

Electric Dryer—Technical Information

CDE4205A*

- Due to possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this unit.
- Refer to Service Manual 16023110 for detailed installation, operating, testing, troubleshooting, and disassembly instructions.



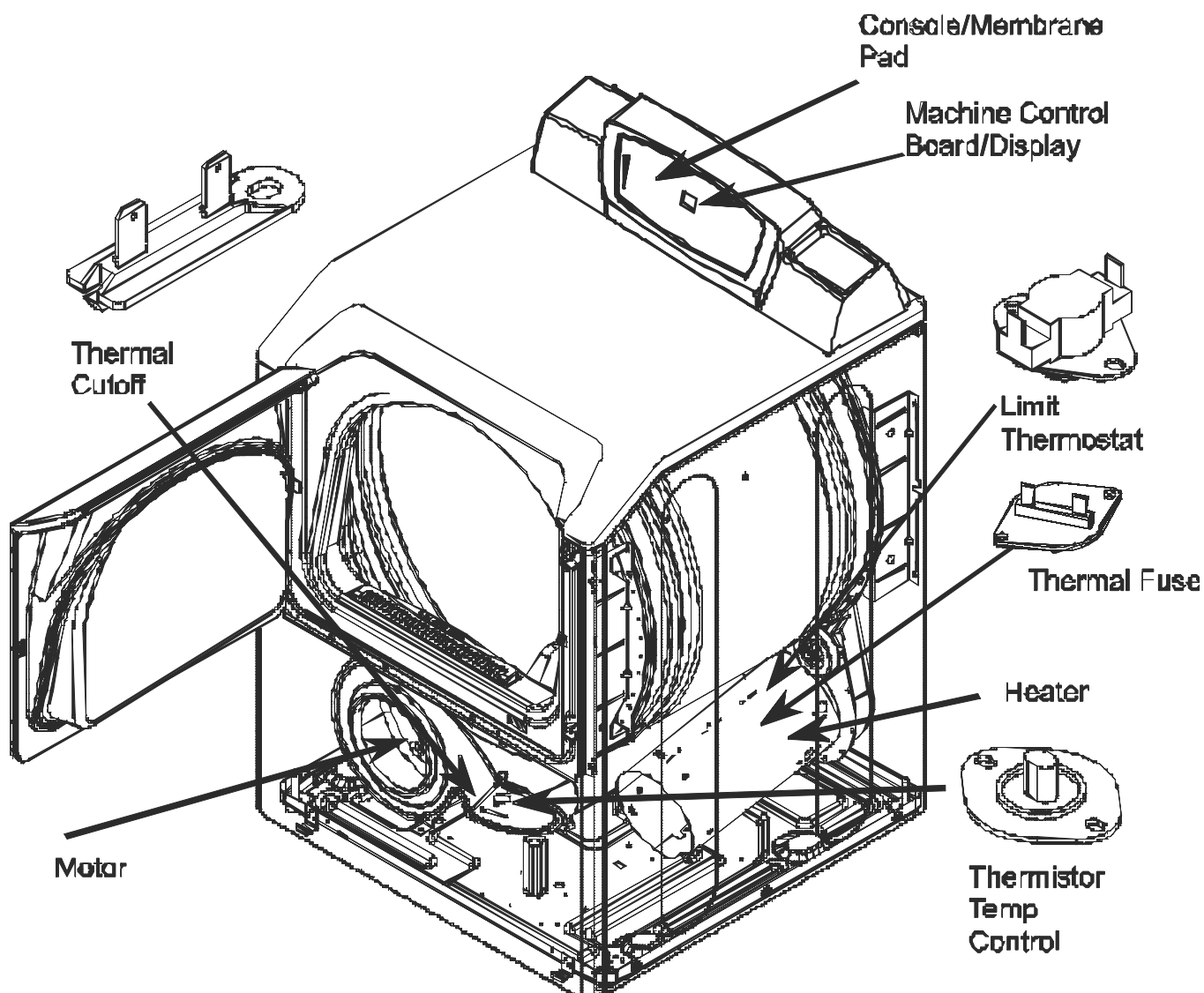
CAUTION

All safety information must be followed as provided in Service Manual 16023110.



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to dryer before servicing, unless testing requires power.



Troubleshooting Procedures



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Will Not Run

Will not start or run:

- All wires are hooked up to their corresponding terminals.
- Dryer is plugged in.
- Blown fuse or circuit breaker.
- Door switch functional...door closed.
- Start/Pause switch functional.
- Control Board operational.
- Drive motor functional.
- Blown thermal fuse.

Motor runs/ tumbler will not turn:

- Belt off or broken/damaged.
- Idler tension spring too weak or stretched.
- Idler pulley jammed or stuck.

Runs a few minutes and then stops:

- Lint buildup around drive motor.
- Low voltage present.
- Blower impeller blocked in blower housing.
- Drive motor - start switch contacts stuck closed.

Blows fuses or trips circuit breaker:

- The amperage readings are at 240 volts. One line will be 24 amps and the other line will be 21 amps. The neutral line will be at 3 amps. If the above amperages are present, then the house wiring, fuse box or circuit breaker should be suspect.
- Shorted heating element to housing.
- Incorrect wiring or a wire shorting to ground.
- Drive motor winding shorting to ground.

Will Not Dry

Will not heat (motor runs):

- Open heating element.
- Hi-Limit trips easily or is open.
- Regulating thermostat trips easily or is open.
- Membrane switch open.
- Drive motor centrifugal start switch not allowing voltage to heating element.

Improper drying/clothes wrinkled/ rough

texture/long dry time:

- Lint filter is not clean.
- Restriction in exhaust.
- Outside exhaust hood damper door stuck closed.
- Exhaust too long, too many elbows, flex ductwork installed.
- Poor makeup air available for the dryer.
- Incorrect tumbler speed. Tumbler belt slipping.
- Blower impeller bound; check for foreign material in blower area.
- Customer overloading dryer.
- Check clothing labels for fabric content and cycle selected.
- Clothes too wet due to insufficient spin out by washer.

Will Not Shut Off

Short in Sensor Circuit.

Check Membrane Pad.

Check Electronic Control Board.

Troubleshooting the electronic

control circuit:

- Check for miswiring of the electrical connector at the electronic control board.

- Does not shut off, then the problem is in the electronic control unit. Disconnect the sensor wire from the sensor bar. If the dryer runs for about 20 minutes, then shuts down or the timer advances, then the electronic control unit is good and the problem lies in the sensor bar.
- Check sensor for continuity. If found, replace sensor bar or clean with alcohol. Some fabric softener sheets will coat the sensor bars.

Noisy and/Or Vibration

- **Thumping** Check for loose tumbler baffle, rear tumbler roller(s) worn or misaligned, out-of-round tumbler or high weld seam on tumbler.
- **Ticking** Check for loose wire harness or object caught in blower wheel area.
- **Scraping** Check for front or rear bulkhead felt seal out of position or worn tumbler front bearings.
- **Roaring** Check for blower wheel rubbing on blower housing or bad motor bearings.
- **Popping or squealing sound.** Check for a sticky or frayed belt.

Display shows 18 or other unexpected display :-

- If a consumer inadvertently presses the hidden switch when a cycle **is not running**, there will be an audible beep and the display will change to 18. The Start Pause LED will flash.
If a consumer inadvertently presses the hidden switch when a cycle **is running**, there will be an audible beep and the display will change to 18. The machine will run an 18 minute cycle.

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Service Mode

This mode provides Service Personnel the ability to verify the operation of the dryer.

The Service Mode can be accessed at any time. While in the Service Mode, the Technician can start special diagnostic tests such as a System Check Mode and diagnostic code listings.

Enter Service Mode:

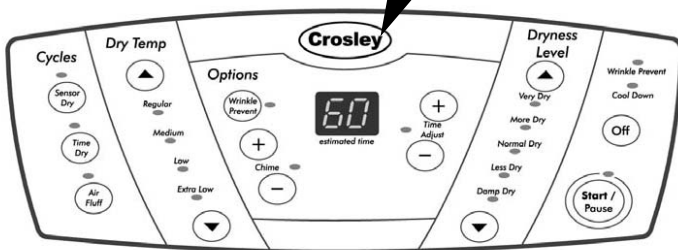
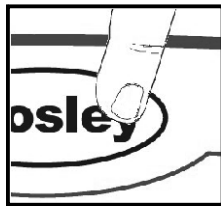
Press **Air Fluff** and **Time (+)** keys for 3 seconds, or until a beep is heard. The machine will now be in Service Mode and "d" will be displayed.

Exit Service Mode

Press the **OFF** key to exit Service Mode.

Control Diagnostics * (Hidden Key)

Illustrated below is a hidden Service Mode key used to access the diagnostic codes only. The key will be referred to as "hidden key", and is located under the surface of the last character (y) in the brand name.



Diagnostic Tests

The following table lists the various tests available while in the **Service Mode**.

Key Press	Special Test/Function
* Hidden Key (See Control Diagnostics)	Display diagnostic codes.
Dry Temp (^)	Sequence thru diagnostic codes.
Dryness Level (^)	View tumbler temperature in Celsius

Diagnostic Codes

The Diagnostic Codes are identified when an abnormality is detected and service may be required.

Accessing Diagnostic Codes

Press **Air Fluff** and **Time (+)** to enter Service Mode. Press the * **Hidden** key to access the Diagnostic Codes. Scroll through the Diagnostic Codes by pressing the **Temperature (^)**. The first time the key is pressed the newest code will be displayed. Each additional key press shows the next code. Once all the codes have been displayed a "d" is displayed and the process repeats. If there are no Diagnostic Codes available, "00" will be displayed for the Diagnostic Code.

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Clearing Diagnostic Codes

To clear the diagnostic code list press **Air Fluff** and **Hidden** key for 3 seconds while in diagnostic mode.

Diagnostic Codes

Code	Description	Trigger	Action Taken
1	Dryer Thermistor Short Sensed	The thermistor resistance is very low, with a temperature > 175 degrees.	<u>Check for:</u> <ul style="list-style-type: none"> - Clogged lint screen. - Restricted vent system. Failed thermistor.
2	Thermistor Open Sensed	The thermistor resistance is very high	<u>Check for:</u> <ul style="list-style-type: none"> - Low ambient temperature in room (Below 50 °F/10 °C). - Outside vent damper is stuck open in wintertime. Loose or open wire terminals
3	Door Circuit Failure	Invalid state for more than 256 milliseconds	<u>Check for:</u> <ul style="list-style-type: none"> - Loose or open wire terminals in Door Sense circuit.
4	Possible motor transistor error	If either motor transistor is seen open or shorted during startup	<u>Check for:</u> <ul style="list-style-type: none"> - Loose connections in motor circuit. - Run System Check Mode and check the motor relay function. - If relay functions, disregard the diagnostic code. If relay does not function, replace machine control board.
5	Not Used		
6	Non Volatile Memory	Problem Detected with integrity of parameters stored in EEPROM memory.	Disregard
8	Stuck Key	A key is sensed to be pressed more than 75 seconds, the key shall be assumed to be stuck.	Run membrane pad check and replace console w/membrane pad if necessary.

System Check Mode

While in Service Mode, pressing the **Air Fluff** and **Signal (+)** keys for 3 seconds, will put the dryer into the System Check mode and "SC" will display. The following table lists the various functions based on the keys being pressed.

System Check Mode Table

Key Pressed:	Function Performed
Sensor Dry	Enable sensor dry circuit (sense dry LED) when short circuit is detected across the sensor bars the normal dry LED will turn on.
Start/Pause	Cycles the motor relay on/off. When the motor is running the start/pause LED is on.
Dry Temp (^)	If motor is running, cycles the heater on/off. When the heater is regular temp LED is on.
Dryness level (^)	View tumbler temperature in Celsius.

Troubleshooting Procedures



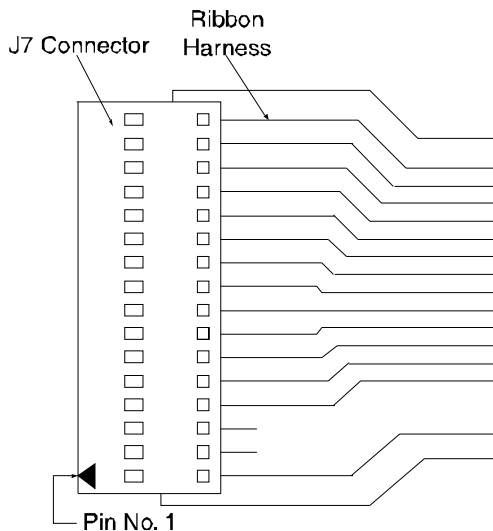
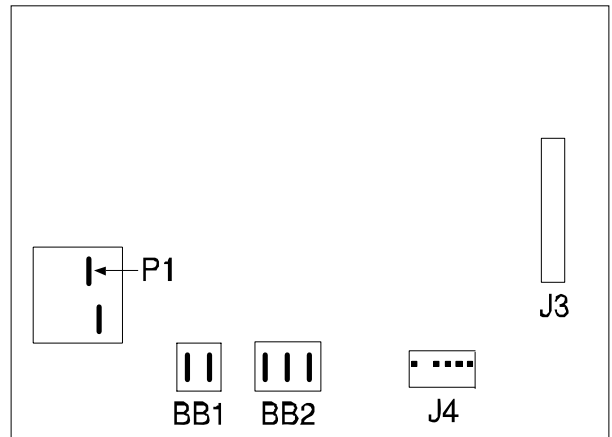
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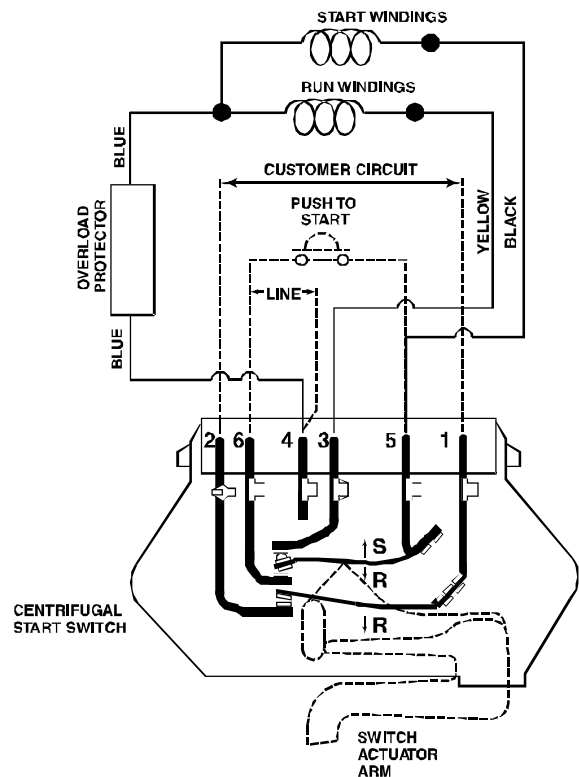
Membrane Pad Continuity Checks

Note: Unplug connector and touch probe of meter to the appropriate pin numbers. Meter will show infinity on open keys and continuity on closed keys.

Membrane Pad	Pin Number	Pin Number
Sensor dry	J7(12)	J7(13)
Time dry	J7(11)	J7(13)
Time(+)	J7(10)	J7(13)
Time(-)	J7(9)	J7(13)
Dry Temp(^)	J7(11)	J7(14)
Dry Temp (v)	J7(10)	J7(14)
Dryness level (^)	J7(12)	J7(14)
Dryness level (v)	J7(19)	J7(14)
* Hidden Key	J7(11)	J7(15)
Wrinkle Prevent	J7(9)	J7(15)
Air Fluff	J7(10)	J7(15)
Start/Pause	J7(11)	J7(16)
Signal(-)	J7(12)	J7(15)
Off	J7(9)	J7(16)
Signal(+)	J7(12)	J7(16)



Motor Schematic



Description	Connector Pin Num	Connector Pin Num	Voltage	Comments
Heater Relay Internal Output	P1	BB1(1)	120VAC	
LI Board (input)	BB1(1)	BB2(3)	120VAC	Door must be closed.
Motor (input)	BB1(2)	BB2(3)	120VAC	Door must be closed
Neutral (input)	BB2(2)	BB1(1)	120VAC	
Door Sense	BB2(3)	BB1(1)	120VAC	Door must be open
Thermistor	J4(1)	J4(2)	5VDC	NTC 70 °F = 10K ohms 150 °F = 1754 ohms
Sensor Bar	J4(3)	J4(4)	24VDC	

Wiring Diagram and Schematic



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