

KitchenAid

TECHNICAL EDUCATION

Pro Line® FRONT-LOADING GAS AND ELECTRIC DRYERS



MODELS: KHEV01RSS & KHGV01RSS

JOB AID 4317376

FORWARD

This KitchenAid Job Aid, “Pro Line® Front-Loading Gas and Electric Dryers,” (Part No. 4317376), provides the In-Home Service Professional with information on the installation, operation, and service of the Pro Line® Front-Loading Gas and 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 unit.

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 KitchenAid Pro Line® Front-Loading Gas and 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 the 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 (DRYER)

MODEL NUMBER	K	H	E	V	01	R	SS	0
PRODUCT GROUP K = KITCHENAID								
PRODUCT IDENTIFICATION H = HORIZONTAL								
FEATURE CODE E = ELECTRIC G = GAS								
FEATURE CODE V = PROLINE								
SERIES								
YEAR OF INTRODUCTION R = 2005								
COLOR CODE SS = STAINLESS STEEL								
ENGINEERING CHANGE (NUMERIC)								

SERIAL NUMBER (DRYER)

SERIAL NUMBER	MC	T	26	01005
DIVISION RESPONSIBILITY MC = American Dryer Corp.				
YEAR OF PRODUCTION T = 2006				
WEEK OF PRODUCTION 26 = 26TH WEEK				
PRODUCT SEQUENCE NUMBER				

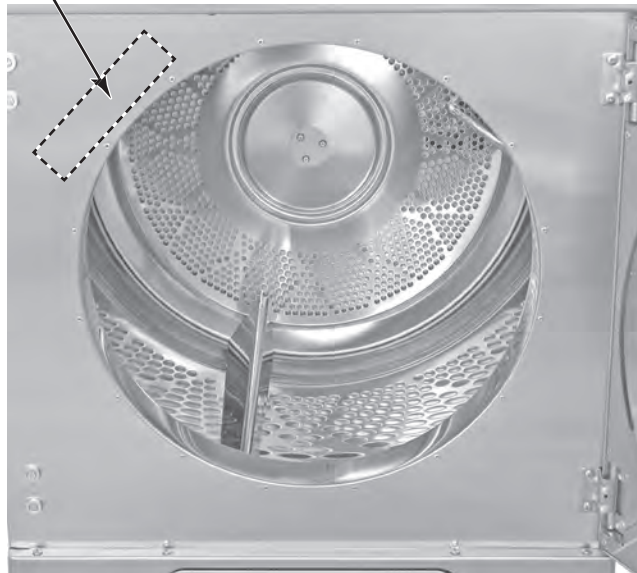
MODEL NUMBER (PEDESTAL)

MODEL NUMBER	L	A	V	27	01	R
PRODUCT GROUP L = Laundry						
PRODUCT IDENTIFICATION A = Accessory						
FEATURE CODE V = ProLine						
PRODUCT WIDTH = 27"						
SERIES						
YEAR OF INTRODUCTION R = 2005						

MODEL & SERIAL NUMBER LABEL AND TECH SHEET LOCATIONS

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

**Model & Serial Number
Label Location**



**Tech Sheet Location
(Located behind toe panel)**



SPECIFICATIONS

MODEL NUMBER	KHEV01RSS	KHGV01RSS
CAPACITY (cu ft)	6.7 cu ft	
WRINKLE PROTECTION (Extra Care)		
Extended INTERMITTENT 150 MIN. On/Off Option	Yes - Default on in Norm / Casual mode only	
TEMPERATURE SETTINGS		
EXTRA HIGH (°F) - HEAVY DUTY	Yes - (165°F)	
HIGH (°F) - WHITE / COTTON	Yes - (160°F)	
MEDIUM (°F) - NORMAL / CASUAL (Default Cycle)	Yes - (150°F)	
LOW (°F) - DELICATE	Yes - (135°F)	
EXTRA LOW (°F) - SUPER DELICATE	Yes - (120°F)	
AIR DRY	Yes	
UTILITIES		
BELT	6 Groove, poly V	
FREQUENCY	60 Hz	
MOTOR RATING- DRUM	1/4hp 115/240 volt	
MOTOR RATING - Blower / Fan	1/8hp 115/240 volt	
HEATER ELEMENT	Single 5.4kw	
GAS BTU	20,000 BTU	
DIMENSIONS (UNCRATED)		
HEIGHT (w/legs full up)	41.5"	
HEIGHT (w/feet extended 1")	42.5"	
WIDTH	27"	
DEPTH (with Handle)	33.5"	
PRODUCT WEIGHT	Gas 264 lbs. / Electric 262 lbs.	

INSTALLATION INFORMATION

INSTALLATION INSTRUCTIONS

TOOLS AND PARTS

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

Electric Models

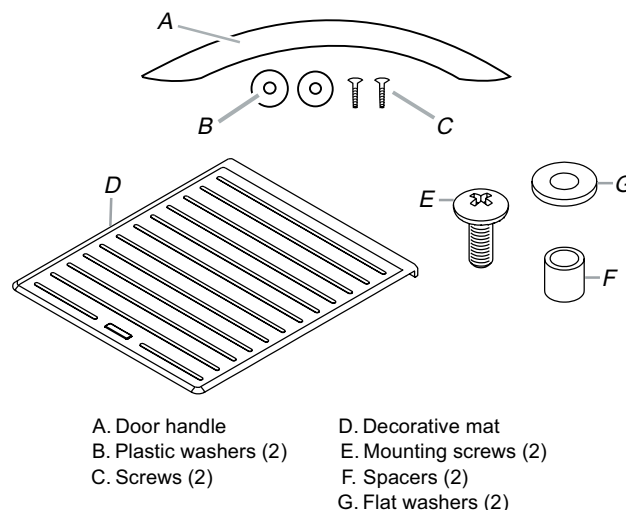
- Flat-blade screwdriver
- Phillips screwdriver
- 9/16" (14 mm) open-end wrench (for adjusting dryer feet)
- Wire stripper (direct wire installations)
- Level
- Vent clamps
- Caulking gun and compound (for installing new exhaust vent)
- Tin snips (new vent installations)
- 1/4" nut driver (recommended)
- Tape measure
- Wood block (for adjusting dryer feet)

Gas Models

- 8" or 10" pipe wrench
- 8" or 10" adjustable wrench (for gas connections)
- Phillips screwdriver
- Flat-blade screwdriver
- 9/16" (14 mm) open-end wrench (for adjusting dryer feet)
- 1/4" nut driver or socket wrench (recommended)
- Level
- Vent clamps
- Caulking gun and compound (for installing new exhaust vent)
- Tin snips (new vent installations)
- Pipe-joint compound resistant to LP gas
- Pliers
- Tape measure

Parts Supplied

Remove parts package from dryer drum. Check that all parts are included. Remove the optional decorative mat (included) from the top of the dryer and set aside.



Attach Door Handle

1. Insert the 2 screws through the holes in the door.
2. Place the plastic washers onto the screws.
3. Attach the handle by hand-tightening the screws, first the top then the bottom.



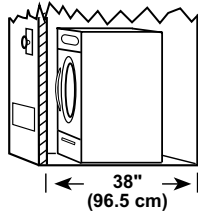
4. Push the handle against the door. Using a Phillips screwdriver, tighten the screws.

NOTE: Do not overtighten.

Parts needed

Check local codes and with gas supplier. Check existing gas supply, electrical supply and venting. Read “Electrical Requirements,” pages 2-5 & 2-13, “Gas Supply Requirements,” page 2-13, and “Venting Requirements,” page 2-15 before purchasing parts.

- For close-clearance installations between 33" (83.8 cm) and 38" (96.5 cm), see “Plan Vent System,” page 2-17 for venting requirements.



Mobile home installations require metal exhaust system hardware available for purchase from the dealer from whom you purchased the dryer. For further information, please refer to the “Assistance or Service” section of the “Use & Care Guide.”

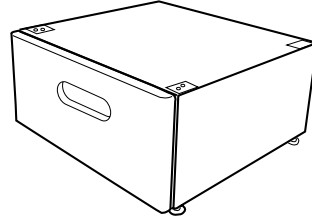
- Mobile Home Installation Kit. Ask for Part Number 346764.
- Metal exhaust system hardware.

OPTIONS

Pedestal

Are you placing the dryer on a pedestal? You may purchase a pedestal separately for this dryer. This pedestal will add about 11" (27.9 cm) to the height of your dryer for a total height of approximately 53" (134.6 cm).

For a garage installation, you will need to place the pedestal at least 7" (17.8 cm) above the floor.



Optional pedestal

To order, call the dealer from whom you purchased your dryer or refer to the “Assistance or Service” section of the “Use & Care Guide.” Ask for Part Number LAV2701RSS.

Door Reversal Kit

Would you like to change your dryer door swing from a right-side opening to a left-side opening? To do so, you will need to purchase a Door Reversal Kit.

To order, call the dealer from whom you purchased your dryer or refer to the “Assistance or Service” section of the “Use & Care Guide.” Ask for Part Number 8182652.

LOCATION REQUIREMENTS

 WARNING

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

You will need

- A location that allows for proper exhaust installation. See “Venting Requirements,” page 2-15.
- Electric Models Only: A separate 30-amp circuit.
- If you are using a power cord, a grounded electrical outlet located within 2 ft (61 cm) of either side of the dryer. See “Electrical Requirements,” pages 2-5 & 2-13.
- A sturdy floor to support the total dryer weight of 250 lbs (113.4 kg). The combined weight of accessories, clothes loads, and companion appliances should also be considered.
- A level floor with a maximum slope of 1” (2.5 cm) under entire dryer. Clothes may not tumble properly and automatic sensor cycles may not operate correctly if dryer is not level.
- For a garage installation, you will need to place the dryer at least 18” (46 cm) above the floor. If using a pedestal, you will need an additional 7” (17.8 cm).

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.

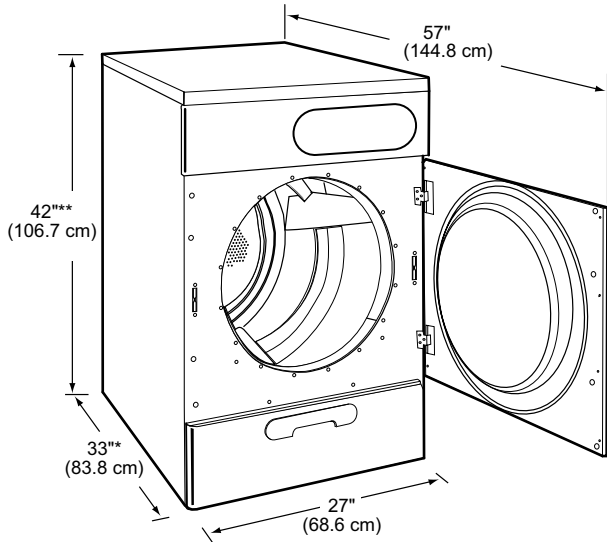
Installation Spacing

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

- The location must be large enough to allow the dryer door to open fully.
- 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.
- Companion appliance spacing should also be considered.

NOTE: This dryer cannot be stacked on the washer.

Dryer Dimensions

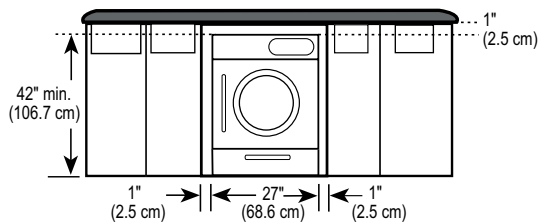


* Includes the door handle.

** Includes the feet extended 1" (2.5 cm). The optional decorative mat (included) will add approximately 1/2" (1.3 cm) to the height.

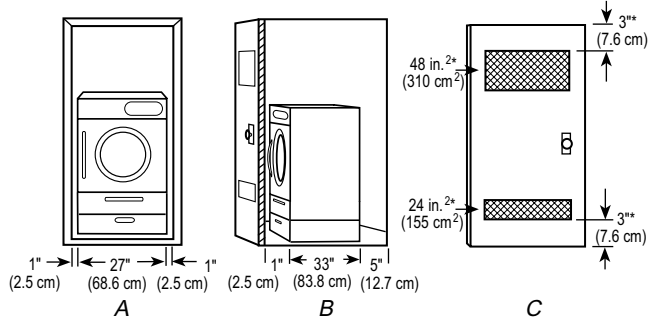
NOTE: Most installations require a minimum 5" (12.7 cm) clearance behind the dryer for the exhaust vent with elbow. See "Venting Requirements," page 2-15.

Recommended spacing for custom undercounter installation - Dryer only



Recommended spacing for recessed or closet installation, with or without a pedestal

- 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.

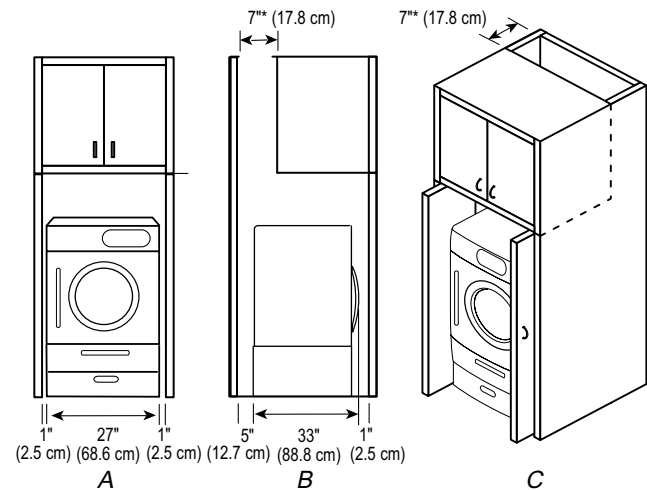


A. Front view
B. Side view - closet or confined area
C. Closet door with vents

* Required spacing.

Recommended spacing for cabinet installation, with or without a pedestal

- For cabinet installation, with a door, minimum ventilation openings in the top of the cabinet are required.



A. Front view
B. Side view
C. Cabinet with vents

* 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.
- 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

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.

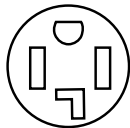
- This dryer is manufactured ready to install with a 3-wire electrical supply connection. The neutral ground wire is permanently connected to the neutral conductor (white wire) within the dryer. If the dryer is installed with a 4-wire electrical supply connection, the neutral ground wire must be removed 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.
- If local codes do not permit the connection of a neutral ground wire to the neutral wire, see "Optional 3-wire connection," page 2-12.
- 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.

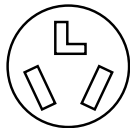
If your outlet looks like this:



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.

MAKE ELECTRICAL CONNECTION

Electric Models 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.

! 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.

2. Position the dryer so that the rear of the dryer is within 4 ft. (1.2m) of its final location.
3. Remove the hold-down screws and terminal block cover.

DIRECT WIRE

! WARNING



Fire Hazard

Use 10 gauge solid copper wire.

Use a UL listed strain relief.

Disconnect power before making electrical connections.

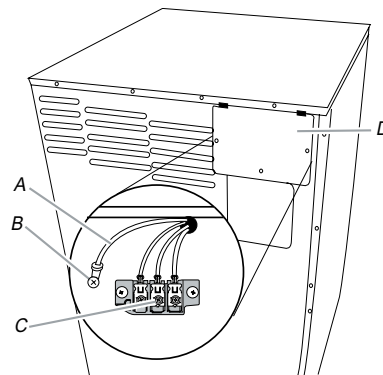
Connect neutral wire (white or center wire) to center terminal (silver).

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.

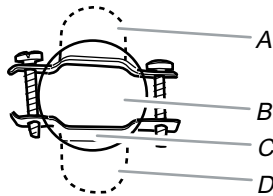


- A. Neutral ground wire
- B. External ground conductor screw
- C. Center, silver-colored terminal block screw
- D. Terminal block cover and hold-down screws

4. Install strain relief.

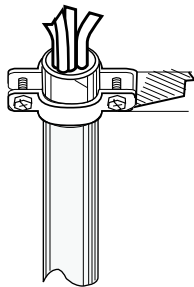
Style 1: Power supply cord strain relief

- 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 toward you and the other is pointing away from you, and hold in place. Tighten strain relief screws just enough to hold the two clamp sections together.



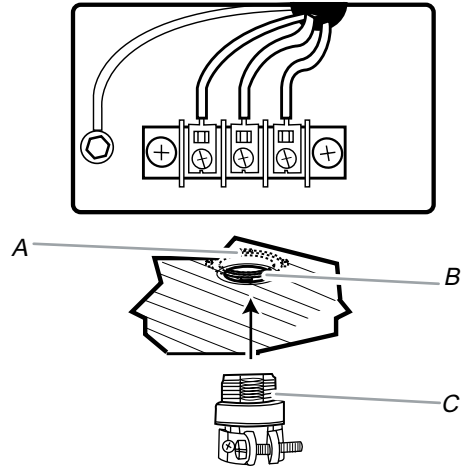
A. Strain relief tab pointing up
 B. Hole below terminal block opening
 C. Clamp section
 D. Strain relief tab pointing down

- 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.



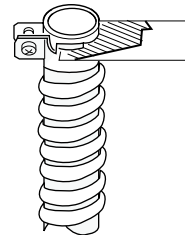
Style 2: Direct wire strain relief

- 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


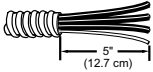

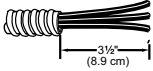
- Put direct wire cable through the strain relief. The strain relief should have a tight fit with the dryer cabinet and be in a horizontal position. Tighten strain relief screw against the direct wire cable.



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

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

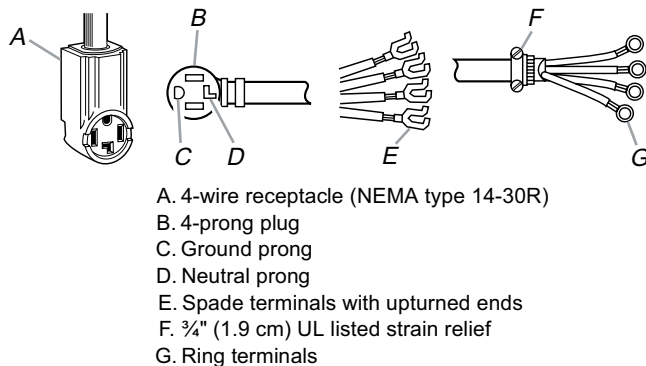
Electrical Connection Options

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

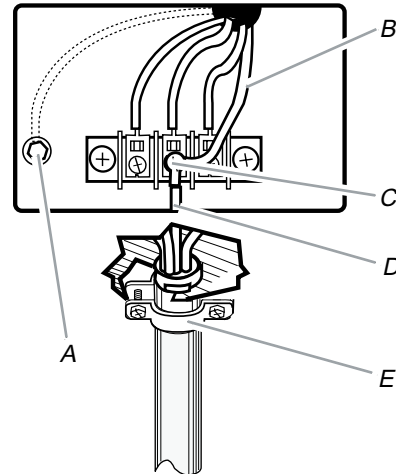
* If local codes do not permit the connection of a cabinet-ground conductor to the neutral wire, go to "Optional 3-wire connection," page 2-12.

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.

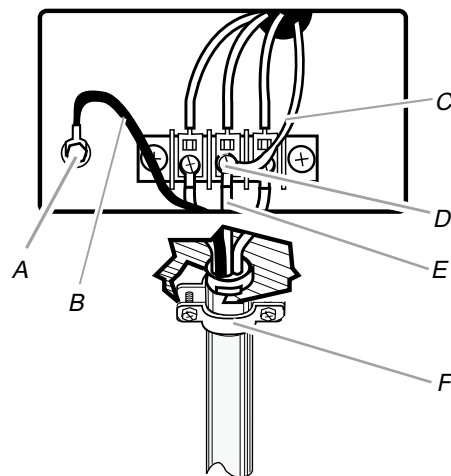


1. Remove center silver-colored terminal block screw.
2. Remove neutral ground wire from external ground conductor screw. Connect neutral ground wire and the neutral wire (white or center wire) of power supply cord under center, silver-colored terminal block screw. Tighten screw.



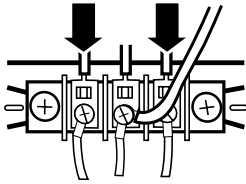
- A. External ground conductor screw - Dotted line shows position of NEUTRAL ground wire before being moved to center silver-colored terminal block screw
 B. Neutral ground wire
 C. Center silver-colored terminal block screw
 D. Neutral wire (white or center wire)
 E. 3/4" (1.9 cm) UL listed strain relief

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

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



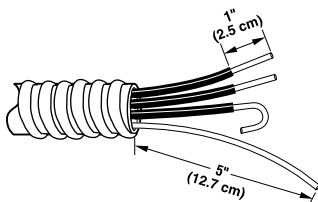
5. Tighten strain relief screws.
6. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
7. You have completed your electrical connection. Now go to "Venting Requirements," page 2-15.

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.

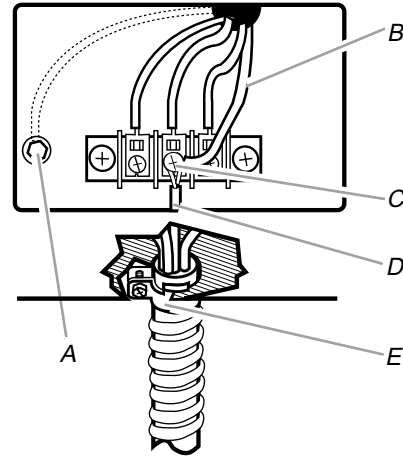
Strip 5" (12.7 cm) of outer covering from end of cable, leaving bare ground wire at 5" (12.7 cm). Cut 1-1/2" (3.8 cm) from 3 remaining wires. Strip insulation back 1" (2.5 cm). Shape ends of wires into a hook shape.



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.

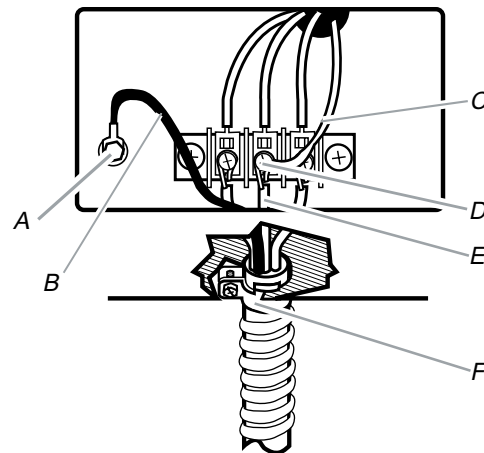


1. Remove center silver-colored terminal block screw.
2. Remove neutral ground wire from external ground conductor screw. Connect neutral ground wire and place the hooked end (hook facing right) of the neutral wire (white or center wire) of direct wire cable under the center screw of the terminal block.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



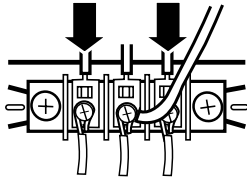
- A. External ground conductor screw - Dotted line shows position of NEUTRAL ground wire before being moved to center silver-colored terminal block screw
- B. Neutral ground wire
- C. Center silver-colored terminal block screw
- D. Neutral wire (white or center wire)
- E. 3/4" (1.9 cm) UL listed strain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

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

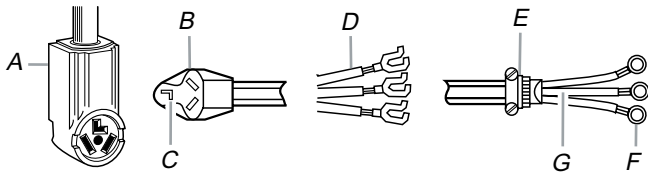
- Place the hooked ends of the other direct wire cable wires under the outer terminal block screws (hooks facing right). Squeeze hooked ends together. Tighten screws.



- Tighten strain relief screw.
- Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
- You have completed your electrical connection. Now go to "Venting Requirements," page 2-15.

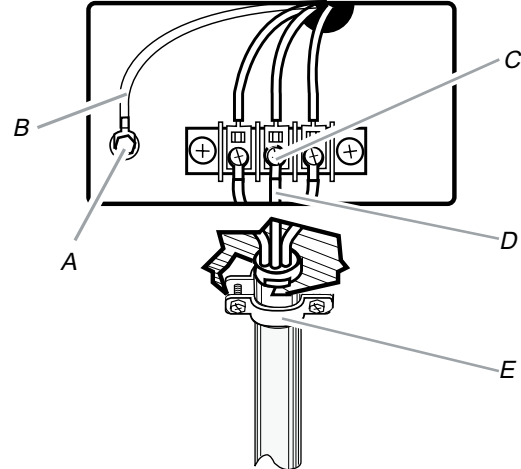
3-wire connection: Power supply cord

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



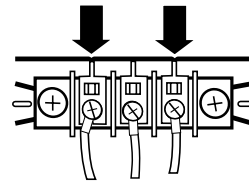
- A. 3-wire receptacle (NEMA type 10-30R)
- B. 3-wire plug
- C. Neutral prong
- D. Spade terminals with up turned ends
- E. $\frac{3}{8}$ " (1.9 cm) UL listed strain relief
- F. Ring terminals
- G. Neutral (white or center wire)

- Loosen or remove center silver-colored terminal block screw.
- 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. $\frac{3}{8}$ " (1.9 cm) UL listed strain relief

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



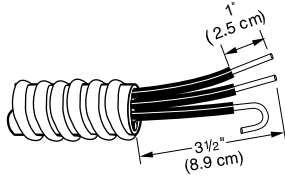
- Tighten strain relief screws.
- Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
- You have completed your electrical connection. Now go to "Venting Requirements," page 2-15.

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.

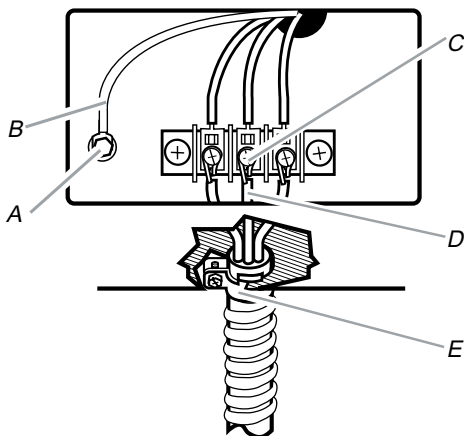
Strip 3-1/2" (8.9 cm) of outer covering from end of cable. Strip insulation back 1" (2.5 cm). If using 3-wire cable with ground wire, cut bare wire even with outer covering. Shape ends of wires into a hook shape.



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.

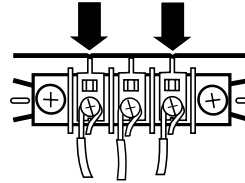


1. Loosen or remove center silver-colored terminal block screw.
2. Place the hooked end of the neutral wire (white or center wire) of direct wire cable under the center screw of terminal block (hook facing right). Squeeze hooked end together. Tighten screw.



- A. External ground conductor screw
- B. Neutral ground wire
- C. Center silver-colored terminal block screw
- D. Neutral wire (white or center wire)
- E. 3/8" (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.

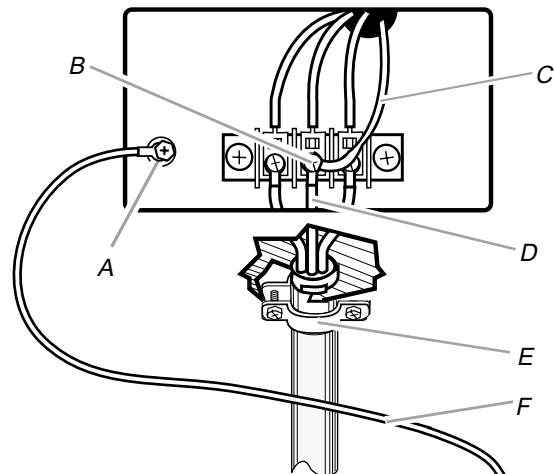


4. Tighten strain relief screw.
5. Insert tab of terminal block cover into slot of dryer rear panel. Secure cover with hold-down screw.
6. You have completed your electrical connection. Now go to "Venting Requirements," page 2-15.

Optional 3-wire connection

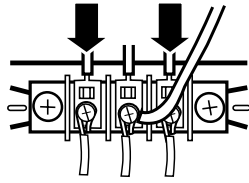
Use for direct wire or power supply cord where local codes do not permit connecting cabinet-ground conductor to neutral wire.

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/cable 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. 3/8" (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. Connect a separate copper ground wire from the external ground conductor screw to an adequate ground.
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," page 2-15.

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.

- 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 also 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.

This 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 or call the phone numbers referenced in the "Assistance or Service" section of the "Use & Care Guide."

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 the 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 in right column).
- 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^{®†} tape.

- Must include a shutoff valve:

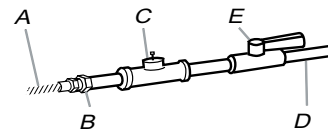
In the U.S.A.:

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^{®†} 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.

[†]TEFLON is a registered trademark of E.I. Du Pont De Nemours and Company.

Burner input requirements

Elevations above 10,000 ft (3,000 m):

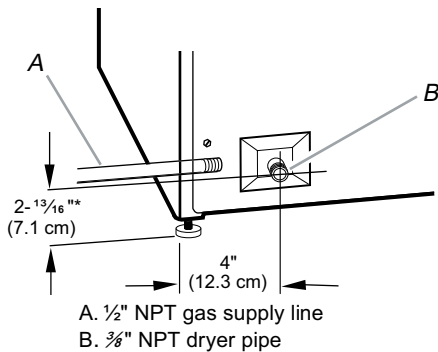
- When installed above 10,000 ft (3,000 m) a 4% reduction of the burner Btu rating shown on the model/serial number plate is required for each 1,000 ft (300 m) above sea level.

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.



***NOTE:** If the dryer is mounted on a pedestal, the gas pipe height must be an additional 11" (28 cm) from the floor. For a garage installation, the gas pipe height must be an additional 18" (46 cm) from the floor.

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.

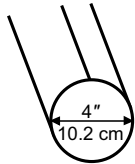
If using an existing vent system

- 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 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.

Rigid metal vent

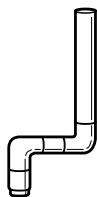
- For best drying performance, rigid metal vents are recommended.
- Rigid metal vent is recommended to prevent crushing and kinking.

Flexible metal vent

- Flexible metal vents are acceptable only if accessible for cleaning and the total length does not exceed 8 ft (2.4 m).
- 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



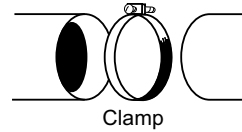
Good



Better

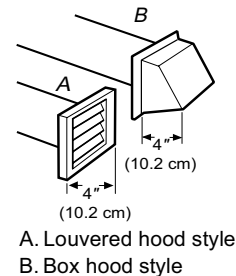
Clamps

- 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.

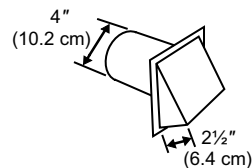


Exhaust

Recommended hood styles are shown here.



The angled hood style (shown here) is acceptable.



- An exhaust hood should cap the vent to prevent 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:

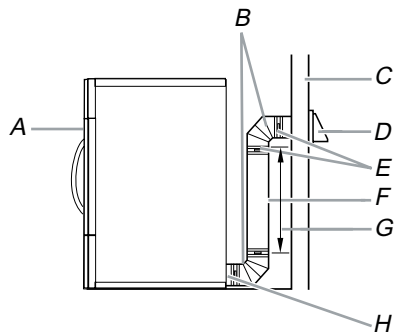
- Moisture damage to woodwork, furniture, paint, wallpaper, carpets, etc.
- Housecleaning problems and health problems.

PLAN VENT SYSTEM

Choose your exhaust installation type

Recommended exhaust installations

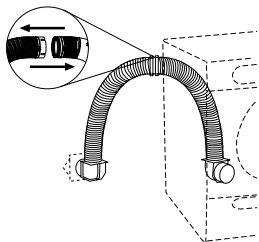
This dryer vents from the rear of the dryer.



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

Alternate installations for close clearances

Venting systems come in many varieties. Select the type best for your installation. One close-clearance installation is shown. Refer to the manufacturer's instructions. Refer to Vent system chart 2, page 2-18 for vent length and elbows needed for best drying performance.



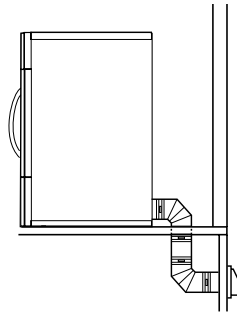
Over-the-top installation (also available with one offset elbow)

NOTE: The following kit for close clearance alternate installations is available for purchase.

- Over-the-top Installation:
Part Number **4396028**

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 one of the following Vent system charts 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 charts. 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 charts provide venting requirements that will help to achieve the best drying performance.

Vent System Charts

Vent system chart 1 - rigid metal vent only

Number of 90° turns or elbows	Type of vent	Box or louvered hoods	Angled hoods
0	Rigid metal	174 ft (53.0 m)	168 ft (51.2 m)
1	Rigid metal	164 ft (50.0 m)	158 ft (48.0 m)
2	Rigid metal	154 ft (46.9 m)	148 ft (45.1 m)
3	Rigid metal	145 ft (44.2 m)	139 ft (42.4 m)
4	Rigid metal	137 ft (41.8 m)	131 ft (39.9 m)

Vent system chart 2 - rigid metal vent used with a maximum of 8 ft (2.4 m) flexible metal vent

Number of 90° turns or elbows	Type of vent	Box or louvered hoods	Angled hoods
0	Rigid metal	144 ft (43.9 m)	138 ft (42.1 m)
1	Rigid metal	134 ft (40.8 m)	128 ft (39.0 m)
2	Rigid metal	125 ft (38.1 m)	119 ft (36.3 m)
3	Rigid metal	117 ft (35.7 m)	111 ft (33.8 m)

INSTALL VENT SYSTEM

⚠ 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. Position the dryer so that the rear of the dryer is within 4 ft (1.2 m) of its final location.
2. Install exhaust hood. Use caulking compound to seal exterior wall opening around exhaust hood.
3. Connect vent to exhaust hood. Vent must fit inside exhaust hood. Secure vent to exhaust hood with 4" (10.2 cm) clamp.
4. Run vent to dryer location. Use the straightest path possible. See "Determine vent path," page 2-17. 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.

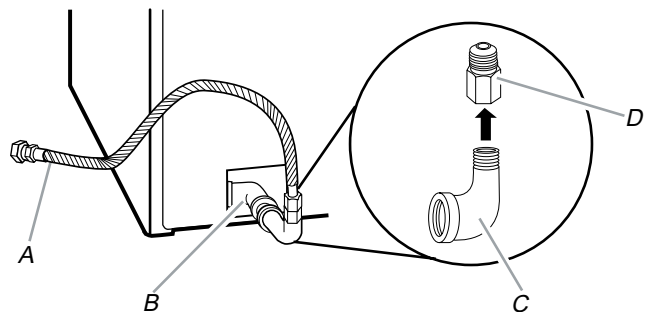
MAKE GAS CONNECTION

1. Remove the red cap from the gas pipe. Move the dryer close to its final location.
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.

NOTE: For LP gas connections, you must use pipe-joint compound resistant to the action of LP gas. Do not use TEFLON[†] tape.

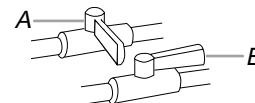
[†] TEFLON is a registered trademark of E.I. Du Pont De Nemours and Company.

A combination of pipe fittings must be used to connect the dryer to the existing gas line. Shown is a recommended connection. Your 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 3/8" 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

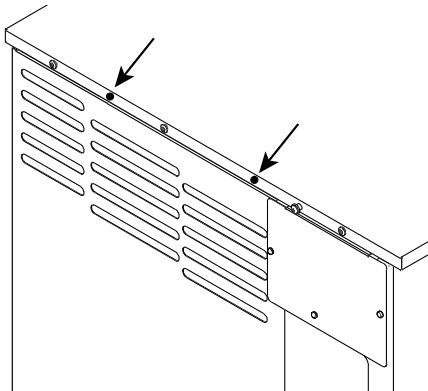
4. Test all connections by brushing on an approved noncorrosive leak-detection solution. Bubbles will show a leak. Correct any leak found.

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 position. Do not crush or kink vent.
3. (On gas models) Check that there are no kinks in the flexible gas line.

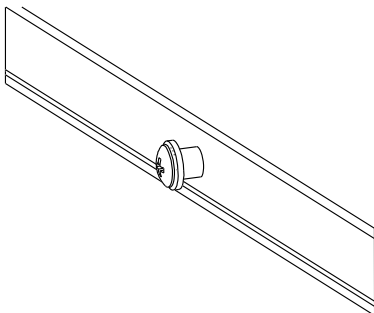
ATTACH DECORATIVE MAT (OPTIONAL)

1. Locate the 2 holes in the back of your dryer.



Back view of dryer

2. Place the flat washer and then the spacer on the mounting screw and attach to the dryer using a Phillips screwdriver.

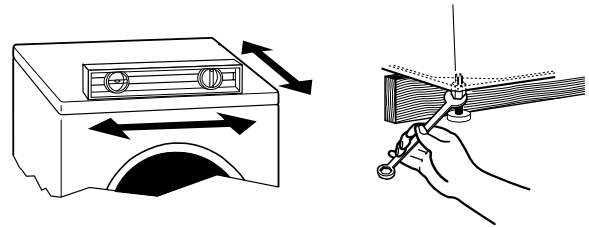


3. Check that the top of the dryer and the bottom of the mat are clean.
4. Set the mat in place on top of the dryer. Hook the back edge of the decorative mat over the mounting screws.

LEVEL DRYER

All four dryer feet were preset to the same height at the factory.

1. Using a 9/16" (14 mm) open-end wrench, verify that the nuts on the two rear preset feet are tightened against the cabinet.
2. Slide the dryer to its final location.
3. Check the levelness of the dryer. Check levelness first side to side, then front to back.



4. If the dryer is not level, move the dryer slightly away from the wall and first prop the front with a wood block and adjust the feet as necessary; then prop the back and adjust feet as necessary. Repeat this step until dryer is level.
5. After the dryer is level, use a 9/16" (14 mm) open-end wrench to turn the nuts on the feet tightly against the dryer cabinet.

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. Check the dryer's final location. Be sure the vent is not crushed or kinked.
4. Check that the dryer is level. See "Level Dryer."
5. Plug in dryer or reconnect power.
6. Remove any protective film or tape remaining on the dryer.
7. Dispose of/recycle all packaging materials.
8. Read "Dryer Use," page 3-1.
9. Wipe the dryer drum interior thoroughly with a damp cloth to remove any dust.

10. Set the dryer on a full heat cycle (not an air cycle) for 20 minutes and start the dryer.

If the dryer will not start, check the following:

Electric Models Only

- 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.

Gas Models Only

- Dryer is plugged into a grounded 3 prong outlet.
- Electrical supply is connected.
- 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 to make sure both fuses are intact and tight, or that both circuit breakers have not tripped. If there is still no heat, contact a qualified technician.

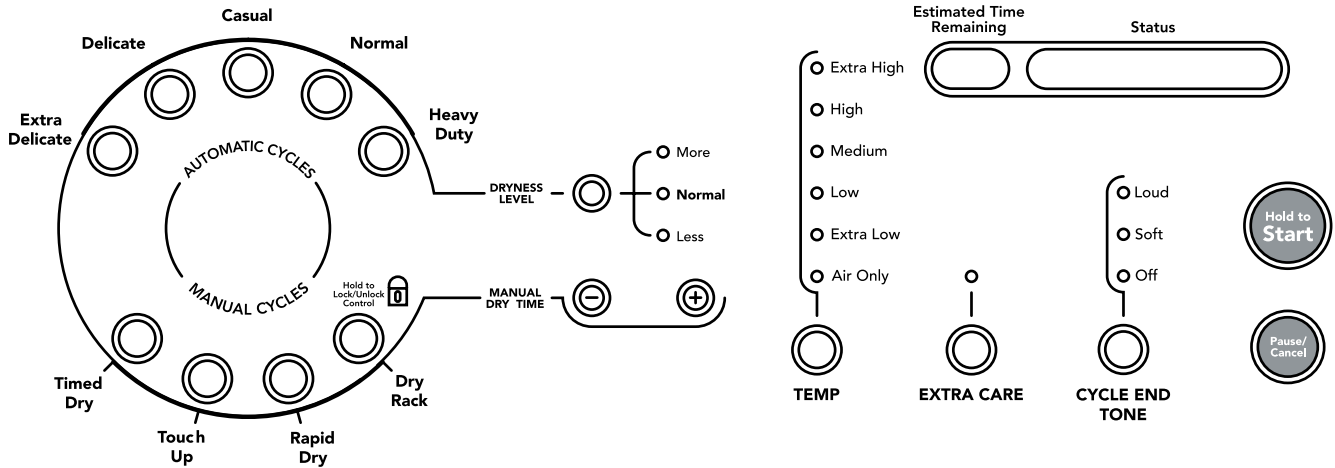
NOTE: You may notice a burning odor when the dryer is first heated. This odor is common when the heating element is first used. The odor will go away.

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 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.

PRODUCT OPERATION

DRYER USE



STARTING THE DRYER

! 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



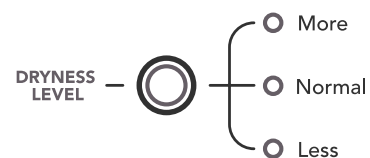
Fire Hazard
 No washer can completely remove oil. Do not dry anything that has ever had any type of oil on it (including cooking oils).
 Items containing foam, rubber, or plastic must be dried on a clothesline or by using an Air Cycle.
 Failure to follow these instructions can result in death or fire.

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. See "Cleaning the Lint Screen," page 3-8.
2. Place laundry into dryer and shut door.
3. Select either an Automatic or Manual cycle by pressing the desired cycle button. The preset settings and drying time for the chosen cycle will be displayed.

To Use An Automatic Cycle

- Select an Automatic Cycle.
- Select DRYNESS LEVEL 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.



To Use A Manual Cycle

- Select a Manual Cycle.
- Press the plus (+) or minus (–) key until the desired drying time is displayed. Press plus (+) or minus (–) and the time will change by 1-minute intervals. Press and hold plus (+) or minus (–) and the time will change by 5-minute intervals.

NOTE: The plus (+) or minus (–) features can be used only with Manual Cycles.



- Press TEMP until the desired temperature illuminates.

NOTE: During a Manual Cycle, you can change the settings for Time, Temperature, Extra Care and Cycle End Tone signal. Press PAUSE/CANCEL twice to stop the dryer and clear the settings. Select another cycle or option.

4. (OPTIONAL STEP) If desired, set the Cycle End Tone signal. Select LOUD or SOFT to alert you when a cycle ends.
5. Press and hold START for approximately 3 seconds until dryer starts. 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 touching Start, press PAUSE/CANCEL twice.

STOPPING THE DRYER

To stop the dryer at any time

Press PAUSE/CANCEL twice or open the door and press PAUSE/CANCEL once.

PAUSING OR RESTARTING

To pause the dryer at any time

Open the door or press PAUSE/CANCEL once.

To restart the dryer

Close the door. Press and hold 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.

CONTROL LOCKED

This feature allows you to lock your settings to prevent unintended use of the dryer. You can also use the Control Locked feature to avoid unintended cycle or option changes during dryer operation.

To enable the Control Locked feature when dryer is running:

Press and hold the DRY RACK button for 3 seconds. The control is locked when a single beep is heard and the Control Locked icon is displayed in the status window. The icon is located next to the Dry Rack button and will illuminate when control locked.

- When the dryer is off, it is not necessary to turn the control on before activating the Control Locked feature.

To unlock:

Press and hold the DRY RACK button for 3 seconds to turn this feature off.

NOTE: When the dryer is running and Control Locked is on, the dryer can be stopped by pressing the PAUSE/CANCEL button, but cannot be restarted until the control is unlocked.

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 Manual 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.
- Remove the load from the dryer as soon as tumbling stops to reduce wrinkling. This is especially important for permanent press, knits, and synthetic fabrics.
- Avoid drying heavy work clothes with lighter fabrics. This could cause overdrying of lighter fabrics, leading to increased shrinkage or wrinkling.

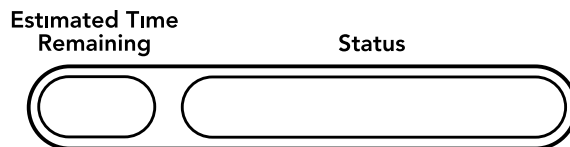
Cycle tips

- Dry most loads using the preset cycle settings.
- Refer to the Automatic or Manual Preset Cycle Settings charts, page 3-5 for a guide to drying various loads.
 - Drying temperature and Dryness Level are preset when you choose an Automatic Cycle. You can choose a different dryness level, depending on your load by pressing the DRYNESS LEVEL button to select MORE or LESS.
 - If you wish to adjust the cycle length of a Manual Cycle, you must press plus (+) or minus (–) buttons. Adjust the temperature of a Manual Cycle by pressing TEMP until the desired temperature is selected.

NOTE: You cannot choose a Dryness Level with Manual Cycles.

STATUS DISPLAY

Messages on the status display help you to follow the progress of the dryer.



Wet

WET is displayed at the beginning of the Automatic or Manual Cycle if a wet item is detected.

- In an Automatic Cycle, if a wet item is not detected after 5 minutes, the dryer goes directly into Cool Down. COOL DOWN will be displayed, along with EXTRA CARE, if selected.
- In a Manual Cycle, if a wet item is not detected, the dryer will continue to run for the length of time selected, but WET will not be displayed.

Damp

DAMP is displayed if the load has reached the damp dry level.

NOTE: DAMP will not be displayed with Manual Cycles.

Cool Down

COOL DOWN is displayed during the cool down part of the cycle. Laundry cools for ease in handling.

Cycle Complete

CYCLE COMPLETE is displayed when a drying cycle is finished. If the Extra Care feature is selected, EXTRA CARE will also be displayed.

The Cycle Complete display turns off 1 hour after the end of a drying cycle, when PAUSE/CANCEL is pressed, or when the door is opened. If the Extra Care feature is selected, the Cycle Complete display will remain on 1 hour after the Extra Care cycle stops.

Extra Care

EXTRA CARE is displayed when this option is selected. This display stays on with the Cycle Complete display. See “Additional Features,” page 3-5.

Check Lint Screen

The Check Lint Screen display reminds you to check the lint screen. CHECK LINT SCREEN is displayed when the machine is turned on. The message turns off when the lint screen is opened, and cleaned, Start is pressed, or after 5 minutes has elapsed.

Control Locked

A lock icon will be displayed in the Status window when this option is enabled.

Indicator lights

Other indicator lights on the control panel show Cycle, Temperature and Cycle End Tone settings selected.

The Status display shows the estimated or actual time remaining in a cycle.

Insert Lint Screen

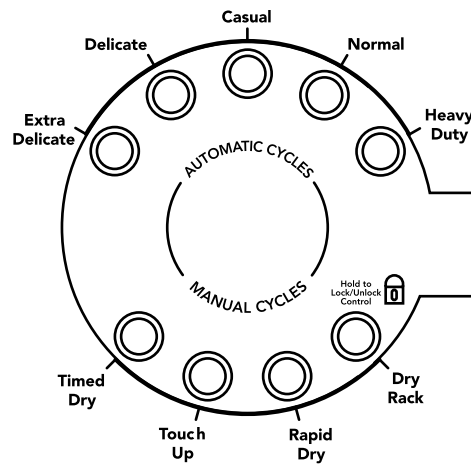
If the lint screen is opened while the dryer is running, the dryer will pause and the message INSERT LINT SCREEN will be displayed. Once the lint screen is inserted, PRESS START will be displayed.

Insert Dry Rack

After selecting the Dry Rack cycle, if no drying rack is in the dryer, the machine will beep three times and INSERT DRY RACK will be displayed.

CYCLES

Select the drying cycle that matches the type of load you are drying. (See Automatic or Manual Preset Cycle Settings charts, page 3-5.)



AUTOMATIC CYCLES

Automatic Cycles allow you to match the cycle to the load you are drying. See the following “Automatic Preset Cycle Settings” chart, page 3-5. 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 Extra High heat for heavy-weight mixed loads and cotton towels, as well as bulky items, including bedspreads.

Normal

Use this cycle to get High heat for drying sturdy fabrics such as sheets and work clothes.

Casual

Use this cycle to get Medium heat for drying sport shirts, casual business clothes and permanent press blends.

Delicate

Use this cycle to get Low heat for drying synthetic fabrics, washable knit fabrics and no-iron finishes.

Extra Delicate

Use this cycle to get Extra Low heat to gently dry items such as lingerie, exercise wear, or sheer curtains.

Automatic Preset Cycle Settings

Automatic Preset Cycle Settings		
Automatic Cycles Load Type	Temp.	Time* (Minutes)
HEAVY DUTY Heavyweight mixed loads, cotton towels, bulky items	Extra High	44
NORMAL Sheets, work clothes	High	41
CASUAL Permanent press, sport shirts	Medium	36
DELICATE Lingerie, blouses	Low	32
EXTRA DELICATE Exercise wear, sheer curtains, lace	Extra Low	22

*Estimated Time with Automatic Level (Normal) setting.

MANUAL CYCLES

Use Manual Cycles to select a specific amount of drying time and a drying temperature. When a Manual 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 plus (+) or minus (-). See "Starting The Dryer," page 3-1.

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.

Touch Up

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

Rapid Dry

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

Dry Rack

Use this cycle with the drying rack to dry clothes without tumbling.

Manual Preset Cycle Settings

Manual Preset Cycle Settings		
Manual Cycles Load Type	Temp.	Default Time (Minutes)
TIMED DRY Heavyweight, bulky items, bedspreads, work clothes	High	40
TOUCH UP Remove wrinkles	Medium	20
RAPID DRY Small loads	Medium	27
DRY RACK Dry without tumbling	Low*	60

*Use Air Only for items that require drying without heat such as rubber, plastic and heat-sensitive fabrics.

ADDITIONAL FEATURES

Extra Care

Extra Care 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. A signal will sound periodically when the Extra Care feature is on, if the Cycle End Tone option is selected.

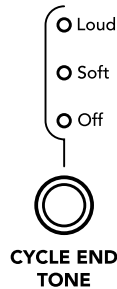
- Press Extra Care to get up to 2-1/2 hours of heat-free, periodic tumbling at the end of a cycle.
- Stop Extra Care at any time by pressing Extra Care or opening the dryer door.
- All Cycles will retain the Extra Care setting. For example, if you select Extra Care in a cycle, Extra Care will be on the next time you select that cycle.

NOTE: If you do not select Extra Care, the dryer stops after cool down.

Cycle End Tone

If the Cycle End Tone option is selected, a signal will sound when a cycle is complete. If the Extra Care feature is selected, the signal sounds every few minutes. The signal stops when you open the door.

Press the CYCLE END TONE key to select a Soft or Loud signal or to turn the signal off.



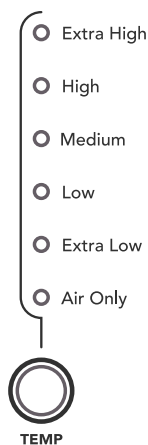
Sound System

The WHISPER QUIET® sound insulation system helps to maintain a quiet home environment during dryer operation.

NOTE: If you do not load clothes properly, the quiet operation of your dryer could be affected.

TEMPERATURE

Use these settings to select temperatures for the Manual Cycles. Press the TEMP key until the desired temperature setting glows. Temperature settings cannot be used with the Automatic Cycles.



Air Only

Use Air Only 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 to see 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.

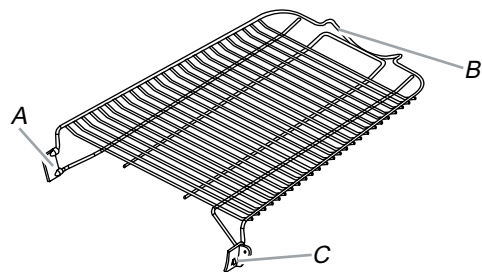
NOTE: Air Only is not available with Automatic Cycles.

DRYING RACK

The drying rack is useful for drying items you would not necessarily want to tumble dry or that you would normally line dry (for example, sweaters). The drying rack can be used only with the Dry Rack cycle. During the cycle, the dryer drum will not rotate.

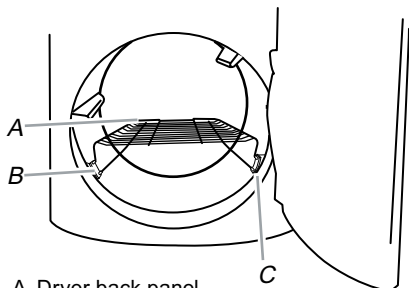
To use the drying rack

1. Open dryer door.



A. Front feet
B. Back wire
C. Locator tabs

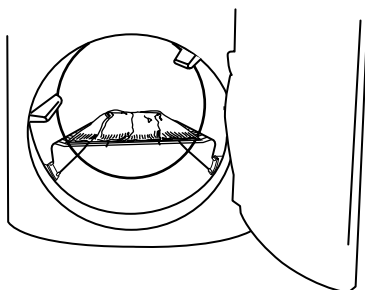
- Place drying rack inside dryer drum, positioning the back wire on the ledge of the inner dryer back panel. Push down on front feet of drying rack, at the same time, aligning the locator tabs with the locator indentations in the dryer drum.



A. Dryer back panel
B. Locator tabs
C. Locator indentations (inside dryer drum)

- 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.



- Close the door.
- Select Dry Rack cycle. Items containing foam, rubber or plastic must be dried on a clothesline or by using the Air Only temperature setting.

- You must select a time by pressing the MANUAL DRY TIME (- or +) buttons. Reset time as needed to complete drying. Refer to the following table.
- Press and hold START button (about 3 seconds).

NOTE: You must remove rack for normal tumbling.

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

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

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

DRYER CARE

CLEANING THE DRYER LOCATION

Keep the 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

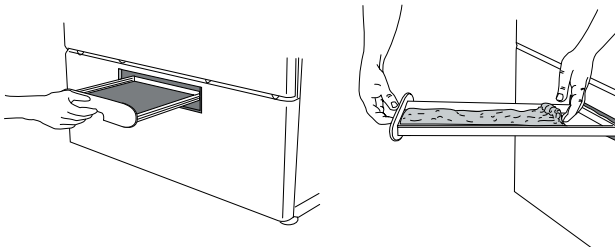
Every load cleaning

The lint screen is located on the front of the dryer, below the door. A reminder to CLEAN LINT SCREEN is displayed in the status display window. A screen blocked by lint can increase drying time.

To clean

1. Pull the lint screen straight out. Roll lint off the screen with your fingers. Do not rinse or wash screen to remove lint. Wet lint is hard to remove.

NOTE: To completely remove the lint screen, depress the tab.



2. Push the lint screen firmly back into place.

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. See “Venting Requirements,” page 2-15.

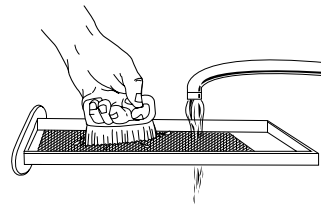
As needed cleaning

Laundry detergent and fabric softener residue can build up on the lint screen. This buildup can cause longer drying times for your clothes, or cause the dryer to stop before your load is completely dry. The screen is probably clogged if lint falls off the screen.

Clean the lint screen with a nylon brush every 6 months, or more frequently, if it becomes clogged due to a residue buildup.

To wash

1. Roll lint off the 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. Replace screen in dryer.

CLEANING THE DRYER INTERIOR

To clean dryer drum

1. Make a paste with powdered laundry detergent and very warm water.
2. Apply paste to a soft cloth.

OR

Apply a liquid, nonflammable household cleaner to the stained area and rub with a soft cloth until all excess dye is removed.

3. Wipe drum thoroughly with a damp cloth.
4. Tumble a load of clean cloths or towels to dry drum.

NOTE: Garments which 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 prevent dye transfer.

CLEANING THE DRYER EXTERIOR

To avoid damaging the exterior finish, do not use soap-filled scouring pads, abrasive cleaners, steel-wool pads, gritty washcloths or some paper towels on stainless steel surfaces.

- To clean the stainless steel surfaces of the dryer, use the stainless steel wipes. Rub in the direction of the grain. Order Part Number 8212510.
- To clean the optional decorative mat, remove it from the top of the dryer, and clean both sides with an all-purpose cleaner. Rinse with water and dry with a soft, lint-free cloth. Place it back on the top of the dryer.

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," page 3-8.

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 pipe and remove fittings attached to dryer pipe.
4. Cap the open fuel supply line.
5. Use masking tape to secure dryer door.

For direct-wired 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.

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

TROUBLESHOOTING

DRYER OPERATION

Dryer will not run

- **Has a household fuse blown, or has a circuit breaker tripped?**

There may be 2 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?**
Large loads may require pressing and holding the Start button for at least 1 second.

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 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 operating 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.
- **“E” Variable (E1, E2, E3) 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 "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 "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 follow these instructions 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) clearance. See "Installation Instructions."
- **Has an air dry cycle been selected?**
Select the right cycle for the types of garments being dried. See "Cycles," page 3-4.
- **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

- **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

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

- **Was the dryer overloaded?**

Dry smaller loads that can tumble freely.

Odors

- **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.

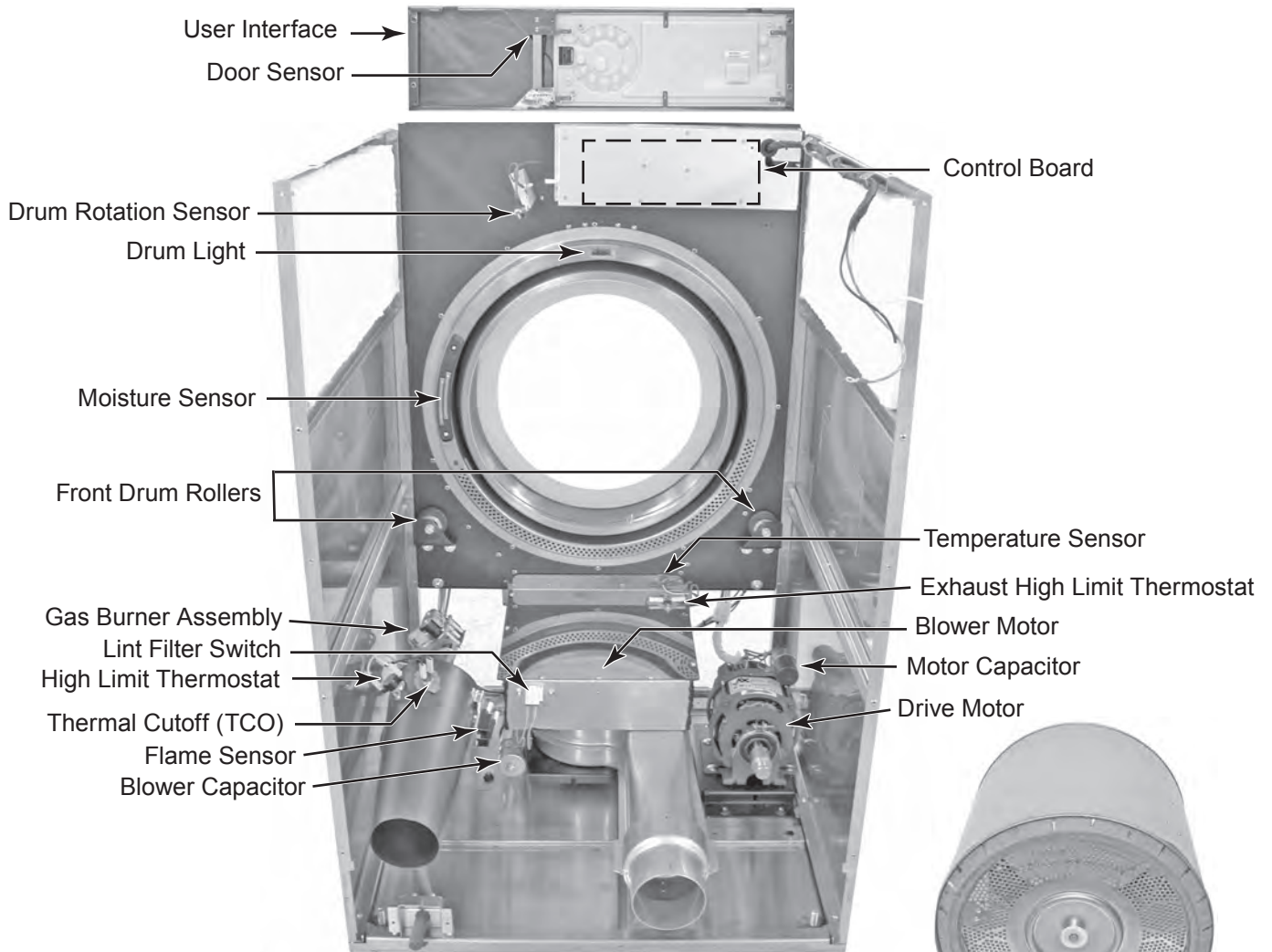
- **Is the dryer being used for the first time?**

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

COMPONENT ACCESS

This section instructs you on how to service each component inside the Pro Line® Front-Loading Gas and Electric Dryers. The components and their locations are shown below.

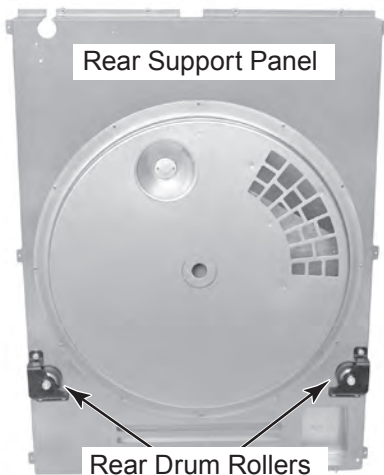
COMPONENT LOCATIONS



Viewed From the Rear Of The Dryer

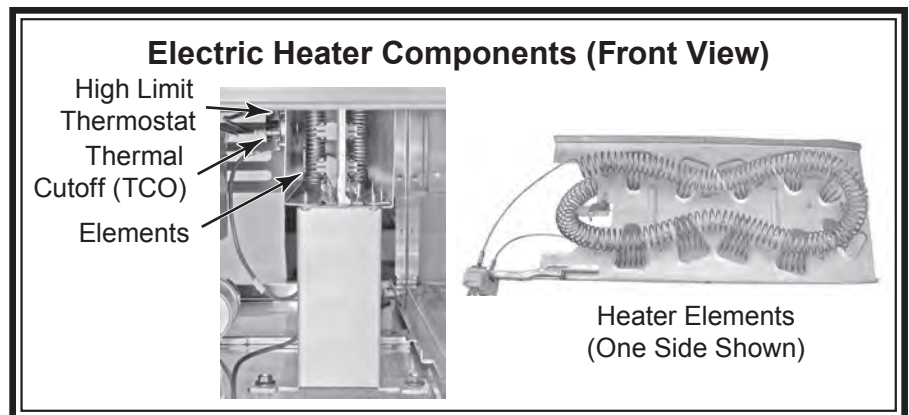


Drum



Rear Support Panel

Rear Drum Rollers



Electric Heater Components (Front View)

- High Limit Thermostat
- Thermal Cutoff (TCO)
- Elements

Heater Elements
(One Side Shown)

REMOVING THE USER INTERFACE, THE CONTROL BOARD, AND THE DOOR SENSOR

⚠ WARNING



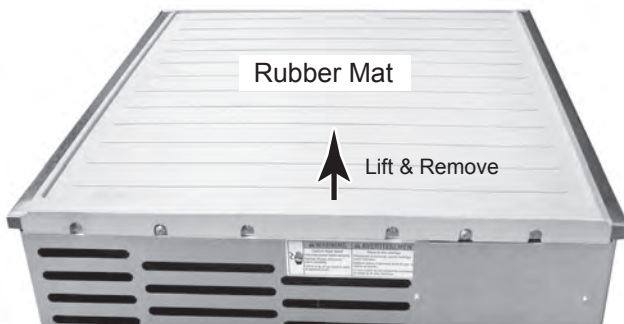
Electrical Shock Hazard

Disconnect power before servicing.

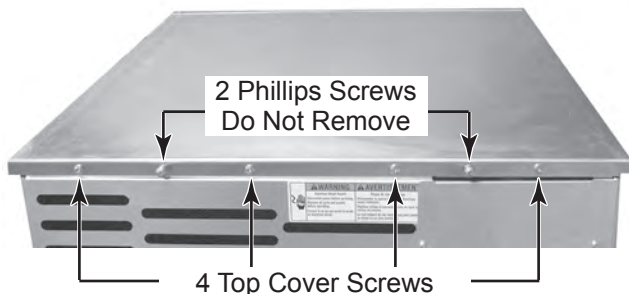
Replace all parts and panels before operating.

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

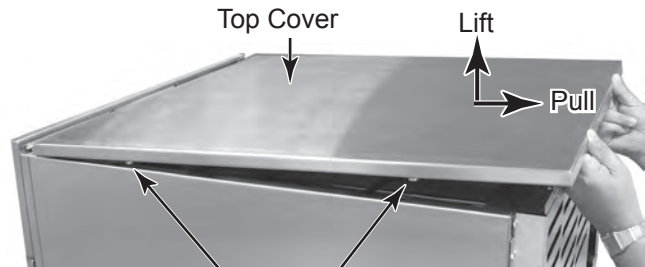
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Pull the dryer away from the wall far enough to access the back.
4. Lift and remove the rubber mat from the top of the dryer.



5. Remove the four T-20 screws from the rear of the dryer top cover. Do not remove the two Phillips screws and spacers.



6. To remove the top cover, pull the cover back, align the pins with the keyhole slots in the side panels, and lift the cover off the dryer.

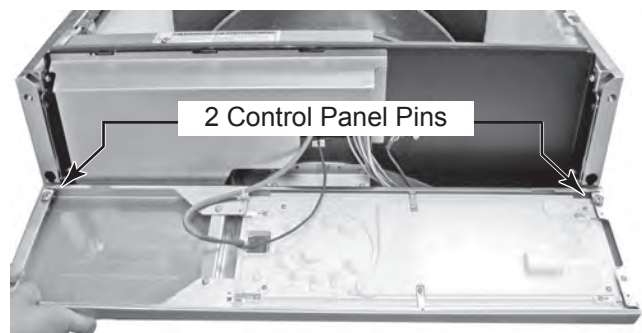


Remove Pins From Keyhole Slots

7. Remove the two Phillips screws from the rear of the control panel. **NOTE:** The screws are captured and cannot be removed from the chassis.

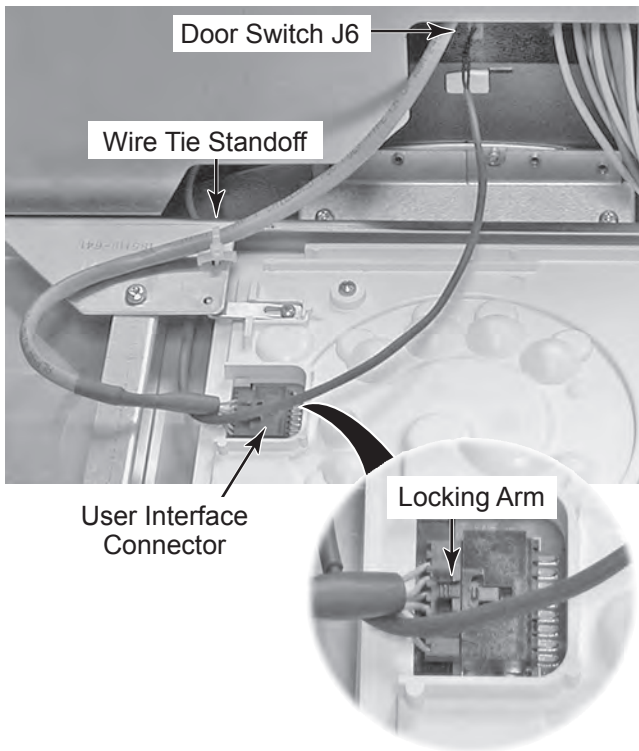


8. Lift the control panel, pull the bottom two pins from their keyhole slots, and rotate the panel down, as shown. Be careful not to scratch the panel.

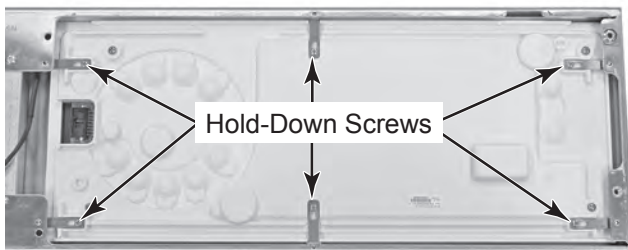


9. **To remove the user interface:**

- a) Using a pair of long-nose pliers, squeeze the locking tabs on the wire tie standoff, and pull the standoff out of the control panel bracket mounting hole.
- b) Press and release the locking arm, and disconnect door switch connector J6 from the control board.
- c) Press down on the locking arm, (see the round inset), and pull the user interface connector off the user interface board.

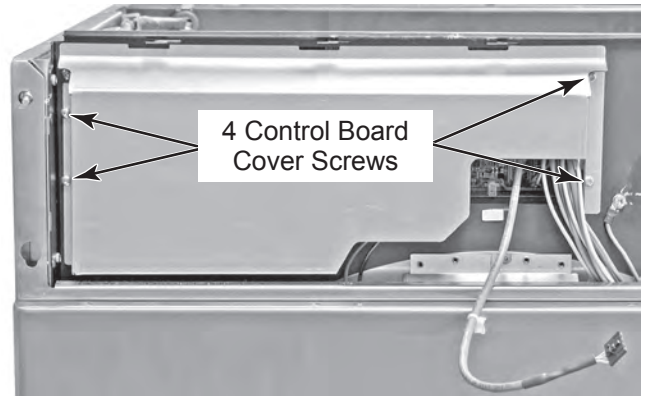


- d) Position the control panel facedown on a protected surface.
- e) Remove the screws and six hold-down brackets, and lift the user interface board assembly from the panel.

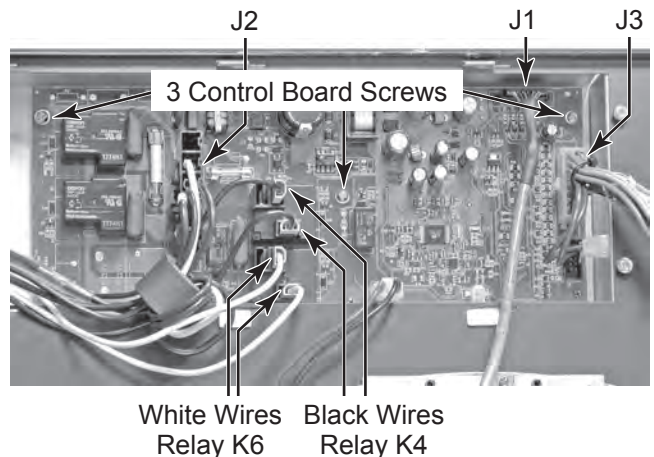


10. **To remove the control board:**

- a) Loosen (do not remove) the four T-20 screws from the control board cover, slide the cover to the right, and remove it from the dryer.



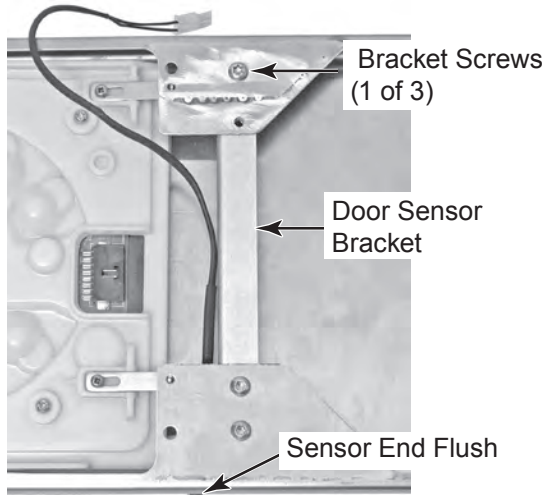
- b) Remove the three Phillips screws from the control board, unsnap the board from the mounting posts, and remove it.
- c) Press the new control board onto the mounting posts, and secure it with the three Phillips screws you removed in the previous step.
- d) Transfer each of the wire connectors from the old control board to the new one. Make sure that the connectors are securely fastened.



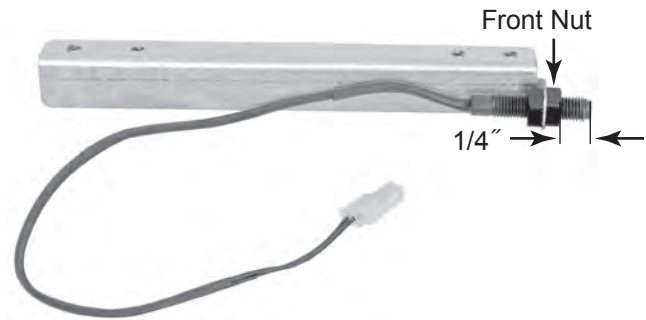
Continued on the next page.

11. **To remove the door sensor:**

- a) Remove the control panel (see page 4-2 for the procedure).
- b) Remove the three T-20 screws from the door sensor mounting bracket and remove the bracket and sensor.



- c) Remove the front nut from the door sensor and remove the sensor from the bracket. **NOTE:** When installing the sensor, keep the end approximately 1/4" from the front nut so the tip is flush with the front panel when it is installed (see above).



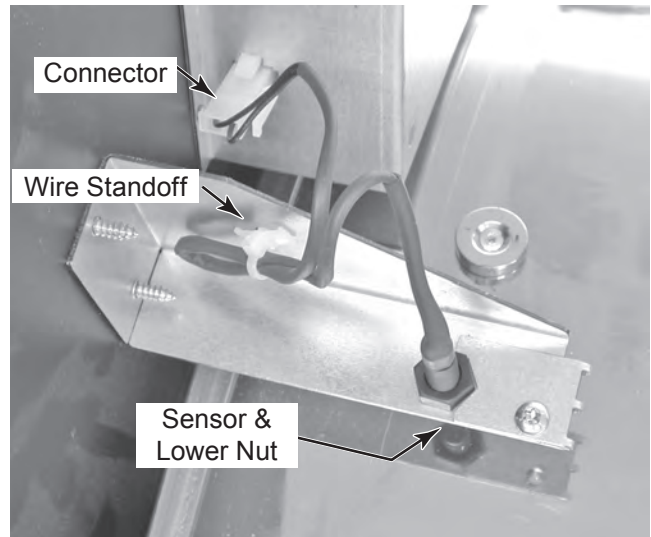
REMOVING THE DRUM ROTATION SENSOR

⚠ WARNING

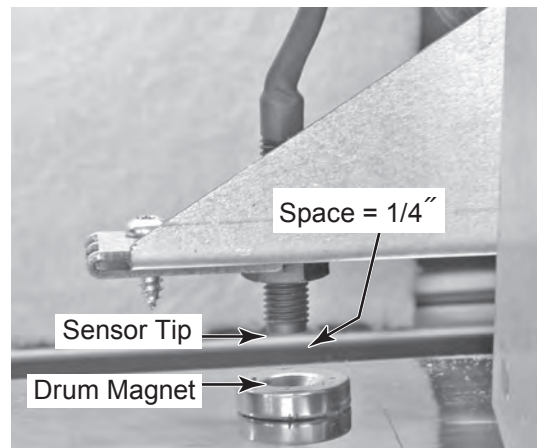


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the top cover from the dryer (see page 4-2 for the procedure).
4. Unlatch and disconnect the drum rotation sensor connector from the harness connector (see the top right photo).
5. Unlock the tabs from the wire standoff and pull the standoff out of the bracket.
6. Remove the lower nut from the drum rotation sensor and remove the sensor from the bracket.



REASSEMBLY NOTE: When you reinstall the drum rotation sensor, position the end of the sensor 1/4" from the drum magnet, and then tighten the mounting nuts.



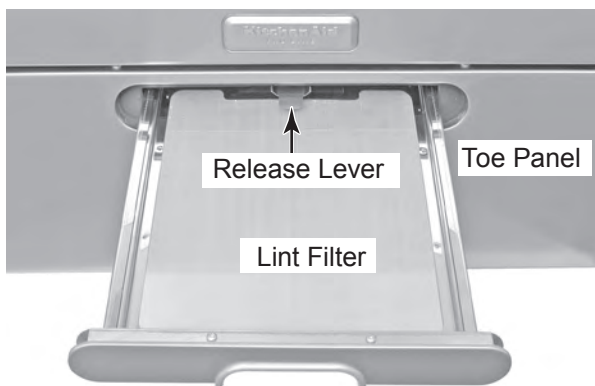
REMOVING THE EXHAUST HIGH LIMIT THERMOSTAT & THE TEMPERATURE SENSOR

⚠ WARNING

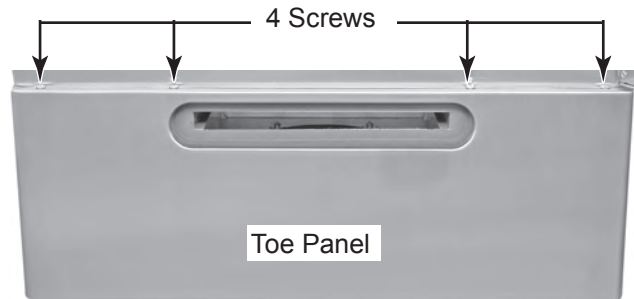


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

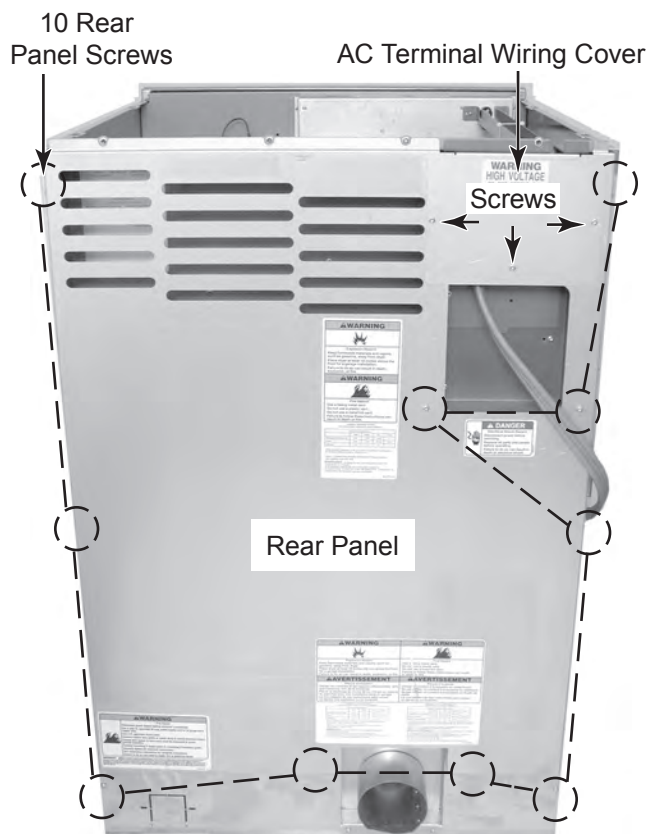
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the top cover from the dryer (see page 4-2 for the procedure).
4. Pull the lint filter out of the toe panel as far as it will go, press down on the release lever, and remove the filter.



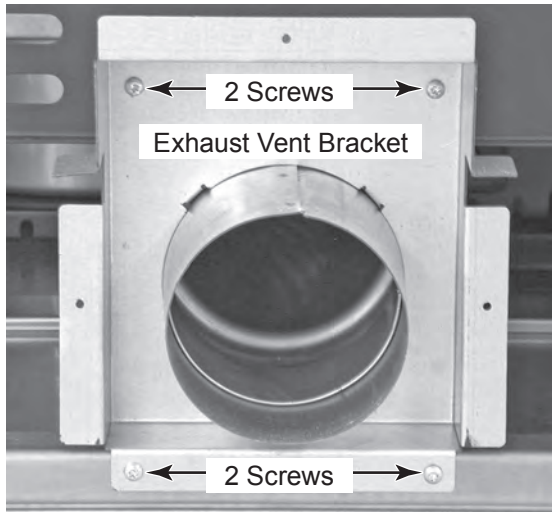
5. Open the dryer door.
6. Remove the four T-20 screws from the top of the toe panel, then remove the panel by pulling the top forward, and lifting and unhooking the bottom from the slots.



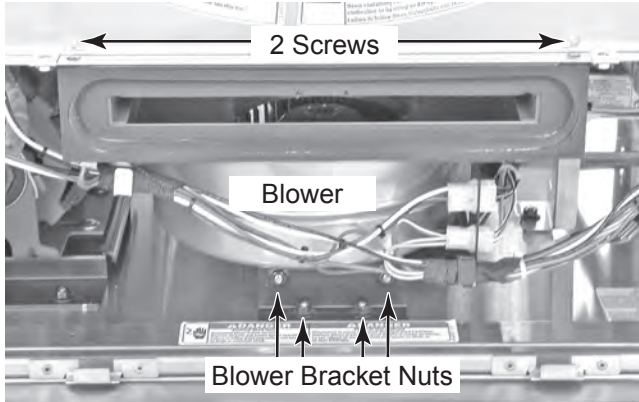
7. Remove the three T-20 screws from the AC terminal wiring cover (electric models only) and remove the cover.
8. Remove the ten T-20 screws from the rear panel, and remove the panel from the dryer.



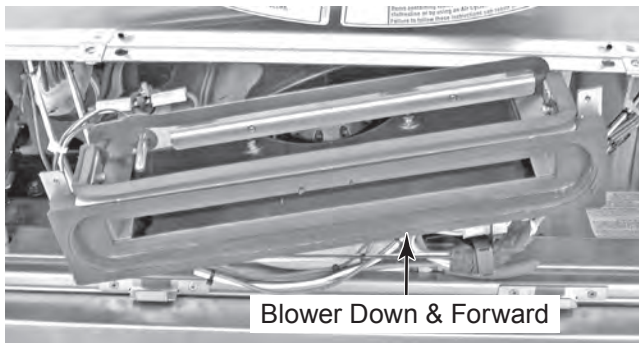
9. Remove the four T-20 screws from the exhaust vent bracket and pull the bracket off the vent.



10. Remove the two T-20 screws from the top blower screws.
11. Remove the four 7/16" nuts from the blower bracket, push the bracket back so it clears the two chassis studs, and remove it from under the blower.

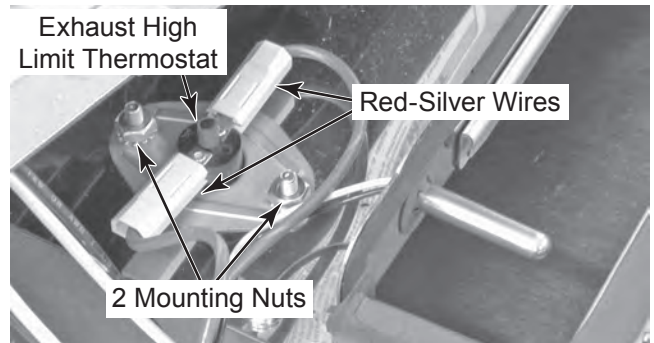


12. Pull the blower down and forward as far as necessary to access the exhaust high limit thermostat and temperature sensor.



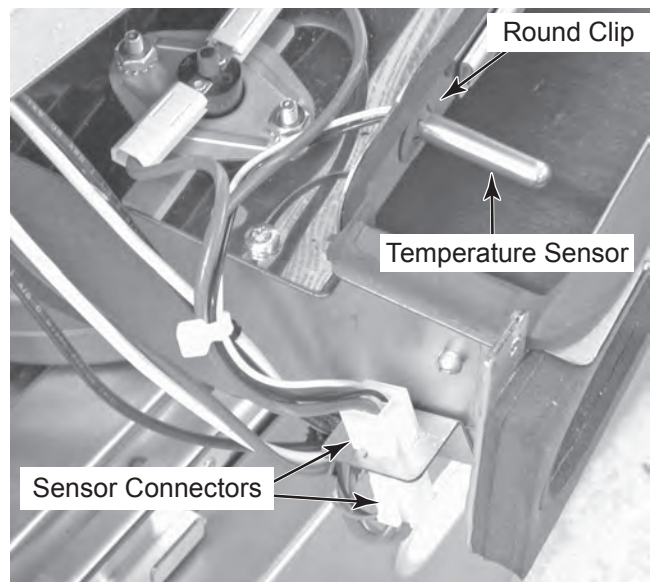
13. **To remove the exhaust high limit thermostat:**

- a) Disconnect the two connectors with the red-silver wires from the terminals.
- b) Remove the two nuts from the exhaust high limit thermostat and remove the thermostat.



14. **To remove the temperature sensor:**

- a) Unlatch and disconnect the temperature sensor connectors from the mounting bracket.
- b) While holding the round clip with a pair of pliers, turn the temperature sensor with your fingers, and push it out of the clip.



REMOVING THE HIGH LIMIT THERMOSTAT, THERMAL CUTOFF (TCO), AND HEATER ELEMENTS (ELECTRIC DRYERS 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.

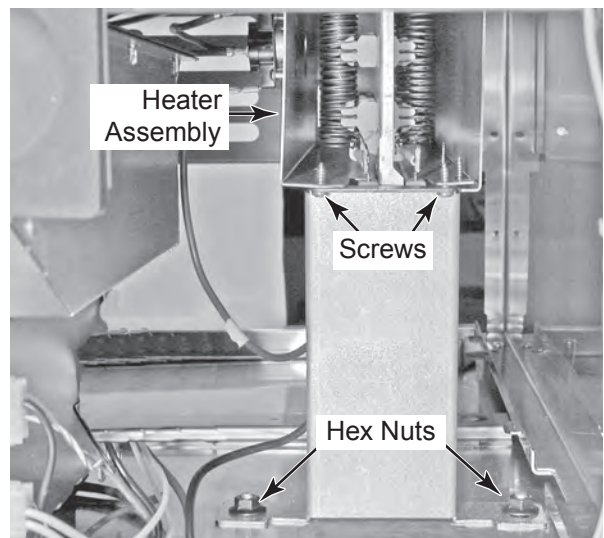
1. Unplug dryer or disconnect power.
2. Pull the dryer out from the wall.
3. Remove the toe panel from the front of the dryer (see page 4-6 for the procedure).



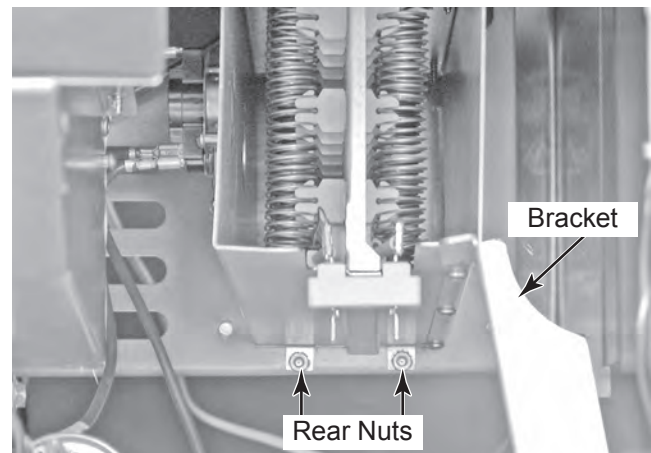
Heater Assembly

4. **IMPORTANT:** Discharge the blower capacitor by touching a 20,000 Ω resistor to the terminals and chassis ground (see page 4-14).

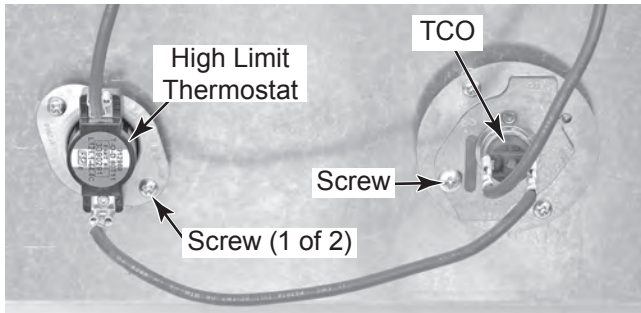
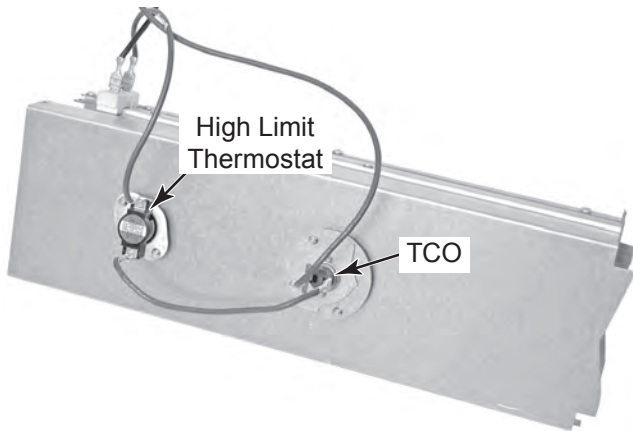
5. Remove the two T-20 screws from the heater bracket.
6. Remove the two 7/16" hex nuts from the heater bracket.
7. Remove the heater bracket from the two studs, rotate it to the right side, and prop the heater up with the bracket so that you can access the two nuts at the rear of the heater.



8. Remove the two 11/32" nuts from the rear of the heater housing.

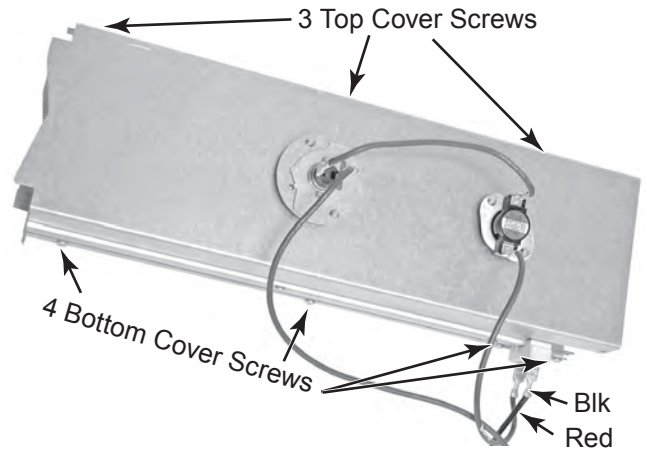


9. **To remove the high limit thermostat:**
- a) Disconnect the red wires from the terminals.
 - b) Remove the two mounting screws.
10. **To remove the thermal cutoff (TCO):**
- a) Disconnect the red wires from the terminals.
 - b) Remove the mounting screw.

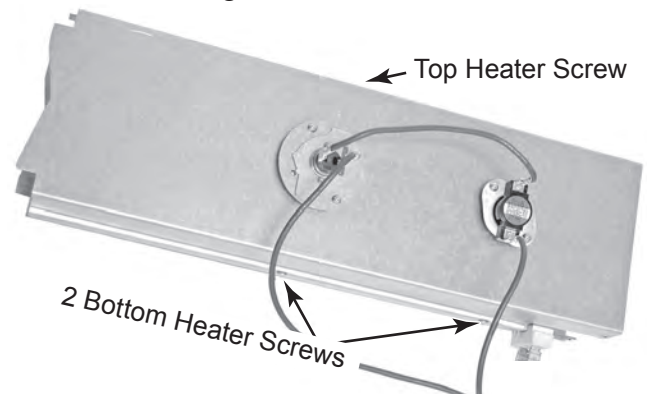


11. **To remove the heater elements:**
- a) Remove the high limit thermostat and the TCO from the heater housing (see steps 9 and 10).

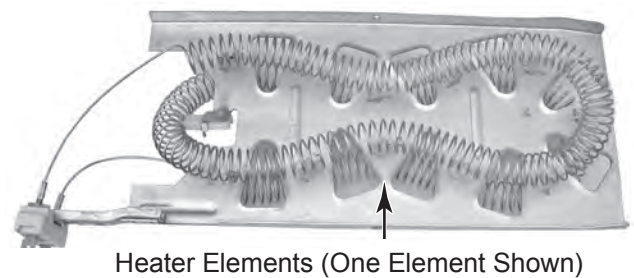
- b) Disconnect the black and red wires from the heater element terminals.
- c) Remove the 7 top and bottom cover mounting screws.



- d) Remove the 2 top and 1 bottom cover mounting screws from the heater.



- e) Slide the heater elements out of the housing.



REMOVING THE BURNER ASSEMBLY, FLAME SENSOR, THERMAL CUTOFF (TCO), AND HIGH LIMIT THERMOSTAT (GAS DRYERS ONLY)

⚠ WARNING

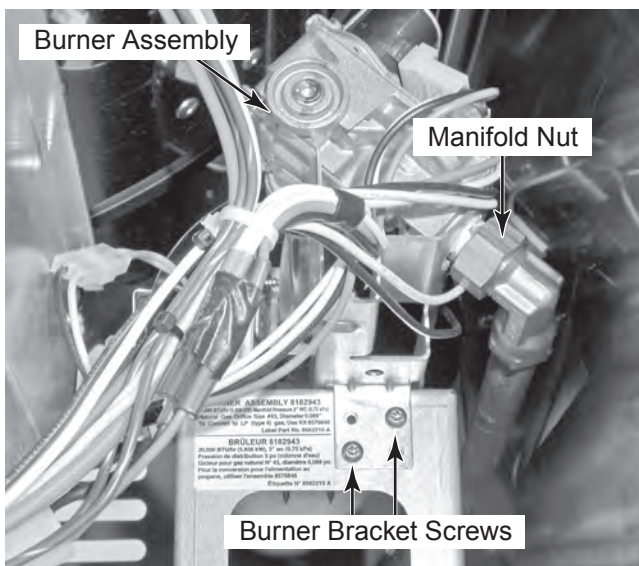


Electrical Shock Hazard

Disconnect power before servicing.
Replace all parts and panels before
operating.

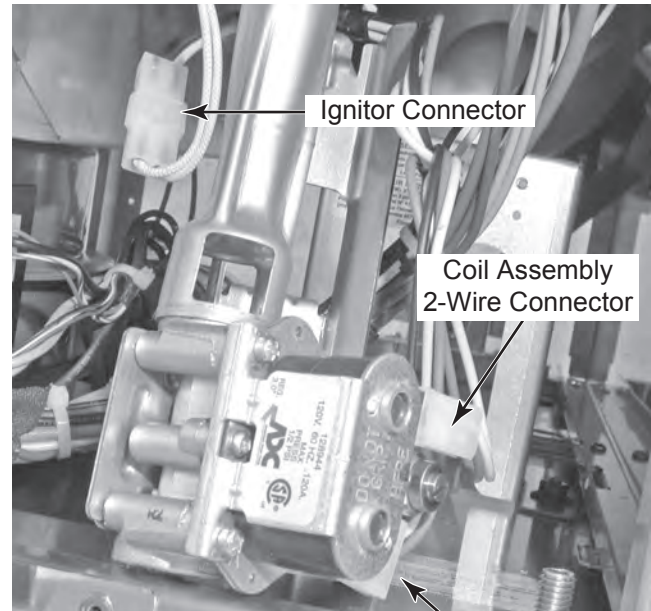
Failure to do so can result in death or
electrical shock.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the toe panel from the front of the dryer (see page 4-6 for the procedure).
4. **To remove the burner assembly:**
 - a) Remove the manifold nut from the burner assembly.
 - b) Remove the two T-20 screws from the burner support bracket, and pull the burner assembly away from the bracket.



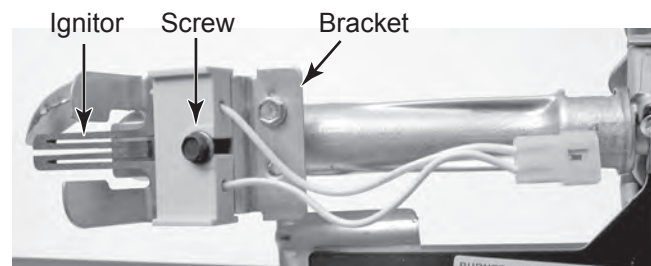
- c) Disconnect the following wires from the burner assembly:

- 2-wire connector from the ignitor.
- 2-wire & 3-wire connectors from the coil assembly.

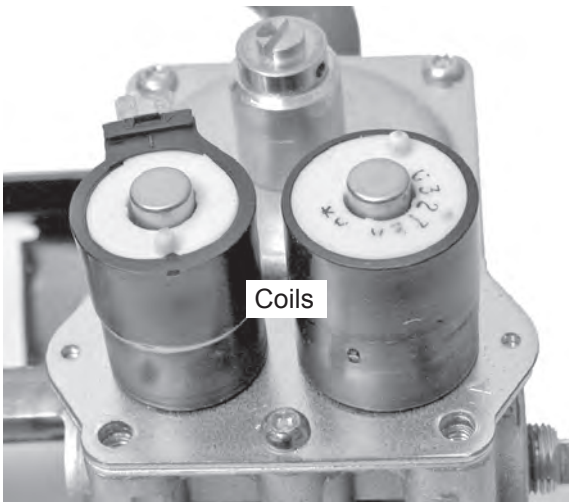
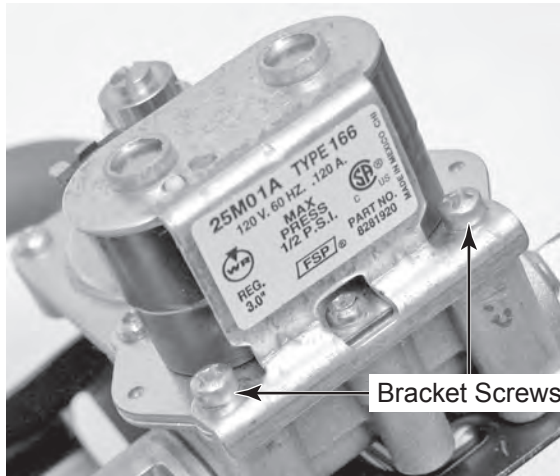


Coil Assembly 3-Wire Connector

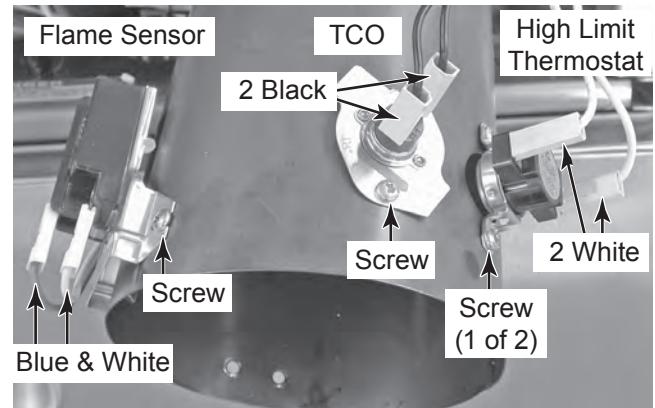
- d) **To remove the ignitor** from the burner assembly, loosen the 5/16" hex-head screw, and remove the ignitor from the mounting bracket.



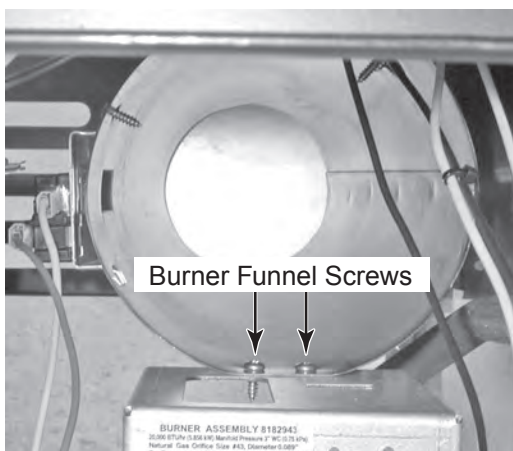
- e) **To remove the coils** from the burner assembly, remove the two screws from the bracket, and lift the two coils off the cores.



6. **To remove the flame sensor:**
- Remove the blue and white wires from the sensor terminals.
 - Remove the hex-head screw from the flame sensor and remove the sensor from the burner funnel.
7. **To remove the thermal cutoff (TCO):**
- Disconnect the two connectors with the black wires from the TCO terminals.
 - Remove the hex-head screw from the TCO bracket and remove the cutoff.
8. **To remove the high limit thermostat:**
- Disconnect the two connectors with the white wires from the high limit thermostat.
 - Remove the two hex-head screws from the high limit thermostat and remove the thermostat.



5. Remove the two T-20 screws from the burner funnel, and pull the funnel forward so you can access the components.



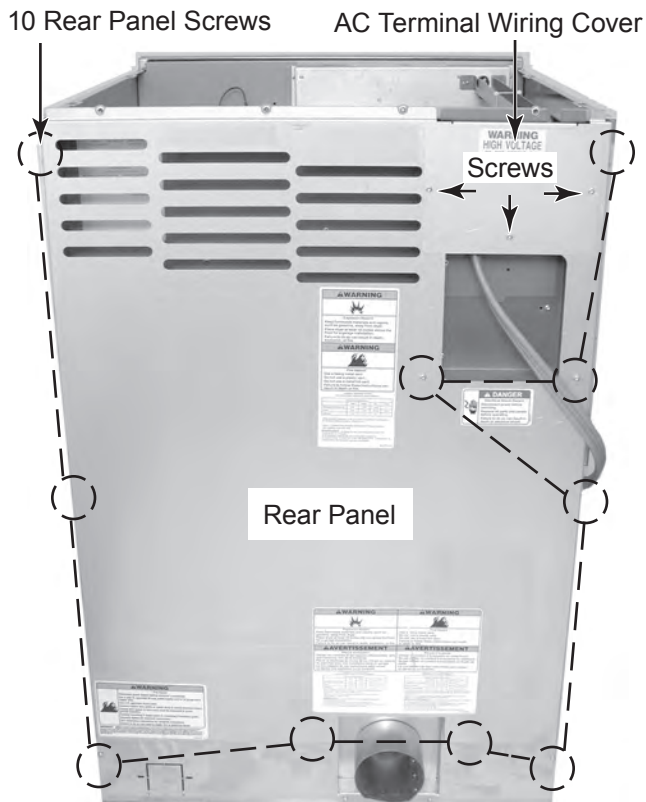
REMOVING THE DRIVE MOTOR & MOTOR CAPACITOR

⚠ WARNING

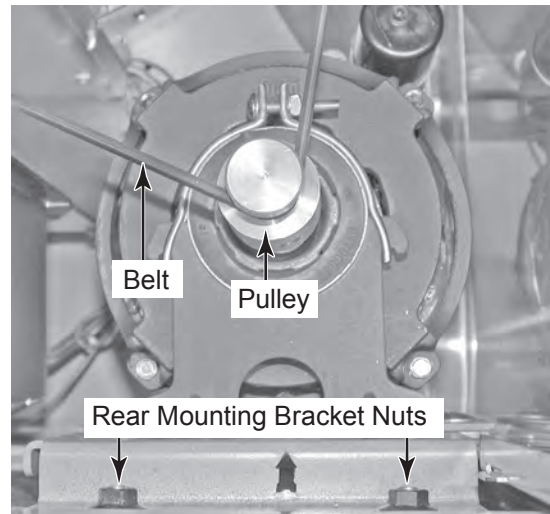


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

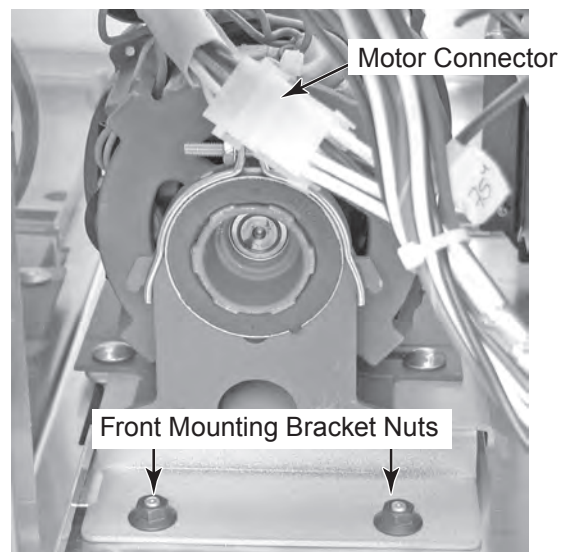
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the top cover from the dryer (see page 4-2 for the procedure).
4. Remove the three T-20 screws from the AC terminal wiring cover (electric models only) and remove the cover.
5. Remove the ten T-20 screws from the rear panel, and remove the panel from the dryer.



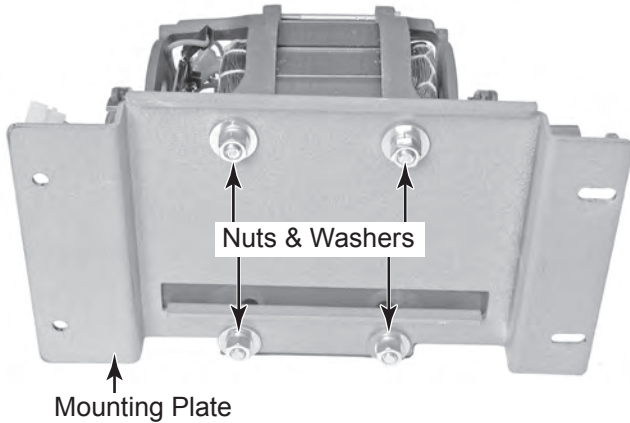
6. To remove the drive motor:
 - a) From the rear of the dryer, remove the drive belt from the drive motor pulley. To do this, pull back on the belt, and rotate the pulley until the belt is off.
 - b) Remove the two 7/16" nuts from the rear of the drive motor mounting bracket.



- c) Remove the toe panel from the front of the dryer (see page 4-6 for the procedure).
- d) Squeeze the locking tabs on the motor connector, and remove the connector from the wiring harness.
- e) Remove the two 7/16" hex nuts from the front of the drive motor mounting bracket, and remove the drive motor assembly from the dryer.

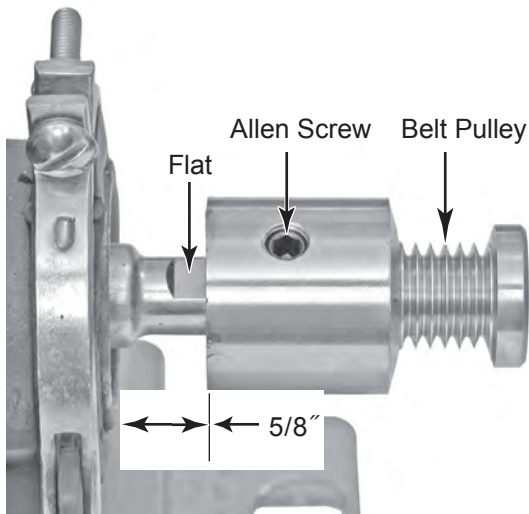


- f) Remove the four 1/2" nuts and washers from the drive motor mounting plate and remove the motor from the plate.



- g) Loosen the Allen screw on the belt pulley and remove the pulley from the motor shaft.

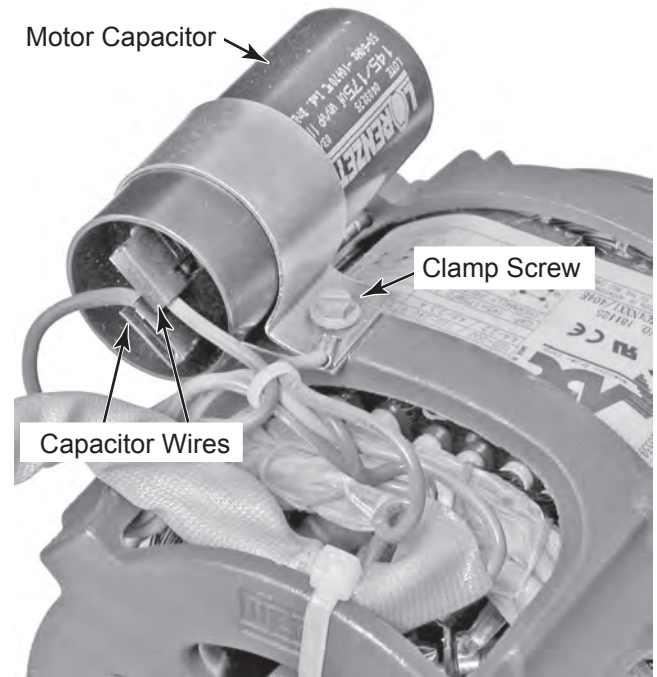
NOTE: When you remount the belt pulley on the drive motor shaft, position the pulley so the inside edge is 5/8" from the motor case, and tighten the Allen screw on the flat of the shaft.



7. **To remove the motor capacitor:**

NOTE: The motor capacitor can be replaced without removing the drive motor from the unit.

- a) **IMPORTANT:** Discharge the capacitor by touching a 20,000 Ω resistor to the terminals and the chassis.
b) Disconnect the red and black wires from the capacitor terminals.
c) Remove the hex-head screw from the clamp and remove the motor capacitor.



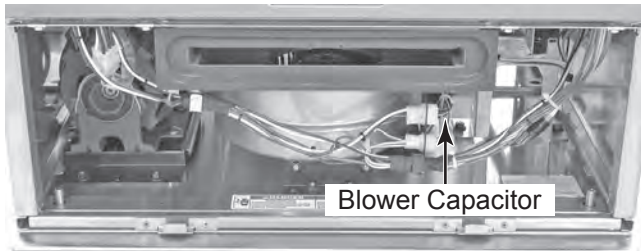
REMOVING THE BLOWER CAPACITOR AND THE LINT FILTER SWITCH

⚠ WARNING



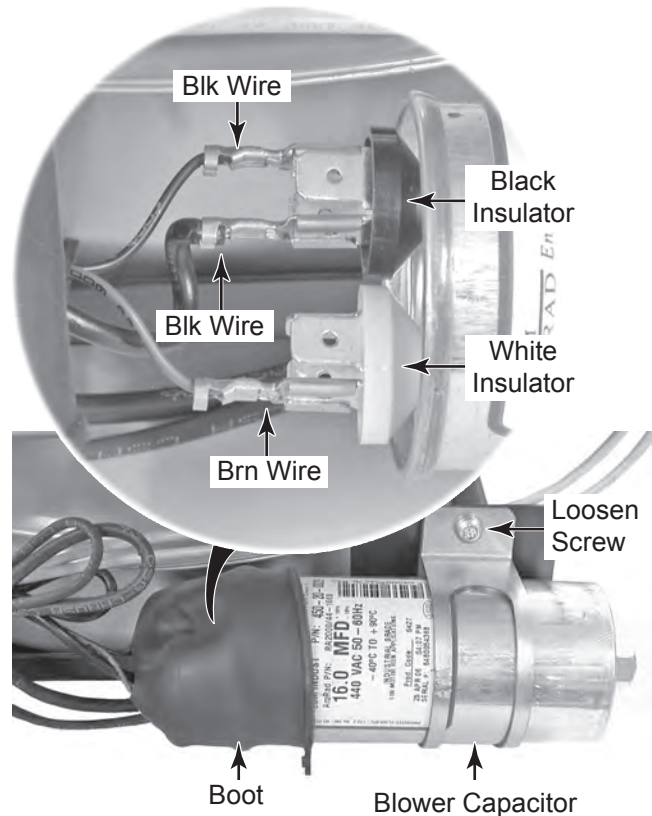
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the toe panel from the front of the dryer (see page 4-6 for the procedure).

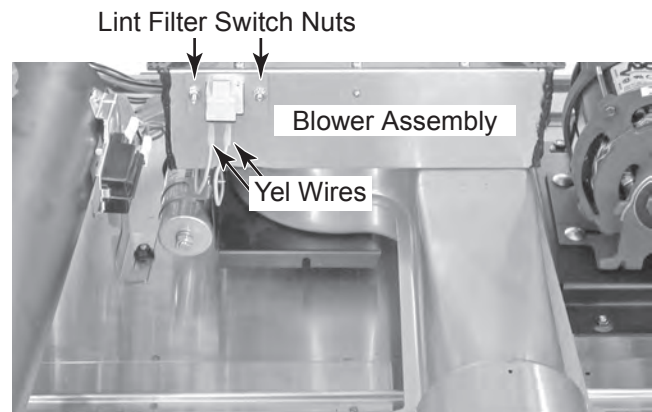


4. **To remove the blower capacitor (see the top right photo):**

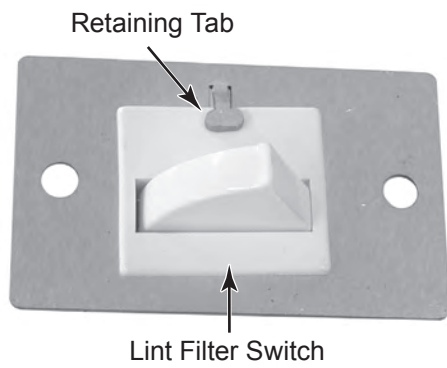
- a) Pull the capacitor boot off the front of the blower capacitor. Be careful not to touch the bare capacitor or wire terminals.
- b) **IMPORTANT:** Discharge the capacitor by touching a 20,000 Ω resistor to the terminals and the chassis.
- c) Disconnect the brown and two black wires from the blower capacitor terminals. Note that the black wires connect to the terminals with the black insulator, and the brown wire to the terminal with the white insulator.
- d) Loosen the 5/16" mounting screw from the capacitor bracket, and remove the capacitor from the bracket.



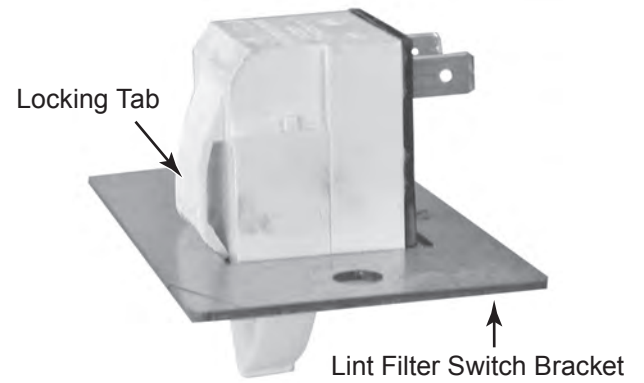
5. **To remove the lint filter switch:**
 - a) Remove the rear panel from the dryer (see page 4-12 for the procedure).
 - b) On the rear of the blower assembly, disconnect the two yellow wires from the lint filter switch terminals.
 - c) Remove the two hex nuts from the lint filter switch bracket studs and remove the switch from the blower.



d) Bend the retaining tab away from the lint filter switch.



e) Press the locking tab to release the lint filter switch from the bracket and push the switch out of the bracket.



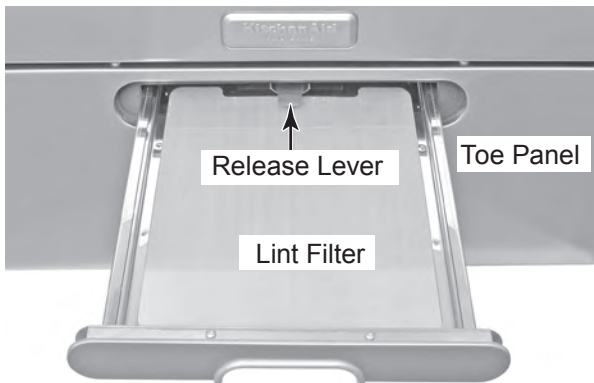
REMOVING THE BLOWER MOTOR

⚠ WARNING

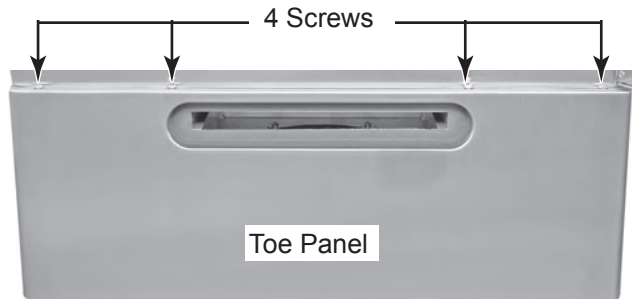


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

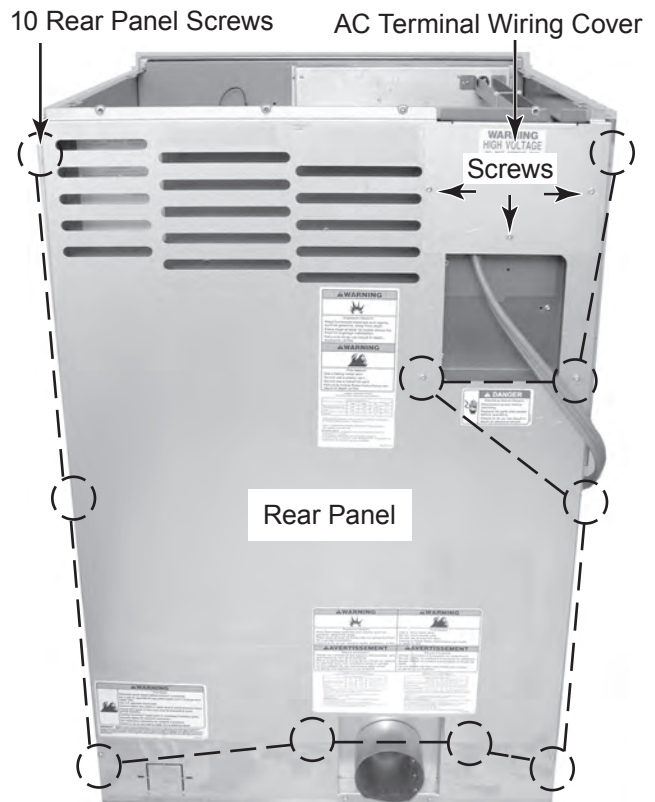
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the top cover from the dryer (see page 4-2 for the procedure).
4. Pull the lint filter out of the toe panel as far as it will go, press down on the release lever, and remove the filter.



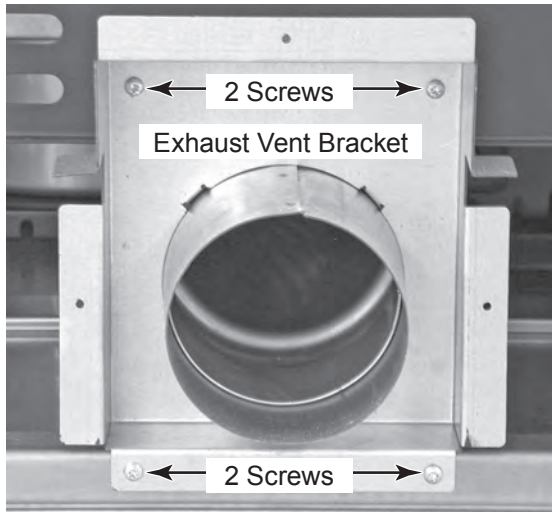
5. Open the dryer door.
6. Remove the four T-20 screws from the top of the toe panel, then remove the panel by pulling the top forward, and lifting and unhooking the bottom from the slots.



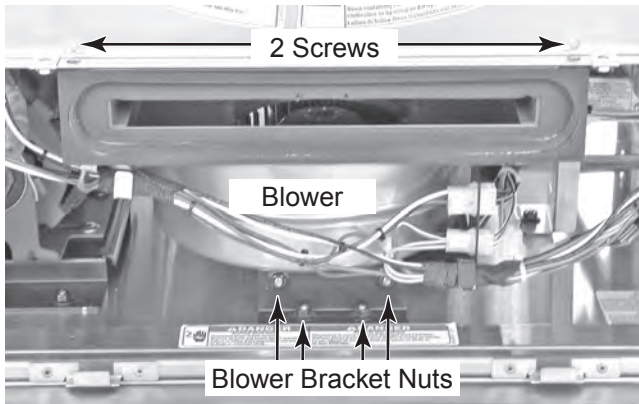
7. Remove the three T-20 screws from the AC terminal wiring cover (electric models only) and remove the cover.
8. Remove the ten T-20 screws from the rear panel, and remove the panel from the dryer.



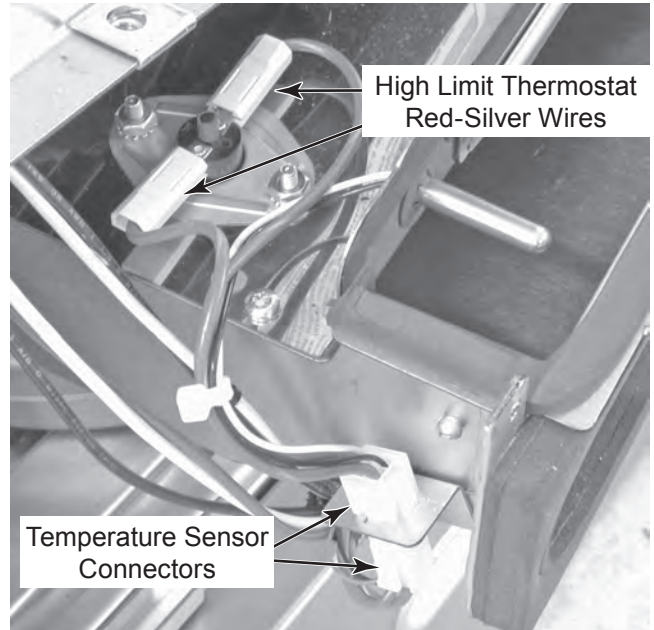
- Remove the four T-20 screws from the exhaust vent bracket and pull the bracket off the vent.



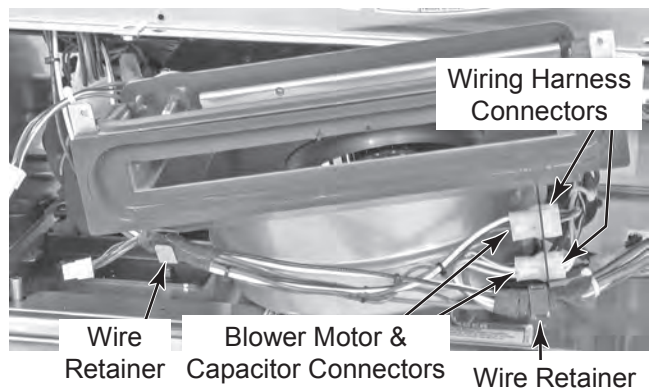
- Remove the two T-20 screws from the front of the blower.
- Remove the four 7/16" nuts from the blower bracket, push the bracket back so it clears the two chassis studs, and remove it from under the blower.



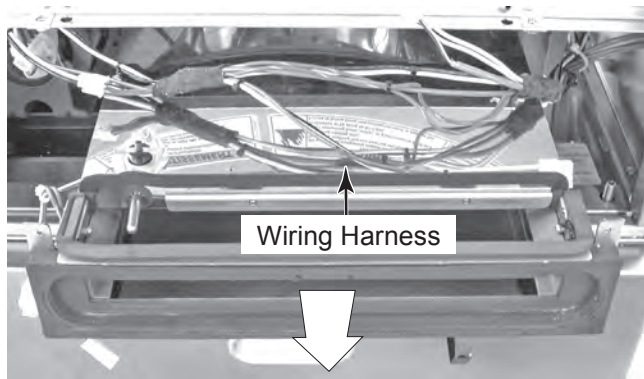
- Disconnect the two red-silver wires from the high limit thermostat terminals.
- Unlatch and disconnect the temperature sensor connectors from the mounting bracket.



- Unlatch and disconnect the blower motor and capacitor connectors and the wiring harness connectors from the mounting bracket.
- Unhook and pull the wires out of the two wire retainers.

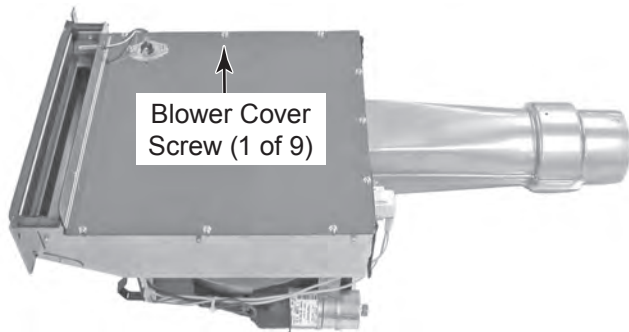


16. Position the wire harness on top of the blower motor assembly and remove the assembly from the dryer.

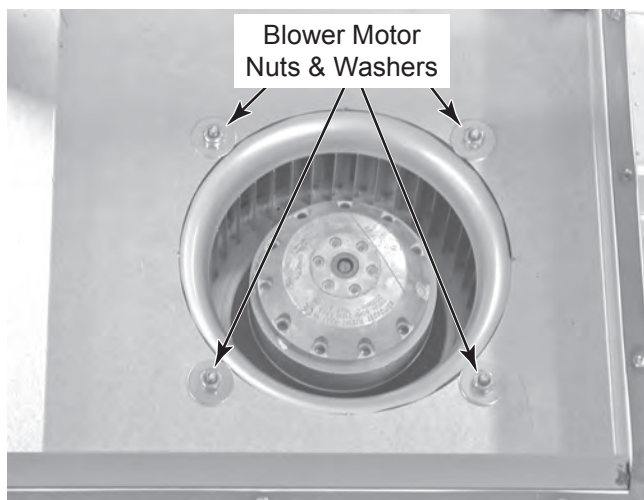


Remove Blower Motor Assembly

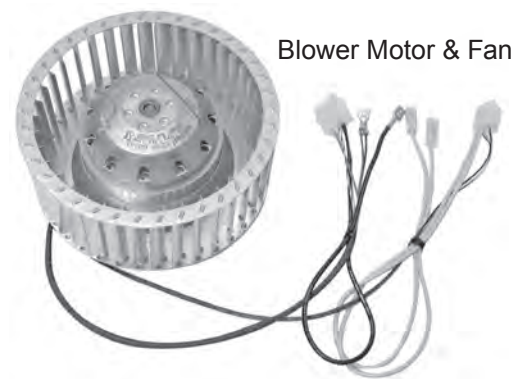
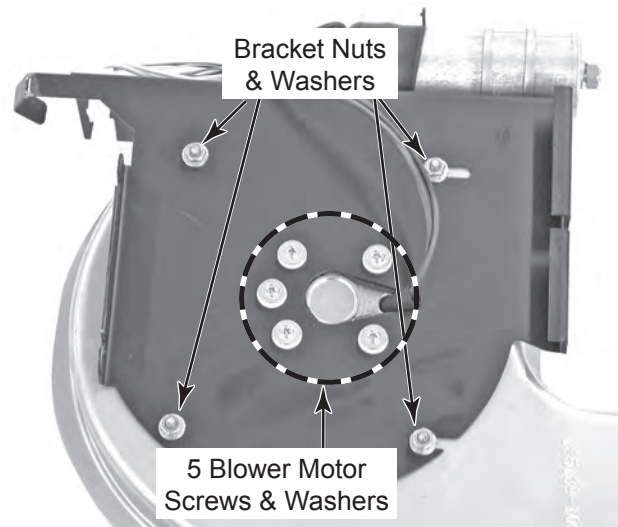
17. Remove the nine T-20 screws from the blower cover and remove the cover.



18. Remove the four locknuts and washers from the blower motor and remove the motor from the housing.



19. Remove the four locknuts and washers from the blower motor bracket.
20. Remove the five blower motor screws and washers from the bracket and remove the bracket and motor from the housing.



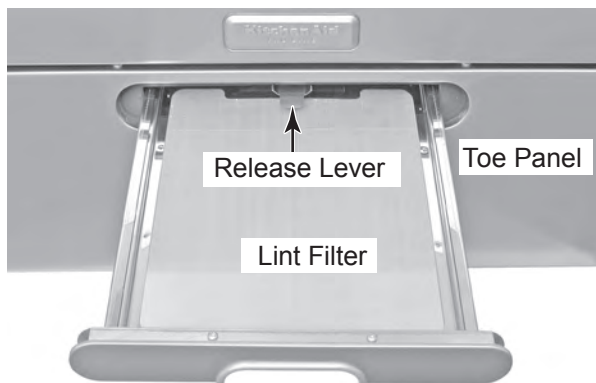
REMOVING THE BELT AND DRUM

⚠ WARNING

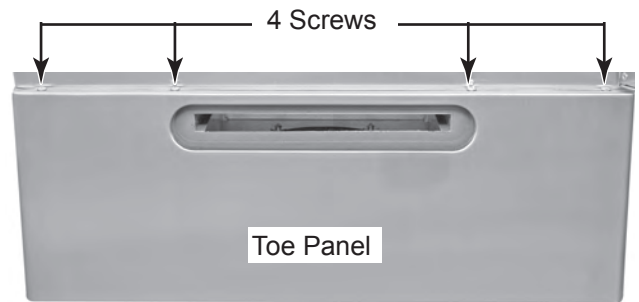


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

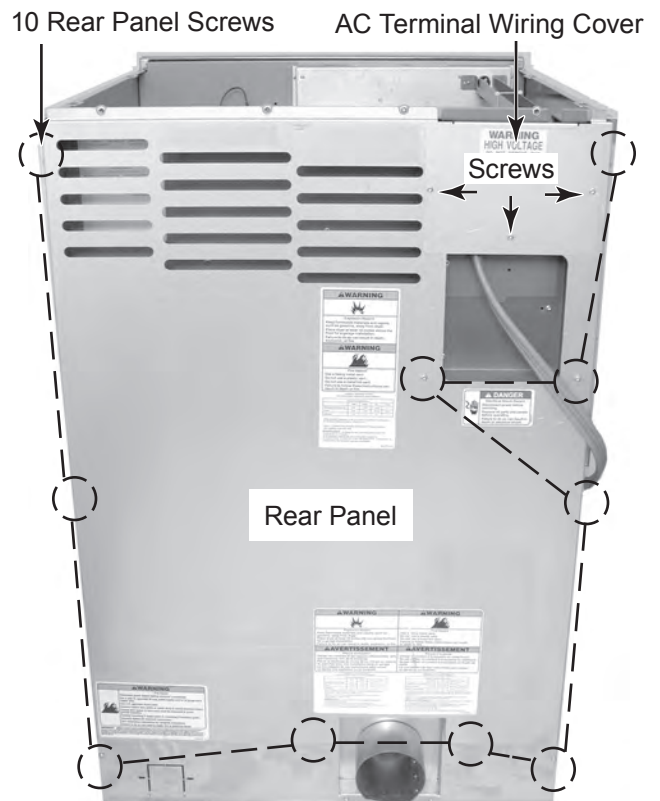
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the top cover from the dryer (see page 4-2 for the procedure).
4. Pull the lint filter out of the toe panel as far as it will go, press down on the release lever, and remove the filter.



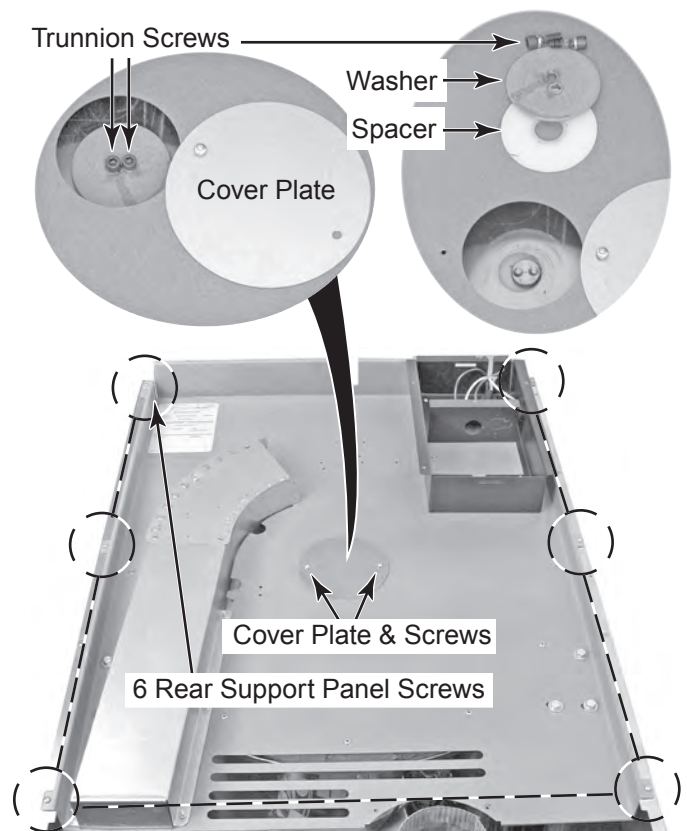
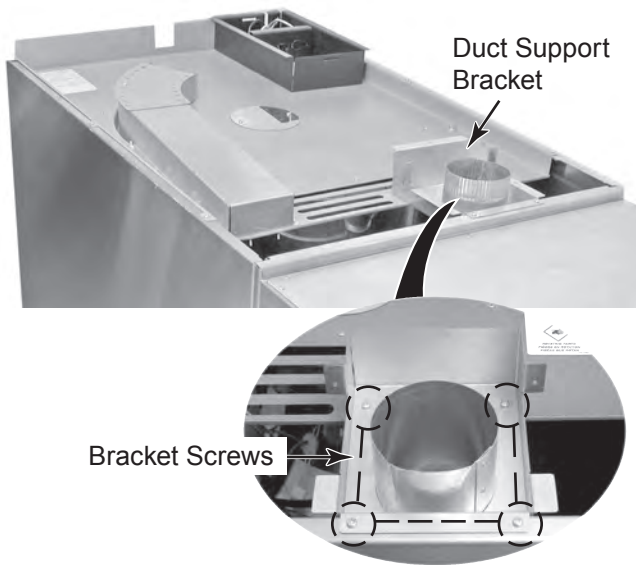
5. Open the dryer door.
6. Remove the four T-20 screws from the top of the toe panel, (see the top right photo), then remove the panel by pulling the top forward, and lifting and unhooking the bottom from the slots.



7. Remove the heater assembly from the front of the dryer (see page 4-8 (electric) or 4-10 (gas) for the procedure).
8. Remove the three T-20 screws from the AC terminal wiring cover (electric models only) and remove the cover.
9. Remove the ten T-20 screws from the rear panel, and remove the panel from the dryer.

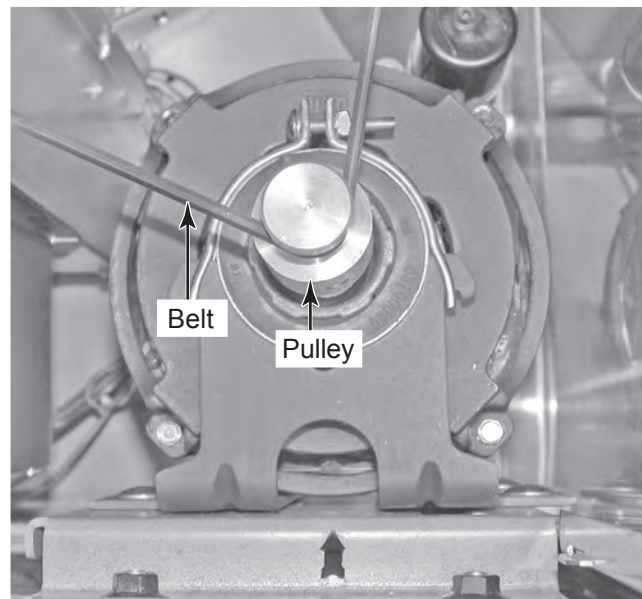


10. Lay a covering on the floor in front of the dryer, large enough to protect the front of the dryer.
11. Remove the two screws from the door handle, and remove the handle.
12. Tape the dryer door closed.
13. Tip the dryer onto its front.
14. Remove the four T-20 screws from the duct support bracket and slide the bracket off the duct.



15. Remove the six T-20 screws from the rear support panel (see the top right photo).
16. Remove the left screw and loosen the right screw on the upper cover plate, then rotate the plate so you can access the screws that are under it. Tighten the cover screw to hold it in place.
17. Remove the two 3/16" Allen trunnion screws from the rear of the drum, and remove the metal washer and nylon spacer.

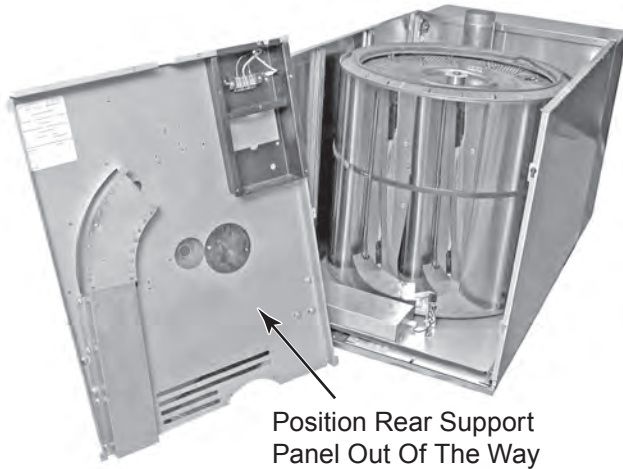
18. **To remove the belt from the drum:**
 - a) Pull the belt off the pulley.



- b) Lift the bottom of the rear support panel off the back of the drum just far enough to slide the belt down behind the drum and remove it.

19. **To remove the drum:**

- a) Lift the rear support panel off the back of the dryer, and position it so it is clear of the drum.
- b) Pull the belt off the pulley.



- c) Be careful not to catch the front of the drum on the end of the drum sensor inside the front panel, and lift the drum straight up and out of the dryer cabinet.



REASSEMBLY NOTE: The replacement belt will have to be stretched when mounting it around the drum and the motor pulley. The following procedure will assist in helping to stretch the belt, using the rear support panel and drum as leverage.

To reinstall a new belt on the unit:

1. If not already done, install the drum in the dryer.
2. Loop the new belt over the drum and onto the drive motor pulley.
3. Place the rear support panel on the back of the unit, and align the two mounting holes for the Allen trunnion screws. Install the screws and secure the support panel to the drum.
4. Close the cover plate and secure it with its mounting screws.
5. Pull either side of the rear support panel up so that the top cabinet side panel tab fits into the slot of the support panel, as shown below. Press the side panel against the support panel to hold it in place and install a T-20 screw at that mounting hole location.
6. Pull the other side of the rear support panel up so that the top cabinet side panel tab fits into the slot of the support panel. Press the side panel against the support panel to hold it in place and install a T-20 screw at that mounting hole location.



7. Install the remaining four T-20 screws in the rear support panel and tighten them securely.
8. Raise the dryer to its upright position and reinstall the rear panel on the unit.

REMOVING THE MOISTURE SENSOR

⚠ WARNING



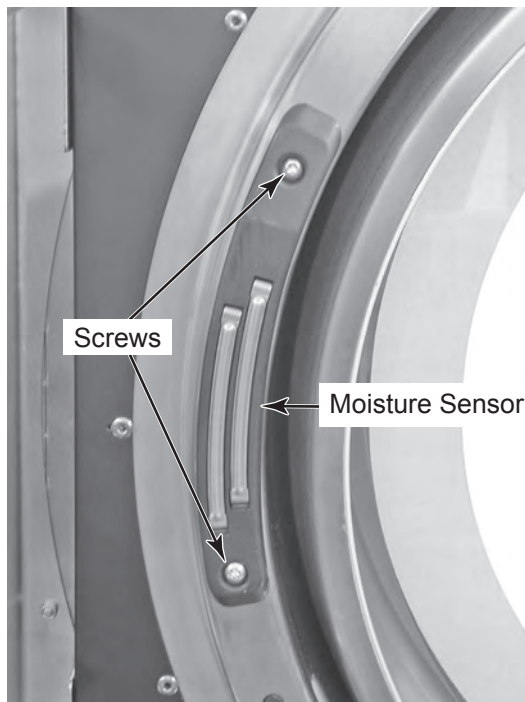
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

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

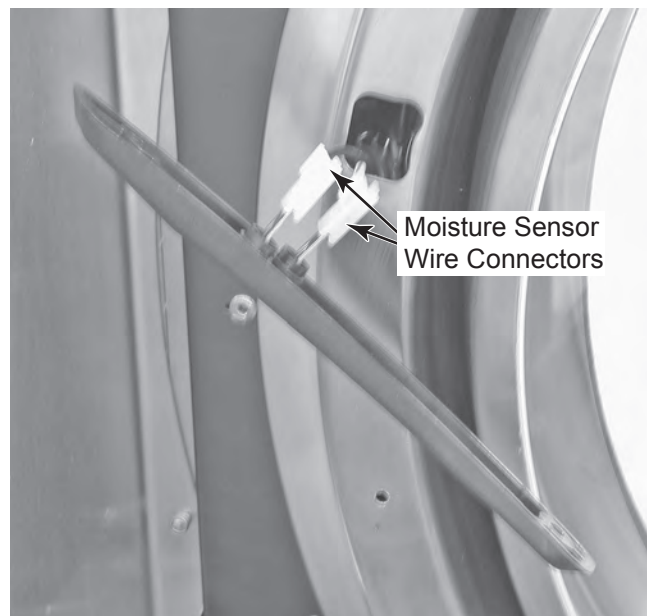
1. Unplug dryer or disconnect power.
2. Open the dryer door.
3. Remove the two screws from the moisture sensor.



(Viewed From Rear Of Unit With Drum Removed)

4. Carefully pull the moisture sensor forward, and slide the two wire connectors out of the access hole. Disconnect the black and red wire connectors from the moisture sensor terminals.

NOTE: The connectors and holes are a snug fit, so be careful when you remove the connectors that they do not pull off their terminals behind the access holes. The connectors can be difficult to retrieve if this happens.



ADJUSTING A DRUM ROLLER

⚠ WARNING



Electrical Shock Hazard
Disconnect power before servicing.
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Failure to do so can result in death or electrical shock.

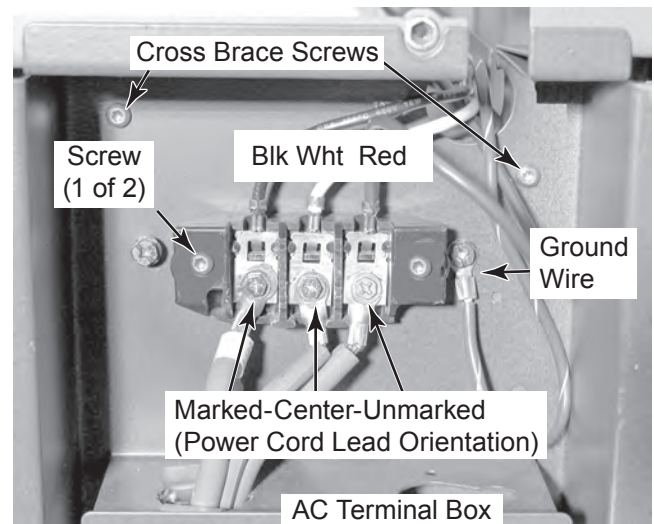
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the belt and drum from the dryer (see pages 4-19 through 4-21 for the procedure).

NOTE: The front and rear rollers are adjusted in the same manner. However, the front roller brackets are held in place with studs, while the rear panel roller brackets are held in place with bolts. The rear rollers are shown in this procedure.

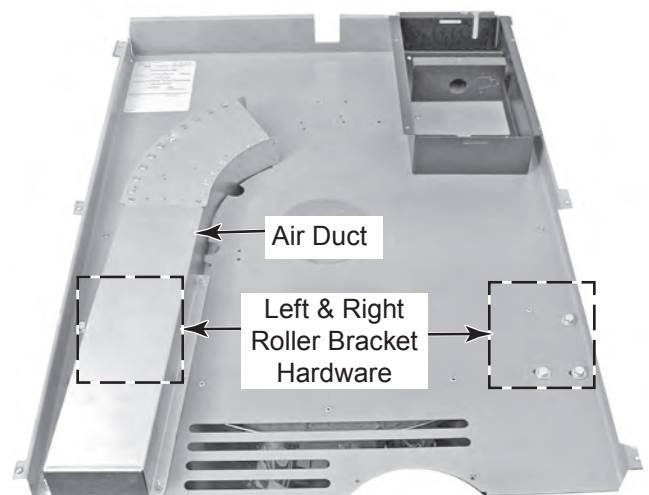
Perform step 4 only if you have an electric dryer; otherwise, proceed to step 5.

4. **Rear Rollers Only:** Remove the AC terminal box (electrical models only) from the rear panel as follows (see the top right photo):
 - a) Remove the two T-20 cross brace screws from inside the AC terminal box.
 - b) Remove the screws for the three power cord leads and remove the leads from the terminal block. **IMPORTANT:** Make sure that you orient the three power cord leads correctly when you reconnect them to the terminal block screws (as shown in the photo).
 - The marked lead connects to the black wire terminal.

- The center lead connects to the white wire terminal.
 - The unmarked lead connects to the red wire terminal.
- c) Remove the screw from the ground wire.
 - d) Remove the two T-20 screws from the AC terminal block, then pull the block and the rubber grommet through the panel slot.



5. Loosen the three 7/16" bolts and washers from the roller bracket. **NOTE:** To adjust the left roller (facing the rear of the panel), you will have to remove the air duct to access two of the bolts.



Continued on the next page.

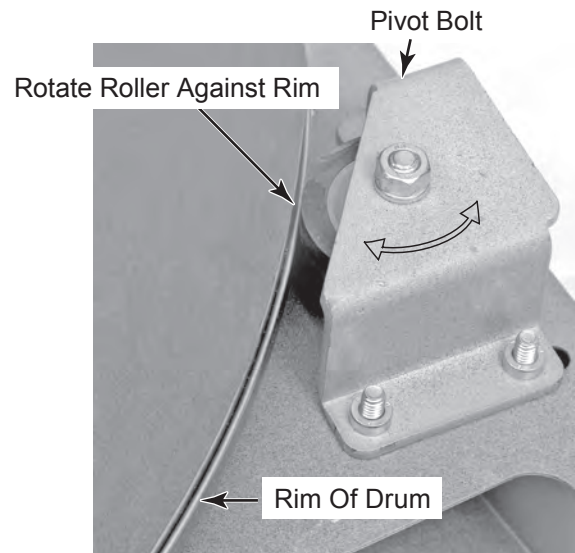
NOTE: The roller should keep the drum centered with the round flange on the rear (or front) panel. If the roller is not adjusted properly, the drum will not be centered, and the felt around the ends of the drum will wear prematurely.

6. To properly adjust the roller:

- a) Loosen the three 7/16" bolts on the roller just enough so that you can rotate the roller bracket on its top bolt.
- b) Turn the rear panel over so that the round flange area is facing up, and lay the panel on the floor.
- c) Place the rear of the drum onto the rear panel so that it is over the round flange.



- d) Rotate the roller bracket so that the roller makes firm contact with the rim of the drum. **NOTE:** Make sure that the roller stays in place once you position it. If it moves, tighten the bolts, as necessary.



- e) Without moving the roller bracket, carefully reach under the end of the rear panel, and tighten two of the three bolts to hold the bracket in place.
- f) Remove the drum, lift the panel, and tighten the three roller bracket bolts securely.
- g) Repeat the the procedure for the front rollers by positioning the drum over the front panel, and adjusting the rollers in a similar manner.

REMOVING A DRUM ROLLER

⚠ WARNING

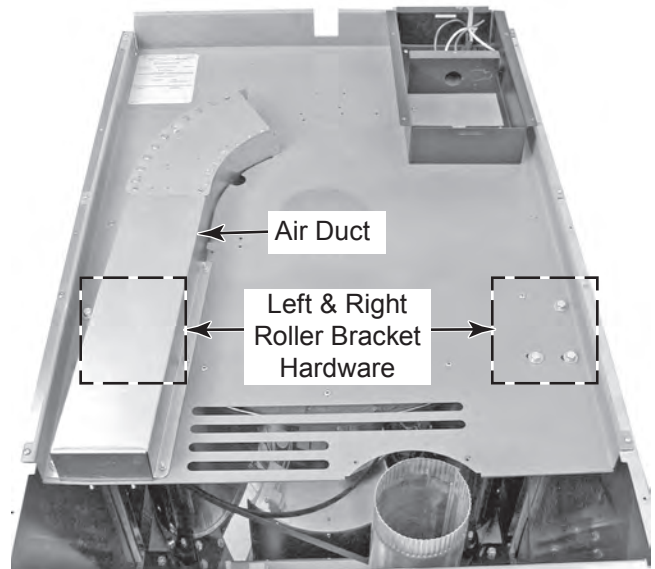


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

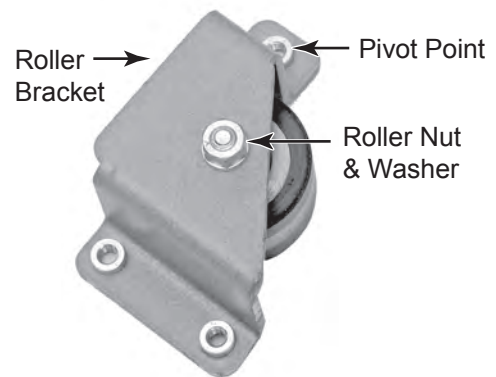
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the belt and drum from the dryer (see pages 4-19 through 4-21 for the procedure).

NOTE: The front and rear rollers are replaced in the same manner. However, the front roller brackets are held in place with studs, while the rear panel roller brackets are held in place with bolts. The rear rollers are shown in this procedure.

4. Mark the position of the roller bracket bolts on the rear support panel prior to loosening them. The hardware must be reinstalled in the same position to maintain the proper roller adjustment.
5. Remove the three 7/16" bolts and washers and remove the bracket and roller (see the top right photo). **NOTE:** To remove the left roller (facing the rear of the support panel), you will have to remove the air duct to access two of the bolts.



6. Remove the 1/2" nut and washer from the roller and remove the roller from the bracket. **NOTE:** Mount the replacement roller to the bracket with the 1/2" nut, and tighten it securely before you mount the bracket to the panel.



7. Locate the roller bracket bolt locations that you marked in step 4, then mount the roller with the bolts over the marks, and tighten the bolts securely.

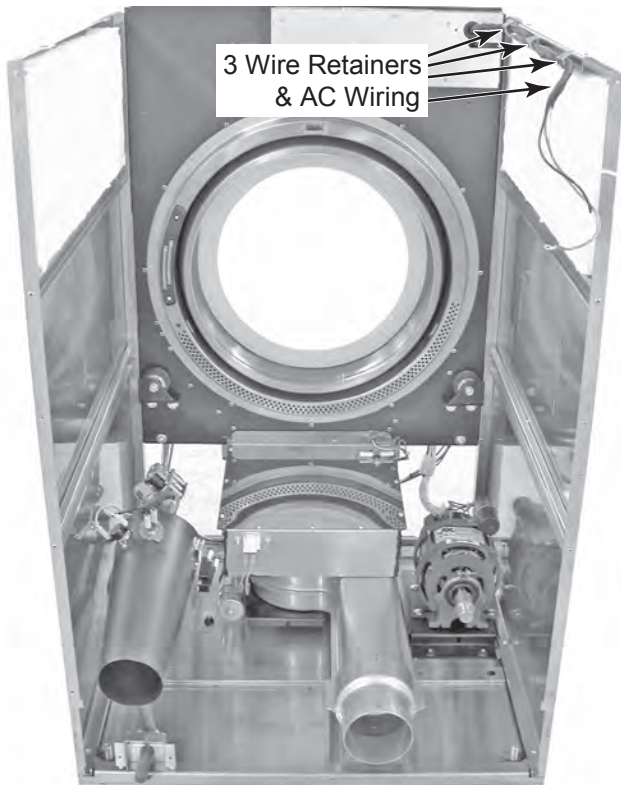
REMOVING A SIDE PANEL

⚠ WARNING

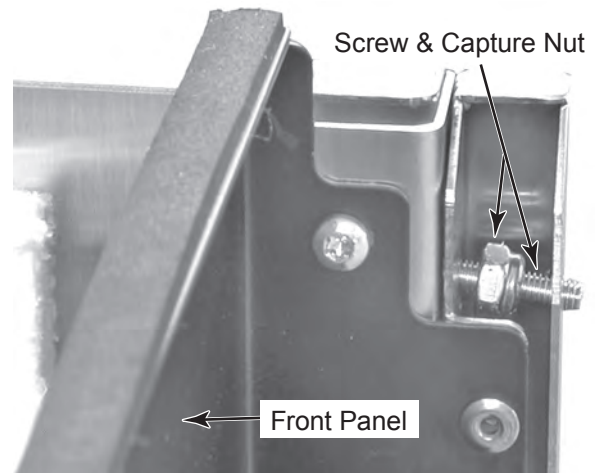


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

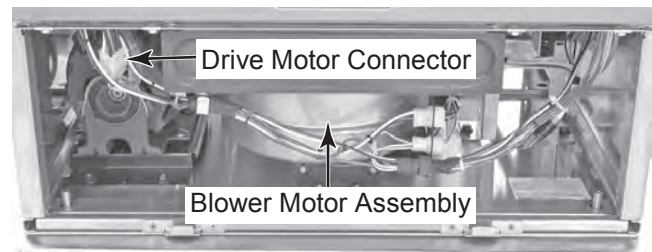
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Remove the belt and drum from the dryer (see pages 4-19 through 4-21 for the procedure).



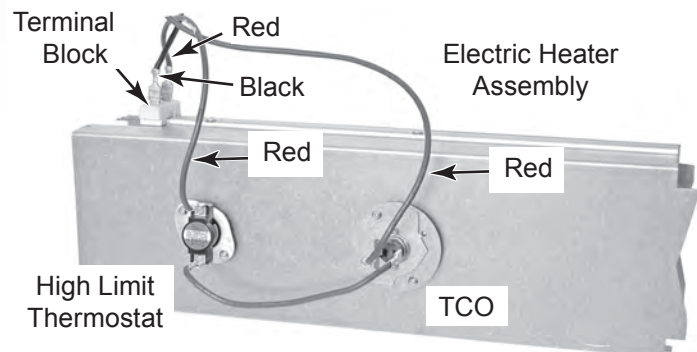
4. Remove the left and right console screws and capture nuts.



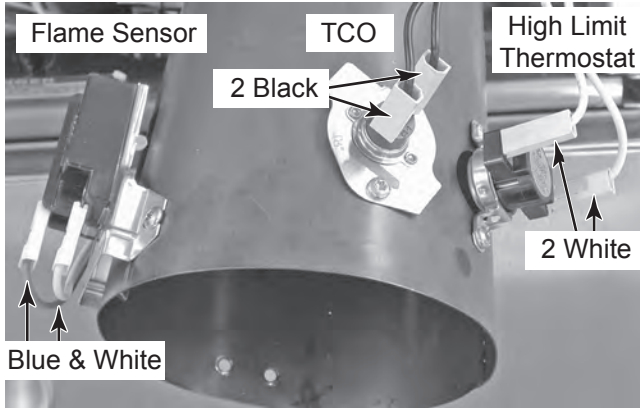
5. Open the three wire retainers (see the photo to the left) and remove the AC wiring.
6. Disconnect the drive motor connector from the main harness plug.
7. Remove the blower motor assembly from the dryer (see page 4-16 for the procedure).



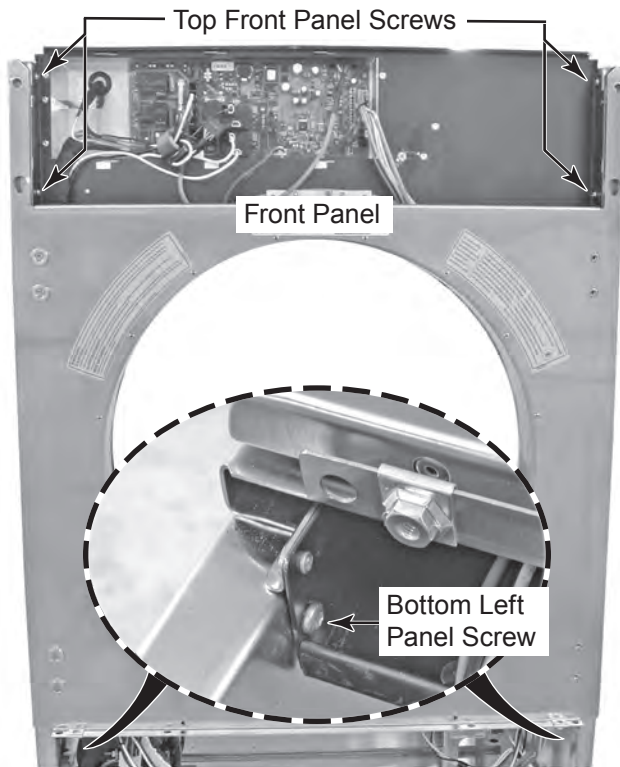
8. **Electric Models:** Disconnect the following connectors from the heater assembly:
 - a) Terminal Block (RD & BK wires)
 - b) Thermal Cutoff (TCO) (RD wire)
 - c) High Limit Thermostat (RD wire)



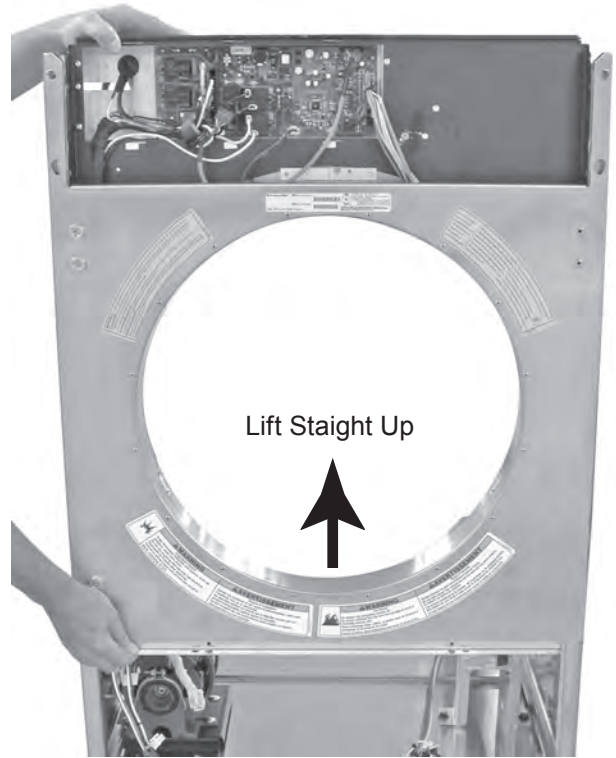
9. **Gas Models:** Disconnect the following connectors from the burner assembly:
 - a) Flame Sensor (WH & BU wires)
 - b) Thermal Cutoff (TCO) (2 BLK)
 - c) High Limit Thermostat. (2 WH)



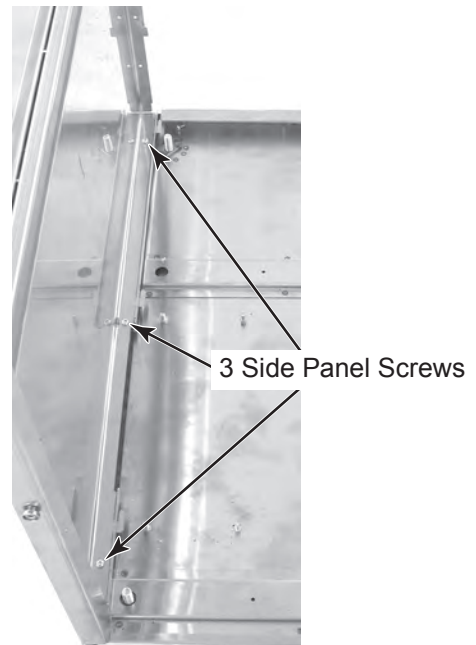
10. Route all of the loose wiring toward the front panel of the dryer.
11. Open the dryer door and remove the six screws from the two door hinges (3 each).
12. Remove the six T-20 screws from the front panel (4 on top, 2 at the bottom).



13. Lift the front panel straight up so the round pins are out of their keyhole slots in the chassis, pull the panel forward, and remove it from the dryer.

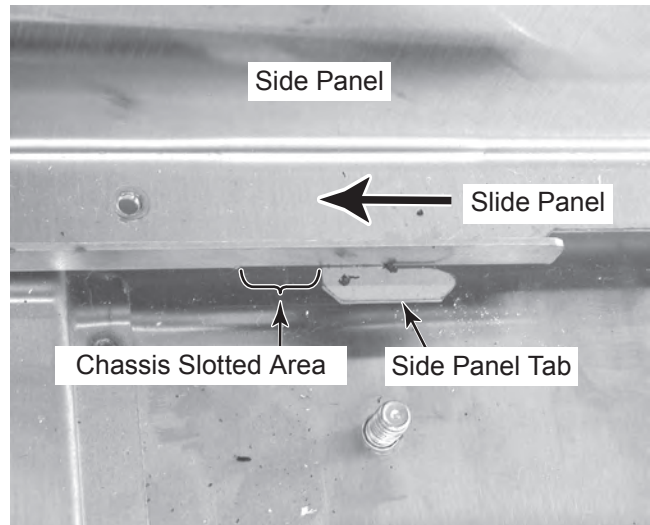


14. Remove the three T-20 screws from the bottom of the side panel.



Continued on the next page.


15. Move the side panel forward so that the tab is in the slotted part of the chassis, then pull the tab out of the slot, and remove the panel from the dryer.



COMPONENT TESTING

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

- Control failure can be the result of corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM (volt-ohm-milliammeter) or DVM (digital-volt-meter) 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.

	! 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.

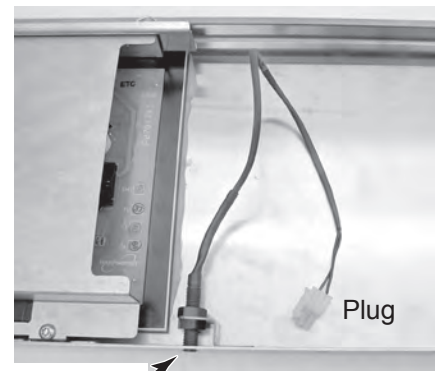
DOOR SENSOR




Refer to page 4-2 for the procedure for accessing the door sensor.

The door sensor is a normally-open reed switch that is activated (closed) by a magnetic field. To test the switch:

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. On the back of the front panel, disconnect the door sensor plug from its connector.
4. Set the ohmmeter to the R X 1 scale.
5. Open the dryer door.
6. Touch the ohmmeter test leads to the door sensor plug pins. The meter should indicate an open circuit (infinite).
7. Close the dryer door, and the meter should indicate continuity (0 Ω).



Door Sensor Tip 
(Back Of Front Panel)

! WARNING



Electrical Shock Hazard

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Replace all parts and panels before operating.

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

DRUM ROTATION SENSOR

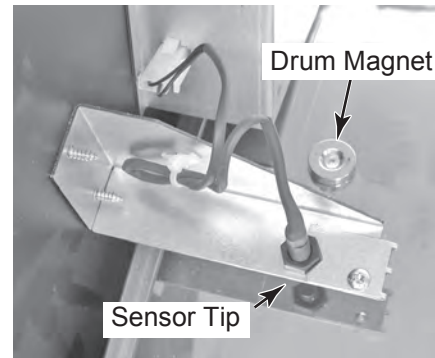


Refer to page 4-5 for the procedure for accessing the drum rotation sensor.

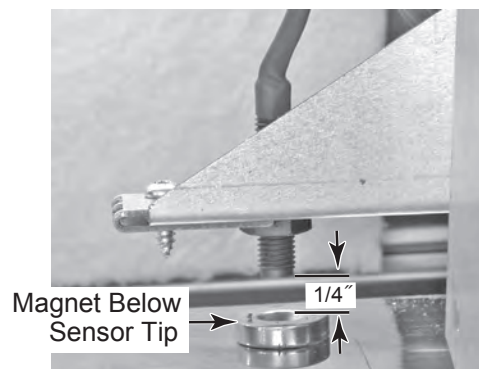
The drum rotation sensor is a normally-open reed switch that is activated (closed) by a magnetic field. To test the switch:

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the drum rotation sensor plug from its connector.
4. Set the ohmmeter to the R X 1 scale.

5. Rotate the drum so that the magnet is several inches away from the tip of the sensor.
6. Touch the ohmmeter test leads to the drum rotation sensor plug pins. The meter should indicate an open circuit (infinite).



7. Rotate the drum and move the magnet under the tip of the sensor.
8. Touch the ohmmeter test leads to the drum rotation sensor plug pins. The meter should indicate continuity (0 Ω).



⚠ 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.

EXHAUST HIGH LIMIT THERMOSTAT



Refer to page 4-6 for the procedure for accessing the exhaust high limit thermostat.

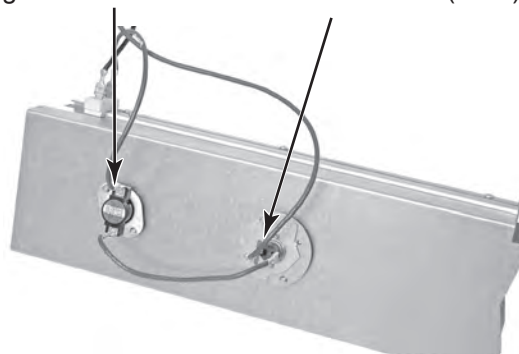
The exhaust high limit thermostat is a resettable device. The cutoff temperature is 150°F (65.5°C).

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wires from the exhaust high limit thermostat.
4. Set the ohmmeter to the R X 1 scale.
5. Touch the ohmmeter test leads to the exhaust high limit thermostat terminals. The meter should indicate continuity (0 Ω). If the meter indicates an open circuit (infinite), press the reset button. The meter should indicate continuity (0 Ω).

THERMAL CUTOFF (TCO) (ELECTRIC DRYERS ONLY)



High Limit Thermostat Thermal Cutoff (TCO)



Refer to page 4-8 for the procedure for accessing the thermal cutoff (TCO).

The TCO is a non-resettable device. The cutoff temperature is 178°C (352°F).

If the dryer does not heat, and the proper voltage is supplied to the dryer, perform the following test.

1. Unplug dryer or disconnect power.
2. Disconnect the wires from the TCO.
3. Set the ohmmeter to the R X 1 scale.
4. Touch the ohmmeter test leads to the TCO terminals. The meter should indicate continuity (0 Ω). If the meter indicates an open circuit (infinite), replace both the TCO and the high limit thermostat.

! 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.

ELECTRIC HEATER ELEMENT

Heater Terminal Block



Refer to page 4-8 for the procedure for accessing the heater.

1. Unplug dryer or disconnect power.
2. Disconnect one of the wire connectors from the heater terminal block.
3. Set the ohmmeter to the R X 1 scale.
4. Touch the ohmmeter test leads to the terminals on the heater terminal block. The meter should indicate between 7 and 12 Ω .

BLOWER CAPACITOR



Refer to page 4-14 for the procedure for accessing the blower capacitor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.

IMPORTANT: Discharge the capacitor by touching a 20,000 Ω resistor to the terminals and chassis ground.

3. Disconnect the wires from the capacitor terminals.
4. Set the ohmmeter to the R X 10K scale.
5. Touch the ohmmeter test leads to the two capacitor terminals. The meter should indicate a low resistance, and then gradually increase towards infinity.

! WARNING



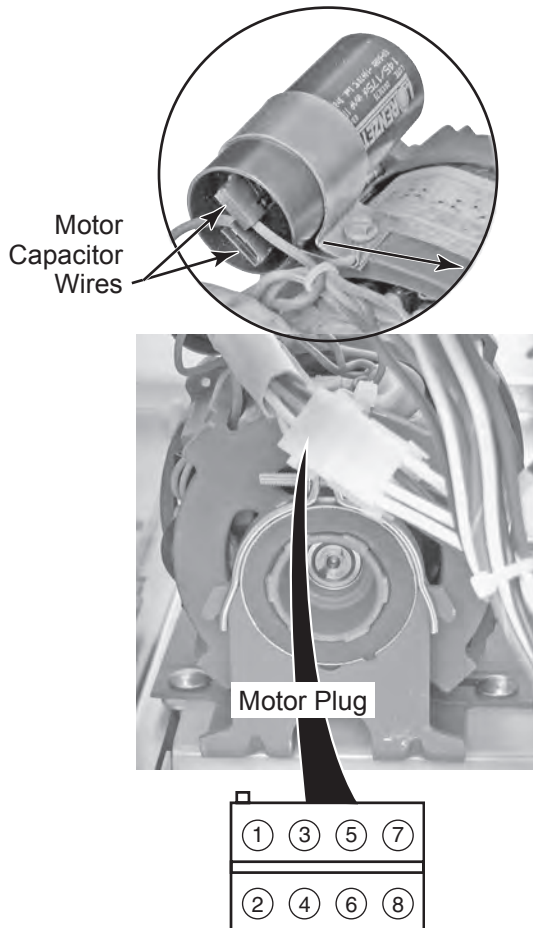
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

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

DRIVE MOTOR & CAPACITOR



Refer to page 4-12 for the procedure for accessing the drive motor and capacitor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.

IMPORTANT: Discharge the capacitor by touching a 20,000 Ω resistor to the terminals and chassis ground.

3. Disconnect the plug from the motor connector and the wires from the capacitor.
4. **To test the motor capacitor:**
 - a) Set the ohmmeter to the R X 10K scale.
 - b) Touch the ohmmeter test leads to the two capacitor terminals. The meter should indicate a low resistance, and then gradually increase towards infinity.
5. **To test the drive motor:**
 - a) Set the ohmmeter to the R X 1 scale.
 - b) Touch the ohmmeter test leads to motor plug pins 6 (white) and 7 (blue). The meter should read approximately 4 Ω .

! WARNING



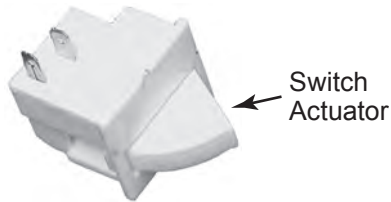
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

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

LINT FILTER SWITCH (N.O.)



Refer to page 4-14 for the procedure for accessing the lint filter switch.

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

TEMPERATURE SENSOR



Refer to page 4-6 for the procedure for accessing the temperature sensor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wires from the temperature sensor.
4. Set the ohmmeter to the diode test setting (continuity test).
5. Touch the black ohmmeter test lead to the sensor plug pin with the white wire, and the red test lead to the pin with the black wire.
6. The meter should indicate an open circuit (infinite).
7. Reverse the test leads on the plug pins, and the meter should read approximately 1.8 Ω .
8. Keep the ohmmeter leads connected to the sensor plug pins, as described in step 7, and hold the temperature sensor in your hand. As the sensor warms up, the resistance value should slowly decrease.

! WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

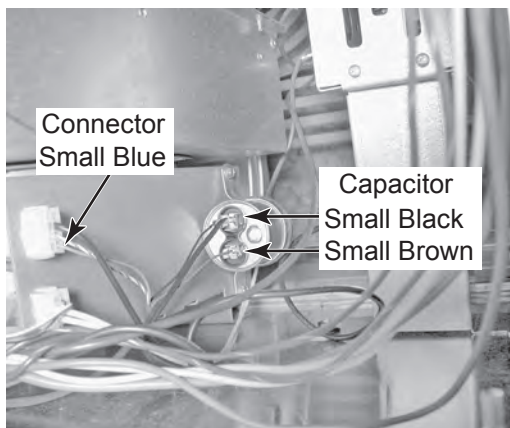
Failure to do so can result in death or electrical shock.

BLOWER MOTOR

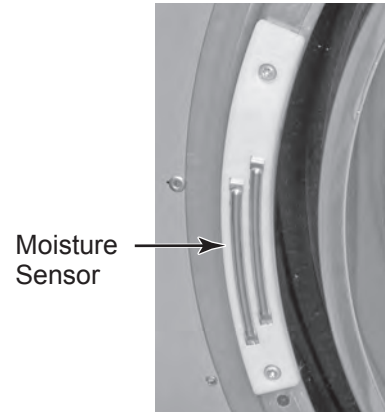


Refer to page 4-16 for the procedure for accessing the blower motor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wires from the blower motor.
4. Set the ohmmeter to the R X 1 scale.
5. Touch the ohmmeter test leads to the following motor plug wire connectors:
 - Small black wire at capacitor terminal and small blue wire in top connector. The meter should indicate between 25 and 37 Ω .
 - Small brown wire at capacitor terminal and small blue wire in top connector. The meter should indicate between 45 and 57 Ω .



MOISTURE SENSOR



Refer to page 4-22 for the procedure for accessing the moisture sensor.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wires from the moisture sensor.
4. Set the ohmmeter to the R X 1 scale.
5. Touch the ohmmeter test leads to the sensor connector pins. The meter should indicate an open circuit (infinite).
6. Bridge the two sensor strips with a wet cloth. The meter should indicate continuity.

! 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.

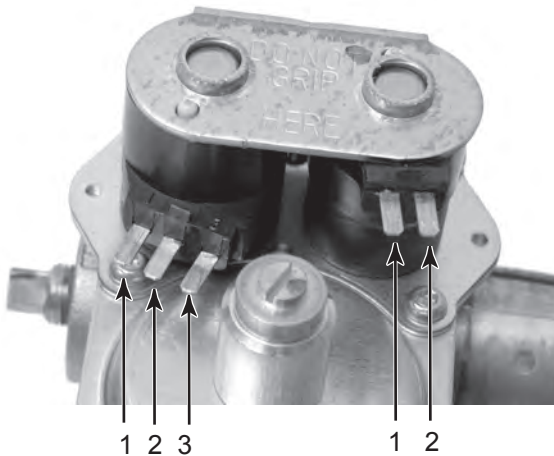
GAS BURNER COILS

Refer to page 4-10 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 the 2-terminal coil. The meter should indicate between 1000 and 1300 Ω .
6. Touch the ohmmeter test leads to the 3-terminal coil. The meter should indicate as follows:

Pins 1 & 2 = 1300 to 1400 Ω

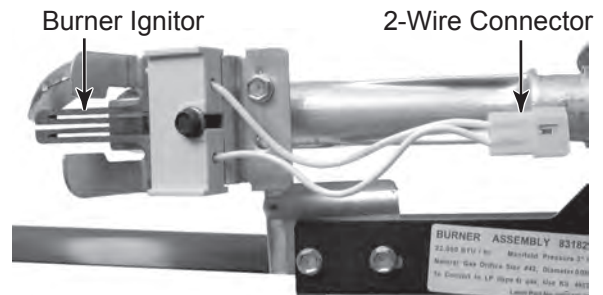
Pins 1 & 3 = 500 to 600 Ω



BURNER IGNITOR

Refer to page 4-10 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 250 Ω .





! WARNING

Electrical Shock Hazard

Disconnect power before servicing.

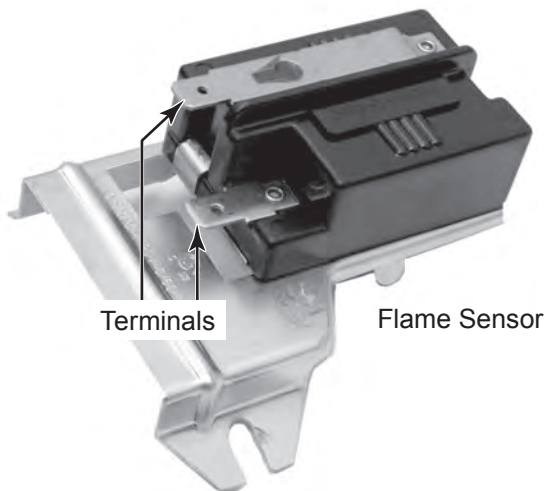
Replace all parts and panels before operating.

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

FLAME SENSOR

Refer to page 4-10 for the procedure for accessing the flame sensor.

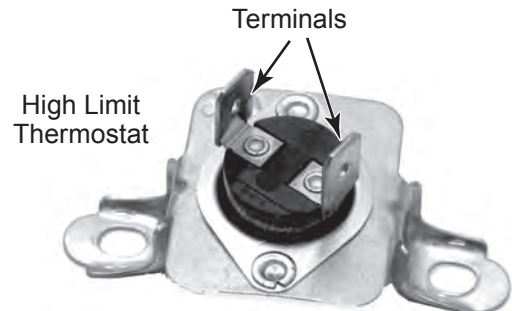
1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connectors from the flame sensor terminals.
4. Set the ohmmeter to the R X 1 scale.
5. Touch the ohmmeter test leads to the flame sensor terminals. The meter should indicate a closed circuit (0 Ω).



HIGH LIMIT THERMOSTAT

Refer to pages 4-8 or 4-10 for the procedure for accessing the high limit thermostat.

1. Unplug dryer or disconnect power.
2. Turn off gas supply to dryer.
3. Disconnect the wire connectors from the high limit thermostat terminals.
4. Set the ohmmeter to the R X 1 scale.
5. Touch the ohmmeter test leads to the high limit thermostat terminals. The meter should indicate a closed circuit (0 Ω).



! WARNING



Electrical Shock Hazard

Disconnect power before servicing.

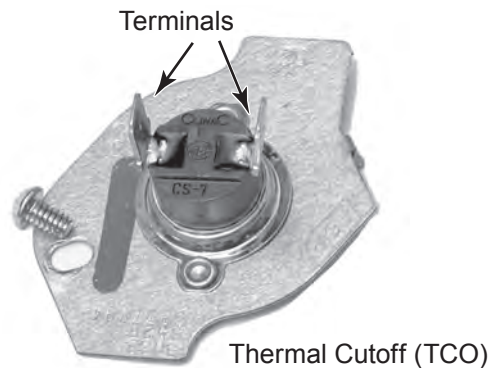
Replace all parts and panels before operating.

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

THERMAL CUTOFF (TCO) (GAS DRYERS ONLY)

Refer to page 4-10 for the procedure for accessing the thermal cutoff (TCO).


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



Thermal Cutoff (TCO)

DIAGNOSTICS & TROUBLESHOOTING

ELECTRIC DRYERS

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

DISPLAY FAULT/ERROR CODES

The error codes below would be indicated when

attempting to start a drying cycle, or after activating the Diagnostic Test mode.

DISPLAY	DESCRIPTION	EXPLANATION AND RECOMMENDED PROCEDURE
<i>PF</i>	POWER FAILURE	<i>PF</i> 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. Refer to TEST #1.
<i>E1</i>	TEMPERATURE SENSOR OPEN	<i>E1</i> flashes in the numeric display when the temperature sensing circuit is open. Refer to TEST #3a.
<i>E2</i>	TEMPERATURE SENSOR SHORTED	<i>E2</i> flashes in the numeric display when the temperature sensing circuit is shorted. Refer to TEST #3a.
<i>E3</i>	BLOWER ROTATION FAILURE	If during a cycle the blower rotational speed drops below 500 rpms, all outputs will be turned off and error code <i>E3</i> will be displayed. Refer to Diagnostics Tests, Diag Test #2.
<i>E4</i>	TUMBLER ROTATION FAILURE	If during a cycle the tumbler rotational speed drops to 0, all outputs will be turned off and error code <i>E4</i> will be displayed. Refer to Diagnostics Tests, Diag Test #2.
<i>E5</i>	DRY RACK SENSOR	If during a Dry Rack cycle the signal is lost, all outputs are turned off and <i>E5</i> is displayed. Refer to TEST #8.
<i>E6</i>	EXHAUST HIGH LIMIT FAULT	If the exhaust temperature goes above 190°F (87.7°C) all outputs will turn off and <i>E6</i> will be displayed. Refer to TEST #3b.

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.

IMPORTANT

Electrostatic Discharge (ESD) Sensitive Electronics

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

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

-OR-

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

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

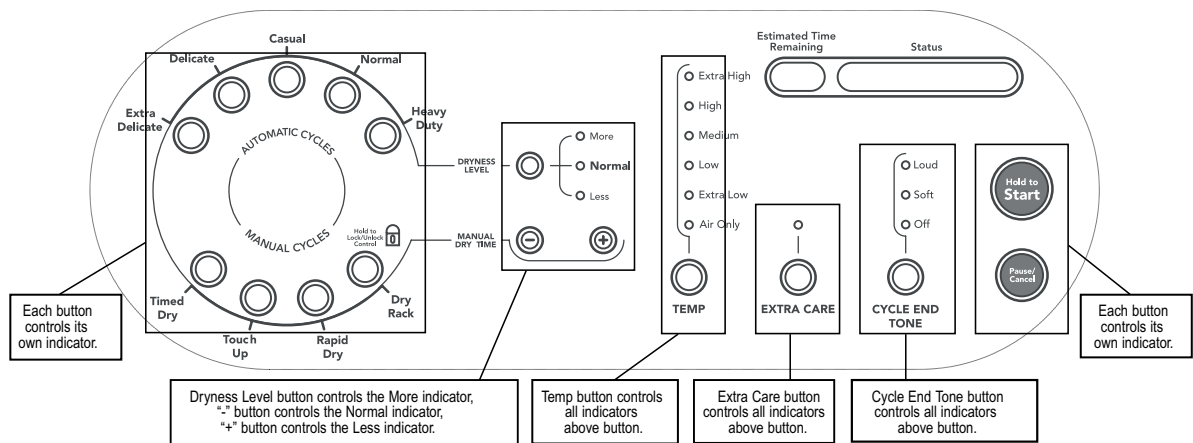


Figure 1. Console Diagnostics

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.

DIAGNOSTIC TEST #1 – CONTROLS OPERATION

Activating the Diagnostic Test #1 Mode

1. Be sure the dryer is in standby mode (plugged in and all indicators off).
2. Press the following button sequence all within 5 seconds:

Manual Manual Manual Manual
Dry Time → Dry Time → Dry Time → Dry Time
(+) (-) (+) (-)

3. After a 2 second pause, all indicators on the console are illuminated with the software revision showing in the Estimated Time Remaining display, if this test mode has been entered successfully.

If unsuccessful entry into diagnostic mode, actions can be taken for specific indications:

Indication 1: None of the indicators or display turns on.

Action: Select any Manual Cycle.

- If indicators come on, then try to change the dryer time by pressing the Manual Dry Time (+) and (-) buttons. If either button fails to change the time, something is faulty with one of those buttons, and it is not possible to enter the diagnostic mode. Remove the user interface assembly. See Accessing & Removing the Electronic Assemblies, page 6-12.
- If no indicators come on after pressing the Manual Cycle buttons, go to TEST #1.

Indication 2: E1 or E2 flashes from the display.

Action: Proceed to TEST #3a.

Diagnostic: Console switches and indicators

Pressing each button or turning the cycle selector to each cycle should cause a beep tone and control one or more LEDs as shown in Figure 1. The Estimated Time Remaining display will indicate a software project i.d. number.

Diagnostic: Moisture Sensor

Locate two metal strips on the inside right wall or the door well. Bridge these strips with a wet cloth or a finger. If a continual beep is heard, the sensor is OK. If not, or if a beep tone is heard before bridging the moisture strips, go to TEST #4, step 2.

Diagnostic: Door Switch

Opening the door should cause ELEC to be displayed. Closing the door firmly should cause the display to indicate the software revision.

Deactivating The Diagnostic Test #1 Mode

Press Pause/Cancel to exit Diagnostic Test #1 mode.

DIAGNOSTIC TEST #2 – MACHINE OPERATION

Activating The Diagnostic Test #2 Mode

1. Be sure the dryer is in Standby Mode (plugged in and all indicators off).
2. Press the following button sequence, all within 3 seconds:

Dryness Level → Manual Dry Time (-) → Dryness Level → Manual Dry Time (-)

3. After a 2 second pause, Diag will be displayed in the Estimated Time Remaining display for 1 second, if this test mode has been entered successfully.
4. Select any cycle and press Start to run the dryer.
5. The table shows diagnostic information that can be obtained while the dryer is operating and by pressing and holding the buttons shown in the next column:

Press button:	Results shown in Estimated Time Remaining display:
Extra Delicate →	Exhaust temperature
Casual →	Tumbler rotation speed
Delicate →	Blower rotation speed
Heavy Duty →	Number of wet hits
Timed Dry →	Number of running hours
Rapid Dry →	Software revision

Deactivating The Diagnostic Test #2 Mode

Press Pause/Cancel at any time to exit Diagnostic Test #2 mode.

NOTE: Diagnostic mode will automatically exit after 5 minutes of inactivity since the last input from the user.

PROGRAMMING THE CONTROLS

If a new control board has been installed, follow the steps below to select the appropriate fuel (gas or electric).

Menu Mode

This is an operation that is performed at the factory to calibrate the temperature regulating sensor/circuit and toggles between a gas and electric machine (different routines for auto cycle).

ACTIVATING THE MENU MODE

1. Be sure the dryer is in Standby mode (plugged in and all indicators off).
2. Press the following button sequence, all within 3 seconds:

Extra Care → Extra Care → Dryness Level → Pause/Cancel

3. The Menu mode is active until Pause/Cancel is pressed. After Pause/Cancel is pressed, the unit will go into Standby mode.
 - Pressing Extra Delicate will set to a gas model.
 - Pressing Delicate will set to an electric model.
4. Press Start to store setting changes.

DEACTIVATING THE MENU MODE

Pressing Pause/Cancel will exit the Menu mode and enter the Standby mode.

TROUBLESHOOTING GUIDE



! 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.

PROBLEM	POSSIBLE CAUSE / TEST
NOTE: Possible Cause/Tests MUST be performed in the sequence shown for each problem.	
WON'T POWER UP. (No response when Control On button is pressed.)	<ol style="list-style-type: none"> 1. Supply connections. See TEST #1. 2. Check harness connections. 3. User interface assembly. See TEST #5.
WON'T START CYCLE WHEN START BUTTON IS PRESSED.	<ol style="list-style-type: none"> 1. If number display flashes, check to be sure the door is completely shut, and press and hold down Start for about 1 second. 2. See TEST #2. 3. See TEST #6.
WON'T SHUT OFF WHEN EXPECTED.	<ol style="list-style-type: none"> 1. Check Pause/Cancel button. See TEST #5. 2. User interface assembly. See TEST #5. 3. Moisture Sensor. See TEST #4.
CONTROL WON'T ACCEPT SELECTIONS.	User interface assembly. See TEST #5.
WON'T HEAT.	<ol style="list-style-type: none"> 1. Heater. See TEST #3. 2. Check harness connections. 3. Check installation.
HEATS IN AIR CYCLE.	Temperature sensor. See TEST #3a.
SHUTS OFF BEFORE CLOTHES ARE DRY.	Moisture sensor. See TEST #4.

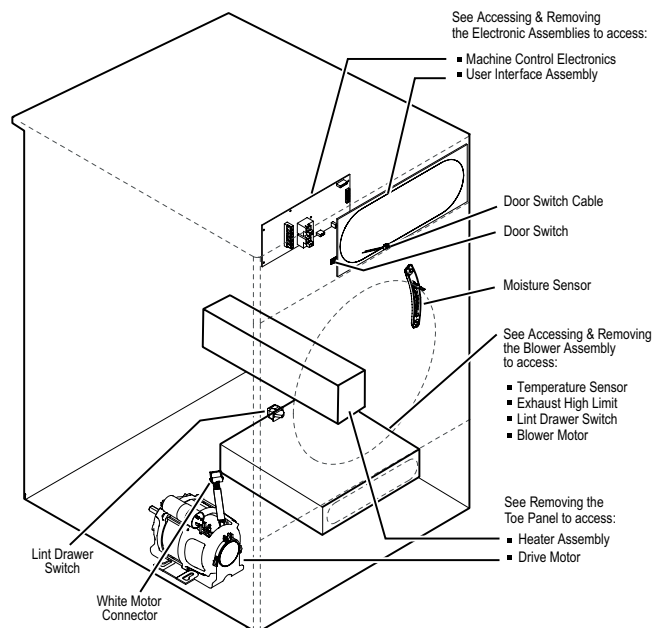


Figure 2. Component locations

TROUBLESHOOTING TESTS

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

TEST #1 Supply Connections

This test assumes that proper voltage is present at the outlet, and visual inspection indicates that the power cord is securely fastened to the terminal block.

1. Unplug dryer or disconnect power.
2. Remove the cover plate from the top right corner of the back of the dryer.
3. With an ohmmeter, check for continuity between the neutral (N) terminal of the plug and the center contact on the terminal block. See Figure 3.
 - If there is no continuity, replace the power cord and test the dryer.
 - If there is continuity, go to step 4.
4. 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 3.
 - When this is found, go to step 5.
 - 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.

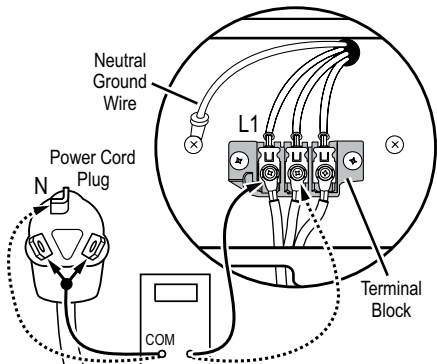


Figure 3. Plug-to-terminal connections.

5. Access the machine control electronics without disconnecting any wiring to the control board. See Accessing & Removing the Electronic Assemblies, page 6-12.
6. With an ohmmeter, check for continuity between the L1 terminal of the plug (found in step 4) and P2-3 (black wire) on the machine control board.
 - If there is continuity, go to step 7.
 - 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.
7. Check for continuity between the neutral (N) terminal of the plug and P2-2 (white wire) at the control board.
 - If there is continuity, go to step 8.
 - If there is no continuity and the mechanical connections of the wire are secure, replace the main wire harness.
8. If the dryer still does not operate, replace the machine control electronics. See Accessing & Removing the Electronic Assemblies, page 6-12.

TEST #2 Drive Motor Circuit

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

- | | |
|----------------------|--|
| – Harness/connection | – Machine control electronics.
See ESD information, page 6-2. |
| – Drive Motor | |
| – Motor Capacitor | |

1. Unplug dryer or disconnect power.
2. Access the machine control electronics and measure the resistance across P2-2 and P2-5. See Accessing & Removing the Electronic Assemblies, page 6-12.
 - If resistance across P2-2 and P2-5 is in the range of 1–6 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 wiring diagram on page 7-1.

4. Check the drive motor and motor capacitor. Access the drive motor by removing the toe panel. See Removing the Toe Panel, page 6-14.
5. Disconnect the white motor connector from the drive motor. See Figure 4.

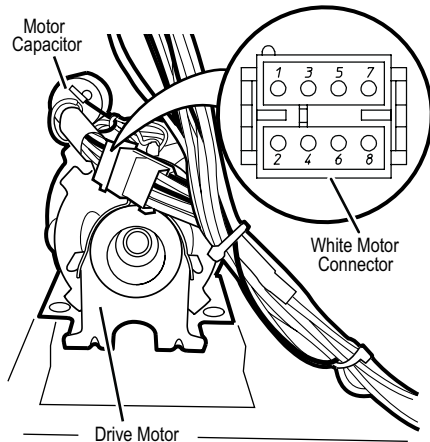


Figure 4. Disconnect the white motor connector.

6. Check the resistance value of the motor capacitor. See Figure 5 for location.

IMPORTANT: Discharge the capacitor by touching a 20,000 ohm resistor to the motor capacitor terminals and the capacitor case.

- a) Set the ohmmeter to the R X 10k scale.
- b) Contact the motor capacitor terminals. The resistance should be low at first and then gradually increase towards infinity.
 - If the resistance at the motor capacitor is correct, go to step 7.
 - If the resistance at the motor capacitor is not correct, replace the capacitor.

7. Check the resistance value of the motor's Main winding coil by contacting points 7 and 8 of the white motor connector, as shown in Figure 4.

- If the resistance at the drive motor is in the range of 2.4–3.6 ohms, there is an open circuit between the motor and the machine control electronics. Replace the main wiring harness.
- If the resistance at the drive motor is much greater than 4 ohms, replace the drive motor.

8. Door Switch problems can be uncovered in the Diagnostic Tests on pages 6-3 & 6-4; however, if this was not done, the following can be done without applying power to the dryer. Connect an ohmmeter across P6-2 (black wire) and P6-1 (black wire). With the door properly closed, the ohmmeter should indicate a closed circuit (0–2 ohms). If not, replace the door switch assembly.

TEST #3 Heating Circuit

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

- Dryer doesn't heat
- Heat won't shut off

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

- | | |
|---|--|
| <ul style="list-style-type: none"> – Harness/connection – Heater relay – Thermal cut-off (TCO) – High limit thermostat – Heater element (inside heater assembly) | <ul style="list-style-type: none"> – Temperature sensor – Machine control electronics
See ESD information, page 6-2. |
|---|--|

Dryer does not heat:

1. Unplug dryer or disconnect power.
2. Remove the toe panel to access the thermal components. See Removing the Toe Panel, page 6-14. Locate the components using Figure 5.
3. Perform TEST #3b. If the exhaust high limit manual reset is OK, go to step 4.
4. Locate the high limit thermostat. See Figure 5. Measure the continuity through it by connecting the meter probes to the red and black wires.
 - If there is an open circuit, replace the high limit thermostat.
 - Otherwise, go to step 5.
5. Locate the thermal cut-off (TCO). See Figure 5. Measure the continuity through it by connecting the meter probes to the red wires.
 - If there is an open circuit, replace the thermal cut-off (TCO).
 - Otherwise, go to step 6.
6. Perform TEST #3c. 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. See Accessing & Removing the Electronic Assemblies, page 6-12. Measure the resistance between P3-15 (red wire) and P3-16 (black wire).
3. Set the multi-meter to the diode check setting.
4. Touch the red lead of the meter to the black wire of the temperature sensor and the black lead of the meter to the white wire of the sensor. The meter should read open (infinite).

5. Next, reverse the leads so the black meter lead contacts the black wire and the red meter lead contacts the white wire. You should read approximately 1.8 on the meter.
6. With the meter still connected, grasp the probe tightly in your hand and the meter reading should slowly decrease as your hands warm the probe.

If any of these tests fail, replace the temperature sensor.

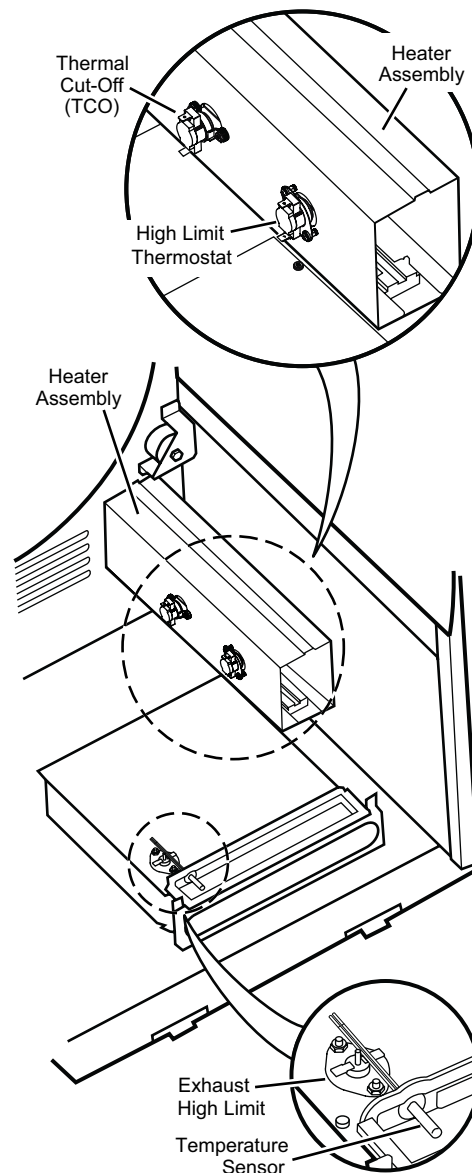


Figure 5. Thermal Components, viewed from front.

TEST #3a Temperature Sensor

The machine control electronics monitors the exhaust temperature using the temperature sensor, 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. Set the following configuration:
 - Door – must be firmly closed.
 - Select Timed Dry cycle.
 - Press Cycle End Tone and select Loud.
 - Press Start.
3. If after 60 seconds, E1 or E2 flashes in the display and the dryer shuts off, the temperature sensor or wire harness is either shorted or open.
 - Unplug dryer or disconnect power.
 - Check wire connections at the machine control electronics and temperature sensor. See Accessing & Removing the Electronic Assemblies, page 6-12, and Figure 5 for temperature sensor location.
 - If wire connections are good, remove the two wires from the temperature sensor and replace the temperature sensor. See Figure 12.
 - Plug in dryer or reconnect power.

4. If E1 or E2 does not flash in the display, the connections to the temperature sensor are good. Therefore, check the temperature sensor's resistance 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		
TEMP. SETTING	HEAT TURNS OFF* °F (°C)	HEAT TURNS ON °F (°C)
Extra High	165° ± 5° (73.9° ± 3°)	10–15° (6–8°) below the heat turn off temperature
High	160° ± 5° (71.1° ± 3°)	
Medium	150° ± 5° (65.6° ± 3°)	
Low	135° ± 5° (57.2° ± 3°)	
Extra Low	120° ± 5° (48.9° ± 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, go to the Operational Test to verify the temperature sensor is functional.

TEST #3b Exhaust High Limit Manual Reset

1. Unplug dryer or disconnect power.
2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies, page 6-12. Measure the resistance across P3-3 and P3-4.
 - If the resistance across P3-3 and P3-4 is 1–6 ohms, replace the machine control electronics.
 - Otherwise, go to step 3.
3. Check the wiring and connectors in the path between these measurement points by referring to the wiring diagram on page 7-1.

TEST #3c Heater Element

1. Unplug dryer or disconnect power.
2. Access the heater element by first removing the toe panel. See Removing the Toe Panel, page 6-14.
3. Use an ohmmeter to determine if the heater element has failed. Remove harness plugs. Measure resistance across terminals.
 - Readings should be between 7 ohms and 15 ohms.
 - If not, then replace the heater element.

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

TEST #4 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:

- Metal sensor strips
- Machine control electronics

1. Enter the Diagnostic Test #1 mode. See procedure on page 6-3.
2. If a continual beep tone is heard as soon as the diagnostic mode is started, 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 right wall of the door well. Bridge these strips with a wet cloth or finger.
 - If a continual beep tone is heard, the sensor passes the test. Go to step 4.
 - If a continual beep tone is not heard, go to step 6.
4. Unplug dryer or disconnect power.
5. Access the machine control electronics. Remove the connector P3 from the circuit board. Measure the resistance across terminals 9 and 10.
 - If the ohmmeter does not indicate (infinity) open circuit, go to step 7.
 - Otherwise, measure the resistance across pins 9 and 10 of connector P3 on the machine control board. If a resistance less than 1 M Ω is measured (with analog or digital ohmmeter), inspect the control board for any debris bridging these pins. If no debris, replace the machine control electronics.
6. Unplug dryer or disconnect power.
7. Access the moisture sensor by removing the 2 moisture sensor screws, then disconnect the moisture sensor wire connector.

8. Measure the resistance across the pins of the moisture sensor. If a small resistance is measured here, replace the moisture sensor.
9. Measure the resistance across the moisture sensor wires.
 - If a resistance less than infinity is measured, replace this component (Wire Harness, Moisture Sensor).
10. If moisture sensor diagnostic test passes, check the temperature sensor: Perform TEST #3a.
 - If the problem persists after replacing the moisture sensor and temperature sensor, replace the machine control electronics.

TEST #5 Button and LED

Refer to the Diagnostic Tests on page 6-3 and activate the Diagnostic Test #1 mode. Check for the following situations:

None of the LEDs light up:

1. See “Diagnostic Guide/Before servicing...” on page 6-2.
2. Visually check that connector P1 is inserted all the way into the machine control electronics. See Accessing & Removing the Electronic Assemblies on page 6-12.
 - If these connections are good, test the user interface by using TEST #5a.
 - If this test passes, replace the machine control electronics.
 - Otherwise, replace the user interface assembly.

A particular group of LEDs does not light up:

A group or combination of LEDs share a common electronic connection. If this connection is open, all of the LEDs in the group will be disabled. Replace the user interface assembly.

A single LED does not light up:

Press the button associated with the LED several times. If the LED does not light up, the LED has failed. Replace the user interface assembly.

No beep sound is heard:

If the associated LEDs do light up, it is possible that the beeper circuit has failed. Replace the user interface assembly.

No dryer function is activated when a particular button is pressed:

If the associated LEDs do light up, it is possible that the machine control electronics has failed. Check functions of buttons by performing TEST #5a before replacing the machine control electronics.

TEST #5a LED and TouchPad (UI Only)

This operation allows a cursory check of the user input switches, indicators, and sensor. This routine is a test of the User Interface only. When in this mode, the communication to the control is halted. To start the key test mode:

1. Unplug dryer or disconnect power.
2. Press and hold the Start and Cycle End Tone buttons, and while still holding these buttons, perform step 3.
3. Plug in dryer or reconnect power.
4. All LEDs will light up and the message “YOU ARE IN TEST MODE! Chase the LEDS!!!” will scroll across the display.
5. Press Start to run the test.
6. After pressing Start, touch the appropriate lighted cycles and options. Continue through all the selections until the Cancel button. This test will then exit upon completion.

If there are any failures during this testing, replace the user interface assembly.

TEST #6 Door Switch

Go into the Diagnostic Test #1 mode, page 6-3. Functionality is verified by the appearance of an alpha numeric code in the display (“Software revision” – door closed, “ELEC” – door open etc.).

- If any of the above conditions are not met, or if “ELEC” is displayed when the door is closed, check that the wires between the door switch and machine control electronics are connected. See Figure 2 for switch location, and see Accessing & Removing the Electronic Assemblies.
- If the connections are OK, replace the wire and door switch assembly and retest.
- If wire and door assembly have been replaced and dryer still does not start, replace the machine control electronics.

TEST #7 Lint Drawer Switch

This test will check the wiring to the lint drawer switch and the lint drawer switch itself.

1. Unplug dryer or disconnect power.
 2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies. Then measure the resistance across P3-7 and P3-8.
 3. Close the lint drawer and measure the resistance. It should indicate a closed circuit.
 4. Now open the lint drawer and measure the resistance. It should indicate an open circuit.
- If any of the above conditions are not met check that the wires between the lint drawer switch and machine control electronics are properly connected.
 - If the connections are OK, replace the lint drawer switch and retest.
 - If wires and lint drawer switch assembly have been replaced and dryer still does not start, then replace the machine control electronics.

TEST #8 Dry Rack Sensor

This test will check the wiring to the dry rack sensor and the dry rack sensor itself.

1. Unplug dryer or disconnect power.
 2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies. Then measure the resistance across P3-11 and P3-12.
 3. Insert the dry rack and measure the resistance. It should indicate a closed circuit.
 4. Now remove the dry rack and measure the resistance. It should indicate an open circuit.
- If any of the above conditions are not met check that the wires between the dry rack sensor and machine control electronics are properly connected.
 - If the connections are OK, replace the dry rack sensor and retest.
 - If wires and dry rack sensor have been replaced and an error code E5 persists or the drum will not tumble, then replace the machine control electronics.

ACCESSING & REMOVING THE ELECTRONIC ASSEMBLIES

There are two electronic assemblies; the user interface assembly, and the machine control electronics. See Figure 6.

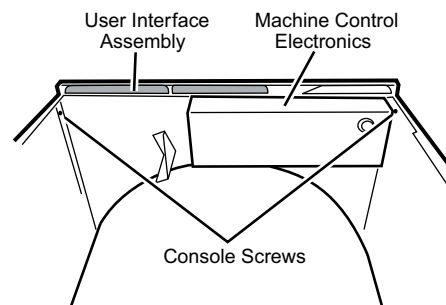


Figure 6. Locate the electronic assemblies.

1. Unplug dryer or disconnect power.
2. After removing the top panel, remove the console screws located in the upper corners of the console. See Figure 6.

- Slide the console so that the console pins located at the bottom corners of the console move up and out from the slots, removing the console from the front of the machine. See Figure 7.

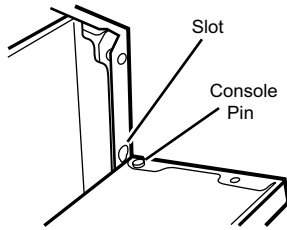


Figure 7. Slide console pins up and out of slots

- Disconnect the door switch cable from the control board and disconnect the UI (User Interface) cable from the UI (User Interface) cable from the UI. Also cut the cable tie holding the UI cable to the console. See Figure 8.

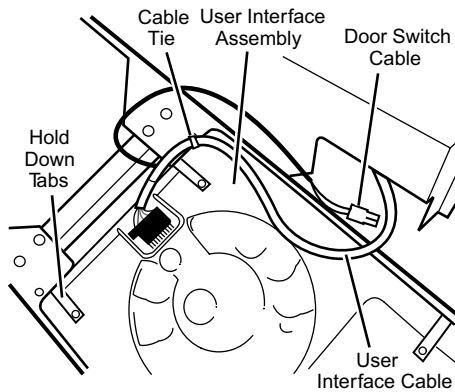


Figure 8. Disconnect cables to remove user interface assembly from console.

Removing the User Interface Assembly

- Remove the hold down tabs. See Figure 8.
- Remove the user interface assembly.

Removing the Machine Control Electronics Assembly

- Referring to Figure 9, loosen the 4 screws for cover, then slide cover to the right and out from the machine control board.
- Remove all the wire connections to the machine control board. See Figure 10.
- Remove screws that fasten the control board to the mounting bracket, and pull it from the mounting bracket.

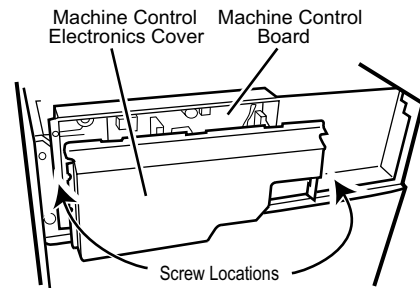
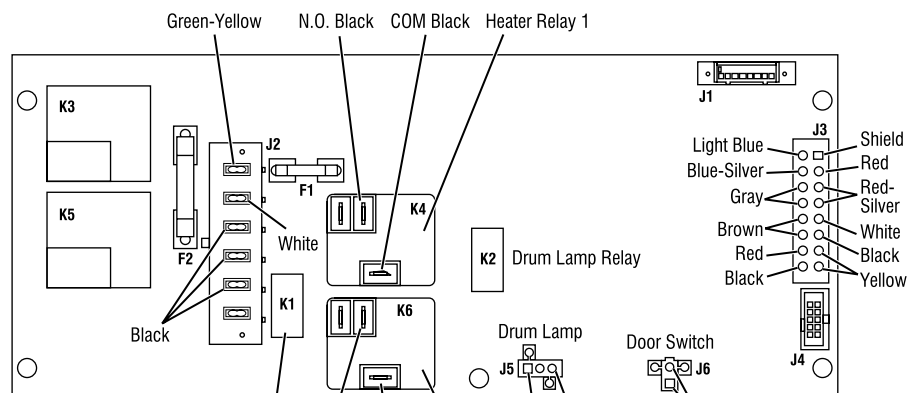


Figure 9. Accessing the machine control electronics.



NOTE: J connectors shown on the machine control electronics correspond with P connectors on the wiring diagram.

Figure 10. Machine control electronics

REMOVING THE TOE PANEL

1. Unplug dryer or disconnect power.
2. Remove four screws from the top of the toe panel.
3. Slide the toe panel down, then pull it out from the bottom.

REMOVING THE BACK PANEL

1. Unplug dryer or disconnect power.
2. Remove the top panel.
3. Remove the three screws from each side of the back panel.
4. Remove three screws from around the exhaust vent, one from the top, and one on each side.
5. Remove the five screws that are around the power cord access.

NOTE: There are 14 screws total for the back panel, not including the top panel screws.

ACCESSING & REMOVING THE BLOWER ASSEMBLY

The blower assembly includes the temperature sensor, exhaust high limit, lint drawer switch, and blower motor. See Figure 11.

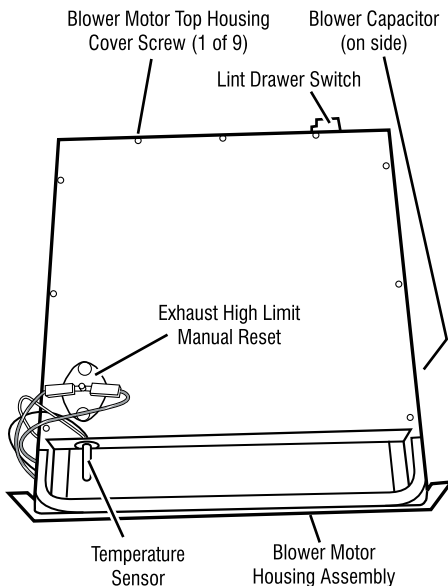


Figure 11. Blower motor components.

ACCESSING THE BLOWER ASSEMBLY COMPONENTS

1. Unplug dryer or disconnect power.
2. Remove the back panel and the duct support bracket from the dryer.
3. Remove the toe panel from the dryer front.
4. Remove the 2 blower motor housing screws from the dryer front.
5. **To remove the temperature sensor:**
 - a) Pull the blower motor housing assembly far enough forward so you can access the temperature sensor.
 - b) Disconnect the two red-silver wires from the exhaust high limit manual reset terminals. See Figure 12.
 - c) Unlatch and disconnect the 4-pin harness connector from the temperature sensor connector.
 - d) Disconnect the 4-pin sensor connector from the mounting bracket.
 - e) Remove the front clip from the temperature sensor. To do this, hold the clip with a pair of pliers, and twist the sensor with your fingers while pushing it out of the clip.
6. **To remove the lint drawer switch:**
 - a) Unlatch and disconnect the 4-pin harness connector from the temperature sensor connector. See Figure 12.

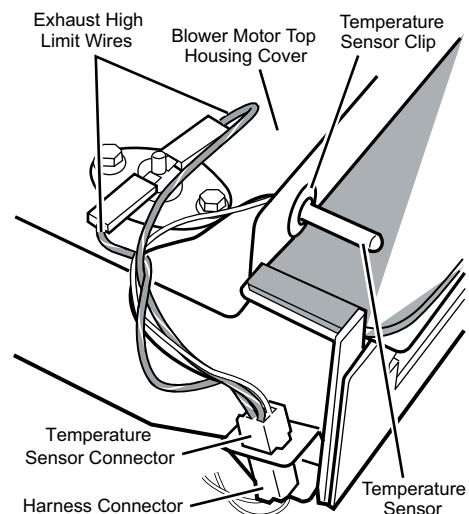


Figure 12. Temperature sensor connections.

- b) Remove the wires from the hook in the blower motor housing. See Figure 13.

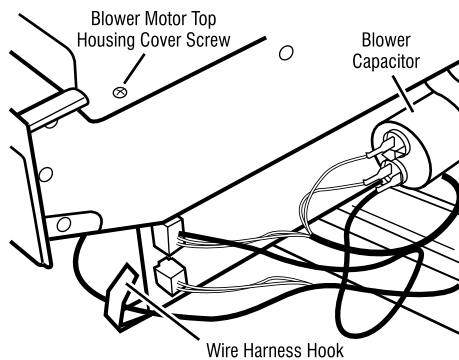


Figure 13. Discharge the blower capacitor at right side of blower motor housing.

- c) Pull the blower motor housing assembly far enough forward so you can access the lint drawer switch. See Figure 11.
- d) **IMPORTANT:** Discharge the blower capacitor by touching a 20,000 Ω resistor to the terminals and chassis. See Figure 13.
- e) Remove the blower motor top housing cover screws and position the assembly out of the way.
- f) Disconnect the two yellow wires from the lint drawer switch terminals.
- g) Bend the three lint drawer switch's metal tabs straight out.
- h) Release the bottom and top locking tabs on the switch and push it out of its housing cutout.

7. To remove the blower motor:

- a) Remove the blower motor housing assembly and the top housing cover by following steps 6a through 6e.
- b) Remove the four 3/8" (7mm) nuts, split washers, and flat washers from the top blower motor housing. Lift the top housing off the motor, and position it to the left side.
- c) Release and disconnect the following connectors:
- 2 blower motor harness connectors
 - 2 blower motor harness plugs from the mounting bracket
 - 3 blower capacitor wires
- d) Turn the blower motor assembly over, and position it so that you can access the bottom screws.
- e) Remove the four 3/8" (7mm) motor mounting plate nuts, and the five motor mounting screws from the blower motor assembly.
- f) Remove the mounting plate and pull the motor wiring through the opening.
- g) Lift the motor and fan from the housing.

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/ERROR CODES

The error codes below would be indicated when

attempting to start a drying cycle, or after activating the Diagnostic Test mode.

DISPLAY	DESCRIPTION	EXPLANATION AND RECOMMENDED PROCEDURE
<i>PF</i>	POWER FAILURE	<i>PF</i> 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. Refer to TEST #1.
<i>E1</i>	TEMPERATURE SENSOR OPEN	<i>E1</i> flashes in the numeric display when the temperature sensing circuit is open. Refer to TEST #3a.
<i>E2</i>	TEMPERATURE SENSOR SHORTED	<i>E2</i> flashes in the numeric display when the temperature sensing circuit is shorted. Refer to TEST #3a.
<i>E3</i>	BLOWER ROTATION FAILURE	If during a cycle the blower rotational speed drops below 500 rpms, all outputs will be turned off and error code <i>E3</i> will be displayed. Refer to Diagnostics Tests, Diag Test #2.
<i>E4</i>	TUMBLER ROTATION FAILURE	If during a cycle the tumbler rotational speed drops to 0, all outputs will be turned off and error code <i>E4</i> will be displayed. Refer to Diagnostics Tests, Diag Test #2.
<i>E5</i>	DRY RACK SENSOR	If during a Dry Rack cycle the signal is lost, all outputs are turned off and <i>E5</i> is displayed. Refer to TEST #8.
<i>E6</i>	EXHAUST HIGH LIMIT FAULT	If the exhaust temperature goes above 87.7°C (190°F) all outputs will turn off and <i>E6</i> will be displayed. Refer to TEST #3b.

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.

IMPORTANT

Electrostatic Discharge (ESD) Sensitive Electronics

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

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

-OR-

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

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

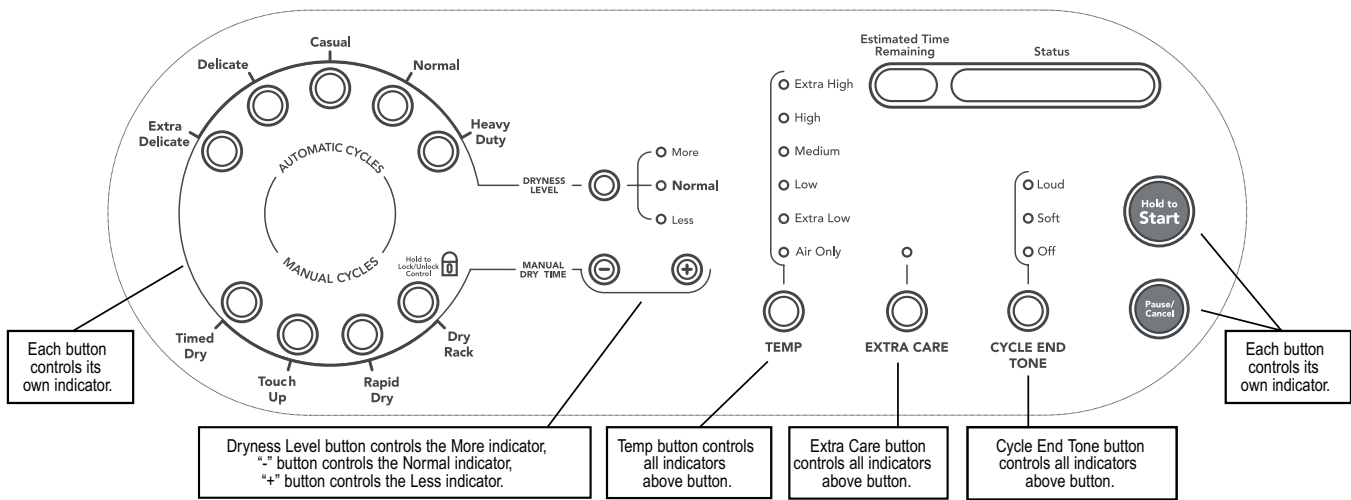


Figure 1. Console Diagnostics

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.

DIAGNOSTIC TEST #1 – CONTROLS OPERATION

Activating the Diagnostic Test #1 Mode

1. Be sure the dryer is in standby mode (plugged in and all indicators off).
2. Press the following button sequence all within 5 seconds:

Manual Dry Time (+) → Manual Dry Time (-) → Manual Dry Time (+) → Manual Dry Time (-)

3. After a 2 second pause, all indicators on the console are illuminated with the software revision showing in the Estimated Time Remaining display, if this test mode has been entered successfully.

If unsuccessful entry into diagnostic mode, actions can be taken for specific indications:

Indication 1: None of the indicators or display turns on.

Action: Select any Manual Cycle.

- If indicators come on, then try to change the dryer time by pressing the Manual Dry Time (+) and (-) buttons. If either button fails to change the time, something is faulty with one of those buttons, and it is not possible to enter the diagnostic mode. Remove the user interface assembly. See Accessing & Removing the Electronic Assemblies, page 6-28.
- If no indicators come on after pressing the Manual Cycle buttons, go to TEST #1.

Indication 2: E1 or E2 flashes from the display.

Action: Proceed to TEST #3a.

Diagnostic: Console switches and indicators

Pressing each button or turning the cycle selector to each cycle should cause a beep tone and control one or more LEDs as shown in Figure 1. The Estimated Time Remaining display will indicate a software project i.d. number.

Diagnostic: Moisture Sensor

Locate two metal strips on the inside right wall or the door well. Bridge these strips with a wet cloth or a finger. If a continual beep is heard, the sensor is OK. If not, or if a beep tone is heard before bridging the moisture strips, go to TEST #4, step 2.

Diagnostic: Door Switch

Opening the door should cause GAS to be displayed. Closing the door firmly should cause the display to indicate the software revision.

Deactivating The Diagnostic Test #1 Mode

Press Pause/Cancel to exit Diagnostic Test #1 mode.

DIAGNOSTIC TEST #2 – MACHINE OPERATION

Activating The Diagnostic Test #2 Mode

1. Be sure the dryer is in Standby Mode (plugged in and all indicators off).
2. Press the following button sequence, all within 3 seconds:

Dryness Level → Manual Dry Time (-) → Dryness Level → Manual Dry Time (-)

3. After a 2 second pause, Diag will be displayed in the Estimated Time Remaining display for 1 second, if this test mode has been entered successfully.
4. Select any cycle and press Start to run the dryer.
5. The table shows diagnostic information that can be obtained while the dryer is operating and by pressing and holding the buttons shown in the next column:

Press button:	Results shown in Estimated Time Remaining display:
Extra Delicate →	Exhaust temperature
Casual →	Tumbler rotation speed
Delicate →	Blower rotation speed
Heavy Duty →	Number of wet hits
Timed Dry →	Number of running hours
Rapid Dry →	Software revision

Deactivating The Diagnostic Test #2 Mode

Press Pause/Cancel at any time to exit Diagnostic Test #2 mode.

NOTE: Diagnostic mode will automatically exit after 5 minutes of inactivity since the last input from the user.

PROGRAMMING THE CONTROLS

If a new control board has been installed, follow the steps below to select the appropriate fuel (gas or electric).

Menu Mode

This is an operation that is performed at the factory to calibrate the temperature regulating sensor/circuit and toggles between a gas and electric machine (different routines for auto cycle).

ACTIVATING THE MENU MODE

1. Be sure the dryer is in Standby mode (plugged in and all indicators off).
2. Press the following button sequence, all within 3 seconds:

Extra Care → Extra Care → Dryness Level → Pause/Cancel

3. The Menu mode is active until Pause/Cancel is pressed. After Pause/Cancel is pressed, the unit will go into Standby mode.
 - Pressing Extra Delicate will set to a gas model.
 - Pressing Delicate will set to an electric model.
4. Press Start to store setting changes.

DEACTIVATING THE MENU MODE

Pressing Pause/Cancel will exit the Menu mode and enter the Standby mode.

TROUBLESHOOTING GUIDE



⚠ 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.

PROBLEM	POSSIBLE CAUSE / TEST
NOTE: Possible Cause/Tests MUST be performed in the sequence shown for each problem.	
WON'T POWER UP. (No response when a cycle button is pressed.)	<ol style="list-style-type: none"> 1. Supply connection. See TEST #1. 2. Check harness connections. 3. User interface assembly. See TEST #5.
WON'T START CYCLE WHEN START BUTTON IS PRESSED.	<ol style="list-style-type: none"> 1. If number display flashes, check to be sure the door is completely shut, and press and hold down Start for about 1 second. 2. See TEST #2. 3. See TEST #6.
WON'T SHUT OFF WHEN EXPECTED.	<ol style="list-style-type: none"> 1. Check Pause/Cancel button. See TEST #5. 2. User interface assembly. See TEST #5. 3. Moisture Sensor. See TEST #4.
CONTROL WON'T ACCEPT SELECTIONS.	User interface assembly. See TEST #5.
WON'T HEAT.	<ol style="list-style-type: none"> 1. Heater. See TEST #3. 2. Check harness connections. 3. Check installation.
HEATS IN AIR CYCLE.	Temperature sensor. See TEST #3a.
SHUTS OFF BEFORE CLOTHES ARE DRY.	Moisture Sensor. See TEST #4.

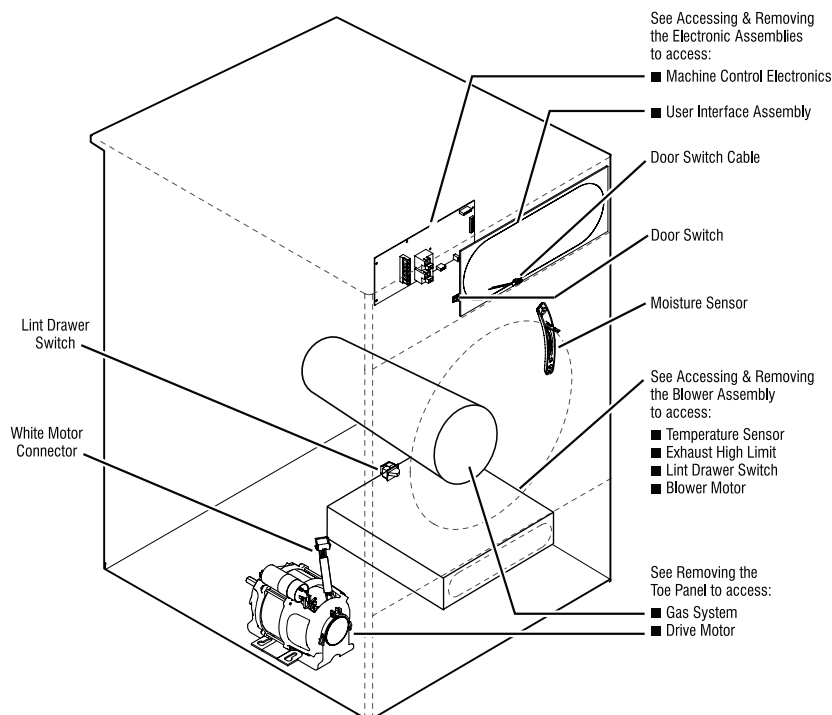


Figure 2. Component Locations

TROUBLESHOOTING TESTS

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

TEST #1 Supply Connections

This test assumes that proper voltage is present at the outlet.

1. Unplug dryer or disconnect power.
2. Remove the cover plate from the top right corner of the back of the dryer.
3. Check that the power cord is firmly connected to the dryer's wire harness. See Figure 3.
4. Access the machine control electronics without disconnecting any wiring to the control board. See *Accessing & Removing the Electronic Assemblies*, page -6-28.
5. With an ohmmeter, check for continuity between the neutral (N) terminal of the plug and P2-2 (white wire) on the machine control board. The left-hand side of Figure 4 shows the position of the neutral terminal (N) on the power cord plug.
 - 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 3. Test the continuity of the power cord neutral wire as shown in Figure 4. If an open circuit is found, replace the power cord. Otherwise, go to step 6.
6. In a similar way, check the continuity between the L1 terminal of the plug and P2-3 (black wire) on the control board.
 - If there is continuity, replace the control board.
 - If there is no continuity, check the continuity of the power cord in a similar way to that illustrated in Figure 4 but for power cord L1 wire.
 - If an open circuit is found, replace the power cord. Otherwise, go to step 7.
7. Replace the main wire harness.

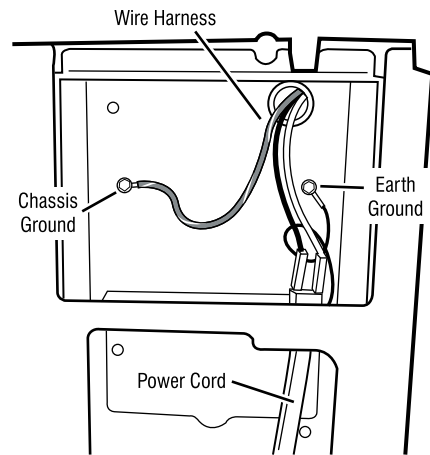


Figure 3. Power cord-to-wire harness connection for gas dryer

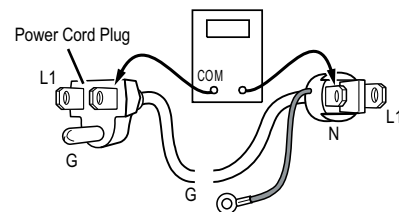


Figure 4. Power cord terminals, gas dryer

TEST #2 Drive Motor Circuit

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

- | | |
|----------------------|---|
| – Harness/connection | – Machine control electronics.
See ESD information, page 6-17. |
| – Drive Motor | |
| – Motor Capacitor | |

1. Unplug dryer or disconnect power.
2. Access the machine control electronics. See *Accessing & Removing the Electronic Assemblies*, page 6-28. Measure the resistance across P2-2 and P2-5.
 - If resistance across P2-2 and P2-5 is in the range of 1–6 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 wiring diagram on page 7-2.

4. Check the drive motor and motor capacitor. Access the drive motor by removing the toe panel. See Removing the Toe Panel, page 6-30.
5. Disconnect the white motor connector from the drive motor. See Figure 5.
6. Check the resistance value of the motor capacitor. See Figure 5 for location.

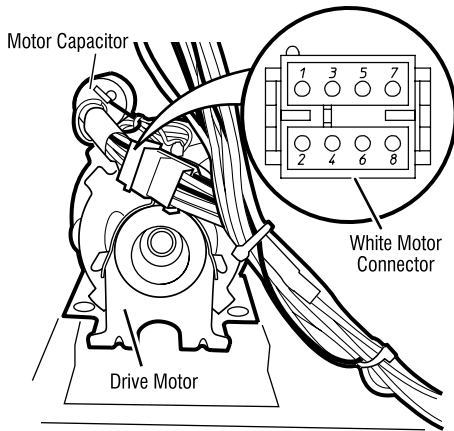


Figure 5. Disconnect white motor connector

IMPORTANT: Discharge the capacitor by touching a 20,000 ohm resistor to the motor capacitor terminals and the capacitor case.

- a) Set the ohmmeter to the R X 10k scale.
- b) Contact the motor capacitor terminals. The resistance should be low at first and then gradually increase towards infinity.
 - If the resistance at the motor capacitor is correct, go to step 7.
 - If the resistance at the motor capacitor is not correct, replace the capacitor.

7. Check the resistance value of the motor's Main winding coil by contacting points 7 and 8 of the white motor connector, as shown in Figure 5.
 - If the resistance at the drive motor is in the range of 2.4–3.6 ohms, there is an open circuit between the motor and the machine control electronics. Replace the main wiring harness.
 - If the resistance at the drive motor is much greater than 4 ohms, replace the drive motor.
8. Door Switch problems can be uncovered in the Diagnostic Tests on pages 6-18 & 6-19; however, if this was not done, the following can be done without applying power to the dryer. Connect an ohmmeter across P6-2 (black wire) and P6-1 (black wire). With the door properly closed, the ohmmeter should indicate a closed circuit (0–2 ohms). If not, replace the door switch assembly.

TEST #3 Heating Circuit

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

- Dryer doesn't heat
- Heat won't shut off

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

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> – Harness/connection – Heater relay – High limit thermostat – Gas burner assembly – Temperature sensor | | <ul style="list-style-type: none"> – Machine control electronics. See ESD information, page 6-17. – User interface assembly – Gas supply |
|--|--|---|

Dryer does not heat:

1. Unplug dryer or disconnect power.
2. Remove the toe panel to access the thermal components. See Removing the Toe Panel, page 6-30. Locate the components using Figure 6.

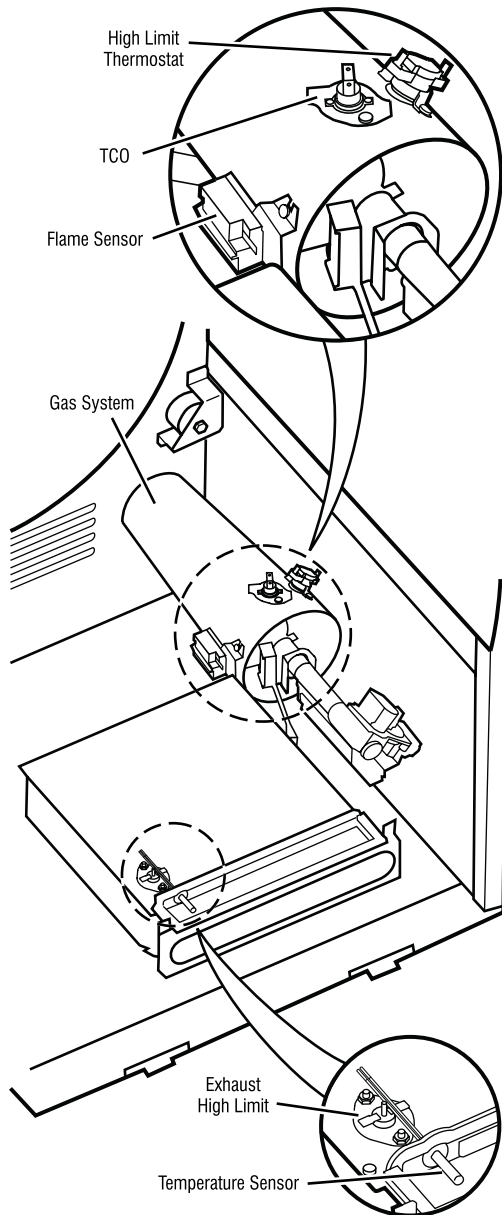


Figure 6. Thermal Components, viewed from front

3. Perform TEST #3b. If the exhaust high limit manual reset is OK, go to step 4.
4. Locate the high limit thermostat. See Figure 6. Measure the continuity through it by connecting the meter probes on the black wires.
 - If there is an open circuit, replace the high limit thermostat.
 - Otherwise, go to step 5.
5. Perform TEST #3c. 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. See Accessing & Removing the Electronic Assemblies, page 6-28. Measure the resistance between P3-15 (red wire) and P3-16 (black wire).
3. Set the multi-meter to the diode check setting.
4. Touch the red lead of the meter to the black wire of the temperature sensor and the black lead of the meter to the white wire of the sensor. The meter should read open (infinite).
5. Next, reverse the leads so the black meter lead contacts the black wire and the red meter lead contacts the white wire. You should read approximately 1.8 on the meter.
6. With the meter still connected, grasp the probe tightly in your hand and the meter reading should slowly decrease as your hands warm the probe.

If any of these tests fail, replace the temperature sensor.

TEST #3a Temperature Sensor

The machine control electronics monitors the exhaust temperature using the temperature sensor, 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. Set the following configuration:
 - Door must be firmly closed.
 - Select Timed Dry cycle.
 - Press Cycle End Tone and select Loud.
 - Press Start.
3. If after 60 seconds, E1 or E2 flashes in the display and the dryer shuts off, the temperature sensor or wire harness is either shorted or open.
 - Unplug dryer or disconnect power.
 - Check wire connections at the machine control electronics and temperature sensor. See Accessing & Removing the Electronic Assemblies, page 6-28, and Figure 6 for temperature sensor location.
 - If wire connections are good, remove the two wires from the temperature sensor and replace the temperature sensor. See Figure 6.
 - Plug in dryer or reconnect power.
4. If E1 or E2 does not flash in the display, the connections to the temperature sensor are good. Therefore, check the temperature sensor's resistance 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 32° to 82°C (90° to 180°F) in the center of the exhaust outlet. The correct exhaust temperatures are as follows:

EXHAUST TEMPERATURES		
TEMP. SETTING	HEAT TURNS OFF* °C (°F)	HEAT TURNS ON °C (°F)
Extra High	73.9° ± 3° (165° ± 5°)	6–8° (10–15°) below the heat turn off temperature
High	71.1° ± 3° (160° ± 5°)	
Medium	65.6° ± 3° (150° ± 5°)	
Low	57.2° ± 3° (135° ± 5°)	
Extra Low	48.9° ± 3° (120° ± 5°)	

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

5. If the exhaust temperature is not within specified limits, go to the Operational Test to verify the temperature sensor is functional.

TEST #3b Exhaust High Limit Manual Reset

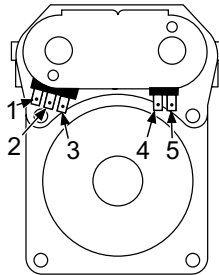
1. Unplug dryer or disconnect power.
2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies, page 6-28. Measure the resistance across P3-3 and P3-4.
 - If the resistance across P3-3 and P3-4 is 1–6 ohms, replace the machine control electronics.
 - Otherwise, go to step 3.
3. Check the wiring and connectors in the path between these measurement points by referring to the wiring diagram on page 7-2.

TEST #3c Gas Valve

1. Unplug dryer or disconnect power.
2. Access the gas valve by first removing the toe panel. See Removing the Toe Panel, page 6-30.
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 coil.

Terminals	Resistance Ω
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 #4 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:

- Metal sensor strips
- Machine control electronics

1. Enter the Diagnostic Test #1 mode. See procedure on page 6-18.

2. If a continual beep tone is heard as soon as the diagnostic mode is started, 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 right wall of the door well. Bridge these strips with a wet cloth or finger.

- If a continual beep tone is heard, the sensor passes the test. Go to step 4.
- If a continual beep tone is not heard, go to step 6.

4. Unplug dryer or disconnect power.

5. Access the machine control electronics. Remove the connector P3 from the circuit board. Measure the resistance across terminals 9 and 10.

- If the ohmmeter does not indicate (infinity) open circuit, go to step 7.
- Otherwise, measure the resistance across pins 9 and 10 of connector P3 on the machine control board. If a resistance less than 1 M Ω is measured (with analog or digital ohmmeter), inspect the control board for any debris bridging these pins. If no debris, replace the machine control electronics.

6. Unplug dryer or disconnect power.
7. Access the moisture sensor by removing the 2 moisture sensor screws, then disconnect the moisture sensor wire connector.
8. Measure the resistance across the pins of the moisture sensor. If a small resistance is measured here, replace the moisture sensor.
9. Measure the resistance across the moisture sensor wires.
 - If a resistance less than infinity is measured, replace this component (Wire Harness, Moisture Sensor).
10. If moisture sensor diagnostic test passes, check the temperature sensor: Perform TEST #3a.
 - If the problem persists after replacing the moisture sensor and temperature sensor, replace the machine control electronics.

TEST #5 Button and LED

Refer to the Diagnostic Tests on page 6-18 and activate the Diagnostic Test #1 mode. Check for the following situations:

None of the LEDs light up:

1. See “Diagnostic Guide/ Before servicing...” on page 6-17.
2. Visually check that connector P1 is inserted all the way into the machine control electronics. See Accessing & Removing the Electronic Assemblies on page 6-28.
 - If these connections are good, test the user interface by using Test #5a.
 - If this test passes, replace the machine control electronics.
 - Otherwise, replace the user interface assembly.

A particular group of LEDs does not light up:

A group or combination of LEDs share a common electronic connection. If this connection is open, all of the LEDs in the group will be disabled. Replace the user interface assembly.

A single LED does not light up:

Press the button associated with the LED several times. If the LED does not light up, the LED has failed. Replace the user interface assembly.

No beep sound is heard:

If the associated LEDs do light up, it is possible that the beeper circuit has failed. Replace the user interface assembly.

No dryer function is activated when a particular button is pressed:

If the associated LEDs do light up, it is possible that the machine control electronics has failed. Check functions of buttons by performing TEST #5a before replacing the machine control electronics.

TEST #5a LED and TouchPad (UI Only)

This operation allows a cursory check of the user input switches, indicators, and sensor. This routine is a test of the User Interface only. When in this mode, the communication to the control is halted. To start the key test mode:

1. Unplug dryer or disconnect power.
2. Press and hold the Start and Cycle End Tone buttons, and while still holding these buttons, perform step 3:
3. Plug in dryer or reconnect power.
4. All LEDs will light up and the message “YOU ARE IN TEST MODE! Chase the LEDS!!!” will scroll across the display.
5. Press Start to run the test.
6. After pressing Start, touch the appropriate lighted cycles and options. Continue through all the selections until the Cancel button. This test will then exit upon completion.

If there are any failures during this testing, replace the user interface assembly.

TEST #6 Door Switch

Go into the Diagnostic Test #1 mode. See page 6-18. Functionality is verified by the appearance of an alpha numeric code in the display (“Software revision” – door closed, “GAS” – door open etc.).

- If any of the above conditions are not met, or if “GAS” is displayed when the door is closed, check that the wires between the door switch and machine control electronics are connected. See Figure 2 for switch location, and see Accessing & Removing the Electronic Assemblies, page 6-28.
- If the connections are OK, replace the wire and door switch assembly and retest.
- If wire and door assembly have been replaced and dryer still does not start, replace the machine control electronics.

TEST #7 Lint Drawer Switch

This test will check the wiring to the lint drawer switch and the lint drawer switch itself.

1. Unplug dryer or disconnect power.
2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies, page 6-28. Then measure the resistance across P3-7 and P3-8.
3. Close the lint drawer and measure the resistance. It should indicate a closed circuit.
4. Now open the lint drawer and measure the resistance. It should indicate an open circuit.

- If any of the conditions are not met check that the wires between the lint drawer switch and machine control electronics are properly connected.
- If the connections are OK, replace the lint drawer switch and retest.
- If wires and lint drawer switch assembly have been replaced and dryer still does not start, then replace the machine control electronics.

TEST #8 Dry Rack Sensor

This test will check the wiring to the dry rack sensor and the dry rack sensor itself.

1. Unplug dryer or disconnect power.
 2. Access the machine control electronics. See Accessing & Removing the Electronic Assemblies, page 6-28. Then measure the resistance across P3-11 and P3-12.
 3. Insert the dry rack and measure the resistance. It should indicate a closed circuit.
 4. Now remove the dry rack and measure the resistance. It should indicate an open circuit.
- If any of the above conditions are not met check that the wires between the dry rack sensor and machine control electronics are properly connected.
 - If the connections are OK, replace the dry rack sensor and retest.
 - If wires and dry rack sensor have been replaced and an error code E5 persists or the drum will not tumble, then replace the machine control electronics.

ACCESSING & REMOVING THE ELECTRONIC ASSEMBLIES

There are two electronic assemblies; the user interface assembly, and the machine control electronics. See Figure 7.

1. Unplug dryer or disconnect power.
2. After removing the top panel, remove the console screws located in the upper corners of the console. See Figure 7.

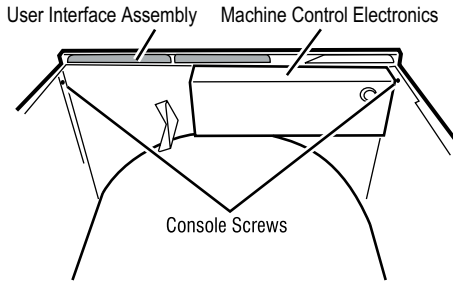


Figure 7. Locate the electronic assemblies

3. Slide the console so that the console pins located at the bottom corners of the console move up and out from the slots, removing the console from the front of the machine. See Figure 8.

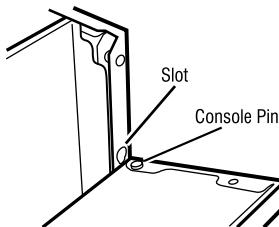


Figure 8. Slide console pins up and out of slots

4. Disconnect the door switch cable from the control board and disconnect the UI (User Interface) cable from the UI. Also cut the cable tie holding the UI cable to the console. See Figure 9.

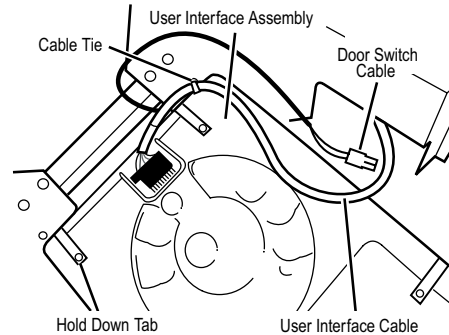


Figure 9. Disconnect cables to remove user interface assembly from console

Removing the User Interface Assembly

5. Remove the hold down tabs. See Figure 9.
6. Remove the user interface assembly.

Removing the Machine Control Electronics Assembly

5. Referring to Figure 10, loosen the 4 screws for cover, then slide cover to the right and out from the machine control board.

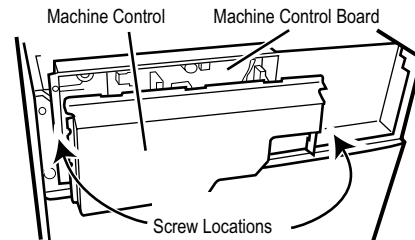


Figure 10. Accessing the machine control electronics

- Remove all the wire connections to the machine control board. See Figure 11 below.
- Remove screws that fasten the control board to the mounting bracket, and pull it from the mounting bracket.

ACCESSING & REMOVING THE BLOWER ASSEMBLY

The blower assembly includes the temperature sensor, exhaust high limit, lint drawer switch, and blower motor. See Figure 12.

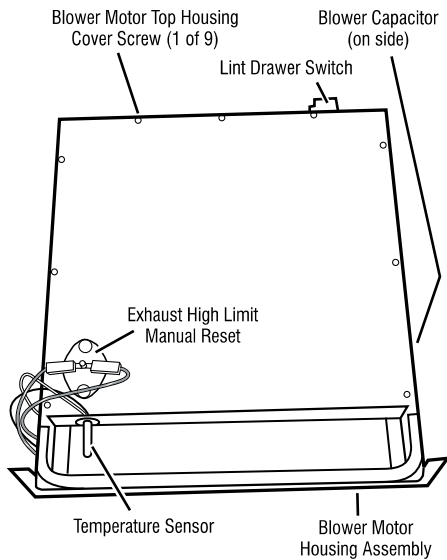


Figure 12. Blower motor components

ACCESSING THE BLOWER ASSEMBLY COMPONENTS

- Unplug dryer or disconnect power.
- Turn off gas supply to dryer.
- Remove the back panel and the duct support bracket from the dryer.
- Remove the toe panel from the dryer front.
- Remove the 2 blower motor housing screws from the dryer front.
- To remove the temperature sensor:**
 - Pull the blower motor housing assembly far enough forward so you can access the temperature sensor.
 - Disconnect the two red-silver wires from the exhaust high limit manual reset terminals. See Figure 13.

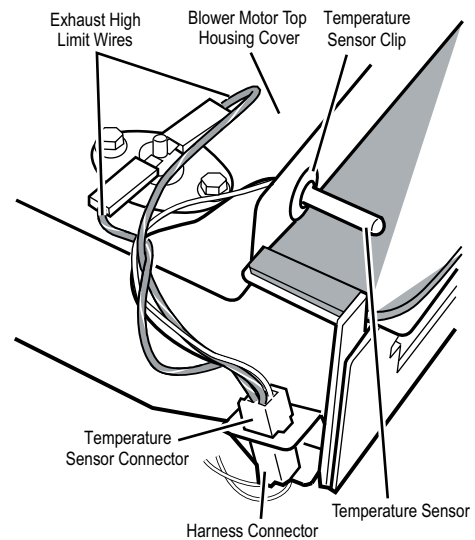
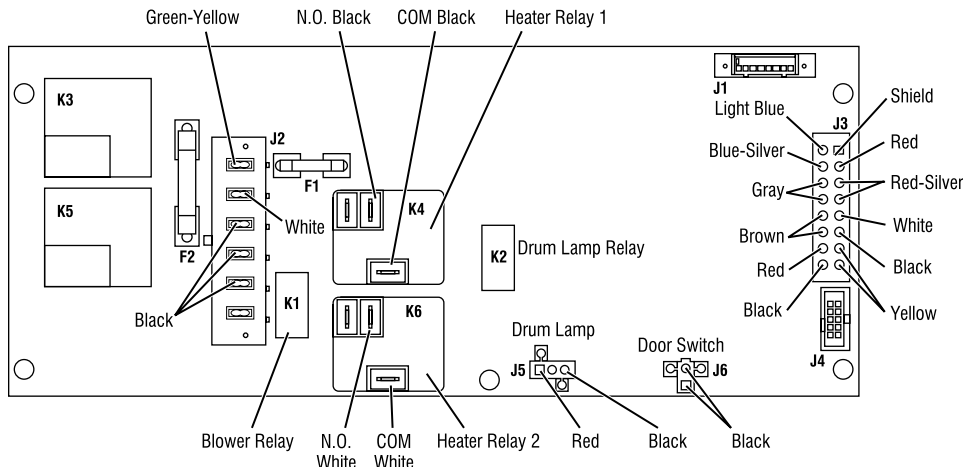


Figure 13. Temperature sensor connections



NOTE: J connectors shown on the machine control electronics correspond with P connectors on the wiring diagram.

Figure 11. Machine Control Electronics

- c) Unlatch and disconnect the 4-pin harness connector from the temperature sensor connector.
- d) Disconnect the 4-pin sensor connector from the mounting bracket.
- e) Remove the front clip from the temperature sensor. To do this, hold the clip with a pair of pliers, and twist the sensor with your fingers while pushing it out of the clip.

7. **To remove the lint drawer switch:**

- a) Unlatch and disconnect the 4-pin harness connector from the temperature sensor connector. See Figure 13.
- b) Remove the wires from the hook in the blower motor housing. See Figure 14.

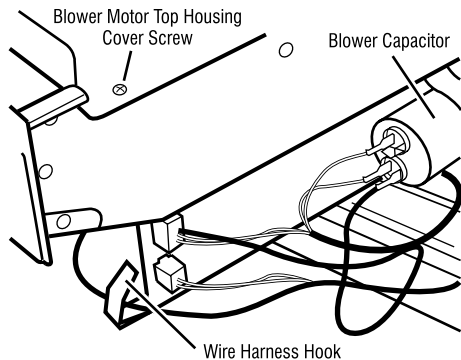


Figure 14. Discharge the blower capacitor at right side of blower motor housing.

- c) Pull the blower motor housing assembly far enough forward so you can access the lint drawer switch. See Figure 12.
- d) **IMPORTANT:** Discharge the blower capacitor by touching a 20,000 Ω resistor to the terminals and chassis. See Figure 14.
- e) Remove the blower motor top housing cover screws and position the assembly out of the way.
- f) Disconnect the two yellow wires from the lint drawer switch terminals.
- g) Bend the three lint drawer switch's metal tabs straight out.
- h) Release the bottom and top locking tabs on the switch and push it out of its housing cutout.

8. **To remove the blower motor:**

- a) Remove the blower motor housing assembly and the top housing cover by following steps 7a through 7e.
- b) Remove the four 7mm (3/8") nuts, split washers, and flat washers from the top blower motor housing. Lift the top housing off the motor, and position it to the left side.
- c) Release and disconnect the following connectors:
 - 2 blower motor harness connectors
 - 2 blower motor harness plugs from the mounting bracket
 - 3 blower capacitor wires
- d) Turn the blower motor assembly over, and position it so that you can access the bottom screws.
- e) Remove the four 7mm (3/8") motor mounting plate nuts, and the five motor mounting screws from the blower motor assembly.
- f) Remove the mounting plate and pull the motor wiring through the opening.
- g) Lift the motor and fan from the housing.

REMOVING THE TOE PANEL

1. Remove four screws from the top of the toe panel.
2. Slide the toe panel down, then pull it out from the bottom.

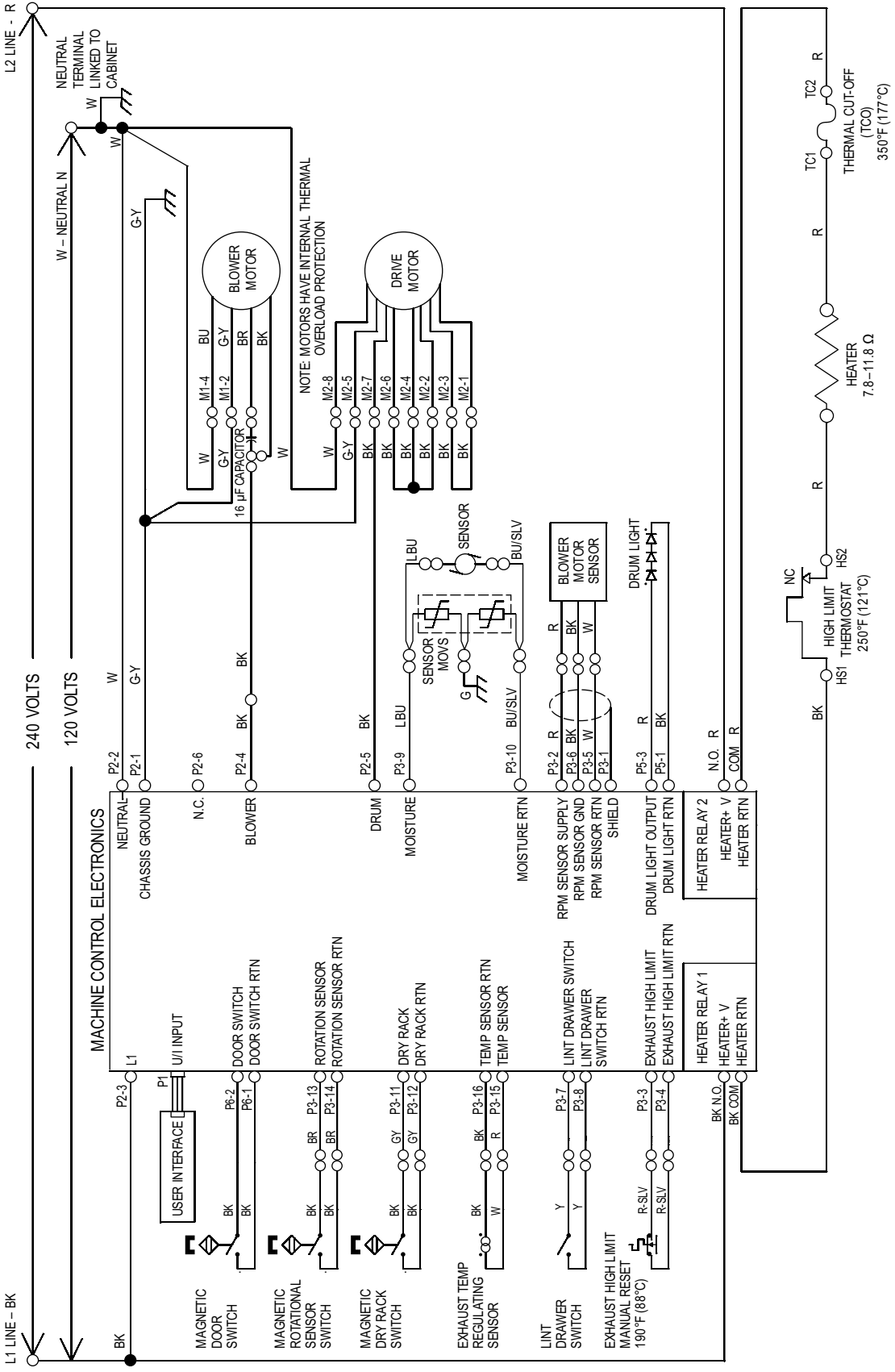
REMOVING THE BACK PANEL

1. Unplug dryer or disconnect power.
2. Remove the top panel.
3. Remove the three screws from each side of the back panel.
4. Remove three screws from around the exhaust vent, one from the top, and one on each side.
5. Remove the five screws that are around the power cord access.

NOTE: There are 14 screws total for the back panel, not including the top panel screws.

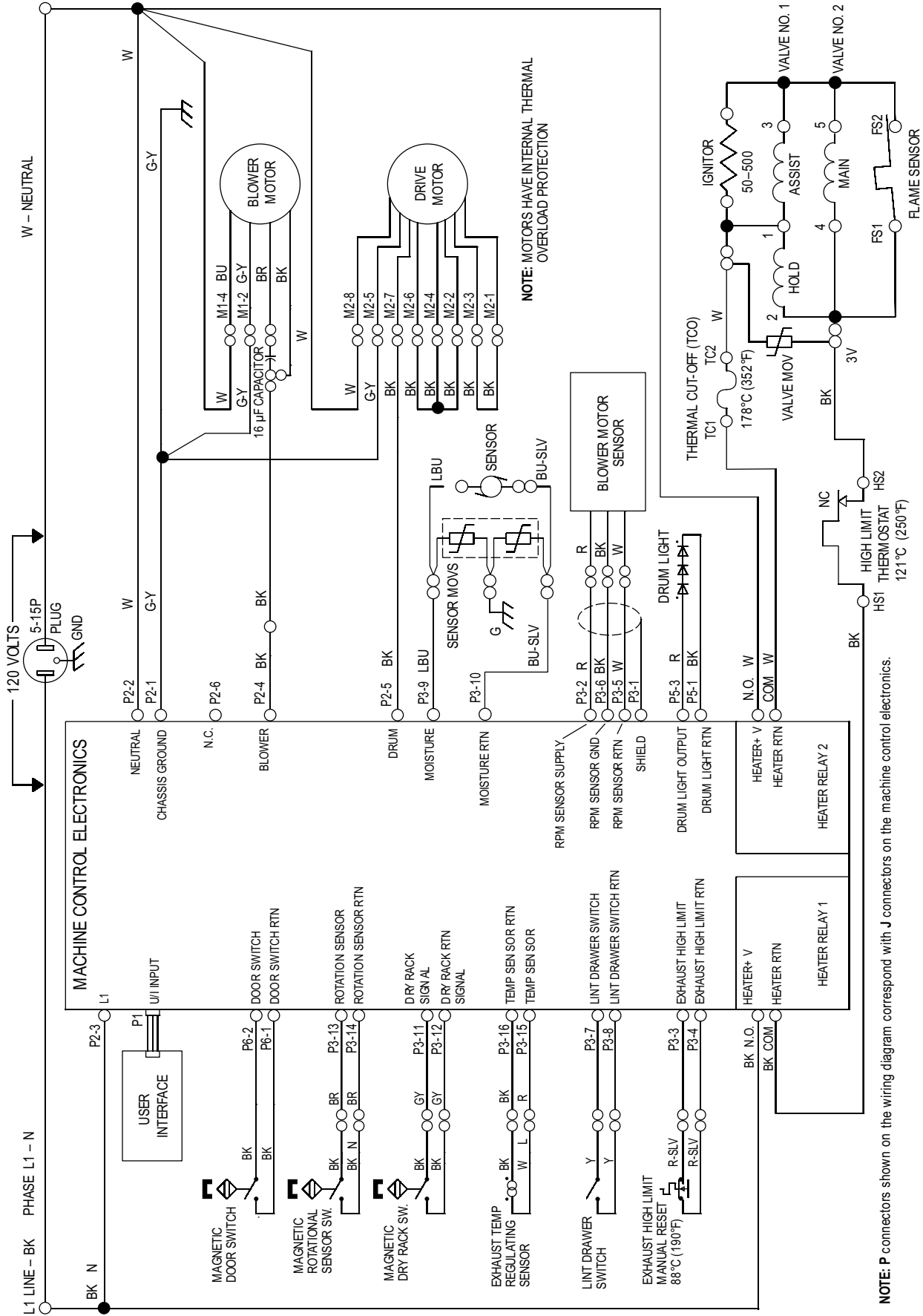
WIRING DIAGRAMS

ELECTRIC DRYER



NOTE: P connectors shown on the wiring diagram correspond with J numbers on the machine control electronics.

GAS DRYER



NOTE: P connectors shown on the wiring diagram correspond with J connectors on the machine control electronics.

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