

GE Consumer & Industrial

Technical Service Guide

December 2006

GE DRYER

DSXH47EG
DSXH47GG

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GE Appliances
General Electric Company
Louisville, Kentucky 40225

IMPORTANT SAFETY NOTICE

The information in this service guide is intended for use by individuals possessing adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

WARNING

If the information in this manual is not followed exactly, fire or explosion may result causing property damage, personal injury or death. If you smell gas:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in the building.
- Immediately call the gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach the gas supplier, call the fire department.

WARNING

To avoid personal injury, disconnect power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

RECONNECT ALL GROUNDING DEVICES

If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

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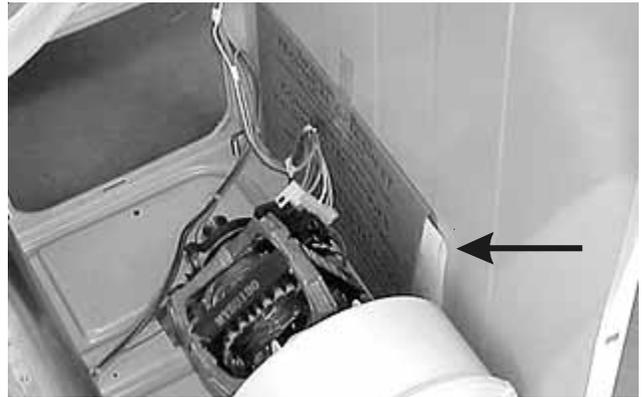
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QUICK REFERENCE SHEET

1. Serial nameplate location: On the front panel at the left side of the dryer door opening.



2. Tech sheet location: On the right-hand bodyside behind the front panel and inside rear access panel.



QUICK REFERENCE SHEET

Function test sequence

This is a functional test for the dryer. To activate this mode, perform the following steps:

1. Turn the cycle selector knob to the 12 o'clock position.
2. Press and hold the **Select** and **Pause Cancel** buttons simultaneously for (6) seconds.
3. Immediately after, press and hold the **Pause Cancel** and **START** buttons for (4) seconds.

The control will enter the test mode, the buzzer will sound 3 times and all LED's will rapidly flash.

After entering the test mode, the selector can now be rotated to select the following test.

Rotate program knob clockwise from the start position:

- | | |
|---------|---|
| 1 Turn | Drive motor runs, heat source is on. Drying LED is lit. Control thermistor reading is displayed. ** |
| 2 Turns | Drive motor runs; heat source is off. Cool Down LED is lit. |
| 3 Turns | Drive motor runs; heat source is off. Drying and Cool Down LED's are lit. The MORE DRY LED should be ON. Opening the door (press in on door switch plunger) and placing a finger on both moisture sense bars at the same time will make the DAMP LED come on. |
| 4 Turns | Drive motor runs; heat source is off. <ol style="list-style-type: none"> a. When the TEMPERATURE selector is rotated, there should be a key beep with each setting. |

- b. When the **DRYNESS** key is pressed, all the dryness level LEDs should light.
- c. When the **OPTIONS** or **Select** key is pressed, all the options LEDs should light.
- d. When the **START** key is pressed, all the cycle status LEDs should light.
- e. When the **Pause Cancel** key is pressed, all the cycle status LEDs should light.

5 Turns Drive motor runs; heat source is off. **Cool Down** LED is lit. Control thermistor reading is displayed. **

6 Turns Drive motor runs; heat source is on. **Drying** LED is lit. Control thermistor reading is displayed. **

To **EXIT** test mode, press and hold the **Select** and **Pause Cancel** buttons simultaneously for six seconds or disconnect power from dryer. Dryer will be reset for regular operation.

**The dryness LED's are used to determine the control thermistor reading. The number of flashes of the bottom three LEDs will determine the value of the temperature as follows.

NORMAL = HUNDRED'S
 LESS DRY = TEN'S
 DAMP = ONE'S

Example: Normal flashes 1 time
 Less Dry flashes 2 times
 Damp flashes 6 times
 Temperature = 126 degrees.

QUICK REFERENCE SHEET

SPECIFICATION	ELECTRIC MODELS	GAS MODELS
Electrical		
Volts 120/208 or 120/240	120/208 or 120/240	120
Amps (circuit)	30	15
Motor wattage	160-350 Watts	160-350 Watts
Heat input (Watts @ 208/240 VAC)	3200/4500	---
Heat input (BTU/Hr.)	---	20,000
Auto. Elec. Ignition	---	Yes
Drum		
Size (Cu. Ft.)	5.7	5.7
Finish	Power Paint Epoxy	Power Paint Epoxy
R.P.M.	48 - 54	48 - 54
Airflow CFM	200	200
DRUM TEMPERATURES (Max. opening on 1st cycle)		
High	138° - 190°	145° - 190°
Medium	134° - 180°	140° - 180°
Medium/Low	130° - 170°	130° - 170°
Low	120° - 165°	120° - 165°
Dimension (Inches)		
Height (Stack Models)	36"	36"
Width	27"	27"
Depth	28.5"	28.5"
Vent Capability**	4-Way	3-Way
Top Finish	Power Paint Enamel	Power Paint Enamel
Port Opening (Sq. In.)	235	235

** Electric dryers can be vented four ways: through back, bottom, right or left side.

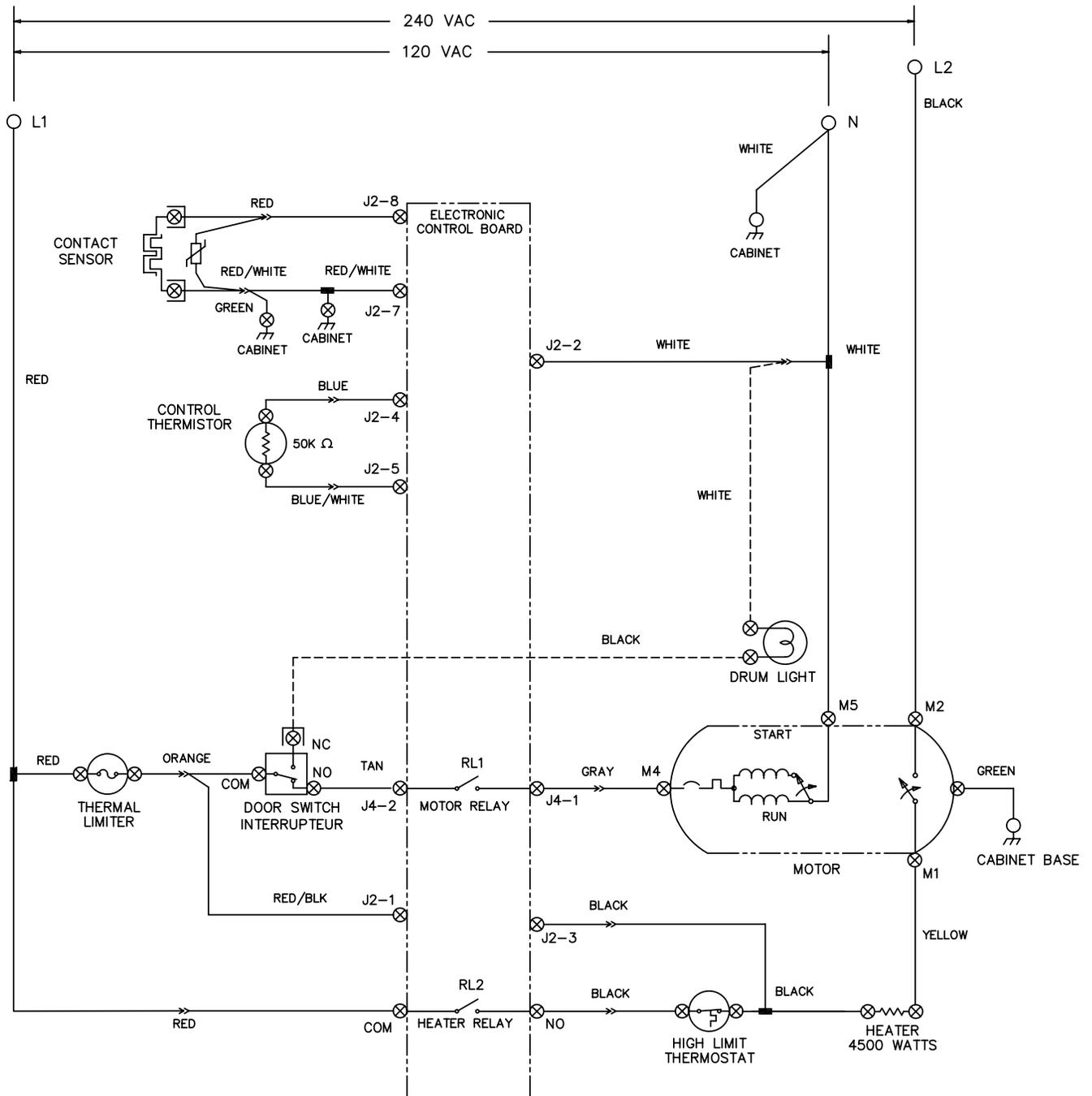
** Gas dryers can be vented three ways: through back, bottom, or right side.

QUICK REFERENCE SHEET

Component Resistances*	Electric Models	Gas Models
Drive motor (120 volt, 60 Hz, 1/4 h.p. 1725 rpm)		
Motor Start Winding	4.5 Ohms	4.5 Ohms
Motor Run Winding	3.8 Ohms	3.8 Ohms
Heating Element	12.8 Ohms	
Control Thermistor	50,000 Ohms	50,000 Ohms
Burner Assembly		
Ignitor	---	50 - 400 Ohms
Secondary Coil	---	1200 Ohms
Booster Coil	---	1320 Ohms

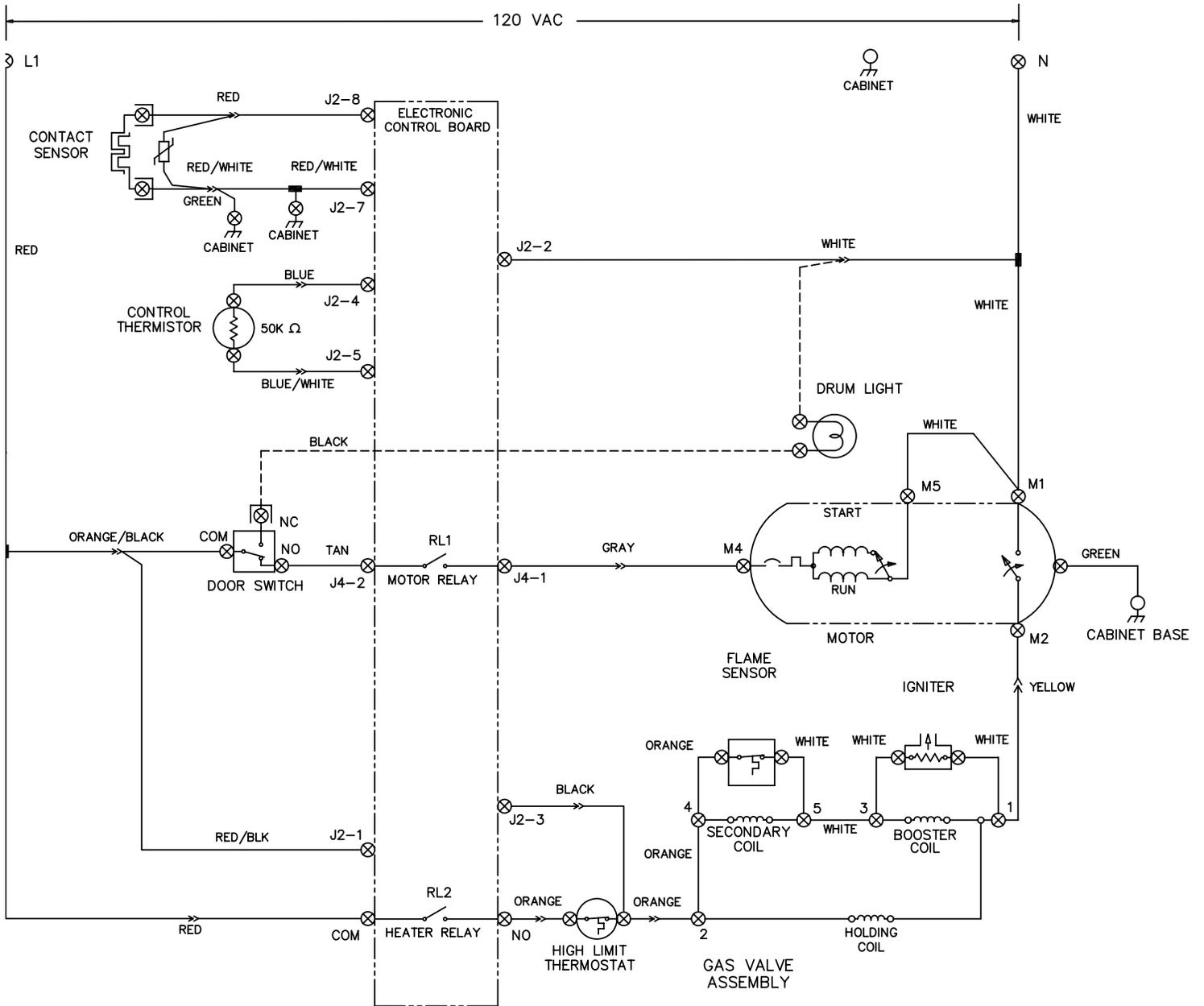
* +/-10% @ 77°F

WIRING DIAGRAM FOR ELECTRIC MODELS



WIRING CODES	
⊗	QUICK DISCONNECT TERMINAL
+	CONNECTION
+	NO CONNECTION
⤴	MOTOR SWITCH
— —	SPLICE
— —	MOTOR PROTECTOR
⏏	CHASSIS (CABINET) GROUND
○	SCREW TERMINAL
→	HARNES CONNECTOR TERMINAL
⊠	INSULATED TERMINAL
— —	TRANSIENT VOLT SUPPRESSOR

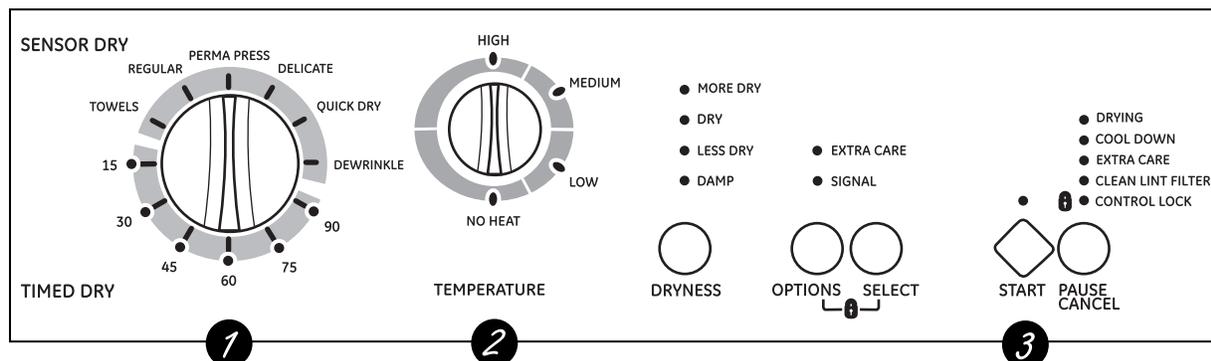
WIRING DIAGRAM FOR GAS MODELS



WIRING CODES	
	QUICK DISCONNECT TERMINAL
	CONNECTION
	NO CONNECTION
	MOTOR SWITCH
	SPLICE
	MOTOR PROTECTOR
	CHASSIS (CABINET) GROUND
	SCREW TERMINAL
	HARNES CONNECTOR TERMINAL
	INSULATED TERMINAL
	TRANSIENT VOLT SUPPRESSOR

OPERATING INSTRUCTIONS

About the dryer control panel.



Control Settings

1 Drying Cycles

The **REGULAR**, **PERMA PRESS** and **DELICATE** cycles automatically sense fabric dryness. Select **MORE DRY** for heavier fabrics, **LESS DRY** for lighter fabrics. The **TIMED DRY** cycle will run for a selected time.

TOWELS For towels and heavy cottons.

REGULAR For regular to heavy cottons.

PERM PRESS For wrinkle-free, permanent press and delicate items.

DELICATES For lingerie and special-care fabrics.

QUICK DRY For small loads that are needed in a hurry, such as sports and school uniforms. Can also be used if the previous cycle left some items damp, such as collars or waistbands.

DEWRINKLE For removing wrinkles from items that are dry or slightly damp. This cycle is not recommended for delicate fabrics.

TIMED DRY Set the Cycle Selector at the desired drying time.

2 Fabric Care

HIGH For regular to heavy cottons.

MEDIUM For synthetics, blends and items labeled *permanent press* or *tumble dry medium heat*.

LOW For knits, delicates, synthetics and items labeled *tumble dry low heat*.

NO HEAT For *fluffing* items without heat. Use the **TIMED DRY** cycle.

3 Start

Close the dryer door. Select **START**. Opening the door during operation will stop the dryer. To restart the dryer, close the door and select **START** to complete the cycle.

Control Lock

To prevent accidentally starting or stopping the washer, press **OPTIONS** and **SELECT** at the same time until the Control Lock indicator is lighted. To unlock the controls, press **OPTIONS** and **SELECT** again.

About your dryer features.

Signal Option

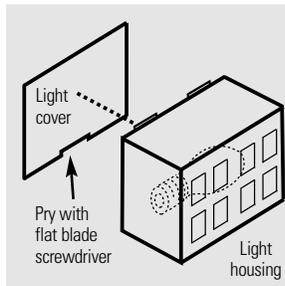
When the signal is on it will sound just before the end of the cycle to remind you to remove the clothes.

If the dried load cannot be removed promptly during the cycle, the Cycle Selector will advance to the **EXTENDED COOL DOWN** setting. Unheated tumbling continues during **EXTENDED COOL DOWN** and **WRINKLE CARE** (on some models) for 40 minutes to help reduce wrinkling. When the **CYCLE SIGNAL** is on, it will sound briefly every five minutes as a reminder to remove the load.

Wrinkle Care

Use this option to minimize the wrinkles in clothes. It provides approximately 15 minutes of no-heat tumbling after the clothes are dry.

This option can only be used with the **PERMA PRESS** and **DELICATE** cycles.



Replacing the Dryer Light Bulb

⚠ WARNING: To reduce the risk of electric shock, disconnect this appliance from the power supply before attempting any user maintenance. Turning the controls to the **OFF** position does not disconnect this appliance from the power supply.

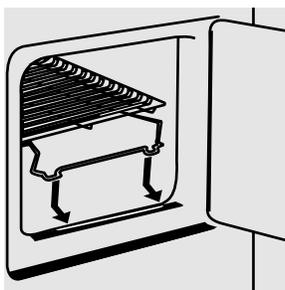
The dryer light is located above the dryer door opening.

Before replacing the light bulb, be sure to unplug the dryer power cord or disconnect the dryer at the household distribution

panel by removing the fuse or switching off the circuit breaker.

To replace the dryer light:

- 1 Using a small flat blade screwdriver, pry the bottom of the *light cover* out and off the *light housing*.
- 2 Unscrew the bulb when cool and replace it with an appliance bulb of the same or lower wattage.
- 3 Snap the *light cover* back on the *light housing*.



Drying Rack (on some models)

A handy drying rack may be used for drying articles such as stuffed toys, pillows or washable sweaters.

- 1 Remove the lint screen.
- 2 Place the front bar under the lip of the lint screen opening.
- 3 When items are dry, remove the rack and replace the lint screen. **DO NOT OPERATE THE DRYER WITHOUT THE LINT SCREEN IN PLACE UNLESS THE DRYING RACK IS IN PLACE.**

NOTE:

The drying rack must be used with the **TIMED DRY** cycle.

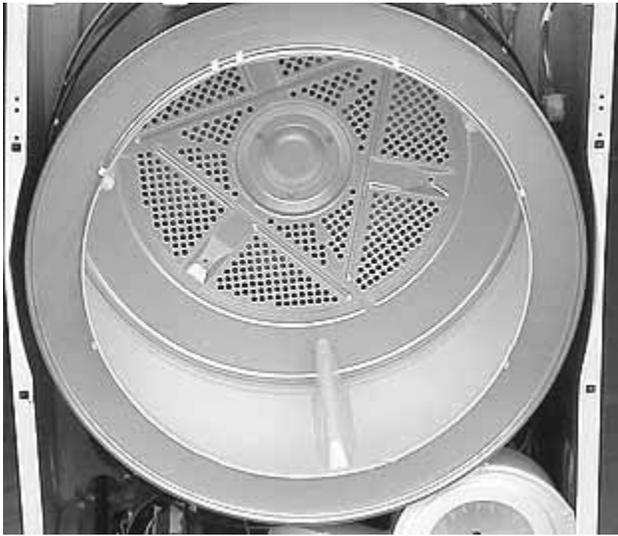
Do not use this drying rack when there are other clothes in the dryer.

HOW THE COMPONENTS WORK

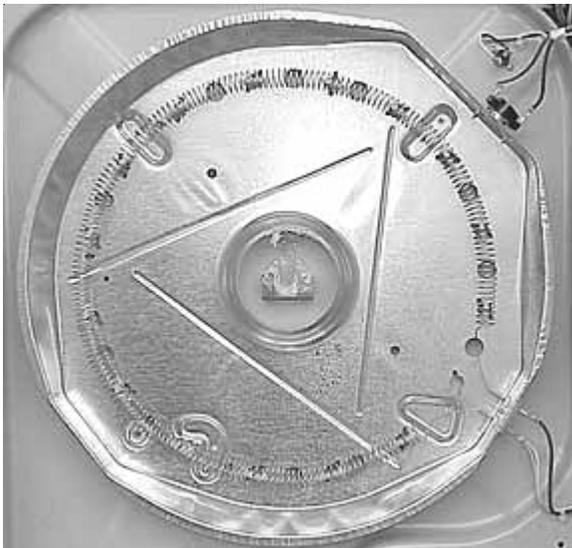
Clothes dryers remove moisture from clothes by pulling air, either warmed or room temperature, through the clothes while they are being tumbled by a turning drum. The moisture from the clothes is exhausted through the dryer vent system to the outside of the house.

The basic components are:

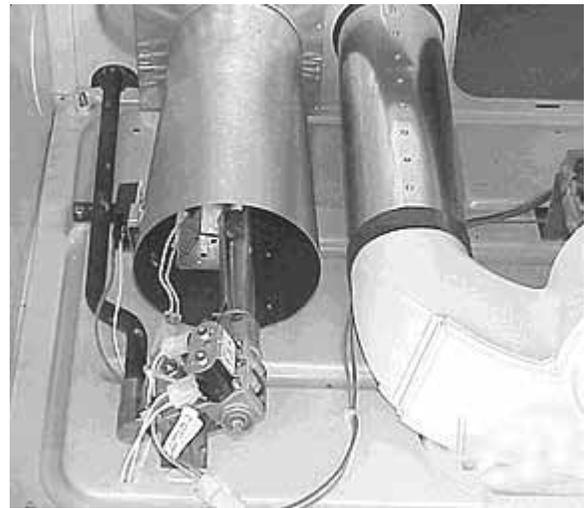
Drum



Heat Source



Electric

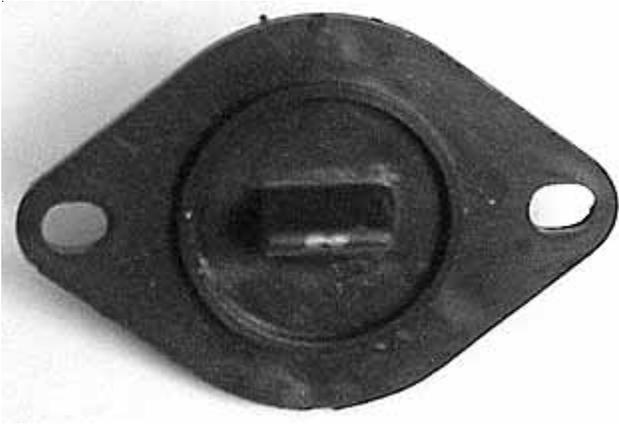


Gas

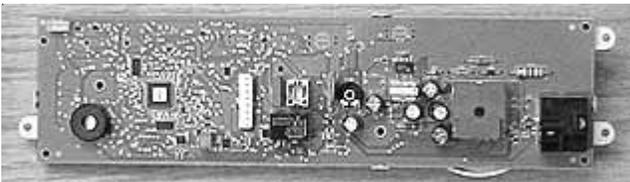
Drive motor and blower:



Control thermistor:



Electronic control board:

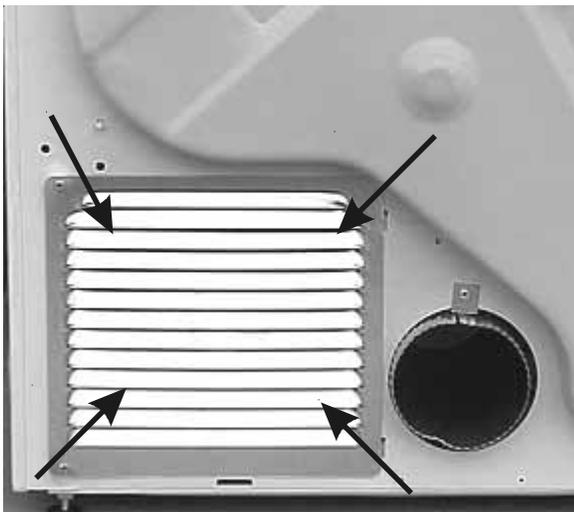


Airflow

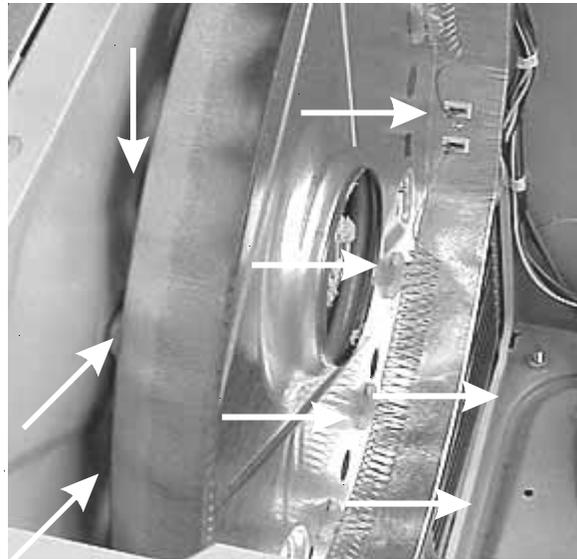
Since the moisture in the clothes is removed by air moving through the drum, it is important to understand the complete air flow system.

Airflow electric dryers:

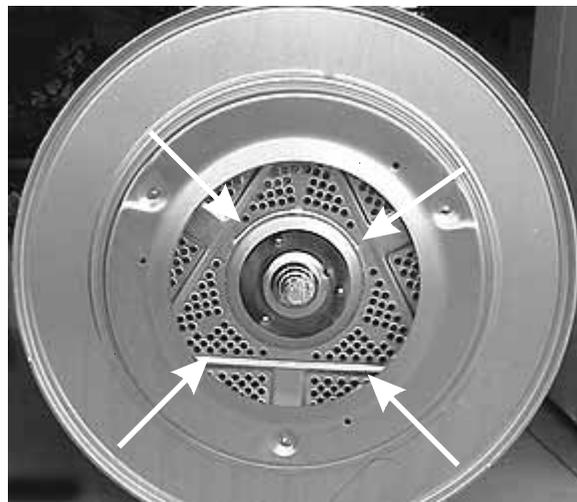
Room air enters the dryer through a louvered panel in the rear right-hand corner of the dryer.



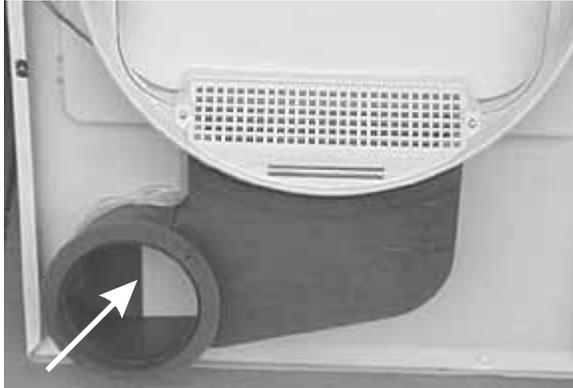
Once inside the dryer cavity, the air is drawn between the rear wall of the dryer and the plenum. The holes in the plenum allow the air to be drawn across the heating element. In any cycle, other than No Heat, the heating element heats the air as it passes through.



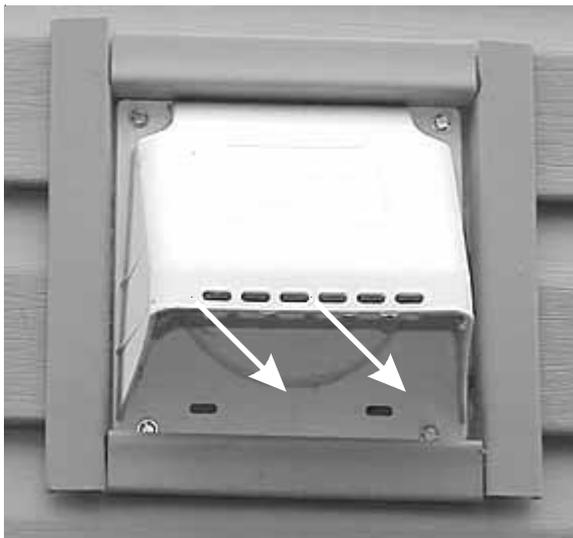
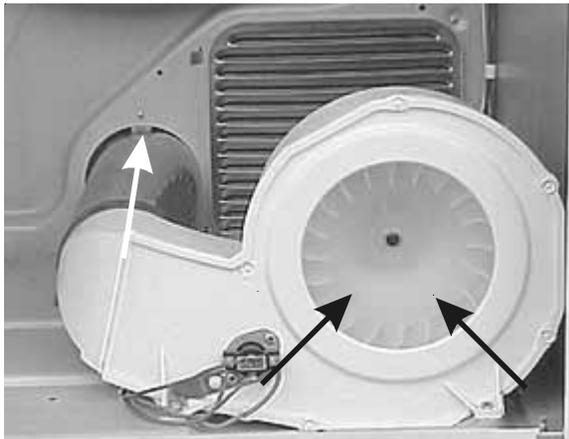
The air then is drawn into the drum through the holes in the rear of the drum.



The air passes through the drum, picking up moisture and is drawn through the lint filter into the ductwork at the front of the dryer.



The air enters the fan housing and is pushed out the exhaust vent to the outside of the house.

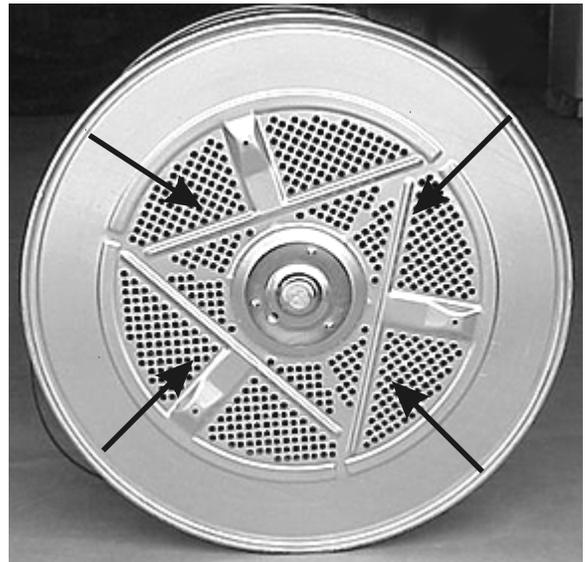


Airflow gas dryers:

The airflow in gas dryers is similar to electric dryers except for the heat source and the rear of the drum. The air enters the cavity through the louvered opening in the right rear corner of the dryer. The air is then pulled across the gas burner through the burner chamber and ducted to the rear of the drum.



The drum is the same as in the electric dryer, except it does not have a heat baffle on it.



Airflow problems:

Airflow problems are usually caused by restrictions, leaks or short unrestricted vents resulting in longer drying times, hotter dryer surfaces and, in extreme cases, the thermal limiter may open on electric dryers.

Restrictions:

Restrictions can occur any place in the airflow system, but the most common are:

1. Installing the dryer in a small inclosed area, such as a closet without a louvered door that reduces the intake air.
2. Fan problems caused by either a slow running motor, a broken or deformed fan blade or a deformed fan housing.
3. A lint restriction in the lint screen area. Operator may not be cleaning the lint screen before using.
4. A restriction in the exhaust system in the house caused by the design of the vent, such as, the diameter of the vent pipe being too small, too long, too many right angles, or a collapsed or lint restricted vent pipe.

Note: Problems caused by the vent pipe in the house are not covered under the product warranty.

Air leaks:

Two types of air leaks may occur:

1. Air being drawn in around the door opening, between the drum and the front panel, or around the foam seal between the front duct and the blower housing, replaces some of the air being drawn through the drum and lowers the efficiency of the dryer.

Note: An air leak that occurs around the door opening or between the drum and the front panel usually will cause lint to build up on the inner panel of the door.

2. Air being pushed out around the blower housing or vent pipe inside the dryer, allows some of the moisture that has been removed from the clothes to be recirculated.

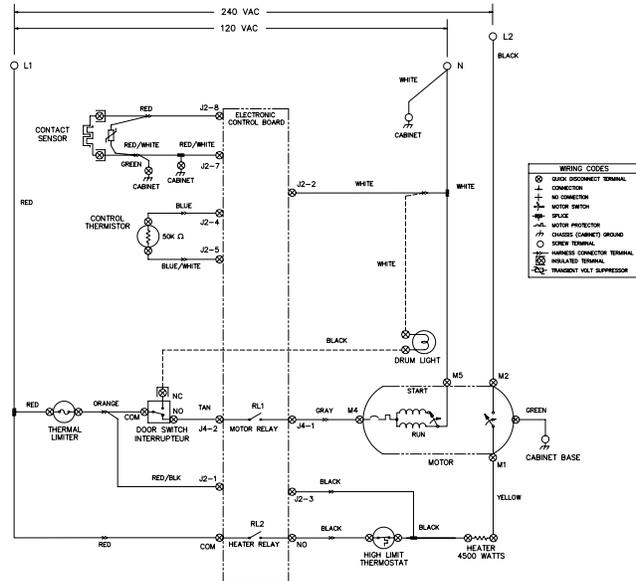
Short unrestricted vents:

The venting system in the dryer is designed to operate under some back pressure. This back pressure is needed to slow the airflow and allow the air to be heated before it passes through the clothes.

Note: With short direct vent runs, such as you have when the dryer is installed against an outside wall, use a 2 1/2" vent cap rather than a 4" vent cap.

Electrical Operation (Electric Dryer Models)

Note: Always refer to the wiring diagram or schematic with the product.



When the dryer is connected to electrical power, line 1 is connected to one side of the thermal limiter and the COM terminal of the heater relay RL 2 that is mounted on the electronic control board. Power is applied to the control board through thermal limiter to pin 1 of the eight pin plug. The electronic control board controls the operating temperature of the dryer and length of the cycle by either sensing the amount of moisture in the clothes or cycles for a fixed amount of time when time dry is used.

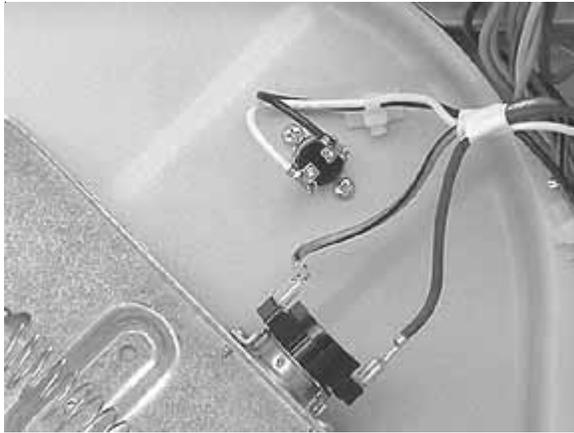
Note: For information on programming the electronic control and the cycles, refer to section A.

Electronic Control Board Circuits:

Line 1 is applied to the control board at pin 1 of the eight pin plug and neutral on pin 2 of the eight pin plug. The control board receives inputs from the selector switch, temp switch and push buttons which program the control, the contact sensors that sense the amount of moisture in the clothes, and the control thermistor, which senses the temperature in the dryer. The control board uses these inputs to control the drive motor circuit by opening and closing the contacts of relay RL 1 and the heater circuit by opening and closing the contacts of relay RL 2.

Drive Motor Circuit:

When power is connected to the dryer, line 1 is applied through the thermal limiter (a non-resettable fuse mounted on the rear wall of the dryer) to the COM terminal of the door switch.



When the door is closed the COM terminal is connected to terminal NO of the door switch. From terminal NO power is applied to terminal J4-2 of the motor relay RL 1 on the control board. When the control board closes relay RL 1 power is applied through terminal J4-1 to terminal M4 of the drive motor.

Terminal M4 is connected inside the motor to one side of the thermal overload. (The thermal overload protects the motor from being damaged by overheating.) The other side of the thermal overload is connected to one end of both the run winding and the start winding of the drive motor. When the motor is not turning, the other end of the start winding is connected internally to terminal M5 of the motor through the NC contact of the motor centrifugal switch. The other end of the run winding is also connected internally to terminal M5, which is connected to neutral.

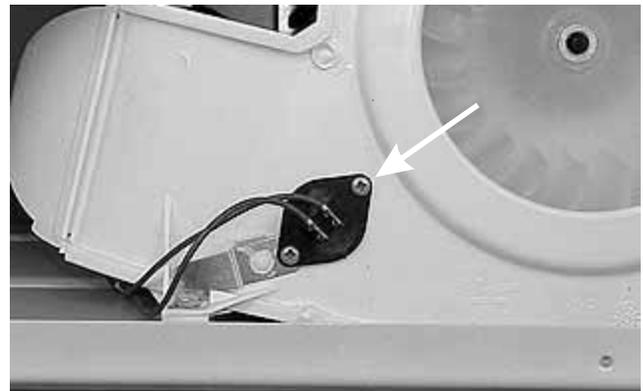
When the motor is not turning, the start winding and the run winding are connected in parallel. When the contacts of relay RL 1 are closed, with the dryer door closed, line 1 and neutral voltage is applied across both the start and run windings of the drive motor. With power applied to both the start and run windings, the motor starts to turn.

When the speed of the motor reaches about 80% of its normal run speed, the contacts of the centrifugal switch remove power from the start winding thus removing the start winding from the circuit.

The drive motor performs two tasks in the dryer. A pulley attached to one end of the motor shaft uses a belt to drive the dryer drum. The blower wheel is attached to the other end of the motor shaft to pull the air through the clothes and force it out the exhaust vent.

Temperature Sensing Circuit:

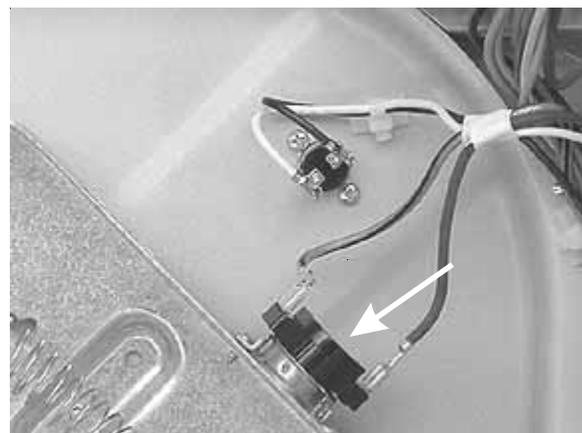
The temperature in the dryer is controlled by the control thermistor and the electronic control board. The control thermistor, mounted in the blower fan housing, is a negative coefficient thermistor that decreases in resistance as the temperature increases.



The electronic control board reads the resistance of the thermistor and converts it to temperature. It compares the reading from the thermistor to the temperature setting for the cycle.

The Heating Circuit:

The electronic control board applies power to the heating circuit through the contacts of heater relay RL 2. When the electronic control senses the temperature in the drum is below the programmed temperature, it closes the contact of RL 2. This applies line 1 power to the high limit thermostat mounted on the heating element assembly.

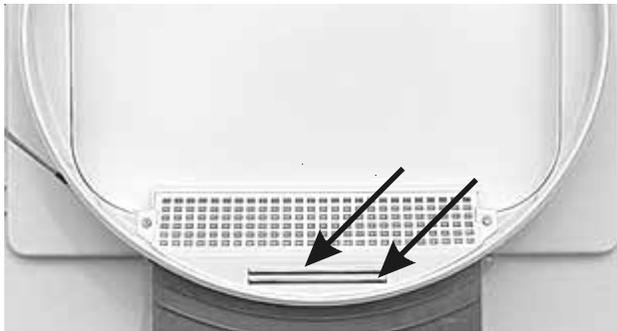


The high limit thermostat is a safety device that prevents the dryer from overheating if the contacts of the RL 2 fail closed. The contacts of the high limit thermostat, normally closed, are set to open at a temperature above the preset temperature specifications of the electronic control board. From the output terminal of the high limit thermostat, line 1 is connected to one side of the element and to pin 3 of the eight pin plug. The other side of the heating element is connected to line 2 through the contacts of the second centrifugal switch in the drive motor. This switch prevents power from being applied to the element if the motor is not running. The connection to pin 3 allows the control to monitor the contacts of the high limit thermostat and show an error code if the contacts open above a preset number of times in a cycle.

Drying Time:

The amount of drying time is determined in one of two ways. A fixed amount of drying time is determined by turning the SELECTOR knob to one of the fixed drying times. The AUTO DRY cycles a variable amount of time determined by the size of the load, the amount of moisture in the clothes, and the dryness setting selected.

In the AUTO DRY cycles, the electronic control reads the capacitance between the two sensor bars located in the vent cover.

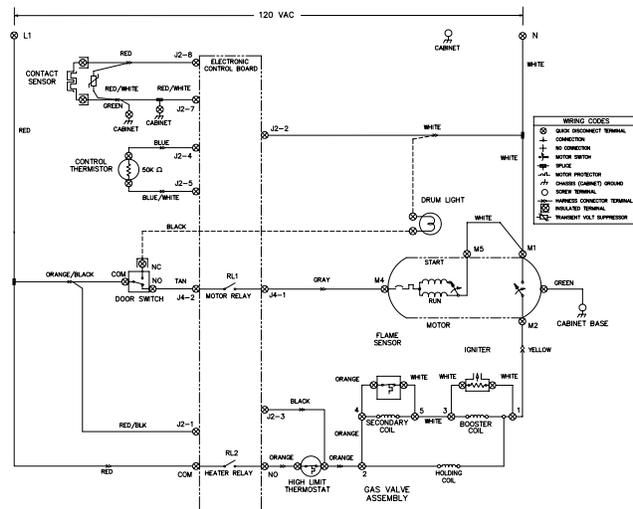


When wet clothes are placed in the dryer, the clothes touch the sensor bars and the moisture lowers the capacitance between the bars. As the dryer runs, moisture is removed from the clothes and the capacitance between the bars increases. When the increase in capacitance satisfies the electronic control, the cycle status changes from "Auto Dry" to "Cool Down" and the load is tumbled without heat. At the end of cycle, the electronic control will turn the dryer off and the end-of-cycle signal sounds.

Electrical Operation (Gas Dryer Models)

Note: Always refer to the wiring diagram or schematic with the product.

Sample wiring diagram.



When the dryer is connected to electrical power, line 1 is connected to pin (1) of the eight pin plug of the control board, the terminal marked COM on the door switch and the COM terminal of the heater relay that is mounted on the electronic control board. Pin 1 of the eight pin plug provides power to the electronic control board. The electronic control board controls the operating temperature of the dryer and length of the cycle by either sensing the amount of moisture in the clothes or cycles for a fixed amount of time when time dry is used.

Electronic Control Board Circuits:

Line 1 is applied to the control board at pin 1 of the eight pin plug and neutral is connected on pin 2 of the six pin plug. The control board receives inputs from the membrane switches, which program the control, the contact sensors that sense the amount of moisture in the clothes and the control thermistor which senses the temperature in the dryer. The control board uses these inputs to control the drive motor circuit by opening and closing the contacts of relay RL 1 and the heater circuit by opening and closing the contacts of relay RL 2.

Drive Motor Circuit:

When power is connected to the dryer, line 1 is applied to the COM terminal of the door switch. When the door is closed the COM terminal is connected to terminal NO of the door switch. From terminal NO, power is applied to terminal J4-2 of the control board and to the motor

relay RL 1 on the control board. When the control board closes relay RL 1, power is applied through terminal J4-1 to terminal M4 of the drive motor.

Terminal M4 is connected inside the motor to one side of the thermal overload. (The thermal overload protects the motor from being damaged by overheating.) The other side of the thermal overload is connected to one end of both the run winding and the start winding of the drive motor. When the motor is not turning, the other end of the start winding is connected internally to terminal M5 of the motor through the NC contact of the motor centrifugal switch. The other end of the run winding is also connected internally to terminal M5 which is connected to neutral.

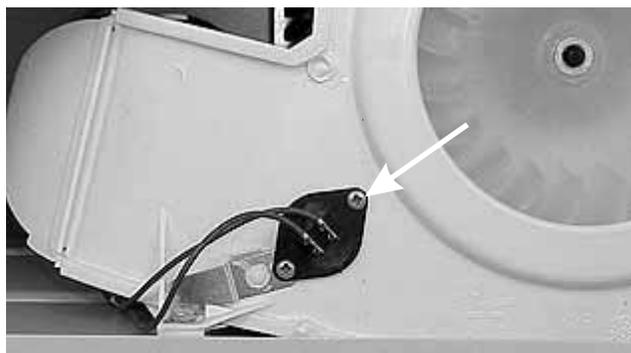
When the motor is not turning, the start winding and the run winding are connected in parallel. When the contacts of relay RL 1 are closed, with the dryer door closed, line 1 and neutral voltage are applied across both the start and run windings of the drive motor. With power applied to both the start and run windings, the motor starts to turn.

When the speed of the motor reaches about 80% of its normal run speed, the contacts of the centrifugal switch remove power from the start winding, thus removing the start winding from the circuit.

The drive motor performs two tasks in the dryer. A pulley attached to one end of the motor shaft uses a belt to drive the dryer drum. The blower wheel is attached to the other end of the motor shaft to pull the air through the clothes and force it out the exhaust vent.

Temperature Sensing Circuit:

The temperature in the dryer is controlled by the control thermistor and the electronic control board. The control thermistor, mounted in the blower fan housing, is a negative coefficient thermistor that decreases in resistance as the temperature increases.



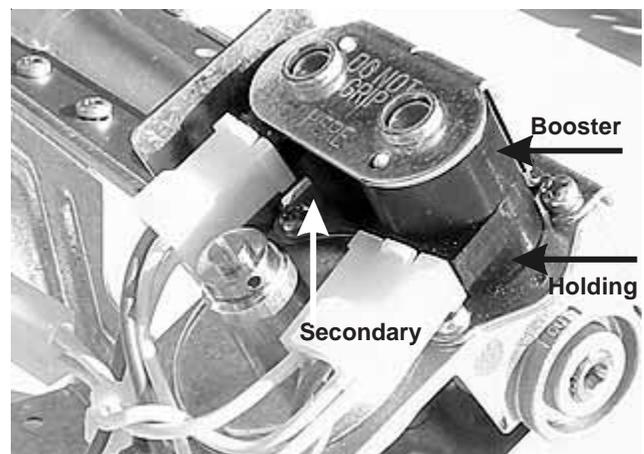
The electronic control board reads the resistance of the thermistor and converts it into temperature. The electronic control compares the reading from the thermistor to the temperature setting for the cycle and cycles the heating circuit accordingly.

The Heating Circuit:

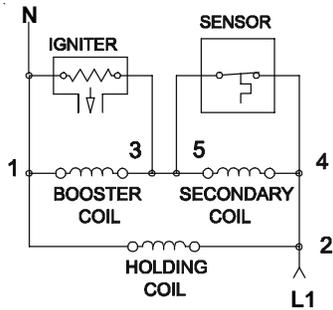
The electronic control board applies power to the heating circuit through the contacts of relay RL 2. When the electronic control senses that the temperature in the drum is below the programmed temperature, it closes the contact of heater relay RL 2 applying line 1 to the high limit thermostat. The high limit thermostat is a safety device that prevents the dryer from overheating if the contacts of the relay RL 2 fail closed. The contacts of the high limit thermostat are normally closed and are set to open at a temperature above the preset temperature specifications of the electronic control board. From the output terminal of the high limit thermostat, line 1 is connected to pin 3 of the eight pin plug, one side of the holding coil of the gas valve, the secondary coil of the gas valve, and the sensor that is mounted on the burner chamber.

The connection to pin 3 allows the control to monitor the contacts of the high limit thermostat and show an error code contacts open above a preset number of times in a cycle.

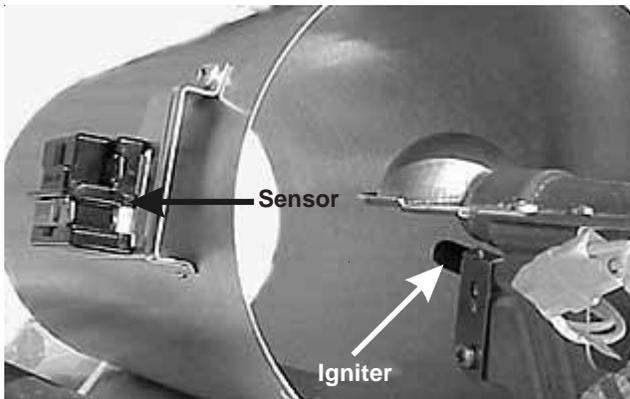
The holding coil, secondary coil, booster coil, sensor, and igniter circuits interact with one another to assure safe operation of the dryer gas burner.



The gas valve has two chambers in series, both must be opened before gas will flow into the burner. The solenoid that controls the gas flow through the first chamber has two coils, the booster coil and the holding coil. The solenoid that controls the second chamber has one coil, the secondary coil.



The other side of the holding coil, booster coil and igniter are connected to neutral through the second centrifugal switch in the motor (closed when the motor is running). When power is applied across these circuits, current flows through the holding coil but the holding coil does not have enough magnetic force to open the solenoid by itself. At the same time, current flows through the sensor contacts providing power to the booster coil and the igniter. When current flows through both the holding and booster coils, the first chamber opens. The contacts of the sensor are in parallel with the secondary coil. As long as the contacts of the sensor remain closed, current flow bypasses the secondary coil, and gas is prevented from flowing through the second chamber of the valve to the burner.



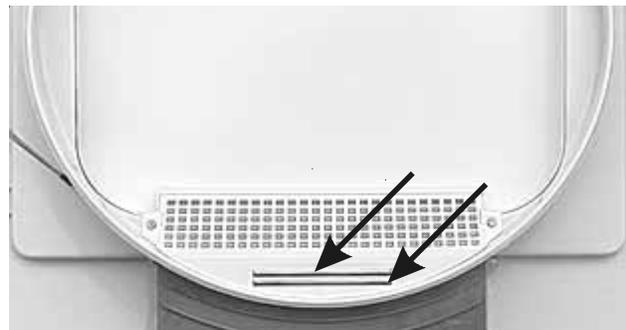
It is necessary to raise the temperature above 1100°F to ignite gas. As current flows through the igniter, the temperature of igniter raises from room temperature to approximately 1800°F within 30 seconds. The contacts of the sensor are heat sensitive and set to open above the ignition temperature of gas. When the sensor contacts open, current flows through the secondary coil, opening the second chamber, allowing gas to flow to the burner, which is ignited by the heat of the igniter. When the contacts of the sensor are open, the parallel circuit formed by the igniter and the booster coil are in series with the secondary coil which lowers the current flow through the igniter and booster coil.

Since it takes less magnetic force to hold a solenoid open than it does to open it, the first solenoid remains open when the current through the booster coil is reduced. The reduction of current flow through the igniter reduces heat from the igniter but the sensor contacts are held open by the heat of the burner flame.

Drying Time:

The amount of drying time is determined in one of two ways: (1) A fixed amount of drying time may be obtained by turning the SELECTOR knob to one of the fixed drying times. (2) The AUTO DRY cycles the variable amount of time determined by the size of the load, the amount of moisture in the clothes and the dryness setting selected.

In the AUTO DRY cycles, the electronic control reads the capacitance between the two sensor bars located in the vent cover.



When wet clothes are placed in the dryer, the clothes touch the sensor bars and the moisture lowers the capacitance between the bars. As the dryer runs, moisture is removed from the clothes, the capacitance between the bars increases. When the increase in capacitance satisfies the electronic control, the cycle status will change from "Auto Dry" to "Cool Down" and the load is tumbled without heat. At the end of cycle, the electronic control will turn the dryer off and the end of cycle signal will sound.

TROUBLESHOOTING

Service Error Codes

The electronic controls of the dryer have self diagnostics codes built in that cover most product failures.

When a failure occurs, the dryer stops or pauses. The control will beep and flash the **STATUS** lights to tell the customer that a failure has occurred. To stop the flashing and beeping, touch the **Pause Cancel** button. The error code remains stored in the control.

To view the error codes:

1. Rotate the cycle select knob to the 3 o'clock position.
2. Press and hold the **Select** and **Pause Cancel** buttons simultaneously for (6) seconds.
3. Immediately after, press and hold the **START** and **Pause Cancel** buttons simultaneously for (4) seconds.
4. Rotate the cycle select knob to the 2 o'clock position.

The four indicator lights of **Drying, Cool Down, Extra Care** and **Clean Lint Filter** will flash the number of times for the first digit of the code after the E, and the **START** indicator light will flash the number of times for the second digit after the E. The code is obtained by counting the number of times the lights flash. Example E24: the four indicator lights would flash twice indicating the 2 and the **START** indicator light will flash four times indicating the 4. The four indicator lights and the **START** indicator light will start flashing at the same time. The control will then pause for 2 seconds, then repeat the code.

Troubleshoot the problem by using the chart on the next page.

The error codes remain in memory until cleared from the control.

To move to the next code, press the **OPTIONS** button.

To clear code, press the **Select** button.

To exit this mode, simultaneously press and hold the **Select** and **Pause Cancel** buttons for (6) seconds.

Note: A letter appearing in the code stands for a number higher than nine.

A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Example Code E4A: the first digit would be 4 and the second digit would be 10. If this code would appear on a washer, the four indicator lights would blink four times and the **START** indicator light would blink ten times.

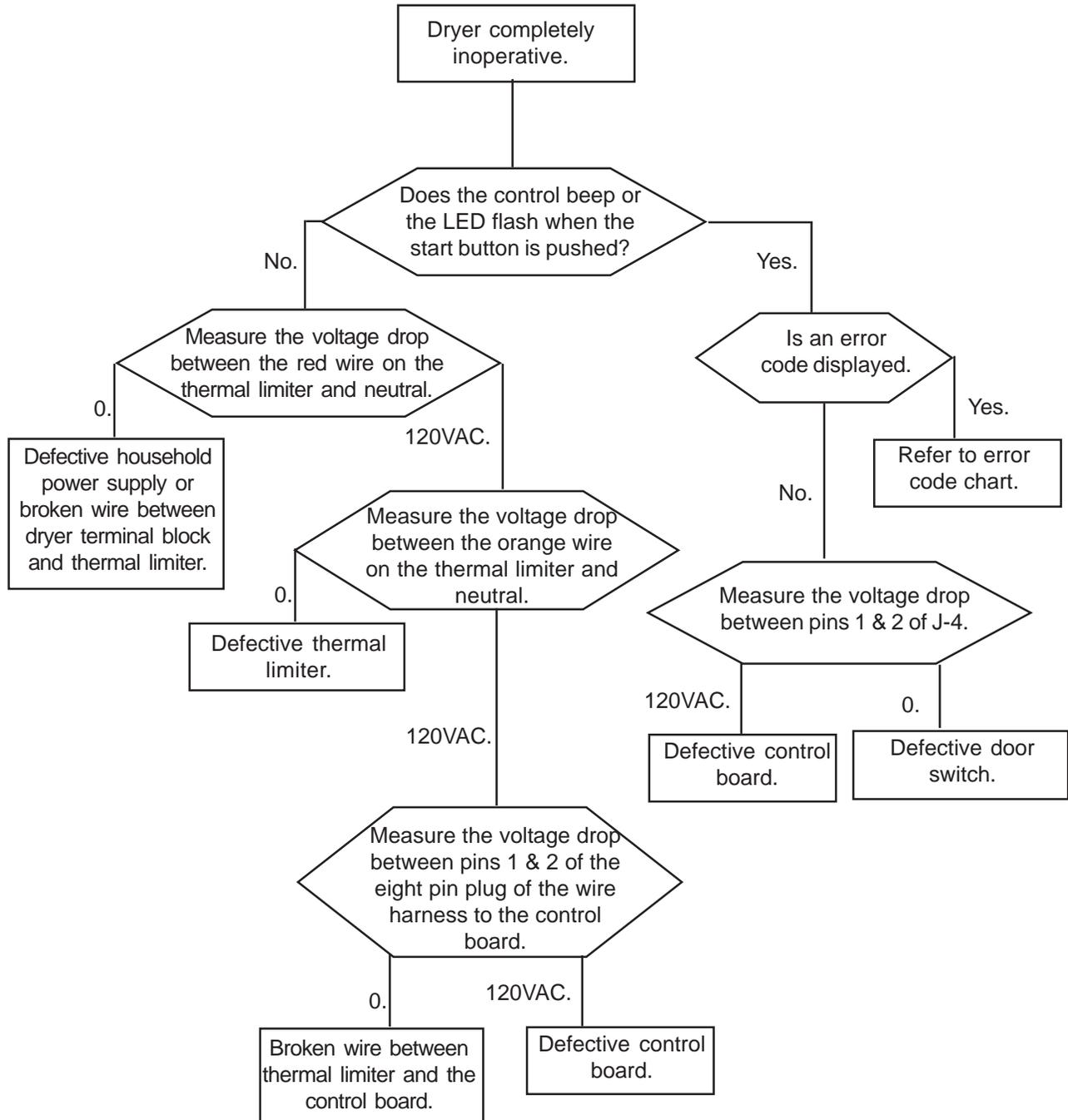
Error code chart		
Error code	Fault condition	Action
E 10	Communication failure. - EEPROM	Clear code, exit mode and start dryer. If the error persists, replace the control board.
E 11	Communication failure. - Checksum	Clear code, exit mode and start dryer. If the error persists, replace the control board.
E 12	Communication failure. - Memory	Clear code, exit mode and start dryer. If the error persists, replace the control board.
E 24	Shorted control thermistor.	Remove wires from the control thermistor. Measure resistance of the thermistor. If the reading is not 50K (+/-10%), replace thermistor. If the reading is within 50K (+/-10%) check wiring between thermistor and electronic control. If good, replace electronic control.
E 25	Open control thermistor.	Remove wires from the control thermistor. Measure resistance of the thermistor. If the reading is not 50K (+/-10%), replace thermistor. If the reading is within 50K (+/-10%) check wiring between thermistor and electronic control. If good, replace electronic control.
E4A	The drying time has exceeded program time for that cycle.	Press Pause Cancel and Select buttons for 6 seconds to exit test modes. Position cycle selector to NORMAL, temperature selector to HIGH HEAT, and touch START. Check for any thing that would extend dry times, such as no heat, restricted vent, blower fan blade broken or loose, dryer installed in closet with solid door, or bad connection in moisture sensor bar circuit or dirty bars. If dryer operates normally but code returns, replace electronic control.
E 5B	No heat.	Refer to flow chart "dryer not heating properly."
E 68	One of the keys (buttons) is stuck closed (active).	Enter function test mode and perform key (button) test to determine which button is at fault. Carefully free the key and perform the test again. If button is free but the key stuck code still exists, replace electronic control.
E 8C	High limit thermostat has tripped too many times in a certain amount of time.	Check for blocked lint filter, blocked exhaust, air leaks around air duct, broken blower fan blades, worn or loose drum seals, dryer installed in closet with solid doors or door seal not correctly seated.
E AF	Microcontroller has been reset by internal Watchdog timer.	Clear code, exit mode and start dryer. If problem persists, replace electronic control.

TROUBLESHOOTING FLOW CHARTS

Electric dryer completely inoperative.

Note: Always check wiring to the components.

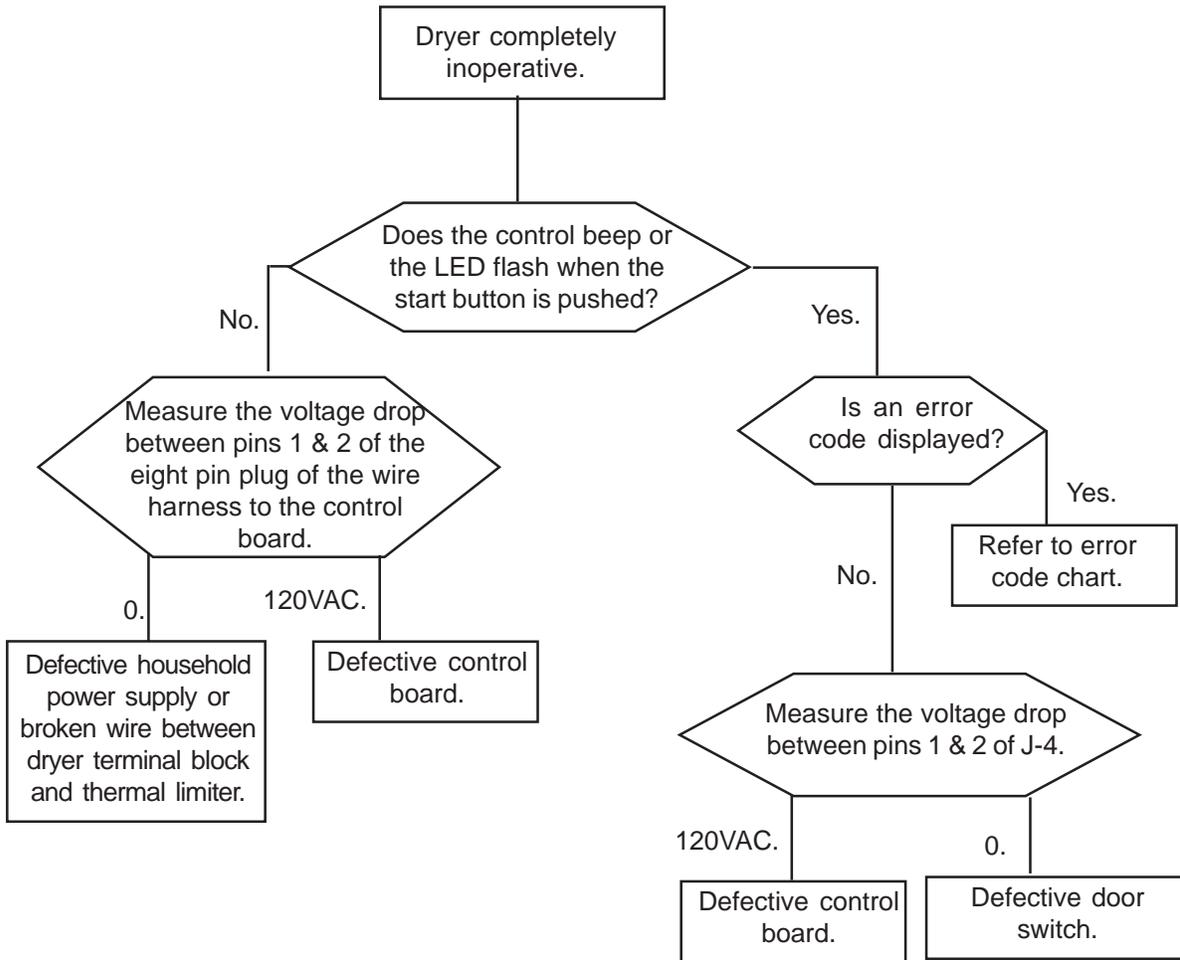
Note: If a fault code is displayed, the dryer will not operate.



Gas dryer completely inoperative.

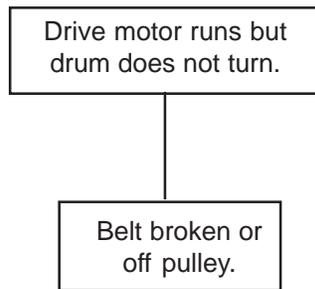
Note: Always check wiring to the components.

Note: If a fault code is displayed, the dryer will not operate.



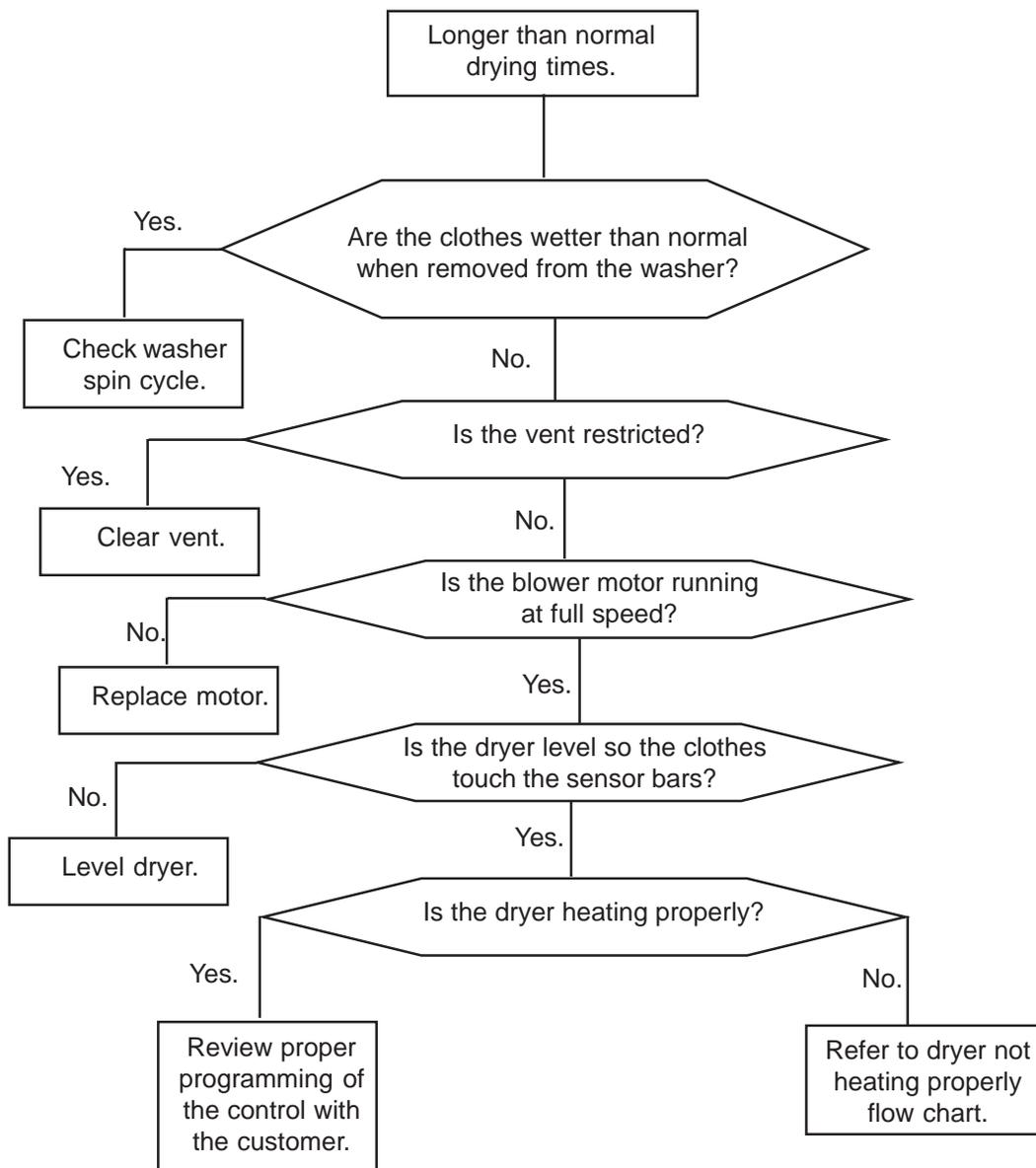
Electric and Gas dryers; blower motor runs but drum does not turn.

Note: Always check wiring to the components.



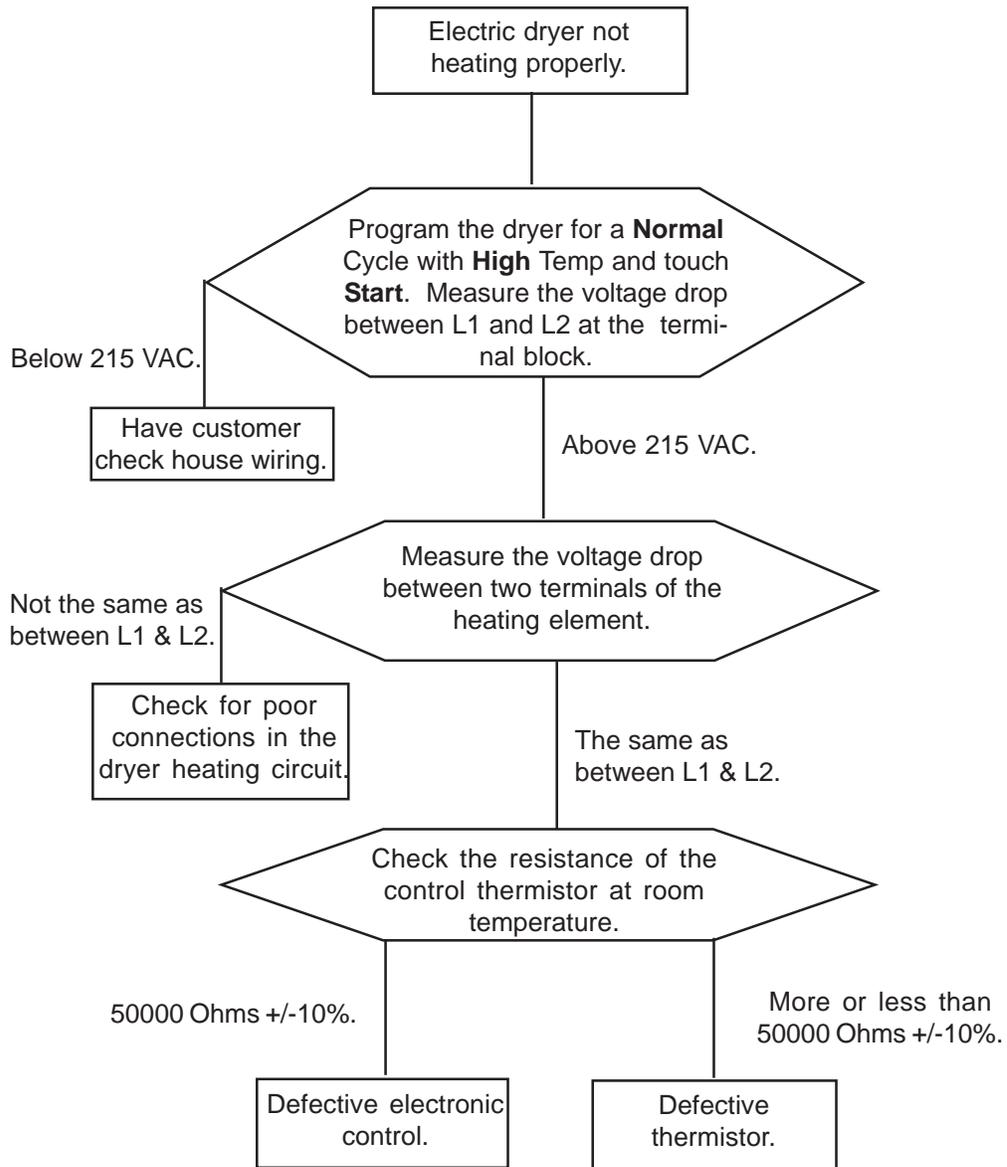
Electric and Gas dryers; longer than normal drying times. (Possible E 4A)

Note: Always check wiring to the components.



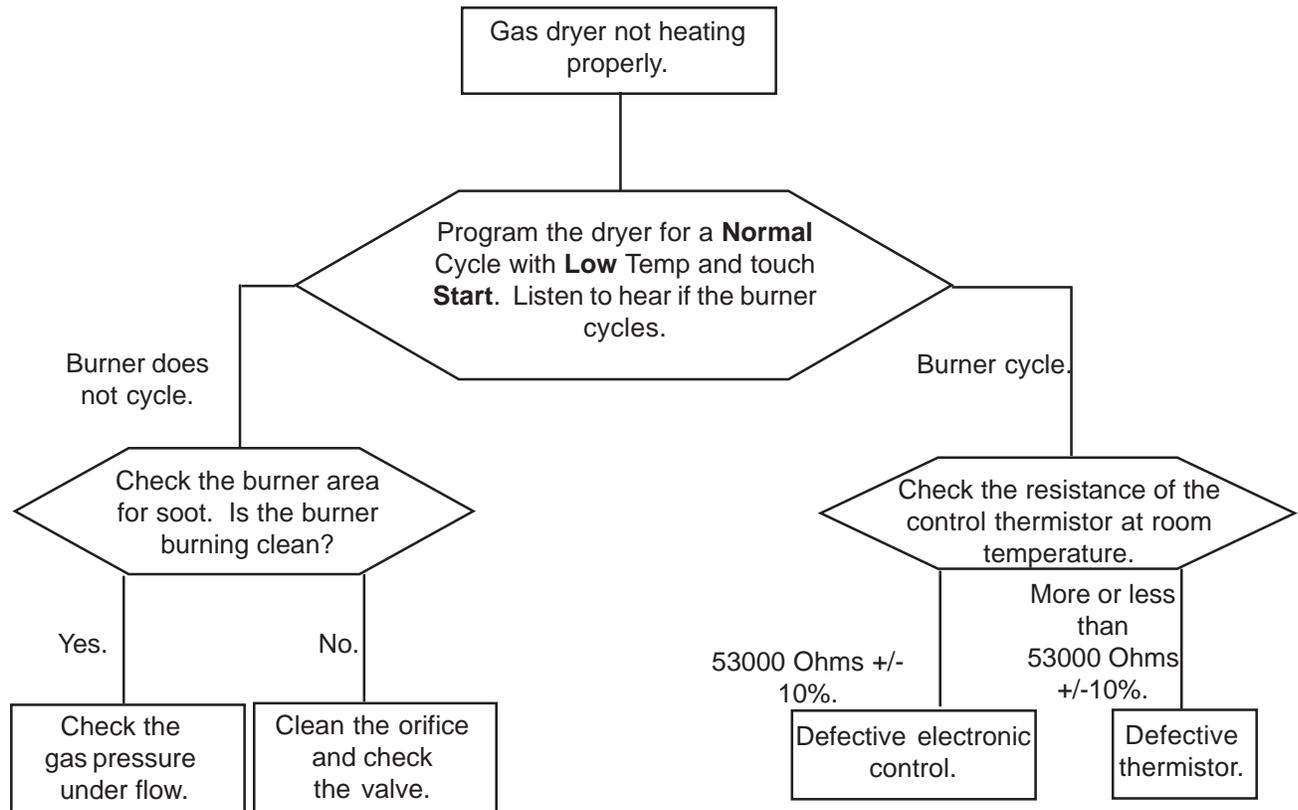
Electric dryer not heating properly (Possible E 5b)

Note: Always check wiring to the components.



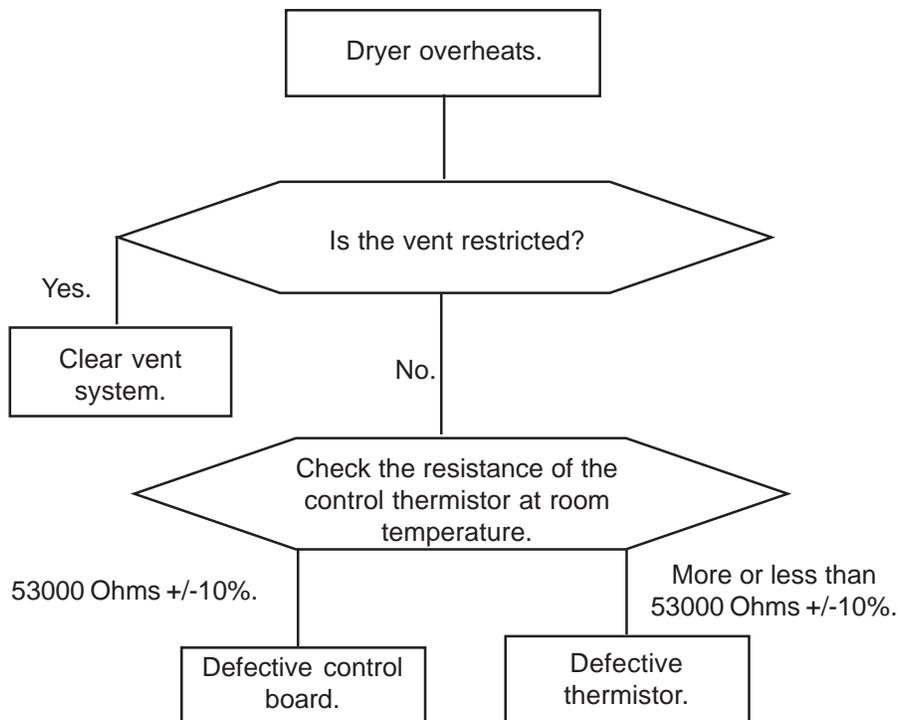
Gas dryer not heating properly. (Possible E 5b)

Note: Always check wiring to the components.



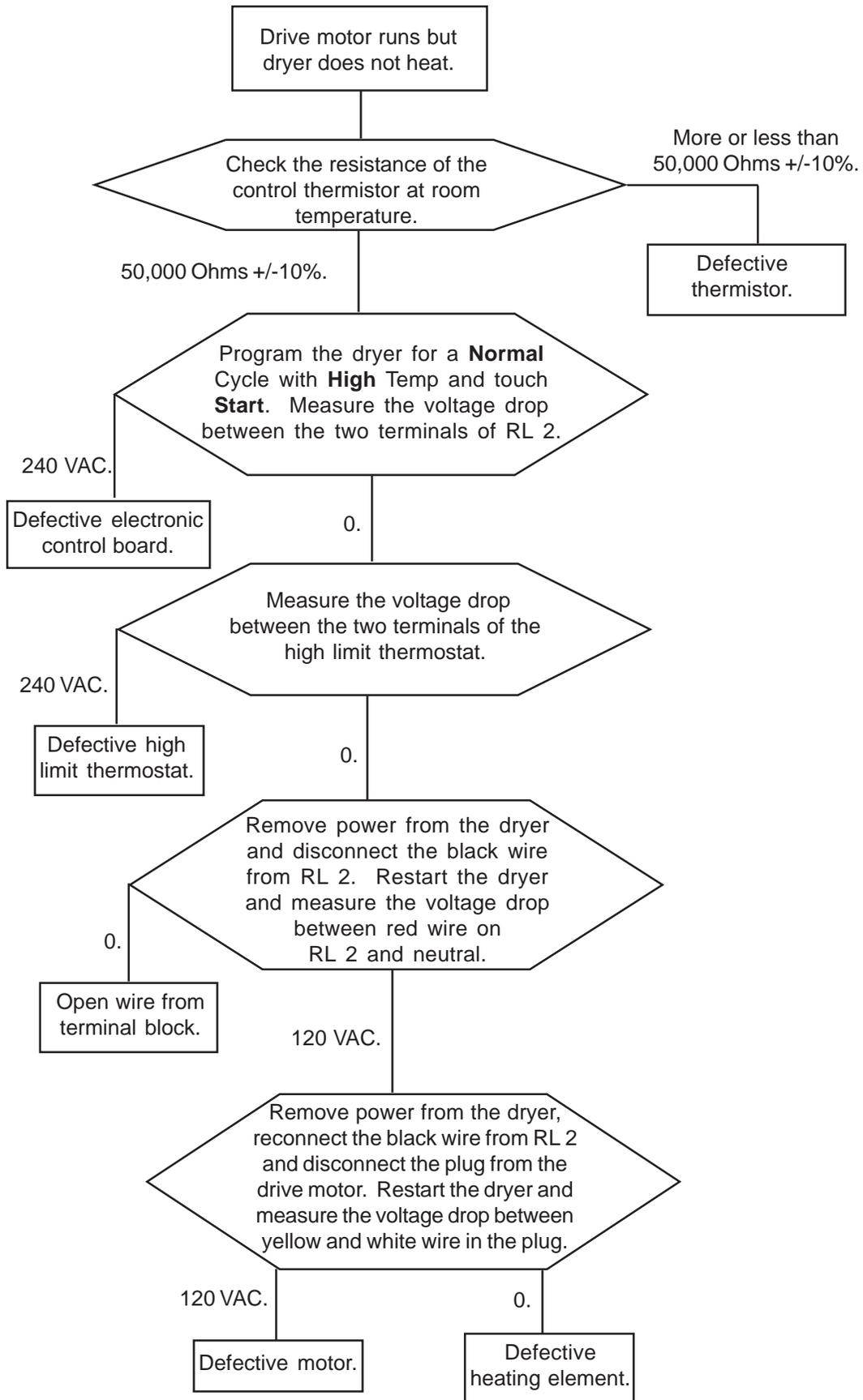
Electric and Gas dryers; dryer over heating. (Possible E 8C)

Note: Always check wiring to the components.



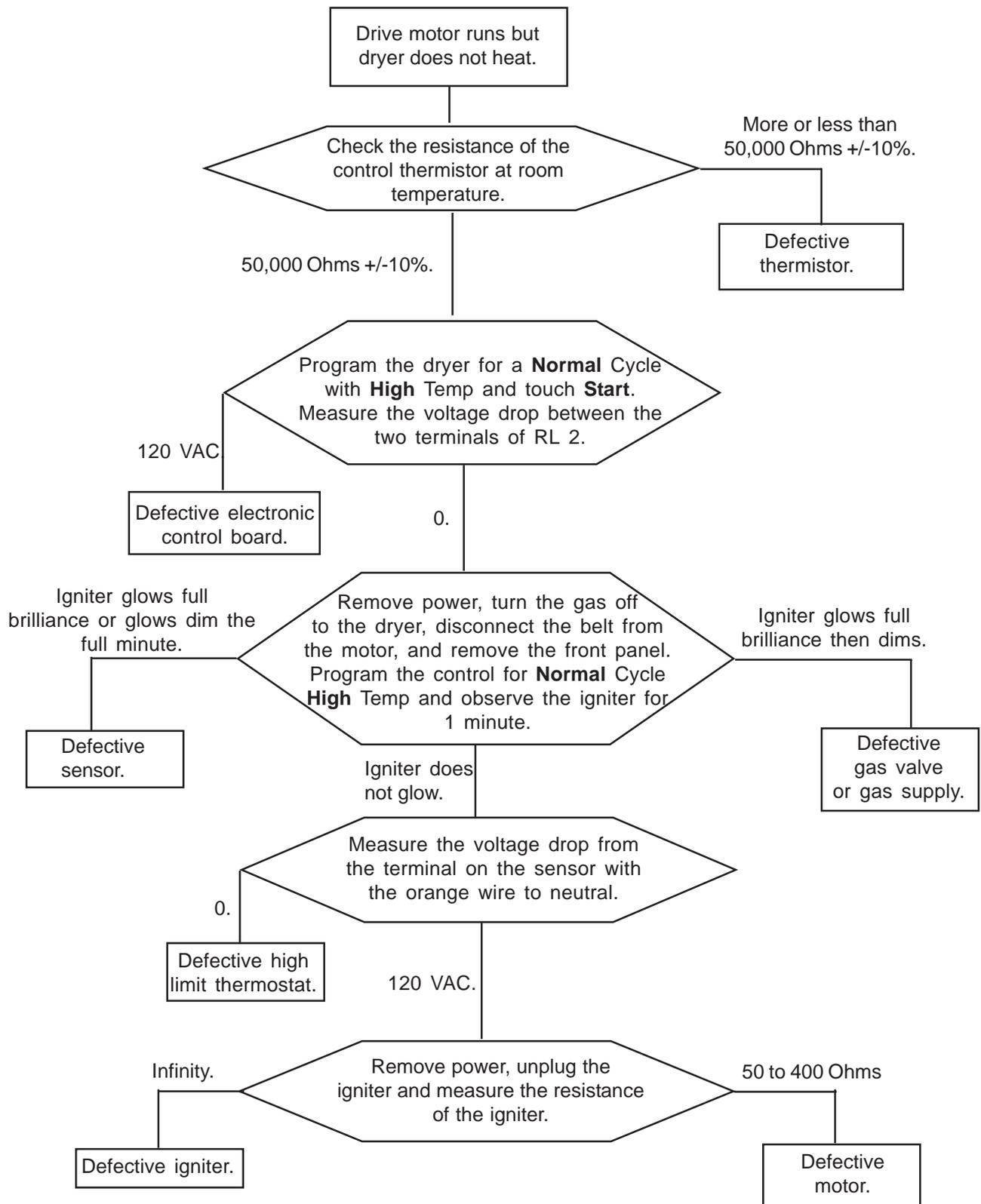
Electric dryer; drive motor runs but dryer does not heat.

Note: Always check wiring to the components.



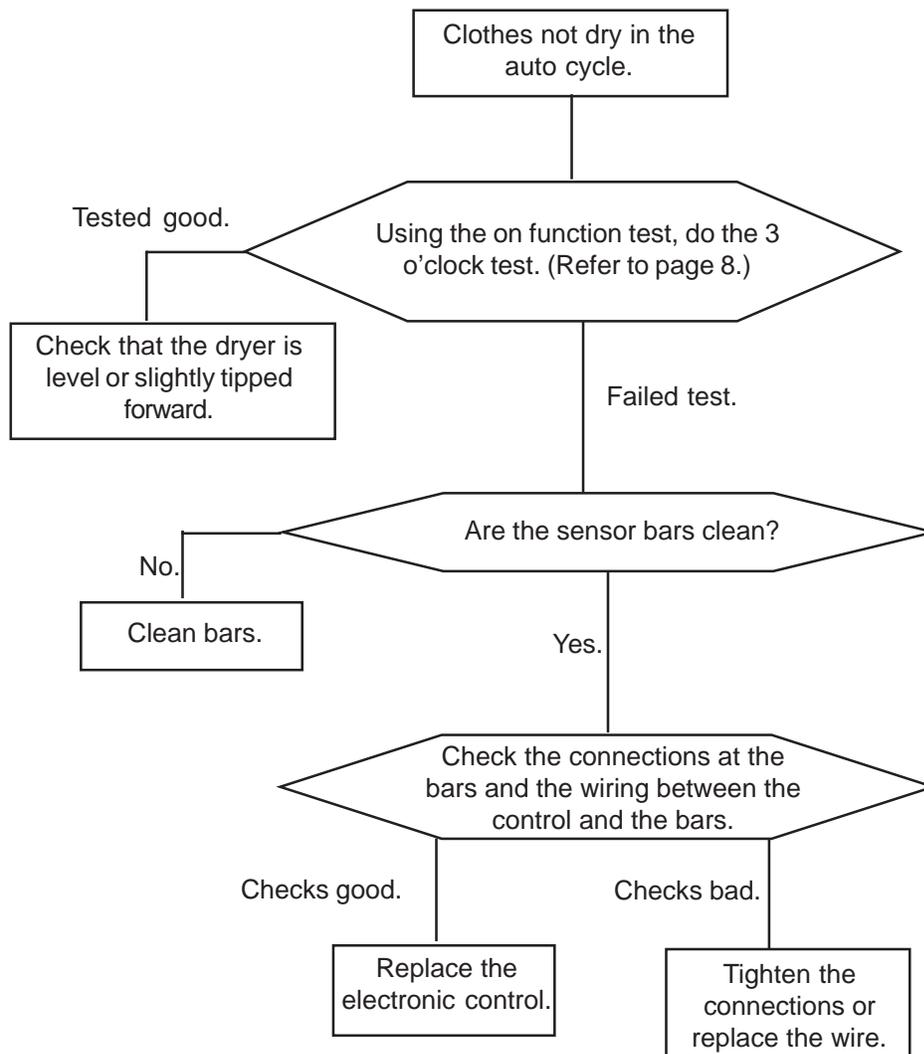
Gas dryer; drive motor runs but dryer does not heat.

Note: Always check wiring to the components.



Electric and Gas dryer; clothes not dry in auto cycle.

Note: Always check wiring to the components.



TEARDOWN

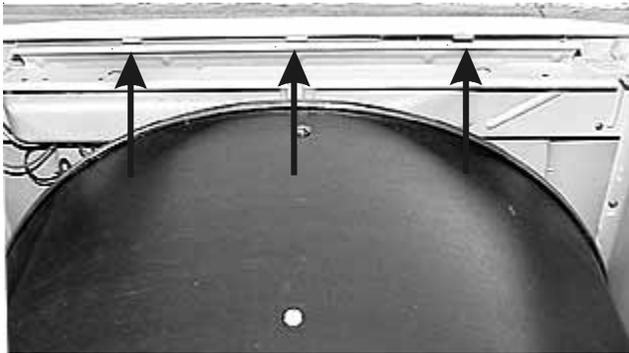
This section describes how to remove components from both gas and electric dryer. Unless stated, the procedure is the same on all dryers. Unless stated, reverse the procedure to reinstall the component.

⚠ WARNING Always remove electrical power from the dryer when working in an area where electrical power is present.

⚠ WARNING Always turn the gas off to the dryer before opening any gas piping.

Removing the top panel:

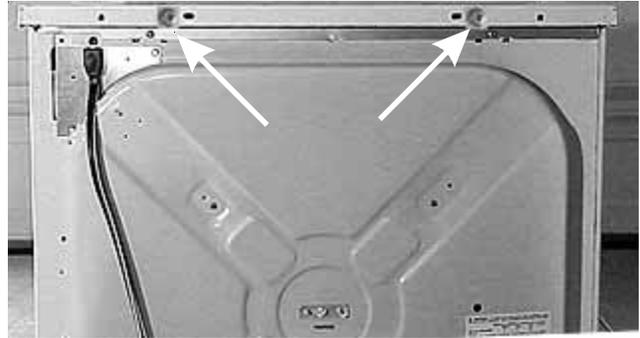
1. The top panel is held in place in the front by (3) plastic tabs on the console,



(2) metal tabs (one on each side),



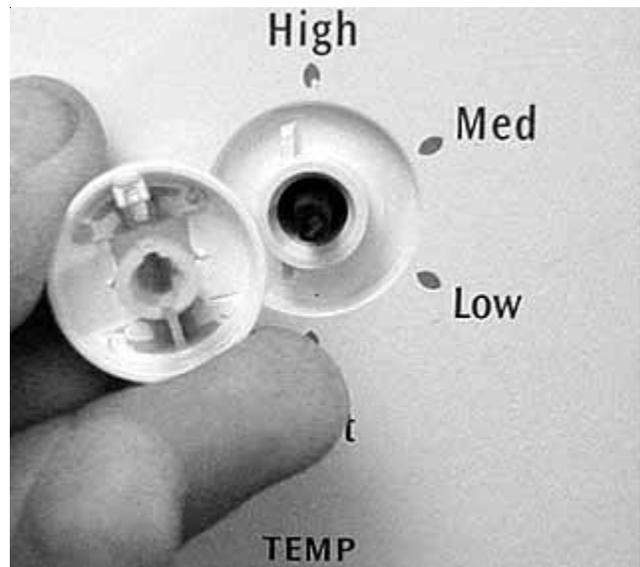
and (2) screws in the rear.



2. Remove the (2) screws, slide the top back about 1/2 inch and lift the top off.

Removing the temp knob:

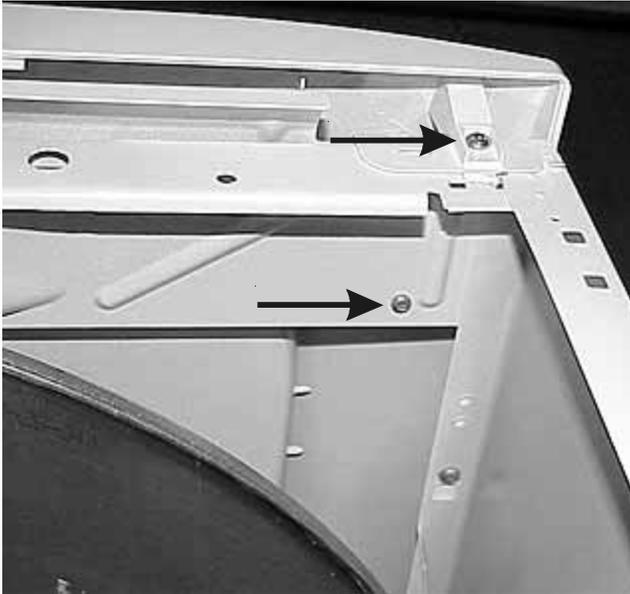
1. The temp knob has a "D" shaped shaft. To remove, pull the knob straight off.



Removing the console:

1. Disconnect the dryer from electrical supply and remove the top panel.

- Remove the (4) screws, (2 on each side), holding the console to the front panel and roll the console forward.

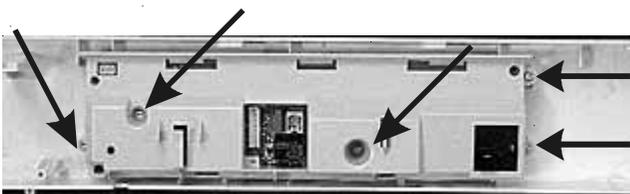


- Disconnect the wiring from the control board and lift the console off.

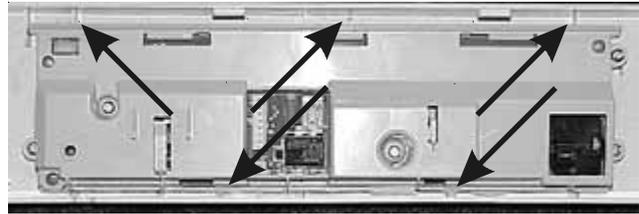


Removing the control board:

- Disconnect the dryer from electrical supply, remove the Temp knob and the top panel.
- Remove the console.
- Remove the (5) screws holding the control board to the console.



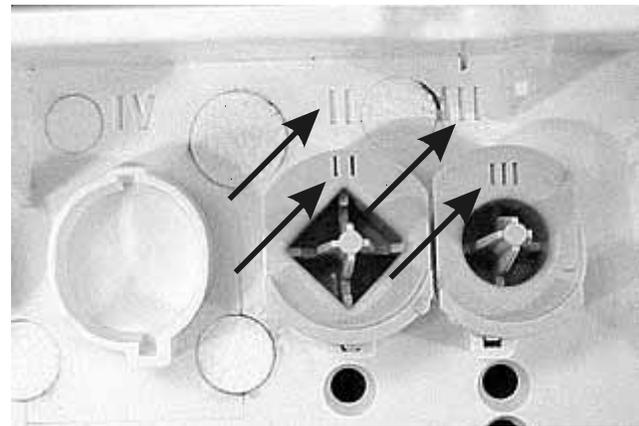
- Release the (2) tabs at the bottom and the (3) tabs at the top and lift the control board out.



Note: Be careful not to lose the springs.

Removing the programming buttons and springs:

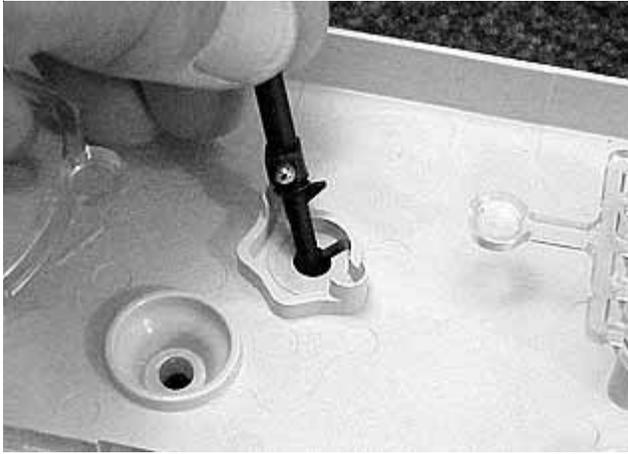
- Disconnect dryer from the electrical supply and remove the control board.
- Lift the buttons and springs out of the console.
- The buttons are not all the same. Each button has a Roman numeral stamped into it and the console has Roman numerals above the button slot. Match the number on the button to the number on the slot.



Removing the temp knob shaft:

- Disconnect dryer from the electrical supply, turn the TEMP knob to HOT, and remove the knob.
- Remove the control board.

3. Lift the shaft out of the control.



Removing the selector knob shaft:

1. Disconnect dryer from the electrical supply, turn the SELECTOR knob to the 12 o'clock position and remove the control board.
2. Lift the shaft out of the control.



Removing the selector knob:

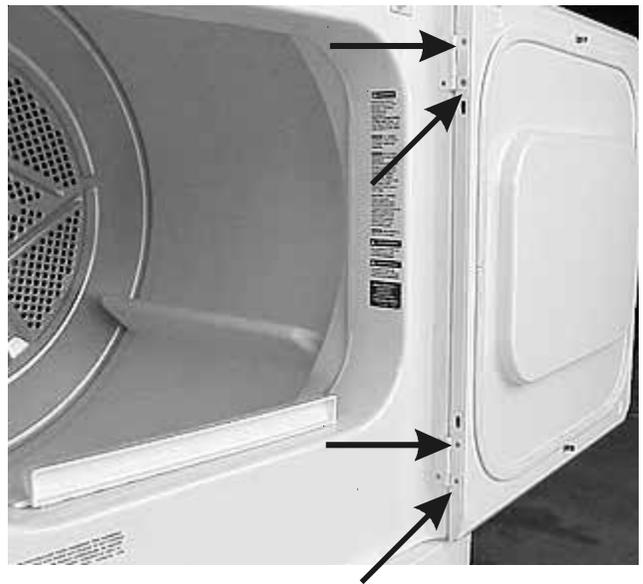
1. Disconnect dryer from the electrical supply and remove the control board.

2. Using pliers, squeeze the lock rim of the knob shaft and pull the knob out the front.



Removing the loading door:

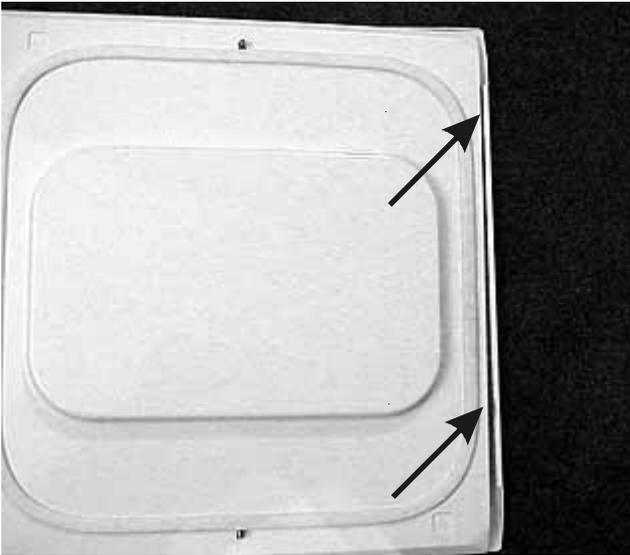
1. Open the door and while supporting the door, remove the (4) screws (2 from each hinge) holding the door to the hinges.



Disassembling the loading door:

1. Remove the door from the dryer.

2. Separate the panels on the hinge and slide the inner panel out from behind the flange of the outer panel.



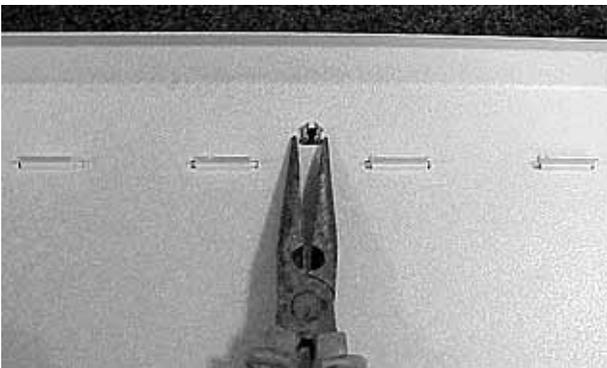
Removing the door handle:

1. Separate the panel and lift the handle off the inner door liner.



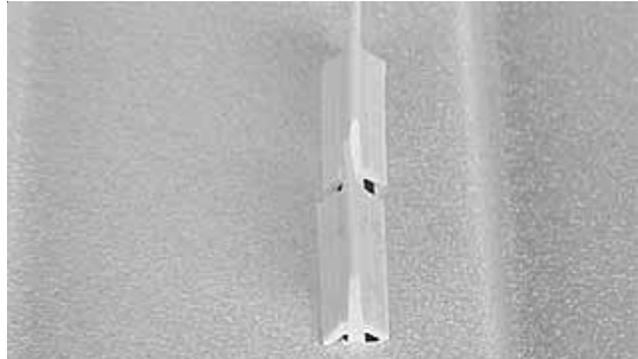
Removing the upper or lower door strike:

1. Separate the panel, squeeze the ends of the strike and push it through the inner panel.



Removing the door seal:

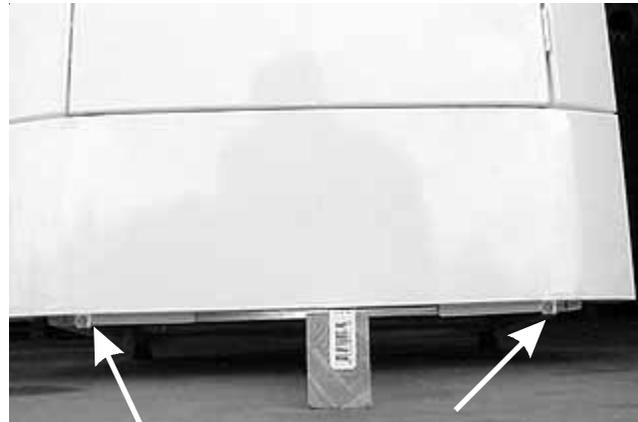
1. The door seal is fastened to the inner door liner by expandable tabs pushed through slots in the liner.



2. If the seal is to be replaced, open the door and pull the seal from the liner. If the seal is to be reused, separate the panels and use a small screwdriver to push the tabs through the liner.

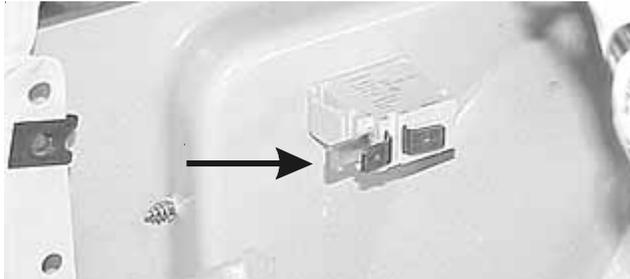
Removing the front access panel:

1. Place a 2x4 under the front of the dryer and remove the two screws holding the panel to the dryer base.



Removing the door switch:

1. Disconnect the dryer from electrical supply, open the door and remove the top.
2. Disconnect the wires from the door switch.
3. Squeeze the release tabs on the ends of the switch and push it out the front.

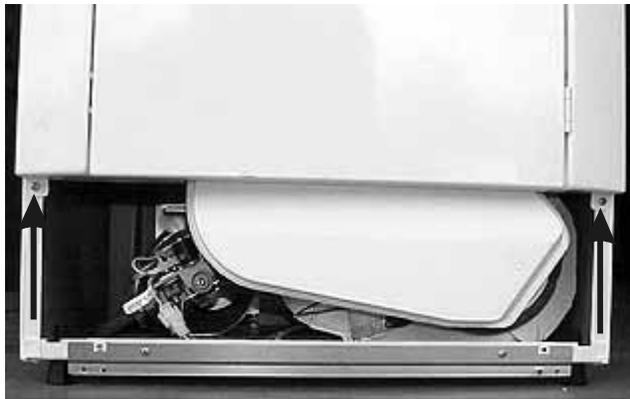


4. Pull out on the bottom of the front panel to release the spring load tabs.

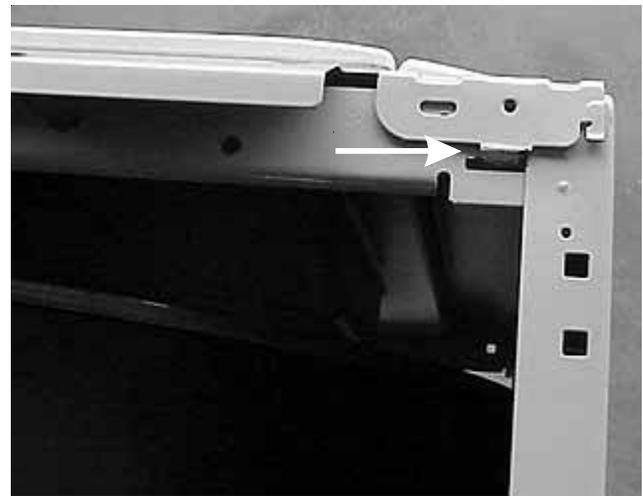


Removing the front panel:

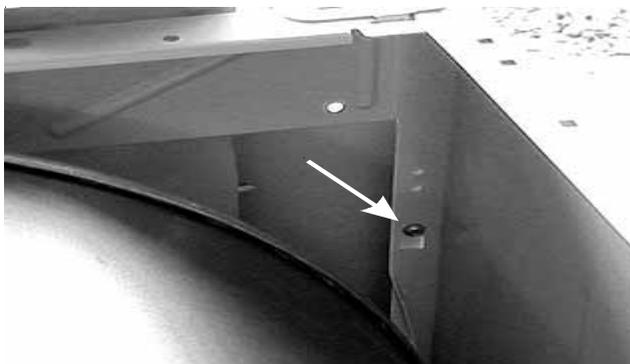
1. Disconnect the dryer from electrical supply, remove the console and front access panel.
2. Remove the (2) screws, one on each side, at the bottom holding the front panel to the bodysides.



5. Lift up on the front panel to release the (2) tabs at the top, one on each end, and swing the panel out.



3. Remove the (2) screws, one on each side about 8 inches down from the top, that secure the front panel to the bodysides.



6. Disconnect the wiring from the drum light, the door switch, the ground wire, and the wiring harness from the sensor bars.

Replacing the sensor bars:

1. Disconnect the dryer from electrical supply.
2. Open the dryer door and remove the lint screen.
3. Remove the (2) screws holding the vent grill to the front panel.



4. Pull the grill into the drum and disconnect the wires.



Replacing the front panel air duct:

1. Disconnect the dryer from electrical supply and remove the front panel.
2. Remove the (2) screws holding the vent grill to the front panel.
3. Release the sensor wire harness and pull down to remove the air duct.



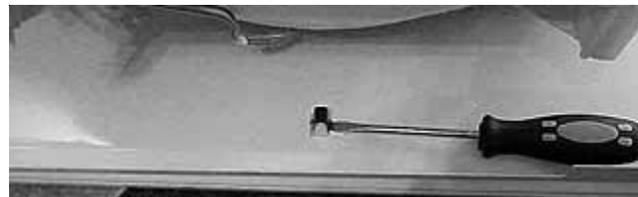
Replacing the upper door catch:

1. Disconnect the dryer from electrical supply and remove the front panel.
2. Using a common screwdriver, release the spring clip from the backcatch and push the catch out the front.



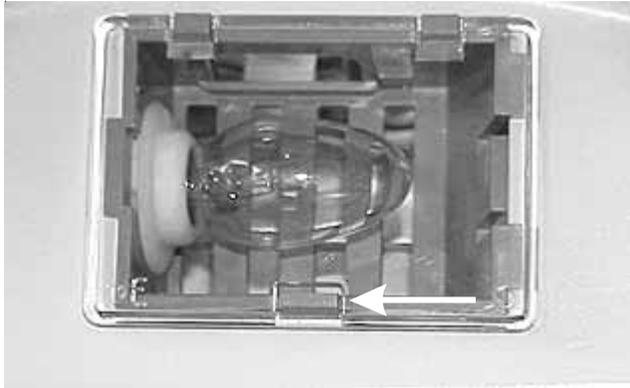
Replacing the lower door catch:

1. Disconnect the dryer from electrical supply, remove the front panel and the front panel air duct.
2. Using a common screwdriver, release the spring clip from the backcatch and push the catch out the front.

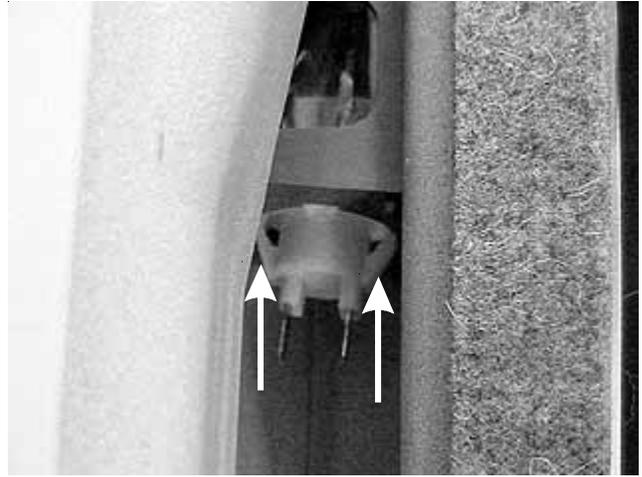


Replacing the drum light bulb:

1. Open the dryer door, release the clip holding the light shield by pushing up, and unscrew the bulb.

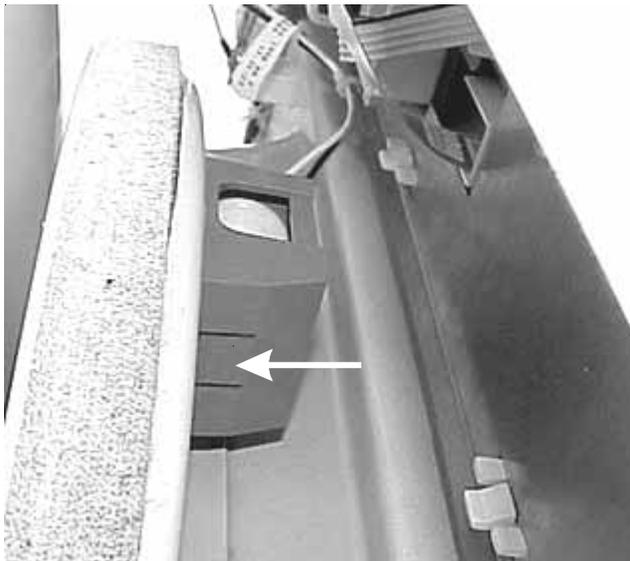


2. Remove the top and disconnect the wires from the light socket.
3. Remove the light bulb, squeeze the tabs on the side of the socket and push the socket into the housing.



Replacing the drum light housing:

1. Disconnect the dryer from electrical supply.
2. Remove the top, lean the top of the front panel forward and disconnect the wires from the light socket.
3. Push in to release the tab at the end of the housing and push the housing into the drum.



Replacing the felt seals:

1. Disconnect the dryer from electrical supply.
2. Remove the front panel.
3. The felt seals are 2 pieces that are glued to the front panel rim that the drum rides on.
4. To replace a seal, pull the old seal off and glue the replacement to the rim.

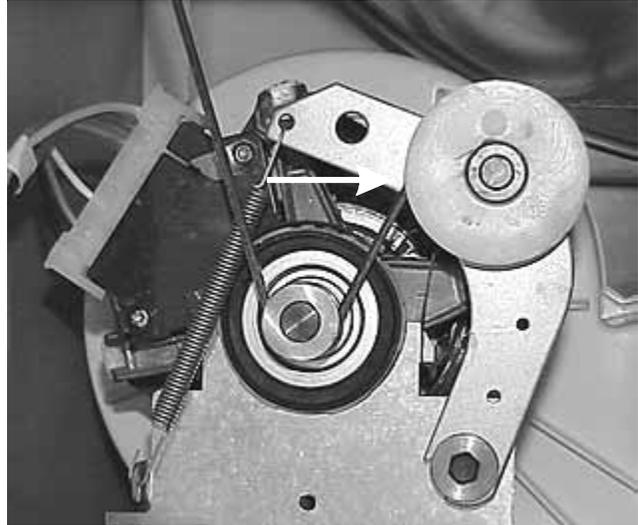
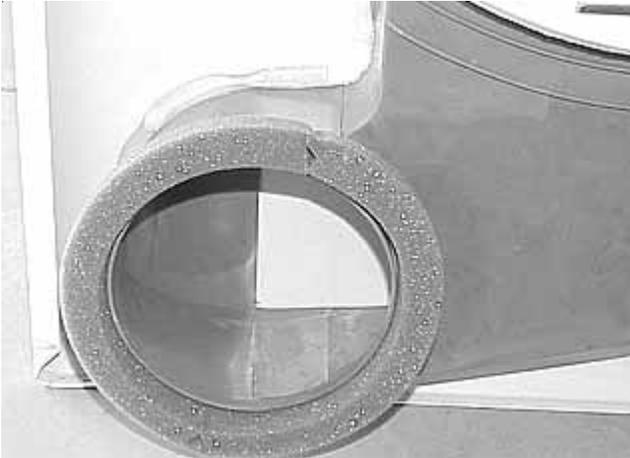


Replacing the drum light socket:

1. Disconnect the dryer from electrical supply.

Replacing the foam seal:

1. Disconnect the dryer from electrical supply.
2. Remove the front panel.
3. The foam seal, glued to front panel duct, seals between the front panel duct and the blower.
4. To replace the seal, pull the old seal off and glue the replacement to the duct.

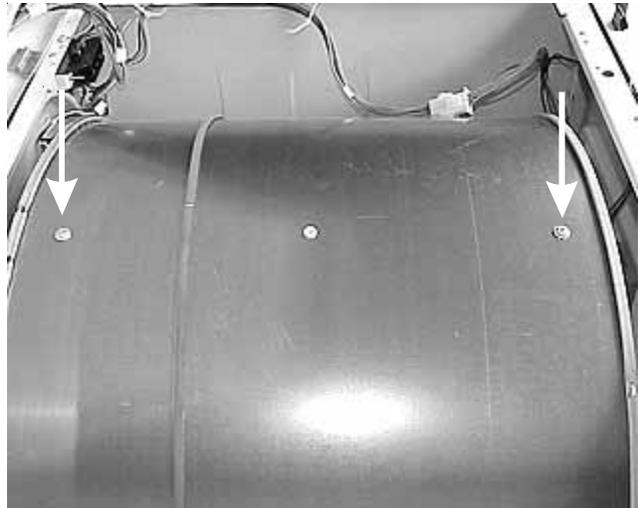
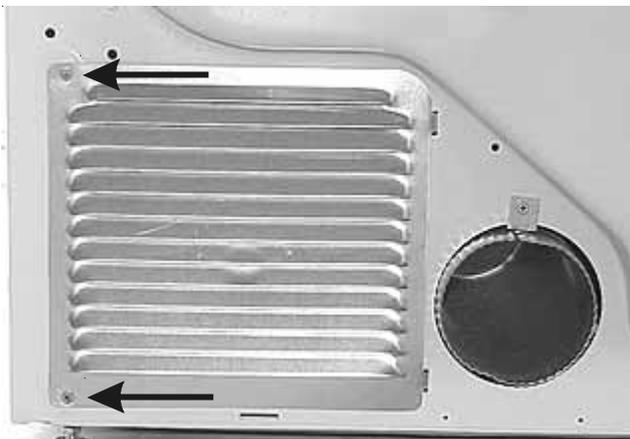


Removing the vane from the drum:

1. Disconnect the dryer from electrical supply.
2. Open the door, remove the top panel, remove the (2) screws holding the vane to the drum and drop the vane into the drum.

Removing the rear access panel:

1. Remove the (2) screws holding the access panel to the rear panel and swing the left side of the vent out to disengage the tabs.



Removing the drum:

1. Disconnect the dryer from electrical supply.
2. Remove the top and the front panels.
3. Release the belt from the motor.

Releasing the dryer belt:

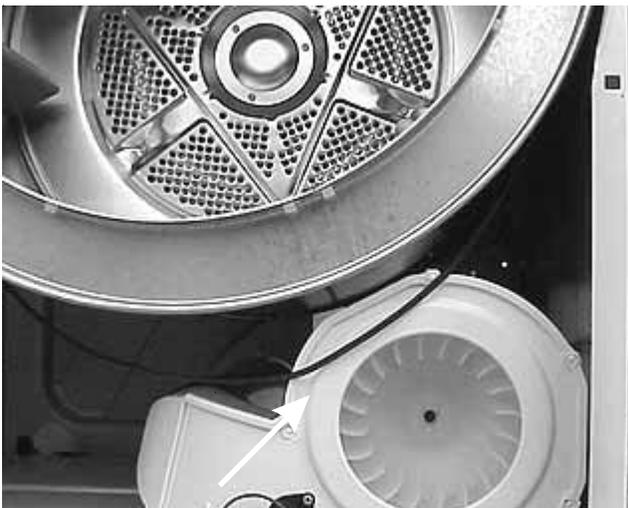
1. Remove the access panel.
2. Push the idler pulley to the right and slip the belt off the motor pulley.

- Using the belt, raise rear of the drum to release the ball from the hitch and move the drum out the front.



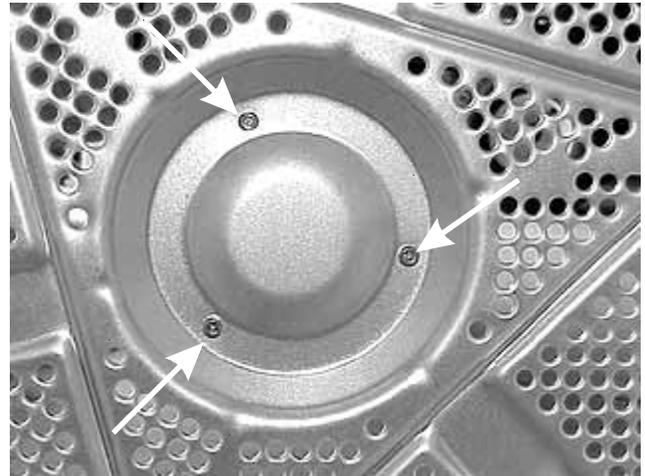
Removing the belt:

- Disconnect the dryer from electrical supply.
- Remove the top and front panels.
- Release the belt from the motor.
- From the front, slightly raise the front of the drum and slide the belt off.



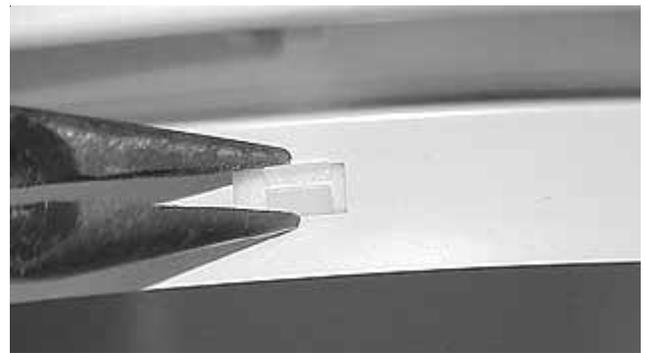
Removing the ball hitch from the drum:

- Disconnect the dryer from electrical supply and remove the drum.
- Remove the (3) screws from inside the drum holding the ball to the drum.



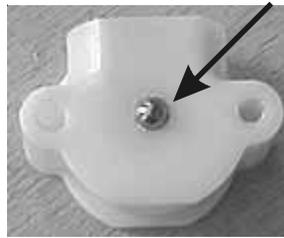
Removing the teflon glides:

- Disconnect the dryer from electrical supply and remove the front panel.
- Squeeze the tabs to release the glides.



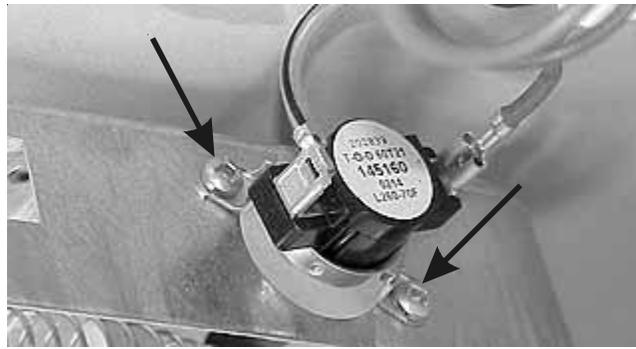
Removing the drum heat shield (Electric dryer):

1. Disconnect the dryer from electrical supply and remove the drum.
2. Remove the (3) screws holding the shield to the rear of the drum.



Removing the high limit thermostat:

1. Disconnect the dryer from electrical supply and remove the top panel.
2. Disconnect the (2) wires and remove the (2) screws holding thermostat to the heating element assembly.



Removing the hitch:

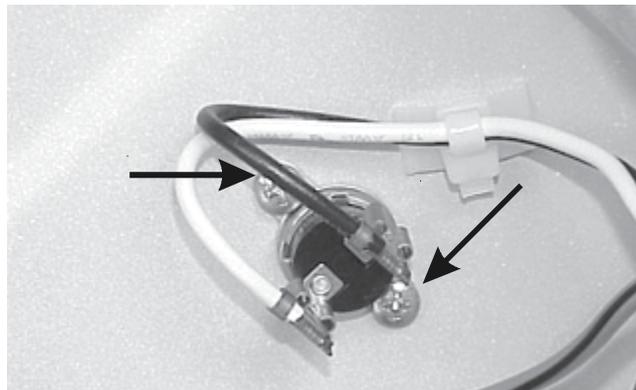
1. Disconnect the dryer from electrical supply and remove the drum.
2. Using a 5/16" nut driver, remove the (2) screws holding the hitch to the rear panel while holding the large tinnerman clip from the rear of the dryer.



Note: Do not lose the grounding ball or the tinnerman mounting clip from the rear of the dryer.

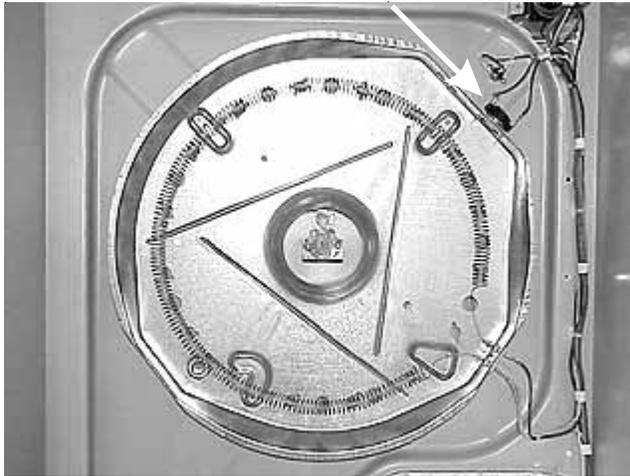
Removing the thermal limiter (Electric dryer):

1. Disconnect the dryer from electrical supply and remove the top panel.
2. Disconnect the (2) wires and remove the two screws holding the thermal limiter to the rear panel.



Removing the heating element assembly (Electric dryer):

1. Disconnect the dryer from electrical supply and remove the drum.
2. Disconnect the (2) wires from the heating element.
3. Remove the high limit thermostat.



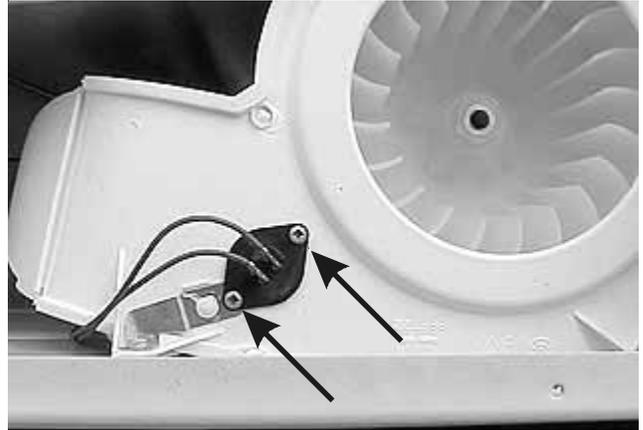
4. From the rear of the dryer, remove the (4) screws securing the heating element assembly to the rear of the cabinet.



Removing the control thermistor:

1. Disconnect the dryer from electrical supply and remove the front panel.

2. Disconnect the wires from the thermistor and remove the (2) screws holding the thermistor to the blower housing.

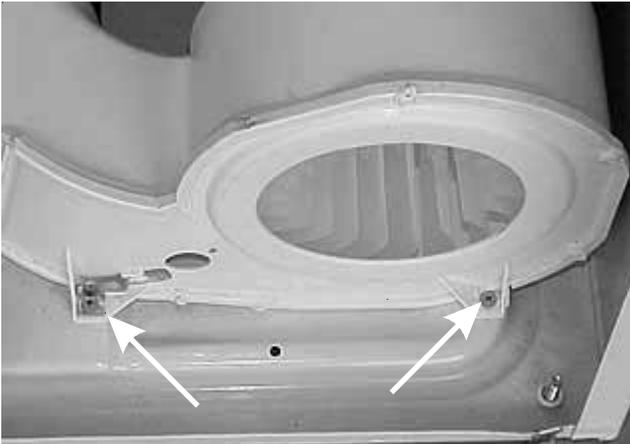


Removing the blower housing and fan blade:

1. Disconnect the dryer from electrical supply and remove the drum.
2. Remove the control thermistor.
3. Using a 7/8" socket, turn the fan blade clockwise while holding the motor shaft to remove the blade from the motor shaft.



4. Remove (2) screws holding the housing to the dryer base.



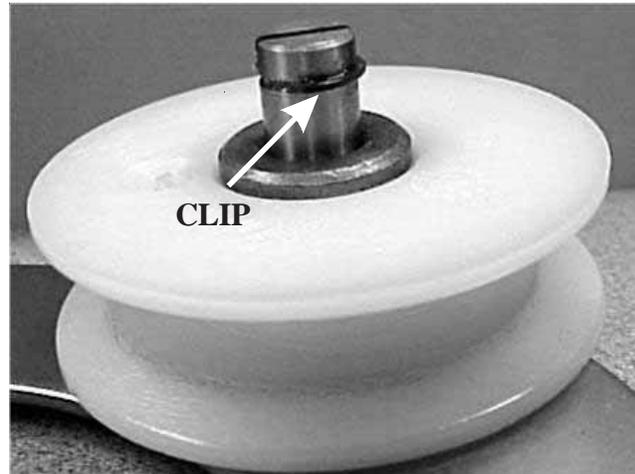
5. Remove the front motor lock by inserting a screwdriver at the rear of the housing to release the housing from the motor.



6. Raise the front of the motor and pull the housing forward.

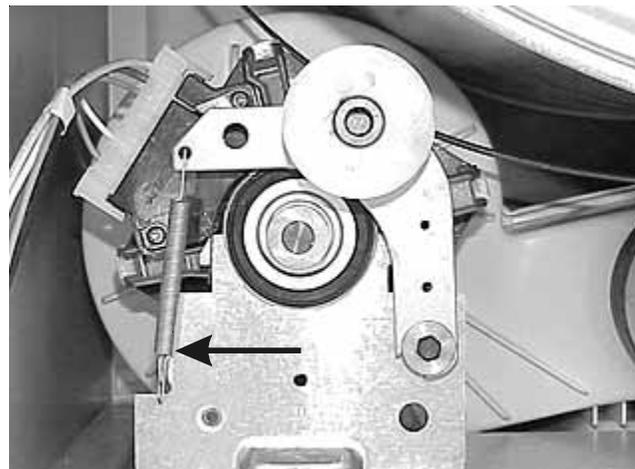
Removing the idler pulley:

1. Disconnect the dryer from electrical supply and remove the rear access panel.
2. Release the belt from the motor pulley, remove the "C" clip from the shaft and slide the idler pulley off.



Removing the idler pulley assembly:

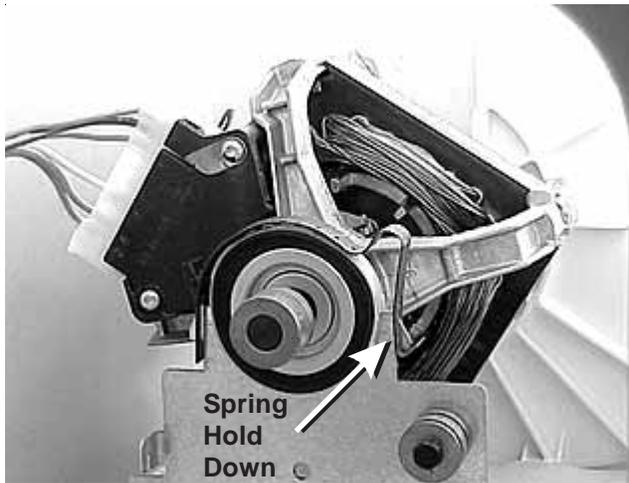
1. Disconnect the dryer from electrical supply and remove the rear access panel.
2. Release the belt from the motor pulley.
3. Release the idler spring from the motor and lift the assembly off the motor.



Removing the drive motor:

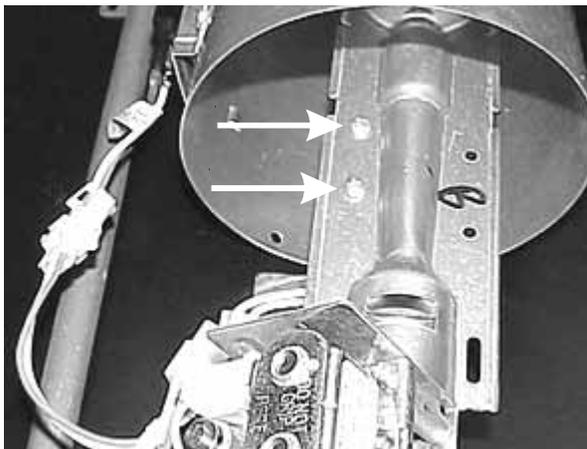
1. Disconnect the dryer from electrical supply and remove the drum.

2. Unplug the harness from the motor and remove the idler assembly.
3. Unscrew the blower wheel from motor shaft.
4. Release the front motor lock from the blower housing.
5. Release the spring hold down on the rear of the motor and lift the motor out.



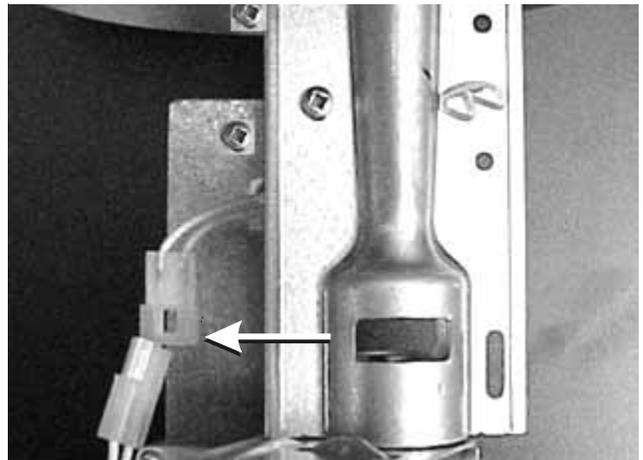
Removing the burner (Gas dryer):

1. Disconnect the dryer from electrical supply and remove the front panel.
2. Unplug the igniter, remove the (2) screws holding the burner to the valve assembly bracket, and slide the burner into the combustion chamber to release burner from the valve.

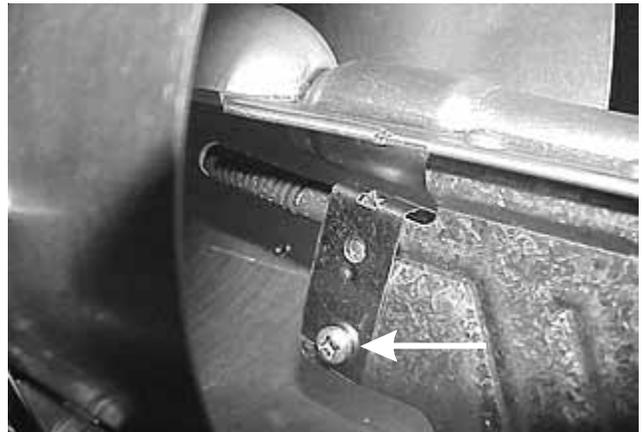


Removing the igniter (Gas dryers):

1. Disconnect the dryer from electrical supply and unplug the igniter harness.



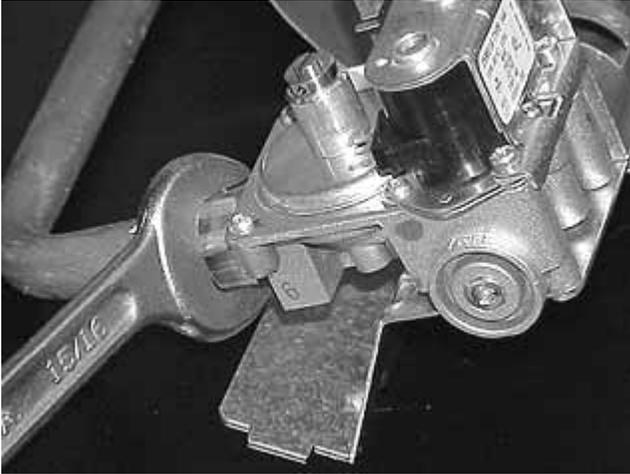
2. The igniter is held to the burner mounting bracket by a screw and a tab. Remove the screw and lift the igniter up to release the tab, then slide the igniter forward.



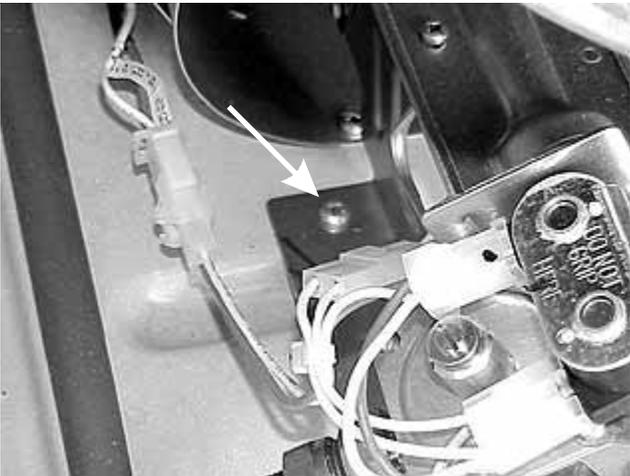
Removing the gas valve assembly (Gas dryers):

1. Turn the gas supply off and disconnect the dryer from electrical supply.
2. Unplug the wires from the valves.

- Using a 15/16" open end wrench, disconnect the manifold pipe from the valve.



- Remove the (1) screw securing the gas valve assembly bracket to the base, slide the gas valve assembly forward and lift the gas valve assembly out.



- Remove the (2) screws holding the valve to the bracket.



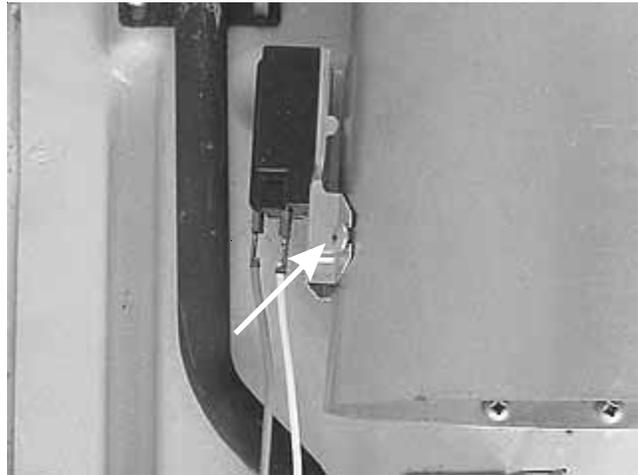
Removing the gas valve coils (Gas dryer):

- Disconnect the dryer from electrical supply and remove the front panel.
- Disconnect the wires from the coils, remove the (2) screws holding the coil bracket to the valve base and lift the coils off.



Removing the sensor (Gas dryer):

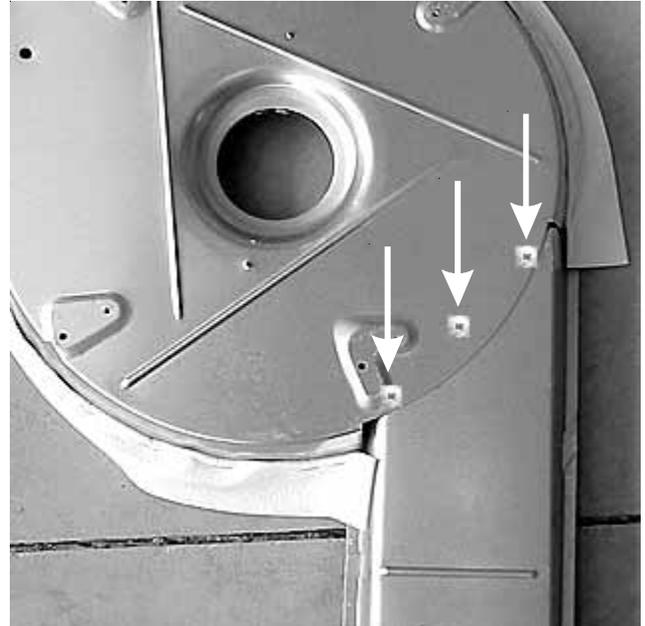
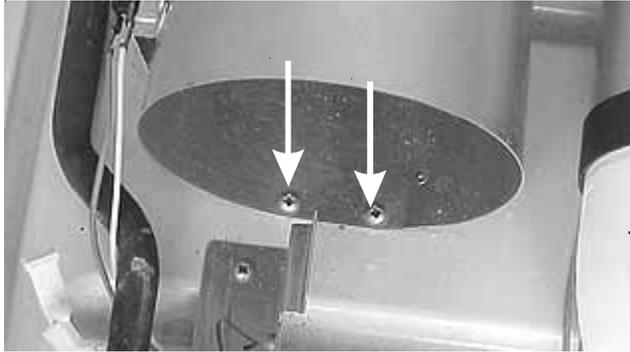
- Disconnect the dryer from electrical supply and remove the front panel.
- Disconnect the (2) wires from the sensor.
- Remove the (1) screw holding the sensor to the combustion chamber.



Removing the combustion chamber (Gas dryer):

- Disconnect the dryer from electrical supply, remove the sensor and gas valve assembly.

2. Remove the (2) screws holding the combustion chamber to the base, raise the end and pull the chamber out of the duct.



Removing the duct and heat shield (Gas dryer):

1. Disconnect the dryer from electrical supply, remove the drum.
2. Remove (4) screws holding the heat shield to the rear panel.



3. Lift the shield and duct out of the dryer and remove the (3) screws holding duct to the heat shield.

Removing the manifold pipe (Gas dryer):

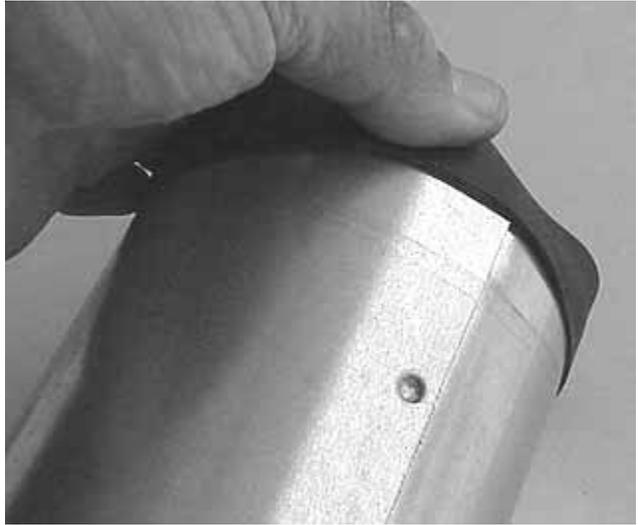
1. Disconnect the dryer from electrical supply.
2. Turn the gas supply off and disconnect the gas supply from the dryer.
3. Remove dryer front panel.
4. Using a 15/16" open end wrench, disconnect manifold pipe from the valve.



5. Remove the (2) screws holding the manifold pipe to the base and lift the pipe out.

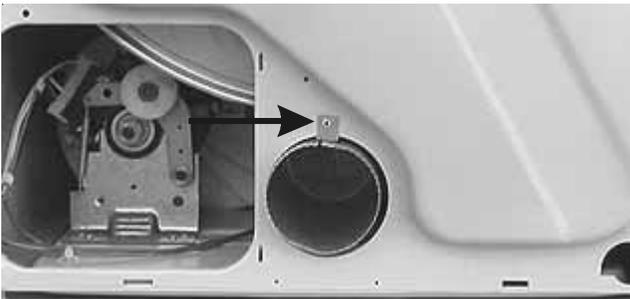


3. Remove the vent pipe out the rear of the dryer and remove the gasket from the vent pipe.



Removing the vent pipe (Gas dryer):

1. Remove the (1) screw holding vent to the rear panel and pull the vent pipe out the back.



4. When reinstalling, install the gasket on the vent pipe, install the vent pipe in the dryer and slide half of the gasket onto the blower housing from the front of the dryer.

Removing the gasket between the vent pipe and blower housing (Gas dryer):

1. Disconnect the dryer from electrical supply.
2. Remove front panel and slide the gasket completely onto the vent pipe.

ERROR CODE CHART

If the dryer stops, the status lights flash and the signal beeps, an error has occurred. Press PAUSE/CANCEL. Consult the Error Code Chart below or the "Avoid Service Checklist" in the Owner's Guide for the possible cause and solution. Make correction, then select a cycle and press START. If the dryer stops, status lights flash again and the beeping continues, please contact service for assistance.

Error Code	Error	Possible Causes	Solutions
4 beeps	Dryer ran too long	Lint filter blocked. Ventilation system clogged. Dryer overloaded.	Remove lint; wash lint filter to remove softener sheet residue. Clean out ventilation system. Reduce load size.
6 beeps	Push button does not function	Push button held too long or wedged in the control panel.	Press buttons lightly and release. Disengage button.

DRYER SETTINGS CHART

These temperatures, dryness levels and options are available with the following cycles:

	Towels	Regular	Perma Press	Delicate	Quick Dry	Dewrinkle	Timed Dry
Estimated Cycle Duration ***	60 minutes	50 minutes	40 minutes	20 minutes	**	**	**

Temperatures

High	X	X	X	X	X	X	X
Medium	X	X	X	X	X	X	X
Low	X	X	X	X	X	recommended	X
No Heat	not recommended	not recommended	not recommended	not recommended	X	X	X

Dryness Level

More Dry	* X						
Dry	X	* X	* X	X			
Less Dry			X	* 9X			
Damp Dry		X	X	X			

Options

Extra Care			* X	* 9X	X	X	X
Signal	* X	* X	* X	* X	* X	* X	* X

* Factory setting X Available settings ** Timed Dry Cycle Only *** Estimated cycle duration is based on normal dryness level and factory settings.