

# WARNING



**Electrical Shock Hazard**  
**Disconnect power before servicing.**  
**Replace all panels before operating.**  
**Failure to do so can result in death or electrical shock.**

## IMPORTANT

### Electrostatic Discharge (ESD) Sensitive Electronics

Do not open package until it is time to install the electronic board.

ESD problems are present everywhere. ESD may damage or weaken the electronic board. The new board may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an anti-static wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

-OR-

Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the anti-static bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic board by edges only.
- When repackaging failed electronic board in anti-static bag, observe above instructions.

## DIAGNOSTIC GUIDE

Before servicing, check the following:

- Is the power cord firmly plugged into a live circuit with proper voltage?
- Has a household fuse blown or circuit breaker tripped? Time delay fuse?
- Is dryer vent properly installed and clear of lint or obstructions?
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per volt DC or greater.
- Check all connections before replacing components. Look for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- Connectors: Look at top of connector. Check for broken or loose wires. Check for wires not pressed into connector far enough to engage metal barbs.
- Resistance checks of components **must** be made with power cord **unplugged** from outlet, and with wiring harness or connectors **disconnected**.

## DAMP DRY TEST

Begin with a fully assembled, empty dryer with clean lint screen. Be sure dryer is connected to a known good power source.

1. Set the following configuration:
  - Door - must be closed
  - Timer - DAMP DRY
  - Fabric Care Temperature switch - COTTON / TOWELS HIGH
  - Signal switch - HIGH
2. Press the PTS (Push To Start) switch. After approximately 16 seconds, the Timer will start to advance to the OFF position. If this function does not occur, proceed to the Diagnostic Test.

## DIAGNOSTIC TEST

This test allows factory/service personnel to test and verify all inputs to the electronic control. The basic operation of this test is to notify the operator with an audible beep every time the status of an input to the control changes state.

This test is performed with a fully assembled dryer, connected to a known good power source.

### Activating the Test Mode

1. Set the following configuration:
  - Door - must be open
  - Signal End of Cycle switch - HIGH
  - Timer - TIMED DRY or AUTO MOISTURE SENSING PLUS selection
2. Turn the Fabric Care Temperature switch from AIR FLUFF to ULTRA DELICATE three times within a five second period. A single beep, a pause, then a double beep will sound to indicate that the test mode is activated.

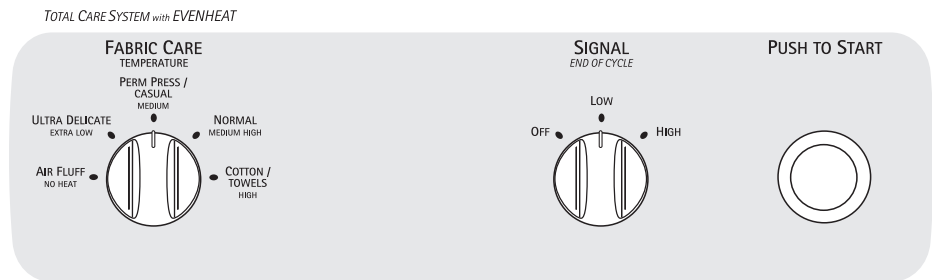
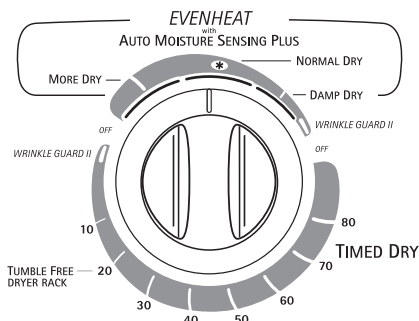
**NOTE:** If any of these initial conditions are not satisfied, the control will not enter the test mode.

### Test Mode Functionality

When the control is in test mode, every input change of state will result in an audible beep (with the exception of the Signal switch). This includes:

- Door switch
- Moisture Sensor (short/open Sensor will result in a beep)
  - NOTE:** A moistened finger or damp cloth may also be used.
- Fabric Care Temperature switch
- Push To Start (PTS) switch (with the door switch closed)
- Timer (any cam input change will result in a beep)
  - NOTE:** Timer will advance during test.

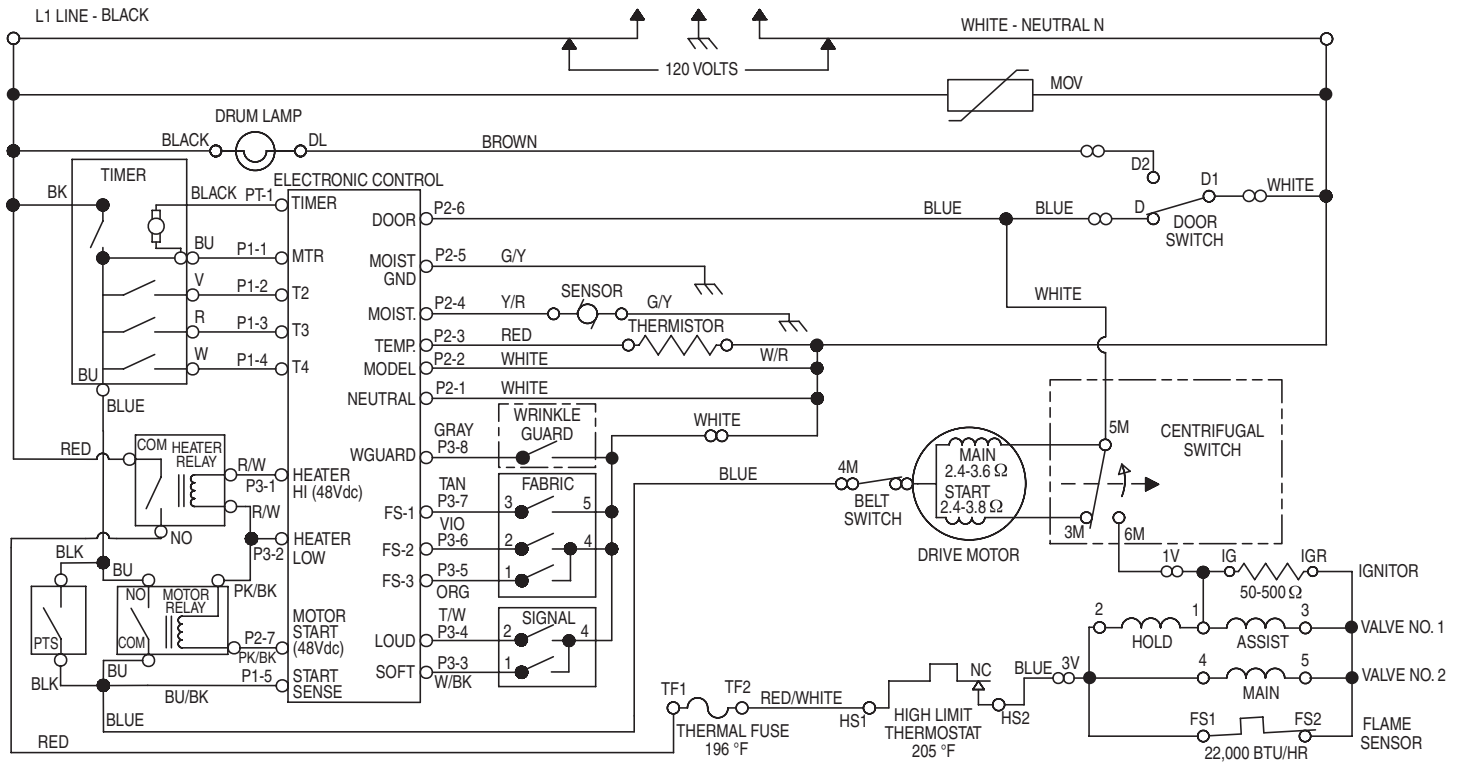
If any of the inputs do not result in a beep, proceed to the corresponding component tests beginning on page 4.



Heavy Duty • KING Size Capacity • Quiet Pak II

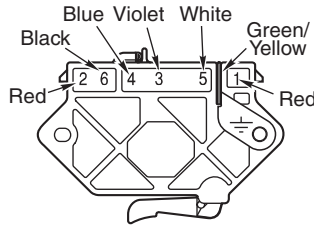


# Gas Dryer Wiring Diagram



**Drum Size:**  
7.5 cubic feet

**Drum Speed:**  
51.5 ± 3 RPM CW



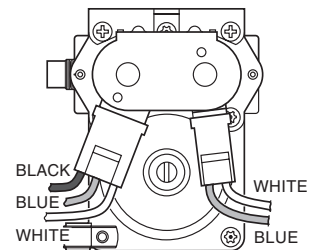
**PLUGGABLE DRIVE MOTOR SWITCH**

**Contacts**

Function	1M	2M	3M	5M	6M
Start			●	●	
Run	●				●

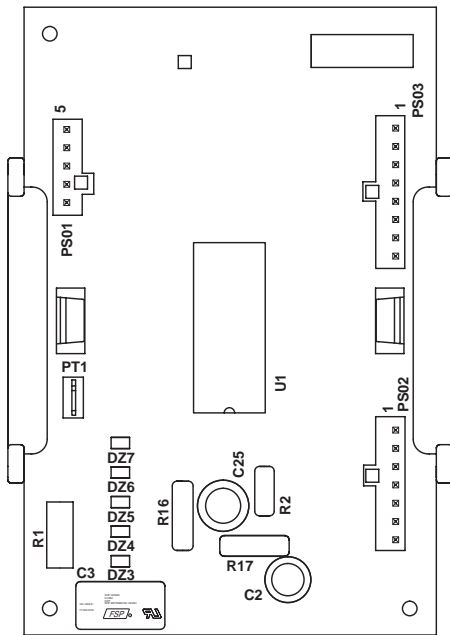
● = Contacts closed

**CENTRIFUGAL SWITCH (MOTOR)**

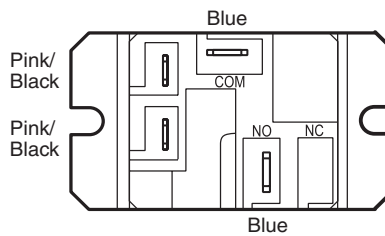


**GAS VALVE**

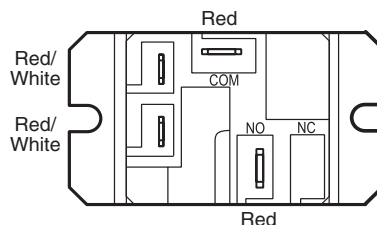
Timer	BU	BK	R	V	W
Wire Colors	Blue	Black	Red	Violet	White



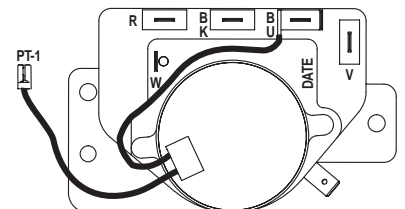
**EVEN HEAT ELECTRONIC CONTROL ASSEMBLY**



**MOTOR RELAY**

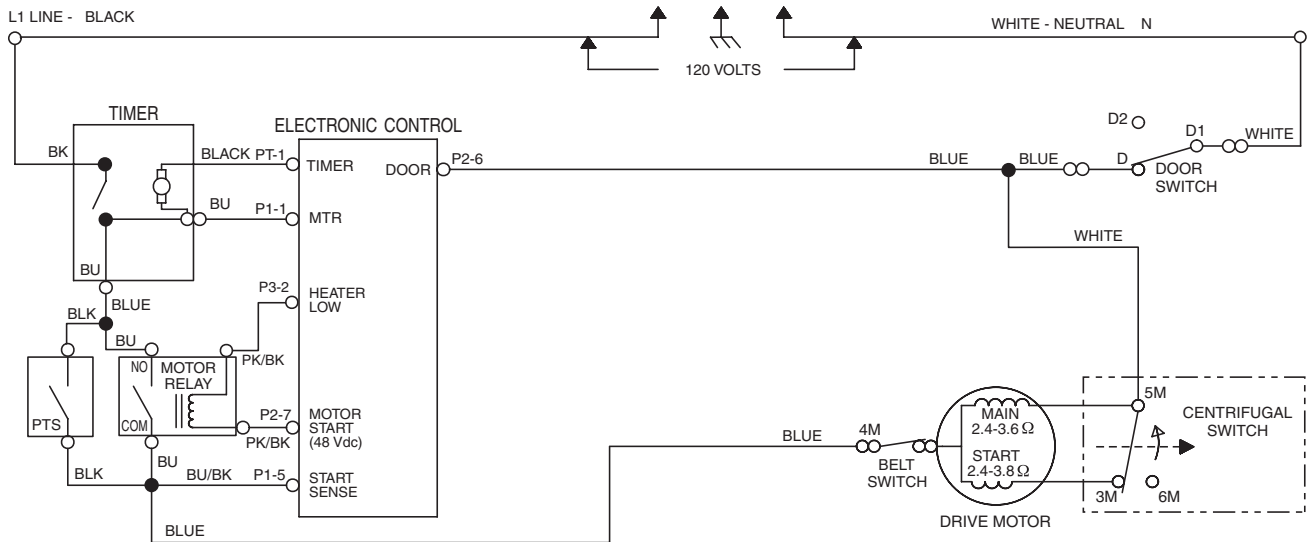


**HEATER RELAY**

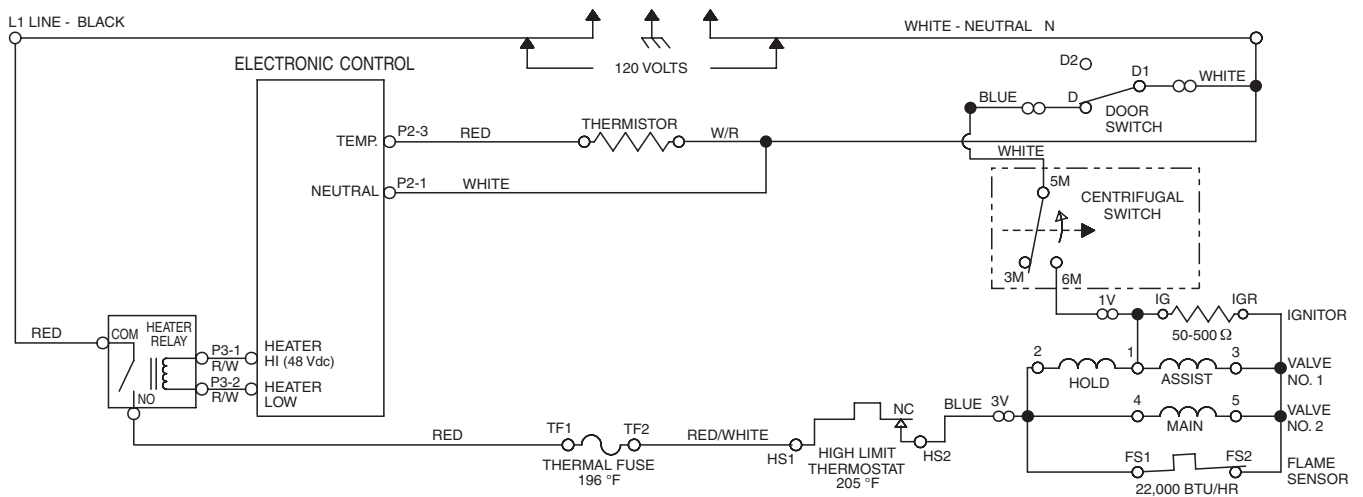


**TIMER**

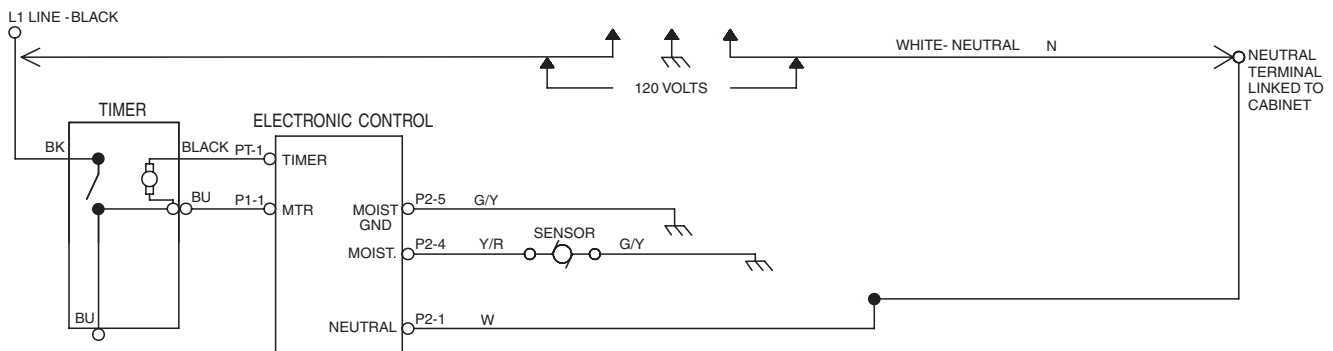
**MOTOR STRIP CIRCUIT**



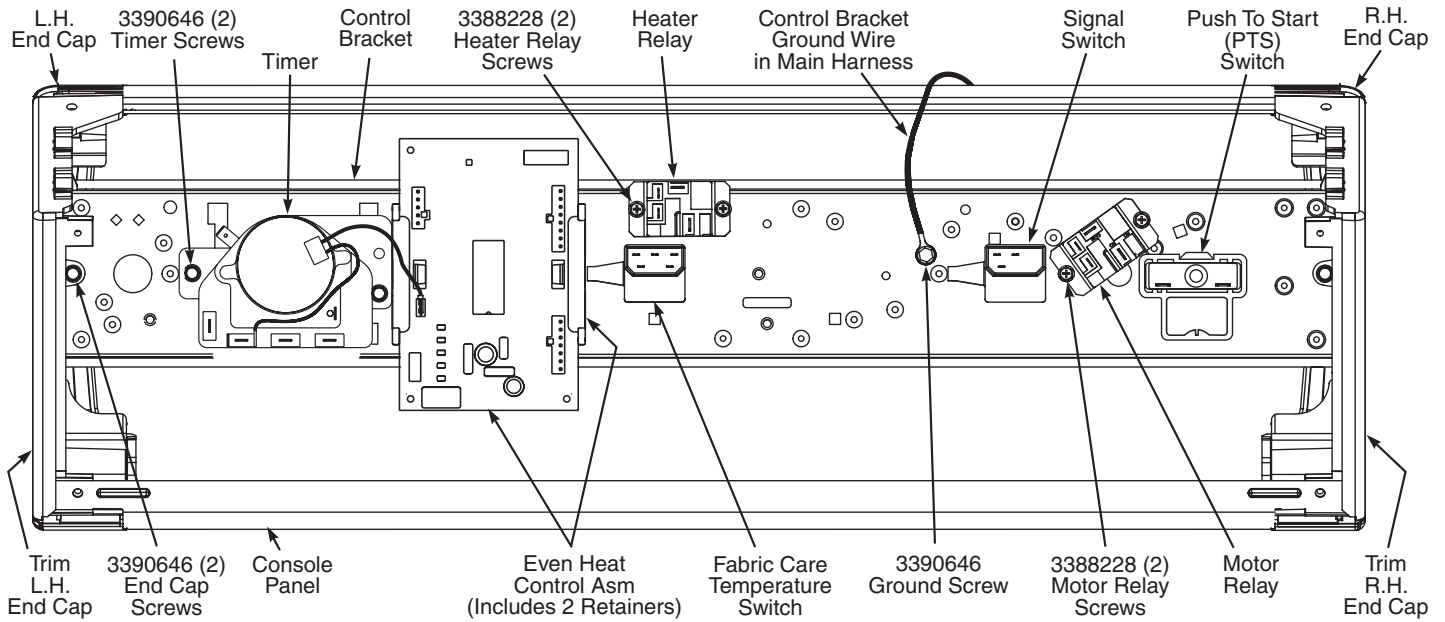
**HEATER STRIP CIRCUIT**



**MOISTURE SENSOR STRIP CIRCUIT**



### Component Location



COMPONENT	PART NUMBER		
	MODEL NUMBERS 73932 / 73942 / 73952 (White)	MODEL NUMBER 73954 (Bisque)	MODEL NUMBER 73956 (Graphite)
Console Panel for <b>WHITE</b> Models: <b>73932</b> <b>73942</b> <b>73952</b>	3979018 8528009 8528010	- - -	- - -
for <b>BISQUE</b> Model: <b>73954</b>	-	8528012	-
for <b>GRAPHITE</b> Model: <b>73956</b>	-	-	8528011
End Cap - R. H.	3949274	3949278	3949277
End Cap Trim - R. H.	3951009	3977759	3953667
End Cap - L. H.	3949280	3949284	3949283
End Cap Trim - L. H.	3951013	3977760	3953668
PTS Switch	3977456	3977456	3977456
PTS Knob *	3402570	3402569	3402567
Control Knob *	3402576 (2)	3402575 (2)	3402573 (2)
Signal Switch	3405151	3405151	3405151
Fabric Care Temperature Switch	3399643	3399643	3399643
Motor Relay	3405281	3405281	3405281
Heater Relay	3405281	3405281	3405281
Even Heat Electronic Control Assembly	3978949	3978949	3978949
Timer Knob *	3402598	3402597	3402595
Console Harness *	3406729	3406729	3406729
Main Harness *	8529973	8529973	8529973
Gas Harness*	3401850	3401850	3401850
Door Switch *	3406107	3406107	3406107
Belt Switch *	3394881	3394881	3394881
Thermal Fuse *	3390719	3390719	3390719
Gas Burner Assembly *	8318276	8318276	8318276
High Limit Thermostat *	3403140	3403140	3403140
Drive Motor *	661655	661655	661655
Thermistor - NTC 10K Ohms *	3976615	3976615	3976615
Timer	8299771	8299771	8299771

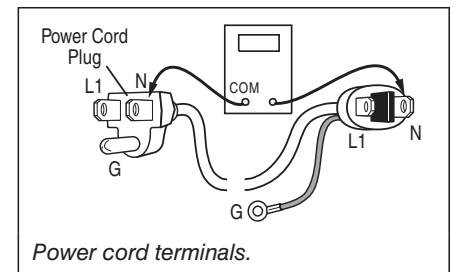
\* not shown in illustration above

### COMPONENT TESTS

#### Supply Connections Test

1. Disconnect dryer from power.
2. Remove the cover plate from the back of the dryer and check that the power cord is firmly connected to the dryer's wire harness.
3. Access the electronic control without disconnecting any wiring to the control board.

4. With an ohmmeter, check for continuity between the neutral (N) terminal of the plug and P2-1 (white wire) on the control board. The left side of the illustration above shows the position of the neutral terminal (N) on the power cord plug.



- If there is continuity, go to step 5.
  - If there is no continuity, disconnect the white wire of the harness from the power cord. Test the continuity of the power cord neutral wire as illustrated above. If an open circuit is found, replace the power cord. Otherwise, replace the main harness.
5. In a similar way, check the continuity between the L1 terminal of the plug and BK (black wire) on the timer.
    - If there is continuity, go to the Timer Test.
    - If there is no continuity, disconnect the black wire of the harness from the power cord. Test the continuity of the power cord L1 wire as illustrated above. If an open circuit is found, replace the power cord. Otherwise, replace the main harness.

**Timer Test**

Perform the diagnostic test on page 1 to determine that the timer motor advances (should run continuously). If the timer does not advance or fails the diagnostic test:

1. Disconnect dryer from power.
2. Remove the wires from timer terminals.
3. Check the timer motor resistance and timer switching. The resistance (BU to PT-1) should be 3 K ohms (±2). Use the timer encoding table below for switching conductivity, and refer to timer illustration on page 2.

Reference contact continuity to timer - BK.

**TIMER ENCODING TABLE**

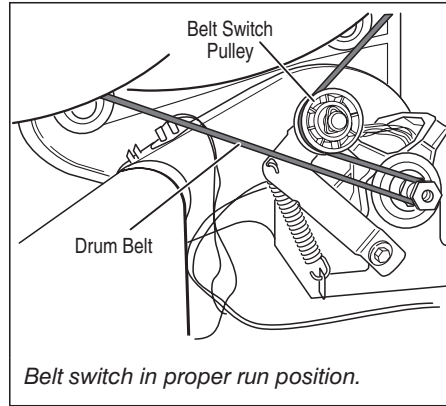
TIMED DRY MODE					
TIMER CONTACTS	TIMED DRY	COOL DOWN	WRINKLE GUARD	OFF	
W to BK	O	O	O	O	
R to BK	X	X	O	O	
V to BK	O	X	X	O	
BU to BK	X	X	X	O	
AUTO MOISTURE SENSING PLUS MODE					
TIMER CONTACTS	MORE DRY	NORMAL DRY	DAMP DRY	WRINKLE GUARD	OFF
W to BK	X	X	O	O	O
R to BK	O	O	O	O	O
V to BK	X	O	O	X	O
BU to BK	X	X	X	X	O
O = OPEN X = CLOSED					

**Motor Test**

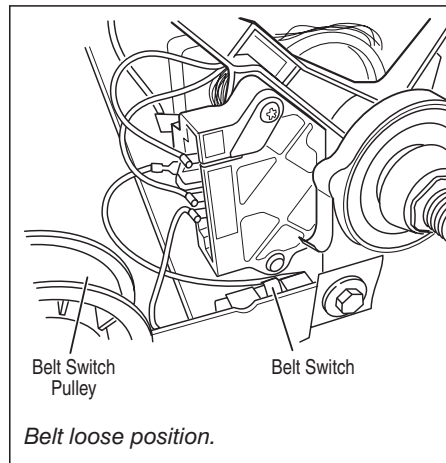
1. Disconnect dryer from power, and open the dryer door.
2. Measure resistance between the motor relay common (COM) terminal and the P2-6 terminal on the electronic control. 1 to 6 ohms should be measured.
  - ➔ If resistance measurements are outside 1 to 6 ohms, perform the Door Switch Test, the Belt Switch Test and check harness continuity. If they test good, replace the motor.
3. Measure resistance between the motor relay common (COM) terminal and ground. A high resistance (open) should be measured.
  - ➔ If it does not, perform the Door Switch and Belt Switch Tests and check harness continuity. If they test good, replace the motor.

**Belt Switch Test**

1. Disconnect dryer from power.
2. Disconnect belt switch from harness and check belt switch continuity.
  - ➔ With the belt switch in the proper run position, it should measure closed (motor test measurement can be done to verify the belt switch). See illustration below.



- ➔ With the belt loose, infinity (open) should be measured. See illustration below.

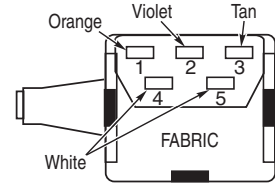


**Door Switch Test**

1. Disconnect dryer from power.
2. Check door switch continuity. Neutral to P2-6 on the electronic control should read closed with the door closed, and open with the door open.
3. Otherwise, verify harness continuity.
  - ➔ If no continuity, repair or replace the harness.
  - ➔ If harness is good, replace the door switch.

**Fabric Care Temperature Switch Test**

1. Disconnect dryer from power.



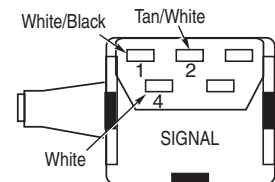
2. Remove the wires from the switch to complete this test.
3. Reference contact continuity with Pins 1 and 2 to Pin 4 (White).
4. Reference contact continuity with Pin 3 to Pin 5.

**FABRIC CARE TEMP. SWITCH TABLE**

SWITCH POSITION	CONTACTS			FUNCTION
	3-5	2-4	1-4	
9 o'clock	O	O	O	NO HEAT
10 o'clock	O	O	X	EXTRA LOW
12 o'clock	O	X	O	MEDIUM
2 o'clock	O	X	X	MEDIUM HIGH
3 o'clock	X	O	O	HIGH
O = OPEN X = CLOSED				

**Signal End of Cycle Switch Test**

1. Disconnect dryer from power.



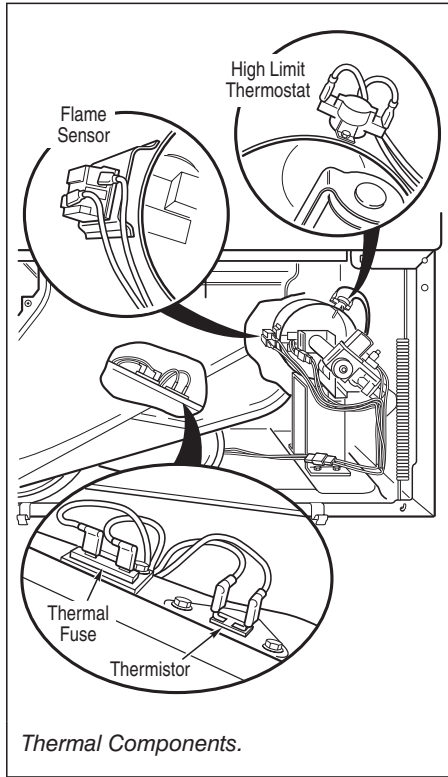
2. Remove the wires from the switch to complete this test.
3. Reference contact continuity to Pin 4 (White).

**SIGNAL END OF CYCLE SWITCH TABLE**

SWITCH POSITION	CONTACTS		FUNCTION
	1-4	2-4	
10 o'clock	O	O	OFF
12 o'clock	X	O	LOW End of Cycle Signal
2 o'clock	O	X	HIGH End of Cycle Signal
O = OPEN X = CLOSED			

### High Limit Thermostat Test

1. Disconnect dryer from power.
2. Remove the high limit thermostat and check continuity. Refer to the Thermal Components illustration below.
  - ➔ If open, replace the high limit thermostat.
  - ➔ If closed, apply heat. It should open at about 205°F. Otherwise, replace the high limit thermostat.



### Thermal Fuse Test

A thermal fuse is used on this model. The thermal fuse is wired in series with the dryer gas valve. If the thermal fuse opens, power is shut off to the gas valve.

1. Disconnect dryer from power. Check continuity of thermal fuse.
2. Once the thermal fuse has opened, it must be replaced. Check for failed thermistor or other causes of failure. Replace failed parts. See Thermal Components illustration above.

### Thermistor Test or Dryer Beeps 3 Times when Push To Start (PTS) is Pressed

An electronic temperature sensor called a thermistor is used in this model in place of an operating thermostat. The electronic control monitors the exhaust temperature using the thermistor, and cycles the heater relay on and off to maintain the desired temperature.

#### Procedure

Begin with a fully assembled, empty dryer and a clean lint screen.

1. Set the following configuration:
  - Door - must be closed
  - Timer dial - TIMED DRY
  - Fabric Care Temperature switch - COTTON / TOWELS HIGH
  - Signal End of Cycle switch - HIGH
2. Press the Push To Start switch.
  - ➔ If you hear three short beeps and the dryer shuts off after several seconds, the thermistor or wire harness is either shorted or open.
  - ➔ Disconnect dryer from power. Check wire connections at the electronic control and thermistor. If wiring is functional, replace the thermistor. Refer to Thermal Components illustration on this page.
  - ➔ If the dryer appears to operate correctly, proceed to step 3.
3. Remove exhaust vent and start the dryer.
  - ➔ Turn Fabric Care Temperature switch to desired temperature to be tested, and select 20 minutes on the Timed Dry dial. Hold a glass bulb thermometer capable of reading from 90°F to 180°F in the center of the exhaust outlet. Measure exhaust temperatures with heater off and on.
  - ➔ The correct exhaust temperatures are as follows:

FABRIC CARE TEMP. SWITCH SETTING	HEAT TURNS OFF	HEAT TURNS ON
COTTON / TOWELS HIGH	150° ± 10°F	10°-15°F below heat off
NORMAL MEDIUM HIGH	140° ± 10°F	
PERM PRESS / CASUAL MEDIUM	125° ± 10°F	
ULTRA DELICATE EXTRA LOW	115° ± 10°F	

- ➔ If the exhaust temperature is not within specified limits, disconnect dryer from power and check the resistance of the thermistor.

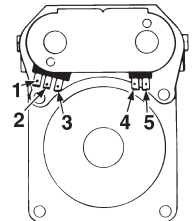
THERMISTOR RESISTANCE			
TEMP. ° F	RES. K Ω	TEMP. ° F	RES. K Ω
50°	19.9	100°	5.7
60°	15.3	110°	4.7
70°	11.9	120°	3.7
80°	9.2	130°	3.1
90°	7.4	140°	2.5

- ➔ If the thermistor resistance checks within normal limits, replace the electronic control assembly.

### Gas Valve Test

1. Disconnect dryer from power.
2. Use an ohmmeter to determine if a gas valve coil has failed. Remove harness plugs. Measure resistance across terminals. Readings should match those shown in the following chart. If not, replace coil.

Terminals	Resistance
1 to 2	1365Ω ± 25
1 to 3	560Ω ± 25
4 to 5	1220Ω ± 50



#### IMPORTANT:

Be sure all harness wires are looped back through the strain relief after checking or replacing coils.

**IMPORTANT:** Electrostatic (static electricity) discharge may cause damage to electronic control assemblies. See page 1 for details.

## TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE / TEST
DRYER WILL NOT RUN.	Refer to Motor Strip Circuit, page 3. – LINE VOLTAGE – HARNESS/CONNECTION – MOTOR RELAY – PUSH TO START (PTS) SWITCH – BELT/BELT SWITCH – MOTOR – DOOR SWITCH – ELECTRONIC CONTROL For more details, see Troubleshooting section at right.
DRYER WILL NOT HEAT.	Refer to Heater Strip Circuit, page 3. – LINE VOLTAGE – HARNESS/CONNECTION – HEATER RELAY – THERMAL FUSE – HIGH LIMIT THERMOSTAT – GAS VALVE – CENTRIFUGAL SWITCH – THERMISTOR – ELECTRONIC CONTROL For more details, see Troubleshooting section at right.
DRYER HEATS DURING AIR FLUFF NO HEAT CYCLE.	Refer to Heater Strip Circuit, page 3. – HARNESS/CONNECTION – HEATER RELAY – FABRIC CARE TEMPERATURE SWITCH – ELECTRONIC CONTROL For more details, see Troubleshooting section at right.
DRYER WON'T SHUT OFF.	Refer to Motor and Moisture Sensor Strip Circuits, page 3. – PUSH TO START (PTS) SWITCH – HARNESS/CONNECTION – MOTOR RELAY – MOISTURE SENSOR – ELECTRONIC CONTROL For more details, see Troubleshooting section, page 8.
DRYER SHUTS OFF BEFORE CLOTHES ARE DRY.	Refer to Thermistor Test, page 6; and Moisture Sensor Strip Circuit, page 3. – HARNESS/CONNECTION – MOISTURE SENSOR – THERMISTOR – ELECTRONIC CONTROL – MAY NEED TO CHANGE TIMER SETTING TO A MORE DRY SETTING For more details, see Troubleshooting section, page 8.
TIMER CONTINUOUSLY ADVANCES.	Refer to Timer Drawing, page 2; and Motor Strip Circuit, page 3. – HARNESS/CONNECTION – TIMER For more details, see Troubleshooting section, page 8.

## TROUBLESHOOTING

### PROBLEM:

#### Dryer Will Not Run

(Refer to Motor Strip Circuit, page 3; and Troubleshooting Guide at left.)

1. Disconnect dryer from power.
2. Check connector pins in P2 connector of the electronic control to verify they are making good connections.
3. Check the PTS (Push To Start) switch continuity when pressed. It should show continuity while pushed in. If not, replace the PTS switch.
4. Check the door switch. See Door Switch Test, page 5.
5. Check the belt switch. See Belt Switch Test, page 5.
6. If the motor started but did not continue to run, and components checked in steps 2 through 5 were OK, replace the electronic control assembly.
7. If motor did not start and components checked in steps 2 through 5 were OK, replace the motor.

### PROBLEM:

#### Dryer Will Not Heat

(Refer to Heater Strip Circuit, page 3; and Troubleshooting Guide at left.)

1. Perform Supply Connections Test, page 4.
2. Perform High Limit Thermostat Test, page 6.
3. Perform Thermal Fuse Test, page 6.
4. Perform Gas Valve Test, page 6.

### PROBLEM:

#### Dryer Heats During Air Fluff No Heat Cycle

(Refer to Heater Strip Circuit, page 3; and Troubleshooting Guide at left.)

1. Perform Fabric Care Temperature Switch Test, page 5.
2. With dryer disconnected from power, check continuity of heater relay contacts. COM to NO should be open. If not, replace the heater relay.
3. With dryer fully assembled, reconnect power to dryer, set to AIR FLUFF. If the dryer still heats, disconnect dryer from power and replace the electronic control assembly.

**IMPORTANT:** Electrostatic (static electricity) discharge may cause damage to electronic control assemblies. See page 1 for details.

## TROUBLESHOOTING (cont.)

### PROBLEM:

#### Dryer Won't Shut Off

(Refer to Motor and Moisture Sensor Strip Circuits, page 3; and Troubleshooting Guide, page 7.)

1. With the dryer fully assembled, set the timer to OFF. If the dryer starts running as soon as it is plugged in, disconnect dryer from power and replace the timer.
2. Set the following configuration:
  - Dryer - power cord plugged in
  - Door - must be closed
  - Fabric Care Temperature switch - COTTON / TOWELS
  - Timer - TIMED DRY for less than 10 minutes
3. If the dryer starts running before the PTS (Push To Start) switch is pressed, disconnect dryer from power and replace the PTS switch.
  - If, after replacing the PTS switch, the dryer still starts before the PTS switch is pressed, disconnect dryer from power and replace the motor relay.
4. If the dryer does not stop after the set time elapses, disconnect dryer from power and check the motor relay. Continuity of relay should be open from COM to NO.
5. If the dryer will not terminate its cycle when set to AUTO MOISTURE SENSING PLUS, disconnect dryer from power and check the moisture sensor.
  - If there is continuity to Ground for Yellow/Red (Y/R) wire with no load, look for a short in the sensor or Y/R wire. Verify harness connections both at the sensor and the electronic control.
  - If the sensor and Y/R wire are good, replace the electronic control assembly.

### PROBLEM:

#### Dryer Shuts Off Before Clothes Are Dry

(Refer to Moisture Sensor Strip Circuit, page 3; Thermistor Test, page 6; and Troubleshooting Guide, page 7.)

1. Test the moisture sensor by following the procedure outlined in the Diagnostic Test, page 1. If the moisture sensor fails the Diagnostic Test (does not produce a beep sound), disconnect the dryer from power and check the moisture sensor.
  - If there is continuity to Ground for Yellow/Red (Y/R) wire with no load, look for a short in the Sensor or Y/R wire. Verify harness connections both at the sensor and the electronic control.
  - If the Sensor and Y/R wire are good, replace the electronic control assembly.
2. If Diagnostic Test is passed, verify thermistor by performing test procedures outlined in Thermistor Test, page 6.
3. If problem persists after replacing moisture sensor and thermistor, disconnect dryer from power and replace the electronic control assembly.

### PROBLEM:

#### Timer Continuously Advances

(Refer to Timer Drawing, page 2; Motor Strip Circuit, page 3; and Troubleshooting Guide, page 7.)

1. Disconnect dryer from power and verify the Blue wire and the Black L1 wires are in the correct positions. See timer illustration on page 2.
2. Test the timer by following the procedure outlined in the Diagnostic Test, page 1.
3. If the timer continues to advance past OFF, then replace the timer.

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS:

4,385,452	4,720,925	4,899,264	5,560,120
4,430,809	4,754,556	4,899,464	5,636,453
4,663,861	4,821,535	4,908,959	5,651,188
4,669,200	4,840,285	5,066,050	5,664,339
4,700,495	4,865,366	5,243,771	D314,261

D314,262