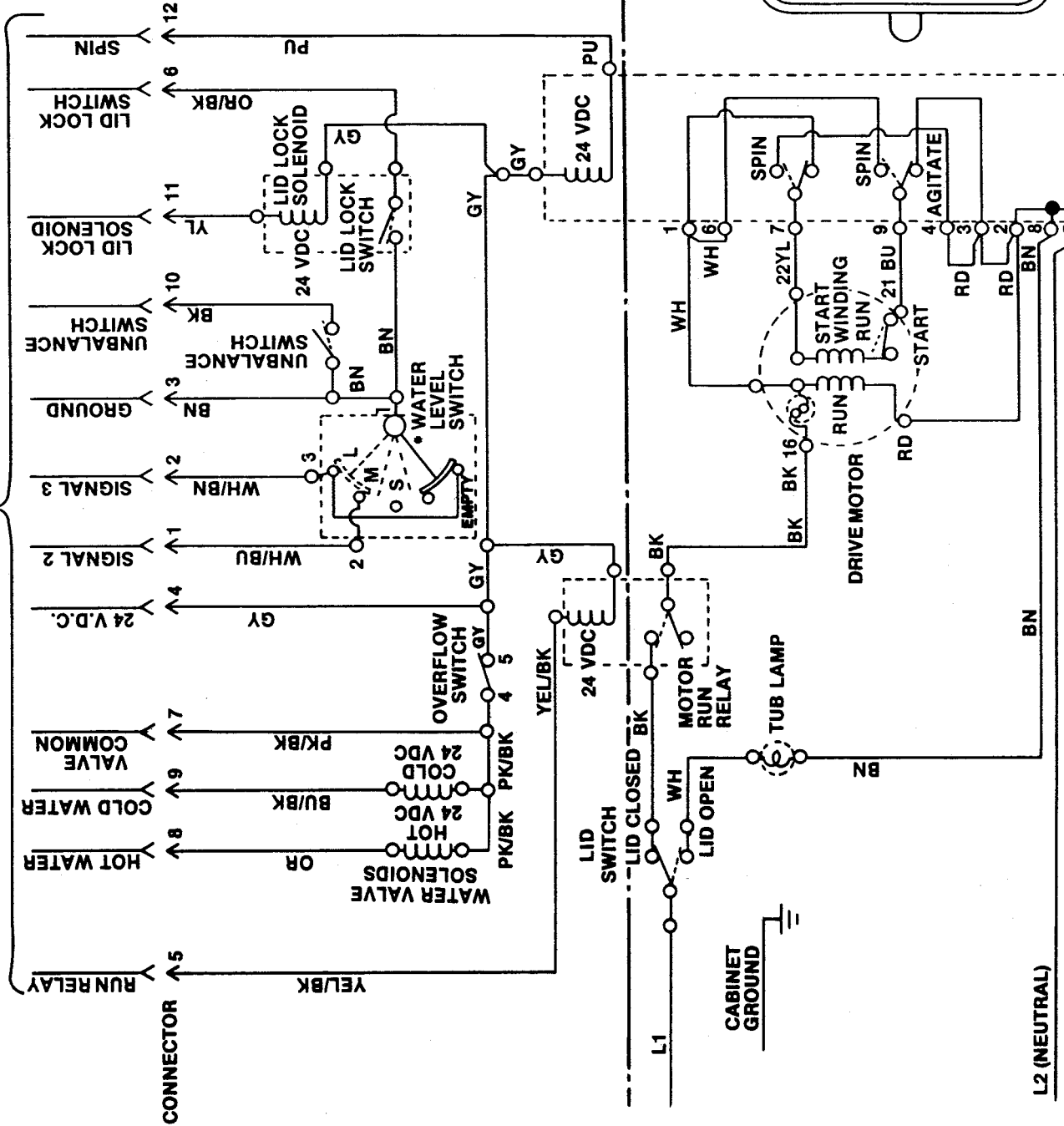


<b>SYMPTOM</b>	<b>CAUSES</b>	<b>TEST PROCEDURE</b>	<b>SOLUTION</b>
Unbalance occurs for no reason, "U" in display	Unbalance switch	Check for no continuity across unbalance switch	Replace switch if continuity exists
	Control Board	If unbalance switch shows no continuity, run control board check	Replace control board
Unbalance signal will not occur (tones will not sound)	Unbalance switch	With unbalance switch closed check for continuity	Replace switch
	Wire harness	Check for continuity from switch to board input	Replace wiring
	Control board	Insert diagnostic board (38207) and perform diagnostic test. If test will not provide a signal	Replace control board
Speaker will not respond properly	Speaker	Replace speaker. If new speaker responds the old one is bad	
	Control board	If new speaker didn't respond, perform control check.	Replace control board
Electronic dry will not dry clothes	Sensor	With the edge connector off check for no continuity across sensor	Clean or replace sensor
	Spark gap is shorted	With the edgeboard connector off check for no continuity from each sensor to ground.	Replace spark gap
	Wire harness	Check for continuity from both sides of the sensor to the board	Replace wiring
6E appears in dryer display (Temp control error) ambient too cool	Thermistor	Check for resistance (50-300K OHM) across thermistor	Replace thermistor
	Wire harness	Check for the same resistive reading at the board	Replace wiring
	Control board	Insert diagnostic board (38207) and perform diagnostic test.	Replace control board
7E appears in dryer display (Temp control error - overheating)	Check venting for restriction		Correct vent
	Thermistor	Check for a resistance (50—300K OHM) across the thermistor	Replace thermistor
	Control board	Insert diagnostic board and perform diagnostic test	Replace control board
	Cycling thermostat (Regular)	If previous tests have passed:	Replace cycling thermostat (regular)

SYMPTOM	CAUSES	TEST PROCEDURE	SOLUTION
8E appears in dryer display (motor relay circuit)	Dryer motor run relay	Check for continuity across relay coil	Replace dryer motor relay
	Wire harness	Check for continuity from the motor relay board output to the dryer door board input	Replace wiring
	Control board	If previous tests have passed:	Replace control board
Delicate temperature runs too hot and cool cycle runs with heat		With the machine off check heater relay for stuck contacts. Insert diagnostic board (38207) and perform diagnostic test	Replace relay  Replace control board
A single pad will not respond	Membrane switch	Check to make sure a multiple pad failure has not occurred	Replace membrane switch
Multiple pad failures	Membrane switch	Insert a new switch into the switch tail connector if it responds:	Replace membrane switch
	Control board	If above test shows switch is good then:  Run diagnostics test	Replace control board
Washer display flicker when the washer is off and the dryer is turned on			This is a symptom that occurs on some boards. It does not affect the operation of the product. Replacing the board may not cure the symptom.

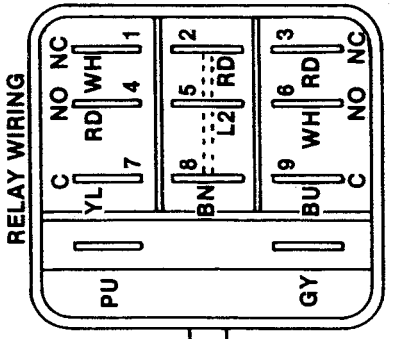


HARNES TO MICROPROCESSOR BOARD



\* WATER LEVEL SWITCH CONTACT

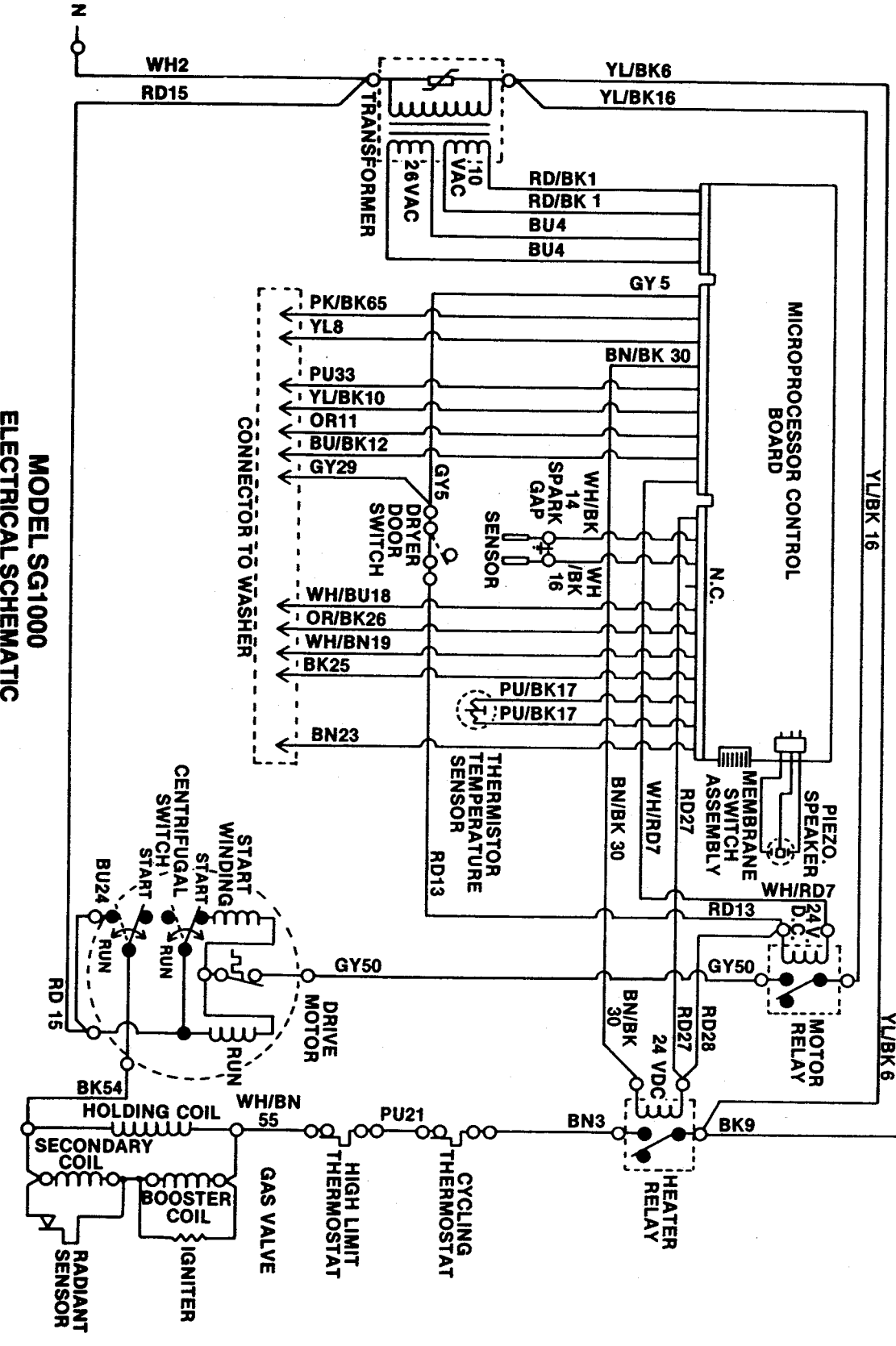
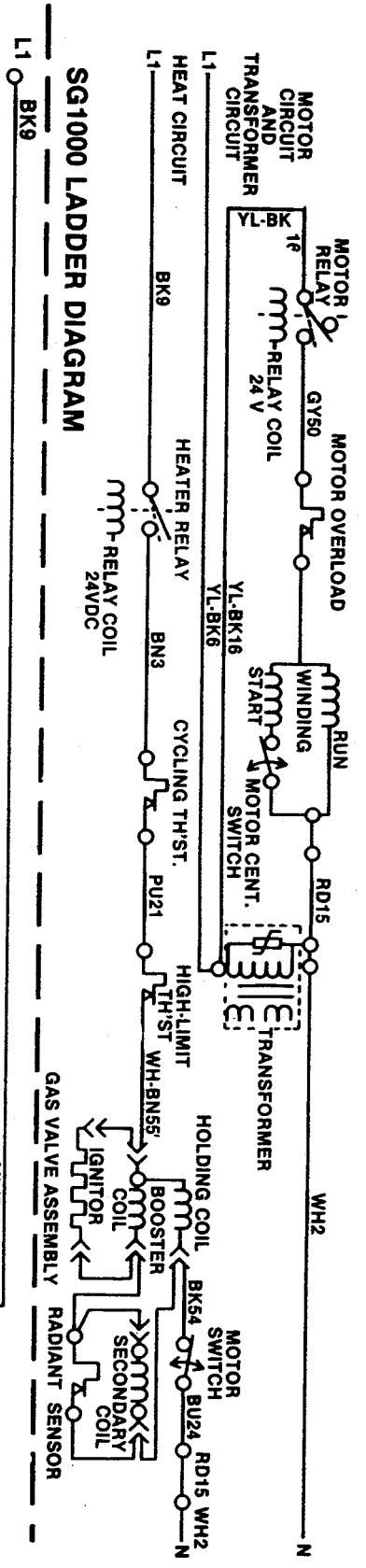
LARGE	1-2 & 1-3
MEDIUM	1-2
SMALL	OPEN
EMPTY	1-3



2, 5 and 8 INTERNALLY CONNECTED

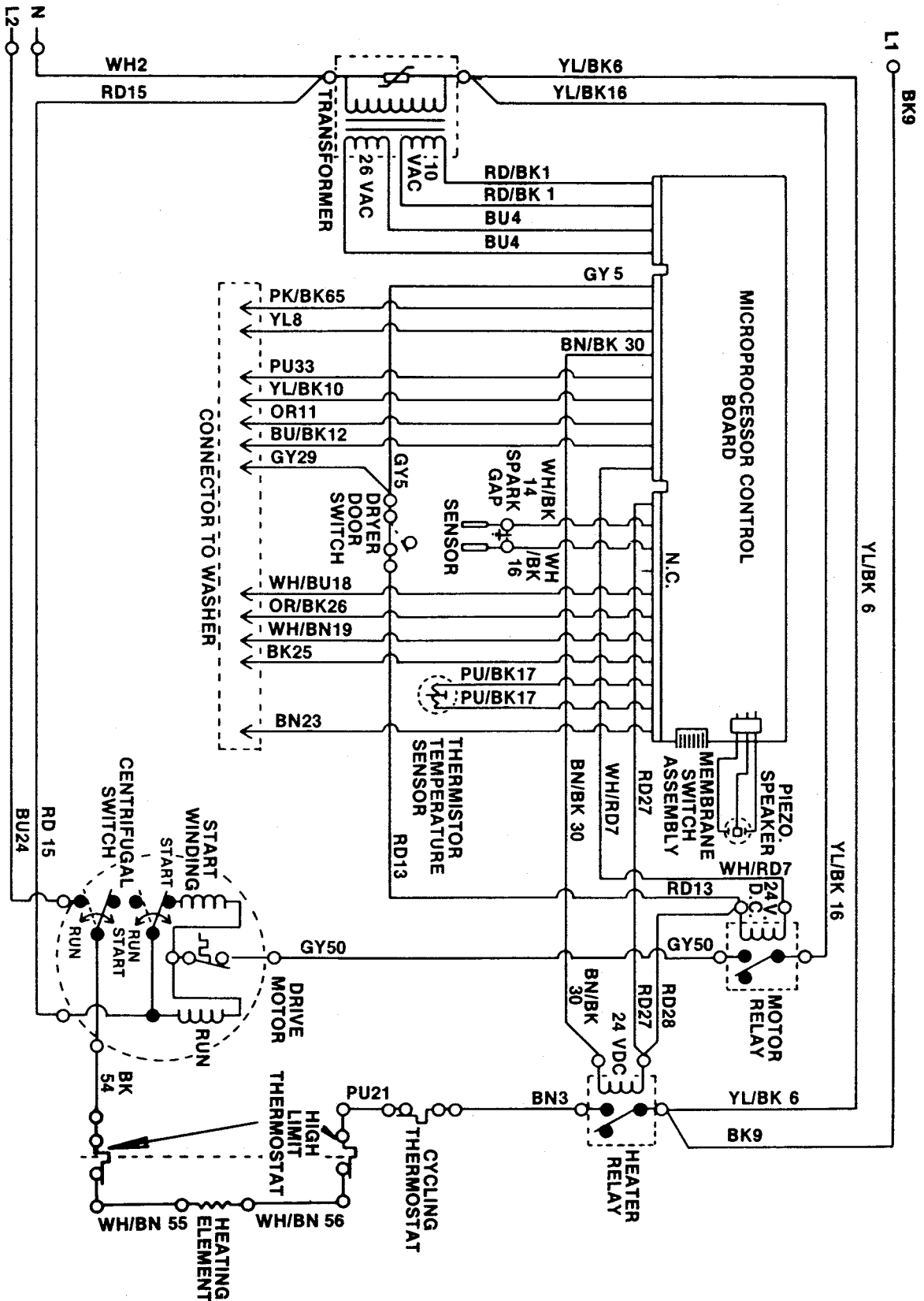
AGITATE	SPIN
1-7	7-4
3-9	9-6

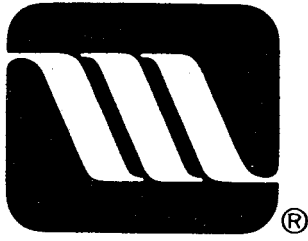
MODEL S1000 ELECTRICAL SCHEMATIC





MODEL SE1000  
ELECTRICAL SCHEMATIC  
CANADA





# General Information

## MICROPROCESSOR DRYNESS CONTROL OPERATION

The microprocessor continually searches (scans) the entire operation of the dryer. This search occurs approximately 60 times per second. Part of this search involves scanning the sensor circuit of the dryer.

As wet clothing contacts the sensor bars, a circuit is completed back to the microprocessor board. The board counts this completion of a circuit as a "hit". (The average length of time the item will complete the circuit is between 1/10 and 5/10 of a second.) A certain number of consecutive hits (completed circuits) within a certain period of time (scan window) is required to keep the dryer heating and running.

- E1 - 5 consecutive hits in 40 seconds.
- E2 - 8 consecutive hits in 3 minutes.
- E3 - 8 consecutive hits in 3 minutes.

If the correct number of consecutive hits is not registered during this predetermined period of time, the board will automatically start the count over (reset) in an attempt at reaching the needed consecutive hits. If the predetermined time runs out (40 seconds or 3 minutes) and the correct consecutive hits has not been recorded, the board considers the load to be dry. If E1 is selected and the board detects a dry load, immediate termination of the heat portion of the cycle occurs. When E2 is selected and the board detects a dry load, the dryer heats and runs for an additional 2 minutes before entering a cool-down period. If E3 is selected and the board detects a dry load, the dryer heats and runs for an additional 9 minutes before entering a cool-down period.

Cool-down periods are as follows:

Regular, Electronic Dry - 5 minutes.

Permanent Press, Electronic Dry - 10 minutes total, 3 minutes of which will be shown under E2 (E2 will be displayed but the "COOL" LED will be lit) and 7 of which will be shown as the No. 7 displayed with the "COOL" LED lit.

**NOTE:** If Permanent Press with Press Care is selected the cool-down period will be 33 minutes (3 under E2 and 30 under No. 30).

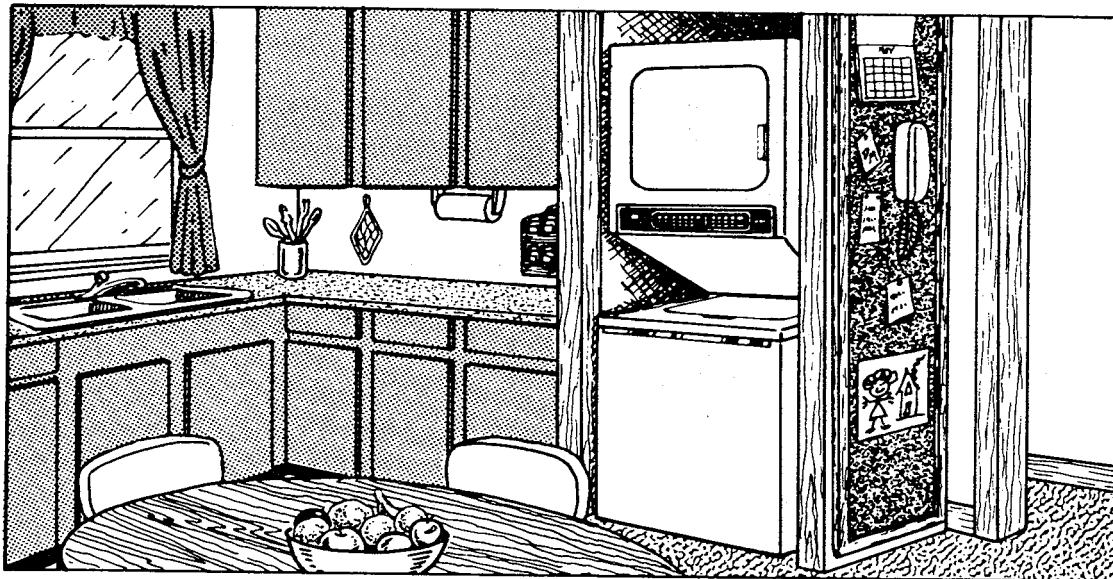
## **METAL VS. WET CLOTHING**

As discussed earlier the board scans the sensor system 60 times per second, looking for a consecutive number of hits in a given time period. In a normal tumbling process it is anticipated an occasional miss or noncompleted circuit would be seen during the time period. As clothing dries the number of misses becomes greater leading to eventual termination of the cycle. If a piece of metal becomes wedged between the sensor bars the board detects consecutive hits - continuously. Because the board does not expect to see these continuous hits during the preset time period, it determines a problem exists and terminates operation of the dryer.

**NOTE:** A circuit to ground is detected by the board as no hits at all during the given time period. Again, the board detects this as a problem and terminates operation of the dryer.



# UNCRATING & INSTALLATION INSTRUCTIONS



**INSTALLATION INSTRUCTIONS PACKED WITH THE UNIT SHOULD BE LEFT WITH THE OWNER.**

## **IMPORTANT TO OWNER**

**REMOVE THE DOOR FROM ALL DISCARDED APPLIANCES SUCH AS DRYERS AND COMBINATION WASHERS/DRYERS TO AVOID THE DANGER OF A CHILD SUFFOCATING SHOULD HE/SHE CRAWL INSIDE AND THE DOOR BE SHUT.**

## **U. S. MODELS**

**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE STARTING TO INSTALL THE DRYER. FOR GAS DRYERS, THE INSTALLATION MUST CONFORM WITH THE NATIONAL FUEL GAS CODE ANSI Z223.1-1984. ANY QUESTIONS CONCERNING THIS SHOULD BE REFERRED TO THE LOCAL GAS UTILITY.**

## **CANADIAN MODELS**

**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE STARTING TO INSTALL THE DRYER. FOR**

**GAS DRYER INSTALLATION. REFER TO CGA STANDARD B149.1 or B149.2 INSTALLATION CODE. ANY QUESTIONS SHOULD BE REFERRED TO THE LOCAL GAS UTILITY.**

## **IMPORTANT**

This new Maytag appliance is designed to serve dependably for many years. However, it cannot do so unless provided with sufficient electrical power, suitable exhausting and if a gas model, adequate gas supply. Read this carefully to make sure all requirements are met.

Operating instructions, safety precautions and warranty are in the accessory package with each appliance. Read the operating instructions carefully.

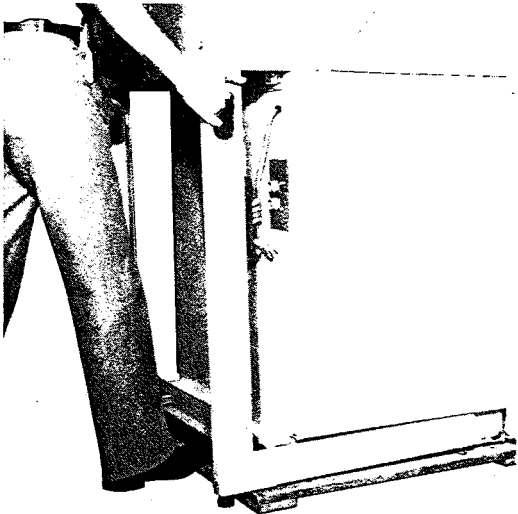
**NOTE:** A wiring diagram is located on the inside of the dryer access panel. A troubleshooting packet is on the inside of the washer front panel.

## UNCRATING

To remove carton cut around bottom of carton on or below dotted line. Cut down each corner of carton (vertically) and "peel" carton away from S1000. Fold carton material for removal. Check the unit for shipping damage.

The control cable for the washer is taped to the rear of the dryer stand at the bottom. Remove tape from control cable and temporarily place end of control cable in dryer vent.

From the back of the S1000, grasp the dryer and stand. Pull dryer and stand back and off of washer and shipping base. As dryer and stand are pulled back, carefully lower dryer stand rear legs to the floor before clearing shipping base. (Do not drop dryer and stand off of shipping base!)



Untape and open washer lid (slide back). Remove installation accessory package, fill hoses and drain hose and close lid. Leave tub block in place until installation is complete. **Be sure to remove tub block after installation is complete and before use!**

Using the carton corner posts stacked in pairs, lay the washer on the posts on the left side. Remove the crate base wires from the carton base. Use pliers or screwdriver to pry wires from wood. (Do not kick the shipping base off of the washer).

Run the washer rear legs all the way up into the rear corner brackets and lock in place by tightening lock nuts. Leave the front legs loose for leveling in following step.

Install the vinyl feet on the washer legs.

With the washer laying down, check belt tension and motor track freedom. Lay a piece of the shipping cardboard along the bottom edge of the cabinet and stand the washer back up. (The card board protects the lower edge at the cabinet and the floor when standing the washer back up.)

**NOTE:** With the rear washer legs adjusted up, cabinet corner brackets in the rear can touch and damage floor if caution is not used when moving washer.

The dryer and stand are installed first. Necessary electrical, gas (if SG1000) and vent connections are made as dryer and stand are put in position and leveled. Let's first look at what facilities are needed.

## PREINSTALLATION CONSIDERATIONS

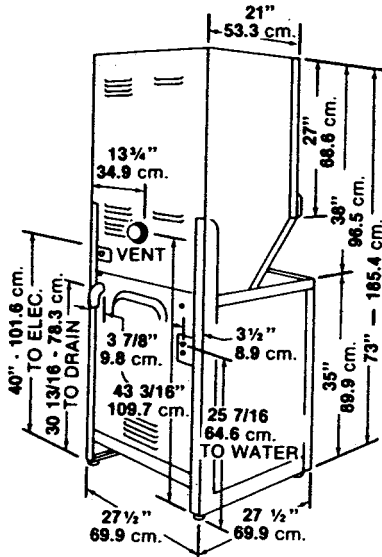
**Location:** The S1000 is approved for zero clearance installation on the sides and the back (depending on venting used.) The location selected must take into consideration the dimensions of the unit and convenience for customer use and access in case service should be needed. The floor must be capable of supporting the weight of the unit (approx. 340 lbs.) plus water (approx. 130 lbs.) and be stable enough to prevent excessive vibration in spin cycles. A floor which is adequate for the standard washer is sufficient for the S1000.

The following specifications and drawings show dimensions and locations of fill valve, terminal block (electric dryer) gas inlet (gas dryer) and drain outlet.

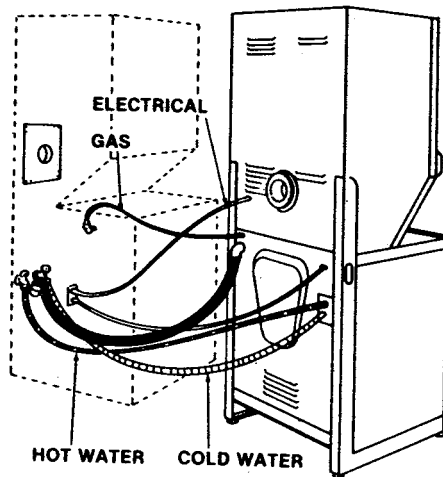
# SE/SG1000 STACKED WASHER AND DRYER

**Basic Dimensions:** 27½W x 27½D x 73 H (min.) See drawings for complete dimensions. **Uncrated Weight:** Approximately 340 lbs.

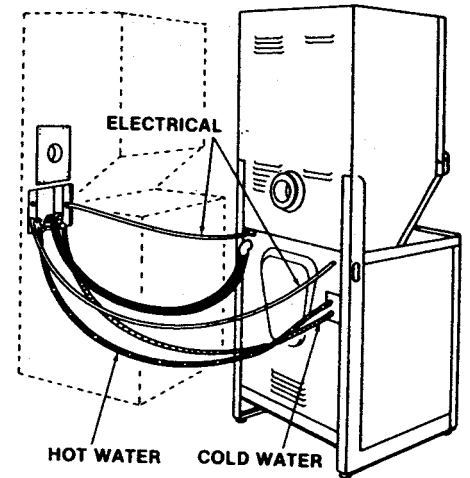
## DIMENSIONS



## INSTALLATION SHOWING GAS DRYER CONNECTION



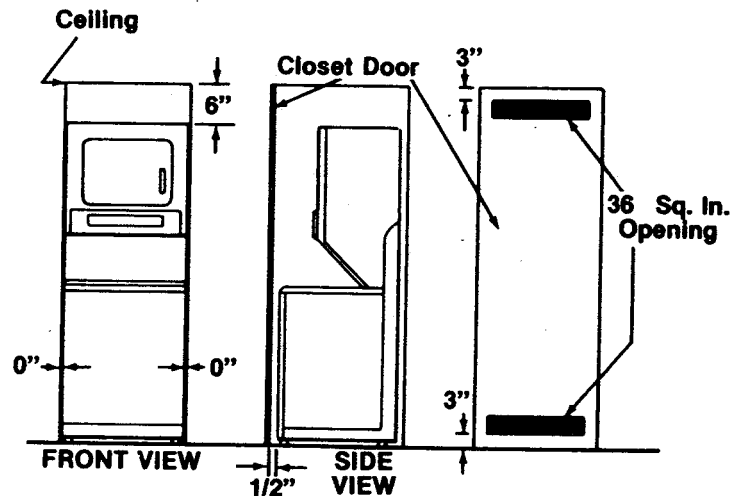
## INSTALLATION SHOWING ELECTRICAL/WATER/DRAIN BOX BEHIND WASHER—ELECTRIC DRYER



## ALCOVE OR CLOSET INSTALLATION

When the S1000 is to be installed in an alcove area or a closet, clearance should be provided around the unit for an adequate air supply and for ease of installation and servicing. An appliance installed in a closet shall have no other fuel burning appliance installed in the same closet, such as gas furnace, water heater or space heater, etc.

The dryer must be exhausted to the outside to minimize excessive lint accumulation and to maintain good drying. We recommend allowance for more clearance than the minimum installation clearances as shown.



Each opening area must have a minimum of 36 square inches. These openings must not be obstructed. (Louvered door with equivalent air opening is acceptable)

## MOBILE HOME INSTALLATION

Installation of Maytag dryers certified by the American Gas Association and bearing a label stating they are suitable for installation in mobile homes, when installed in mobile homes, must conform to the Manufactured Home Construction and Safety Standard Title 24 CFR, Part 32-80.

When installing a dryer in a mobile home, provisions for anchoring the dryer should be made. An anchor bracket kit is available, Part No. 3-3740 to fasten dryer stand to floor. Instructions for installing the anchor brackets are contained in each kit.

All mobile home installations must be exhausted to the outside with the exhaust duct termination securely fastened to the mobile home structure, using materials that will not support combustion. Exhaust the dryer using flexible metal exhausting materials or exhaust kit No. 59128, and locate in an area that provides adequate make-up air. The exhaust duct may not terminate beneath the mobile home.

### MAKE-UP AIR

For proper operation of the dryer unit, it is important to make sure the location has adequate make-up air. This is especially important in any confined area such as bathroom or closet. There must be at least two 36 square inch unobstructed openings for intake air. This can be a louvered door or other equivalent opening.

On gas dryer units in particular, adequate clearance as noted on the dryer minimum clearance label should be maintained to insure enough air for combustion and proper operation of the dryer. **The area where located must not obstruct the flow of combustion or ventilating air.** When installing a Maytag S1000 the following minimum clearances to combustible surfaces must be maintained: Clearance to

wall: sides 0 inches, top - 6 inches, front 1/2 inch to washer, rear - 0 inches with an outside exhaust, 4 inches with an inside exhaust (not recommended). See Exhausting section and Installation Accessories for exhaust kits.

### SERVICE ACCESS

Location should allow access to the front of the unit for washer and dryer service. Access must also be available to two screws at the top front corners of the dryer front panel (on the top).

### EXHAUSTING

The free air flow rate is approximately 180 cubic feet per minute. The vent system carries lint and moisture away and to the outside. The length of the venting and the number of elbows affect the air flow rate and the efficiency of the exhaust system.

**DO NOT EXHAUST DRYER INTO ANY WALL, CEILING, CRAWL SPACE OR A CONCEALED SPACE OF A BUILDING, VENT CONNECTION, GAS VENT OR CHIMNEY. THIS COULD CREATE A FIRE HAZARD FROM LINT EXPELLED BY THE DRYER. FOR THE SAME REASON, WE RECOMMEND ONLY METAL EXHAUST DUCT TO MINIMIZE RESTRICTED AIR FLOW AND RELIABLY INSURE THE CONTAINMENT OF EXHAUST AIR, HEAT AND LINT. NEVER INSTALL A SCREEN OVER EXHAUST OUTLET. NEVER USE PLASTIC OR OTHER COMBUSTIBLE DUCTWORK. AT LEAST ONCE A YEAR, INSPECT AND CLEAN INTERIOR OF DUCTWORK. FREQUENTLY CHECK AND CLEAN VENT HOOD TO ASSURE PROPER OPERATION.**

A clothes dryer produces combustible lint and the area around the clothes dryer should be kept free of lint. **DO NOT STORE FLAMMABLE LIQUIDS OR MATERIALS NEAR A DRYER.**

It is recommended that the dryer be exhausted to the outside using 4" rigid or flexible metal ducting.

When located in a bedroom, bathroom or closet, the dryer must be exhausted to the outside.

The S1000 can only be exhausted out the back. A 4" vent should be installed to accept the exhaust from the dryer.

To permit sufficient air circulation under the exhaust hood, there should be no less than a 12" clearance between the bottom of the exhaust hood and the ground. When possible, the exhaust hood should not exhaust directly into a window well **DO NOT** terminate exhaust under a building.

**NOTE:** Where the exhaust hood is to be installed through masonry, a special masonry saw is necessary to cut the hole.

Install the exhaust hood and secure with screws to the outside wall and seal with caulking compound.

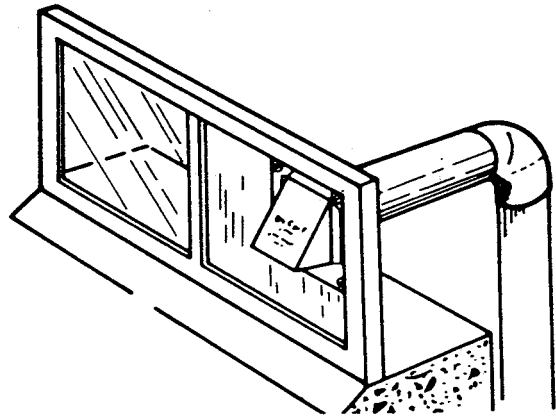
## Direct Exhaust

An exhaust hood positioned to line up with the dryer exhaust pipe can be installed directly through an outside wall. This would be the shortest and most direct exhaust method.

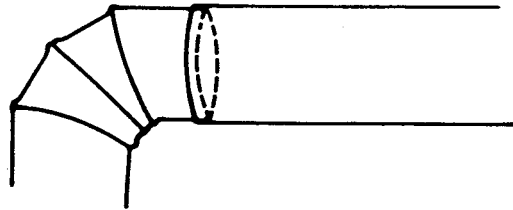
To vent either up or to the side, standard 4" exhaust is used. This can present an installation clearance problem. Two options can be considered. Flat duct assemblies are available for either offset exhausting or vertical venting. Both these assemblies would require installation out from wall.

Wallboard can be removed from the studs directly behind the dryer unit to allow exhausting to go between the wall studs. This will allow unit to be closer to the wall. **Check local codes for required exhaust clearances.**

The exhaust hood may also be installed through a window by installing a window plate. Window plates are available from The Maytag Company. Install as shown.



Install ductwork from the dryer to exhaust hood. All joints must be made so exhaust end of one pipe is inside the intake end of next pipe. On flexible metal ductwork, all joints should be secured with a 3-4630 clamp. **DO NOT** use sheet metal screws when assembling rigid ducting. Joints should be taped.



## FLEXIBLE DUCTWORK LIMITATIONS

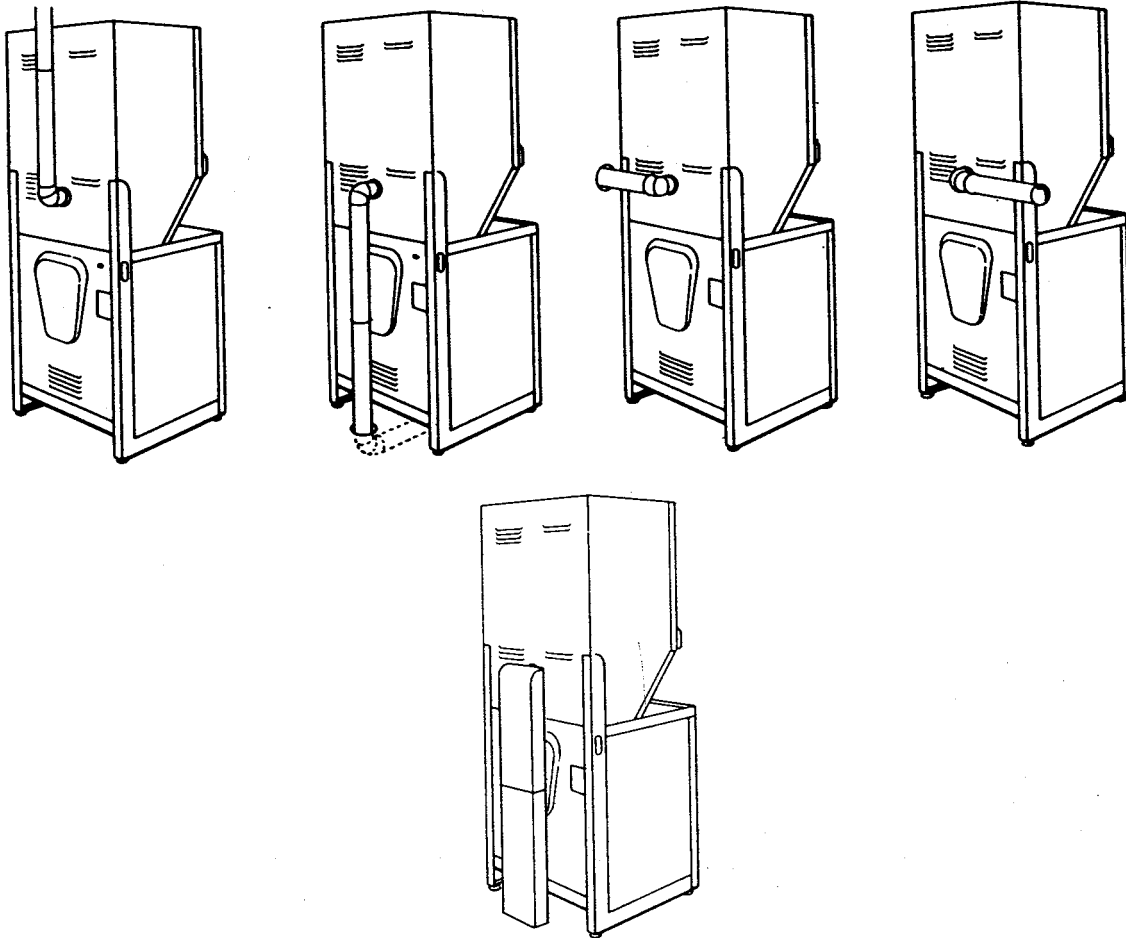
Flexible metal ductwork should not exceed 34' of straight 4" ducting. The exhaust hood is equivalent to 8' of duct and each 90 degree bend is equivalent to 8'. As an example, if an exhaust hood is used and two 90 degree bends, the maximum straight run would be 10'. **NOTE:** If the radius of a bend with 4" duct is 12" or greater, the bend can be considered a straight run. No more than three 90 degree bends should be used in any run with an exhaust hood.

## RIGID DUCTWORK LIMITATIONS

Rigid metal ductwork should not exceed 50' of straight 4" duct. Each 90 degree elbow and the exhaust hood should be considered equivalent to 8' of straight ductwork. For example, if an exhaust hood and two 90 degree elbows are used, the maximum straight duct allowed would be 26'. Not more than three 90 degree elbows should be used in any rigid ductwork run with an exhaust hood. Four feet of straight duct should be allowed between 90 degree elbows.

## EXHAUST BACK PRESSURE AS INDICATOR OF VENT PERFORMANCE

Vent back pressure as measured with an air pressure manometer should not exceed 0.6" water column. Back pressure in excess of 0.6" W.C. indicates inadequate vent flow (restricted vent).



# ELECTRICAL REQUIREMENTS

## OBSERVE ALL NATIONAL ELECTRICAL CODES AND LOCAL CODES AND ORDINANCES

### ELECTRICAL SERVICE – 120 VOLTS, 60 HZ ONLY WASHER – GAS DRYER

A 120 volt, 60 Hz, 20 ampere fused electrical supply is required. An individual branch (or separate) circuit serving only this appliance is recommended. **DO NOT USE AN EXTENSION CORD** unless it meets all requirements as outlined for grounding, polarizing (3-wire) and capacity. Wire size should be at least No. 12.

**BEFORE OPERATING OR TESTING, follow grounding instructions in Grounding Section.**

## GROUNDING – 120 VOLTS, 60 HZ

### IMPORTANT SAFETY PRECAUTIONS

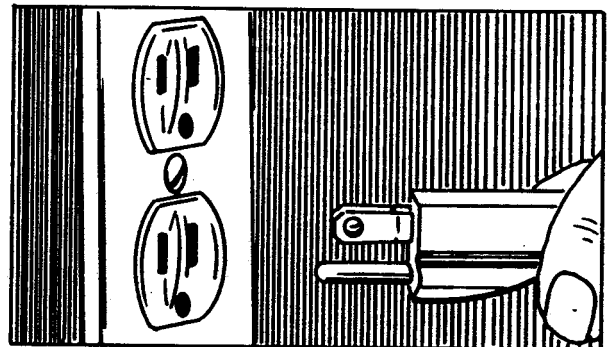
**WARNING** – To prevent unnecessary risk of fire, electrical shock or personal injury, all wiring and grounding must be done in accordance with the National Electrical Code ANSI/NFPA, No. 70-1981 and local codes and ordinances. It is the personal responsibility and obligation of the appliance owner to provide adequate electrical service for this appliance.

### ***ELECTRICAL GROUND IS REQUIRED ON THIS APPLIANCE***

This appliance is equipped with a power supply cord having a 3-prong grounding plug. For your safety, this cord must be plugged into a mating 3 prong type wall receptacle which is properly **wired, grounded and polarized.**

If a mating wall receptacle is not available. Contact a qualified electrician to have the wall receptacle replaced. If there is any question, local building officials or electrical utility should also be consulted.

**DO NOT UNDER ANY CIRCUMSTANCES, REMOVE THE ROUND GROUNDING PRONG FROM POWER SUPPLY CORD.**

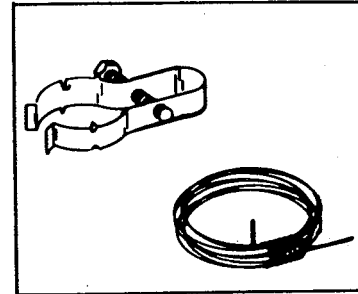


## ADDITIONAL GROUND PROCEDURE – WHERE LOCAL CODE PERMITS.

An external ground wire, clamp and screws are provided for assistance in meeting local codes. Where approved, it is recommended this additional ground be installed. A suitable external ground connection **MUST** be determined prior to wire hookup. Consult local building officials and qualified electrician in the event any questions exist.

NEVER CONNECT GROUND WIRE TO PLASTIC PLUMBING LINES, GAS OR HOT WATER PIPES.

ALL GROUNDING AND WIRING MUST BE DONE IN ACCORDANCE WITH NATIONAL AND LOCAL CODES



## ELECTRIC DRYER UNITS

The SE1000 dryer unit is manufactured to operate on 120/240 volt, 60 Hz AC approved electrical service. The circuit should be fused through two 30 amp fuses or equivalent circuit breaker for the "hot" sides of the power supply. The neutral line must be direct. The service cord receptacle should be wired with no smaller than A.W.G. No. 10 wire. Copper conductors are recommended. The service cord set should be equipped with a strain relief.

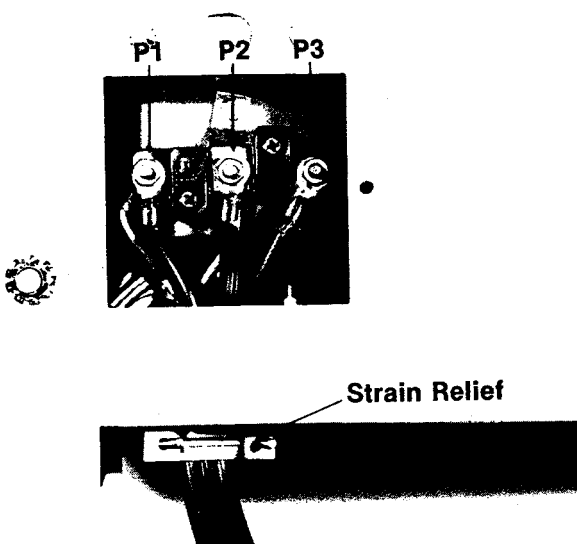
Canadian models are shipped with approved power cord sets attached.

frame as permitted by the national electric code.

The neutral line of the service cord must be connected to the center (P2) post. The two 120 volt lines go to the outside terminal posts (P1 & P3). Be sure terminal block nuts are tight and replace access cover.

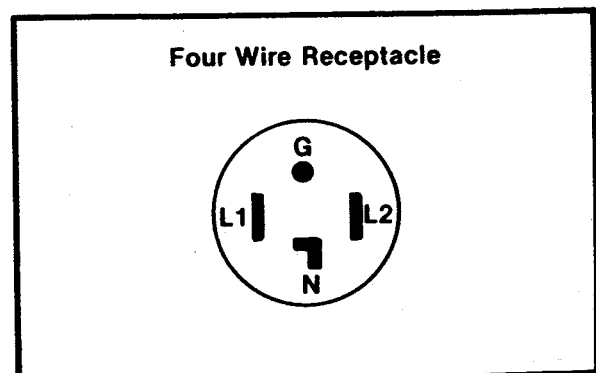
## G.F.I.

If the electric dryer is protected by a GROUND FAULT INTERRUPTER, follow the procedure for 4-wire hookup below.



## 4-WIRE RECEPTACLE

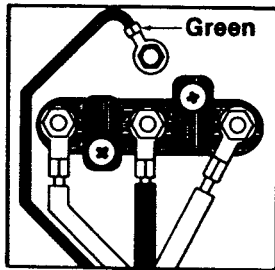
The frame of a 120/240 Volt machine must NOT be connected to neutral terminals. It MUST be connected to the 4th wire (green of the power supply or to the metallic covering of a three-wire supply).



Electric models are shipped with a ground strap connected from the neutral post to the



If a 4 wire receptacle of NEMA type is used, a matching UL listed power supply cord (pigtail) must be used. This cord contains four No. 10 copper conductors with spade or ring terminals on the dryer end. The 4th (grounding) conductor must be identified by a green cover and the neutral conductor by a white cover. The cord should have strain relief, and should be a minimum of 4 feet long. The power supply cord and strain relief are not provided with the dryer.



## 4-WIRE SYSTEM CONNECTIONS

1. Remove the terminal block cover.
2. Remove the ground strap from the ground screw and center (silver colored) terminal of the terminal block.
3. Connect the neutral (white) wire of the power supply cord to the center (silver colored) terminal of the terminal block. Connect the grounding (green) wire of the cord to the external ground connector, using the green screw.
4. Connect the other two wires of the cord to the outer terminals of the terminal block.
5. Replace the terminal block cover.

## 208 VOLT OPERATION

A 3-6378 kit is used to convert the SE1000 for 208 volt operation. A new heater element, label and instructions are included. Conversion is not allowed in Canada.

# WATER SUPPLY AND DRAIN

## WATER SUPPLY

The water supply to the washer unit should be capable of providing both adequate water pressure and water temperature. The pressure should fall within the range of 30 pounds per square inch to 120 pounds per square inch when the washer is filling. Note that this is flow pressure and not static pressure. Low water pressure will result in slow fill and could result in a water valve sticking open after a fill.

The temperature of the hot water as delivered to the washer should be 140°F. The temperature of the cold water as delivered to the washer should be 75°F.

Warm water temperature is a result of the mix of the hot and cold water supplies. The final temperature is dependent on both the pressure and the temperatures of the hot and cold supplies. The desired temperature for warm is between 100°F. and 105°F.

## DRAIN FACILITIES

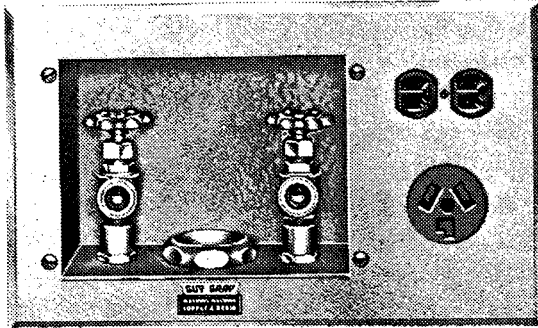
Because of the desirability of flush to the wall installation of the S1000, a drain directly behind the unit is preferred to a drain located on either side.

The washer unit is equipped with a built-in siphon break which allows for a variance in height of the drain facility. The drain must be capable of accepting a flow rate of approximately 20 gallons per minute. An inside diameter of at least 1-1/2" is required.

The portion of the drain hose from the siphon break to the drain can be extended to a floor drain. Consult the parts catalog for extra drain hose as needed.

The use of a laundry built-in wall box can greatly simplify installation of the unit.

Models are available that incorporate water supply, water drain, 120 volt AC and 240 volt AC connections. An example is shown.



## LAUNDRY WALL BOX

If the faucets and/or drain is located to either side of the S1000, openings are located in the dryer stand uprights to allow hoses and power cords to be passed through. This is to allow installation against the back wall. (This is dependent on venting used.)

## GAS CONNECTION

Gas operated dryers are equipped with a burner orifice for operation on NATURAL gas. If the dryer is to be operated on LP gas, it must be converted correctly for safety and proper performance. Conversion kits from NATURAL to LPG, or LPG to NATURAL are available through your local Maytag dealer. If other conversions are required, check with local gas utility for specific information concerning conversion requirements.

**NOTE: The conversion should always be performed by a qualified service technician.**

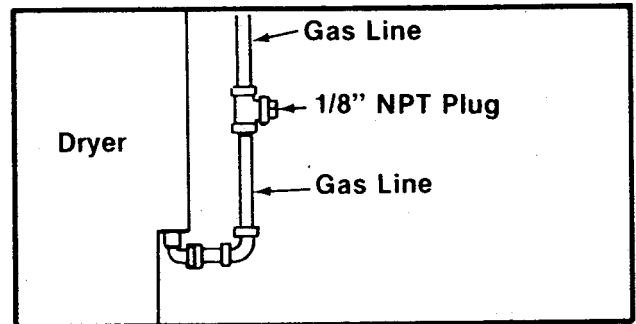
A 1/2" gas supply line is recommended and must be reduced to connect to the 3/8" gas line on the dryer.

Additionally, a 1/8" N.P.T. (National Pipe Thread) plugged tapping, accessible for test gauge connection, must be installed im-

mediately upstream of the gas supply connection to the dryer. Refer to your local gas utility or plumbing contractor should you have questions on the installation of the plugged tapping.

The dryer and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of 1/2 P.S.I.G.

The dryer must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 P.S.I.G.



The gas supply should be connected to the dryer using pipe joint compound or a Teflon® tape on male thread connections. **NOTE:** Any pipe joint compound used must be resistant to the action of any liquified petroleum gas.

Turn on gas supply and open the shutoff at the gas valve. Check all gas connections for leaks using a soap solution. If bubbles occur, tighten connections and recheck. **DO NOT use an open flame to check for gas leaks.**

**NOTE:** As a courtesy, many local gas utilities will inspect a gas appliance installation. Check with your utility to see if this service is provided in your area.

## GAS IGNITION

This dryer uses an automatic ignition system to light the main burner when the dryer is turned on.

# INSTALLATION

## INSTALL DRYER UNIT AND STAND

The dryer and stand are installed first. With the connections prepared for exhausting, electric power and gas (if SG1000, see Page 6-12), the dryer and stand are moved to the location.

**NOTE:** When moving the dryer and stand on an appliance hand truck, it is recommended that the dryer and stand be trucked upside down. Protective padding should be used to avoid damage to the cabinet finish.

Install the vinyl feet on the dryer stand legs. Note the rear legs are "washer" legs and use the larger feet.

Install electric power cord (SE1000). See Page 6-9 to 6-10.

The vent connection is lined up from underneath the dryer as the dryer and stand are moved back into position when a straight-out-the-back vent is used. When venting down, up, or to the side, an elbow or flat duct section is placed on to the dryer exhaust before the dryer is slid into position.

Level the dryer and stand and lock leveling legs using leg lock nuts.

Connect gas line for gas units and check for leaks. Use a liquid soap solution or leak detector. **DO NOT** use a match or open flame! (See Page 6-12)

With dryer and stand in position, exhaust vent connected, unit leveled and gas line connected (if gas unit), power cord set installed (if electric unit), plug power cord into electric outlet.

## INSTALL WASHER UNIT

Install washer glide bars on rear of washer cabinet. The glide bars are in the installation package found in the washer tub. Install with rounded edge down. The glide bars will extend beyond the edge of the cabinet on each side when properly installed.

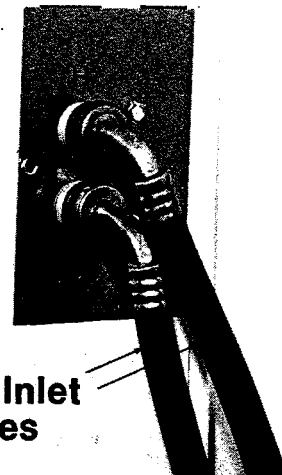
## INSTALL FILL HOSES

Insert plain hose washers in 90° end of fill hoses and screen washers in straight end of hoses. The screens should point outward.

The valve inlets are marked "H" and "C" to denote the hot inlet (top) and cold inlet (lower).

Connect 90° ends of hoses to the valve. Connect lower hose first. Be sure that hose connectors are not cross threaded on the valve. Tighten securely by hand plus 1/4 turn with pliers. Do not overtighten as this can strip the threads on the valve.

Connect the straight ends of the hose to the corresponding supply faucet (hot and cold).



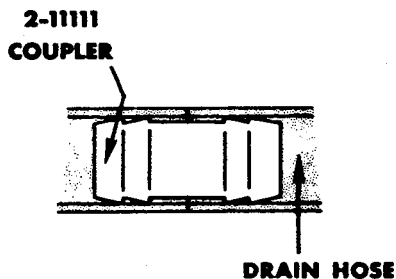
**Water Inlet Hoses**

## INSTALL DRAIN HOSE

Secure drain hose to siphon break using the hose clamp provided in the parts package. The siphon break can be turned right or left to meet the end of the drain hose. Place the gooseneck into the standpipe (or position the gooseneck as if it were in the standpipe). Insert the clamp over the hose and direct the straight end of the hose toward the siphon break outlet with a very gradual bend. Push the drain hose over the siphon break outlet and if necessary twist the hose to relieve any stress on the hose between the siphon break outlet and the standpipe after the hose is inserted into the standpipe.

*NOTE: It is very important when connecting the drain hose that it is properly installed to minimize the chance of the hose becoming kinked when the washer is moved into position.*

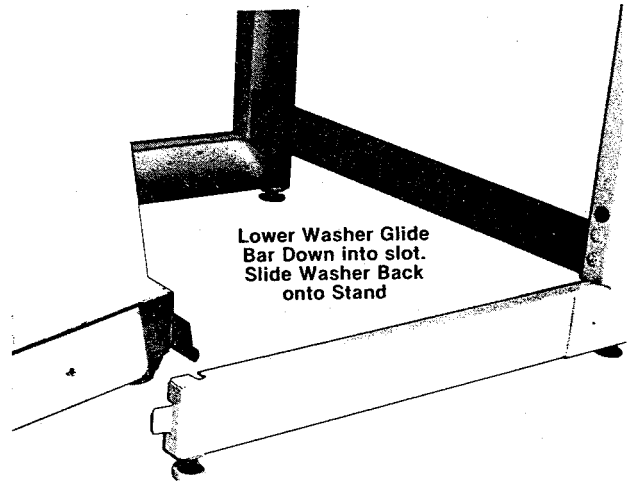
If it is necessary to extend the drain hose, attach one end of the extension hose to the siphon break, and in the other end insert a 2-11111 accessory coupler. Push the drain hose (hose with short gooseneck) over the coupler until the extension hose and drain hose join together in approximately the middle of the coupler. When the coupler is properly used, hose clamps are not required.



If not previously done, remove shipping pads from washer top.

Move the washer into position in front of the dryer and stand. Use caution to avoid floor damage because of the minimum height of the rear legs.

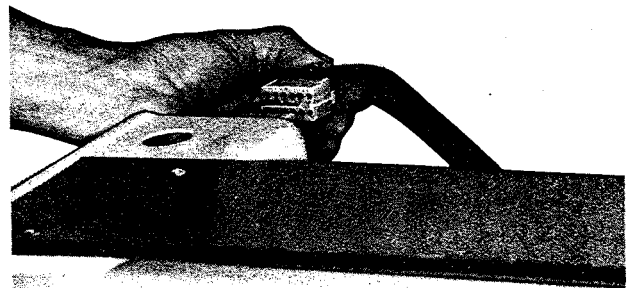
Tip forward enough for glides to clear the legs of the stand, and guide the glides into the slots on the top of the stand legs.



Before sliding washer back into position, connect fill hoses.

Be sure the gooseneck is fully inserted into the drain standpipe to prevent any chance of the hose coming out of the standpipe from the force of the water being discharged.

Connect the control cable mates with a connector located on the rear of upper left-hand (viewed from front) corner of the washer top.



Connect the washer power cord to the 120 volt AC outlet.

Slide washer back into position. A peg on the back right corner of the washer will locate in a socket on the right leg of the dryer stand.

Adjust the washer front legs down against the floor to raise the washer front slightly. The washer should be level side to side and just barely higher in the front than in the back (bubble just touching in the level). Lock leveling leg in position using leg lock nuts.

Remove all instruction packages from washer tub and dryer drum before using units.

**Remove tub block ring from washer tub opening.**

## ADDITIONAL INFORMATION

### ODD CYCLE OPERATION

This Maytag stacked washer-dryer is manufactured for operation on 60 Hz approved electrical service. It is not designed for use on 50 Hz AC electrical service and conversion of the product from 60 to 50 cycle operation is not recommended. For additional information on 50 cycle products, write: N.I. WORLD TRADE, INC., 310 MADISON AVENUE, NEW YORK, NEW YORK 10017, or GRAY DISTRIBUTING CO., LTD., P.O. BOX 2597, HONOLULU, HAWAII 96803.

### LUBRICATION

No routine lubrication is required to maintain the stacked washer-dryer. In the event something does need attention, contact an authorized Maytag dealer or servicer.

### FINISH

All the cabinetry and external finishes are protected against rust to keep product looking well for many years. Cleaning and waxing will provide additional protection to these finishes.

The washer top has a porcelain finish. Since porcelain is "glass" bonded to metal, it is very durable. Avoid damage from sharp blows of objects or tools used around and in the appliance.

Clean the control panel with a soft damp cloth. Avoid abrasive cleaners that would

scratch surface. A coat of household wax will reduce the chance of scratches on the control panel surface.

**CAUTION:** *If "spilled" or used improperly, bleaches and other strong laundering chemicals can permanently spot or stain finishes unless wiped up immediately. Aerosol pretreat products can also damage finish on control panel. When using these products on garments placed in the S1000, it is advisable to avoid control panel area with the overspray.*

### WATER DAMAGE FROM FLOODING

In the event the stacked washer-dryer is exposed to water from flooding, call your local Maytag dealer before using. Always unplug the appliance and have a qualified technician inspect the appliance before any attempt is made to operate the unit. Never wash product inside and out with a garden hose or pressure cleaning system.

### REPLACEMENT PARTS

If your unit requires replacement parts, contact the dealer from whom you purchased your appliance, or THE MAYTAG COMPANY, NEWTON, IOWA 50208 for information on the nearest Maytag parts distributor.

Parts manuals are available through your dealer or nearest parts distributor.

## INSTALLATION ACCESSORIES

- 59128 Vent kit - standard - 4" (10.16cm) - kit includes two elbows, three pipes and one vent hood.
- 59129 Vent hood - 4" (10.16cm) opening.
- 59130 Aluminum pipe - 4" x 24" (10.16cm x 60.96cm).
- 59131 Aluminum elbow - 4" (10.16cm).
- 59133 Aluminum window plate - 12" x 18" (30.48cm x 45.72cm) - 4" (10.16cm) hole.
- 59134 Aluminum window plate - 15" x 20" (38.10cm x 50.80cm) - 4" (10.16cm) hole.
- 59143 Flexible vent kit - contains wide opening vent hood, wall plate, two clamps and flexible aluminum vent duct.
- 3-4353 Flexible aluminum vent duct - 4" (10.16cm) diameter - 38" (81.28cm) length stretches to 8' (2.44m).
- 3-4630 Clamp for flexible aluminum duct.
- 3-5887 Exhaust deflector kit - inside exhaust kit.
- 3-6205 Natural to LPG conversion kit for gas valve
- 3-11353 Dacron lint bag.









**MAYTAG**

Maytag Appliances Sales Company

Customer Service  
240 Edwards St.  
Cleveland, TN 37311

**MAYTAG**

**Maytag**

**Stacked  
Washer & Dryer  
Service Manual**

16000153-01  
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### Models Covered:

SE7800

SG7800



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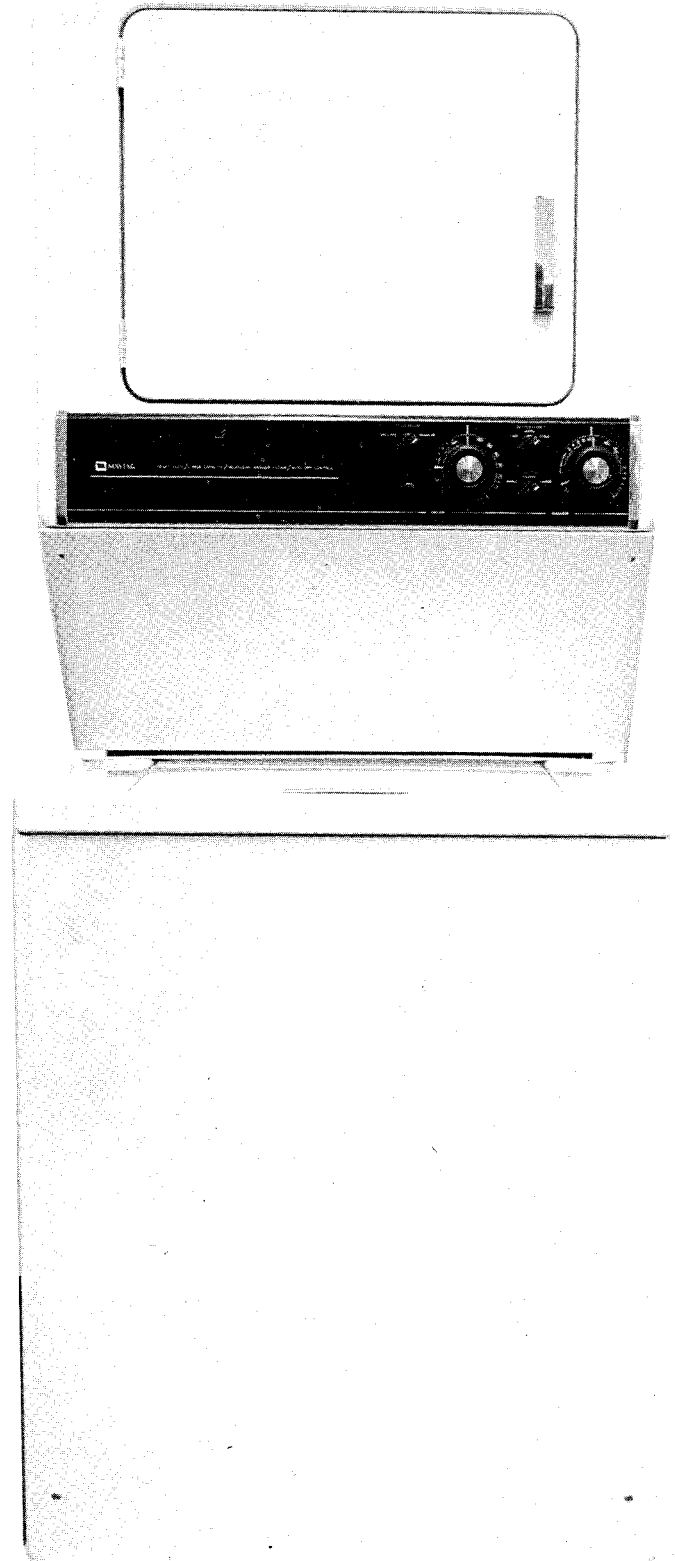
# INTRODUCTION

**The S7800 stacked washer and dryer (both gas and electric) units are covered in this supplement.** The supplement is divided into two sections:

One section will cover the **WASHER** controls and electrical troubleshooting.

and the other section will cover the **DRYER** controls and electrical troubleshooting.

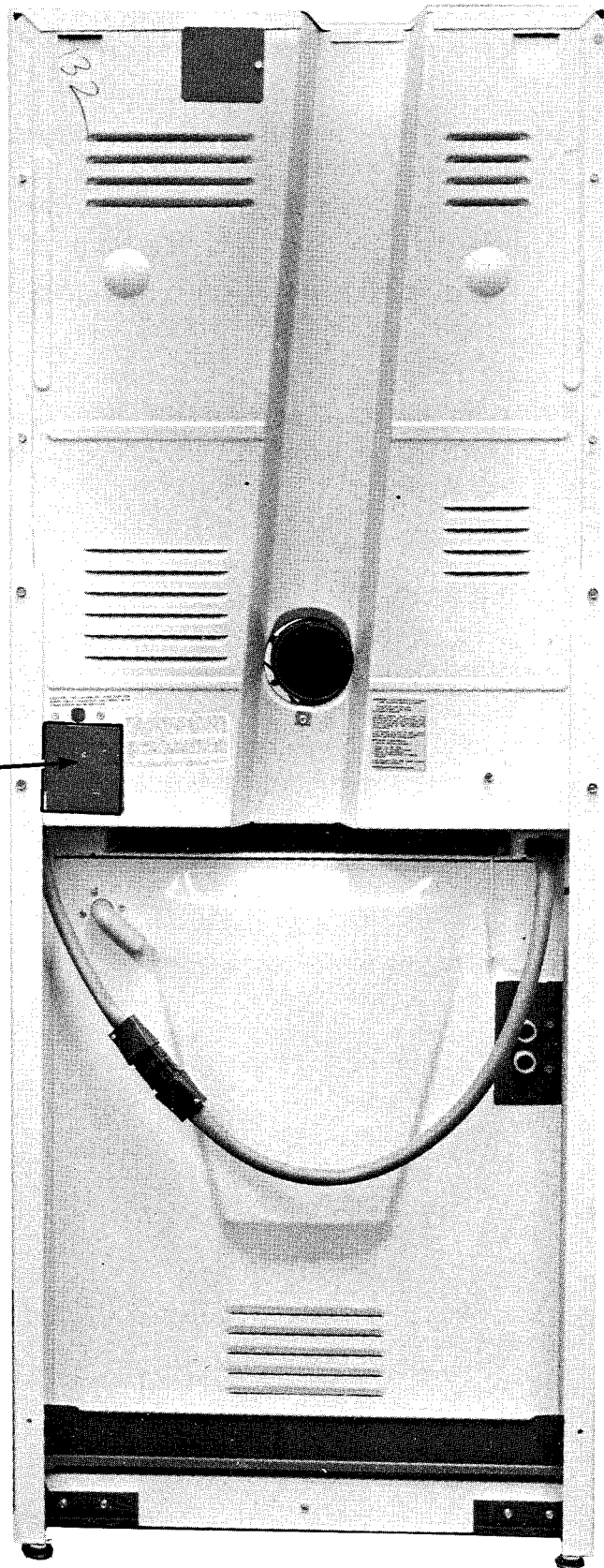
The S7800, a timer controlled, full sized, stacked washer/dryer is being introduced. Structurally, it is the same as the S9900 except for the components involved with the control of the unit. Electro-mechanical timers are used on the S7800 to control the operation of the washer and dryer sections. The operation of the washer and dryer sections on the S9900 is micro-processor board controlled.



The S7800 is available in either gas or electric models. The gas model uses 120 VAC for the operation of both the washer and dryer. The electric model uses 120 VAC for the operation of the washer and a combination of 120/240 VAC for the operation of the dryer.

**Note:** Only one power supply cord is used on both the gas and electric models (refer to the Terminal Block on the dryer's Electrical Wiring Diagram). Neither model uses the DC voltage.

**Terminal  
Block  
Cover  
Plate**









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## **GENERAL SAFETY PRECAUTIONS**

Information contained in this manual is intended for use by a qualified service technician, familiar with proper and safe procedures to be followed when repairing an electrical appliance. All test and repairs should be performed by a qualified service technician equipped with proper tools and measuring devices. All component replacements should be made by a qualified service technician, using only MAYCOR replacement parts.

Improper assembly or adjustment may occur if service or repair is attempted by persons other than qualified service technicians or if parts other than MAYCOR replacement parts are used. Improper assembly or adjustment can cause hazardous conditions.

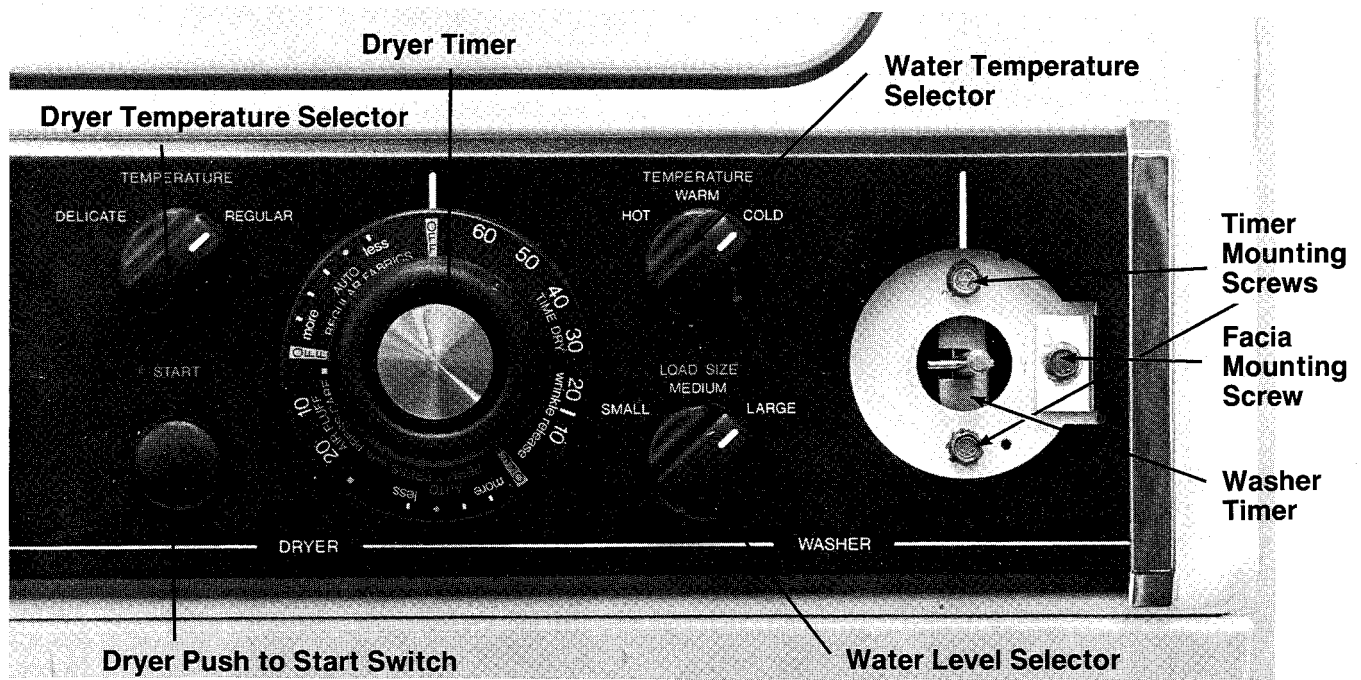
There can be risk of injury or electrical shock while performing services or repairs. Injury or electrical shock can be serious or even fatal.



# SECTION 1. WASHER

## WASHER -- CONTROLS

An understanding of what happens during the fill, agitate and spin cycles will help explain the changes made to the washer and will also aid in electrical troubleshooting the washer controls. To do this a path for current flow will be traced from both legs of the power supply, L1 and Neutral, to the components that are involved with each cycle. It is important to note that a connector is used to connect all of the wiring between the Washer Controls and the Washer Unit (refer to schematic). The Timer, Temp Switch and Level Selector for the washer are located at the bottom of the dryer's front panel.

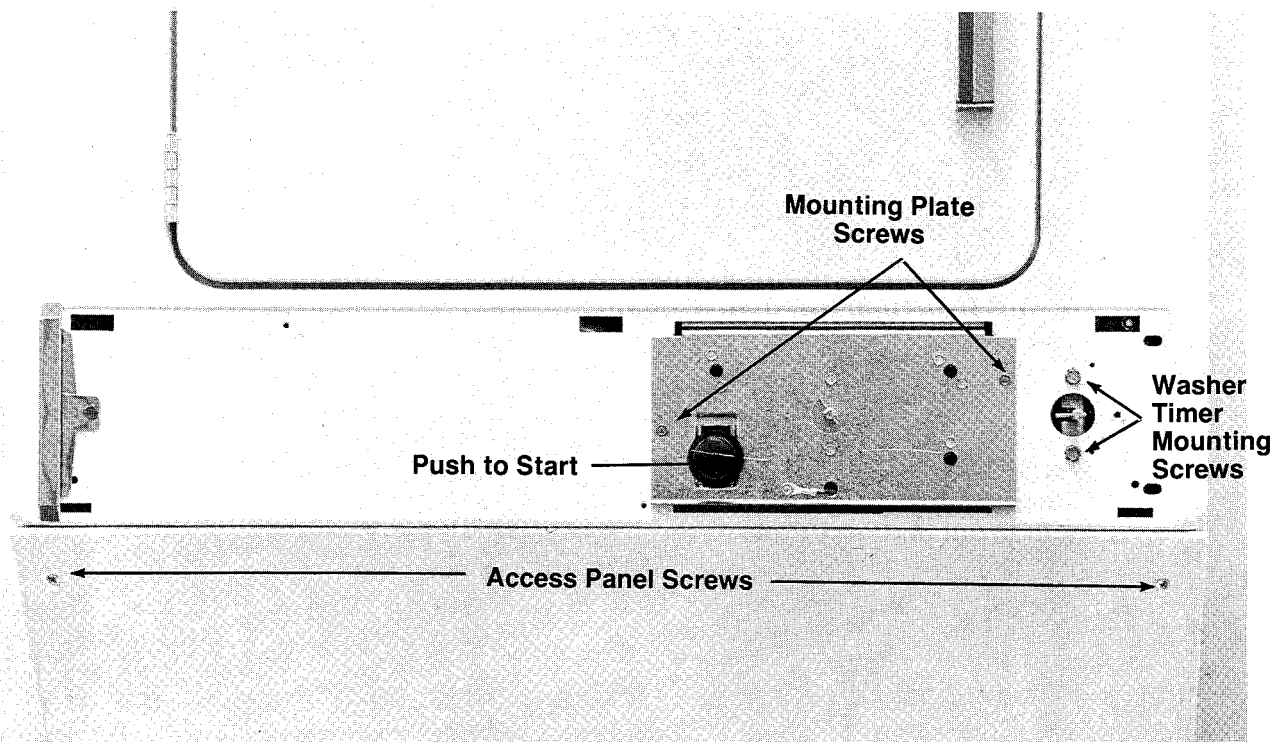


Before facia can be taken off, remove all knobs. Timer knob for the washer is removed by prying off knob insert. Remove tinnerman clip, screw, knob and spring; pull off dial. Dryer timer knob is removed by prying off knob insert. Remove nut, pull off knob and dial. The knobs for Load Size and Temperature (both Washer and Dryer) are removed by pulling off of shaft.

Unit with knobs removed.



Remove facia mounting screw. Remove chrome strip on the right side by pushing away from facia at the bottom then the top. Lift off facia.



### To Remove Washer Timer.

- Remove two (2) screws securing timer to panel.
- Remove two (2) screws securing dryer access panel.
- Remove screw securing wire harness'.
- Push timer shaft and timer towards back of machine.
- Pull out and down through dryer access panel.
- Disconnect wires. Replace timer if necessary.

### Access To Control Switches.

Remove two (2) screws holding mounting plate to dryer front panel. Pull panel forward. This will provide access to control switches for dryer temperature, water temperature switch and water level selector. Two (2) screws secure each switch to mounting plate.

### Dryer Push to Start Switch.

With mounting plate removed, squeeze locking tabs together and pull switch out front of mounting plate.

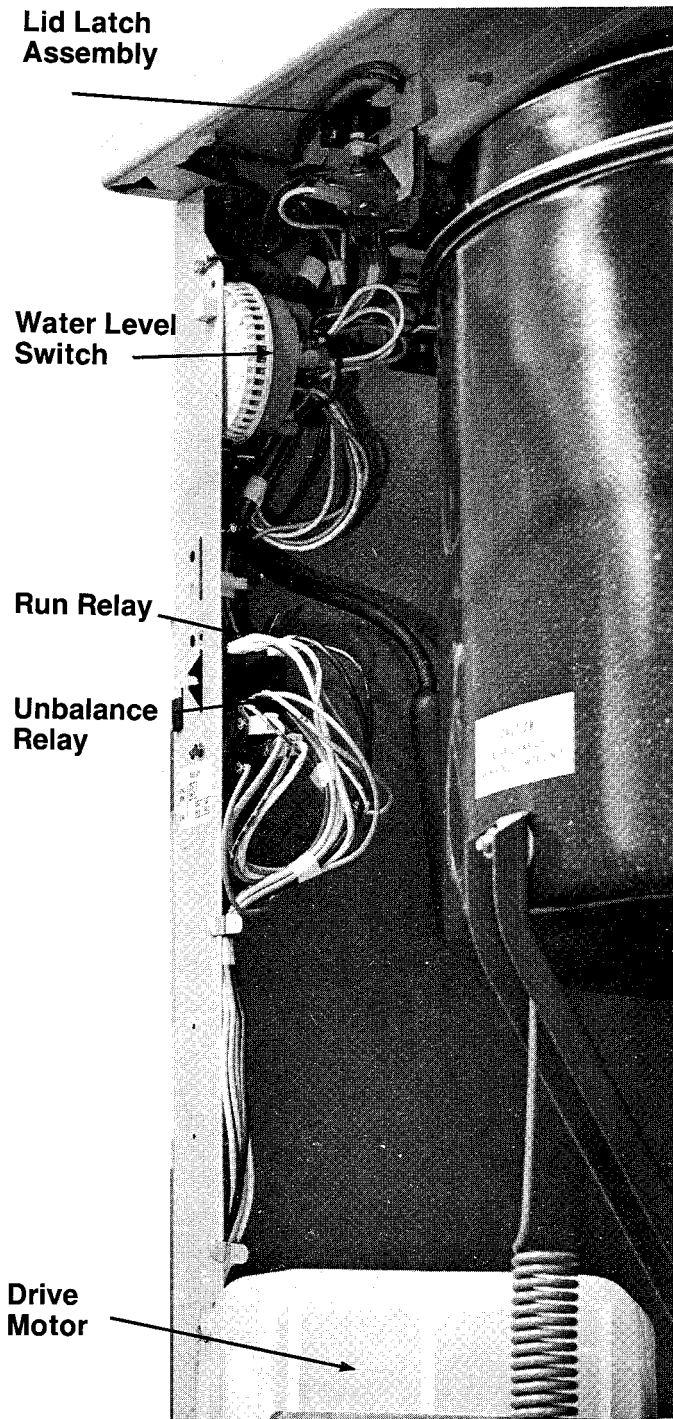
The rest of the controls are located inside the washer cabinet.

## FILL CYCLE:

The fill cycle is initiated as the user rotates the Timer dial to the "fill" position for any of the three cycles available (Permanent Press, Delicates and Regular Fabrics) and pulls out the Timer knob. Pulling out the Timer knob allows the L1 side of the power supply (refer to schematic) to go through the Line Switch and on to the Lock Switch.

**NOTE:** The Lock Switch, Lid Switch and Lid Latch Solenoid are the electrical components that are found on the Lid Latch Assembly which is mounted to the underside of the washer top cover. L1 goes through the normally closed contacts in the Lock Switch and back to the Timer. Timer Cams 2 and 3 are closed during fill which allows L1 to go through the Timer and on to the Temp Switch. Depending upon what water temperature is selected, L1 is routed through the Temp Switch and on to one or both of the Water Valve solenoids. This is a 120 VAC water valve.

The Neutral side of the power supply (refer to schematic) is routed from the Timer, through the Level Selector and Pressure Switch and on to the Water Valve. The Pressure Switch has three individual switches that will route Neutral to the Water Valve. The circuit through the Pressure Switch will depend upon which water level is selected at the Level Selector (small, medium or large). With L1 and Neutral at the Water Valve, one or both solenoids will be energized (depending upon temperature selected). The tub begins to fill with water.





### **AGITATION CYCLE (Start and Run):**

During Fill, the water in the tub will rise until a selected level is reached (small, medium or large) which causes the appropriate switch inside the Pressure Switch to move from the "Fill" to the "Run" position. When this happens, the Water Valve is de-energized and Neutral is routed to one side of the Lid Latch Solenoid and to one side of the solenoid in the Run Relay.

At this point the lid on the washer must be closed, if it is not closed already, before agitation takes place. As the washer lid is closed, the latch hook on the lid closes the contacts inside the Lid Switch, allowing L1 to go through the switch to the Unbalance Relay. The set of contacts inside the Unbalance Relay should be closed at this time (provided the Unbalance Switch contacts are open). Once through the Unbalance Relay, L1 is routed to the other side of the Lid Latch Solenoid. Connected across L1 and Neutral the Lid Latch Solenoid is energized, and in doing so, moves a lever in the lid latch assembly that switches the contacts in the Lock Switch. This set of contacts in the Lock Switch allows L1 to be routed to the other side of the solenoid in the Run Relay. Connected across L1 and Neutral the solenoid in the Run Relay is energized and closes its set of contacts.

From this point, L1 is routed through the Run Relay and on to the Run Winding on the Drive Motor and also through closed Cam 7 in the Timer to the Start Winding on the Drive Motor. Neutral is routed through closed Timer Cams 5 and 6 to the other side of the Run and Start Windings on the Drive Motor. This energizes the Drive Motor and rotation of the motor shaft begins. At about 75% of full speed, the Drive Motor's centrifugal switch "opens" and drops the Start Winding out of the circuit. The Drive Motor is running and agitation begins.

### **SPIN CYCLE (Start and Run):**

Spin is accomplished by reversing the rotation of the Drive Motor. The Timer advances to a position where Cams 1, 5, 6 and 7 are closed. Neutral is routed through Cam 1 to the Lid Latch Solenoid and to one side of the solenoid in the Run Relay. Neutral also goes through Cams 5 and 7 to the Start and Run Windings on the Drive Motor.

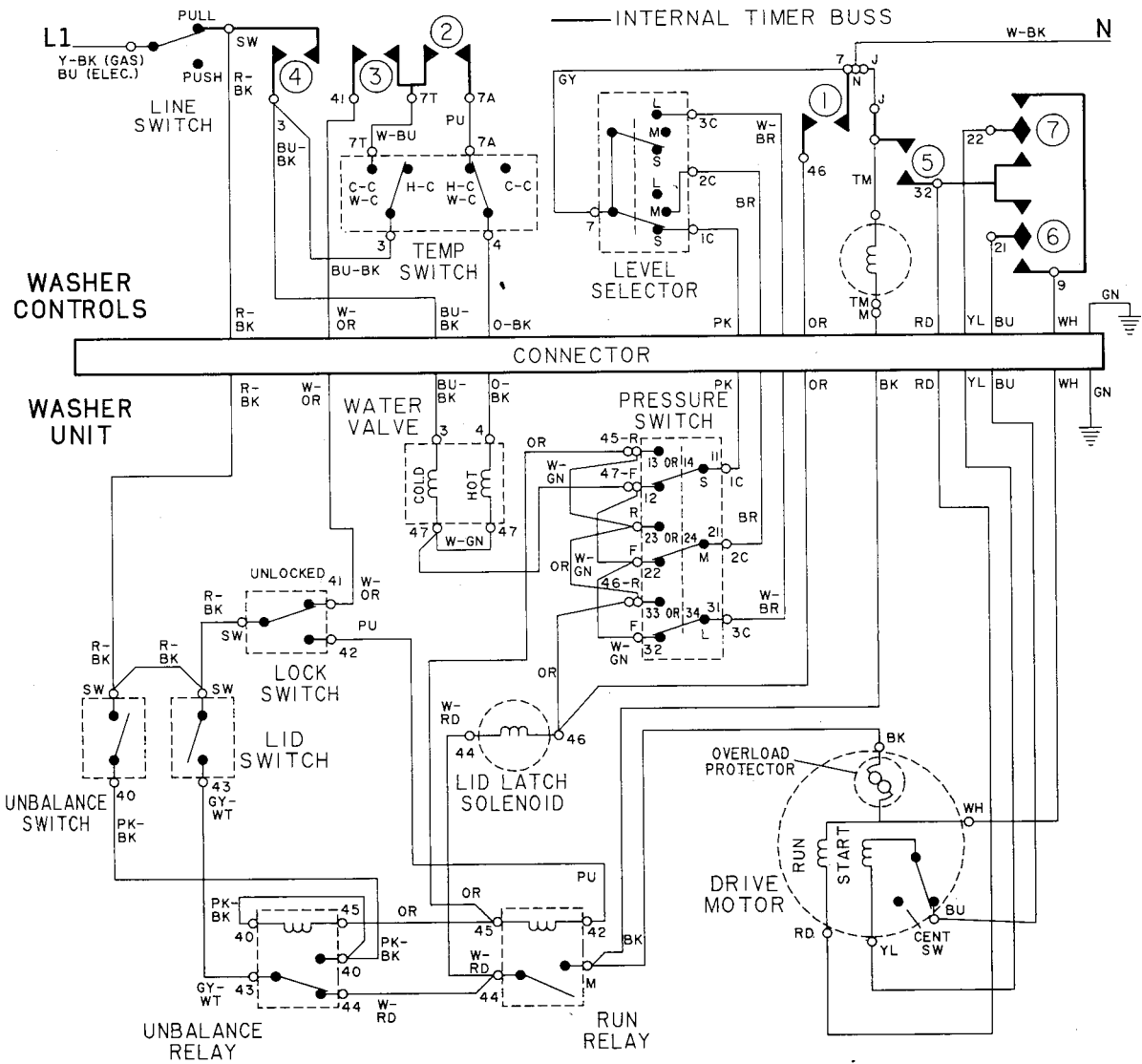
L1 is brought through the Line Switch (pull position) and on to the Lid Switch. The Lid Switch is closed because the washer lid is closed. From the Lid Switch, L1 goes through the normally closed contacts in the Unbalance Relay and back to the Lid Latch Solenoid. Connected across L1 and Neutral the Lid Latch Solenoid is energized. This causes the lever in the Lid Latch Assembly to close the set of contacts in the Lock Switch that allows L1 to be routed through the Lock Switch to the solenoid in the Run Relay. This energizes the solenoid in the Run Relay causing

the contacts in the relay to close. The closed contacts allow L1 to pass through the Run Relay and on to the Run Winding in the Drive Motor and to the Timer. At the Timer, Cam 6 is closed which allows L1 to be routed back to the Start Winding on the Drive Motor. This energizes the Drive Motor and the motor shaft starts to rotate. As with agitation, the centrifugal switch "opens", drops out the Start Winding, and the Spin cycle begins.

The Unbalance Switch is the mechanism that stops the cycle if the tub becomes unbalanced. It is mounted to the side of the washer cabinet and is activated when the tub engages the lever portion of the switch. The movement of the lever closes the switch's contacts, creating a circuit for current flow to the solenoid in the Unbalance Relay. When the solenoid is energized, the contacts that provide a path for current flow through the relay are broken. This causes the Lid Latch Solenoid, Run Relay and Drive Motor to de-energize.

Many of these control components are similar in appearance, function and physical location to the control components found on the S9900. The main difference is that the S7800 components operate with 120 VAC and the S9900 components operate with 24 VDC.

TIMER INFORMATION			TIME CHART - 60 SECONDS PER INCREMENT																						
CAM NO.	CIRCUIT	FUNCTION	5	10	15	20	25	30	35	40	45	50	55	60											
1	46 TO 7-M-J	SPIN & TIMER MOTOR BYPASS																							
2	7T TO 7A	FILL																							
3	7T TO 4I	FILL																							
4	3 TO SW	FILL																							
5	32 TO J-TM	MOTOR INTERRUPTER																							
6	21 TO 32	REVERSING AGITATE																							
6	21 TO 9	REVERSING SPIN																							
7	22 TO 9	REVERSING AGITATE																							
7	22 TO 32	REVERSING SPIN																							
□ CAM OPEN ▨ CAM CLOSED EXCEPT FOR SHORT PAUSE ▩ CAM CLOSED ⊠ CAM MAY BE OPEN OR CLOSED																									
FUNCTION			OFF	FILL & WASH	WASH-PAUSE	WASH-PAUSE	SPIN	RINSE-PAUSE	SPIN	OFF	WASH	SOAK	WASH	SOAK	SPIN & SPRAY	SPIN	RINSE-PAUSE	SPIN	OFF	FILL & WASH	WASH & PAUSE	SPIN & SPRAY	FILL	RINSE-PAUSE	SPIN
CYCLE				PERMANENT PRESS		DELICATES		REGULAR FABRICS																	



ELECTRICAL SCHEMATIC

## WASHER -- ELECTRICAL TROUBLESHOOTING

### Will Not Fill:

1. Is power available to unit?  
No, check fuse or circuit breaker.
2. Disconnect power supply.

### CAUTION

Always disconnect power supply before making continuity or resistance checks.

**Note:** When checking continuity or resistance, remove wires to isolate circuit.

3. Check continuity across Line Switch (place Timer in "FILL" position and switch in the "PULL" position).
  - A. Disconnect wires BU (Electric) or Y-BK (Gas) and R-BK from Timer.
  - B. Attach ohmmeter leads to these terminals.
  - C. Make check. No continuity, replace Timer.
4. Check continuity across Lock Switch (unlocked position).
  - A. Disconnect wires R-BK and W-OR from switch.
  - B. Attach ohmmeter leads to these terminals
  - C. Make check. No continuity, replace Lock Switch.
5. Check for continuity across Timer Cams 2 and 3.
  - A. Remove wires W-OR and PU.
  - B. Attach ohmmeter leads to these terminals. Make check (this will check for continuity across both cams).
  - C. No continuity, replace Timer.
6. Make continuity check across Temp Switch (temperature selection will determine which contacts to check).
  - A. For C-C and W-C remove wires W-BU and BU-BK.
  - B. For H-C and W-C remove wires PU to O-BK.

- C. Attach ohmmeter leads to respective terminals.
  - D. No continuity on either check, replace valve.
7. Make continuity check across Water Valve.
- A. Remove wires from Cold solenoid, BU-BK and W-GN.
  - B. Remove wires from Hot solenoid, O-BK and W-GN.
  - C. Attach ohmmeter leads to respective terminals.
  - D. No continuity on either check, replace valve.
8. Check continuity across Level Selector. Remove wires for selected level.
- A. Small - GY and PK.
  - B. Medium - W-GN and BR.
  - C. Large - W-GN and W-BR.
  - D. Attach ohmmeter leads to respective terminals. Make check.
  - E. No continuity, replace switch.
9. Check continuity across Pressure Switch. Remove wires for selected level.
- A. Small - W-GN and PK.
  - B. Medium - W-GN and BR.
  - C. Large - W-GN and W-BR.
  - D. Attach ohmmeter leads to respective terminals. Make check.
  - E. No continuity, replace switch.
10. If other checks are determined to be good, check continuity of wire connections across Connector (between washer controls and washer unit).

**Will Not Agitate:**

1. Place Timer in agitate position.
2. Did Washer fill with water? If not, refer to "Will Not Fill".
3. Is Lid closed?

4. Disconnect power supply.

**CAUTION**

Always disconnect power supply before making continuity or resistance checks.

**Note:** When checking continuity or resistance, remove wires to isolate circuit.

5. Check continuity across Pressure Switch. Remove wires for selected level.
  - A. Small - OR and PK.
  - B. Medium - OR and BR.
  - C. Large - OR and W-BR.
  - D. Attach ohmmeter leads to respective terminals.
  - E. No continuity, replace switch.
  
6. Check continuity across Lid Latch Solenoid.
  - A. Remove wires W-RD and OR.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity, replace Lid Latch Solenoid.
  
7. Check continuity across Lock Switch (manually close switch).
  - A. Disconnect wires R-BK and PU from switch.
  - B. Attach ohmmeter leads to these terminals.
  - C. Activate switch by pressing button. No continuity across R-BK to PU, replace switch.
  
8. Check continuity across Lid Switch (lid closed).
  - A. Remove wires R-BK and GY-WT from switch.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity, replace switch.
  
9. Check continuity across Unbalance Relay.
  - A. Remove wires GY-WT and W-RD.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity, replace switch.

10. Check continuity across Run Relay.
  - A. Disconnect all wires from Run Relay.
  - B. Attach ohmmeter leads to terminals W-RD and BK.
  - C. Attach a 120 VAC test cord to terminals OR and PU. Plug test cord into properly grounded and polarized outlet.
  - D. With coil energized, make check across terminals W-RD and BK. No continuity, replace relay.
  
11. Make continuity checks across Timer Cams 5, 6 and 7.
  - A. Cam 5, remove wires W-BK to RD.
  - B. Cam 6, remove wires W-BK to BU.
  - C. Cam 7, remove wires YL to WH.
  - D. Attach ohmmeter leads to the respective terminals and make checks.
  - E. No continuity on any of these checks, replace Timer.
  
12. Check Drive Motor.

Remove wires from Drive Motor and attach motor test cord. If Drive Motor fails to start, replace motor.
  
13. Check wire connections between Washer Controls and Washer Unit at Connector.

**Will Not Spin:**

1. Disconnect power supply.

**CAUTION**

Always disconnect power supply before making continuity or resistance checks.

**Note:** When checking continuity or resistance, remove wires to isolate circuit.

2. Place Timer in spin position.

3. Check continuity across Timer Cams 1, 5, 6 and 7.
  - A. Cam 1, remove wires W-BK and OR.
  - B. Cam 5, remove wires W-BK and RD.
  - C. Cam 6, remove wires WH and BU.
  - D. Cam 7, remove wires RD and YL.
  - E. Attach ohmmeter leads to respective terminals. Make checks.
  - F. No continuity on any of these checks, replace Timer.
  
4. Check for continuity across Lid Latch Solenoids.
  - A. Remove wires OR and W-RD from solenoid.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity, replace Lid Latch Solenoid.
  
5. Check for continuity across Lock Switch (manually close switch).
  - A. Remove wires R-BK and PU from switch.
  - B. Attach ohmmeter leads to these terminals.
  - C. Depress button and make check.
  - D. No continuity, replace Lock Switch.
  
6. Check continuity across Lid Switch.
  - A. Remove wires R-BK and GY-WT from switch.
  - B. Attach ohmmeter leads to these terminals.
  - C. Make check with lid closed or button depressed.
  - D. No continuity, replace switch.
  
7. Check for continuity across Unbalance Relay.
  - A. Remove wires GY-WT and W-RD.
  - B. Attach ohmmeter leads to these terminals.
  - C. Make check. No continuity, replace relay.
  
8. Check for continuity across Run Relay.
  - A. Remove all wires from Run Relay.
  - B. Attach ohmmeter leads to terminals W-RD and BK.
  - C. Attach a 120 VAC test cord to terminals OR and PU. Plug test cord into a properly grounded and polarized outlet.
  - D. No continuity with coil energized, replace relay.



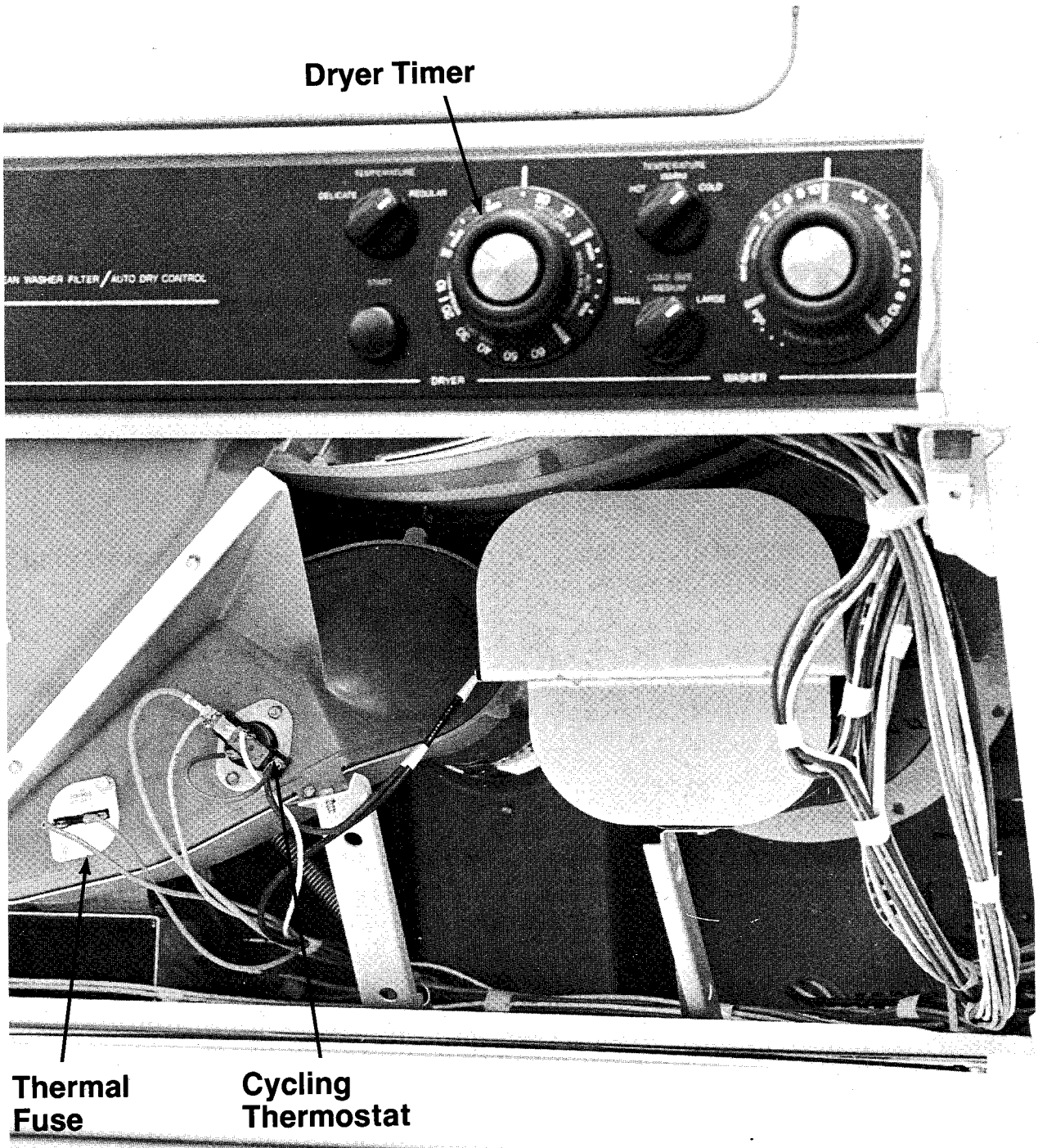
9. Check for continuity across Line Switch (place switch in the "Pull" position).
  - A. Remove wires Y-BK (Gas) or BU (Electric) and R-BK from Timer.
  - B. Attach ohmmeter leads to these terminals.
  - C. Make check. No continuity, replace Timer.
  
10. Test Drive Motor using motor test cord. If Drive Motor does not start, replace Drive Motor.
  
11. Check wire connections between Washer Controls and Washer Unit at Connector.



## SECTION 2. DRYER

### DRYER -- CONTROLS

The S7800 dryer is an Auto Dry dryer with four cycles to choose from: Auto Permanent Press, Air Fluff, Auto Regular and Time Dry.



The auto dry dryer operates on the principle that as long as the load being dried is damp, and rapid evaporation is taking place, the temperature of the dryer and exhaust air will remain relatively low. It also follows that as the load gives up moisture and the rate of evaporation slows down, less BTU's or heat is used in evaporation and the temperature of the load and exhaust air increases.

With this in mind, the circuitry of the dryer can be examined. When the Timer is set to a degree of dryness, a circuit for current flow is completed to the heat source and the Drive Motor. The difference between this control and a standard timer operated dryer is the fact that the Timer Motor is not initially in the circuit. **NOTE:** If Time Dry or Air Fluff is selected the Timer Motor is energized through Timer contact 2. To see how the control works, assume that the load to be dried is a normal load with the garments of somewhat uniform weight, the Auto Regular cycle and Regular Temperature setting selected and the dial set on the middle mark between "more dry" and "less dry".

At the beginning of the cycle the load is damp, the heat input is used up in evaporation of the moisture and there is little increase in the temperature of the air. As the load becomes drier, less heat is used up in evaporation and the temperature of the load and exhaust air starts to rise. The exhaust air is being pushed over the Cycling Thermostat and as the temperature of the exhaust air rises so does that of the thermostat. When the thermostat reaches a temperature of approximately 140° F, the contacts in the thermostat open the circuit to the heat source and, at the same time, complete a circuit to the Timer Motor.

At this point the unheated air is cooling the load and the Timer Motor is advancing the Timer towards the "off" position.

As the temperature of the tumbler, the items being dried and the exhaust air decrease, so does the temperature of the Cycling Thermostat. When the thermostat cools to a temperature of approximately 125° F the thermostat returns to its normal position, breaking the circuit to the Timer Motor and again completing the circuit to the Heater or Gas Valve.

**Note:** The temperatures quoted are the operating temperatures of the thermostat and not the temperature of the clothing or exhaust air. Because of its mass, the temperature of the thermostat will increase and decrease at a slower rate than the temperature of the air.

Because of the moisture content and the evaporation rate, the first temperature rise and cycling of the thermostat will take a relatively long period of time. By the same token, the moisture content and the evaporation rate taking place during the first heat off period makes it shorter than subsequent heat off periods.

Each time the thermostat cycles the heat period is shorter and heat off period (Timer Motor on) is longer.

After a period of time, the Timer will have advanced to a point where Contact 2 in the Timer closes, this in turn advances the Timer out of the heat portion of the cycle and into the cool-down portion.

A selection of the middle mark is a good starting point. Experience gained from drying a few loads will enable the operator to pick a point, either "more or less dry", which is most pleasing.

For ease of understanding and troubleshooting the circuit, a path for current flow will be charted for the "electric" model showing start up and cycling of the dryer (Auto Permanent Press). As mentioned earlier, only one power supply cord is used with either model of the S7800. The controls for the dryer section are located at the bottom of the front panel on the dryer section.

One leg of the power supply, L2 (refer to schematic), goes to the Timer. From the Timer, L2 is routed through closed Contact number 1 to both the Start and Run Windings on the Drive Motor. The Neutral leg of the power supply is brought through the Door Switch ("closed" position) and on to the Push To Start Switch. As the user pushes the Push To Start Switch, Neutral is routed through the switch and on to the Start and Run Windings on the Drive Motor. This energizes the Drive Motor and rotation of the motor shaft begins. As the Drive Motor comes up to about 75% of full speed, the Centrifugal Switch on the Drive Motor "opens" one set of contacts and drops the Start Winding out of the circuit.

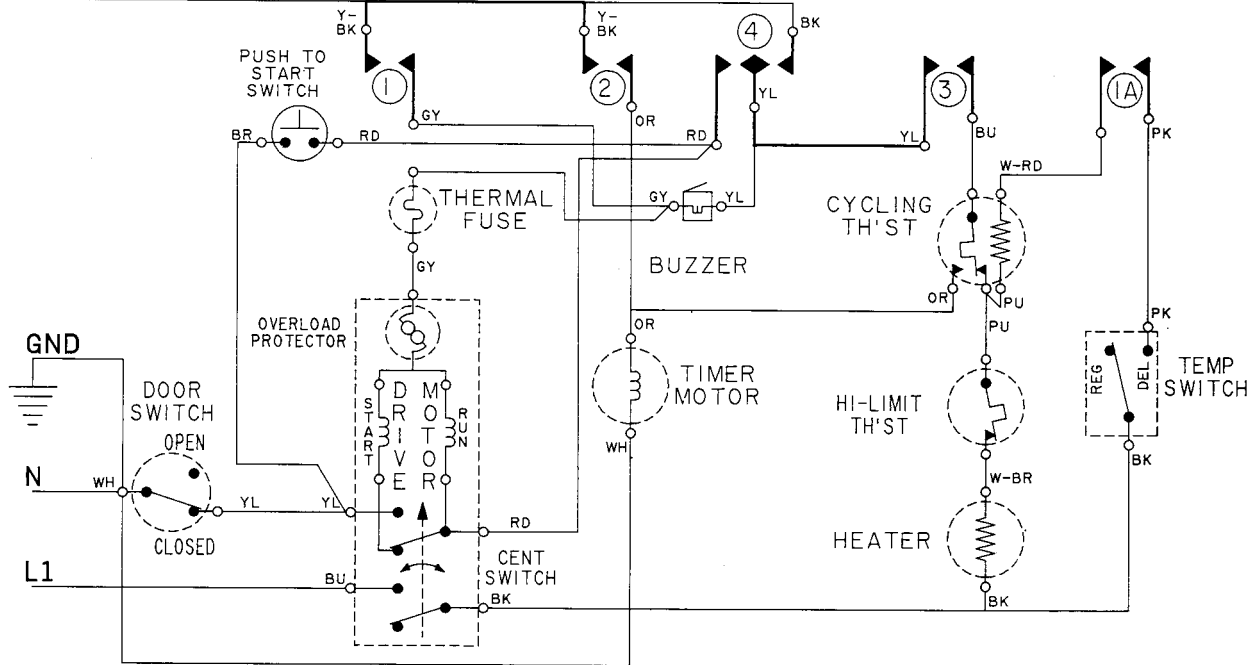
Once this takes place, another set of contacts in the Centrifugal Switch is closed and allows the L1 side of the power supply to go through the switch and on to the Heater. Back at the Timer, L2 also goes through closed Contacts 4 and 3 to the Cycling Thermostat. At room temperature, the contacts in the Cycling Thermostat and Hi-Limit Thermostat will pass the L2 side of the power supply through them and on to the Heater. Connected across L2 and L1 the Heater is energized and drying begins.

As the temperature of the air in the blower housing increases to a point where the contacts in the Cycling Thermostat are broken, the Heater is de-energized. At the same time, another set of contacts in the Cycling Thermostat is closed and this routes L2 to one side of the Timer Motor. With Neutral present at one side and L2 on the other side, the Timer Motor is energized and the Timer begins to advance. This is the sequence of events that takes place during the first portion of Auto Permanent Press or Auto Regular. During Air Fluff and Time Dry the Timer Motor is energized during the cycle by Contact 2 in the Timer.

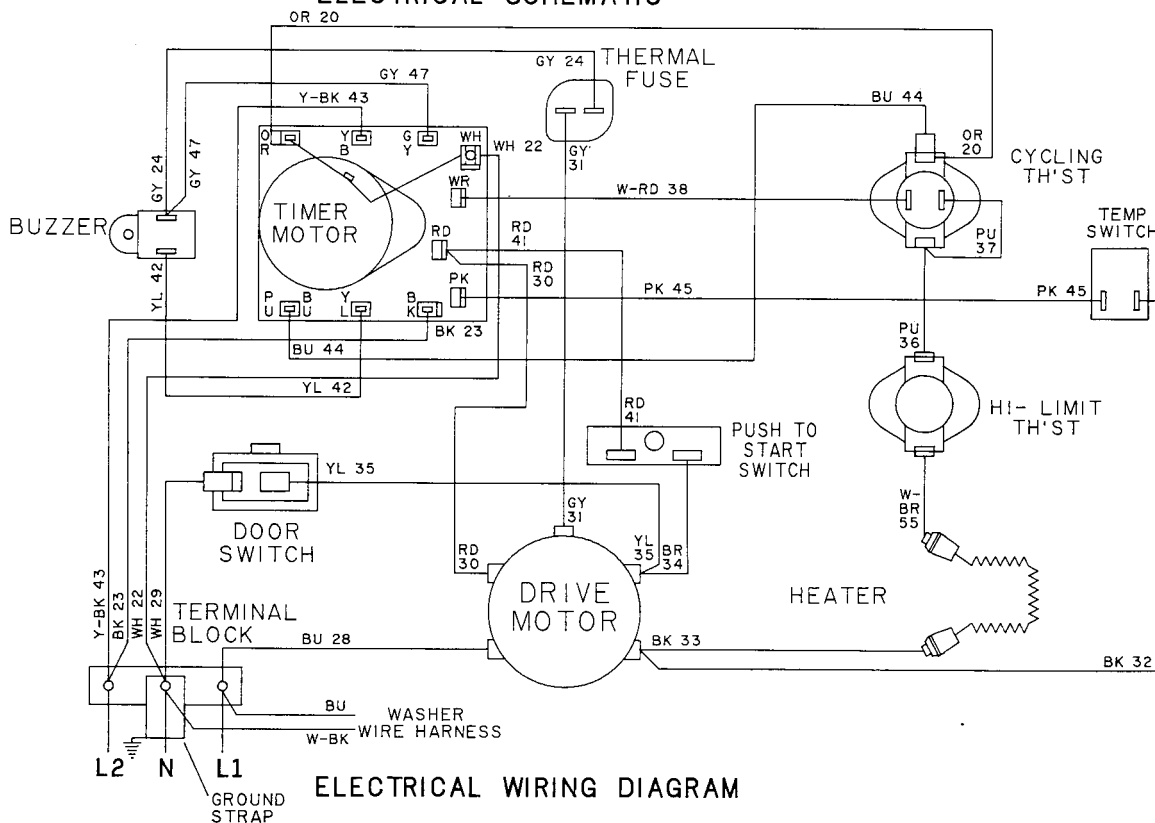
CAM INFORMATION AND CONTACT DATA			AUTO PERM PRESS	AIR FLUFF	OFF	AUTO REG	OFF	TIME DRY	OFF
CONTACT NO.	CIRCUITS	FUNCTION							
1	YB-GY	DRIVE MOTOR	■						
1A	WR-PK	THERMOSTAT		■					
2	YB-OR	TIMER MOTOR	■						
3	YL-BU	HEATER	■						
4	YL-BK	BUZZER/HEATER	■						
	YL-RD	BUZZER PULSER *	■						

L2

\* 'ON' 5 SECONDS EVER 5 MINUTES



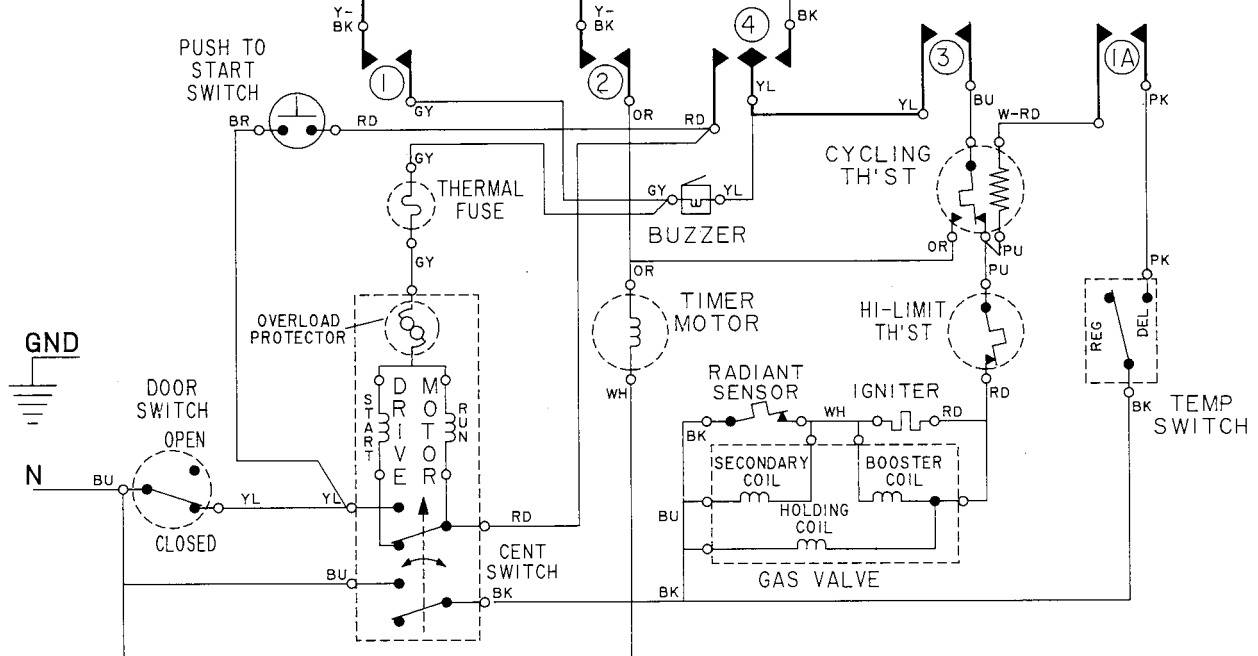
ELECTRICAL SCHEMATIC



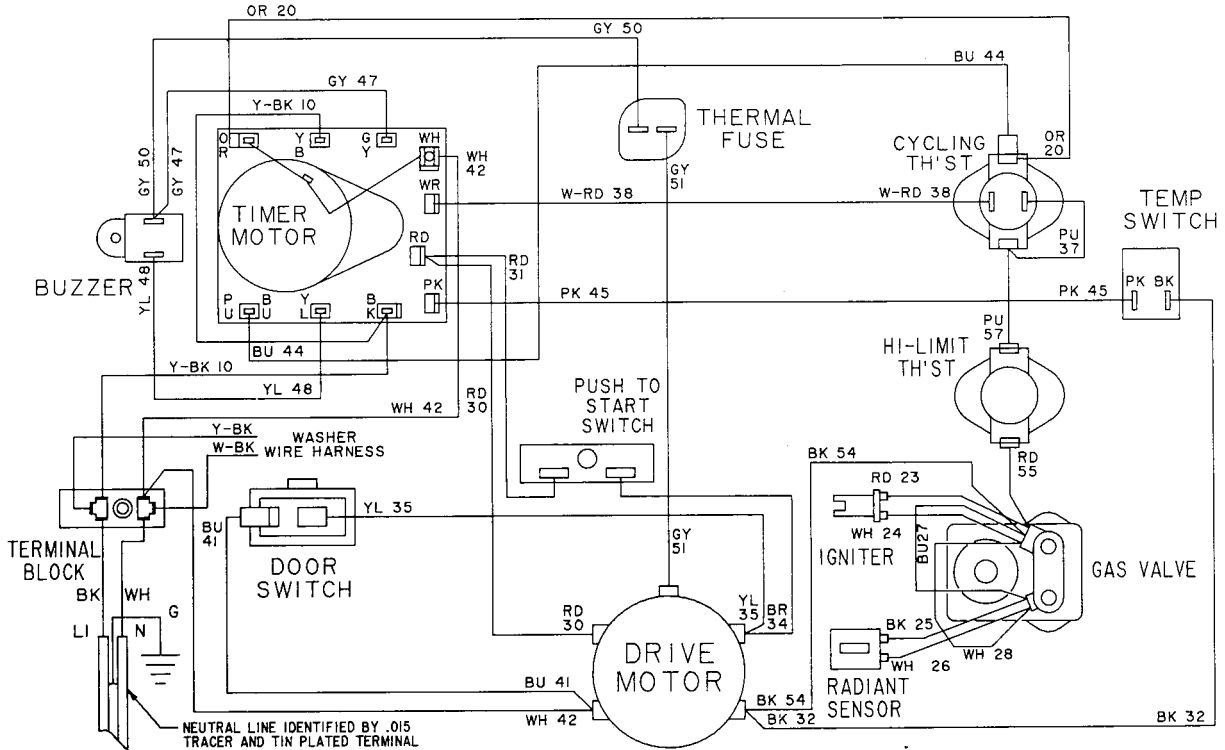
ELECTRICAL WIRING DIAGRAM

CAM INFORMATION AND CONTACT DATA			AUTO PERM PRESS	AIR FLUFF	O F F	AUTO REG	O F F	TIME DRY	O F F
CONTACT NO.	CIRCUITS	FUNCTION							
①	YB-GY	DRIVE MOTOR	■	■	■	■	■	■	■
①A	WR-PK	THERMOSTAT		■	■	■	■	■	■
②	YB-OR	TIMER MOTOR	■	■	■	■	■	■	■
③	YL-BU	HEATER	■	■	■	■	■	■	■
④	YL-BK	BUZZER/HEATER	■	■	■	■	■	■	■
	YL-RD	BUZZER PULSER *	■	■	■	■	■	■	■

L1 \*ON 5 SECOND EVERY 5 MINUTES



ELECTRICAL SCHEMATIC



ELECTRICAL WIRING DIAGRAM

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## DRYER -- ELECTRICAL TROUBLESHOOTING

### Will Not Start:

1. Disconnect power supply.

#### CAUTION

Always disconnect power supply before making continuity or resistance checks.

**Note:** When check continuity or resistance, remove wires to isolate circuit.

2. Check continuity across Door Switch.
  - A. Remove wires BU and YL (Gas) or WH and YL (Electric).
  - B. Attach ohmmeter leads to respective terminals.
  - C. Check for continuity with switch in "closed" position. No continuity, replace switch.
3. Check continuity across Push To Start Switch (manually close switch).
  - A. Remove wires BR and RD from switch.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity with switch in "closed" position, replace switch.
4. Check Timer Cam number 1. Place Timer in a cycle.
  - A. Remove wires Y-BK and GY from Timer.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity, replace Timer.
5. Check Thermal Fuse for continuity.
  - A. Remove GY and GY wires from fuse.
  - B. Attach ohmmeter to these terminals. Make check.
  - C. No continuity, replace fuse.
6. Test Drive Motor using motor test cord. If Drive Motor does not start, replace Drive Motor.



## Will Not Heat:

1. Disconnect power supply.

### CAUTION

Always disconnect power supply before making continuity or resistance checks.

**Note:** When check continuity or resistance, remove wires to isolate circuit.

2. Check continuity across Timer Cams number 3 and 4. Place Timer in heat cycle.
  - A. Remove wires BK and BU from Timer.
  - B. Attach ohmmeter leads to these terminals.
  - C. Make check. This check will show if there is continuity between Cam 3 and Cam 4.
  - D. No continuity, replace Timer.
3. Check for continuity across Cycling Thermostat.
  - A. Remove wires BU and PU from thermostat.
  - B. Attach ohmmeter leads to these terminals. Make check.
  - C. No continuity at room temperature, replace thermostat.
4. Check for continuity across Hi-Limit Thermostat.
  - A. Remove PU and RD wires (Gas) or PU and W-BR (Electric) from thermostat.
  - B. Attach ohmmeter leads to respective terminals. Make check.
  - C. No continuity at room temperature, replace thermostat.
5. Check continuity across contacts BU and BK in Centrifugal Switch.
  - A. Remove wires BU and BK from switch.
  - B. Attach ohmmeter leads to these terminals. Manually close switch.
  - C. No continuity, replace motor start switch.

6. Check Heater for continuity.
  - A. Remove W-BR and BK wires from Heater.
  - B. Attach ohmmeter to these terminals. Make check.
  - C. No continuity, replace heating element.
  
7. Check Gas Valve.



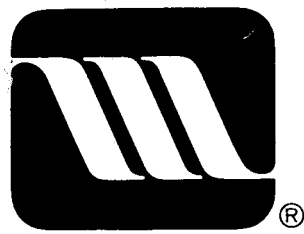
**MAYTAG**

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Maytag Appliances Sales Company

Customer Service  
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MAYTAG



# Let's Talk Service

July-August 1989 • Vol. 36 • No. 7-8

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## ***SOMETHING SPECIAL FROM MAYTAG!***

*This issue of LET'S TALK SERVICE is dedicated entirely to a new washer transmission.*

*We have set up this issue so this information may be easily removed and utilized as a service manual supplement.*

*So let's turn to page 57 and see this "Something Special From Maytag!"*

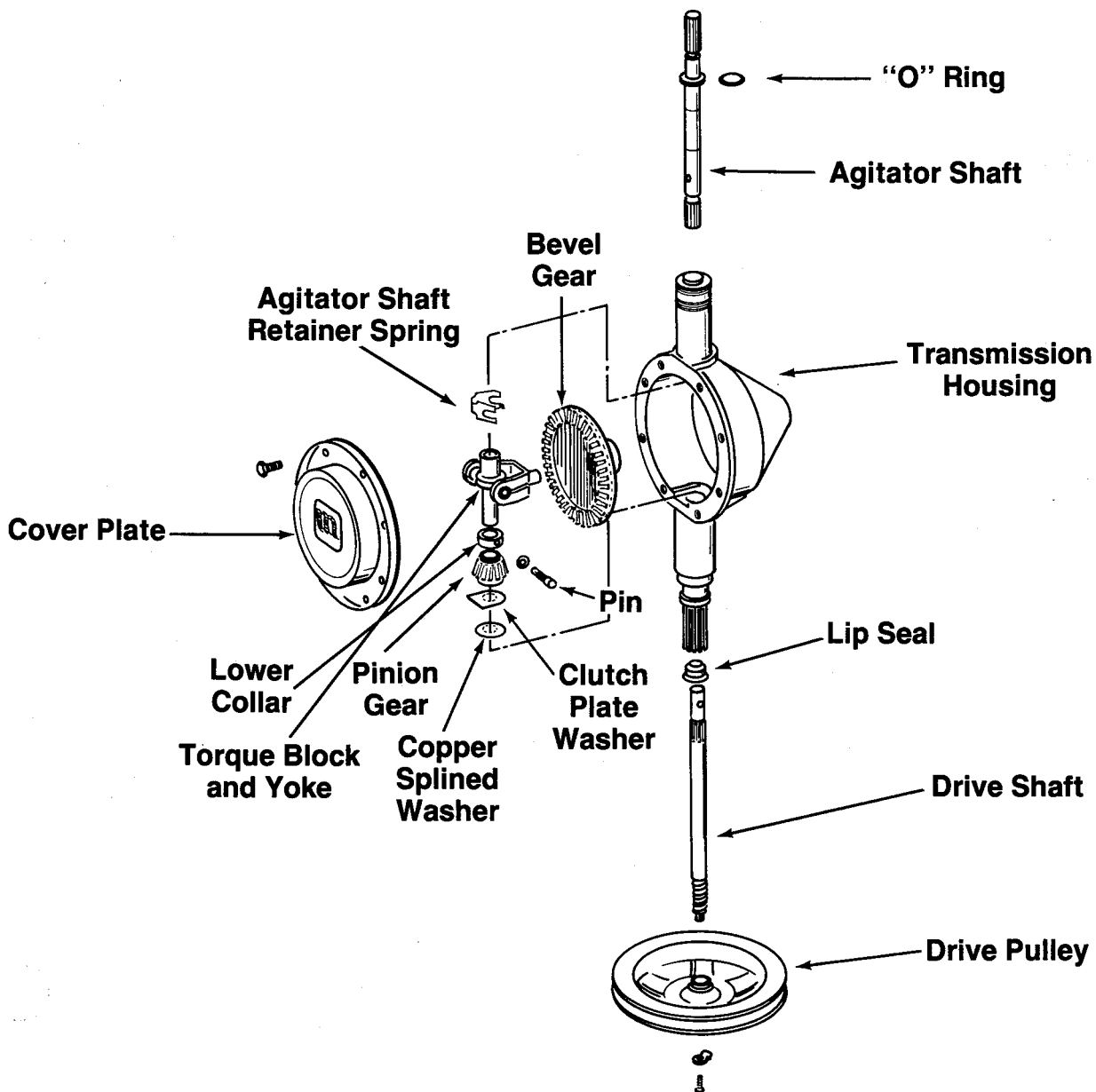
# **NEW TRANSMISSION!!!**

**Now being used in all Maytag washer models  
.....Also includes the S1000!**

*With July 1989 production, Maytag began using a new style transmission and agitator in current production Maytag washers and S1000.*

*This new transmission is much more simplified, making it easier to service. In addition, extensive field testing has proven it a more reliable transmission.*

*The transmission has only four main components; a small pinion gear, torque block, yoke assembly and a large bevel gear. These components are shown in the exploded view drawing.*



*With an easy to remove transmission cover, parts replacement can be done without removing the transmission from the washer. **Therefore, you will no longer replace the entire transmission assembly. Any component failure internally must be replaced as needed.***

*Washing results are virtually the same as before. Although the agitation stroke is much shorter, the oscillations per minute are higher to get the same wash action. There are 150 oscillations per minute on Fabric-matic and single speed models. On two speed models, there are 100 oscillations per minute on slower speed. However, the outer edge of the agitation fin moves through the water at exactly the same speed as it did with the previous transmission.*

### **NEW STYLE AGITATOR INCLUDED WITH THIS CHANGE**

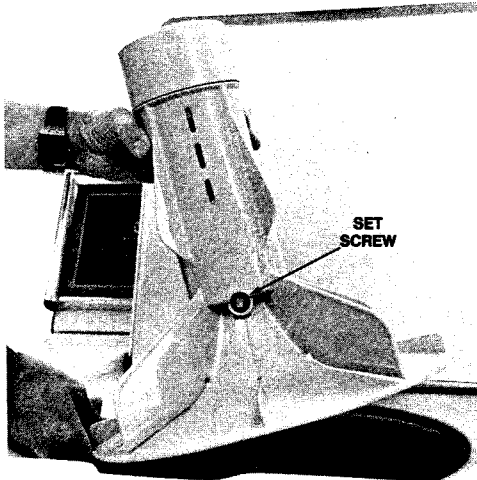
*The agitator design has been changed to accommodate the differed wash action and assure the same wash results. The original fins have been made smaller with additional small fins added to the agitator base and barrel.*

*This issue of Let's Talk Service is dedicated to this major change. Included, are disassembly and service procedures. They should be carefully reviewed.*

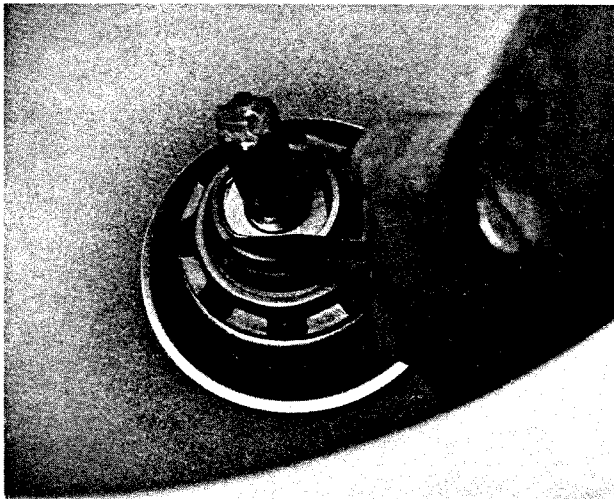
*Parts information is also attached to this issue.*

## Orbital Transmission Repair Procedure...

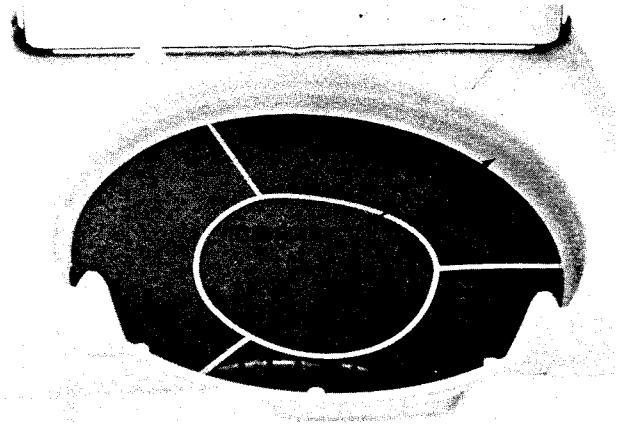
1. Loosen the set screw in the agitator and remove.



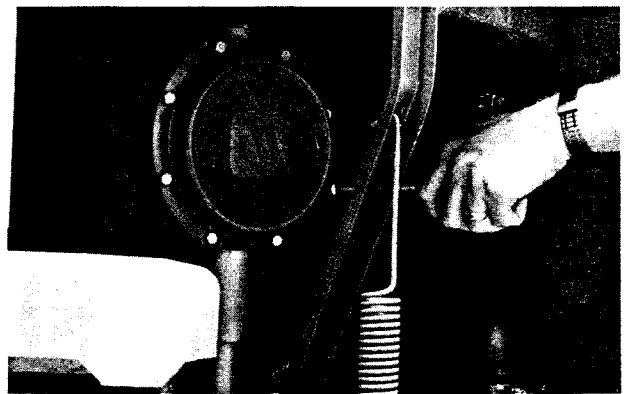
2. Remove the retaining washer and seal. These components are located in the top of the mounting stem and are easily removed with a screwdriver. Use the hook end of lock ring to remove the seal.



3. Place the tub block in the tub.



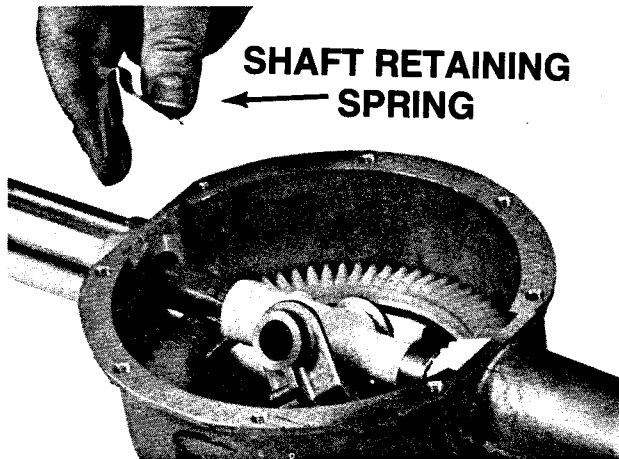
4. Remove the front panel.
5. Lay the washer on its back and remove the belts.
6. Place an oil catch pan under the center hub of the transmission.
7. Remove the eight (8) hex head bolts with a 7/16 nut driver. Be sure the bolt heads are facing up. This will insure that you will not get oil all over the back of the washer should the cover come loose.



8. Remove the cover plate. (It may be necessary to pry the plate off with a screwdriver.) Carefully rotate the transmission dumping the oil into your catch pan.



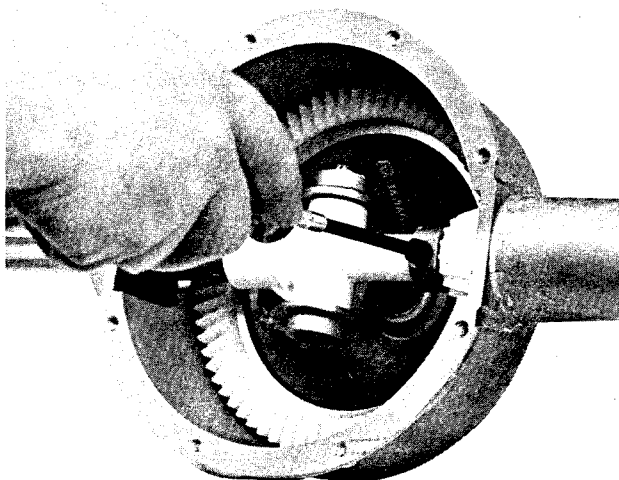
9. Remove the agitator shaft retaining spring by pushing in and lifting off of agitator shaft. Care should be taken when removing.



12. Pull the agitator shaft out through the tub. Remove "O" ring from shaft.

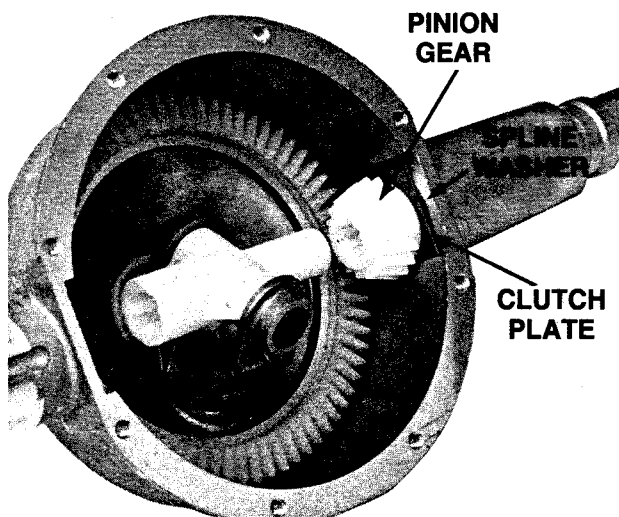


10. Remove the lower collar pin with an Allen wrench.

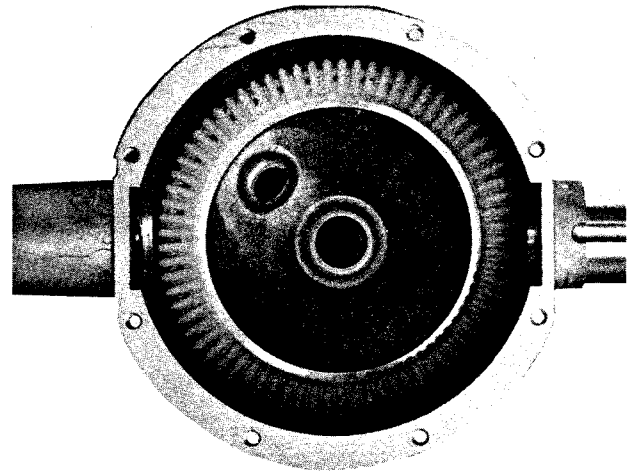
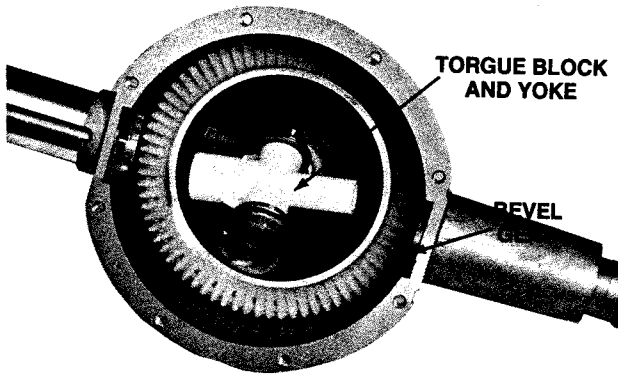


13. With the agitator and drive shafts removed, simply lift out the following parts: lower collar, pinion gear; followed by the clutch plate and splined washer, which are both located behind the pinion gear.

11. Grasp the drive pulley and slowly pull the center shaft out. Only a small amount of force will be needed to remove the shaft. Be careful not to damage the lip seal at the bottom of the transmission.



14. The torque block and yoke can now be removed, as can the bevel gear. Underneath the bevel gear is a spacer washer. Remove it.

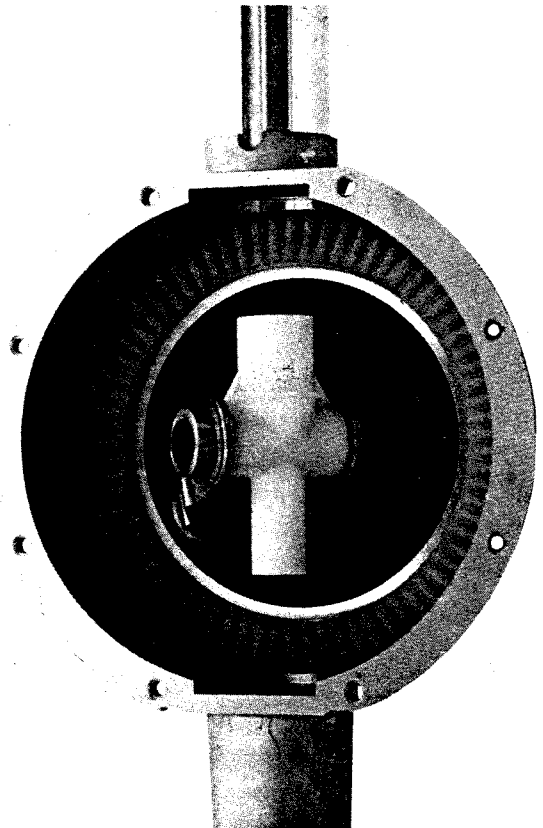
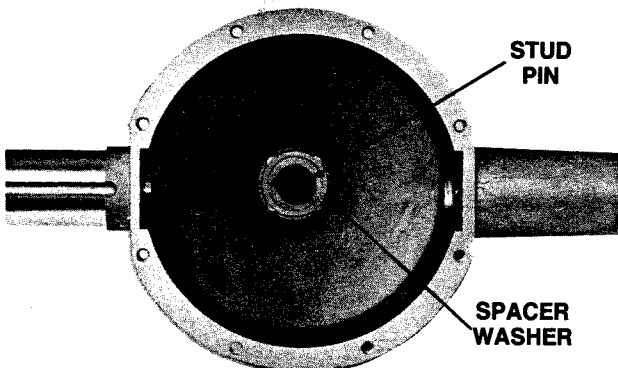


15. At this point all components to be re-assembled should be cleaned. Also, clean any silastic from the transmission housing and cover before re-assembling.

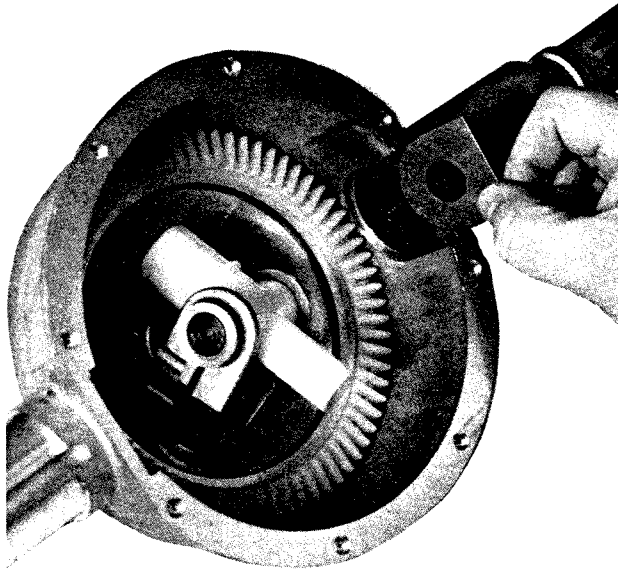
2. Place pivot stud and torque block into the hole in the bevel gear. Point the unsplined portion of the yoke towards the bottom of the washer.

### Reassembly Procedures:

1. Install spacer washer, followed by the bevel gear on the center stud pin.

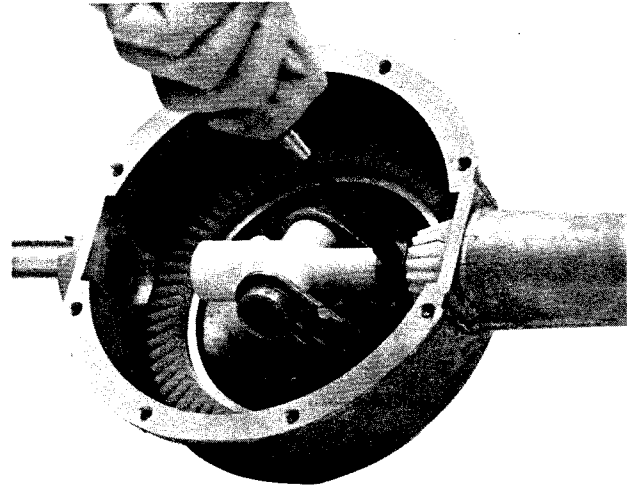


3. Place the copper splined washer on the bottom and clutch plate washer on top and lay them in the slot as shown.

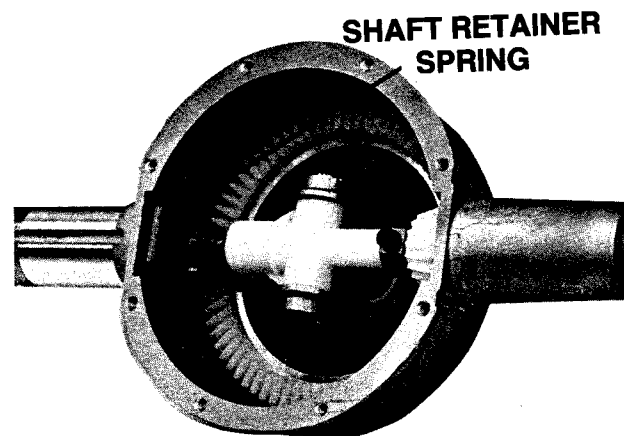


4. Place the pinion in line with the drive shaft hole then push the drive shaft through the various components until it is flush with the pinion gear. Some minor twisting of the shaft will be required in order to line up all of the splines.
5. Now place the round, lower lock collar between the unsplined portion of the yoke and pinion gear. Push the shaft into the smaller unsplined portion of the torque block and yoke.

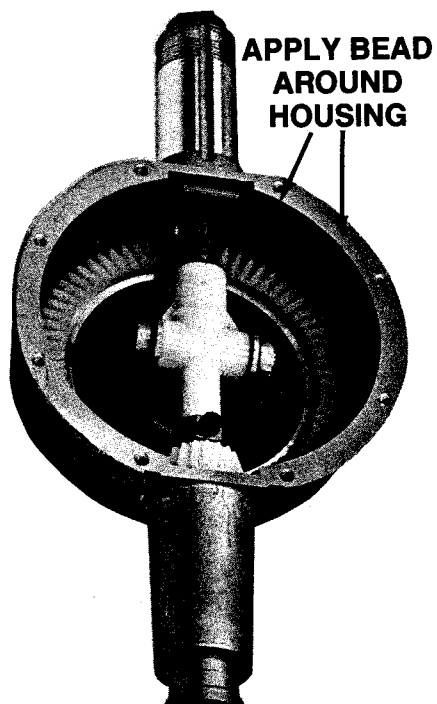
6. With all of the parts of this segment aligned and in place, install the pin for lock collar and tighten.



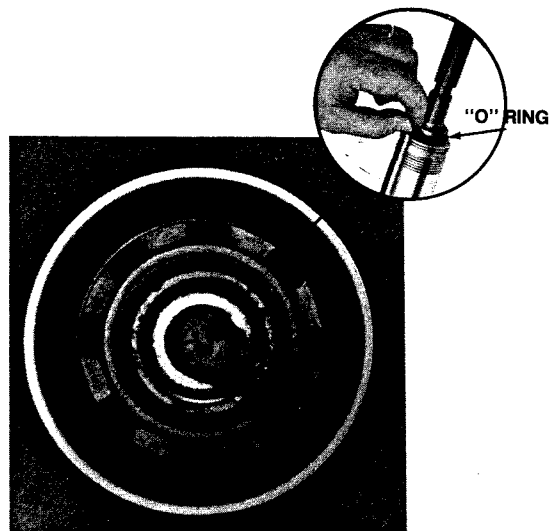
7. Insert the agitator shaft in through the top of the transmission housing. Align the splines and push together.
8. Place the agitator shaft spring into the groove portion of the agitator shaft. Squeezing the spring together will be required before it can be inserted into the groove.



9. Rotate the drive gear (counter clockwise) to check the transmission for proper operation.
10. Apply a new bead of silastic to the edge of the transmission housing. Fill with Maytag transmission oil Part No. 56080.



11. Place the cover on the housing. Insert the eight (8) bolts and tighten. Be sure not to over tighten these eight (8) bolts so as to prevent stripping the threads.
12. Reinstall the belts and front panel. Place washer upright and remove the tub block.
13. Insert the "O" ring over the agitator shaft. With the use of two screwdrivers work the "O" ring over the collar and back into the "V" groove.



14. Install seal, retaining washer and lock ring into the mounting stem.
15. Reinstall agitator and lock in place by tightening set screw.
16. Reinstall washer, level and check for proper operation.