



**CONSUMER CARE TECHNICAL  
EDUCATION GROUP PRESENTS**

**cabrio™**  
FABRIC CARE SYSTEM  
**GAS & ELECTRIC  
DRYERS**



**MODELS:**  
ELECTRIC - WED6200S & WED6400S  
GAS - WGD6200S & WGD6400S



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## **FORWARD**

This Whirlpool Job Aid, “Cabrio™ Gas & Electric Dryers” (Part No.8178584), provides the In-Home Service Professional with information on the installation, operation, and service of the Cabrio™ Gas & Electric Dryers. For specific information on the model being serviced, refer to the “Use and Care Guide,” or “Tech Sheet” provided with the dryer.

The Wiring Diagrams used in this Job Aid are typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the dryer.

## **GOALS AND OBJECTIVES**

The goal of this Job Aid is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the Cabrio™ Gas & Electric Dryers.

The objectives of this Job Aid are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the dryer to its proper operational status.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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# GENERAL DRYER SAFETY

## Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

 **DANGER**

You can be killed or seriously injured if you don't immediately follow instructions.

 **WARNING**

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

# MODEL & SERIAL NUMBER DESIGNATIONS

## MODEL NUMBER

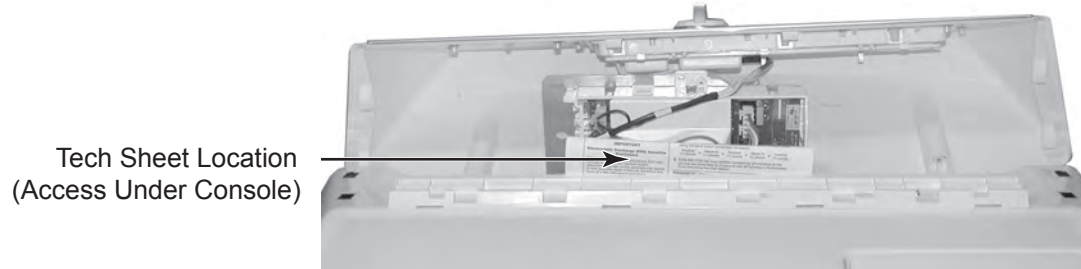
<b>MODEL NUMBER</b>	W	E	D	6	4	00	S	W	0
<b>BRAND</b> W = Whirlpool E = Estate R = Roper I = Inglis									
<b>ACCESS / FUEL</b> T = Top Load      G = Gas F = Front Load    H = Horizontal W = Work Space    V = Vertical E = Electric									
<b>PRODUCT</b> W = Washer      P = Pedestal D = Dryer        B = Combo T = Thin Twin    C = Compact									
<b>SERIES</b> 1 = Innovation    6 = Oasis 2 = Commercial   7 = Merloni 3 = Compact      8 = Horizon 4 = Stack         9 = Duet/Combo 5 = LEAP									
<b>PRICE POINT LEVELS (1 - 7)</b>									
<b>TRADE PARTNER</b> 00 = Brand      30 = NATM 10 = SBC        40 = Lowe's 20 = Best Buy									
<b>YEAR OF INTRODUCTION</b> S = 2006 T = 2007									
<b>COLOR CODE</b> W = White w/Silver Metallic Console G = Biscuit w/Gold Metallic Console B = Black w/Black Metallic Console									
<b>ENGINEERING CHANGE</b> 0 = Basic Original Release 1 = First Revision									

## SERIAL NUMBER

<b>SERIAL NUMBER</b>	M	T	41	10200
<b>MANUFACTURING SITE</b> M = Marion, OH				
<b>YEAR OF PRODUCTION</b> T = 2006				
<b>WEEK OF PRODUCTION</b> 41 = 41st Week				
<b>PRODUCT SEQUENCE NUMBER</b>				

# MODEL & SERIAL NUMBER LABEL & TECH SHEET LOCATIONS

The Model/Serial Number Label and Tech Sheet locations are shown below.





# SPECIFICATIONS

<b>MODEL NUMBERS</b>		
ELECTRIC	WED6200SW	WED6400SW, G, B
GAS	WGD6200SW	WGD6400SW, G, B
<b>PRIMARY FEATURES</b>		
CAPACITY (CU. FT.)	7	7
CAPACITY	Super Capacity Plus	Super Capacity Plus
# OF CYCLES	7	7
HEAVY DUTY	x	x
NORMAL	x	x
CASUAL	x	x
DELICATE	x	x
TIMED DRY	x	x
QUICK DRY	x	x
TOUCH UP	x	x
DAMP DRY SIGNAL	x	x
<b>TEMPERATURE SETTINGS</b>		
HIGH	155 ±5°F (68.3°C)	155 ±5°F (68.3°C)
MEDIUM	140 ±5°F (60°C)	140 ±5°F (60°C)
LOW	125 ±5°F (51.6°C)	125 ±5°F (51.6°C)
EX-LOW (ULTRA DELICATE)	105 ±5°F (40.5°C)	105 ±5°F (40.5°C)
AIR ONLY	x	x
<b>CABINET COLOR</b>		
WHITE	x	x
BISQUIT		x
BLACK		x
TOP FINISH	Painted	Porcelain
DOOR	Solid	Glass
<b>UTILITIES</b>		
MOTOR RATING	1/3 HP	1/3 HP
HEATER ELEMENT	Single Element 5400W	Dual Element (2) 2700W
GAS BTU	22,000 BTU	22,000 BTU
U.L. RATED LOAD	18 LBS (8.16 KG)	18 LBS (8.16 KG)
<b>UNIT DIMENSIONS</b>		
HEIGHT	42 IN (106.6 CM)	42 IN (106.6 CM)
WIDTH	29 IN (73.6 CM)	29 IN (73.6 CM)
DEPTH	30 1/8 IN (76.5 CM)	30 1/8 IN (76.5 CM)
SHIPPING WEIGHT	Gas - 150 LBS (68.1 KG) Electric - 145 LBS (65.7 KG)	Gas - 151 LBS (68.4 KG) Electric - 147 LBS (66.7 KG)

# INSTALLATION INFORMATION

## INSTALLATION INSTRUCTIONS

### TOOLS AND PARTS

Gather the required tools and parts before starting installation. Read and follow the instructions provided with any tools listed here.

#### Electric Models

- Flat-blade screwdriver
- #2 Phillips screwdriver
- Adjustable wrench that opens to 1" (2.5 cm) or hex-head socket wrench (for adjusting dryer feet)
- Wire stripper (for direct wire installations)
- Tin snips (new vent installations)
- Level
- Vent clamps
- Caulking gun and compound (for installing new exhaust vent)
- Tape measure

#### Gas Models

- 8" or 10" pipe wrench
- 8" or 10" adjustable wrench (for gas connections)
- Flat-blade screwdriver
- Adjustable wrench that opens to 1" (2.54 cm) or hex-head socket wrench (for adjusting dryer feet)
- 1/4" nut driver or socket wrench
- Level
- Vent clamps
- Knife
- Pipe-joint compound resistant to LP gas
- Caulking gun and compound (for installing new exhaust vent)
- Pliers
- Tape measure

#### Parts supplied:

Remove parts package from dryer drum. Check that all parts were included.



*4 leveling legs*

#### Parts needed:

Check local codes and with gas supplier. Check existing gas supply, electrical supply and venting. Read "Electrical Requirements," "Gas Supply Requirements" and "Venting Requirements" before purchasing parts.

Mobile home installations require special parts (listed following) that may be ordered by calling the dealer from whom you purchased your dryer. For ordering information, please refer to the "Assistance or Service" section of the "Use & Care Guide." You may also contact the dealer from whom you purchased your dryer.

- Mobile home installation kit. Ask for Part Number 346764.
- Metal exhaust system hardware.

## LOCATION REQUIREMENTS

### **! WARNING**



#### **Explosion Hazard**

**Keep flammable materials and vapors, such as gasoline, away from dryer.**

**Place dryer at least 18 inches (46 cm) above the floor for a garage installation.**

**Failure to do so can result in death, explosion, or fire.**

#### **You will need**

- A location that allows for proper exhaust installation. See “Venting Requirements.”
- A separate 30-amp circuit.
- If you are using a power supply cord, a grounded electrical outlet located within 2 ft (61 cm) of either side of the dryer. See “Electrical Requirements.”
- A sturdy floor to support the total weight (dryer and load) of 200 lbs. (90.7 kg). The combined weight of a companion appliance should also be considered.
- A level floor with a maximum slope of 1" (2.5 cm) under entire dryer.

Do not operate your dryer at temperatures below 45°F (7°C). At lower temperatures, the dryer might not shut off at the end of an automatic cycle. Drying times can be extended.

The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.

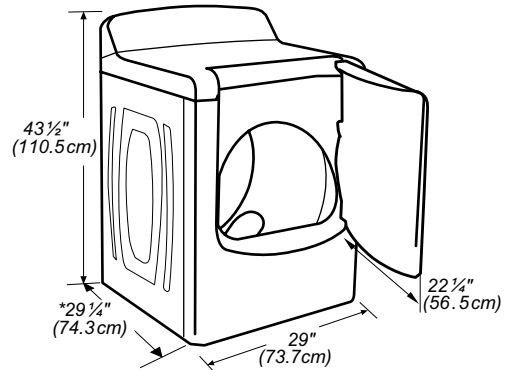
Check code requirements. Some codes limit, or do not permit, installation of the dryer in garages, closets, mobile homes or sleeping quarters. Contact your local building inspector.

**NOTE:** No other fuel-burning appliance can be installed in the same closet as a dryer.

## INSTALLATION CLEARANCES

The location must be large enough to allow the dryer door to open fully.

### **Dryer Dimensions**



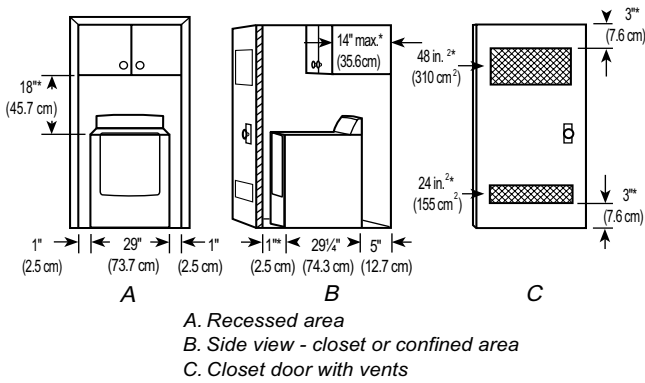
\*Most installations require a minimum 5" (12.7 cm) clearance behind the dryer for the exhaust vent with elbow. See “Venting Requirements.”

### **Installation spacing for recessed area or closet installation**

The following spacing dimensions are recommended for this dryer. This dryer has been tested for spacing of 0" (0 cm) clearance on the sides and rear. Recommended spacing should be considered for the following reasons:

- Additional spacing should be considered for ease of installation and servicing.
- Additional clearances might be required for wall, door and floor moldings.
- Additional spacing should be considered on all sides of the dryer to reduce noise transfer.
- For closet installation, with a door, minimum ventilation openings in the top and bottom of the door are required. Louvered doors with equivalent ventilation openings are acceptable.
- Companion appliance spacing should also be considered.

- Additional spacing is required if you exhaust out the rear of the dryer to either the right or left side.



\*Required spacing

## Mobile Home - Additional Installation Requirements

This dryer is suitable for mobile home installations. The installation must conform to the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 (formerly the Federal Standard for Mobile Home Construction and Safety, Title 24, HUD Part 280), or Standard CAN/CSA-Z240 MH.

### Mobile home installations require:

- Metal exhaust system hardware, which is available for purchase from your dealer.
- Mobile home Installation Kit Part Number 346764.
- Special provisions must be made in mobile homes to introduce outside air into the dryer. The opening (such as a nearby window) should be at least twice as large as the dryer exhaust opening.

## **ELECTRICAL REQUIREMENTS - U.S.A. ONLY**

### **Electric Models Only**

#### **It is your responsibility**

- To contact a qualified electrical installer.
- To be sure that the electrical connection is adequate and in conformance with the National Electrical Code, ANSI/NFPA 70-latest edition and all local codes and ordinances.

The National Electric Code requires a 4-wire supply connection for homes built after 1996, dryer circuits involved in remodeling after 1996, and all mobile home installations.

A copy of the above code standards can be obtained from: National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269.

- To supply the required 3 or 4 wire, single phase, 120/240 volt, 60 Hz., AC only electrical supply (or 3 or 4 wire, 120/208 volt electrical supply, if specified on the serial/rating plate) on a separate 30-amp circuit, fused on both sides of the line. A time-delay fuse or circuit breaker is recommended. Connect to an individual branch circuit. Do not have a fuse in the neutral or grounding circuit.
- Do not use an extension cord.
- If codes permit and a separate ground wire is used, it is recommended that a qualified electrician determine that the ground path is adequate.

#### **Electrical Connection**

To properly install your dryer, you must determine the type of electrical connection you will be using and follow the instructions provided for it here.

- If local codes do not permit the connection of a neutral ground wire to the neutral wire, see “Optional 3-wire connection” section.

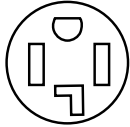
- This dryer is manufactured ready to install with a 3-wire electrical supply connection. The neutral ground wire is permanently connected to the neutral conductor (white wire) within the dryer. If the dryer is installed with a 4-wire electrical supply connection, the neutral ground wire must be removed from the external ground conductor screw (green screw), and secured under the neutral terminal (center or white wire) of the terminal block. When the neutral ground wire is secured under the neutral terminal (center or white wire) of the terminal block, the dryer cabinet is isolated from the neutral conductor.
- A 4-wire power supply connection must be used when the appliance is installed in a location where grounding through the neutral conductor is prohibited. Grounding through the neutral is prohibited for (1) new branch-circuit installations, (2) mobile homes, (3) recreational vehicles, and (4) areas where local codes prohibit grounding through the neutral conductors.

#### **If using a power supply cord:**

Use a UL listed power supply cord kit marked for use with clothes dryers. The kit should contain:

- A UL listed 30-amp power supply cord, rated 120/240 volt minimum. The cord should be type SRD or SRDT and be at least 4 ft (1.22 m) long. The wires that connect to the dryer must end in ring terminals or spade terminals with upturned ends.
- A UL listed strain relief.

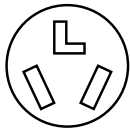
**If your outlet looks like this:**



*4-wire receptacle (14-30R)*

Then choose a 4-wire power supply cord with ring or spade terminals and UL listed strain relief. The 4-wire power supply cord, at least 4 ft (1.22 m) long, must have four 10-gauge copper wires and match a 4-wire receptacle of NEMA Type 14-30R. The ground wire (ground conductor) may be either green or bare. The neutral conductor must be identified by a white cover.

**If your outlet looks like this:**



*3-wire receptacle (10-30R)*

Then choose a 3-wire power supply cord with ring or spade terminals and UL listed strain relief. The 3-wire power supply cord, at least 4 ft (1.22 m) long, must have three 10-gauge copper wires and match a 3-wire receptacle of NEMA Type 10-30R.

**If connecting by direct wire:**

Power supply cable must match power supply (4-wire or 3-wire) and be:

- Flexible armored cable or nonmetallic sheathed copper cable (with ground wire), protected with flexible metallic conduit. All current-carrying wires must be insulated.
- 10-gauge solid copper wire (do not use aluminum).
- At least 5 ft (1.52 m) long.

**GROUNDING INSTRUCTIONS**


- For a grounded, cord-connected dryer:  
This dryer must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This dryer uses a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- For a permanently connected dryer:  
This dryer must be connected to a grounded metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the dryer.

**WARNING:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative or personnel if you are in doubt as to whether the dryer is properly grounded. Do not modify the plug on the power supply cord: if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

## ELECTRICAL REQUIREMENTS - CANADA ONLY

### Electric Models Only

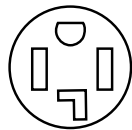
**! WARNING**



**Electrical Shock Hazard**  
**Plug into a grounded 4 prong outlet.**  
**Failure to do so can result in death or electrical shock.**

#### It is your responsibility

- To contact a qualified electrical installer.
- To be sure that the electrical connection is adequate and in conformance with the Canadian Electrical Code, C22.1-latest edition and all local codes. A copy of the above codes standard may be obtained from: Canadian Standards Association, 178 Rexdale Blvd., Toronto, ON M9W 1R3 CANADA.
- To supply the required 4 wire, single phase, 120/240 volt, 60 Hz., AC only electrical supply on a separate 30-amp circuit, fused on both sides of the line. A time-delay fuse or circuit breaker is recommended. Connect to an individual branch circuit.
- This dryer is equipped with a CSA International Certified Power Cord intended to be plugged into a standard 14-30R wall receptacle. The cord is 5 ft (1.52 m) in length. Be sure wall receptacle is within reach of dryer's final location.



4-wire receptacle (14-30R)

- Do not use an extension cord.
- If you are using a replacement power supply cord, it is recommended that you use Power Supply Cord Replacement Part Number 3394208. For further information, please reference the service numbers located in the "Assistance or Service" section of the "Use & Care Guide."

#### GROUNDING INSTRUCTIONS

- For a grounded, cord-connected dryer:  
This dryer must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This dryer uses a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative or personnel if you are in doubt as to whether the dryer is properly grounded. Do not modify the plug provided with the dryer; if it will not fit the outlet, have a proper outlet installed by a qualified electrician.



**ELECTRICAL CONNECTION -  
U.S.A. ONLY  
POWER SUPPLY CORD**

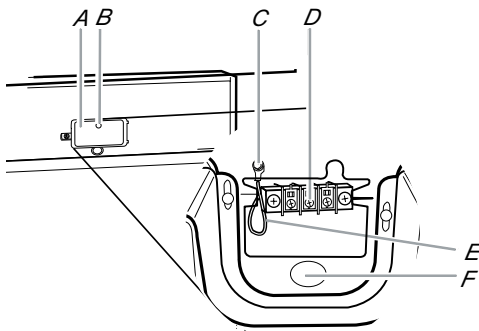
**⚠ WARNING**



**Fire Hazard**

Use a new UL listed 30 amp power supply cord.  
Use a UL listed strain relief.  
Disconnect power before making electrical connections.  
Connect neutral wire (white or center wire) to center terminal (silver).  
Ground wire (green or bare wire) must be connected to green ground connector.  
Connect remaining 2 supply wires to remaining 2 terminals (gold).  
Securely tighten all electrical connections.  
Failure to do so can result in death, fire, or electrical shock.

1. Disconnect power.
2. Remove the hold-down screw and terminal block cover.



A. Terminal block cover  
B. Hold-down screw  
C. External ground conductor screw  
D. Center, silver-colored terminal block screw  
E. Neutral ground wire  
F. Hole below terminal block opening

**DIRECT WIRE**

**⚠ WARNING**



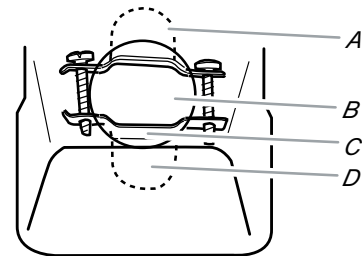
**Fire Hazard**

Use 10 gauge solid copper wire.  
Use a UL listed strain relief.  
Disconnect power before making electrical connections.  
Connect neutral wire (white or center wire) to center terminal (silver).  
Ground wire (green or bare wire) must be connected to green ground connector.  
Connect remaining 2 supply wires to remaining 2 terminals (gold).  
Securely tighten all electrical connections.  
Failure to do so can result in death, fire, or electrical shock.

3. Install strain relief.

**Style 1: Power supply cord strain relief**

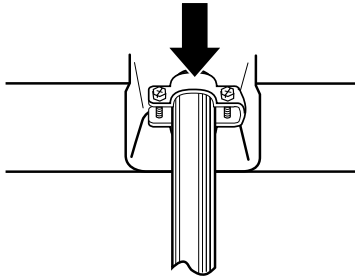
- Remove the screws from a 3/4" (1.9 cm) UL listed strain relief (UL marking on strain relief). Put the tabs of the two clamp sections into the hole below the terminal block opening so that one tab is pointing up and the other is pointing down, and hold in place. Tighten strain relief screws just enough to hold the two clamp sections together.



A. Strain relief tab pointing up  
B. Hole below terminal block opening  
C. Clamp section  
D. Strain relief tab pointing down

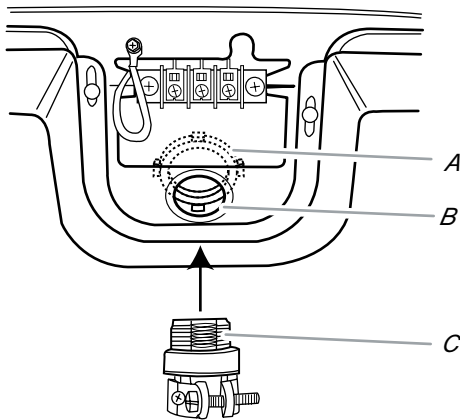


- Put power supply cord through the strain relief. Be sure that the wire insulation on the power supply cord is inside the strain relief. The strain relief should have a tight fit with the dryer cabinet and be in a horizontal position. Do not further tighten strain relief screws at this point.



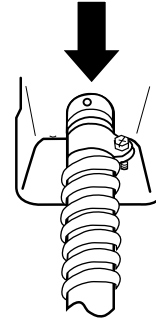
### Style 2: Direct wire strain relief

- Unscrew the removable conduit connector and any screws from a 3/4" (1.9 cm) UL listed strain relief (UL marking on strain relief). Put the threaded section of the strain relief through the hole below the terminal block opening. Reaching inside the terminal block opening, screw the removable conduit connector onto the strain relief threads.



A. Removable conduit connector  
 B. Hole below terminal block opening  
 C. Strain relief threads

- Put direct wire cable through the strain relief. The strain relief should have a tight fit with the dryer cabinet and be in a horizontal position. Tighten strain relief screw against the direct wire cable.


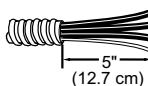

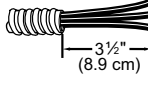


- Now complete installation following instructions for your type of electrical connection:

**4-wire** (recommended)

**3-wire** (if 4-wire is not available)

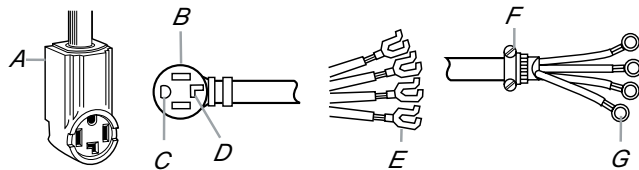
### Electrical Connection Options

If your home has:	And you will be connecting to:	Go to Section:
4-wire receptacle (NEMA type 14-30R) 	A UL listed, 120/240-volt minimum, 30-amp, dryer power supply cord*	4-wire connection: Power Supply Cord
4-wire direct 	A fused disconnect or circuit breaker box*	4-wire connection: Direct Wire
3-wire receptacle (NEMA type 10-30R) 	A UL listed, 120/240-volt minimum, 30-amp, dryer power supply cord*	3-wire connection: Power Supply Cord
3-wire direct 	A fused disconnect or circuit breaker box*	3-wire connection: Direct Wire

\* If local codes do not permit the connection of a cabinet-ground conductor to the neutral wire, go to "Optional 3-wire connection" section.

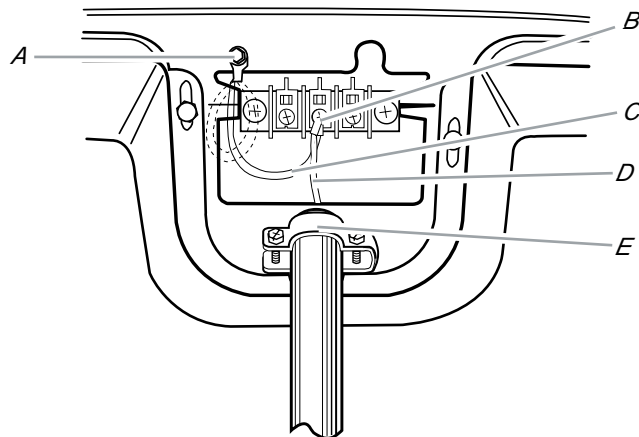
## 4-wire connection: Power supply cord

**IMPORTANT:** A 4-wire connection is required for mobile homes and where local codes do not permit the use of 3-wire connections.



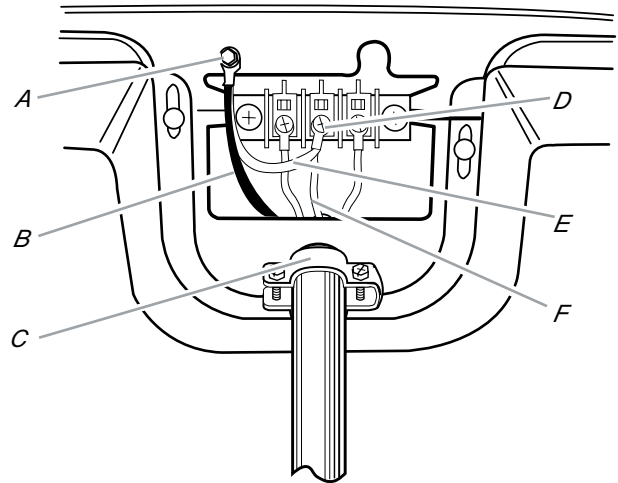
- A. 4-wire receptacle (NEMA type 14-30R)
- B. 4-prong plug
- C. Ground prong
- D. Neutral prong
- E. Spade terminals with upturned ends
- F.  $\frac{3}{4}$ " (1.9 cm) UL listed strain relief
- G. Ring terminals

1. Remove center silver-colored terminal block screw.
2. Remove neutral ground wire from external ground conductor screw. Connect neutral ground wire and the neutral wire (white or center wire) of power supply cord under center, silver-colored terminal block screw. Tighten screw.



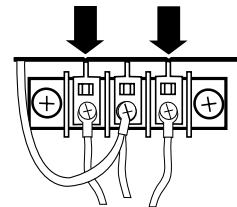
- A. External ground conductor screw - Dotted line shows position of NEUTRAL ground wire before being moved to center silver-colored terminal block screw.
- B. Center silver-colored terminal block screw
- C. Neutral ground wire
- D. Neutral wire (white or center wire)
- E.  $\frac{3}{4}$ " (1.9 cm) UL listed strain relief

3. Connect ground wire (green or bare) of power supply cord to external ground conductor screw. Tighten screw.



- A. External ground conductor screw
- B. Ground wire (green or bare) of power supply cord
- C.  $\frac{3}{4}$ " (1.9 cm) UL listed strain relief
- D. Center silver-colored terminal block screw
- E. Neutral ground wire
- F. Neutral wire (white or center wire)

4. Connect the other wires to outer terminal block screws. Tighten screws.



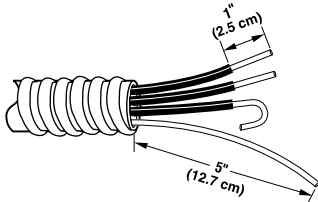
5. Tighten strain relief screws.
6. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
7. You have completed your electrical connection. Now go to "Venting Requirements."

#### 4-wire connection: Direct Wire

**IMPORTANT:** A 4-wire connection is required for mobile homes and where local codes do not permit the use of 3-wire connections.

Direct wire cable must have 5 ft (1.52 m) of extra length so dryer can be moved if needed.

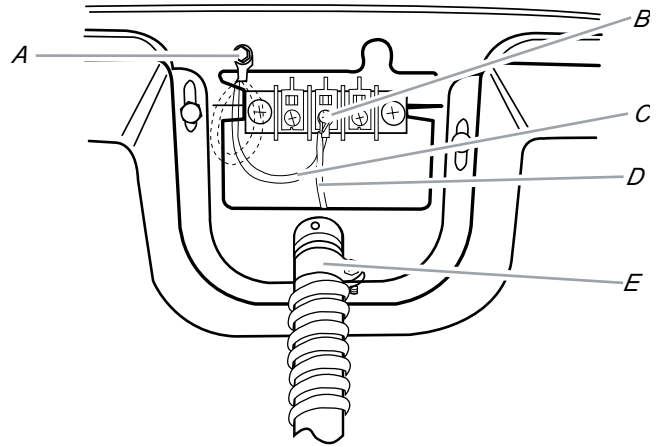
Strip 5" (12.7 cm) of outer covering from end of cable, leaving bare ground wire at 5" (12.7 cm). Cut 1-1/2" (3.8 cm) from 3 remaining wires. Strip insulation back 1" (2.5 cm). Shape ends of wires into a hook shape.



When connecting to the terminal block, place the hooked end of the wire under the screw of the terminal block (hook facing right), squeeze hooked end together and tighten screw, as shown.

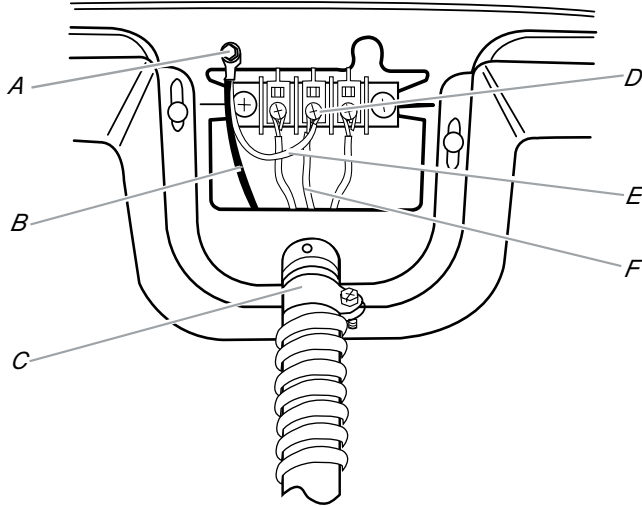


1. Remove center silver-colored terminal block screw.
2. Remove neutral ground wire from external ground conductor screw. Connect neutral ground wire and place the hooked end (hook facing right) of the neutral wire (white or center wire) of direct wire cable under the center screw of the terminal block. Squeeze hooked ends together. Tighten screw.



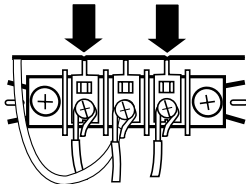
- A. External ground conductor screw - Dotted line shows position of NEUTRAL ground wire before being moved to center silver-colored terminal block screw.  
B. Center silver-colored terminal block screw  
C. Neutral ground wire  
D. Neutral wire (white or center wire)  
E. 3/4" (1.9 cm) UL listed strain relief

3. Connect ground wire (green or bare) of direct wire cable to external ground conductor screw. Tighten screw.



A. External ground conductor screw  
 B. Ground wire (green or bare) of power supply cord  
 C. 3/4" (1.9 cm) UL listed strain relief  
 D. Center silver-colored terminal block screw  
 E. Neutral ground wire  
 F. Neutral wire (white or center wire)

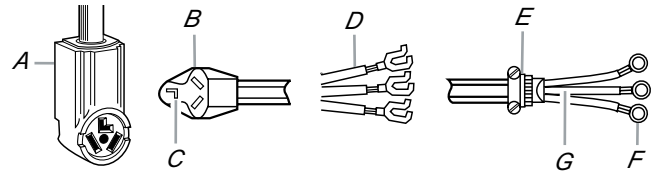
4. Place the hooked ends of the other direct wire cable wires under the outer terminal block screws (hooks facing right). Squeeze hooked ends together. Tighten screws.



5. Tighten strain relief screw.
6. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
7. You have completed your electrical connection. Now go to "Venting Requirements."

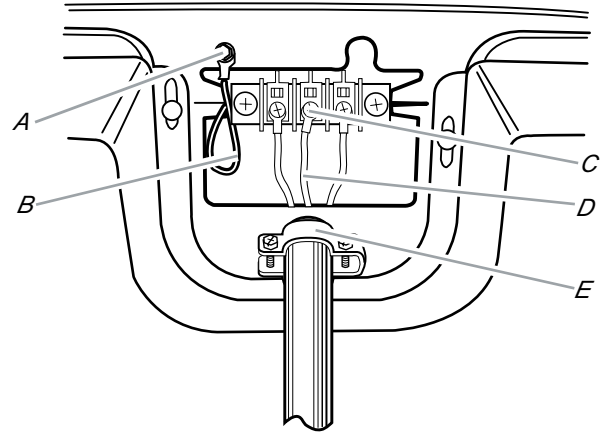
### 3-wire connection: Power supply cord

Use where local codes permit connecting cabinet-ground conductor to neutral wire.



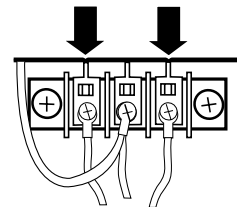
A. 3-wire receptacle (NEMA type 10-30R)  
 B. 3-wire plug  
 C. Neutral prong  
 D. Spade terminals with upturned ends  
 E. 3/4" (1.9 cm) UL listed strain relief  
 F. Ring terminals  
 G. Neutral wire (white or center wire)

1. Loosen or remove center silver-colored terminal block screw.
2. Connect neutral wire (white or center wire) of power supply cord to the center, silver-colored terminal screw of the terminal block. Tighten screw.



A. External ground conductor screw  
 B. Neutral ground wire  
 C. Center silver-colored terminal block screw  
 D. Neutral wire (white or center wire)  
 E. 3/4" (1.9 cm) UL listed strain relief

3. Connect the other wires to outer terminal block screws. Tighten screws.



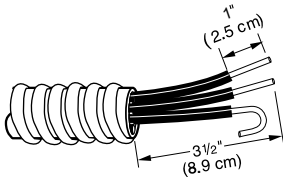
4. Tighten strain relief screws.
5. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
6. You have completed your electrical connection. Now go to “Venting Requirements.”

### 3-wire connection: Direct Wire

**Use where local codes permit connecting cabinet-ground conductor to neutral wire.**

Direct wire cable must have 5 ft (1.52 m) of extra length so dryer can be moved if needed.

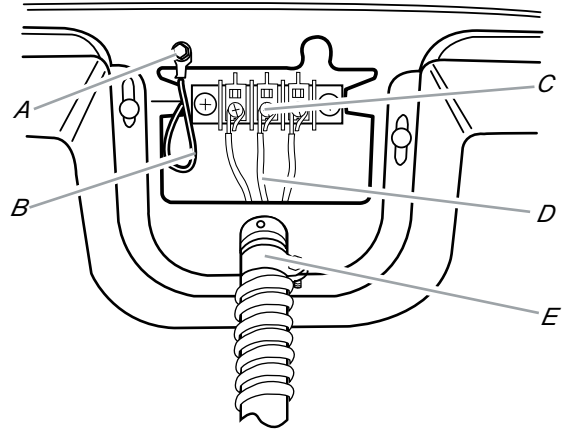
Strip 3-1/2" (8.9 cm) of outer covering from end of cable. Strip insulation back 1" (2.5 cm). If using 3-wire cable with ground wire, cut bare wire even with outer covering. Shape ends of wires into a hook shape.



When connecting to the terminal block, place the hooked end of the wire under the screw of the terminal block (hook facing right), squeeze hooked end together and tighten screw, as shown.

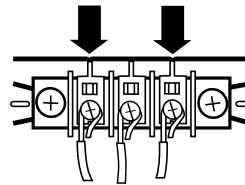


1. Loosen or remove center silver-colored terminal block screw.
2. Place the hooked end of the neutral wire (white or center wire) of direct wire cable under the center screw of terminal block (hook facing right). Squeeze hooked end together. Tighten screw.



- A. External ground conductor screw
- B. Neutral ground wire
- C. Center silver-colored terminal block screw
- D. Neutral wire (white or center wire)
- E. 3/4" (1.9 cm) UL listed strain relief

3. Place the hooked ends of the other direct wire cable wires under the outer terminal block screws (hooks facing right). Squeeze hooked ends together. Tighten screws.

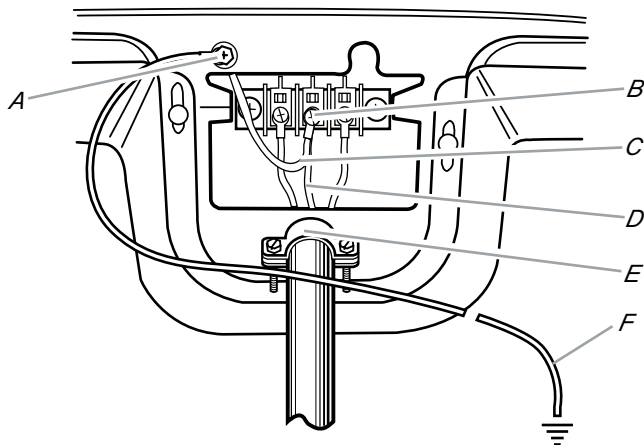


4. Tighten strain relief screw.
5. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
6. You have completed your electrical connection. Now go to “Venting Requirements.”

### Optional 3-wire connection

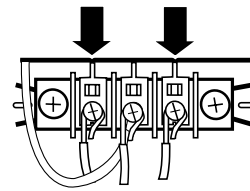
Use for direct wire or power supply cord where local codes do not permit connecting cabinet-ground conductor to neutral wire.

1. Remove center silver-colored terminal block screw.
2. Remove neutral ground wire from external ground conductor screw. Connect neutral ground wire and the neutral wire (white or center wire) of power supply cord under center, silver-colored terminal block screw. Tighten screw.



- A. External ground conductor screw
- B. Center silver-colored terminal block screw
- C. Neutral ground wire
- D. Neutral wire (white or center wire)
- E.  $\frac{3}{4}$ " (1.9 cm) UL listed strain relief
- F. Grounding path determined by a qualified electrician

3. Connect the other wires to outer terminal block screws. Tighten screws.



4. Tighten strain relief screws.
5. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
6. Connect a separate copper ground wire from the external ground conductor screw to an adequate ground.
7. You have completed your electrical connection. Now go to "Venting Requirements."

## ELECTRICAL REQUIREMENTS

### Gas Models Only

# **WARNING**



### **Electrical Shock Hazard**

**Plug into a grounded 3 prong outlet.**

**Do not remove ground prong.**

**Do not use an adapter.**

**Do not use an extension cord.**

**Failure to follow these instructions can result in death, fire, or electrical shock.**

- A 120 Volt, 60 Hz., AC only, 15- or 20-amp, fused electrical supply is required. A time-delay fuse or circuit breaker is recommended. It is recommended that a separate circuit serving only this dryer be provided.

## **GROUNDING INSTRUCTIONS**

- For a grounded, cord-connected dryer:  
This dryer must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This dryer is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative or personnel if you are in doubt as to whether the dryer is properly grounded. Do not modify the plug provided with the dryer: if it will not fit the outlet, have a proper outlet installed by a qualified electrician.



## GAS SUPPLY REQUIREMENTS

### **⚠ WARNING**



#### **Explosion Hazard**

**Use a new CSA International approved gas supply line.**

**Install a shut-off valve.**

**Securely tighten all gas connections.**

**If connected to LP, have a qualified person make sure gas pressure does not exceed 13" (33 cm) water column.**

**Examples of a qualified person include:**

**licensed heating personnel, authorized gas company personnel, and authorized service personnel.**

**Failure to do so can result in death, explosion, or fire.**

## GAS TYPE

### **Natural Gas:**

This dryer is equipped for use with Natural gas. It is design-certified by CSA International for LP (propane or butane) gases with appropriate conversion.

- The dryer must have the correct burner for the type of gas in your home. Burner information is located on the rating plate in the door well of your dryer. If this information does not agree with the type of gas available, contact your dealer.

### **LP gas conversion:**

**Conversion must be made by a qualified technician.**

No attempt shall be made to convert the appliance from the gas specified on the model/serial rating plate for use with a different gas without consulting your gas company.

## GAS SUPPLY LINE

- 1/2" IPS pipe is recommended.
- 3/8" approved tubing is acceptable for lengths under 20 ft (6.1 m) if local codes and gas supplier permit.
- Must include 1/8" NPT minimum plugged tapping accessible for test gauge connection, immediately upstream of the gas connection to the dryer (see illustration).
- If you are using Natural gas, do not use copper tubing.
- Lengths over 20 ft (6.1 m) should use larger tubing and a different size adapter fitting.
- If your dryer has been converted to use LP gas, 3/8" LP compatible copper tubing can be used. If the total length of the supply line is more than 20 ft (6.1 m), use larger pipe.

**NOTE:** Pipe-joint compounds that resist the action of LP gas must be used. Do not use TEFLON<sup>®</sup> tape.

- Must include a shutoff valve:

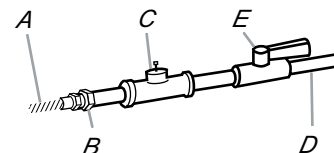
In the U.S.A.:

An individual manual shutoff valve must be installed within six (6) feet (1.8 m) of the dryer in accordance with the National Fuel Gas Code, ANSI Z223.1.

In Canada:

An individual manual shutoff valve must be installed in accordance with the B149.1, Natural Gas and Propane Installation Code. It is recommended that an individual manual shutoff valve be installed within six (6) feet (1.8 m) of the dryer.

The location should be easy to reach for opening and closing.



- A. 3/8" flexible gas connector
- B. 3/8" pipe to flare adapter fitting
- C. 1/8" NPT minimum plugged tapping
- D. 1/2" NPT gas supply line
- E. Gas shutoff valve



## GAS SUPPLY CONNECTION REQUIREMENTS

- Use an elbow and a 3/8" flare x 3/8" NPT adapter fitting between the flexible gas connector and the dryer gas pipe, as needed to avoid kinking.
- Use only pipe-joint compound. Do not use TEFLON<sup>®†</sup> tape.
- This dryer must be connected to the gas supply line with a listed flexible gas connector that complies with the standard for connectors for gas appliances, ANSI Z21.24 or CSA 6.10.

<sup>®†</sup> TEFLON is a registered trademark of E.I. DuPont De Nemours and Company.

## BURNER INPUT REQUIREMENTS

### Elevations above 2,000 ft (610 m):

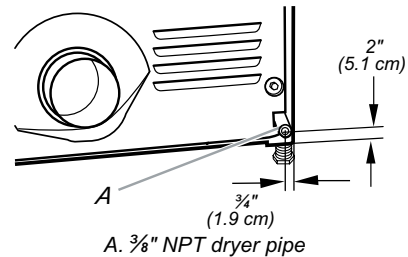
- When installed above 2,000 ft (610 m) a 4% reduction of the burner B.T.U. rating shown on the model/serial number plate is required for each 1000 ft (305 m) increase in elevation.

### Gas Supply Pressure Testing

- The dryer must be disconnected from the gas supply piping system during pressure testing at pressures greater than 1/2 psi.

## DRYER GAS PIPE

- The gas pipe that comes out through the rear of your dryer has a 3/8" male pipe thread.



## VENTING REQUIREMENTS

### **⚠ WARNING**



#### **Fire Hazard**

**Use a heavy metal vent.**

**Do not use a plastic vent.**

**Do not use a metal foil vent.**

**Failure to follow these instructions can result in death or fire.**

**WARNING:** To reduce the risk of fire, this dryer **MUST BE EXHAUSTED OUTDOORS.**

**IMPORTANT:** Observe all governing codes and ordinances.

The dryer exhaust must not be connected into any gas vent, chimney, wall, ceiling or a concealed space of a building.

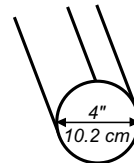
#### **If using an existing vent system**

- Clean lint from the entire length of the system and make sure exhaust hood is not plugged with lint.
- Replace any plastic or metal foil vent with rigid or flexible heavy metal vent.
- Review Vent system chart. Modify existing vent system if necessary to achieve the best drying performance.

#### **If this is a new vent system**

##### **Vent material**

- Use a heavy metal vent. Do not use plastic or metal foil vent.
- 4" (10.2 cm) heavy metal exhaust vent and clamps must be used. DURASAFE™ venting products are recommended.



*4" (10.2 cm) heavy metal exhaust vent*

DURASAFE™ vent products can be purchased from your dealer or by calling Whirlpool Parts and Accessories. For more information, see the "Assistance or Service" section of the "Use & Care Guide."

##### **Rigid metal vent**

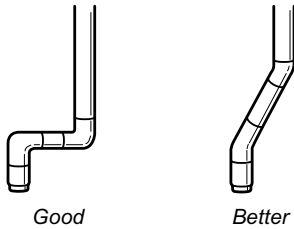
- For best drying performance, rigid metal vents are recommended.
- Rigid metal vent is recommended to avoid crushing and kinking.

##### **Flexible metal vent**

- Flexible metal vents are acceptable only if accessible for cleaning.
- Flexible metal vent must be fully extended and supported when the dryer is in its final position.
- Remove excess flexible metal vent to avoid sagging and kinking that may result in reduced airflow and poor performance.
- Do not install flexible metal vent in enclosed walls, ceilings or floors.

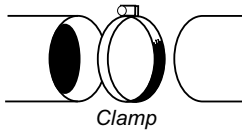
## Elbows

45° elbows provide better airflow than 90° elbows.



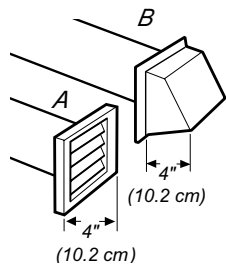
## Clamps

- Use clamps to seal all joints.
- Exhaust vent must not be connected or secured with screws or other fastening devices that extend into the interior of the duct. Do not use duct tape.



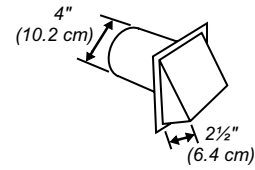
## Exhaust

Recommended hood styles are shown here.



A. Louvered hood style  
B. Box hood style

The angled hood style (shown here) is acceptable.



- An exhaust hood should cap the vent to keep rodents and insects from entering the home.
- Exhaust hood must be at least 12" (30.5 cm) from the ground or any object that may be in the path of the exhaust (such as flowers, rocks or bushes, snow line, etc.).
- Do not use an exhaust hood with a magnetic latch.

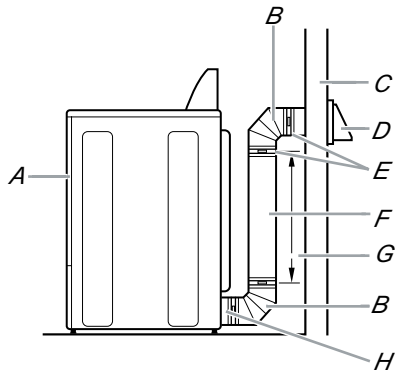
**Improper venting can cause moisture and lint to collect indoors, which may result in:**

- Moisture damage to woodwork, furniture, paint, wallpaper, carpets, etc.
- Housecleaning problems and health problems.

## PLAN VENT SYSTEM

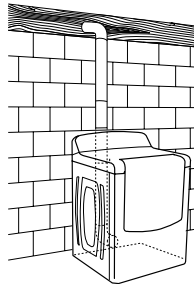
### Recommended exhaust installations

Typical installations vent the dryer from the rear of the dryer.



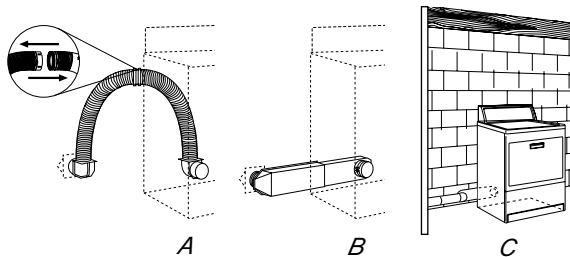
- |                 |  |
|-----------------|--|
| A. Dryer        | E. Clamps                                  |
| B. Elbow        | F. Rigid metal or flexible metal vent      |
| C. Wall         | G. Vent length necessary to connect elbows |
| D. Exhaust hood | H. Exhaust outlet                          |

### Standard exhaust installation with rigid metal or flexible metal vent



### Alternate installations for close clearances

Venting systems come in many varieties. Select the type best for your installation. Two close-clearance installations are shown. Refer to the manufacturer's instructions.



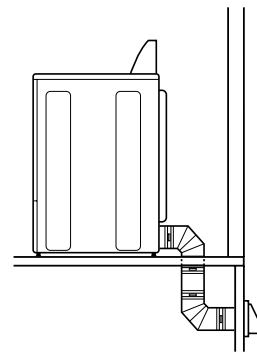
- A. Over-the-top installation (also available with one offset elbow)  
 B. Periscope installation  
 C. Rear exhaust installation to left or right side

**NOTE:** The following kits for close clearance alternate installations are available for purchase. Please see the "Assistance or Service" section of the "Use & Care Guide" to order:

- Over-the-Top Installation:  
Part Number 4396028
- Periscope Installation (For use with dryer vent to wall vent mismatch):  
Part Number 4396037 - 0" (0 cm) to 18" (45.72 cm) mismatch  
Part Number 4396011 - 18" (45.72 cm) to 29" (73.66 cm) mismatch  
Part Number 4396014 - 29" (73.66 cm) to 50" (127 cm) mismatch
- Rear exhaust installation to left or right side:  
Part Number 8212504

### Special provisions for mobile home installations

The exhaust vent must be securely fastened to a noncombustible portion of the mobile home structure and must not terminate beneath the mobile home. Terminate the exhaust vent outside.



### Determine vent path

- Select the route that will provide the straightest and most direct path outdoors.
- Plan the installation to use the fewest number of elbows and turns.
- When using elbows or making turns, allow as much room as possible.
- Bend vent gradually to avoid kinking.
- Use the fewest 90° turns possible.

### Determine vent length and elbows needed for best drying performance

- Use the following Vent system chart to determine type of vent material and hood combinations acceptable to use.

**NOTE:** Do not use vent runs longer than those specified in the Vent system chart. Exhaust systems longer than those specified will:

- Shorten the life of the dryer.
- Reduce performance, resulting in longer drying times and increased energy usage.

The Vent system chart provides venting requirements that will help to achieve the best drying performance.

### Vent system chart

**NOTE:** Performance of rear exhaust to either side of the dryer is equivalent to adding one elbow. To determine maximum exhaust length, add one elbow to the chart.

Number of 90° turns or elbows	Type of vent	Box or Louvered hoods	Angled hoods
0	Rigid metal	64 ft (20 m)	58 ft (17.7 m)
	Flexible metal	36 ft (11 m)	28 ft (8.5 m)
1	Rigid metal	54 ft (16.5 m)	48 ft (14.6 m)
	Flexible metal	31 ft (9.4 m)	23 ft (7 m)
2	Rigid metal	44 ft (13.4 m)	38 ft (11.6 m)
	Flexible metal	27 ft (8.2 m)	19 ft (5.8 m)
3	Rigid metal	35 ft (10.7 m)	29 ft (8.8 m)
	Flexible metal	25 ft (7.6 m)	17 ft (5.2 m)
4	Rigid metal	27 ft (8.2 m)	21 ft (6.4 m)
	Flexible metal	23 ft (7 m)	15 ft (4.6 m)

## INSTALL VENT SYSTEM

1. Install exhaust hood. Use caulking compound to seal exterior wall opening around exhaust hood.
2. Connect vent to exhaust hood. Vent must fit inside exhaust hood. Secure vent to exhaust hood with 4" (10.2 cm) clamp.
3. Run vent to dryer location. Use the straightest path possible. See "Determine vent path" in "Plan Vent System." Avoid 90° turns. Use clamps to seal all joints. Do not use duct tape, screws or other fastening devices that extend into the interior of the vent to secure vent.

## INSTALL LEVELING LEGS

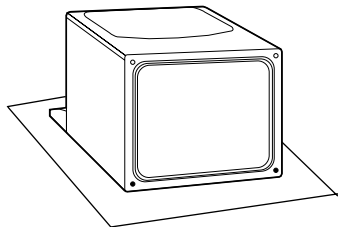
### **! WARNING**

#### **Excessive Weight Hazard**

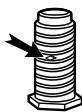
**Use two or more people to move and install dryer.**

**Failure to do so can result in back or other injury.**

1. To protect the floor, use a large, flat piece of cardboard from the dryer carton. Place cardboard under the entire back edge of the dryer.
2. Firmly grasp the body of the dryer (not the top or console panel). Gently lay the dryer on the cardboard. See illustration.



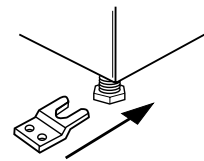
3. Examine the leveling legs. Find the diamond marking.



4. Screw the legs into the leg holes by hand. Use a wrench to finish turning the legs until the diamond marking is no longer visible.
5. Place a carton corner post from dryer packaging under each of the 2 dryer back corners. Stand the dryer up. Slide the dryer on the corner posts until it is close to its final location. Leave enough room to connect the exhaust vent.

### For mobile home use

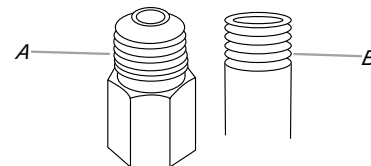
Gas dryers must be securely fastened to the floor.



Mobile home installations require a Mobile Home Installation Kit. See "Tools and Parts" section for information on ordering.

## MAKE GAS CONNECTION (GAS MODELS ONLY)

1. Remove the red cap from the gas pipe.
2. Using a wrench to tighten, connect the gas supply to the dryer. Use pipe-joint compound on the threads of all nonflared male fittings. If flexible metal tubing is used, be sure there are no kinks.

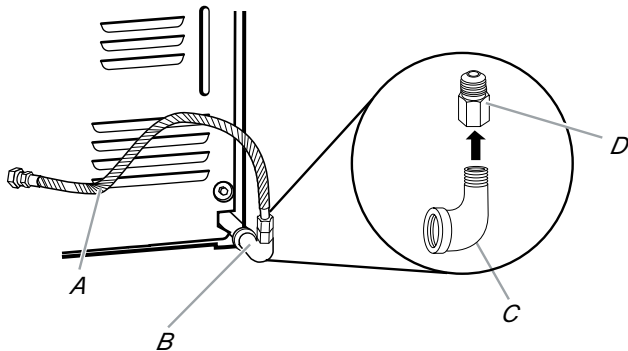


A. Flared male thread  
B. Non-flared male thread

**NOTE:** For LP gas connections, you must use pipe-joint compound resistant to the action of LP gas. Do not use TEFLON<sup>®†</sup> tape.

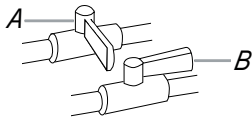
<sup>®†</sup> TEFLON is a registered trademark of E.I. DuPont De Nemours and Company.

A combination of pipe fittings must be used to connect the dryer to the existing gas line. Shown is a recommended connection. The connection may be different, according to the supply line type, size and location.



A. 3/8" flexible gas connector  
 B. 3/8" dryer pipe  
 C. 3/8" to 1/2" pipe elbow  
 D. 3/8" pipe-to-flare adapter fitting

3. Open the shutoff valve in the supply line. The valve is open when the handle is parallel to the gas pipe.



A. Closed valve  
 B. Open valve

4. Test all connections by brushing on an approved noncorrosive leak-detection solution. Bubbles will show a leak. Correct any leak found.

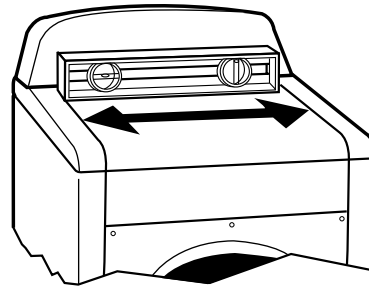
### CONNECT VENT

1. Using a 4" (10.2 cm) clamp, connect vent to exhaust outlet in dryer. If connecting to existing vent, make sure the vent is clean. The dryer vent must fit over the dryer exhaust outlet and inside the exhaust hood. Make sure the vent is secured to exhaust hood with a 4" (10.2 cm) clamp.

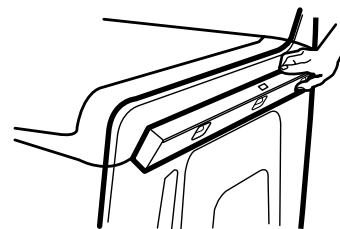
2. Move dryer into its final location. Do not crush or kink vent.
3. (On gas models) Make sure that there are no kinks in the flexible gas line.
4. Once the exhaust vent connection is made, remove the corner posts and cardboard.

### LEVEL DRYER

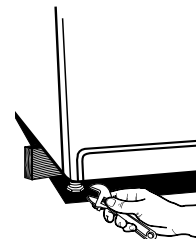
Check the levelness of the dryer by first placing a level on the top of the dryer near the console.



Then, by placing a level in the crease on the side of the dryer between the top of the dryer and the dryer cabinet, check the levelness from front to back.



If the dryer is not level, prop up the dryer using a wood block. Use a wrench to adjust the legs up or down and check again for levelness.



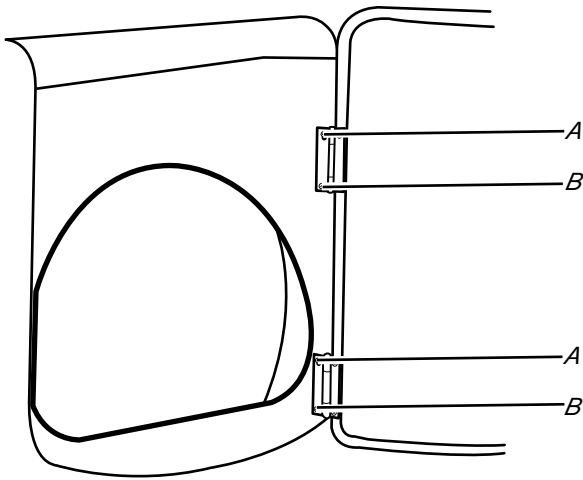
## REVERSE DOOR SWING

You can change your door swing from a right-side opening to a left-side opening, if desired.

1. Place a towel or soft cloth on top of the dryer or work space to protect the surface.

### Remove the door assembly

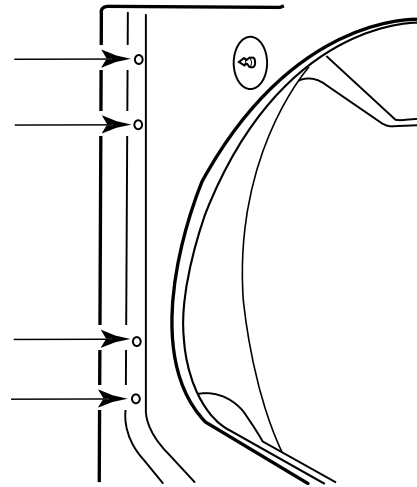
1. Open the dryer door.
2. Remove the bottom screw from each of the 2 hinges that attach the dryer door to the front panel of the dryer.
3. Loosen the top screw from each of the 2 hinges in Step 2.



A. Loosen these screws.  
B. Remove these screws.

4. Remove the dryer door and the hinges by lifting upward on the door. Lay the door on a flat, protected surface, with the inside of the door facing up. Remove remaining 2 loose screws from dryer front panel.

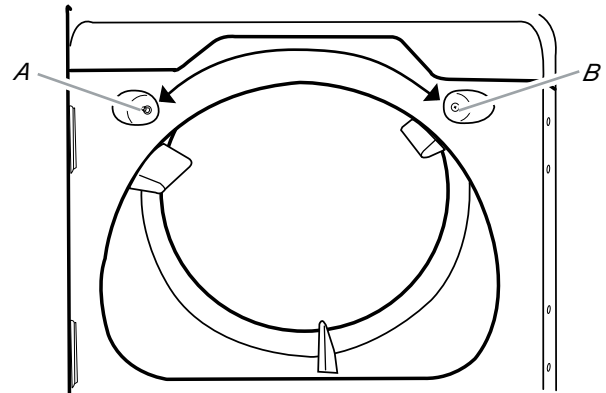
5. Remove the 4 plastic plug strips located outside the dryer door opening.



6. Install 4 plastic plug strips into screw holes in the dryer left when the hinges were removed in Step 4.

### Reverse the strike

1. Remove the door strike from the dryer door opening.
2. Remove the cosmetic screw opposite the door strike.



A. Door strike  
B. Cosmetic screw

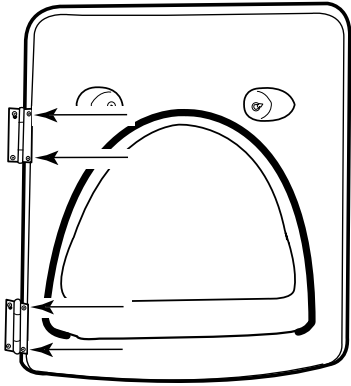
3. Reinstall the door strike and cosmetic screw on the opposite side of the dryer door opening from where they were removed.

**NOTE:** Door strike and plug strips must be on the same side of the dryer door opening.

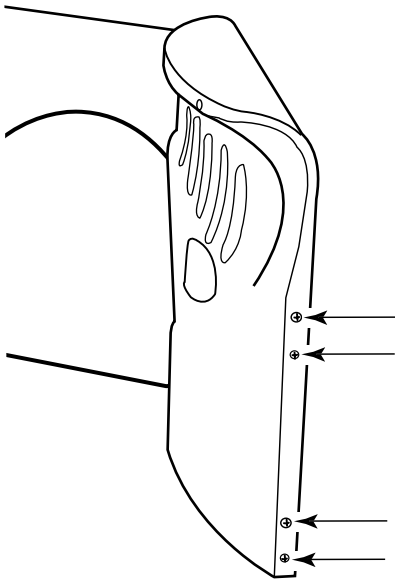


## Reinstall the door

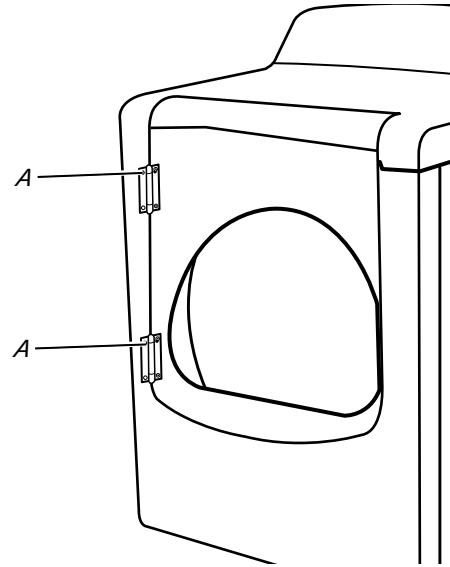
1. Remove the 4 screws and 2 hinges from the dryer door.
2. Replace the 4 screws in the same holes.



3. Remove the 4 screws from the opposite side of the door.

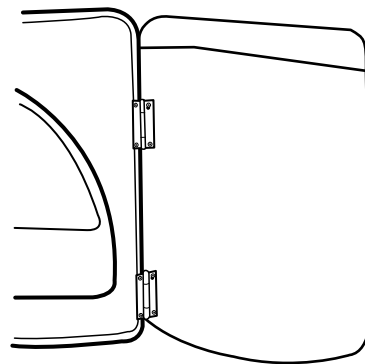


4. Install the 2 hinges to the front panel of the dryer using 4 screws. Use the non-slotted side to attach the hinge to the front panel.
5. Install screws in the top hinge holes in the door. Do not tighten screws. Leave approximately 1/4" (5 mm) of screw exposed.



*A. Install these screws first.*

6. Hang door by placing screw heads into top slotted holes of hinges and slide door down. Align bottom screw holes in hinge and door. Install two bottom screws. Tighten all hinge screws.



7. Close door to engage door strike.

## COMPLETE INSTALLATION

1. Check that all parts are now installed. If there is an extra part, go back through the steps to see which step was skipped.
2. Check that you have all of your tools.
3. Dispose of/recycle all packaging materials.
4. Check the dryer's final location. Be sure the vent is not crushed or kinked.
5. Check that the dryer is level. See "Level Dryer."
6. **In the U.S.A.**
  - For power supply cord installation, plug into a grounded outlet. For direct wire installation, turn on power.**In Canada:**
  - Plug into a grounded 4 prong outlet. Turn on power.
7. Remove any protective film or tape remaining on the dryer.  
**NOTE:** Glass door models have a protective film on the window that should be removed.
8. Read "Dryer Use."
9. Wipe the dryer drum interior thoroughly with a damp cloth to remove any dust.
10. Test dryer operation by selecting a Timed Dry heated cycle, and starting the dryer. For this test, do not select the Air Only modifier.

### **If the dryer will not start, check the following:**

- Controls are set in a running or "On" position.
- Start button has been pushed firmly.
- Dryer is plugged into a grounded outlet and/or electrical supply is on.
- Household fuse is intact and tight, or circuit breaker has not tripped.
- Dryer door is closed.

11. **Electric Models Only:** When the dryer has been running for 5 minutes, open the dryer door and feel for heat. If you feel heat, cancel cycle and close the door.

### **If you do not feel heat, turn off the dryer and check the following:**

- There may be 2 household fuses or circuit breakers for the dryer. Check that both fuses are intact and tight, or that both circuit breakers have not tripped. If there is still no heat, contact a qualified technician.

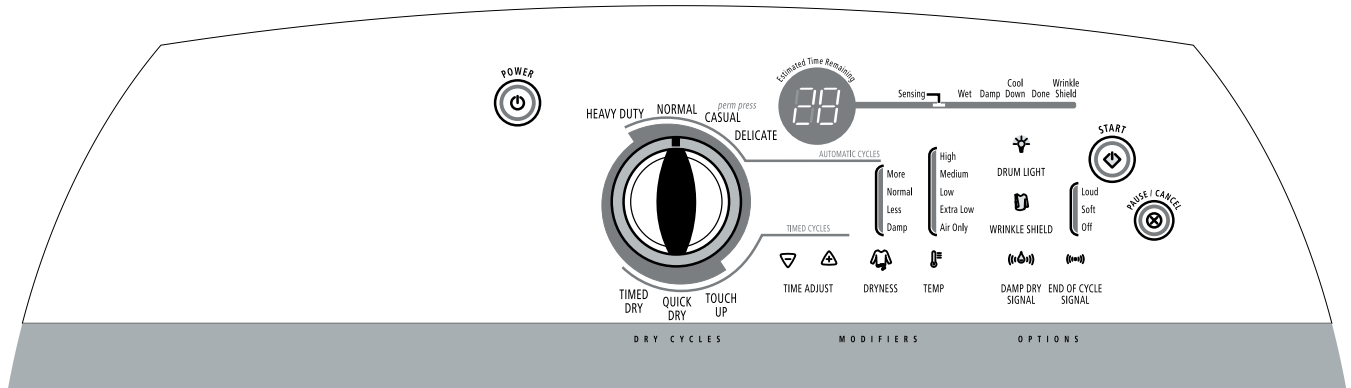
**NOTE:** You may notice an odor when the dryer is first heated. This odor is common when the heating element is first used. The odor will go away.

12. **Gas Models Only:** When the dryer has been running for 5 minutes, open the dryer door and feel for heat. If you feel heat, cancel cycle and close door. If you do not feel heat, turn off the dryer and check to see that the gas supply line shutoff valve is open.
  - If the gas supply line shutoff valve is closed, open it, then repeat the 5-minute test as outlined above.
  - If the gas supply line shutoff valve is open, contact a qualified technician.

— NOTES —

# PRODUCT OPERATION

## DRYER USE



### ⚠ WARNING



#### Explosion Hazard

Keep flammable materials and vapors, such as gasoline, away from dryer.

Do not dry anything that has ever had anything flammable on it (even after washing).

Failure to follow these instructions can result in death, explosion, or fire.

**WARNING:** To reduce the risk of fire, electric shock, or injury to persons, read the IMPORTANT SAFETY INSTRUCTIONS before operating this appliance.

### ⚠ WARNING



#### Fire Hazard

No washer can completely remove oil. Do not dry anything that has ever had any type of oil on it (including cooking oils).

Items containing foam, rubber, or plastic must be dried on a clothesline or by using an Air Cycle.

Failure to follow these instructions can result in death or fire.

## STARTING THE DRYER

This manual covers several different models. Your dryer may not have all of the cycles and features described.

Follow these basic steps to start your dryer. Please refer to specific sections of this manual for more detailed information.

1. Clean lint screen before each load.
2. Place laundry into dryer and shut door.
3. Press POWER.
4. Turn the knob to the selected cycle. The preset settings for Automatic Cycles or Timed Cycles will illuminate. The estimated (automatic cycle) or actual (Timed) cycle time (in minutes) will show in the display.

**NOTE:** A default time is displayed when an automatic cycle is selected. During the first few minutes of the drying process, the cycle time may automatically vary from the default time based on the size and fabric type of the load. Toward the end of the drying process, the estimated time display will adjust again, showing the final drying time.

### To use an automatic cycle

- Press POWER.
- Turn the knob to desired Automatic Cycle.
- Select DRYNESS to adjust how dry you want the load. As the cycle runs, the control senses the dryness of the load and adjusts the time automatically for the selected dryness level.

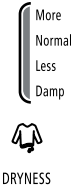
The default dryness setting is Normal when an Automatic Cycle is selected. You can select a different dryness level, depending on your load, by pressing Dryness and choosing More, Less or Damp. Selecting More, Less or Damp automatically adjusts the sensed time needed. Once a dryness level is set, it cannot be changed without stopping the cycle.

- Select the desired Options.

### To make changes during an Automatic Cycle:

- Press PAUSE/CANCEL.
- Adjust Dryness.

**NOTE:** Dryness selections can be made only while using Automatic Cycles.



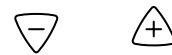
### How the Accelercare™ Drying System Works

Moisture-sensing strips and temperature sensors inside the dryer drum monitor how fast the load is drying, how hot the air should be and when clothes are dry. The system automatically stops the cycle to help save time and avoid overdrying.

### To use a Timed Cycle

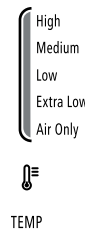
- Turn knob to desired Timed Cycle.
- Press the TIMEADJUST up or down arrows until the desired drying time is displayed. Press the up or down arrows and the time will change by 1-minute intervals. Press and hold the up or down arrows and the time will change by 5-minute intervals.

**NOTE:** The Time Adjust features can be used only with Timed Cycles.



TIME ADJUST

- Press TEMP until the desired temperature illuminates.



**NOTE:** The Temp feature can be used only with Timed Cycles.

**NOTE:** During a Timed Cycle, you can change the settings for Time, Temp, the WRINKLE SHIELD™ setting and the End of Cycle Signal.

5. (OPTIONAL STEP) If desired, select OPTIONS. For more details, see “Options.”
6. (OPTIONAL STEP) If desired, press END OF CYCLE SIGNAL. A signal will sound to alert you when a cycle ends. For more details, see “End of Cycle Signal.”
7. Press START. Be sure the door is closed.
  - If you do not press Start within 5 minutes of selecting the cycle, the dryer automatically shuts off.
  - If you wish to end your drying cycle after pressing Start, press PAUSE/CANCEL twice.

## STOPPING, PAUSING OR RESTARTING

### To stop or pause your dryer at any time

Open the door or press PAUSE/CANCEL once. Press PAUSE/CANCEL twice to cancel a cycle.

### To restart the dryer

Close the door. Press START until dryer starts.

**NOTE:** Drying will continue from where the cycle was interrupted if you close the door and press Start within 5 minutes. If the cycle is interrupted for more than 5 minutes, the dryer will shut off. Select new cycle settings before restarting the dryer.

## DRYING AND CYCLE TIPS

Select the correct cycle and dryness level or temperature for your load. If an Automatic Cycle is running, the display shows the estimated cycle time when your dryer is automatically sensing the dryness level of your load. If a Timed Cycle is running, the display shows the exact number of minutes remaining in the cycle.

Cool Down tumbles the load without heat during the last few minutes of all cycles. Cool Down makes the loads easier to handle and reduces wrinkling. The length of the Cool Down depends on the load size and dryness level.

## DRYING TIPS

- Follow care label directions when they are available.
- If desired, add a fabric softener sheet. Follow package instructions.
- To reduce wrinkling, remove the load from the dryer as soon as tumbling stops. This is especially important for permanent press, knits and synthetic fabrics.
- Avoid drying heavy work clothes together with lighter fabrics. This could cause over-drying of lighter fabrics and lead to increased shrinkage or wrinkling.

## CYCLE TIPS

- Dry most loads using the preset cycle settings.
- Refer to the Automatic or Timed Preset Cycle Settings charts (in the “Cycles” section) for a guide to drying various loads.
  - Drying temperature and dryness level are preset when you choose an Automatic Cycle. You can select a different dryness level, depending on your load, by pressing Dryness and choosing More, Normal, Less or Damp.

**NOTE:** You cannot use the Time Adjust and you cannot choose a Temperature with the Automatic Cycles.
  - If you wish to adjust the cycle length of a Timed Cycle, press the Time Adjust up or down arrows. Adjust the temperature of a Timed Cycle by pressing Temp until the desired temperature is selected.

**NOTE:** You cannot choose a dryness level with Timed Cycles.

## STATUS LIGHTS

Follow the progress of your dryer with the drying Status indicator lights.



### SENSING

- In an Automatic Cycle, the Sensing light illuminates until a wet item is detected.
- In a Timed Cycle, the Sensing light illuminates at the beginning of a cycle and turns off 5 minutes into the cycle.

### WET

The Wet light illuminates at the beginning of an Automatic Cycle if a wet item is detected.

- In an Automatic Cycle, if a wet item is not detected after approximately 5 minutes, the dryer goes directly into Cool Down and the Cool Down and WRINKLE SHIELD™ indicators illuminate, if selected.
- In a Timed Cycle, wet items are not detected. The dryer will continue to run for the length of time selected, and the Wet light will illuminate. The damp light will not illuminate.

### DAMP

The Damp light illuminates in an Automatic Cycle when the laundry is approximately 80% dry. Damp Dry Signal beeps, if selected. See “Options.”

### COOL DOWN

The Cool Down light illuminates during the cool down part of the cycle. Laundry cools for ease in handling.

### DONE

The Done light illuminates when the drying cycle is finished. This indicator stays on during the WRINKLE SHIELD™ setting.

### WRINKLE SHIELD™ SETTING

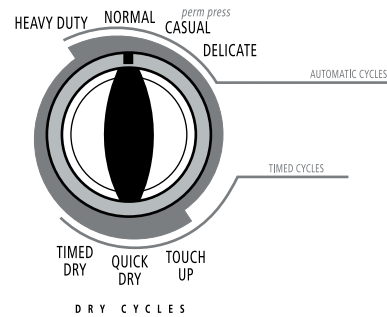
The WRINKLE SHIELD™ light illuminates when this option is selected. This indicator stays on during the WRINKLE SHIELD™ setting.

## INDICATOR LIGHTS

Other indicator lights show Cycle, Options, Modifiers and Cycle Signal settings selected. The display shows the estimated or actual time remaining.

## CYCLES

Select the drying cycle that matches the type of load you are drying. See Automatic or Timed Preset Cycle Settings charts.



### Automatic Cycles

Automatic Cycles allow you to match the cycle to the load you are drying. See the following Automatic Preset Cycle Settings chart. Each cycle dries certain fabrics at the recommended temperature. A sensor detects the moisture in the load and automatically adjusts the drying time for optimal drying.

#### HEAVY DUTY

Use this cycle to get high heat for heavyweight mixed loads, cottons and jeans.

#### NORMAL

Use this cycle to get medium heat for drying sturdy fabrics such as work clothes.

#### CASUAL

Use this cycle to get low heat for drying no-iron fabrics, such as sport shirts, casual business clothes and permanent press blends.

#### DELICATE

Use this cycle to get extra-low heat to gently dry items such as lingerie, blouses or washable knit fabrics.

Automatic Preset Cycle Settings	
Automatic Cycles Load Type	Temperature
<b>HEAVY DUTY</b> Heavyweight mixed loads, cottons, jeans	High
<b>NORMAL</b> Corduroys, work clothes	Medium
<b>CASUAL</b> Business casual clothes, permanent press, synthetics	Low
<b>DELICATE</b> Lingerie, blouses, washable knit fabrics	Extra-Low

## Timed Cycles

Use Timed Cycles to select a specific amount of drying time and a drying temperature. When a Timed Cycle is selected, the Estimated Time Remaining display shows the actual time remaining in your cycle. You can change the actual time in the cycle by pressing the Time Adjust up or down arrows. See “Changing Cycles, Modifiers and Options.”

**NOTE:** Timed Cycles may also be used with the dryer rack. See “Dryer Rack.”

### TIMED DRY

Use this cycle to complete drying if items are still damp after an Automatic Cycle. Timed Dry is also useful for drying heavyweight and bulky items, such as bedspreads and work clothes.

Lightweight garments, such as exercise wear, can be dried using Timed Dry on a low temperature setting.

### QUICK DRY

Use this cycle for drying small loads or loads that need a short drying time.

### TOUCH UP

Use this cycle to help smooth out wrinkles from such items as clothes packed in a suitcase or items wrinkled from being left in the dryer too long.

Timed Preset Cycle Settings		
Timed Cycles Load Type	Default Temperature	Default Time (Minutes)
<b>TIMED DRY</b> Heavyweight, bulky items, work clothes	High	40
<b>QUICK DRY</b> Small loads	Medium	24
<b>TOUCH UP</b> Helps to smooth out wrinkles	Medium	20

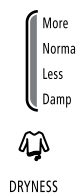
## MODIFIERS

### AUTOMATIC CYCLE MODIFIERS

Use the Dryness Modifier to select dryness levels for the Automatic Cycles. Press Dryness until the desired Dryness setting illuminates.

The preset dryness setting is Normal when an Automatic Cycle is selected. You can select a different dryness level, depending on the load, by pressing Dryness and choosing More, Normal, Less or Damp. Selecting More, Normal, Less or Damp automatically adjusts the dryness level at which the dryer will shut off. Once a dryness level is set, it cannot be changed without stopping the cycle.

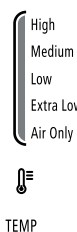
**NOTE:** Dryness Level selections cannot be used with the Timed Cycles.



### TIMED CYCLE MODIFIERS

Use the Temperature Modifier to select temperatures for the Timed Cycles. Press Temp until the desired temperature setting illuminates.

**NOTE:** Temperature modifiers cannot be used with the Automatic Cycles.





## AIR ONLY

Use the Air Only Modifier for items that require drying without heat such as rubber, plastic and heat-sensitive fabrics. This table shows examples of items that can be dried using Air Only.

Type of Load	Time* (Minutes)
Foam rubber - pillows, padded bras, stuffed toys	20 - 30
Plastic - Shower curtains, tablecloths	20 - 30
Rubber-backed rugs	40 - 50
Olefin, polypropylene, sheer nylon	10 - 20

\*Reset cycle to complete drying, if needed.

## When using Air Only

- Check that coverings are securely stitched.
- Shake and fluff pillows by hand periodically during the cycle.
- Dry item completely. Foam rubber pillows are slow to dry.

**NOTE:** Air Only is not available with Automatic Cycles.

## OPTIONS

You can customize your cycles by selecting options.



## DRUM LIGHT

On some models, select Drum Light to turn on the light inside the dryer drum. During a cycle, if Drum Light is selected, the drum light turns on and will remain on until DRUM LIGHT is pressed again, the door is open and closed, or the door is left open for five minutes.

When the dryer is not running, the drum light will turn on when DRUM LIGHT is pressed or the dryer door is opened, and it will remain on until the dryer door has been open for 5 minutes, the dryer door is closed or DRUM LIGHT is pressed again.

Press DRUM LIGHT at any time to turn the drum light ON or OFF.

## WRINKLE SHIELD™ SETTING

The WRINKLE SHIELD™ setting helps keep wrinkles from forming when you cannot unload the dryer promptly at the end of a cycle. During this option, the dryer stops tumbling and then tumbles again for a brief period.

- Press the WRINKLE SHIELD™ setting to get up to 120 minutes of heat-free, periodic tumbling at the end of a cycle.
- Stop the WRINKLE SHIELD™ setting at any time by pressing WRINKLE SHIELD™ setting or opening the dryer door.
- For the Perm Press/Casual Cycle, the WRINKLE SHIELD™ setting is preset to ON. The other Automatic Cycles will retain the WRINKLE SHIELD™ setting. For example, if you select the WRINKLE SHIELD™ setting in the Normal cycle, the WRINKLE SHIELD™ setting will be on the next time you select the Normal cycle.

**NOTE:** If you do not select the WRINKLE SHIELD™ setting, the dryer stops after cool down.

## DAMP DRY SIGNAL

Select the Damp Dry Signal to alert you that your clothes are approximately 80% dry. This is useful when you want to remove lightweight items in a mixed load to prevent overdrying or remove partially dry items that may need ironing.

The DAMP DRY SIGNAL is useful when drying bedsheets/linens in a mixed load. When the signal goes off, open the door to stop the dryer, rearrange the load inside the dryer, close the door and restart the dryer to finish the drying cycle. Rearranging the load will aid in the drying process.

**NOTE:** The Damp Dry Signal is available only with the Automatic Cycles.

## END OF CYCLE SIGNAL

### END OF CYCLE SIGNAL

The End of Cycle Signal produces an audible sound when the drying cycle is finished. Promptly removing clothes at the end of the cycle reduces wrinkling.

Press **END OF CYCLE SIGNAL** until the desired volume (Loud, Soft or Off) is selected.



END OF CYCLE  
SIGNAL

**NOTE:** When **WRINKLE SHIELD™** setting is selected, and the End of Cycle Signal is on, a tone sounds every 5 minutes until the clothes are removed, or **WRINKLE SHIELD™** setting ends.

## CHANGING CYCLES, MODIFIERS AND OPTIONS

You can change Automatic and Timed Cycles, Modifiers and Options anytime before pressing Start.

- Three short tones sound if an unavailable combination is selected. The last selection will not be accepted.

## CHANGING CYCLES AFTER PRESSING START

1. Press **PAUSE/CANCEL** twice.
2. Select the desired cycle and options.
3. Press **START**. The dryer starts at the beginning of the new cycle.

**NOTE:** If you do not press Start within 5 minutes of selecting the cycle, the dryer automatically shuts off.

## CHANGING MODIFIERS AND OPTIONS AFTER PRESSING START

You can change a Modifier or Option anytime before the selected Modifier or Option begins.

1. Press **PAUSE/CANCEL** once.
2. Select the new Modifier and/or Options.
3. Press **START** to continue the cycle.

**NOTE:** If you happen to press **PAUSE/CANCEL** twice, the program clears and your dryer shuts down. Restart the selection process.

## DRYING RACK OPTION

Use the Drying Rack to dry items such as sweaters and pillows without tumbling. The drum turns, but the rack does not move.

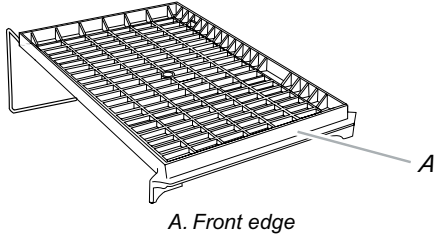
If your model does not have a drying rack, you may be able to purchase one for your model. To find out whether your model allows drying rack usage and for ordering information, contact the dealer from whom you purchased your dryer.

**NOTE:** The rack must be removed for normal tumbling. Do not use the automatic cycle with the drying rack.

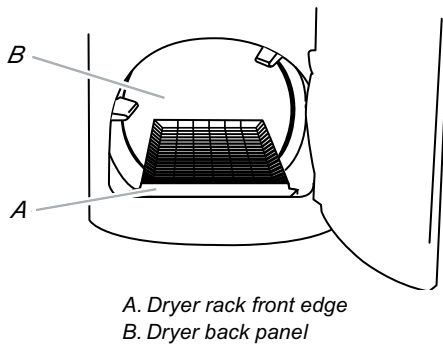
**To use the drying rack:**

Do not remove the lint screen.

1. Open dryer door.

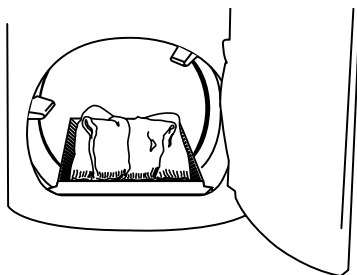


2. Place drying rack inside dryer drum, positioning the back wire on the ledge of the inner dryer back panel. Push down on front edge of drying rack to secure at the front of the dryer.



3. Put the wet items on top of the rack. Leave space between the items so air can reach all the surfaces.

**NOTE:** Do not allow items to hang over the edge of the rack.



4. Close the door.
5. Press the POWER button.
6. Select a timed drying cycle and temperature (see the following chart). Items containing foam, rubber or plastic must be dried on a clothesline or by using the Air Only temperature setting.
7. You must select a time by pressing TIME ADJUST Up or Down. Reset time as needed to complete drying. Refer to the following table.
8. Press (and hold) START button (about 1 second).

This chart shows examples of items that can be rack dried and the suggested cycle, temperature setting and drying time. Actual drying time will depend on the amount of moisture items hold.

Rack Dry	Setting	Temp.	Time*
<b>Wool Sweaters</b> Block to shape and lay flat on the rack.	Timed Dry	Low	60
<b>Stuffed toys or pillows</b> Cotton or polyester fiber filled	Timed Dry	Low	60
<b>Stuffed toys or pillows</b> Foam rubber filled	Timed Dry	Air Only (no heat)	90
<b>Sneakers or canvas shoes</b>	Timed Dry	Air Only (no heat)	90

\*(Minutes) Reset time to complete drying, if needed.

# DRYER CARE

## CLEANING THE DRYER LOCATION

Keep dryer area clear and free from items that would obstruct the flow of combustion and ventilation air.

**⚠ WARNING**



**Explosion Hazard**

Keep flammable materials and vapors, such as gasoline, away from dryer.

Place dryer at least 18 inches (46 cm) above the floor for a garage installation.

Failure to do so can result in death, explosion, or fire.

## CLEANING THE LINT SCREEN

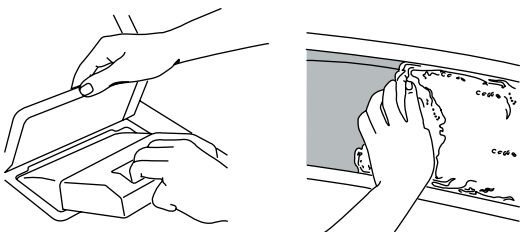
Clean the lint screen before each load. A screen blocked by lint can increase drying time.

### IMPORTANT:

- Do not run the dryer with the lint screen loose, damaged, blocked or missing. Doing so can cause overheating and damage to both the dryer and fabrics.
- If lint falls off the screen into the dryer during removal, check the exhaust hood and remove the lint.

## EVERY LOAD CLEANING

1. The lint screen is located on the top of the dryer. Pull the lint screen toward you. Roll lint off the screen with your fingers. Do not rinse or wash screen to remove lint. Wet lint is hard to remove.



2. Push the lint screen firmly back into place.

## AS NEEDED CLEANING

1. Roll lint off screen with your fingers.
2. Wet both sides of lint screen with hot water.
3. Wet a nylon brush with hot water and liquid detergent. Scrub lint screen with the brush to remove residue buildup.
4. Rinse screen with hot water.
5. Thoroughly dry lint screen with a clean towel. Insert lint screen back into dryer.

## CLEANING THE DRYER INTERIOR

1. Apply a liquid, nonflammable household cleaner to the stained area of the drum and rub with a soft cloth until stain is removed.
2. Wipe drum thoroughly with a damp cloth.
3. Tumble a load of clean cloths or towels to dry the drum.

**NOTE:** Garments that contain unstable dyes, such as denim blue jeans or brightly colored cotton items, may discolor the dryer interior. These stains are not harmful to your dryer and will not stain future loads of clothes. Dry unstable dye items inside-out to avoid dye transfer.

## REMOVING ACCUMULATED LINT FROM INSIDE THE DRYER CABINET

Lint should be removed every 2 years, or more often, depending on dryer usage. Cleaning should be done by a qualified person.

## FROM THE EXHAUST VENT

Lint should be removed every 2 years, or more often, depending on dryer usage.

## VACATION AND MOVING CARE

### VACATION CARE

Operate your dryer only when you are at home. If you will be on vacation or not using your dryer for an extended period of time, you should:

1. Unplug dryer or disconnect power.
2. Close shutoff valve in gas supply line.
3. Clean lint screen. See "Cleaning the Lint Screen."

### MOVING CARE

#### For power supply cord-connected dryers:

1. Unplug the power supply cord.
2. Close shutoff valve in gas supply line.
3. Disconnect gas supply line pipe and remove fittings attached to dryer pipe.
4. Cap the open fuel supply line.
5. Make sure leveling legs are secure in dryer base.
6. Use masking tape to secure dryer door.

#### For direct-wired dryers:

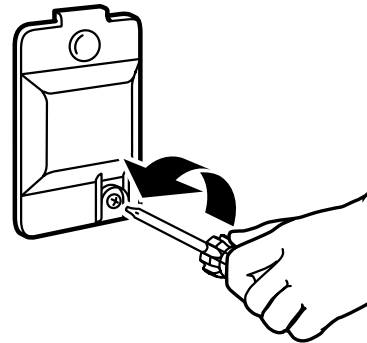
1. Disconnect power.
2. Disconnect wiring.
3. Make sure leveling legs are secure in dryer base.
4. Use masking tape to secure dryer door.

## CHANGING THE DRUM LIGHT

The dryer light automatically turns on inside the dryer drum when you open the door.

### To change the drum light

1. Unplug dryer or disconnect power.
2. Open the dryer door. Locate the light bulb cover on the back wall of the dryer. Remove the screw located in the lower right corner of the cover. Remove the cover.



3. Turn bulb counterclockwise. Replace the bulb with a 10-watt appliance bulb only. Replace the cover and secure with the screw.
4. Plug in dryer or reconnect power.

## ⚠ WARNING



### Electrical Shock Hazard

**Disconnect power before servicing.**

**Replace all parts and panels before operating.**

**Failure to do so can result in death or electrical shock.**

# TROUBLESHOOTING

## DRYER OPERATION

---

### Dryer will not run

---

- **Has a household fuse blown, or has a circuit breaker tripped?**  
There may be 2 household fuses or circuit breakers for the dryer. Check that both fuses are intact and tight, or that both circuit breakers have not tripped. Replace the fuse or reset the circuit breaker. If the problem continues, call an electrician.
- **Is the correct power supply available?**  
Electric dryers require 240-volt power supply. Check with a qualified electrician.
- **Was a regular fuse used?**  
Use a time-delay fuse.
- **Is the dryer door firmly closed?**
- **Was the Start button firmly pressed?**

### No heat

---

- **Has a household fuse blown, or has a circuit breaker tripped?**  
The drum may be turning, but you may not have heat. Electric dryers use 2 household fuses or circuit breakers. Replace the fuse or reset the circuit breaker. If the problem continues, call an electrician.
- **Is the valve open on the gas supply line?**

### Unusual sounds

---

- **Has the dryer had a period of non-use?**  
If the dryer hasn't been used for a while, there may be a thumping sound during the first few minutes of operation.
- **Is a coin, button or paper clip caught between the drum and front or rear of the dryer?**  
Check the front and rear edges of the drum for small objects. Clean out pockets before laundering.
- **Is it a gas dryer?**  
The gas valve clicking is a normal operation sound.
- **Are the four legs installed, and is the dryer level front to back and side to side?**  
The dryer may vibrate if not properly installed. See the Installation Instructions.
- **Is the clothing knotted or balled up?**  
When balled up, the load will bounce, causing the dryer to vibrate. Separate the load items and restart the dryer.

### Dryer displaying code message

---

- **“PF” (power failure), check the following:**  
Was the drying cycle interrupted by a power failure? Press and hold START to restart the dryer.
- **“F” Variable (F1, F2, F20, etc.) service codes:**  
Call for service.

## DRYER RESULTS

Clothes are not drying satisfactorily, drying times are too long, or load is too hot

- **Is the lint screen clogged with lint?**  
Lint screen should be cleaned before each load.

### **WARNING**



#### **Fire Hazard**

**Use a heavy metal vent.  
Do not use a plastic vent.  
Do not use a metal foil vent.  
Failure to follow these instructions can result in death or fire.**

- **Is the exhaust vent or outside exhaust hood clogged with lint, restricting air movement?**  
Run the dryer for 5-10 minutes. Hold your hand under the outside exhaust hood to check air movement. If you do not feel air movement, clean exhaust system of lint or replace exhaust vent with heavy metal or flexible metal vent. See the Installation Instructions.
- **Are fabric softener sheets blocking the grille?**  
Use only one fabric softener sheet, and use it only once.
- **Is the exhaust vent the correct length?**  
Check that the exhaust vent is not too long or has too many turns. Long venting will increase drying times. See the Installation Instructions.
- **Is the exhaust vent diameter the correct size?**  
Use 4" (10.2 cm) diameter vent material.

### **WARNING**



#### **Explosion Hazard**

**Keep flammable materials and vapors, such as gasoline, away from dryer.  
Place dryer at least 18 inches (46 cm) above the floor for a garage installation.  
Failure to do so can result in death, explosion, or fire.**

- **Is the dryer located in a room with temperature below 45°F (7°C)?**  
Proper operation of dryer cycles requires temperatures above 45°F (7°C).
- **Is the dryer located in a closet?**  
Closet doors must have ventilation openings at the top and bottom of the door. The rear of the dryer requires 5" (12.7 cm) of airspace, and the sides and front of the dryer require a minimum of 1" (2.5 cm). See the Installation Instructions.
- **Has the Air Only modifier been selected?**  
Select the right temperature for the types of garments being dried. See "Modifiers."
- **Is the load too large and heavy to dry quickly?**  
Separate the load to tumble freely.

#### **Cycle time too short**

### **WARNING**

#### **Excessive Weight Hazard**

**Use two or more people to move and install dryer.  
Failure to do so can result in back or other injury.**



- **Is the automatic cycle ending early?**

The load may not be contacting the sensor strips. Level the dryer. Change the dryness level setting on Automatic Cycles. Increasing or decreasing the dryness level will change the amount of drying time in a cycle.

---

**Lint on load**

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- **Is the lint screen clogged?**

Clean lint screen. Check for air movement.

---

**Stains on load or drum**

---

- **Was dryer fabric softener properly used?**

Add dryer fabric softener sheets at the beginning of the cycle. Fabric softener sheets added to a partially dried load can stain your garments.

Drum stains are caused by dyes in clothing (usually blue jeans). This will not transfer to other clothing.

---

**Loads are wrinkled**

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- **Was the load removed from dryer at the end of the cycle?**

- **Was the dryer overloaded?**

Dry smaller loads that can tumble freely.

---

**Odors**

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- **Have you recently been painting, staining or varnishing in the area where your dryer is located?**

If so, ventilate the area. When the odors or fumes are gone from the area, rewash and dry the clothing.

- **Is the dryer being used for the first time?**

The new electric heating element may have an odor. The odor will be gone after the first cycle.



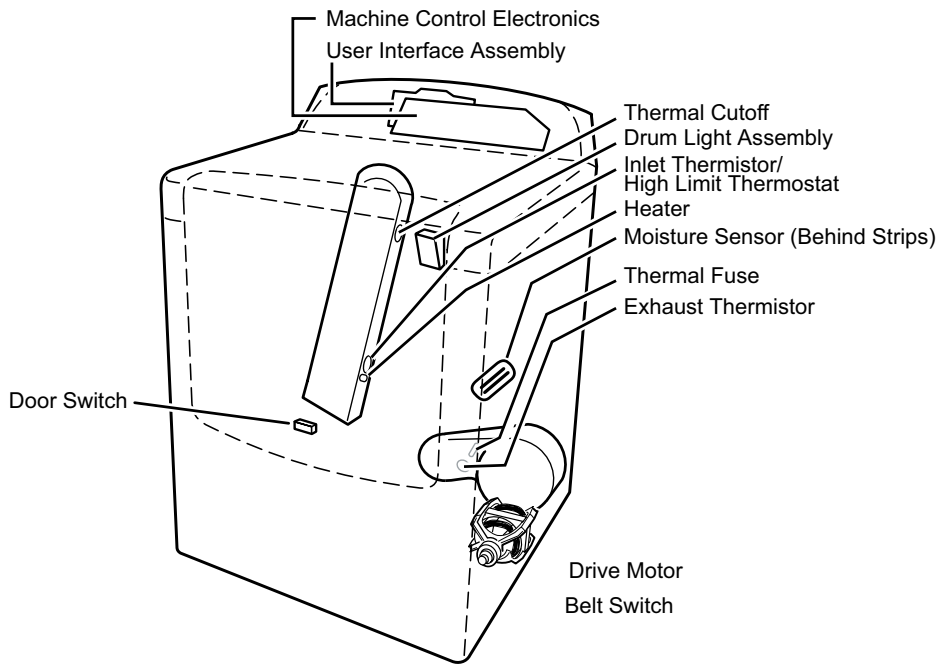
— NOTES —

# COMPONENT ACCESS

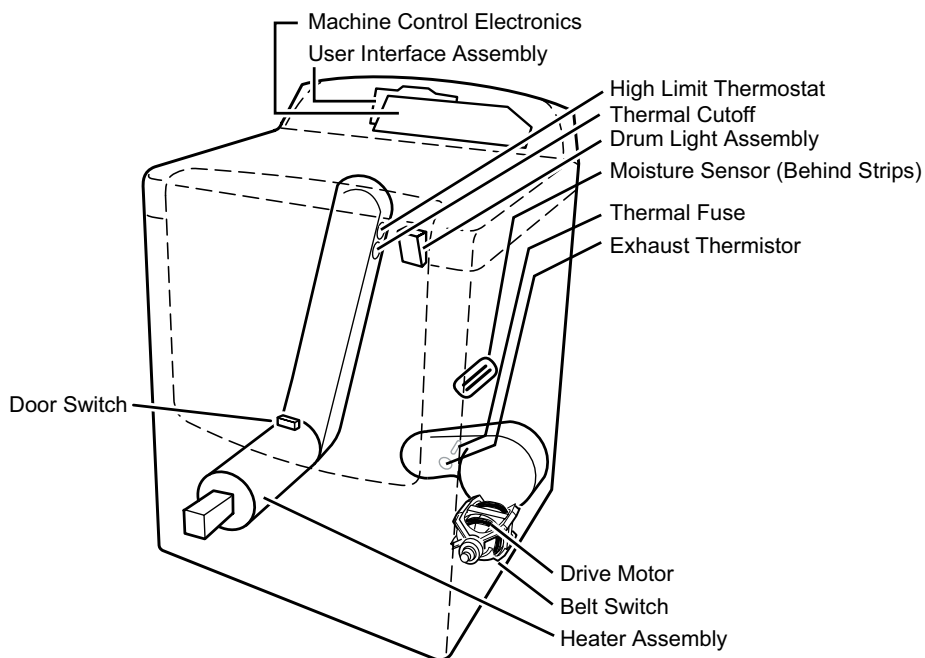
This section instructs you on how to service each component inside the Cabrio™ Gas & Electric Dryers. The components and their locations are shown below.

## COMPONENT LOCATIONS

### Electric Dryer Components



### Gas Dryer Components



# REMOVING THE ENCODER, USER INTERFACE BOARD, AND MACHINE CONTROL

## ⚠ WARNING



### Electrical Shock Hazard

Disconnect power before servicing.

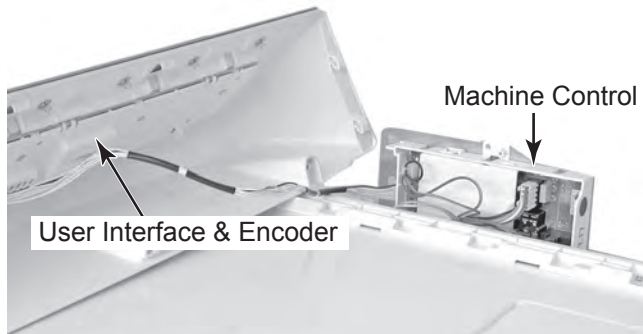
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

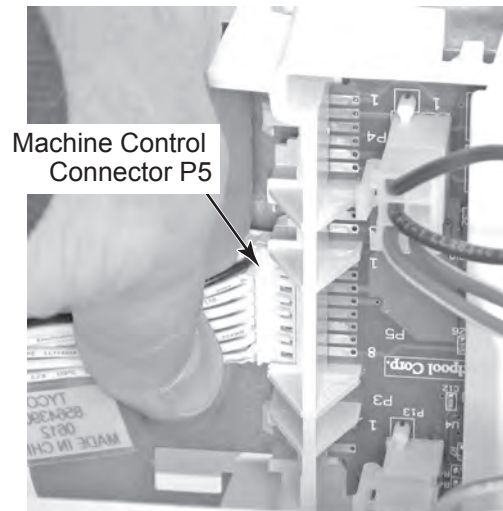
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the two mounting screws from the rear of the console.



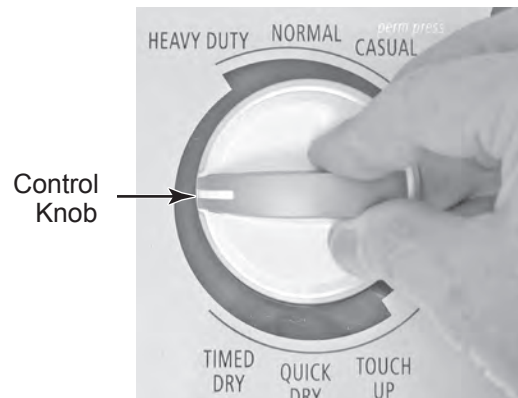
4. Lift the console off the cabinet and position it off to the side.



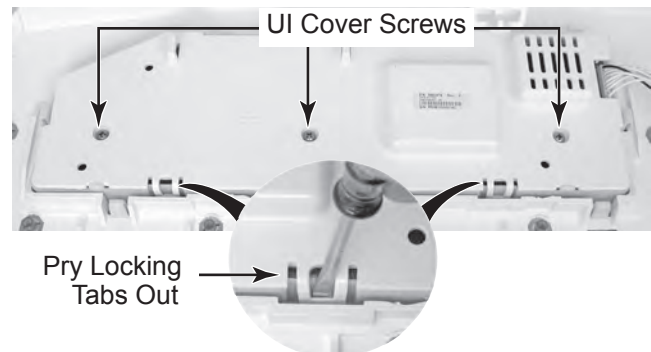
5. Disconnect the user interface (UI) board cable connector from machine control board connector P5.



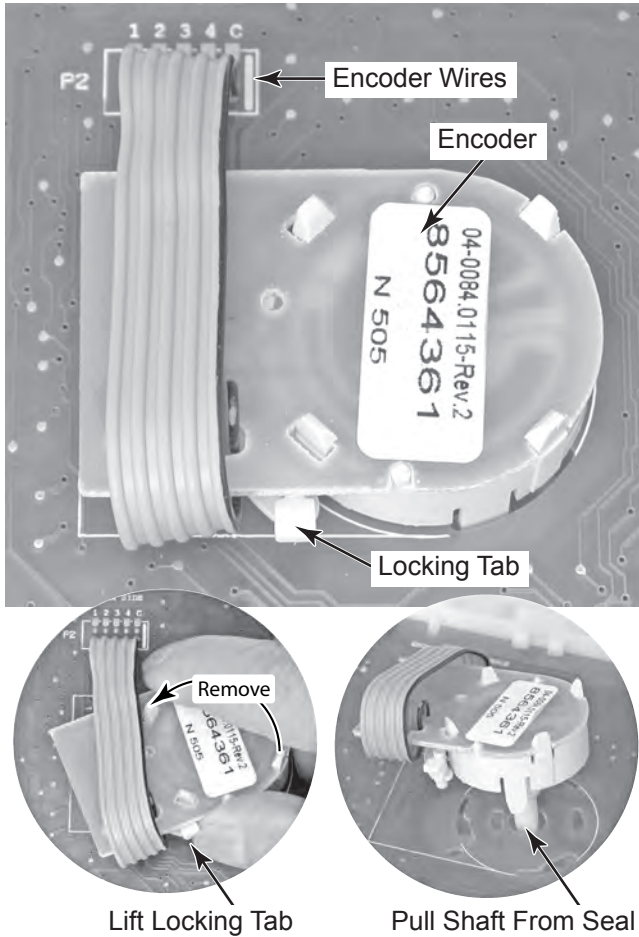
6. Pull the knob off the control shaft.



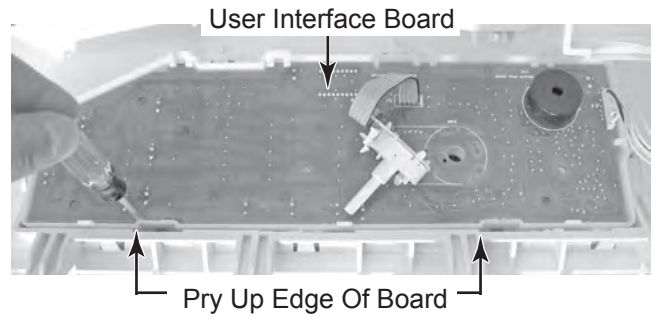
7. Remove the three screws from the UI board cover.
8. Using a flat-blade screwdriver, pry the two locking tabs out, and unclip them, then remove the UI cover from the console.



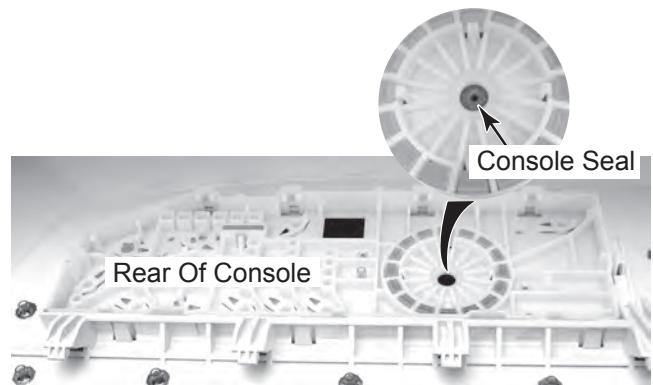
9. **To remove the encoder**, lift the locking tab, and turn the encoder to the left (counterclockwise) as far as it will go. Lift the encoder straight up so that the shaft slides out of the rubber console seal, and remove it from the console. **NOTE:** Do not flex the encoder ribbon cable wires at the UI board or they could break.



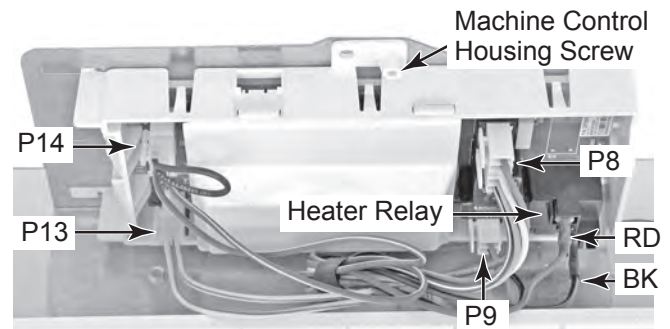
10. **To remove the user interface board:**
- Remove the encoder (see step 9).
  - Using a flat-blade screwdriver, carefully pry the front edge of the user interface board up, then pull the board forward, and remove it from the console (see the top right photo).



**REASSEMBLY NOTE:** When you reinstall the encoder on the UI board, make sure that the rubber seal does not become dislodged when installing the encoder shaft.

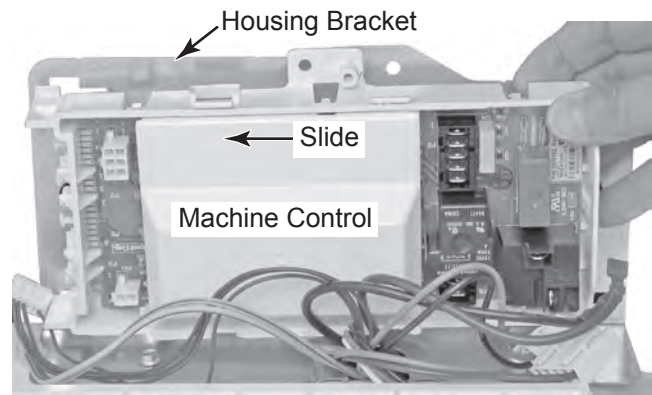


11. **To remove the machine control:**
- Disconnect the machine control board connectors at P8, P9, P13, and P14, then pull the red and black wires off the heater relay terminals. **NOTE:** On dual element models, also disconnect the violet and black wires from the second heater relay terminals.
  - Remove the hex-head screw from the rear of the machine control housing.



**Continued on the next page.**

- c) Push the clip on the back, and slide the machine control housing to the left and off the mounting bracket and remove the assembly.



# REMOVING THE CABINET FRONT AND DOOR SWITCH

## ⚠ WARNING



### Electrical Shock Hazard

Disconnect power before servicing.

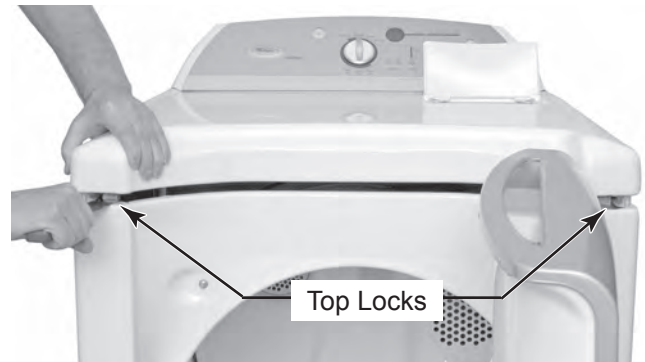
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Raise the lint screen lid and remove the two screws from the top of the lint screen air duct.



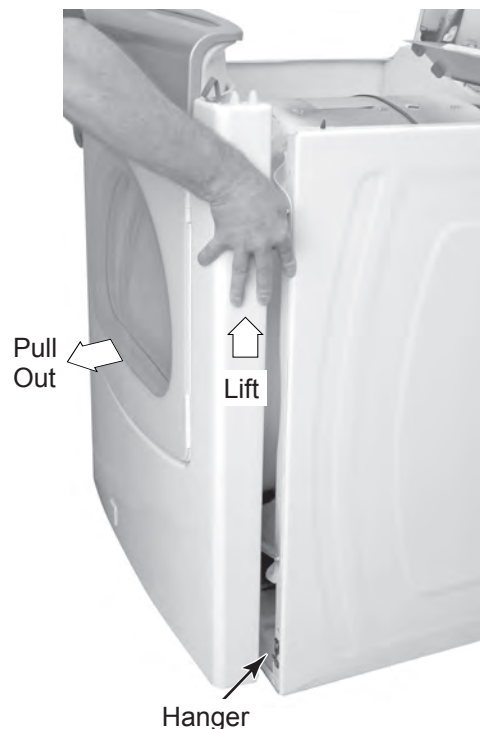
4. Partially open the dryer door.
5. **To remove the cabinet front:**
  - a) While lifting the front corners of the cabinet top, (see the top right photo), press a putty knife against the left and right top locks and release them from the top. Rotate the cabinet top up and rest it against a wall.



- b) Disconnect the door switch connector from the harness connector.
- c) Remove the two 5/16" hex-head screws from the cabinet front.

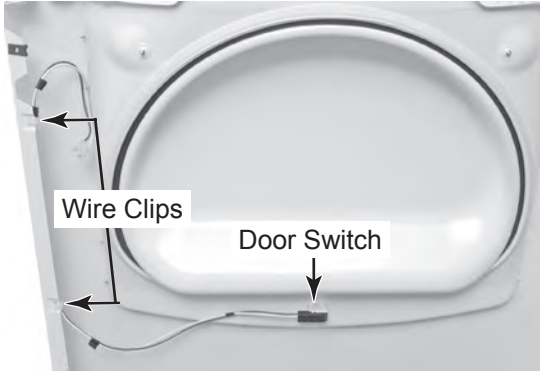


- d) Lift the front panel of the cabinet, unhook it from the bottom two hangers, and remove it.



Continued on the next page.

6. **To remove the door switch:**
- a) Remove the cabinet front (see step 5).
  - b) Unhook the door switch wires from the cabinet front clips.



- c) Press in on the locking tabs, push the switch out of the cabinet cutout, and remove it from the cabinet front.





## REMOVING THE BELT, DRUM, & ROLLERS

### **⚠ WARNING**



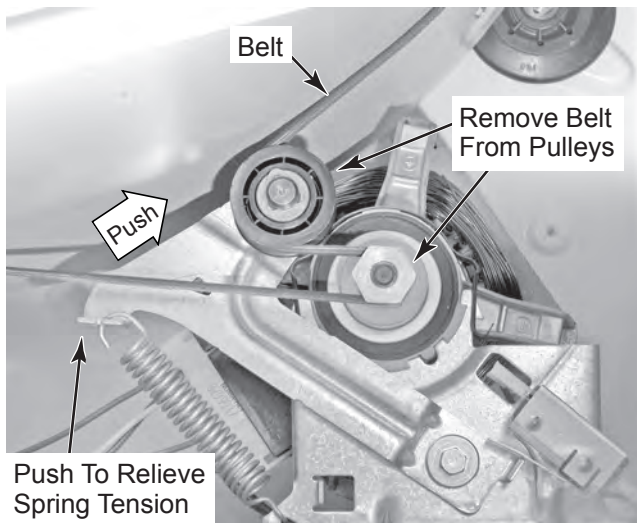
#### **Electrical Shock Hazard**

**Disconnect power before servicing.**

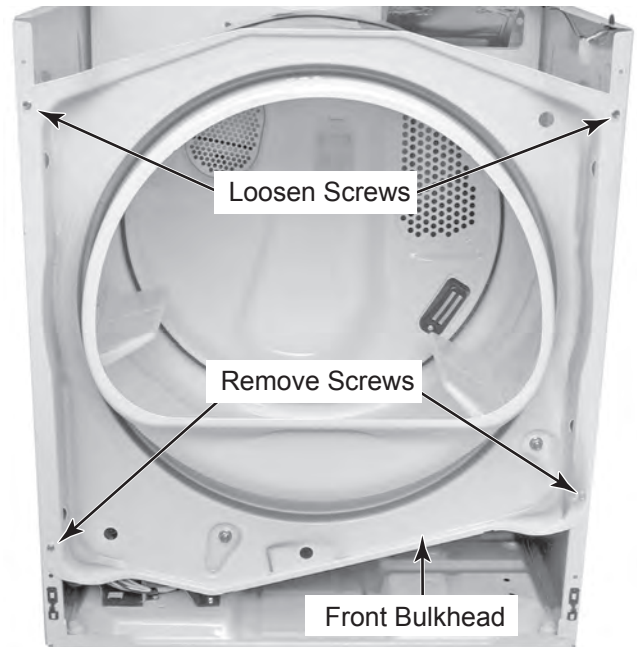
**Replace all parts and panels before operating.**

**Failure to do so can result in death or electrical shock.**

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the cabinet front from the dryer (see page 4-5 for the procedure).
4. Reach under the drum to the drive motor and push the idler wheel arm to relieve the spring tension on the belt, then slide the belt off the idler and motor pulleys.



5. Loosen the two top and remove the two bottom 5/16" hex-head screws from the front bulkhead.
6. Lift and unhook the two top bulkhead key-hole slots from the screws, and remove the bulkhead from the dryer.



#### **7. To remove the belt and drum:**

- a) Slide the belt off the back of the drum and remove it.



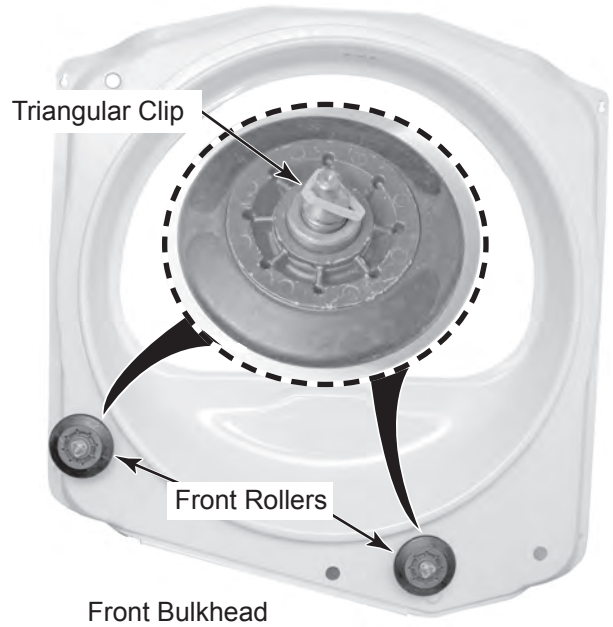
**Continued on the next page.**



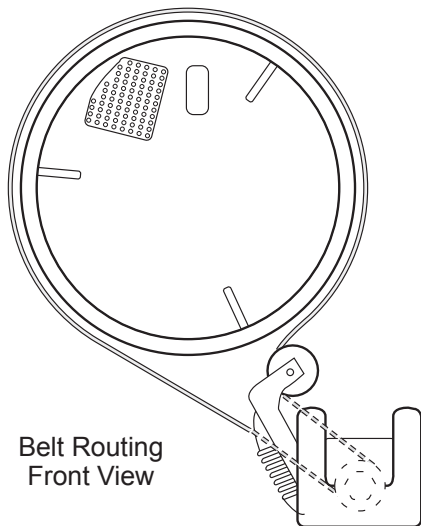
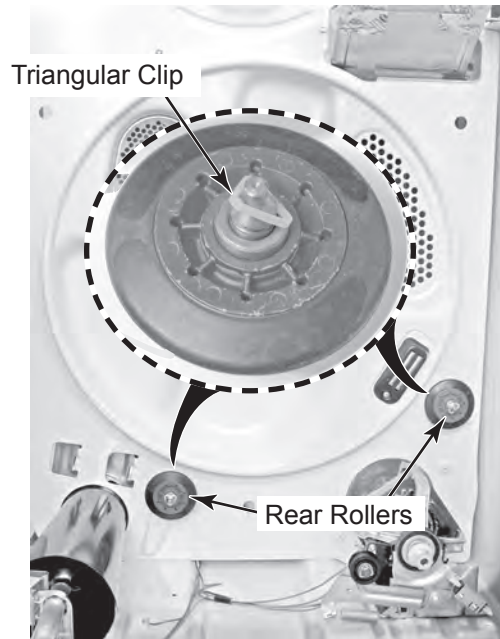
- b) Pull the drum out the front of the cabinet and remove it.



8. To remove a front or rear bulkhead roller, push the triangular clip off the grooved slot in the roller shaft, and pull the roller off the shaft.



**REASSEMBLY NOTE:** When you reinstall the drum and belt, make sure that the hole in the drum is toward the rear of the unit, (see the above photo), and that both the front and rear drum felt seals are flared out and not folded under the edges of the drum.



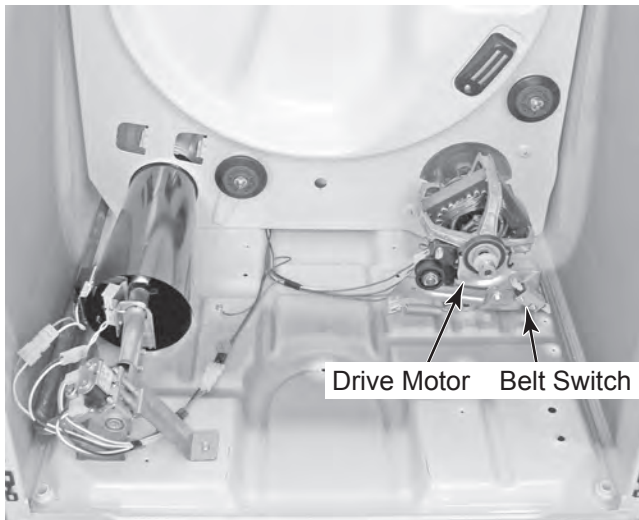
# REMOVING THE DRIVE MOTOR AND BELT SWITCH

## ⚠ WARNING

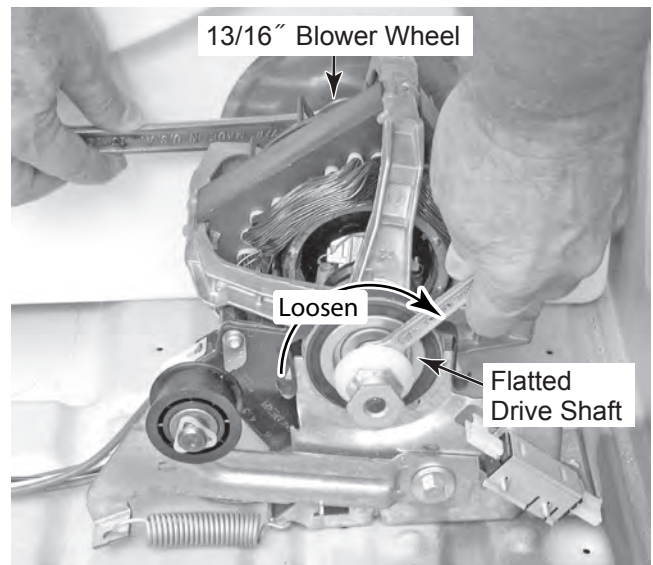


**Electrical Shock Hazard**  
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

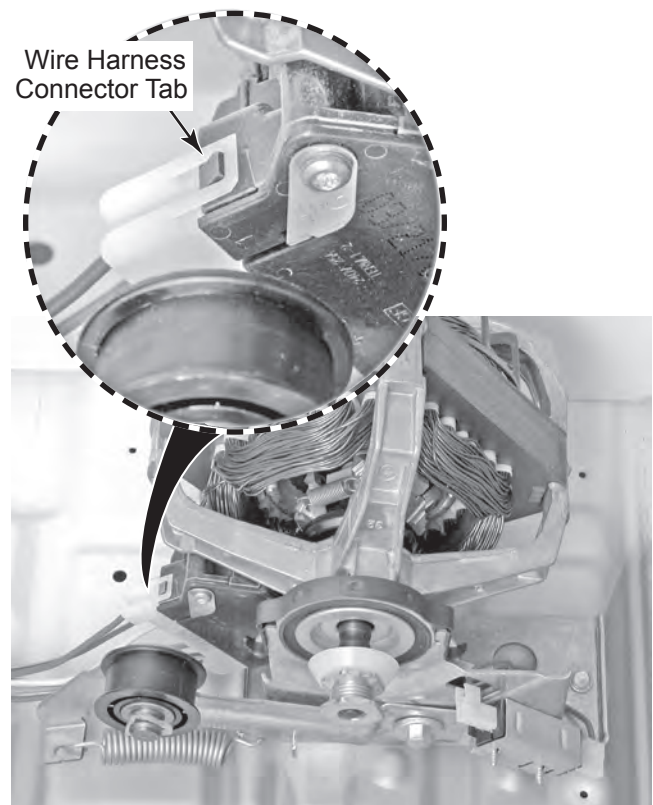
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the cabinet front from the dryer (see page 4-5 for the procedure).
4. Remove the belt and drum from the dryer (see page 4-7 for the procedure).



5. **To remove the drive motor (see the top right photo):**
  - a) Place a 13/16" open end wrench on the back of the blower wheel, and a 7/16" open end or adjustable wrench on the front of the drive motor shaft (flatted). Turn the drive motor shaft to the right (clockwise) and loosen the blower wheel (left-hand thread).

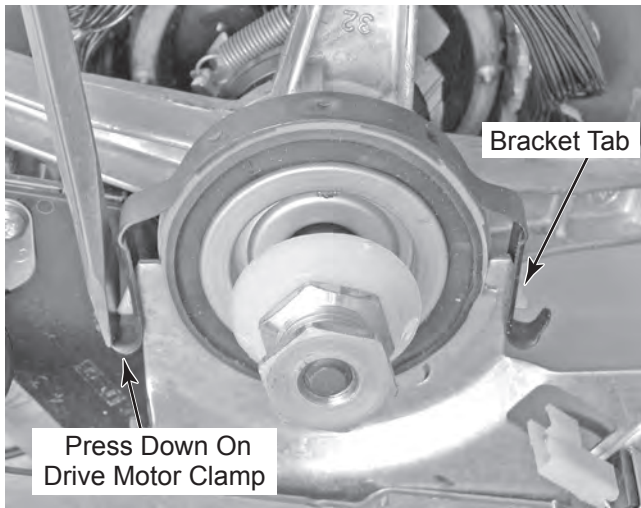
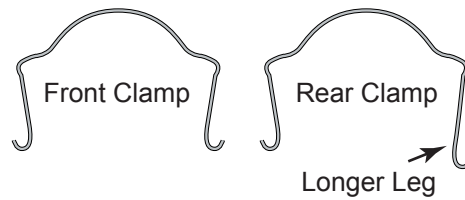


- b) Lift the top tab, and disconnect the wire harness connector from the drive motor.

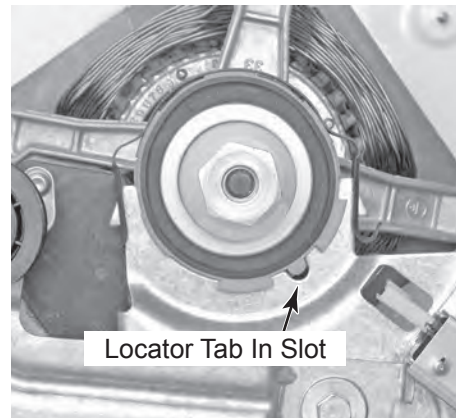


**Continued on the next page.**

- c) Remove the front and rear clamps from the drive motor and its mounting bracket. To remove a clamp, press down on one end, and unhook it from the bracket tab.



**REASSEMBLY NOTE 2:** When you reinstall the drive motor, make sure that the rounded locator tab is in the bracket slot, as shown below.

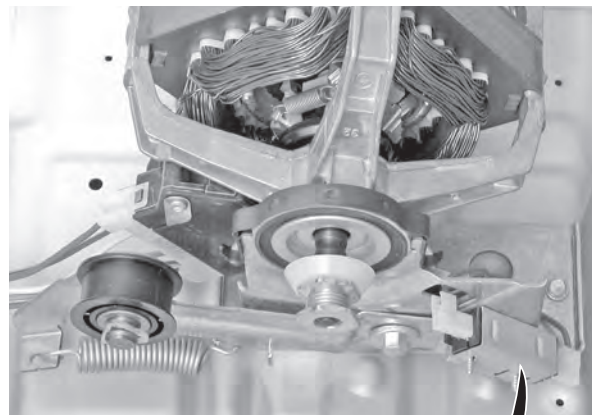
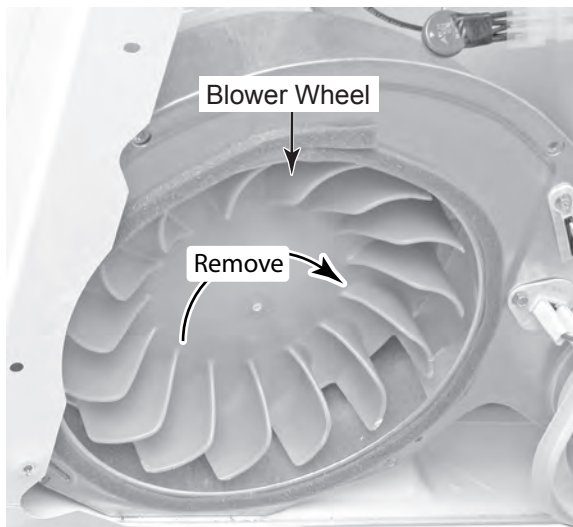


**6. To replace the blower wheel:**

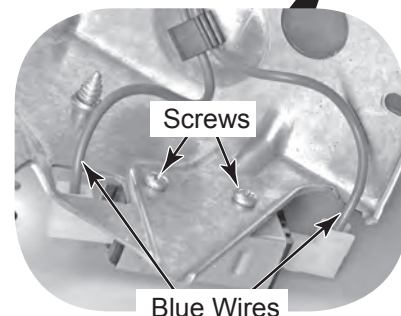
- a) Remove the four screws from the air duct at the rear of the unit and pull the duct forward so that you can access the blower wheel (see page 4-18 for the procedure).
- b) Spin the blower wheel clockwise and remove it from the drive motor shaft.

**7. To remove the belt switch:**

- a) Disconnect the two blue wires from the belt switch terminals.
- b) Remove the two screws from the switch, and remove the switch from the drive motor bracket.



**REASSEMBLY NOTE 1:** The front and rear clamps are slightly different (see the top right illustrations). Make sure that you use the correct clamp when you reinstall the drive motor.





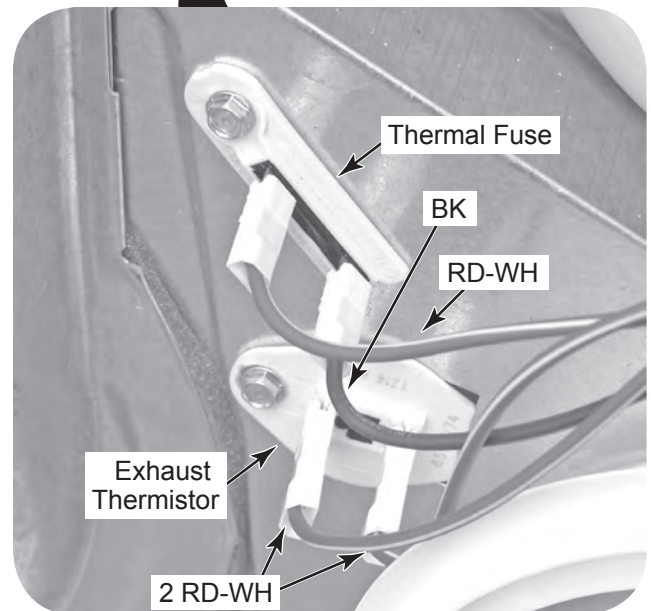
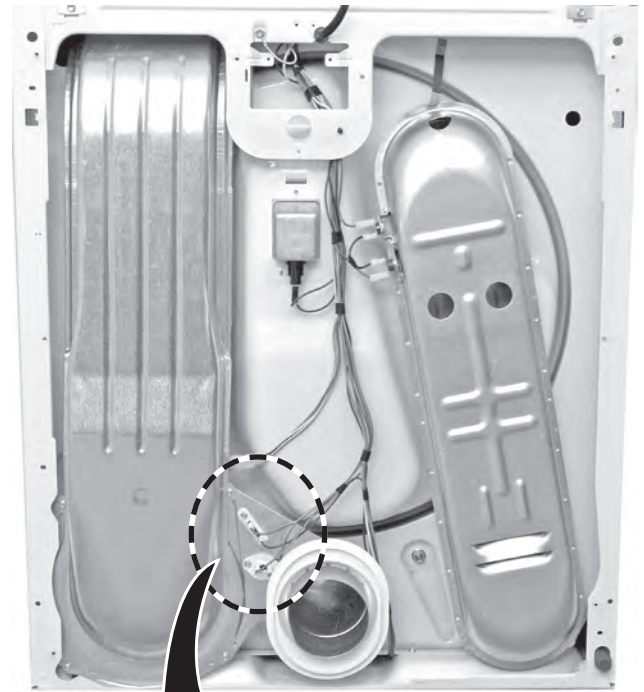
# REMOVING THE THERMAL FUSE & EXHAUST THERMISTOR

## ⚠ WARNING



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

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the rear panel (see page 4-17 for the procedure).
4. Remove the two wires from the thermal fuse or exhaust thermistor terminals.
5. Remove the hex-head screw, unhook the other end of the thermal fuse or exhaust thermistor, and remove the component.



Viewed From Rear Of Dryer

## REMOVING THE HIGH-LIMIT THERMOSTAT AND THERMAL CUTOFF (TCO) (GAS MODELS ONLY)

### **⚠ WARNING**



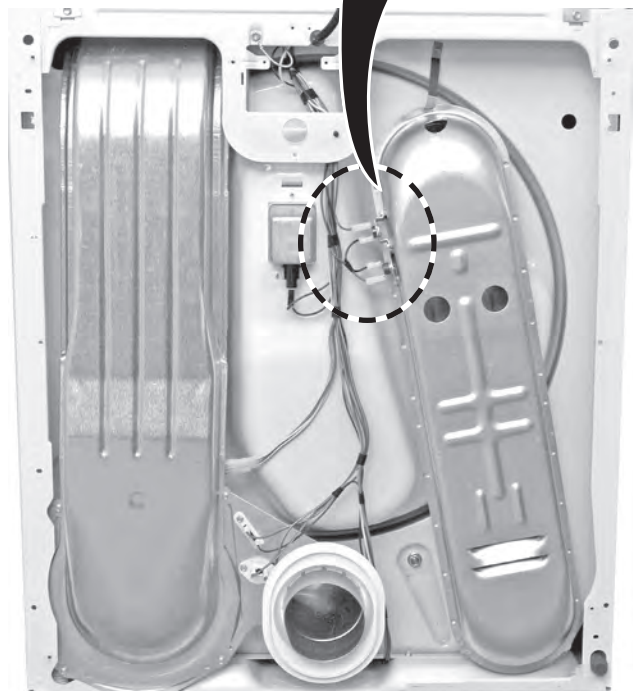
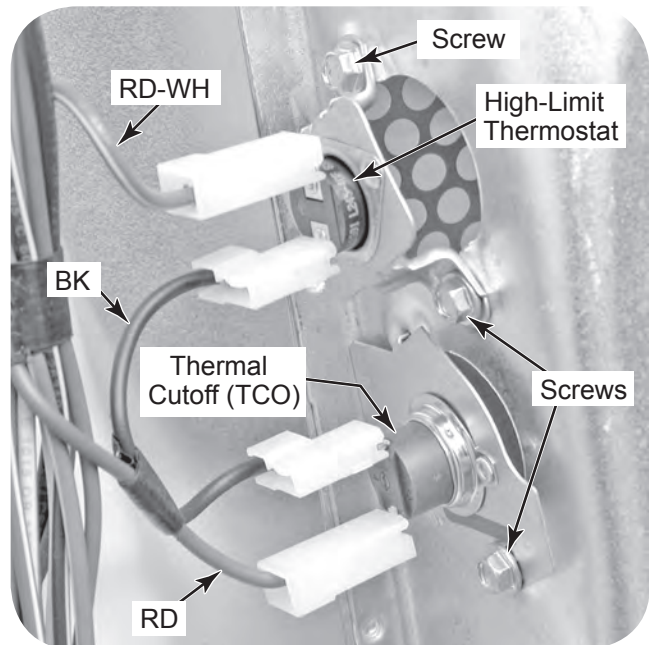
#### **Electrical Shock Hazard**

**Disconnect power before servicing.**

**Replace all parts and panels before operating.**

**Failure to do so can result in death or electrical shock.**

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the rear panel (see page 4-17 for the procedure).
4. **To remove the high-limit thermostat:**
  - a) Remove the two wires from the thermostat terminals.
  - b) Remove the two hex-head screws and remove the high-limit thermostat.
5. **To remove the thermal cutoff (TCO):**
  - a) Remove the two wires from the TCO terminals.
  - b) Remove the hex-head screw, unhook the end of the bracket, and remove the TCO.



Viewed From Rear Of Dryer

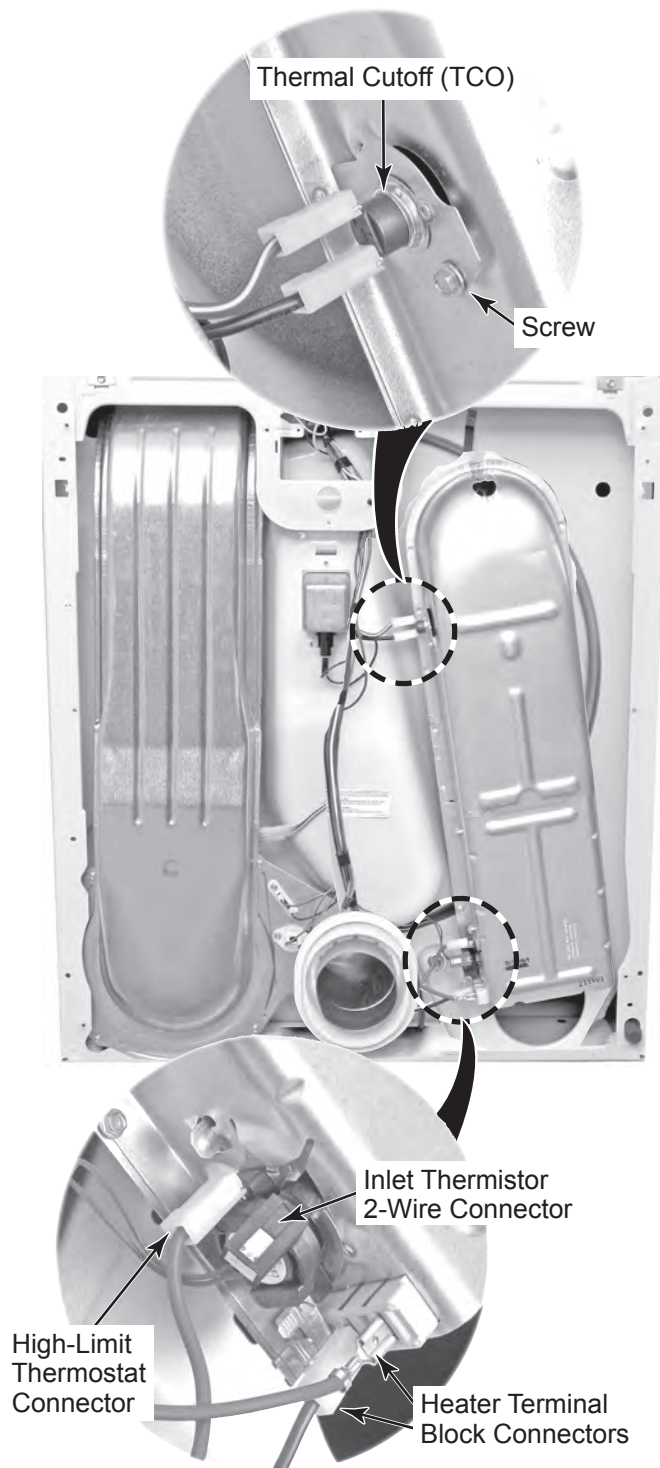
# REMOVING THE THERMAL CUTOFF (TCO), HEATER, AND INLET THERMISTOR / HIGH-LIMIT THERMOSTAT (ELECTRIC MODELS ONLY)

## **⚠ WARNING**



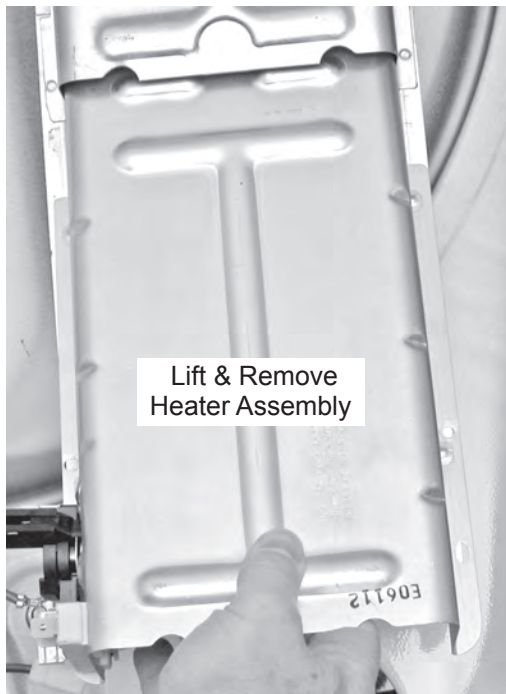
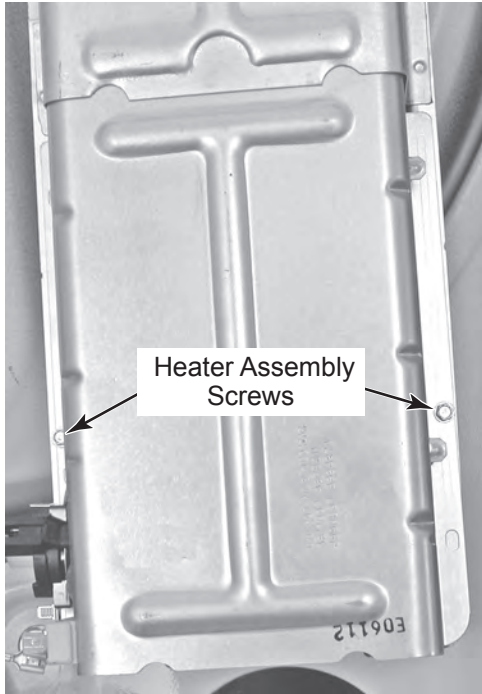
**Electrical Shock Hazard**  
Disconnect power before servicing.  
Replace all parts and panels before operating.  
Failure to do so can result in death or electrical shock.

1. Unplug dryer or disconnect power.
2. Remove the rear panel (see page 4-17 for the procedure).
3. **To remove the thermal cutoff (TCO) (see the top round inset):**
  - a) Remove the two wires from the TCO terminals.
  - b) Remove the hex-head screw, unhook the end of the bracket, and remove the TCO.
4. **To remove the heater and inlet thermistor/high-limit thermostat (see the bottom round inset):**
  - a) Lift the locking tab and remove the 2-wire connector from the inlet thermistor.
  - b) Remove the wire connector from the high-limit thermostat terminal.
  - c) Remove the two wire connectors from the heater terminal block.

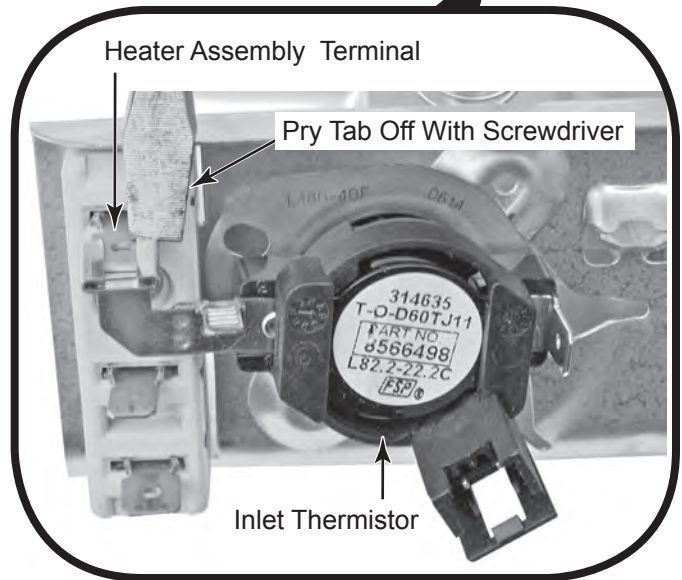
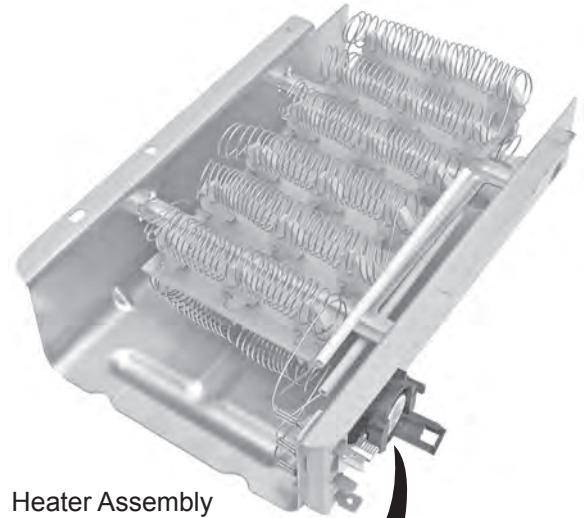


**Continued on the next page.**

d) Remove the two hex-head screws from the heater assembly and remove the assembly.



e) Using a flat-blade screwdriver, pry the inlet thermistor terminal off the heater terminal, and remove the thermistor from the assembly.





## REMOVING THE FLAME SENSOR AND GAS BURNER ASSEMBLY (GAS MODELS ONLY)

### **⚠ WARNING**

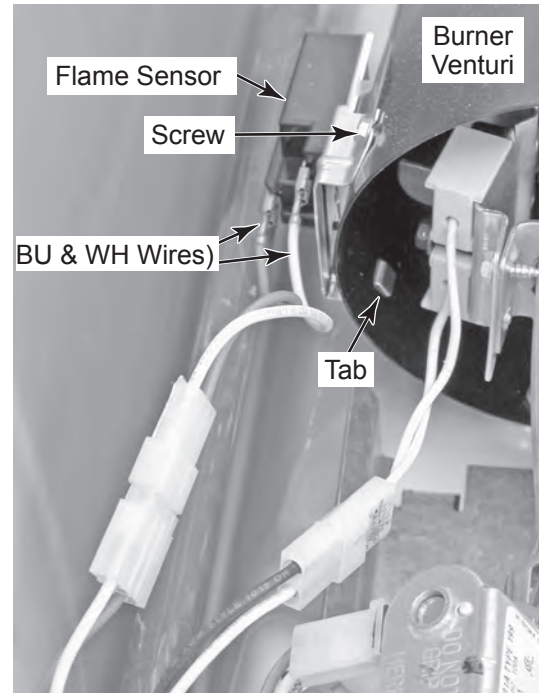


**Electrical Shock Hazard**  
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the cabinet front from the dryer (see page 4-5 for the procedure).
4. Remove the belt and drum from the dryer (see page 4-7 for the procedure).



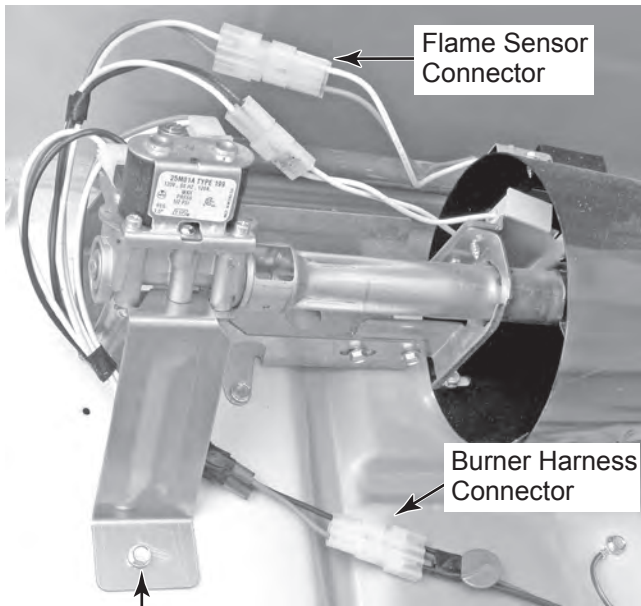
5. **To remove the flame sensor:**
  - a) Remove the two wires from the sensor terminals.
  - b) Remove the hex-head screw, then unhook the tab, and remove the flame sensor from the burner venturi.



6. **To remove the burner assembly:**
  - a) Disconnect the gas line from the dryer.
  - b) Disconnect the following wire connectors from the burner assembly components (see the top left photo on page 4-16):
    - Connector from the flame sensor.
    - Burner harness connector from the main harness.
  - c) Remove the 5/16" hex-head screw from the burner support bracket and remove the bracket from the bottom of the assembly.

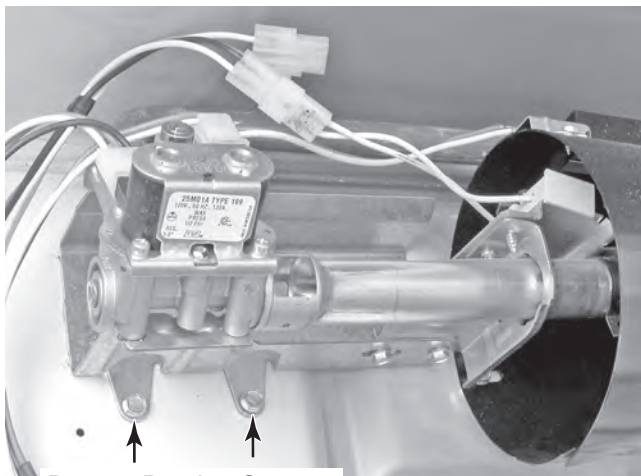
**Continued on the next page.**



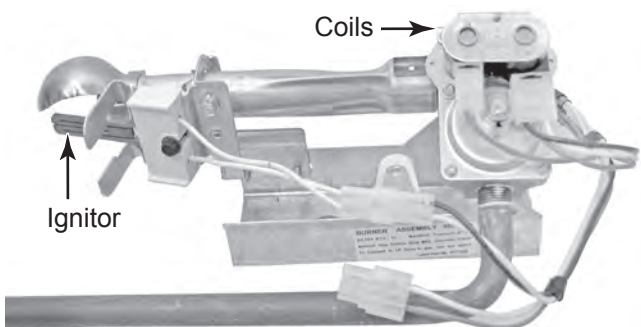


Support Bracket Screw

- d) Remove the two 5/16" hex-head screws from the burner bracket.
- e) Pull the burner assembly forward, unhook the bracket tabs from the chassis slots, and remove the assembly.



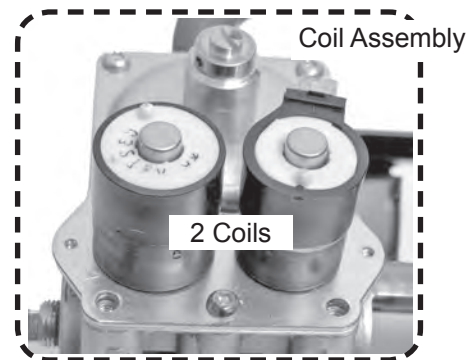
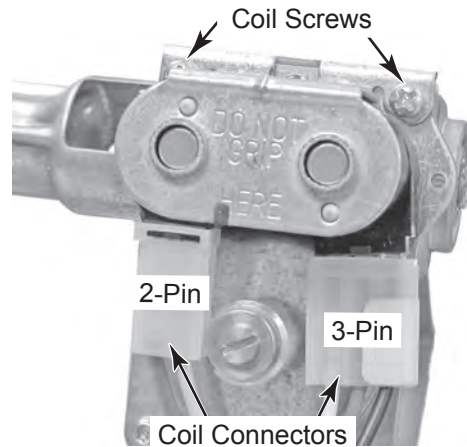
Burner Bracket Screws



Burner Assembly

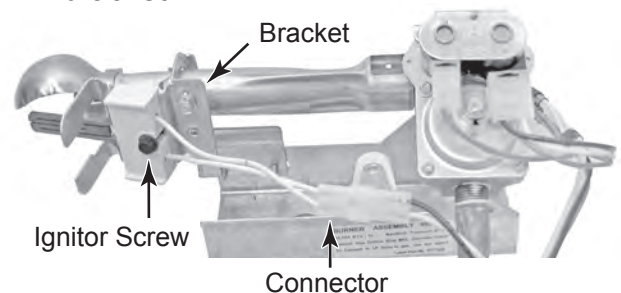
**7. To remove the coils from the burner assembly:**

- a) Remove the burner assembly (see step 6).
- b) Disconnect the 2-wire and 3-wire connectors from the coil pins.
- c) Remove the two screws from the bracket, and lift the two coils off their cores.



**8. To remove the ignitor from the burner assembly:**

- a) Remove the burner assembly (see step 6).
- b) Disconnect the 2-wire connector from the ignitor harness.
- c) Loosen the 5/16" hex-head ignitor screw, and remove the ignitor from the bracket.



# REMOVING THE MOISTURE SENSOR AND METAL OXIDE VARISTORS (MOVS)

## ⚠ WARNING



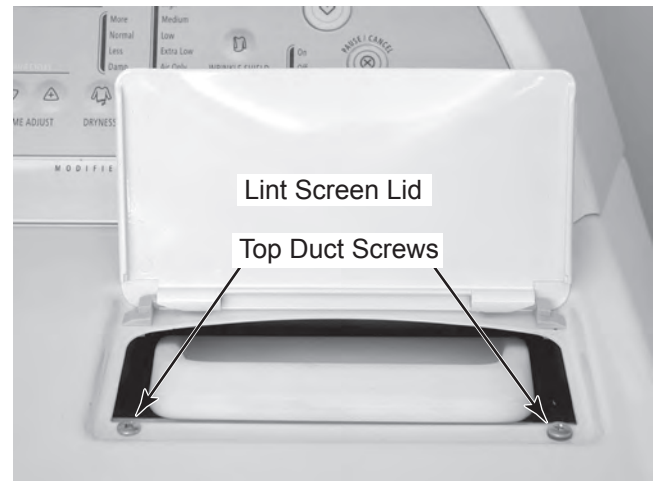
**Electrical Shock Hazard**  
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Open the dryer door.
4. **To remove the moisture sensor:**
  - a) Remove the screw and unhook the sensor from the drum.
  - b) Disconnect the two wire connectors from the moisture sensor.

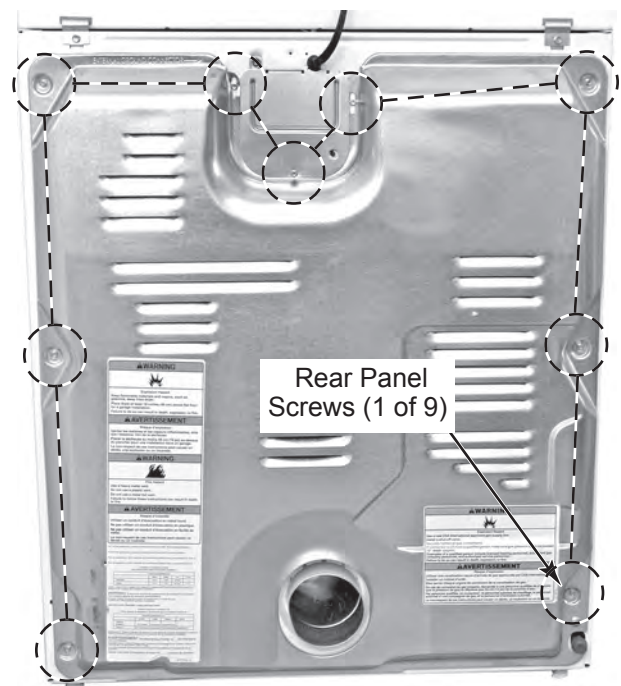


5. **To remove the metal oxide varistors (MOVs):**

- a) Raise the lint screen lid and remove the two screws from the top of the lint screen air duct.

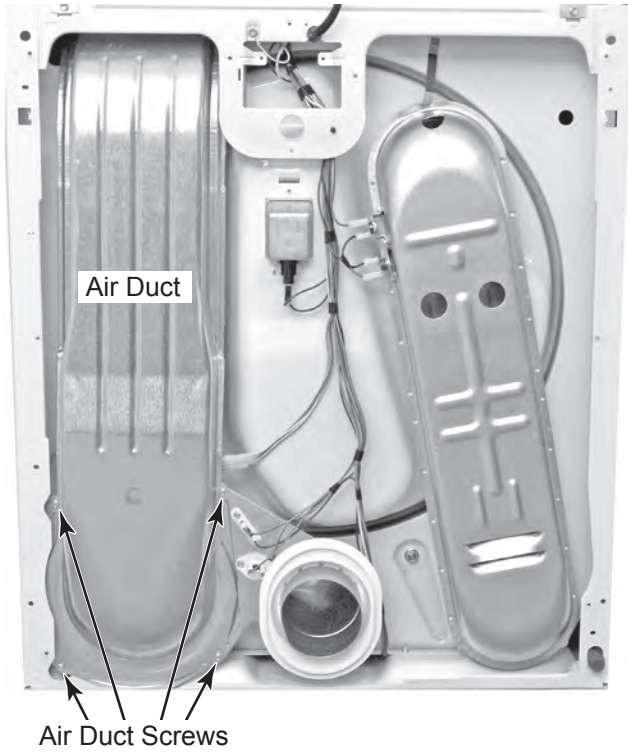


- b) Pull the dryer out from the wall so that you can access the rear panel.
- c) Remove the nine hex-head screws from the rear panel and remove the panel.

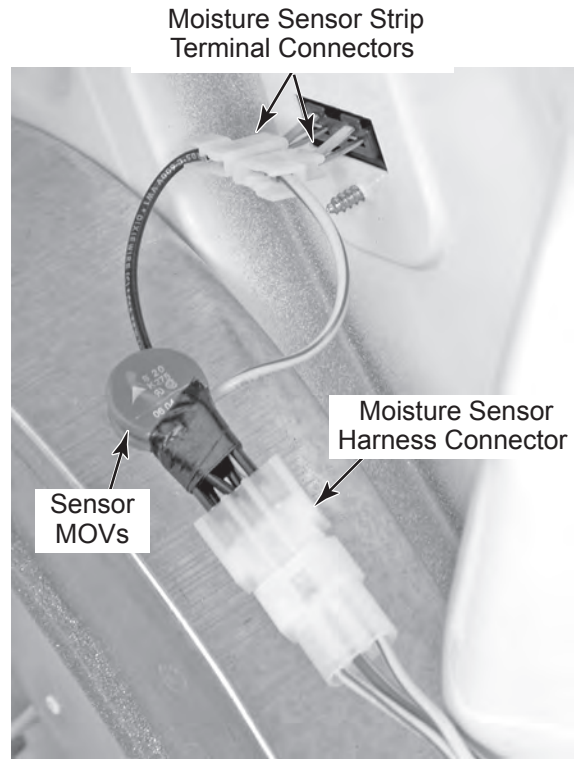


**Continued on the next page.**

d) Remove the four screws from the air duct and pull the duct toward you just far enough to access the moisture sensor wiring harness.



- e) Disconnect the two wires from the terminals of the moisture sensor strips.
- f) Unlock and disconnect the moisture sensor harness connector with the Metal Oxide Varistors (MOVs) from the main harness.





## REMOVING THE DRUM LIGHT ASSEMBLY

### **⚠ WARNING**



#### **Electrical Shock Hazard**

**Disconnect power before servicing.**

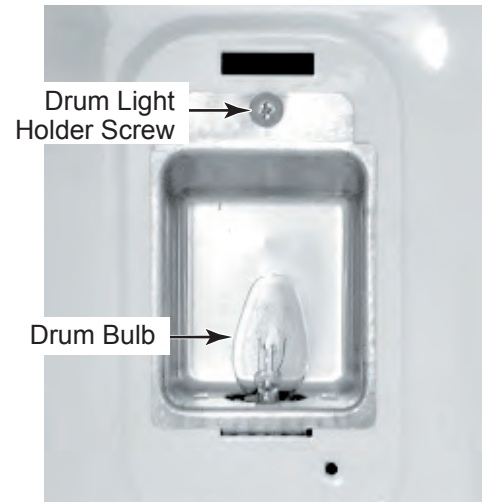
**Replace all parts and panels before operating.**

**Failure to do so can result in death or electrical shock.**

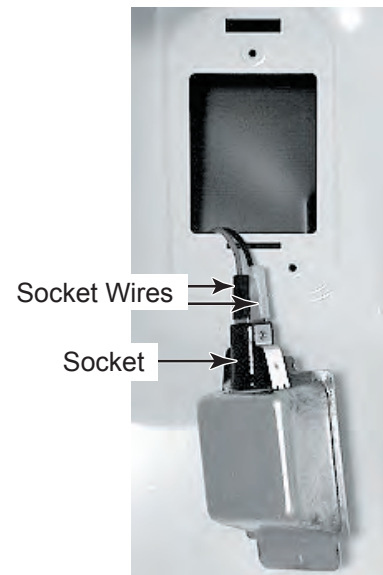
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Open the dryer door.
4. Remove the screw from the drum light lens and remove the lens.



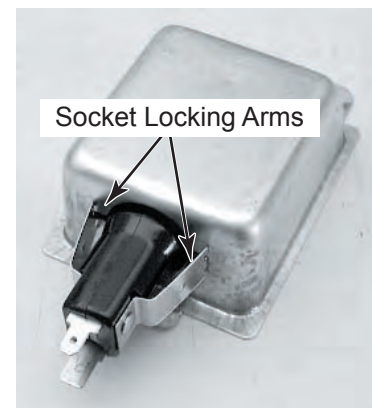
5. Remove the bulb from the drum light socket (see the top right photo).
6. Remove the screw from the drum light holder and pull it forward so you can access the wires.



7. Disconnect the wire connectors from the light socket terminals.



8. Squeeze the locking arms and remove the socket from the drum light holder.




— NOTES —

# COMPONENT TESTING

Before testing any of the components, perform the following checks:

- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- 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, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

	<b>⚠ WARNING</b>
	<b>Electrical Shock Hazard</b> <b>Disconnect power before servicing.</b> <b>Replace all parts and panels before operating.</b> <b>Failure to do so can result in death or electrical shock.</b>

## DOOR SWITCH



Refer to page 4-5 for the procedure for accessing the door switch.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Access the user interface board.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to door switch plug pins. The meter should indicate an open circuit (infinite) with the door open, and a closed circuit (0  $\Omega$ ) with the door closed.



## ! WARNING

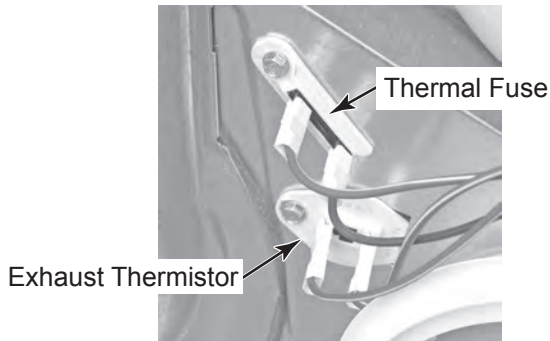
### Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

## THERMAL FUSE & EXHAUST THERMISTOR

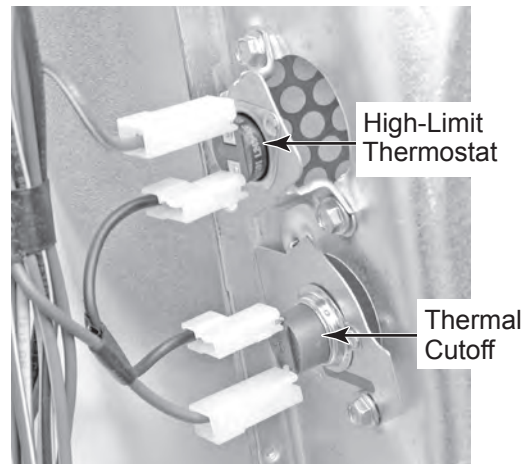


Refer to page 4-11 for the procedure for accessing the thermal fuse & exhaust thermistor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wires or connector from the component under test.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the thermal fuse terminals. The meter should indicate a closed circuit (0  $\Omega$ ). **NOTE:** The thermal fuse opens at 196°F (91°C).
6. Set the ohmmeter to the R x 100K scale.
7. Touch the ohmmeter test leads to the exhaust thermistor terminals. The meter should indicate as shown in the following chart.

EXHAUST THERMISTOR RESISTANCE			
TEMP. °F (°C)	RES. k $\Omega$	TEMP. °F (°C)	RES. k $\Omega$
50° (10°)	19.0 – 22.0	80° (27°)	8.5 – 10.5
60° (16°)	14.8 – 16.8	90° (32°)	6.8 – 8.8
70° (21°)	11.5 – 13.5	100° (38°)	5.0 – 7.0

## HIGH-LIMIT THERMOSTAT & THERMAL CUTOFF (TCO) (GAS MODELS ONLY)



Refer to page 4-12 for the procedure for accessing the high-limit thermostat and thermal cutoff (TCO).

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connectors from the high-limit thermostat or thermal cutoff terminals.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the high-limit thermostat or the thermal cutoff (TCO) terminals. The meter should indicate a closed circuit (0  $\Omega$ ) for both components.



## ! WARNING

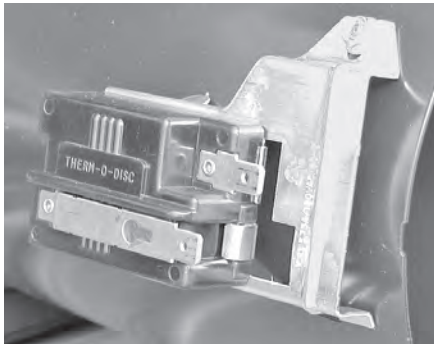
### Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

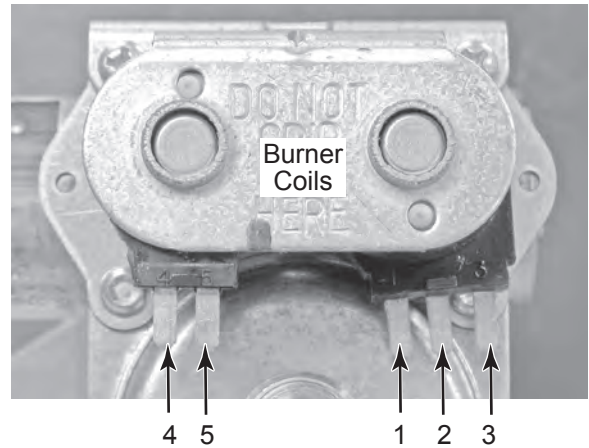
## FLAME SENSOR



Refer to page 4-15 for the procedure for accessing the flame sensor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connectors from the flame sensor terminals.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the flame sensor terminals. The meter should indicate a closed circuit (0  $\Omega$ ).

## GAS BURNER COILS



Refer to page 4-15 for the procedure for accessing the gas burner assembly.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connectors from the coil terminals.
4. Set the ohmmeter to the R x 100 scale.
5. Touch the ohmmeter test leads to pins 4 and 5 of the 2-terminal coil. The meter should indicate between 1000 and 1300  $\Omega$ .
6. Touch the ohmmeter test leads to the 3-terminal coil. The meter should indicate as follows:

Pins 1 & 2 = 1300 to 1400  $\Omega$

Pins 1 & 3 = 500 to 600  $\Omega$





## ⚠ WARNING

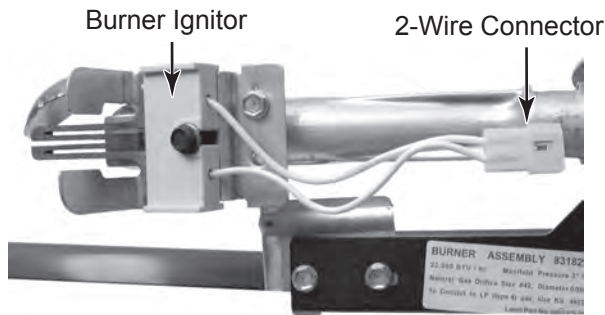
### Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

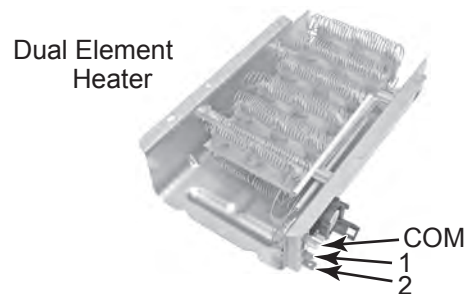
### BURNER IGNITOR



Refer to page 4-15 for the procedure for accessing the gas burner assembly.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the ignitor wire connector from the main harness connector.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the 2-wire connector pins. The meter should indicate between 50 and 500  $\Omega$ .

### ELECTRIC HEATER (DUAL ELEMENT)



Refer to page 4-13 for the procedure for accessing the electric heater.

1. Unplug dryer or disconnect power.
2. Disconnect the wires from the heater terminal block.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter test leads to the indicated heater terminals. The meter should indicate as follows:

COM & terminal 1 = 15 - 25  $\Omega$

COM & terminal 2 = 15 - 25  $\Omega$

Terminals 1 & 2 = 30 - 50  $\Omega$



# ! WARNING

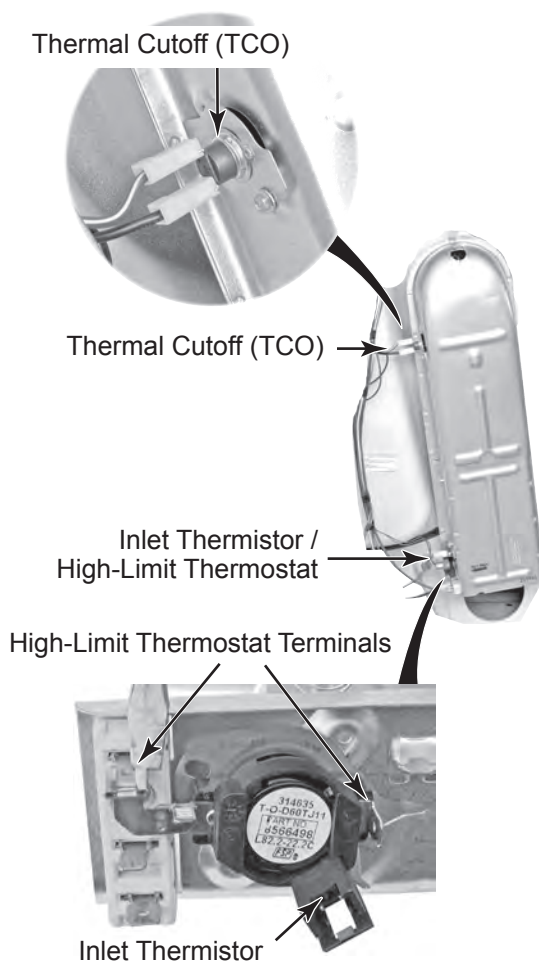
## Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

### THERMAL CUTOFF (TCO) AND INLET THERMISTOR/ HIGH-LIMIT THERMOSTAT (ELECTRIC MODELS ONLY)



Refer to page 4-13 for the procedure for accessing the thermal cutoff (TCO) and inlet thermistor/high-limit thermostat.

1. Unplug dryer or disconnect power.
2. Disconnect the wires from the component you are testing.
3. Set the ohmmeter to the R x 1 scale.
4. *Thermal Cutoff and High-Limit Thermostat:* Touch the ohmmeter test lead to the component terminals. The meter should indicate continuity (0  $\Omega$ ).
5. *Inlet Thermistor:* Use the following chart to check the thermistor:

INLET THERMISTOR RESISTANCE			
TEMP. °F (°C)	RES. RANGE k $\Omega$	TEMP. °F (°C)	RES. RANGE k $\Omega$
68°(20°)	61.2–63.7	131°(55°)	14.6–15.3
77°(25°)	49.0–51.0	140°(60°)	12.1–12.8
86°(30°)	39.5–41.1	149°(65°)	10.2–10.7
95°(35°)	32.0–33.3	158°(70°)	8.5–9.0
104°(40°)	26.1–27.2	167°(75°)	7.2–7.6
113°(45°)	21.4–22.3	176°(80°)	6.1–6.5
122°(50°)	17.6–18.5		

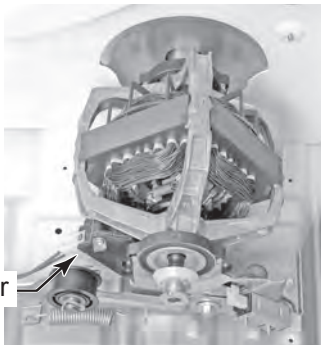


# ⚠ WARNING

## Electrical Shock Hazard

Disconnect power before servicing.  
 Replace all parts and panels before operating.  
 Failure to do so can result in death or electrical shock.

### DRIVE MOTOR



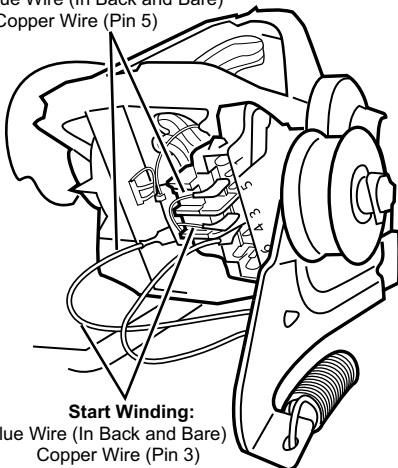
Connector

Refer to page 4-9 for the procedure for accessing the drive motor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connector from the motor terminals.
4. Set the ohmmeter to the R x 1 scale.
5. Measure the drive motor main and start windings, as shown in the chart below.

#### Main Winding:

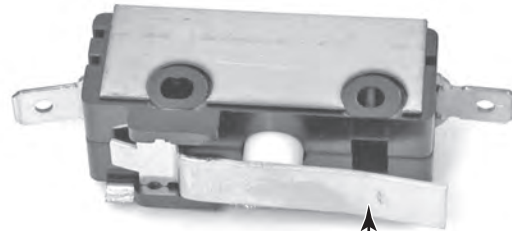
Blue Wire (In Back and Bare)  
 Copper Wire (Pin 5)



#### Start Winding:

Blue Wire (In Back and Bare)  
 Copper Wire (Pin 3)

### BELT SWITCH (N.O.)



Belt Switch Actuator

Refer to page 4-9 for the procedure for accessing the belt switch.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the two blue wires from the belt switch terminals.
4. Set the ohmmeter to the R x 1 scale.
5. Touch the ohmmeter test leads to the belt switch terminals. The meter should indicate a closed circuit (0 Ω).
6. Press the switch actuator, and the meter should indicate an open circuit (infinite).

WINDING	RESISTANCE Ω	CONTACT POINTS OF MEASUREMENT
MAIN	1.4 – 2.6	Blue wire in back at pin 4 and bare copper wire on pin 5 of black drive motor switch
START	1.4 – 2.8	Blue wire in back at pin 4 and bare copper wire on pin 3 of black drive motor switch

# DIAGNOSTICS & TROUBLESHOOTING

## Electric Dryers



### ⚠ WARNING

#### Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

### DISPLAY FAULT CODES

The fault codes below would be indicated when attempting to start a drying cycle or after activating the diagnostic test mode.

DISPLAY	DESCRIPTION	EXPLANATION / RECOMMENDED PROCEDURE
<b>PF</b>	Power Failure	<b>PF</b> flashes to indicate that a power failure occurred while the dryer was running. Press <b>START</b> to continue the cycle, or press <b>PAUSE/CANCEL</b> to clear the display.
<b>AF</b>	Restricted Airflow Condition	<b>AF</b> flashes if a restricted airflow condition exists. Check to make sure the lint screen is clean, the door seal is in place and the vent is not obstructed.
<b>F-01</b>	Primary Control Failure	<b>F-01</b> flashes when there is a primary control failure. Replace the machine control electronics. See <i>Accessing &amp; Removing the Electronic Assemblies</i> .
<b>F-02</b>	Keypad/ User Interface Failure	<b>F-02</b> flashes when there is a stuck button or user interface mismatch. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. See <i>TEST #6</i> .
<b>F-20</b>	Heater #1 Failure	<b>F-20</b> flashes when there is a heater 1 failure. See <i>TEST #4</i> .
<b>F-21</b>	Heater #2 Failure	<b>F-21</b> flashes when there is a heater 2 failure (dual element models). See <i>TEST #4</i> .
<b>F-22</b>	Exhaust Thermistor Open	<b>F-22</b> flashes if the exhaust thermistor is open. See <i>TEST #4a</i> .
<b>F-23</b>	Exhaust Thermistor Shorted	<b>F-23</b> flashes if the exhaust thermistor has shorted. See <i>TEST #4a</i> .
<b>F-24</b>	Inlet Thermistor Open	<b>F-24</b> flashes if the inlet thermistor is open. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. See <i>TEST #4a</i> .
<b>F-25</b>	Inlet Thermistor Shorted	<b>F-25</b> flashes if the inlet thermistor is shorted. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. See <i>TEST #4a</i> .
<b>F-26</b>	Motor Drive System Failure	<b>F-26</b> flashes if there is a motor drive system failure. See <i>TEST #3</i> .
<b>F-28</b>	Moisture Sensor Open	<b>F-28</b> flashes if the moisture sensor strip is open. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. See <i>TEST #5</i> .
<b>F-29</b>	Moisture Sensor Shorted	<b>F-29</b> flashes if the moisture sensor strip has shorted. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. See <i>TEST #5</i> .
<b>F-30</b>	Restricted Airflow Condition	<b>F-30</b> flashes if a restricted airflow condition exists. This fault code will <b>ONLY</b> appear when in the diagnostic test mode. Check to make sure the lint screen is clean, the door seal is in place and the vent is not obstructed.

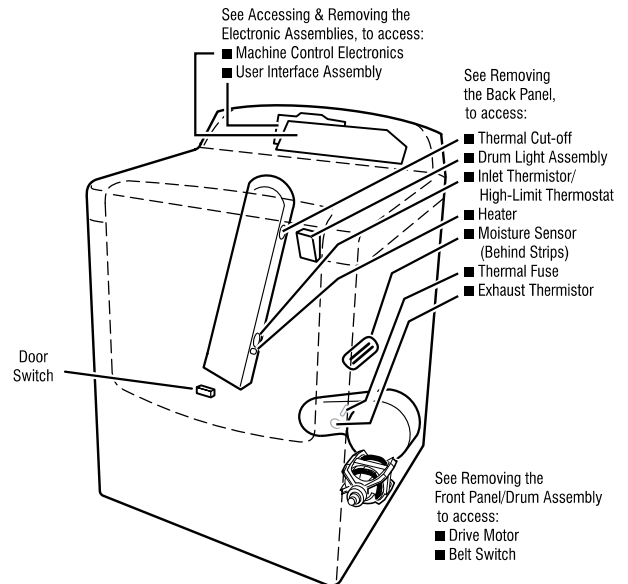


Figure 1. Component locations.

## DIAGNOSTIC GUIDE

Before servicing, check the following:

- Make sure there is power at the wall outlet.
- 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 (volt-ohm-milliammeter) or DVM (digital-voltmeter) 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.
- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- 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 must be made with dryer unplugged or power disconnected.

## DIAGNOSTIC TESTS

These tests allow factory or service personnel to test and verify all inputs to the machine control electronics. You may want to do a quick and overall checkup of the dryer with these tests before going to specific troubleshooting tests.

### ACTIVATING THE DIAGNOSTIC TEST MODE

1. Be sure the dryer is in standby mode (plugged in with all indicators off, or with only the Clothes Dry indicator on).
2. Select any one button (except Pause/Cancel) and follow the steps below, using the same button (remember the button):

Press/hold 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 seconds

3. If this test mode has been entered successfully, all indicators on the console are illuminated for 5 seconds with **88** showing in the Estimated Time Remaining two-digit display.

### DIAGNOSTIC: Unsuccessful Entry

If entry into diagnostic mode is unsuccessful, press the Pause/Cancel button twice, then press the Power button.

- If indicators come on, try to use a different button than was used to activate the diagnostic test mode. If that button fails to enter the diagnostic mode, something is faulty, and it is not possible to enter the diagnostic mode. Go to TEST #2.
- If no indicators come on after pressing the Power button, go to TEST #1.

### DIAGNOSTIC: Saved Fault Codes

If there are saved fault codes, the most recent fault code will alternately show “F-” and “XX” where XX is the fault code.

Press and release the same button used to activate Diagnostics	→ beep tone →	Second most recent fault code is displayed.
Repeat	→ beep tone →	Third most recent fault code is displayed.
Repeat	→ beep tone →	Fourth most recent fault code is displayed.
Repeat	→	All indicators momentarily turn off, then stay on.

### DIAGNOSTIC: Console Buttons And Indicators

Pressing the console buttons or rotating the cycle selector will sound a beep and will turn on or off the corresponding indicators as shown in Figure 2, Console Diagnostics. Pressing Time Adjust (more time) will sound a beep and turn the left digit of the display on or off. Pressing Time Adjust (less time) will sound a beep and turn the right digit of the display on or off.

- If indicators fail to turn on or off and beep after pressing buttons or rotating the cycle selector, go to TEST #6.

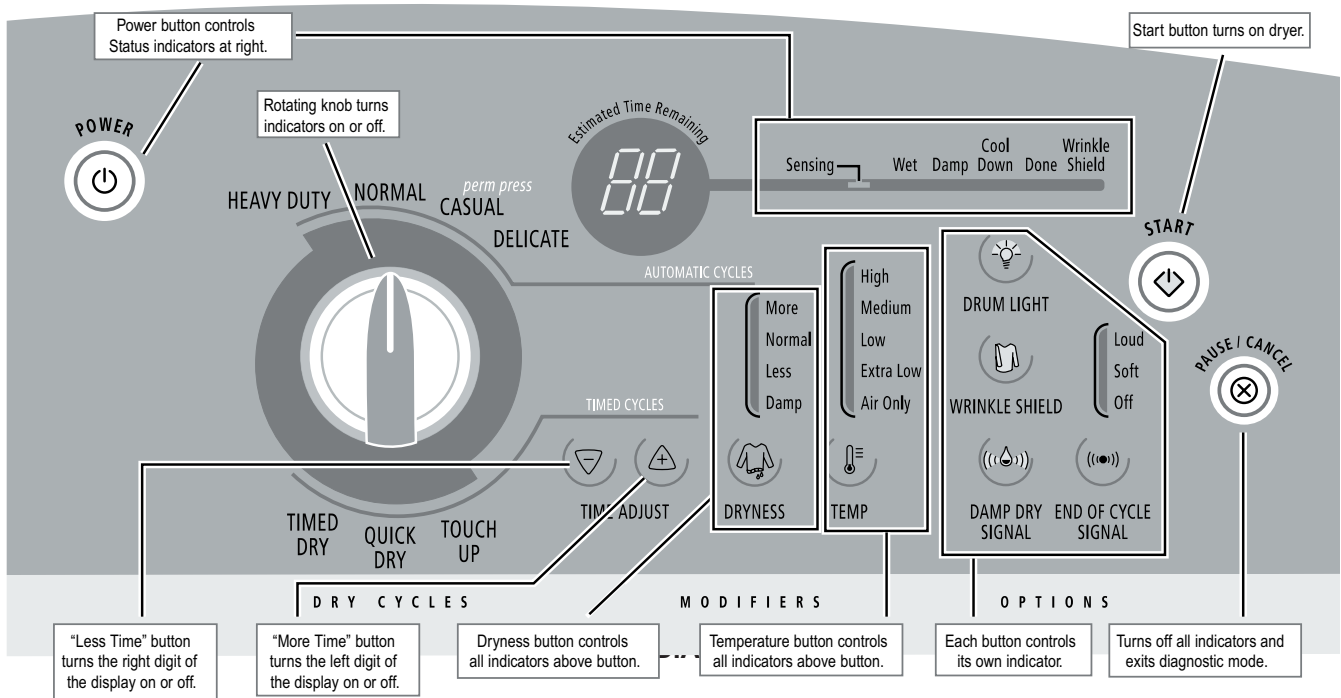


Figure 2. Console Diagnostics.

### DIAGNOSTIC: Door Switch

Opening the door should cause a beep and an alphanumeric number to be displayed. Closing the door should cause a beep and **88** to be displayed.

- If opening the door fails to cause a beep and a number and letter to be displayed, go to TEST #7.

### DIAGNOSTIC: Moisture Sensor

Open the door and locate two metal strips on the inside of the dryer. Bridge these strips with a wet cloth or a finger.

- If a continuous beep tone is heard and an alphanumeric number is displayed on the console, the sensor is OK.
- If not, or if a continuous beep tone is heard before bridging the moisture strips, go to TEST #5.

### DIAGNOSTIC: Motor, Heater, And Console ID

Close the door. Press the Start button. The motor and heater will turn on, and the display will show one of the following console IDs: **C0, C1, C2, C3, C4, C5, C6, C7, C8, or C9.**

- If none of the Console IDs above are displayed, replace the user interface assembly. See Accessing & Removing the Electronic Assemblies.
- If the motor does not turn on, go to TEST #3.
- If no heat is detected, go to TEST #4.



## DIAGNOSTIC: Displaying Inlet Air Flow

Used to display the airflow value at the inlet of the heater box being measured by the machine control.

After all saved fault codes have been displayed, press the Wrinkle Shield button to activate airflow detection. A 30 or 50 second countdown timer will start and the dryer will turn on.

- If the dryer is cold, the countdown will start at 50 seconds.

**NOTE:** If the dryer is extremely cold (less than 40°F [4.4°C] ) the airflow may not be detected properly, and "--" will be displayed.

- If the dryer is hot, the countdown timer will start at 30 seconds (cool down period) followed by an additional 50 second countdown.

A Dryness modifier LED will also be illuminated to indicate the airflow range corresponding to the number displayed.

- The More LED will be illuminated for airflow readings above 40 cfm.
- The Normal LED will be illuminated for airflow readings between 29 and 40 cfm.
- The Less LED will be illuminated for airflow readings less than 29 cfm.
  - If airflow value is low, check to make sure the lint screen is clean, the door seal is in place and the vent is not obstructed.

## DIAGNOSTIC: Displaying Line Voltage

Used to display the line voltage currently being measured by the machine control:

After all saved fault codes have been displayed, press the Cycle Signal button. The last 2 digits of the voltage value will be displayed on the dual 7-segment display.

A Dryness modifier LED will also be illuminated to indicate the voltage range corresponding to the number displayed. The Dryness LEDs relate to specific voltage ranges as follows:

- The More LED will be illuminated for high voltage readings (above 260 VAC).
- The Normal LED will be illuminated for normal voltage readings (200-260 VAC).
- The Less LED will be illuminated for low voltage readings (below 200 VAC).
  - If the line voltage is not seen on L2 the display will flash L2. Go to TEST #1.

## DEACTIVATING THE DIAGNOSTIC TEST MODE

Press the Pause/Cancel button twice to exit diagnostics.

## ACTIVATING THE MANUAL LOAD TEST

1. Be sure the dryer is in standby mode (plugged in with all indicators off, or with only the Clothes Dry indicator on).
2. Select any one button (except Pause/Cancel) and follow the steps below, using the same button (remember the button):

Press/hold 2-5 → for 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 → for 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 → for 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 → for 2-5 seconds → Release for 2-5 seconds

**88** flashes momentarily, the motor starts right away, and the Heavy Duty LED flashes (this step starts the Manual Load sequence):

- 
1. Turn on motor. → Flash "Heavy Duty" LED.
- 

Now press any key (except Pause/Cancel) and the control will advance through each step of the following sequence:

### SINGLE ELEMENT MODELS:

- 
2. Motor + heater. → Flash "Casual" LED.
  3. No loads on (motor + heater off). → Flash "Normal" LED.
  4. Repeat using same button. → Start sequence again at 1.
- 

### DUAL ELEMENT MODELS:

- 
2. Motor + heater 1. → Flash "Casual" LED.
  3. Motor + heater 2. → Flash "Timed Dry" LED.
  4. Motor + heater 1 + heater 2 + drum light. → Flash "Drum Light" LED.
  5. No loads on (motor + heaters off). → Flash "Normal" LED.
  6. Repeat using same button. → Start sequence again at 1.
- 

## DEACTIVATING THE MANUAL LOAD TEST

Press the Pause/Cancel button to exit this mode.



## TROUBLESHOOTING GUIDE

Some tests will require accessing components. See Figure 1 for component locations.

PROBLEM	POSSIBLE CAUSE / TEST
<b>NOTE:</b> Possible Cause/Tests MUST be performed in the sequence shown for each problem.	
<b>WON'T POWER UP.</b> (No response when buttons are pressed.)	<ol style="list-style-type: none"> <li>1. Supply connections. See TEST #1.</li> <li>2. Check harness connections.</li> <li>3. User interface assembly. See TEST #6.</li> </ol>
<b>WON'T START CYCLE WHEN START BUTTON IS PRESSED.</b>	<ol style="list-style-type: none"> <li>1. If number display flashes, check to be sure the door is completely shut, and press and hold down START for about 1 second.</li> <li>2. See TEST #3.</li> <li>3. See TEST #7.</li> </ol>
<b>WON'T SHUT OFF WHEN EXPECTED.</b>	<ol style="list-style-type: none"> <li>1. Check Pause/Cancel button. See TEST #4.</li> <li>2. User interface assembly. See TEST #6.</li> <li>3. Moisture sensor. See TEST #5.</li> </ol>
<b>CONTROL WON'T ACCEPT SELECTIONS.</b>	User interface assembly. See TEST #6.
<b>WON'T HEAT.</b>	<ol style="list-style-type: none"> <li>1. Heater. See TEST #4.</li> <li>2. Check harness connections.</li> <li>3. Check installation.</li> </ol>
<b>HEATS IN AIR CYCLE.</b>	Heater. See TEST #4.
<b>SHUTS OFF BEFORE CLOTHES ARE DRY.</b>	<ol style="list-style-type: none"> <li>1. Check the dryness setting for auto cycles.</li> <li>2. Check for full lint screen.</li> <li>3. Check for clogged vent.</li> <li>4. Moisture sensor. See TEST #5.</li> <li>5. Dryness adjust. See Adjusting Customer-Focused Drying Modes.</li> </ol>

## TROUBLESHOOTING TESTS

**NOTE:** These checks are done with the dryer unplugged or disconnected from power.

### TEST #1 Supply Connections

This test should only be done after confirming proper voltage at the outlet.

1. Unplug dryer or disconnect power.
2. Remove the cover plate from the back of the dryer. See Figure 3.

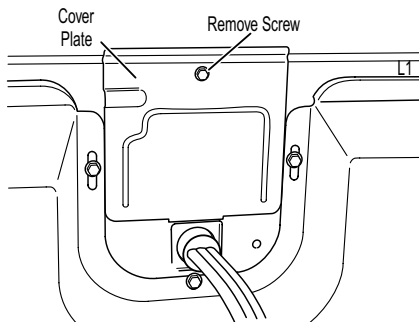


Figure 3. Remove the cover plate.

3. Make sure the power cord is securely fastened to the terminal block.
4. With an ohmmeter, check for continuity between the neutral (N) terminal of the plug and the center contact on the terminal block. See Figure 4.

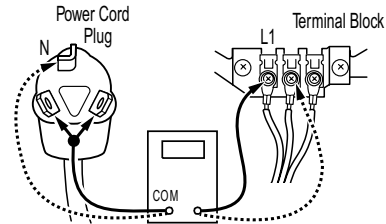


Figure 4. Plug-to-terminal connections.

- If there is no continuity, replace the power cord and test the dryer.
  - If there is continuity, go to step 5.
5. In a similar way, check which terminal of the plug is connected to the left-most contact on the terminal block and make a note of it. This will be L1 (black wire) in the wiring diagram. See Figure 4 and the appropriate wiring diagram in Section 7.
    - When this is found, go to step 6.
    - If neither of the plug terminals have continuity with the left-most contact of the terminal block, replace the power cord and test the dryer.

6. Access the machine control electronics without disconnecting any wiring to the control board. See Accessing & Removing the Electronic Assemblies.
7. With an ohmmeter, check for continuity between the L1 terminal of the plug (found in step 5) and P9-2 (black wire) on the machine control board. See Figure 15.
  - If there is continuity, go to step 8.
  - If there is no continuity, check that wires to the terminal block are mechanically secure. If so, replace the main wire harness and test the dryer.
8. Check for continuity between the neutral (N) terminal of the plug and P8-3 (white wire) on the machine control board.
  - If there is continuity, go to step 9.
  - If there is no continuity and the mechanical connections of the wire are secure, replace the main wire harness.
9. Visually check that the P5 connector is inserted all the way into the machine control electronics.
10. Visually check that the user interface assembly is properly inserted into the front console.
11. If both visual checks pass, replace the user interface assembly.
12. Plug in dryer or reconnect power.
13. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
14. If indicators still do not light, the machine control electronics has failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.

### **TEST #2 Machine Control Power Check**

This test is used to determine if power is present at the machine control electronics.

**NOTE:** The drum light is controlled by the machine control on all models.

1. Plug in dryer or reconnect power.
2. Open the door.
  - If the drum light illuminates, then power is present at the machine control. Go to TEST #6.
  - If the drum light fails to illuminate, do not assume the machine control electronics needs replacement. Several conditions may cause the drum light not to illuminate, including a bad bulb. If the drum light does not illuminate, go to TEST #1.

### **TEST #3 Drive Motor Circuit**

This test will check the wiring to the motor and the motor itself. The following items are part of this motor system:

- Harness/connection
  - Thermal fuse
  - Belt/belt switch
  - Drive motor
  - Centrifugal switch
  - Door switch
  - Machine control electronics
1. Unplug dryer or disconnect power.
  2. Access the machine control electronics and measure the resistance across P8-4 and P9-1. See Accessing & Removing the Electronic Assemblies.
    - If resistance across P8-4 and P9-1 is in the range of 1 to 6 ohms, replace the machine control electronics.
    - Otherwise, go to step 3.
  3. Check the wiring and components in the path between these measurement points by referring to the appropriate wiring diagram and strip circuit in Section 7.
  4. Check the thermal fuse. See TEST #4b.

5. Check the belt switch and drive motor. Access the belt switch and drive motor by removing the front panel/drum assembly. See Removing the Front Panel/Drum Assembly. Slowly remove the drum belt from the spring-loaded belt switch tension pulley, gently letting the pulley down. See Figure 5.

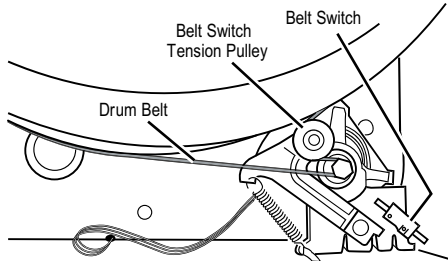


Figure 5. Slowly remove drum belt.

6. Remove the white connector from the drive motor switch. See Figure 6.

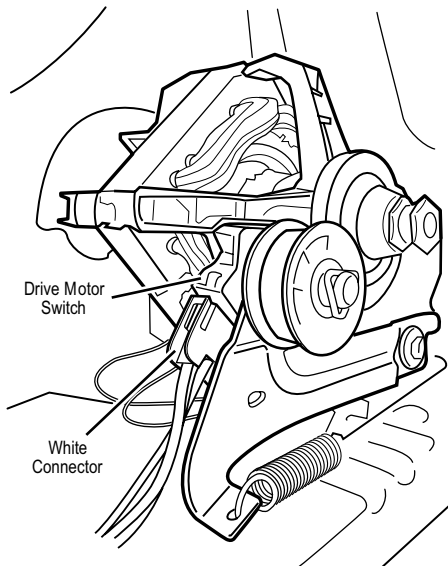


Figure 6. Remove white connector.

7. Using Figure 7, check for the resistance values of the motor's Main and Start winding coils as shown in the following table.

**NOTE:** Main and Start winding coils must be checked at the motor.

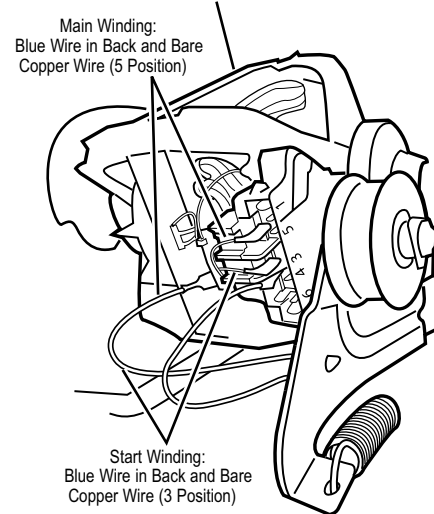


Figure 7. Main and start winding measure points.

WINDING	RESISTANCE $\Omega$	CONTACT POINTS OF MEASUREMENT
MAIN	1.4–2.6	Blue wire in back at pin 4 and bare copper wire on pin 5 of black drive motor switch
START	1.4–2.8	Blue wire in back at pin 4 and bare copper wire on pin 3 of black drive motor switch

- If the resistance at the motor is correct, there is an open circuit between the motor and machine control electronics. Check for failed belt switch.
- If the Start winding resistance is much greater than 4 ohms, replace the motor.

8. Check the belt switch by measuring resistance between the two blue wires, as shown in Figure 8, while pushing up the belt switch tension pulley.

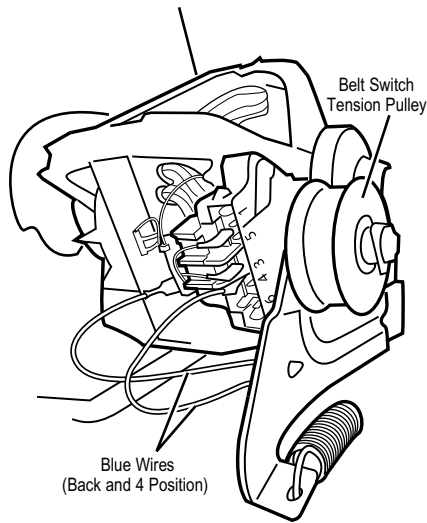


Figure 8. Checking the belt switch.

- If the resistance reading goes from infinity to a few ohms as pulley arm closes the switch, belt switch is OK. If not, replace the belt switch.
  - If belt switch is OK and there is still an open circuit, check and repair the wiring harness.
9. Door switch problems can be uncovered in the Door Switch Diagnostic Test; however, if this was not done, the following can be done without applying power to the dryer. Connect an ohmmeter across P8-3 (neutral, white wire) and P8-4 (door, tan wire).
    - With the door properly closed, the ohmmeter should indicate a closed circuit (0–2 ohms).
    - If not, replace the door switch assembly. See Figure 11; and Removing the Front Panel/Drum Assembly.

## TEST #4 Heater

This test is performed when either of the following situations occur:

- Dryer does not heat
- Heat will not shut off

This test checks the components making up the heating circuit. The following items are part of this system:

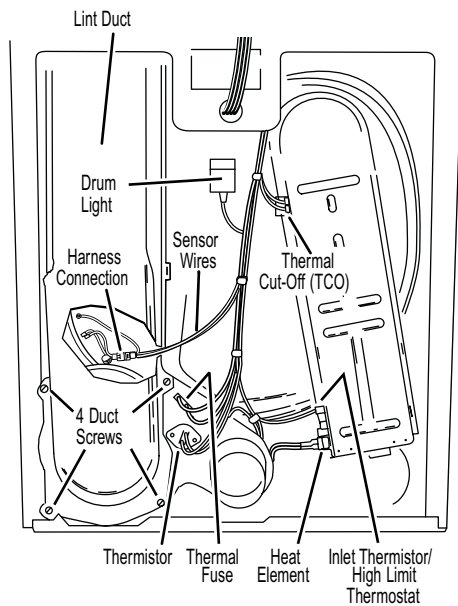
- Harness/connection
- Heater relay
- Thermal cut-off
- Inlet thermistor/high limit thermostat
- Heat element assembly
- Centrifugal switch
- Exhaust thermistor
- Machine control electronics
- User interface assembly

### Dryer does not heat:

Locate the components using Figure 1 and Figure 9.

### SINGLE ELEMENT MODEL:

1. Unplug dryer or disconnect power.
2. Remove the back panel to access the thermal components. See Removing the Back Panel.
3. Using an ohmmeter and referring to the appropriate wiring diagram and strip circuit (see Section 7), measure the resistance from the red wire terminal at the thermal cut-off to the red wire terminal at the heater.



**Figure 9.** Thermal components, viewed from rear.

- If the resistance is about 10 ohms, go to step 5.
  - If an open circuit is detected, go to step 4.
4. Visually check the wire connections to the thermal cut-off, high limit thermostat, and heater. If connections look good, check for continuity across each of these components.
    - Replace the heater if it is electrically open.
    - Replace both the thermal cut-off and high limit thermostat if either one is electrically open.
  5. If no open circuit is detected, remove the P4 connector, then measure the resistance between P4-3 (red wire) and P4-6 (red wire) at the connector. See Figure 15, for connector location; and Accessing & Removing the Electronic Assemblies.
    - If 5–15 k ohms are measured, replace the machine control electronics.
    - If the resistance is less than 1 k ohm, replace the thermistor.

## DUAL ELEMENT MODEL:

1. Unplug dryer or disconnect power.
2. Remove the back panel to access the thermal components. See Removing the Back Panel.
3. Measure the resistance across the high limit thermostat.
  - If an open circuit is not detected, go to step 4.
  - If an open circuit is detected, replace both the thermal cut-off and the inlet thermistor/high limit thermostat.
4. Measure the resistance across the thermal cut-off.
  - If an open circuit is not detected, go to step 5.
  - If an open circuit is detected, replace both the thermal cut-off and the inlet thermistor/high limit thermostat.
5. Measure the resistance between the red wires at the heater.
  - If an open circuit is not detected, go to step 7.
  - If an open circuit is detected, go to step 6.
6. Visually check the wire connections to the heater. If the connections look good, replace the heater.
7. Measure the resistance at the heater between the violet wire and the red wire terminals.
  - If an open circuit is not detected, go to step 9.
  - If an open circuit is detected, go to step 8.
8. Visually check the wire connections to the heater. If the connections look good, replace the heater assembly.

9. If no open circuit is detected, remove the P4 connector, then measure the resistance between P4-3 (red wire) and P4-6 (red wire) at the connector. See Figure 15 for connector location; and Accessing & Removing the Electronic Assemblies.
  - If 5–15 k ohms are measured, replace the machine control electronics.
  - If the resistance is less than 1K ohm, replace the exhaust thermistor.

**Heat will not shut off:**

1. Unplug dryer or disconnect power.
2. Access the machine control electronics, remove the P4 connector, then measure the resistance between P4-3 (red wire) and P4-6 (red wire) at the connector. See Figure 15, for connector location; and Accessing & Removing the Electronic Assemblies.
  - If 5–15 k ohms are measured, replace the machine control electronics.
  - If the resistance is greater than 20 k ohms, replace the exhaust thermistor.

**TEST #4a Thermistors**

**EXHAUST THERMISTOR**

The machine control electronics monitors the exhaust temperature using the exhaust thermistor, and cycles the heater relay on and off to maintain the desired temperature.

Begin with an empty dryer and a clean lint screen.

1. Plug in dryer or reconnect power.
2. Start the Timed Dry cycle.
3. If after 60 seconds, **F-22** or **F-23** flashes in the display and the dryer shuts off, the thermistor or wire harness is either open or shorted.
  - Unplug dryer or disconnect power.
  - Check wire connections at the machine control electronics and thermistor. See Accessing & Removing the Electronic Assemblies, and for thermistor location, see Figure 9.

- If wire connections are OK, check the exhaust thermistor resistance per step 5.
4. If **F-22** or **F-23** does not flash in the display, the connections to the thermistor are good. Therefore, check the exhaust temperature value at any or all of the temperature levels in question, using the Timed Dry cycle, and the following process:  
Hold a glass bulb thermometer capable of reading from 90° to 180°F (32° to 82°C) in the center of the exhaust outlet. The correct exhaust temperatures are as follows:

EXHAUST TEMPERATURES		
TEMPERATURE SETTING	HEAT TURNS OFF* °F (°C)	HEAT TURNS ON °F (°C)
High	155°±5° (68°±3°)	10°–15° (6°–8°) below the heat turn off temperature
Medium	140°±5° (60°±3°)	
Low	125°±5° (52°±3°)	
Extra Low	105°±5° (41°±3°)	

\* The measured overshoot using the glass bulb thermometer in the exhaust outlet can be 30°F (17°C) higher.

5. If the exhaust temperature is not within specified limits, or you have come here from step 3, remove the P4 connector, then measure the resistance between P4-3 (red wire) and P4-6 (red wire) at the connector. See Figure 15, for connector location; and Accessing & Removing the Electronic Assemblies.
  - If the resistance is OK, check P4-3 and P4-6 to machine ground.
  - If resistance is greater than 0 (zero), replace wiring harness.

**NOTE:** All thermistor resistance measurements must be made while dryer is disconnected from power.

The following table gives temperatures and ranges for the associated thermistor resistance values.

EXHAUST THERMISTOR RESISTANCE			
TEMP. °F (°C)	RES. k Ω	TEMP. °F (°C)	RES. k Ω
50°(10°)	19.0–22.0	80°(27°)	8.5–10.5
60°(16°)	14.8–16.8	90°(32°)	6.8–8.8
70°(21°)	11.5–13.5	100°(38°)	5.0–7.0



- If the thermistor resistance does not agree with table, replace the exhaust thermistor.
- If the thermistor resistance checks agree with the measurements in the table, replace the machine control electronics.

## INLET THERMISTOR

The machine control electronics monitors the inlet temperature using an inlet thermistor that is part of the high limit thermostat assembly.

1. Activate the diagnostic test mode.
2. If **F-24** or **F-25** is a displayed error in the diagnostic test mode, the thermistor or wire harness is either open or shorted.
  - Unplug dryer or disconnect power.
  - Check wire connections at the machine control electronics and inlet thermistor. See Accessing & Removing the Electronics Assemblies, and for inlet thermistor location see Figure 9.
  - If wire connections are good, remove the wires from the inlet thermistor/high limit thermostat assembly and replace the assembly.
  - Plug in dryer or reconnect power.
3. If **F-24** or **F-25** is not an error that is displayed in the diagnostic test mode, the connections to the thermistor are good. Therefore, check the thermistor's resistance value, using the following process:
  - Unplug dryer or disconnect power.
  - Access the heater assembly. See Figure 1, and Removing the Back Panel.
  - Hold a glass bulb thermometer capable of reading from 68° to 176°F (20° to 80°C) in the heater assembly.

- Check the resistance of the inlet thermistor. See Figure 9 for the location.

INLET THERMISTOR RESISTANCE			
TEMP. °F (°C)	RES. RANGE k Ω	TEMP. °F (°C)	RES. RANGE k Ω
68°(20°)	61.2–63.7	131°(55°)	14.6–15.3
77°(25°)	49.0–51.0	140°(60°)	12.1–12.8
86°(30°)	39.5–41.1	149°(65°)	10.2–10.7
95°(35°)	32.0–33.3	158°(70°)	8.5–9.0
104°(40°)	26.1–27.2	167°(75°)	7.2–7.6
113°(45°)	21.4–22.3	176°(80°)	6.1–6.5
122°(50°)	17.6–18.5		

The table above shows the resistance values that should be observed for the various temperatures at the heater assembly.

- If the thermistor resistance does not agree with the measurements in the table, replace the inlet thermistor/ high limit thermostat assembly.
- If the thermistor resistance agrees with the measurements in the table, replace the machine control electronics.

## TEST #4b Thermal Fuse

The thermal fuse is wired in series with the dryer drive motor.

1. Unplug dryer or disconnect power.
2. Access the thermal fuse by first removing the back panel. See Removing the Back Panel; and for thermal fuse location see Figure 9.
3. Using an ohmmeter, check the continuity across the thermal fuse.
  - If the ohmmeter indicates an open circuit, replace the failed thermal fuse.

### TEST #4c Thermal Cut-Off

If the dryer does not produce heat, check the status of the thermal cut-off.

1. Unplug dryer or disconnect power.
2. Access the thermal cut-off by first removing the back panel. See Removing the Back Panel.
3. Using an ohmmeter, check the continuity across the thermal cut-off. See Figure 9 for location.
  - If the ohmmeter indicates an open circuit, replace the failed thermal cut-off and inlet thermistor/high limit thermostat. In addition, check for blocked or improper exhaust system, or failed heat element.

### TEST #5 Moisture Sensor

**NOTE:** This test is started with the machine completely assembled.

This test is performed when an automatic cycle stops too soon, or runs much longer than expected.

**NOTE:** Dryer will shut down automatically after 2-1/2 hours.

The following items are part of this system:

- Harness/connection
  - Metal sensor strips
  - Machine control electronics
1. Activate the diagnostic test mode and advance past saved fault codes.
  2. Open the dryer door. If a continuous beep tone is heard and an alphanumeric number is displayed on the console as soon as the door is opened, a short circuit exists in the moisture sensor system.
    - If this doesn't happen, go to step 3.
    - Otherwise, go to step 4.

**NOTE:** Over drying may be caused by a short circuit in the sensor system.

3. Locate the two metal sensor strips on the inside of the dryer. Bridge these strips with a wet cloth or finger.
  - If a continuous beep tone is heard and a software revision number is displayed on the console, the sensor passes the test. Go to step 8.
  - If not, continue with step 4.
4. Access the moisture sensor wires:
  - Remove the back panel. See Removing the Back Panel.
  - Remove the lint screen.
  - Remove the two screws holding the lint screen duct to the top.
  - Remove four screws from bottom of the duct in rear. See Figure 9.
  - Remove the duct from the dryer to access the moisture sensor.
  - Disconnect the sensor connector. See Figure 10.

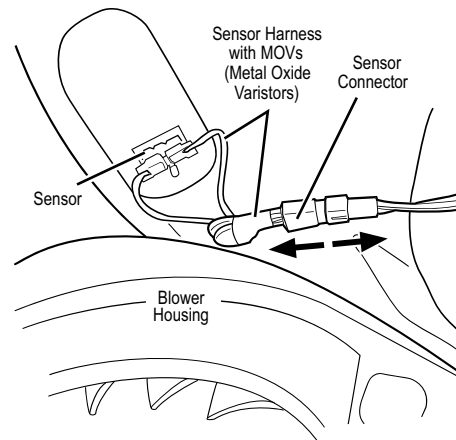
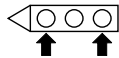


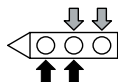
Figure 10. Disconnect sensor connector.

5. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies. Remove the connector P13 from the circuit board. Check the main harness connections between the sensor connector and machine control for a short or open circuit.
  - Replace the main harness if necessary.
  - If harness is OK, continue with step 6.

6. Measure the resistance across the outermost contacts of the sensor connector that includes the two MOVs.



- If a small resistance is measured, check for debris across moisture strips inside of the drum; clean if debris is present. If debris is not present, replace sensor harness with MOVs.
  - Otherwise go to step 7.
7. Measure the resistance across each of the outermost contacts and the center terminal (ground connection).



- If a resistance less than infinity is measured, replace the sensor harness with MOVs.
8. If moisture sensor diagnostic test passes, check the thermistor: Perform TEST #4a.
    - If the problem persists after replacing the moisture sensor, harness with MOVs and thermistor, replace the machine control electronics.

### TEST #6 Buttons and Indicators

This test is performed when any of the following situations occurs during the Console Buttons and Indicators Diagnostic Test:

- None of the indicators light up
- No beep sound is heard
- Some buttons do not light indicators

#### None of the indicators light up:

1. See Diagnostic Guide/Before Servicing.
2. Perform TEST #1 to verify supply connections.
3. Perform TEST #2.

4. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check that the P5 connector is inserted all the way into the machine control electronics.
5. Visually check the user interface assembly connections.
6. If both visual checks pass, replace the user interface assembly.
7. Plug in dryer or reconnect power.
8. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
9. If indicators still do not light, the machine control electronics has failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.

#### No beep sound is heard:

1. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check that the P5 connector is inserted all the way into the machine control electronics.
  - If visual check passes, replace the user interface assembly.
2. Plug in dryer or reconnect power.
3. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
4. If replacing the user interface assembly failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.

### Some buttons do not light indicators:

1. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check the user interface assembly connections.
  - If visual check passes, replace the user interface assembly.
2. Plug in dryer or reconnect power.
3. Perform the Console Buttons and Indicators Diagnostics test to verify repair.

### TEST #7 Door Switch

Activate the diagnostic test mode and perform the Door Switch Diagnostic test.

Functionality is verified with a beep each time the door is closed and opened, and a number and letter appears in the display (i.e., **0E**, **09**).

If any of the above conditions are not met:

- Unplug dryer or disconnect power.
- Check that the wires between the door switch and machine control electronics are connected. See Figure 11 for switch location, and see Removing the Front Panel/Drum Assembly.
- If the connections are OK, replace the door switch assembly and retest.
- If the door switch assembly has been replaced and dryer still does not start, replace the machine control electronics.

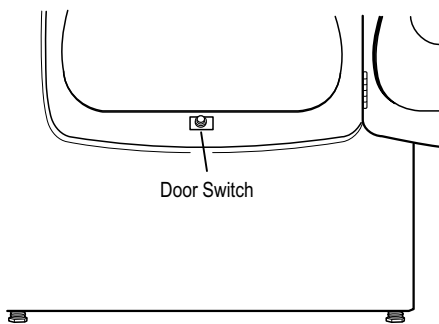


Figure 11. Door switch location.

## ADJUSTING CUSTOMER-FOCUSED DRYING MODES

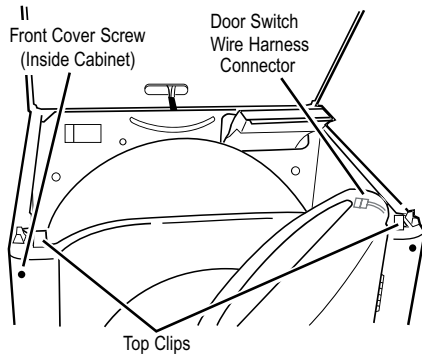
**NOTE:** If the customer is complaining about the clothes being damp and the moisture sensor passes TEST #5, step 3, the total dry time for an automatic cycle can be lengthened by changing from a “1” (standard auto cycle) to a “2” (15% more drying time) or “3” (20% more drying time) auto cycle.

1. Press and hold the Dryness button for 5 seconds. The dryer will beep and display **CF** for one second, then the current drying mode will be seen on the display. The factory default value is “1”.
2. To select a different drying mode, press the Dryness button again. The dryer display will flash and show the available settings.
3. With the display flashing the selected drying mode, press the Start button to save the drying mode and exit (the Start button in this mode does not start a drying cycle). The result will be stored in EEPROM of the control board, and will be retained after a power loss.
4. Press the Pause/Cancel button at any time to cancel changes and exit from this mode.

## REMOVING THE FRONT PANEL/DRUM ASSEMBLY

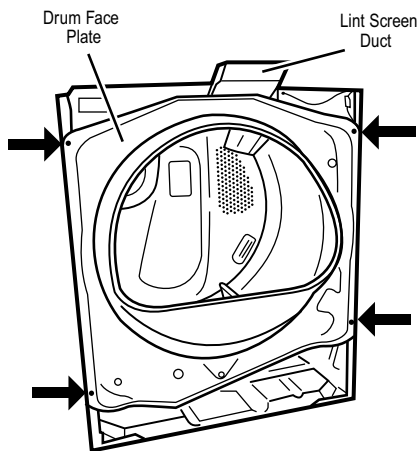
1. Unplug dryer or disconnect power.
2. Remove the lint screen.
3. Remove the two screws holding the lint screen duct to the top.
4. Open the door.

5. Push on the retaining clips located under top of dryer on the right and left side using a flat object such as a putty knife. See Figure 12.



**Figure 12.** Slowly rotate top backwards and support.

6. Slowly rotate top backwards and lean against wall, or support with a prop rod.
7. Disconnect the door switch wire harness located on the right side. See Figure 12.
8. Remove the front panel/door assembly by removing the two front cover screws at the top of the panel inside the cabinet, and lifting upward.
9. Remove the front bulkhead by loosening the upper two screws and removing the lower two screws. See Figure 13.



**Figure 13.** Remove the front bulkhead.

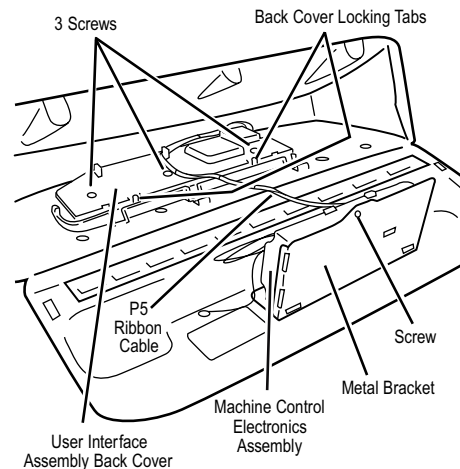
10. Lower components can be accessed at this time, however, if the drum is to be removed, the belt must be removed. See TEST #3, step 5.

## REINSTALLING THE FRONT PANEL/ DRUM ASSEMBLY

Refer to preceding removal sections and replace in reverse order.

## ACCESSING & REMOVING THE ELECTRONIC ASSEMBLIES

There are two electronic assemblies; the user interface electronics, and the machine control electronics. See Figures 14 and 15.



**Figure 14.** Locate the electronic assemblies.

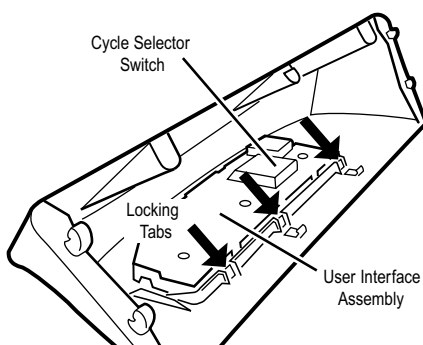
1. Unplug dryer or disconnect power.
2. Remove two screws from the rear of the console assembly. Pull console towards front of dryer to hinge open and/or remove console.

## REMOVING THE MACHINE CONTROL ELECTRONICS

3. Remove the wire connections to the machine control assembly.
4. Remove the one screw holding the machine control assembly to the metal bracket. See Figure 14.
5. Push in on the tab located on the back of the machine control to slide it off the bracket.

## REMOVING THE USER INTERFACE ASSEMBLY

- Remove the wire connections from the user interface assembly, including the P5 ribbon cable. See Figure 14.
- Remove the cycle selector knob from the front of the console by firmly pulling on it or carefully prying straight upward.
- The user interface assembly is held to the console insert panel by three screws and two locking tabs. After the screws are removed, lift each of the locking tabs to remove the back cover of the user interface assembly. See Figure 14.
- Remove the cycle selector switch from the user interface assembly opening by lifting the locking tab on the cycle selector switch and turning the selector switch in a counterclockwise direction. See Figure 16.
- Locking tabs located at the bottom of the console insert panel secure the user interface assembly to the console insert panel. Using a flat-blade screwdriver, gently apply pressure to the locking tabs to release the user interface assembly. See Figure 16.



**Figure 16.** Gently apply pressure to locking tabs to release the user interface assembly.

## REINSTALLING THE ELECTRONIC ASSEMBLIES

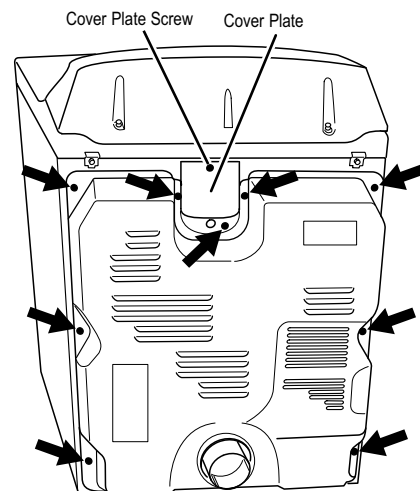
Refer to preceding removal sections and replace in reverse order.

**NOTE:** When replacing the cycle selector switch, make sure that the shaft is positioned through the center of the shaft seal that is captive between the decorative overlay and the console insert panel.

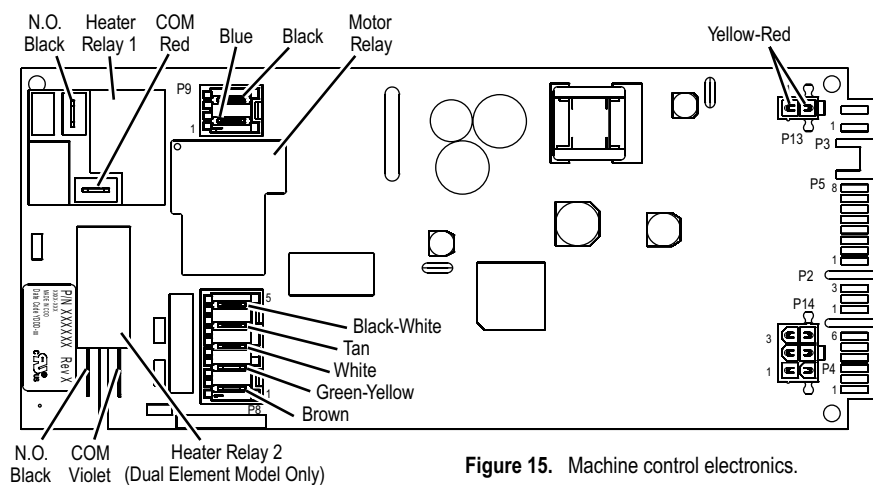
**NOTE:** When reconnecting wire connections, be sure to route the user interface wires beneath the retainer clips on the user interface back cover.

## REMOVING THE BACK PANEL

- Unplug dryer or disconnect power.
- Remove the cover plate screw and cover plate. See Figure 17.
- Remove the nine rear screws from the back panel, then remove panel.



**Figure 17.** Remove screws.



**Figure 15.** Machine control electronics.



# Gas Dryers

## ⚠ WARNING



### Electrical Shock Hazard

Disconnect power before servicing.  
 Replace all parts and panels before operating.  
 Failure to do so can result in death or electrical shock.

## DISPLAY FAULT CODES

The fault codes below would be indicated when attempting to start a drying cycle or after activating the diagnostic test mode.

DISPLAY	DESCRIPTION	EXPLANATION / RECOMMENDED PROCEDURE
<b>PF</b>	Power Failure	<b>PF</b> flashes to indicate that a power failure occurred while the dryer was running. Press START to continue the cycle, or press PAUSE/CANCEL to clear the display.
<b>F-01</b>	Primary Control Failure	<b>F-01</b> flashes when there is a primary control failure. Replace the machine control electronics. See Accessing & Removing the Electronic Assemblies.

DISPLAY	DESCRIPTION	EXPLANATION / RECOMMENDED PROCEDURE
<b>F-02</b>	Keypad/ User Interface Failure	<b>F-02</b> flashes when there is a stuck button or user interface mismatch. This fault code will ONLY appear when in the diagnostic test mode. See TEST #6.
<b>F-22</b>	Exhaust Thermistor Open	<b>F-22</b> flashes if the exhaust thermistor is open. See TEST #4a.
<b>F-23</b>	Exhaust Thermistor Shorted	<b>F-23</b> flashes if the exhaust thermistor has shorted. See TEST #4a.
<b>F-26</b>	Motor Drive System Failure	<b>F-26</b> flashes if there is a motor drive system failure. See TEST #3.
<b>F-28</b>	Moisture Sensor Open	<b>F-28</b> flashes if the moisture sensor strip is open. This fault code will ONLY appear when in the diagnostic test mode. See TEST #5.
<b>F-29</b>	Moisture Sensor Shorted	<b>F-29</b> flashes if the moisture sensor strip has shorted. This fault code will ONLY appear when in the diagnostic test mode. See TEST #5.

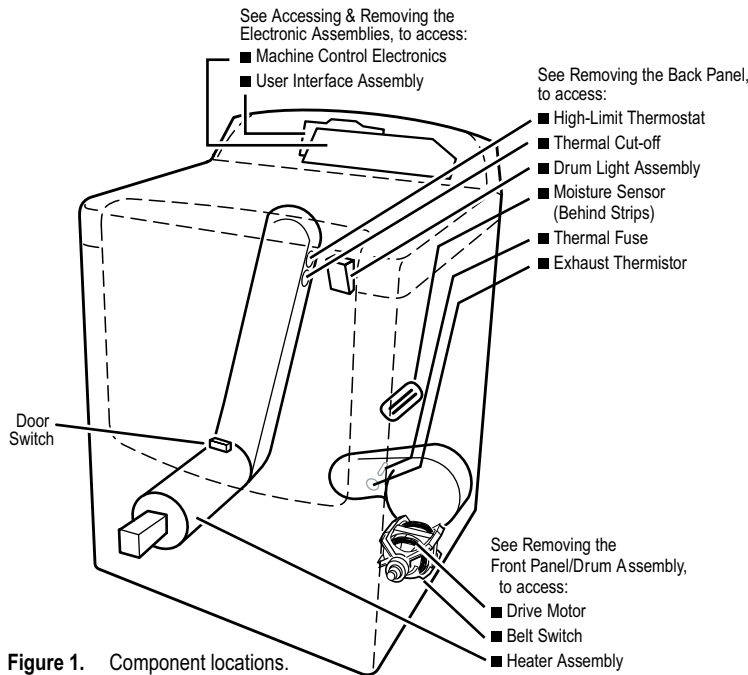


Figure 1. Component locations.

## DIAGNOSTIC GUIDE

Before servicing, check the following:

- Make sure there is power at the wall outlet.
- 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 (volt-ohm-milliammeter) or DVM (digital-voltmeter) 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.
- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- 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 must be made with dryer unplugged or power disconnected.

## DIAGNOSTIC TESTS

These tests allow factory or service personnel to test and verify all inputs to the machine control electronics. You may want to do a quick and overall checkup of the dryer with these tests before going to specific troubleshooting tests.

### ACTIVATING THE DIAGNOSTIC TEST MODE

1. Be sure the dryer is in standby mode (plugged in with all indicators off, or with only the Clothes Dry indicator on).
2. Select any one button (except Pause/Cancel) and follow the steps below, using the same button (remember the button):

Press/hold 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 seconds → Release for 2-5 seconds → Press/hold 2-5 seconds

3. If this test mode has been entered successfully, all indicators on the console are illuminated for 5 seconds with **88** showing in the Estimated Time Remaining two-digit display.

### DIAGNOSTIC: Unsuccessful Entry

If entry into diagnostic mode is unsuccessful, press the Pause/Cancel button twice, then press the Power button.

- If indicators come on, try to use a different button than was used to activate the diagnostic test mode. If that button fails to enter the diagnostic mode, something is faulty, and it is not possible to enter the diagnostic mode. Go to TEST #2.
- If no indicators come on after pressing the Power button, go to TEST #1.

### DIAGNOSTIC: Saved Fault Codes

If there are saved fault codes, the most recent fault code will alternately show “F-” and “XX” where XX is the fault code.

Press and release the same button used to activate Diagnostics	→ beep tone →	Second most recent fault code is displayed.
Repeat	→ beep tone →	Third most recent fault code is displayed.
Repeat	→ beep tone →	Fourth most recent fault code is displayed.
Repeat	→	All indicators momentarily turn off, then stay on.

### DIAGNOSTIC: Console Buttons And Indicators

Pressing the console buttons or rotating the cycle selector will sound a beep and will turn on or off the corresponding indicators as shown in Figure 2, Console Diagnostics. Pressing Time Adjust (more time) will sound a beep and turn the left digit of the display on or off. Pressing Time Adjust (less time) will sound a beep and turn the right digit of the display on or off.

- If indicators fail to turn on or off and beep after pressing buttons or rotating the cycle selector, go to TEST #6.

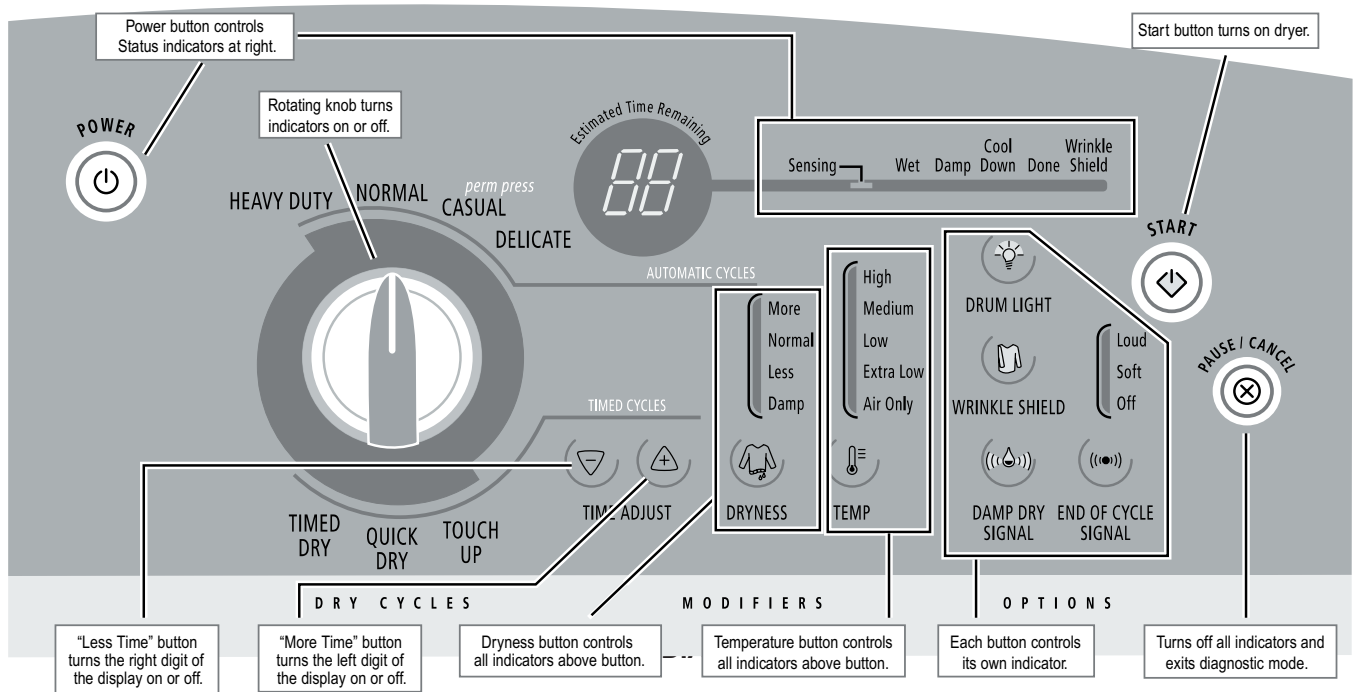


Figure 2. Console Diagnostics.

### DIAGNOSTIC: Door Switch

Opening the door should cause a beep and an alphanumeric number to be displayed. Closing the door should cause a beep and **88** to be displayed.

- If opening the door fails to cause a beep and a number and letter to be displayed, go to TEST #7.

### DIAGNOSTIC: Moisture Sensor

Open the door and locate two metal strips on the inside of the dryer. Bridge these strips with a wet cloth or a finger.

- If a continuous beep tone is heard and an alphanumeric number is displayed on the console, the sensor is OK.
- If not, or if a continuous beep tone is heard before bridging the moisture strips, go to TEST #5.

### DIAGNOSTIC: Motor, Heater, And Console ID

Close the door. Press the Start button. The motor and heater will turn on, and the display will show one of the following console IDs: **C0, C1, C2, C3, C4, C5, C6, C7, C8, or C9.**

- If none of the Console IDs above are displayed, replace the user interface assembly. See Accessing & Removing the Electronic Assemblies.
- If the motor does not turn on, go to TEST #3.
- If no heat is detected, go to TEST #4.

## DIAGNOSTIC: Displaying Line Voltage

Used to display the line voltage currently being measured by the machine control:

After all saved fault codes have been displayed, press the Cycle Signal button. The last 2 digits of the voltage value will be displayed on the dual 7-segment display.

A Dryness modifier LED will also be illuminated to indicate the voltage range corresponding to the number displayed. The Dryness LEDs relate to specific voltage ranges as follows:

- The More LED will be illuminated for high voltage readings (above 132 VAC).
- The Normal LED will be illuminated for normal voltage readings (90-132 VAC).
- The Less LED will be illuminated for low voltage readings (below 90 VAC).

## DEACTIVATING THE DIAGNOSTIC TEST MODE

Press the Pause/Cancel button twice to exit diagnostics.

## ACTIVATING THE MANUAL LOAD TEST

1. Be sure the dryer is in standby mode (plugged in with all indicators off, or with only the Clothes Dry indicator on).
2. Select any one button (except Pause/Cancel) and follow the steps below, using the same button (remember the button):

Press/ hold 2-5 seconds	→	Release for 2-5 seconds	→	Press/ hold 2-5 seconds	→	Release for 2-5 seconds	→	Press/ hold 2-5 seconds	→	Release for 2-5 seconds	→	Press/ hold 2-5 seconds
-------------------------------	---	-------------------------------	---	-------------------------------	---	-------------------------------	---	-------------------------------	---	-------------------------------	---	-------------------------------

**88** flashes momentarily, the motor starts right away, and the Heavy Duty LED flashes (this step starts the Manual Load sequence):

- 
1. Turn on motor. → Flash "Heavy Duty" LED.
- 

Now press any key (except Pause/Cancel) and the control will advance through each step of the following sequence:

- 
2. Motor + heater. → Flash "Casual" LED.
  3. No loads on (motor + heater off). → Flash "Normal" LED.
  4. Repeat using same button. → Start sequence again at 1.
- 

## DEACTIVATING THE MANUAL LOAD TEST

Press the Pause/Cancel button to exit this mode.

## TROUBLESHOOTING GUIDE

Some tests will require accessing components. See Figure 1 for component locations.

PROBLEM	POSSIBLE CAUSE / TEST
<b>NOTE:</b> Possible Cause/Tests MUST be performed in the sequence shown for each problem.	
<b>WON'T POWER UP.</b> (No response when buttons are pressed.)	<ol style="list-style-type: none"> <li>1. Supply connections. See TEST #1.</li> <li>2. Check harness connections.</li> <li>3. User interface assembly. See TEST #6.</li> </ol>
<b>WON'T START CYCLE WHEN START BUTTON IS PRESSED.</b>	<ol style="list-style-type: none"> <li>1. If number display flashes, check to be sure the door is completely shut, and press and hold down START for about 1 second.</li> <li>2. See TEST #3.</li> <li>3. See TEST #7.</li> </ol>
<b>WON'T SHUT OFF WHEN EXPECTED.</b>	<ol style="list-style-type: none"> <li>1. Check Pause/Cancel button. See TEST #6.</li> <li>2. User interface assembly. See TEST #6.</li> <li>3. Moisture sensor. See TEST #5.</li> </ol>
<b>CONTROL WON'T ACCEPT SELECTIONS.</b>	User interface assembly. See TEST #6.
<b>WON'T HEAT.</b>	<ol style="list-style-type: none"> <li>1. Heater. See TEST #4.</li> <li>2. Check harness connections.</li> <li>3. Check installation.</li> </ol>
<b>HEATS IN AIR CYCLE.</b>	Heater. See TEST #4.
<b>SHUTS OFF BEFORE CLOTHES ARE DRY.</b>	<ol style="list-style-type: none"> <li>1. Check the dryness setting for auto cycles.</li> <li>2. Check for full lint screen.</li> <li>3. Check for clogged vent.</li> <li>4. Moisture sensor. See TEST #5.</li> <li>5. Dryness adjust. See Adjusting Customer-Focused Drying Modes.</li> </ol>

## TROUBLESHOOTING TESTS

**NOTE:** These checks are done with the dryer unplugged or disconnected from power.

### TEST #1 Supply Connections

This test should only be done after confirming proper voltage at the outlet.

1. Unplug dryer or disconnect power.
2. Remove the cover plate from the back of the dryer. See Figure 3.

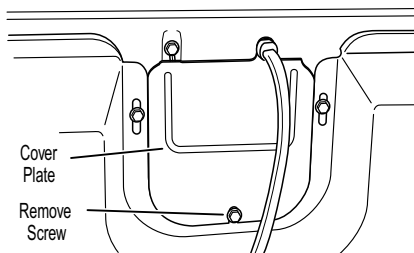


Figure 3. Remove the cover plate.

3. Check that the power cord is firmly connected to the dryer's wire harness. See Figure 4.

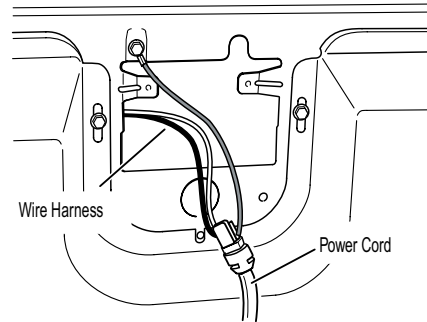


Figure 4. Power cord-to-wire harness connection.

4. Access the machine control electronics without disconnecting any wiring to the control board. See Accessing & Removing the Electronic Assemblies.
5. With an ohmmeter, check for continuity between the neutral (N) terminal of the plug and P8-3 (white wire) on the machine control board. The left-hand side of figure 5 shows the position of the neutral terminal (N) on the power cord plug. Also see Figure 16.

- If there is continuity, go to step 6.
- If there is no continuity, disconnect the white wire of the harness from the power cord at the location illustrated in Figure 4. Test the continuity of the power cord neutral wire as illustrated in Figure 5. If an open circuit is found, replace the power cord. Otherwise, go to step 6.

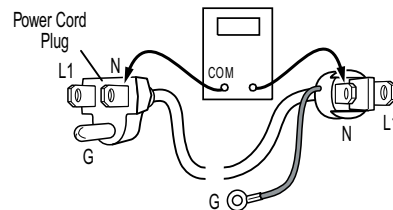


Figure 5. Plug-to-terminal connections.

6. In a similar way, check the continuity between the L1 terminal of the plug and P9-2 (black wire) on the control board. See Figure 16.
  - If there is continuity, go to step 8.
  - If there is no continuity, check the continuity of the power cord in a similar way to that illustrated in Figure 5, but for power cord's L1 wire.
  - If an open circuit is found, replace the power cord. Otherwise, go to step 7.
7. Replace the main harness.
8. Visually check that the P5 connector is inserted all the way into the machine control electronics.
9. Visually check that the user interface assembly is properly inserted into the front console.
10. If both visual checks pass, replace the user interface assembly.
11. Plug in dryer or reconnect power.
12. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
13. If indicators still do not light, the machine control electronics has failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.

### **TEST #2 Machine Control Power Check**

This test is used to determine if power is present at the machine control electronics.

**NOTE:** The drum light is controlled by the machine control on all models.

1. Plug in dryer or reconnect power.
2. Open the door.

- If the drum light illuminates, then power is present at the machine control, and it is functional. Go to TEST #6.
- If the drum light fails to illuminate, do not assume the machine control electronics needs replacement. Several conditions may cause the drum light not to illuminate, including a bad bulb. If the drum light does not illuminate, go to TEST #1.

### **TEST #3 Drive Motor Circuit**

This test will check the wiring to the motor and the motor itself. The following items are part of this motor system:

- Harness/connection
  - Belt/belt switch
  - Drive motor
  - Centrifugal switch
  - Door switch
  - Machine control electronics
1. Unplug dryer or disconnect power.
  2. Access the machine control electronics and measure the resistance across P8-4 and P9-1. See Accessing & Removing the Electronic Assemblies.
    - If resistance across P8-4 and P9-1 is in the range of 1 to 6 ohms, replace the machine control electronics.
    - Otherwise, go to step 3.
  3. Check the wiring and components in the path between these measurement points by referring to the appropriate wiring diagram and strip circuit in Section 7.
  4. Check the belt switch and drive motor. Access the belt switch and drive motor by removing the front panel/drum assembly. See Removing the Front Panel/Drum Assembly. Slowly remove the drum belt from the spring-loaded belt switch tension pulley, gently letting the belt pulley down. See Figure 6 on the next page.



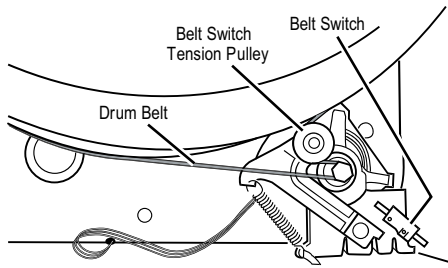


Figure 6. Slowly remove drum belt.

- Remove the white connector from the drive motor switch. See Figure 7.

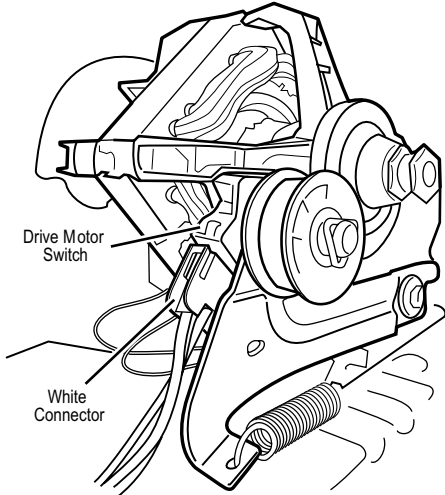


Figure 7. Remove white connector.

- Using Figure 8, check for the resistance values of the motor's Main and Start winding coils as shown in the following table.

**NOTE:** Main and Start winding coils must be checked at the motor.

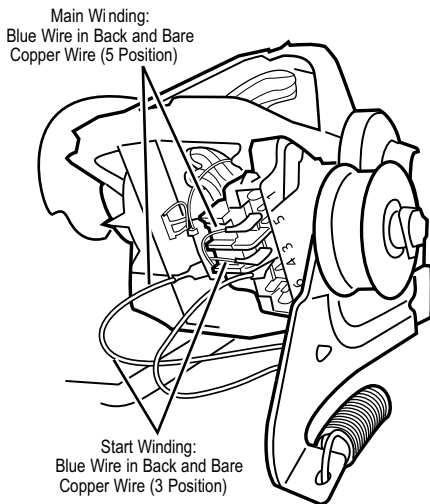


Figure 8. Main and start winding measure points.

WINDING	RESISTANCE $\Omega$	CONTACT POINTS OF MEASUREMENT
MAIN	1.4–2.6	Blue wire in back at pin 4 and bare copper wire on pin 5 of black drive motor switch
START	1.4–2.8	Blue wire in back at pin 4 and bare copper wire on pin 3 of black drive motor switch

- If the resistance at the motor is correct, there is an open circuit between the motor and machine control electronics. Check for failed belt switch.
- If the Start winding resistance is much greater than 4 ohms, replace the motor.

- Check the belt switch by measuring resistance between the two blue wires, as shown in Figure 9, while pushing up the belt switch tension pulley.

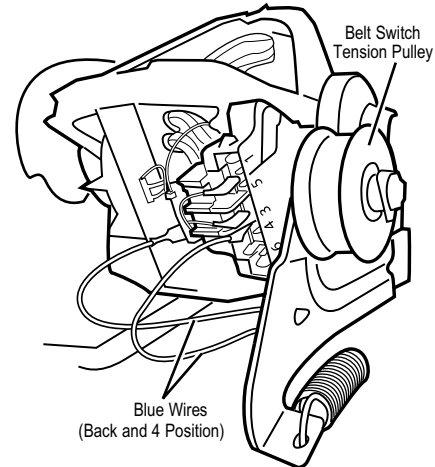


Figure 9. Checking the belt switch.

- If the resistance reading goes from infinity to a few ohms as pulley arm closes the switch, belt switch is OK. If not, replace the belt switch.
  - If belt switch is OK and there is still an open circuit, check and repair the wiring harness.
- Door switch problems can be uncovered in the Door Switch Diagnostic Test; however, if this was not done, the following can be done without applying power to the dryer. Connect an ohmmeter across P8-3 (neutral, white wire) and P8-4 (door, tan wire).

- With the door properly closed, the ohm-meter should indicate a closed circuit (0–2 ohms).
- If not, replace the door switch assembly. See Figure 12, and Removing the Front Panel/Drum Assembly.

### TEST #4 Heater

This test is performed when either of the following situations occur:

- Dryer does not heat
- Heat will not shut off

This test checks the components making up the heating circuit. The following items are part of this system:

- Harness/connection
- Heater relay
- Thermal cut-off
- Thermal fuse
- High limit thermostat
- Gas burner assembly
- Centrifugal switch
- Exhaust thermistor
- Machine control electronics
- Gas supply

### Dryer does not heat:

Locate the components using Figure 1 and Figure 10.

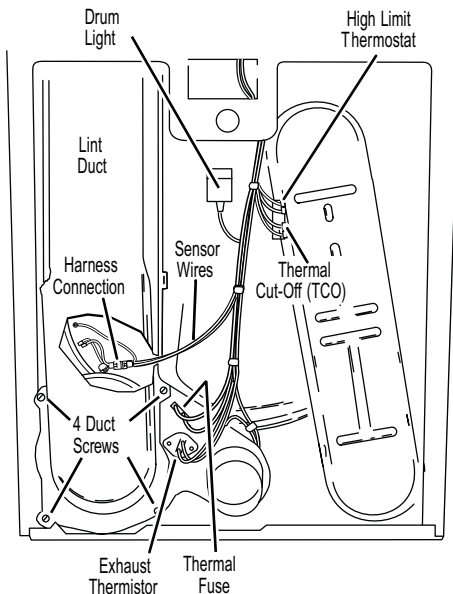


Figure 10. Thermal components, viewed from rear.

1. Unplug dryer or disconnect power.
2. Remove the back panel to access the thermal components. See Removing the Back Panel.
3. Perform TEST #4b. If the thermal fuse is OK, go to step 4.
4. Perform TEST #4c. If the thermal cut-off is OK, go to step 5.
5. Locate the high limit thermostat. See Figure 10. Measure the continuity through it by connecting the meter probes on the red wire and blue wire terminals.
  - If there is an open circuit, replace the high limit thermostat and thermal cut-off.
  - Otherwise, go to step 6.
6. Perform TEST #4d. If this is OK, replace the machine control electronics.

### Heat will not shut off:

1. Unplug dryer or disconnect power.
2. Access the machine control electronics, remove the P14 connector, then measure the resistance between P14-3 (red-white wire) and P14-6 (red-white wire) at the connector. See Figure 16, for connector location; and Accessing & Removing the Electronic Assemblies.

- If 5–15 k ohms are measured, replace the machine control electronics.
- If the resistance is greater than 20 k ohms, replace the exhaust thermistor.

### TEST #4a Exhaust Thermistor

The machine control electronics monitors the exhaust temperature using the exhaust thermistor, and cycles the heater relay on and off to maintain the desired temperature.

Begin with an empty dryer and a clean lint screen.

1. Plug in dryer or reconnect power.
2. Start the Timed Dry cycle.

3. If after 60 seconds, **F-22** or **F-23** flashes in the display and the dryer shuts off, the thermistor or wire harness is either open or shorted.
  - Unplug dryer or disconnect power.
  - Check wire connections at the machine control electronics and thermistor. See Accessing & Removing the Electronic Assemblies, and for thermistor location see Figure 10.
  - If wire connections are OK, check exhaust thermistor resistance per step 5.
4. If **F-22** or **F-23** does not flash in the display, the connections to the thermistor are good. Therefore, check the exhaust temperature value at any or all of the temperature levels in question, using the Timed Dry cycle, and the following process:

Hold a glass bulb thermometer capable of reading from 90° to 180°F (32° to 82°C) in the center of the exhaust outlet. The correct exhaust temperatures are as follows:

EXHAUST TEMPERATURES		
TEMPERATURE SETTING	HEAT TURNS OFF* °F (°C)	HEAT TURNS ON °F (°C)
High	155°±5° (68°±3°)	10°-15° (6°-8°) below the heat turn off temperature
Medium	140°±5° (60°±3°)	
Low	125°±5° (52°±3°)	
Extra Low	105°±5° (41°±3°)	

\* The measured overshoot using the glass bulb thermometer in the exhaust outlet can be 30°F (17°C) higher.

5. If the exhaust temperature is not within specified limits, or you have come here from step 3, remove the P14 connector, then measure the resistance between P14-3 (red-white wire) and P14-6 (red-white wire) at the connector. See Figure 16, for connector location; and Accessing & Removing the Electronic Assemblies.
  - If the resistance is OK, check P14-3 and P14-6 to machine ground.
  - If resistance is greater than 0 (zero), replace wiring harness.

**NOTE:** All thermistor resistance measurements must be made while dryer is disconnected from power.

The following table gives temperatures and ranges for the associated thermistor resistance values.

EXHAUST THERMISTOR RESISTANCE			
TEMP. °F (°C)	RES. k Ω	TEMP. °F (°C)	RES. k Ω
50°(10°)	19.0-22.0	80°(27°)	8.5-10.5
60°(16°)	14.8-16.8	90°(32°)	6.8-8.8
70°(21°)	11.5-13.5	100°(38°)	5.0-7.0

- If the thermistor resistance does not agree with table, replace the exhaust thermistor.
- If the thermistor resistance checks agree with the measurements in the table, replace the machine control electronics.

### TEST #4b Thermal Fuse

The thermal fuse is wired in series with the dryer drive motor.

1. Unplug dryer or disconnect power.
2. Access the thermal fuse by first removing the back panel. See Removing the Back Panel, and for thermal fuse location see Figure 10.
3. Using an ohmmeter, check the continuity across the thermal fuse.
  - If the ohmmeter indicates an open circuit, replace the failed thermal fuse.

### TEST #4c Thermal Cut-Off

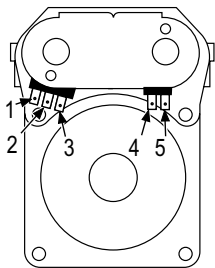
If the dryer does not produce heat, check the status of the thermal cut-off.

1. Unplug dryer or disconnect power.
2. Access the thermal cut-off by first removing the back panel. See Removing the Back Panel.
3. Using an ohmmeter, check the continuity across the thermal cut-off. See Figure 10 for location.
  - If the ohmmeter indicates an open circuit, replace the failed thermal cut-off and high limit thermostat. In addition, check for blocked or improper exhaust system.

### TEST #4d Gas Valve

1. Unplug dryer or disconnect power.
2. Access the gas valve by removing the front panel and drum assembly. See Removing the Front Panel/Drum Assembly.
3. 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 chart. If not, replace the coil.

Terminals	Resistance $\Omega$
1 to 2	1365 $\pm$ 25
1 to 3	560 $\pm$ 25
4 to 5	1220 $\pm$ 50



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

### TEST #5 Moisture Sensor

**NOTE:** This test is started with the machine completely assembled.

This test is performed when an automatic cycle stops too soon, or runs much longer than expected.

**NOTE:** Dryer will shut down automatically after 2-1/2 hours.

The following items are part of this system:

- Harness/connection
  - Metal sensor strips
  - Machine control electronics
1. Activate the diagnostic test mode and advance past saved fault codes.
  2. Open the dryer door. If a continuous beep tone is heard and an alphanumeric number is displayed on the console as soon as the door is opened, a short circuit exists in the moisture sensor system.
    - If this doesn't happen, go to step 3.
    - Otherwise, go to step 4.

**NOTE:** Over drying may be caused by a short circuit in the sensor system.

3. Locate the two metal sensor strips on the inside of the dryer. Bridge these strips with a wet cloth or finger.
  - If a continuous beep tone is heard and a software revision number is displayed on the console, the sensor passes the test. Go to step 8.
  - If not, continue with step 4.
4. Access the moisture sensor wires:
  - Remove the back panel. See Removing the Back Panel.
  - Remove the lint screen.
  - Remove the two wires holding the lint screen to the top.
  - Remove the four screws from bottom of the duct in rear. See Figure 10.
  - Remove the duct from the dryer to access the moisture sensor.
  - Disconnect the sensor connector. See Figure 11.

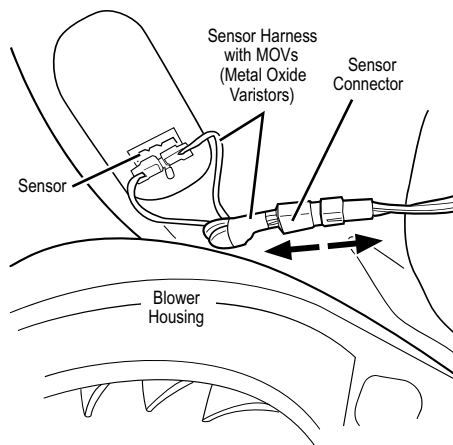
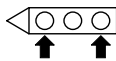
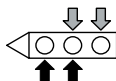


Figure 11. Disconnect sensor connector.

5. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies. Remove the connector P13 from the circuit board. Check the main harness connections between the sensor connector and machine control for a short or open circuit.
  - Replace the main harness if necessary.
  - If the harness is okay, continue with step 6.
6. Measure the resistance across the outermost contacts of the sensor connector that includes the two MOVs.



- If a small resistance is measured, check for debris across moisture strips inside of the drum; clean if debris is present. If debris is not present, replace sensor harness with MOVs.
  - Otherwise go to step 7.
7. Measure the resistance across each of the outermost contacts and the center terminal (ground connection).



- If a resistance less than infinity is measured, replace the sensor harness with MOVs.

8. If moisture sensor diagnostic test passes, check the thermistor: Perform TEST #4a.
  - If the problem persists after replacing the moisture sensor, harness with MOVs and thermistor, replace the machine control electronics.

### TEST #6 Buttons and Indicators

This test is performed when any of the following situations occurs during the Console Buttons and Indicators Diagnostic Test:

- None of the indicators light up
- No beep sound is heard
- Some buttons do not light indicators

#### None of the indicators light up:

1. See Diagnostic Guide/Before Servicing.
2. Perform TEST #1 to verify supply connections.
3. Perform TEST #2.
4. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check that the P5 connector is inserted all the way into the machine control electronics.
5. Visually check the user interface assembly connections.
6. If both visual checks pass, replace the user interface assembly.
7. Plug in dryer or reconnect power.
8. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
9. If indicators still do not light, the machine control electronics has failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.



### No beep sound is heard:

1. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check that the P5 connector is inserted all the way into the machine control electronics.
  - If visual check passes, replace the user interface assembly.
2. Plug in dryer or reconnect power.
3. Perform the Console Buttons and Indicators Diagnostic test to verify repair.
4. If replacing the user interface assembly failed:
  - Unplug dryer or disconnect power.
  - Replace the machine control electronics.
  - Plug in dryer or reconnect power.
  - Perform the Console Buttons and Indicators Diagnostic test to verify repair.

### Some buttons do not light indicators:

1. Perform steps in Accessing & Removing the Electronic Assemblies, and visually check the user interface assembly connections.
  - If visual check passes, replace the user interface assembly.
2. Plug in dryer or reconnect power.
3. Perform the Console Buttons and Indicators Diagnostics test to verify repair.

### TEST #7 Door Switch

Activate the diagnostic test mode and perform the Door Switch Diagnostic test.

Functionality is verified with a beep each time the door is closed and opened, and a number and letter appears in the display (i.e., **0E**, **09**).

If any of the above conditions are not met:

- Unplug dryer or disconnect power.
- Check that the wires between the door switch and machine control electronics are connected. See Figure 12 for switch location, and see Removing the Front Panel/Drum Assembly.

- If the connections are OK, replace the door switch assembly and retest.
- If the door switch assembly has been replaced and dryer still does not start, replace the machine control electronics.

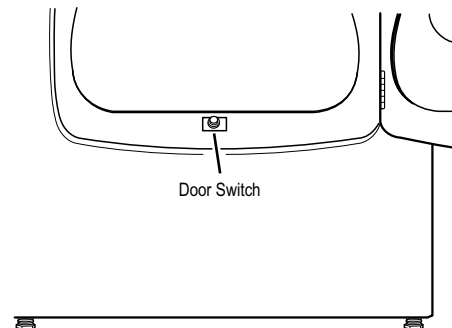


Figure 12. Door switch location.

## ADJUSTING CUSTOMER-FOCUSED DRYING MODES

**NOTE:** If the customer is complaining about the clothes being damp and the moisture sensor passes TEST #5, step 3, the total dry time for an automatic cycle can be lengthened by changing from a “1” (standard auto cycle) to a “2” (15% more drying time) or “3” (20% more drying time) auto cycle.

1. Press and hold the Dryness button for 5 seconds. The dryer will beep and display **CF** for one second, then the current drying mode will be seen on the display. The factory default value is “1”.
2. To select a different drying mode, press the Dryness button again. The dryer display will flash and show the available settings.
3. With the display flashing the selected drying mode, press the Start button to save the drying mode and exit (the Start button in this mode does not start a drying cycle). The result will be stored in EEPROM of the control board, and will be retained after a power loss.
4. Press the Pause/Cancel button at any time to cancel changes and exit from this mode.



## REMOVING THE FRONT PANEL/DRUM ASSEMBLY

1. Unplug dryer or disconnect power.
2. Remove the lint screen.
3. Remove the two screws holding the lint screen duct to the top.
4. Open the door.
5. Push on the retaining clips located under top of dryer on the right and left side using a flat object such as a putty knife. See Figure 13.

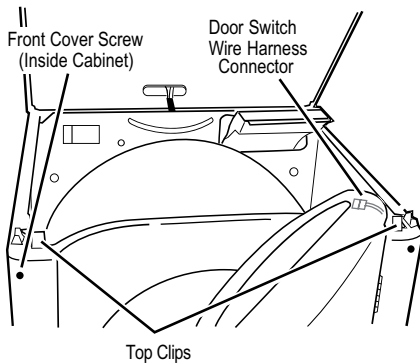


Figure 13. Slowly rotate top backwards and support.

6. Slowly rotate top backwards and lean against wall, or support with a prop rod.
7. Disconnect the door switch wire harness located on the right side. See Figure 13.
8. Remove the front panel/door assembly by removing the two front cover screws at the top of the panel inside the cabinet, and lifting upward.

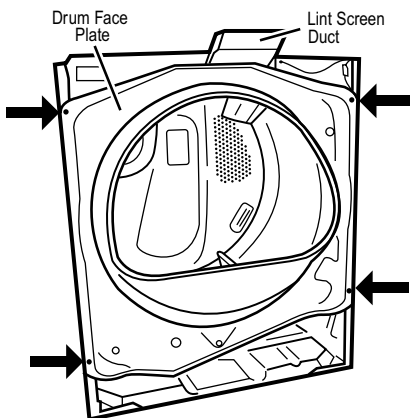


Figure 14. Remove the front bulkhead.

9. Remove the front bulkhead by loosening the upper two screws and removing the lower two screws. See Figure 14.
10. Lower components can be accessed at this time, however, if the drum is to be removed, the belt must be removed. See TEST #3, step 4.

## REINSTALLING THE FRONT PANEL/DRUM ASSEMBLY

Refer to preceding removal sections and replace in reverse order.

## ACCESSING & REMOVING THE ELECTRONIC ASSEMBLIES

There are two electronic assemblies; the user interface electronics, and the machine control electronics. See Figures 15 and 16.

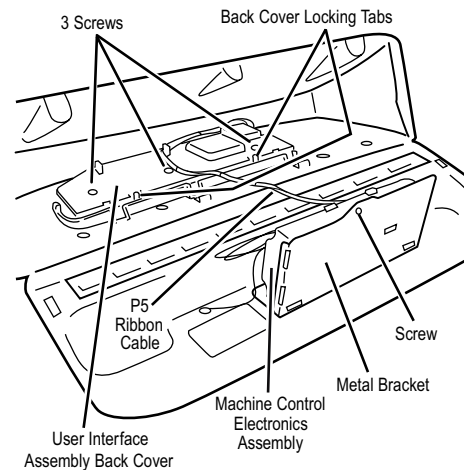


Figure 15. Locate the electronic assemblies.

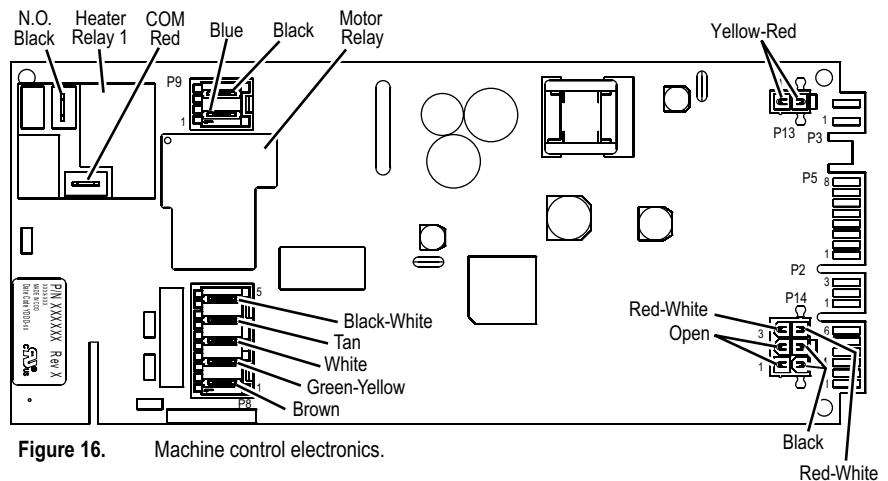


Figure 16. Machine control electronics.

1. Unplug dryer or disconnect power.
2. Remove two screws from the rear of the console assembly. Pull console towards front of dryer to hinge open and/or remove console.

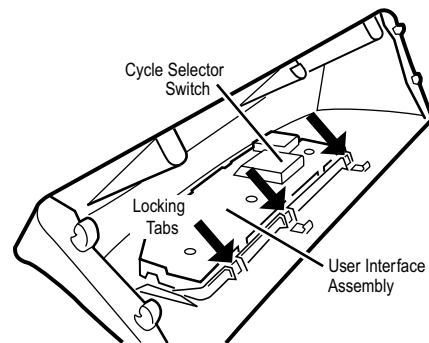
### REMOVING THE MACHINE CONTROL ELECTRONICS

3. Remove the wire connections to the machine control assembly.
4. Remove the one screw holding the machine control assembly to the metal bracket. See Figure 15.
5. Push in on the tab located on the back of the machine control to slide it off the bracket.

### REMOVING THE USER INTERFACE ASSEMBLY

3. Remove the wire connections from the user interface assembly, including the P5 ribbon cable. See Figure 15.
4. Remove the cycle selector knob from the front of the console by firmly pulling on it or carefully prying straight upward.
5. The user interface assembly is held to the console insert panel by three screws and two locking tabs. After the screws are removed, lift each of the locking tabs to remove the back cover of the user interface assembly. See Figure 15.

6. Remove the cycle selector switch from the user interface assembly opening by lifting the locking tab on the cycle selector switch and turning the selector switch in a counterclockwise direction. See Figure 17.
7. Locking tabs located at the bottom of the console insert panel secure the user interface assembly to the console insert panel. Using a flat-blade screwdriver, gently apply pressure to the locking tabs to release the user interface assembly. See Figure 17.



**Figure 17.** Gently apply pressure to locking tabs to release the user interface assembly.

### REINSTALLING THE ELECTRONIC ASSEMBLIES

Refer to preceding removal sections and replace in reverse order.

**NOTE:** When replacing the cycle selector switch, make sure that the shaft is positioned through the center of the shaft seal that is captive between the decorative overlay and the console insert panel.

**NOTE:** When reconnecting wire connections, be sure to route the user interface wires beneath the retainer clips on the user interface back cover.

## REMOVING THE BACK PANEL

1. Unplug dryer or disconnect power.
2. Remove the cover plate screw and cover plate. See Figure 18.
3. Remove the eight rear screws from the back panel, then remove panel.

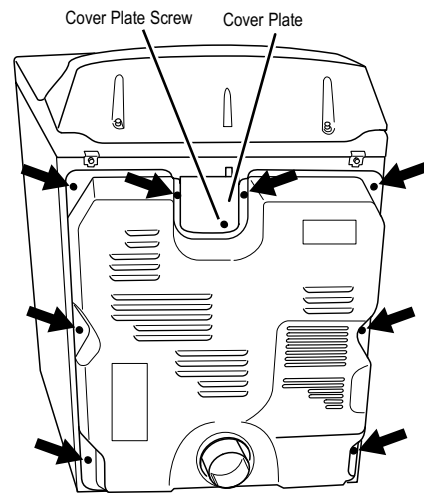


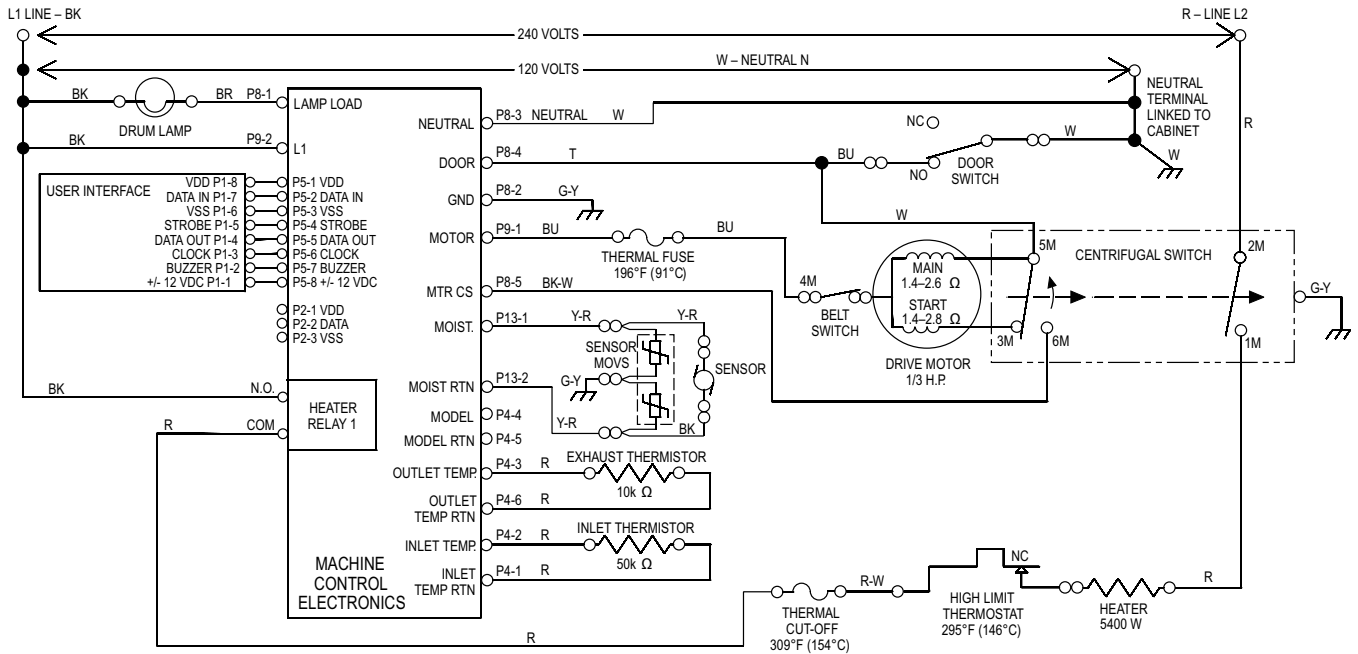
Figure 18. Remove screws.

— NOTES —

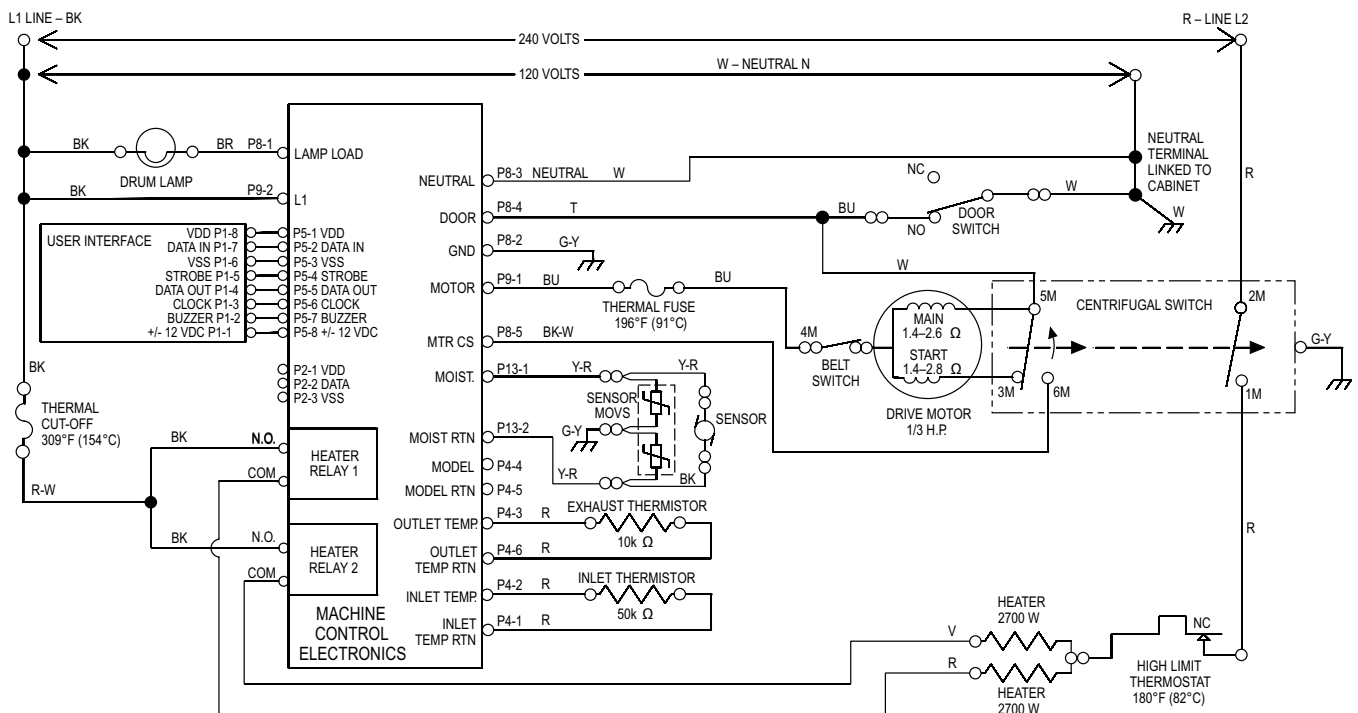
# WIRING DIAGRAMS & STRIP CIRCUITS

## Electric Dryers WIRING DIAGRAMS

### SINGLE ELEMENT

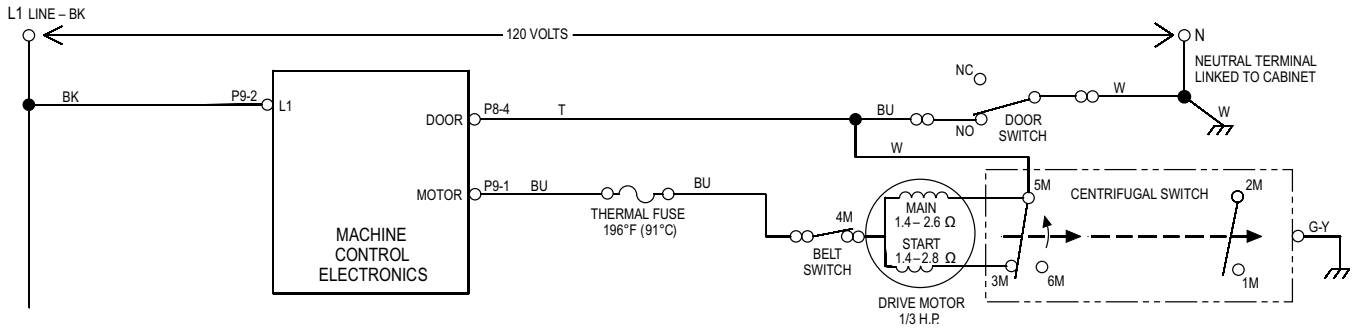


### DUAL ELEMENT

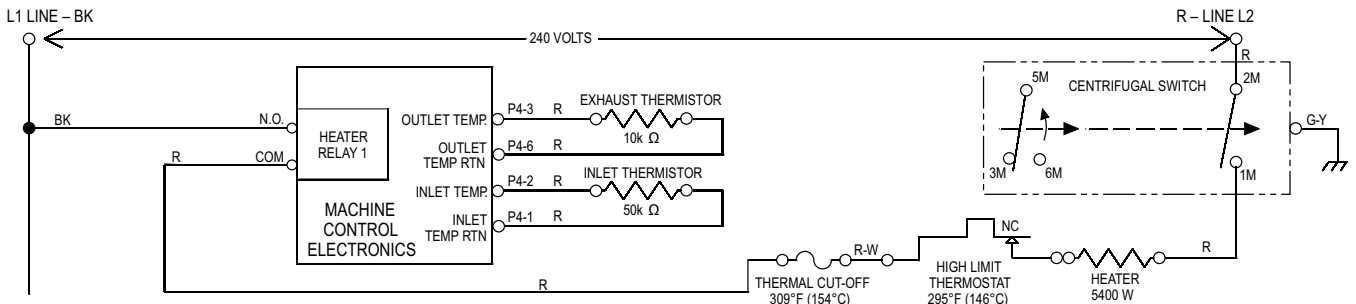


# STRIP CIRCUITS

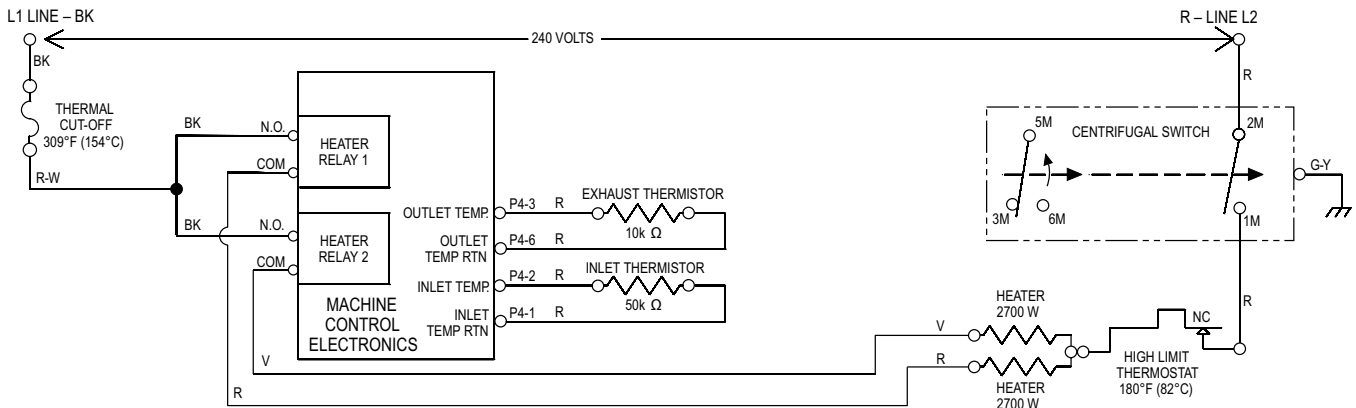
## DRIVE MOTOR



## HEATER—SINGLE ELEMENT

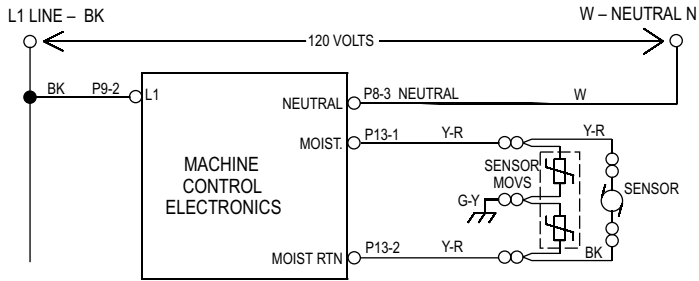


## HEATER—DUAL ELEMENT

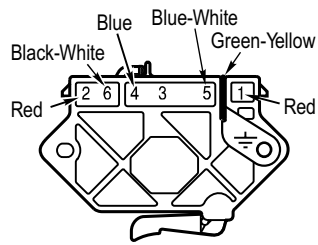




# MOISTURE SENSOR



## PLUGGABLE DRIVE MOTOR SWITCH

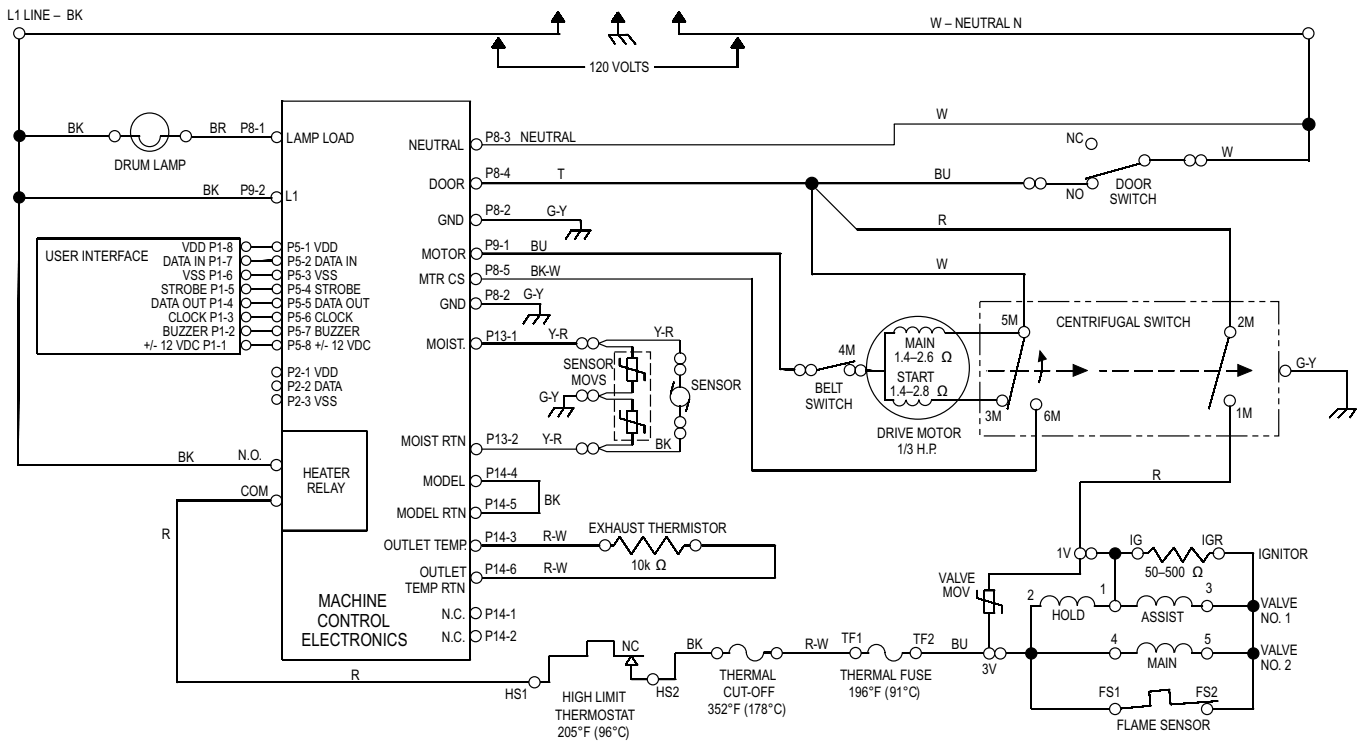


## CENTRIFUGAL SWITCH (MOTOR)

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

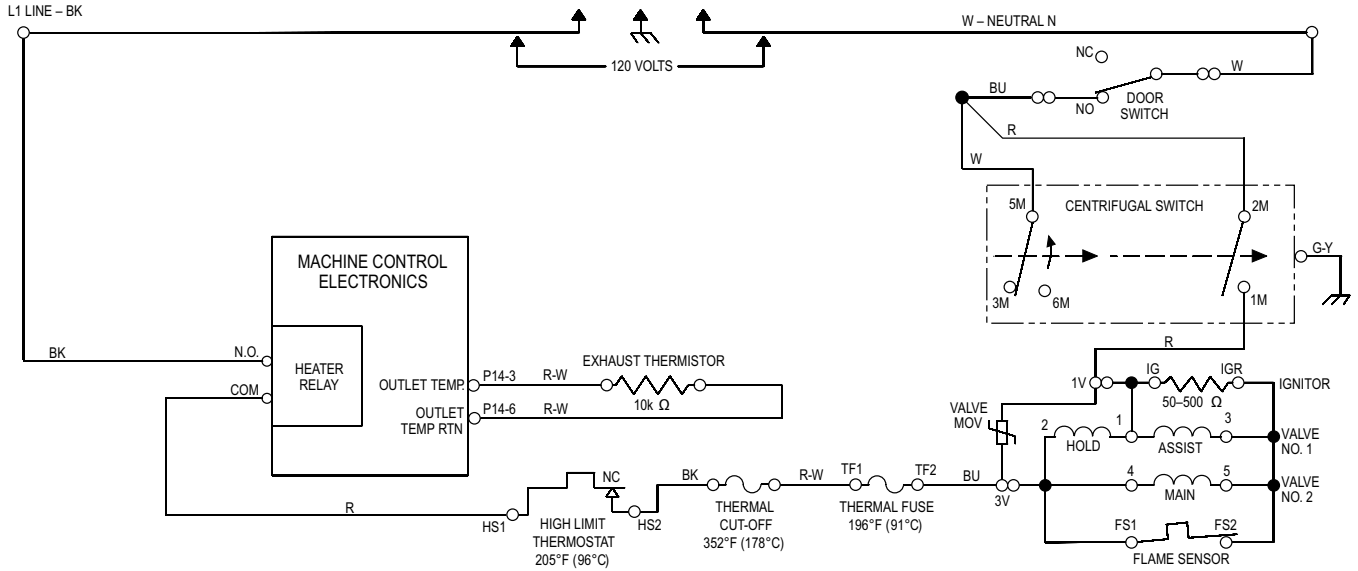
● = Contacts closed

# Gas Dryers WIRING DIAGRAM

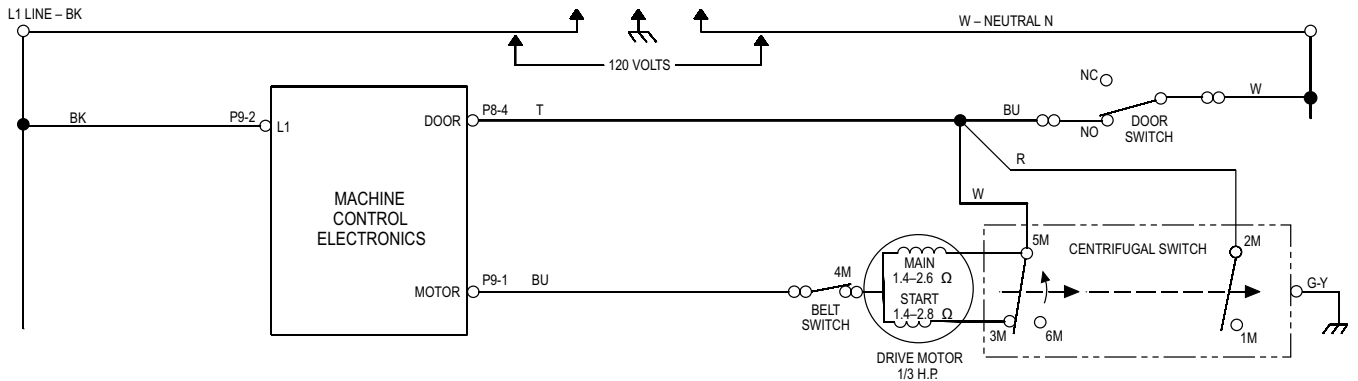


# STRIP CIRCUITS

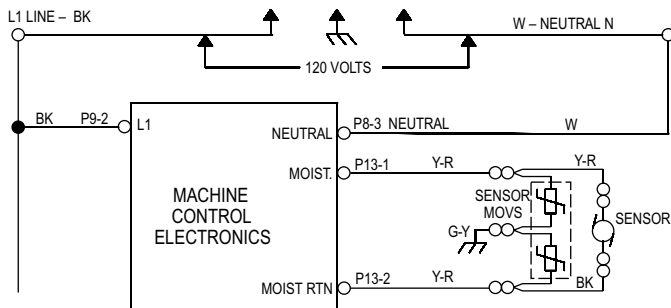
## HEATER (GAS VALVE)



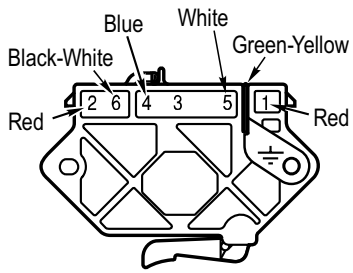
## DRIVE MOTOR



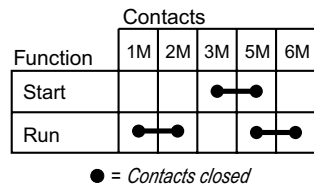
## MOISTURE SENSOR



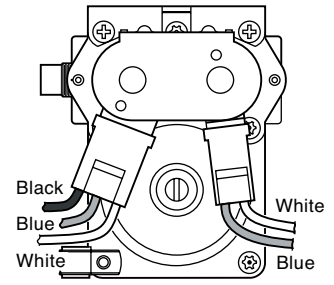
## PLUGGABLE DRIVE MOTOR SWITCH



## CENTRIFUGAL SWITCH (MOTOR)



## GAS VALVE



— NOTES —

— NOTES —



# **PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION SOURCES**

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**FOR WHIRLPOOL PRODUCTS: 1-800-253-1301**

**FOR KITCHENAID PRODUCTS: 1-800-422-1230**

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**FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:**

**THE TECHNICAL ASSISTANCE LINE: 1-800-253-2870**

**HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN  
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**[www.servicematters.com](http://www.servicematters.com)**

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**FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:**

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