



Fast Track Troubleshooting




Models:
DV5451AE Dv5451AG

IMPORTANT SAFETY NOTICE – “For Technicians Only” This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

**NOTICE: All Dryers Parts
Change 6/2010: Motor Pulley,
page 5; Blower Housing, page 4**

Publication # nwDV5451 Revision Date 09/23/11

Samsung 'Dryer' Diagnostic Code Quick Guide

Display	Description	Trigger	Action Taken
	Dryer Thermistor Short Sensed	The Thermistor resistance is very low.	Check for: Clogged lint screen, Restricted vent system, Thermistor resistance.
	Dryer Thermistor Open Sensed	The Thermistor resistance is very high.	Check for: Clogged lint screen, Restricted vent system, Thermistor resistance.
dO dE	Door Open	Running the dryer with door open	Check for: Loose or open wire terminals in Door Sense circuit.
FE	Power source frequency Error	Invalid power source Frequency	Check for: Non Utility power supply
dF	Door Circuit Failure	Invalid state for more than 256 milliseconds	Check for: Loose or open wire terminals in Door Sense circuit.
hE or HE	Heater Error	Invalid heating Temp in running the dryer	Check for: Restricted vent system, Thermistor resistance.
bE	Button Error	PCB key closed for 75 sec.	Check Display PCB for stuck button
od	Over Dry	Invalid Dry Time Excessive Dry Time	Inspect sensor bars
	EEPROM Fail	Invalid state of EEPROM communication	Replace Main PCB

SUPPORT INFORMATION

Training — Plus One

<http://my.plus1solutions.net/clientPortals/samsung/>

Help — GSPN <http://service.samsungportal.com/>

Samsung Product Support TV

<http://support-us.samsung.com/spstv/howto.jsp>

Customer information videos and chat programs

Programs for Fridges, Laundry, Ranges & D/W

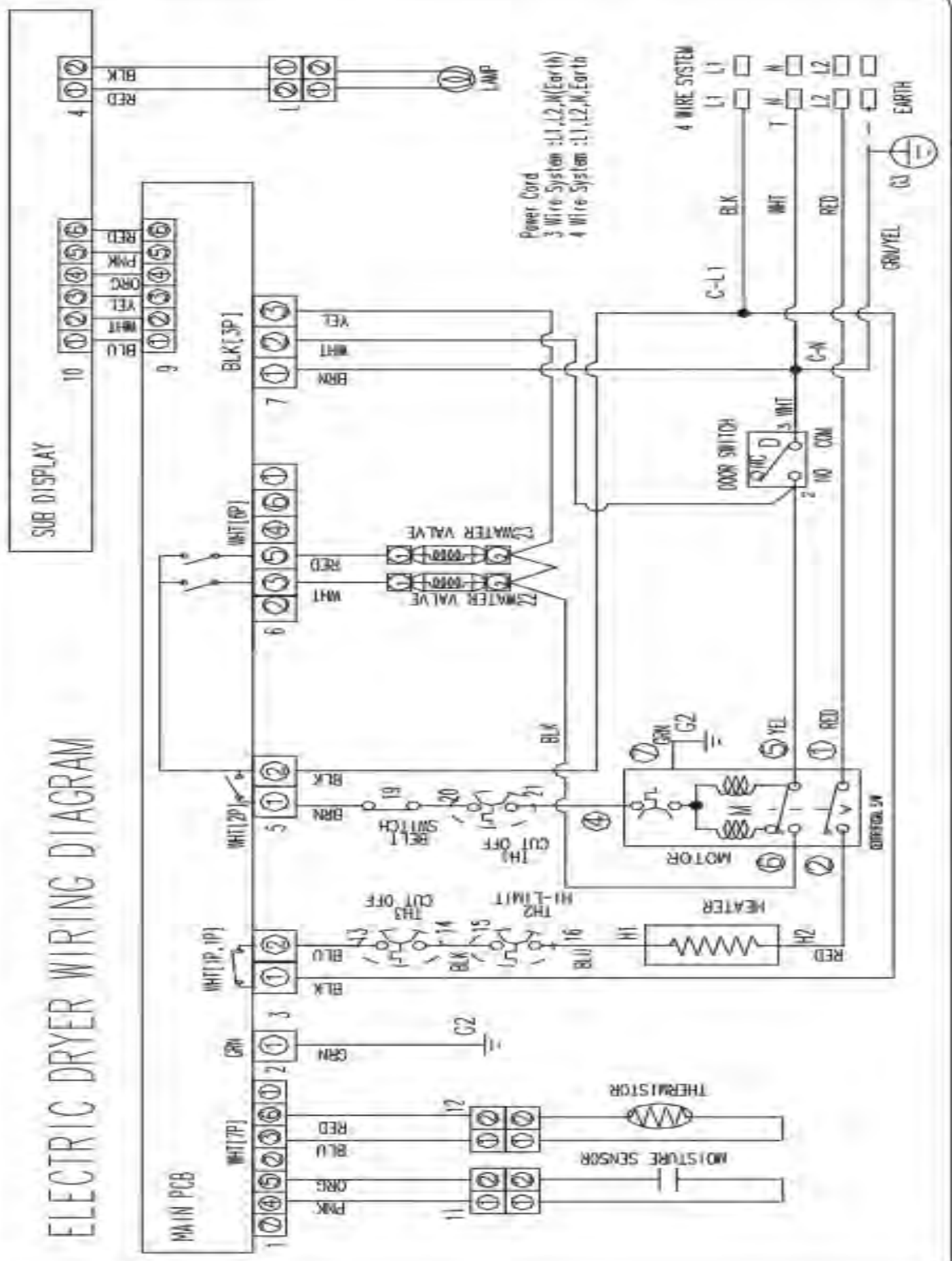
Electrical Dryers 240 VAC, 60 Hz, 30 Amps, 3-wire or 4-wire installations

Gas Dryers 120 VAC, 60 Hz, 15 Amps, 3-wire installations

Location consideration In the USA:

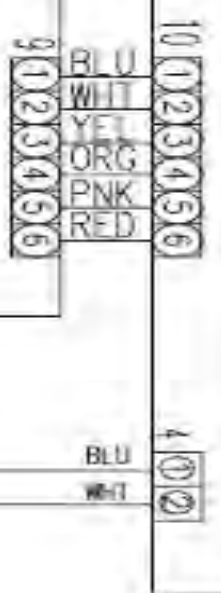
- All Dryers Must be vented to the outside.
- Only rigid or flexible metal duct should be used for venting.

ELECTRIC DRYER WIRING DIAGRAM

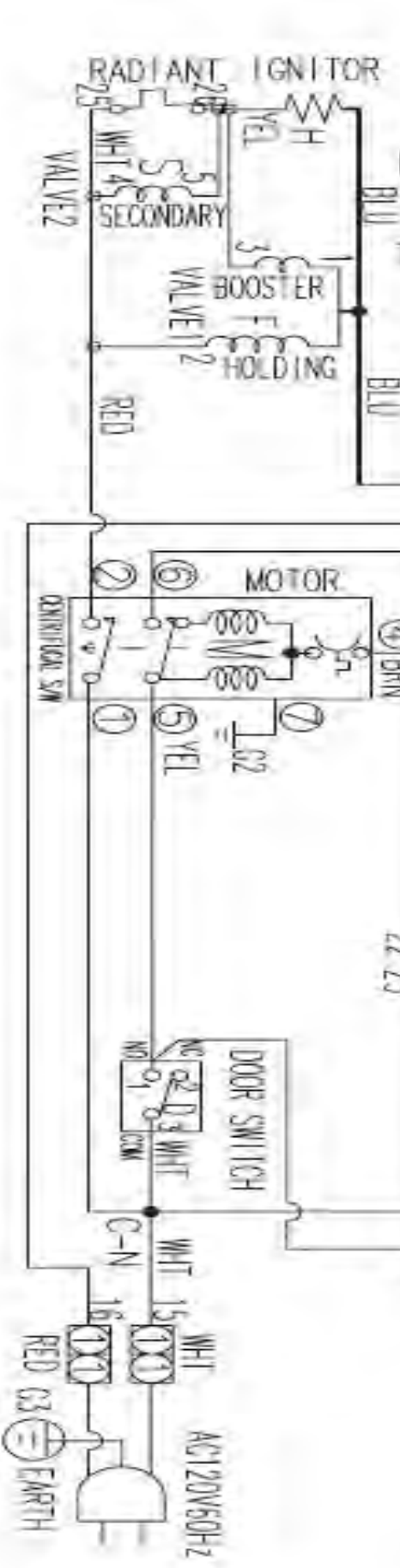
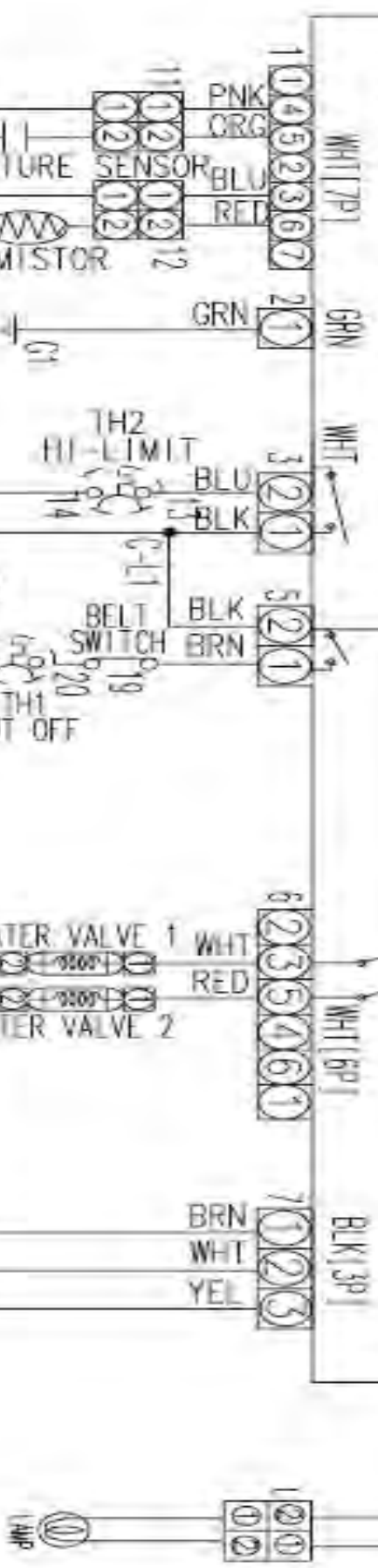


GAS DRYER WIRING DIAGRAM

SUB DISPLAY



MAIN PCB CONTROL



- **CN5**
1. STEAM VALVE1
 2. Empty Pin
 3. LAMP
 4. Empty Pin
 5. STEAM VALVE2
 6. Empty Pin

- **CN2**
1. Communications Port(Rx)
 2. Communications Port(Tx)
 3. SUB RESET
 4. 5V
 5. DGND
 6. 12V

- **CN3**
1. 5V
 2. SO
 3. SI
 4. RESET
 5. CLOCK
 6. FLMDO
 7. DGND
 8. Empty Pin

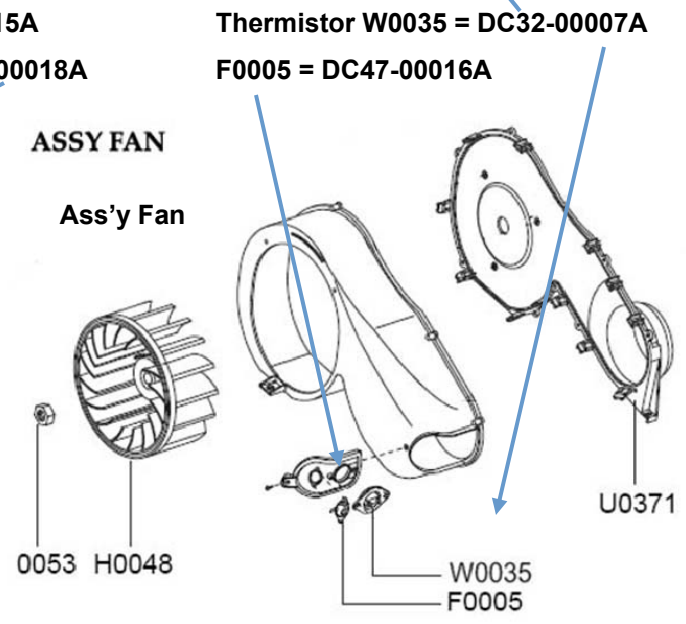
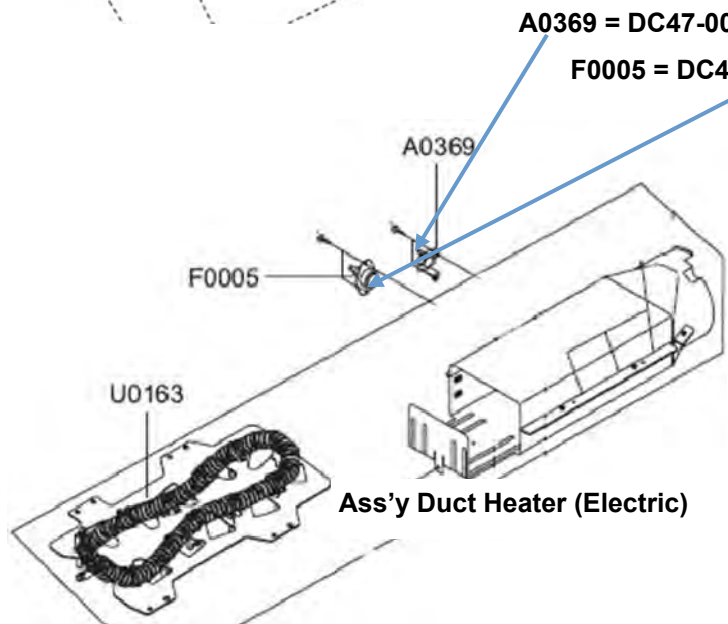
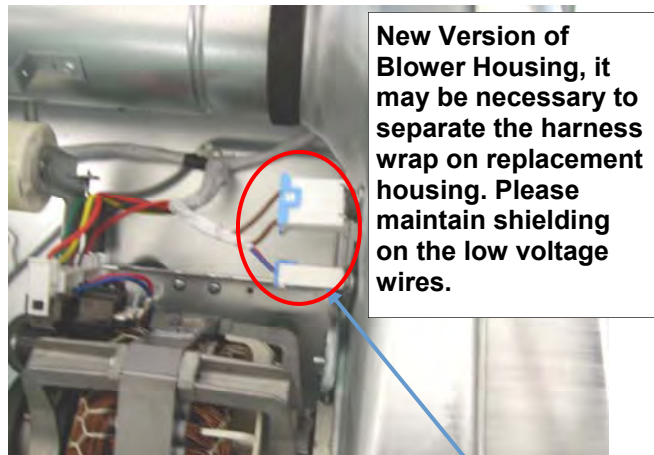
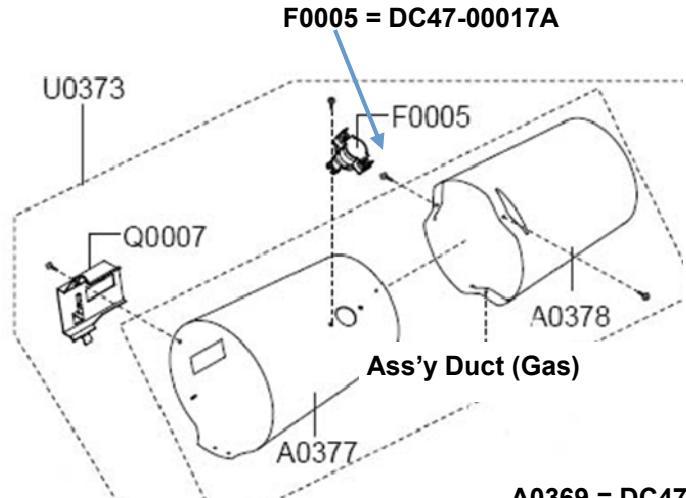
- **CN1**
1. AC Power Port
 2. AC Power off Detection Sensor
 3. Door Detection Sensor (LOCK,UNLOCK)

- Relay 1**
- 1 Motor Belt Sw (Brn)
 - 2 120vac L1 (Blk)

- Relay 6**
- 1 Heater Cut Off T-Stat (Blu)
 - 2 120vac L1 (Blk)

- **CN4**
1. DGND
 2. 5V
 3. TEMP Sensor1
 4. Fabric Detection Sensor
 5. Fabric Detection Sensor
 6. 5V
 7. TEMP Sensor2

- **CN6**
1. SET GND



Gas Valve Testing

Unplug connectors and test valve terminals

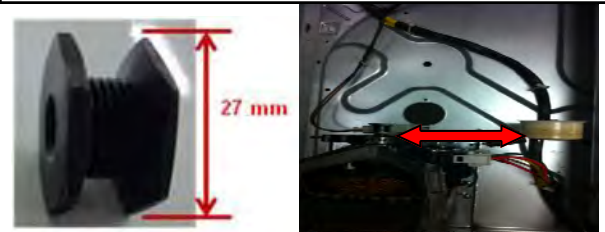
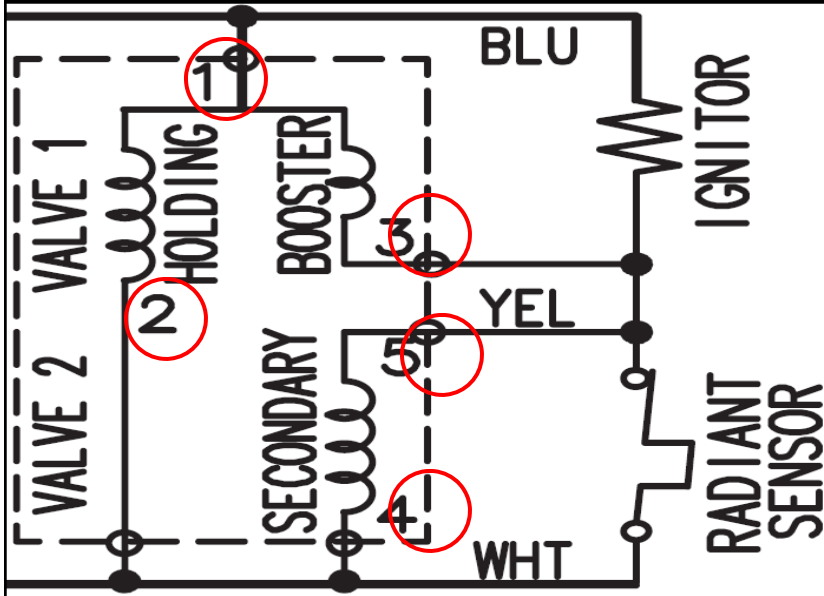
(its numbering is from the front terminal.)

Check across terminals #1 and #3 (Booster Coil).	550 Ω
Check across terminals #1 and #2 (Holding Coil).	1350 Ω
Check across terminals #2 and #3 (Both coils in series).	1900 Ω
Check across terminals #4 and #5 (Secondary Coil).	1300 Ω

SUBJECT: Dryer belt slides off the pulley when manually rotated counter-clockwise (ccw)

SYMPTOM: The dryer drum will not turn. On occasions, the customer will rotate the drum counter clockwise (CCW) to check for any remaining clothes left in the dryer drum. By rotating the drum CCW, the idler arm may shift causing the belt to slide off the pulley.

SOLUTION: To prevent the dryer belt from sliding off the pulley, the pulley has been redesigned. The Outside Diameter has been changed from 22mm to 27mm.



New
DC81-00220A

Make sure the idler pulley and the motor pulley are straight in line with each other, bend to correct

Special Test Mode:

Press power button & Dry level buttons simultaneously will put you in System Check Mode.. Display will show t2

Press Start/Pause to toggle through the following operations

Motor (CW) relay on— Heater Relay on— Heater Relay Off—Motor (CW) Relay Off

Service Mode:::

To enter Service Mode, press Wrinkle Prevent and Temp Keys for 3 seconds, until it sends out a beeping sound.

Cycle Count Test Mode

How to Enter:

To enter cycle count mode press the Wrinkle Prevent in Service Mode.

Temperature Test Diagnostic Mode

How to Enter:

Press Adjust Time Up + Down Keys for 7 sec during Power On State.

Press Adjust Time Up and it will display the temperature in Celsius.

Compare vent temp to drum temp to see air flow.

This can be with just power on or dryer running.

Sensor Bar Touch TEST

How to Enter:

With the power on, pressing Wrinkle Prevent and Temp Keys for 3 seconds. This action will put the dryer into sensor bar touch data mode. This mode is default mode of entering service mode

Software Version Test Mode



How to Enter:

To enter Special Test Mode press Temp Button until the control beep. (same for all Frontier models.) ex) In case of "U105", U0 means major version "v1" 05 means minor version "05"

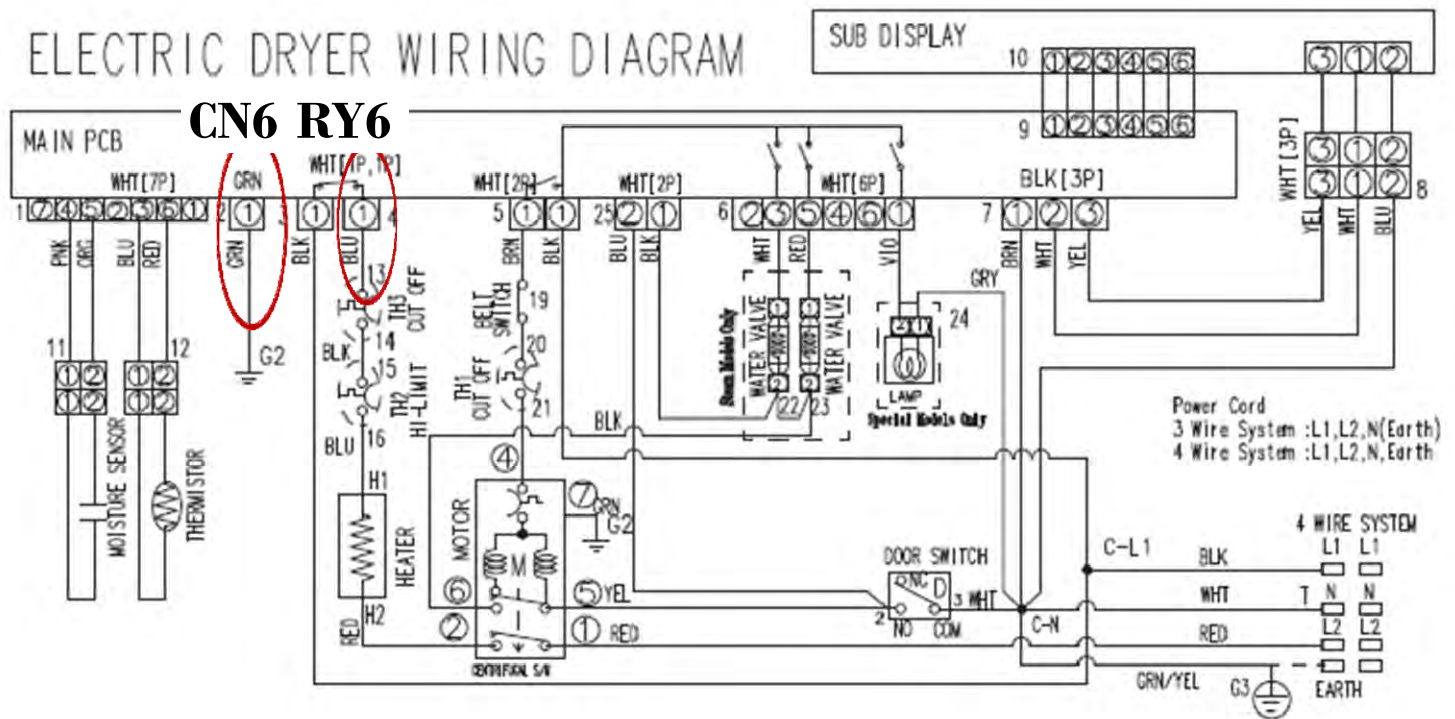
Do not use dryer to dry clothes which have traces of any flammable substance, such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc., or anything containing wax or chemicals, such as mops and cleaning cloths. Flammable substances may cause fabric to catch fire by itself.

Dryer continues to run after cycle completed

Wrinkle Prevent option provides approximately 90 minutes (20 continuous and 70 intermittent) of tumbling in unheated air at the end of the cycle to reduce wrinkling. Press the Wrinkle Prevent button to activate or deactivate this feature. The indicator light above the pad will illuminate when Wrinkle Prevent is selected. Chasing lights appear in the display when the Wrinkle Prevent option is selected. The load is dry, and can be removed at any time during the Wrinkle Prevent cycle.

ELECTRIC AND GAS DRYER				
Weather Hood Type				
Recommended			Use only for short-run installation	
	 4" (10.16 cm)		 2.5" (6.35 cm)	
No. of 90° elbows	Rigid	Metallic Flexible*	Rigid	Metallic Flexible*
0	24.4 m (80 ft.)	12.4 m (41 ft.)	22.6 m (74 ft.)	10.1 m (33 ft.)
1	20.7 m (68 ft.)	11.2 m (37 ft.)	18.9 m (62 ft.)	8.8 m (29 ft.)
2	17.4 m (57 ft.)	10.1 m (33 ft.)	15.5 m (51 ft.)	7.6 m (25 ft.)
3	14.3 m (47 ft.)	9.0 m (29 ft.)	12.5 m (41 ft.)	6.5 m (21 ft.)

* Do not use non-metallic flexible duct.



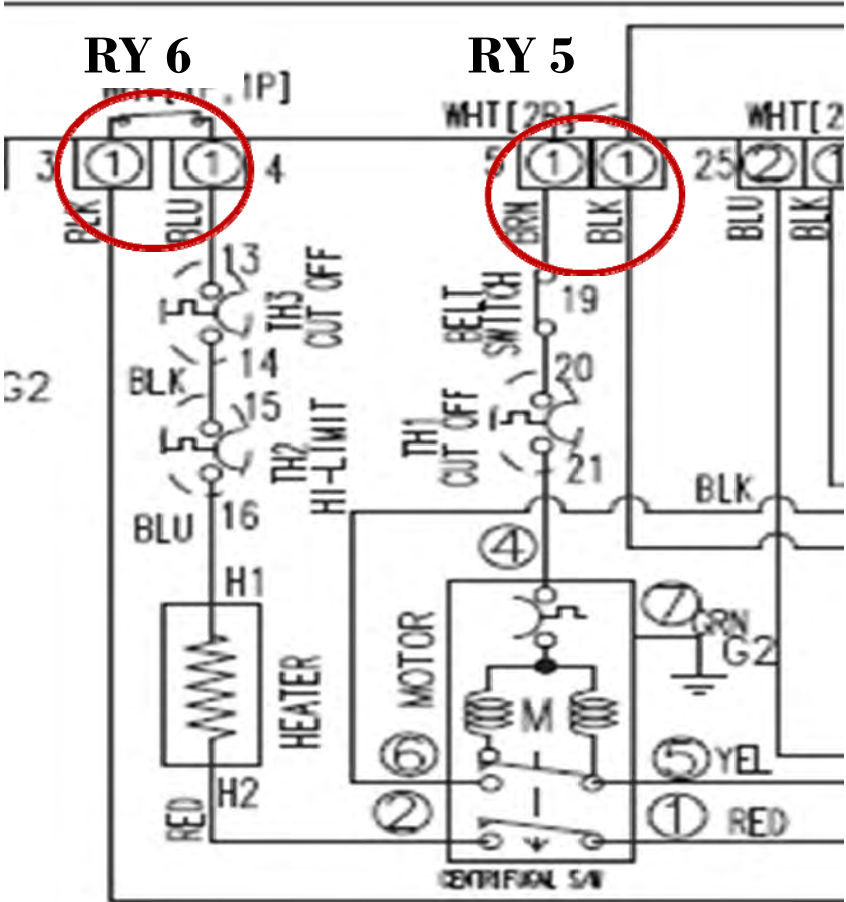
Testing Electric Heater circuit.

Disconnect Blue wire from RY6, turn power on, start dryer read voltage between RY6 Blue wire and CN6 Green wire.

Reading of 120VAC means a proper operating heater circuit. 0VAC means open in circuit.

To test thermostats use ohm meter on lowest scale, any resistance replace component

See page 4 for Main PCB layout for testing.



RY 6

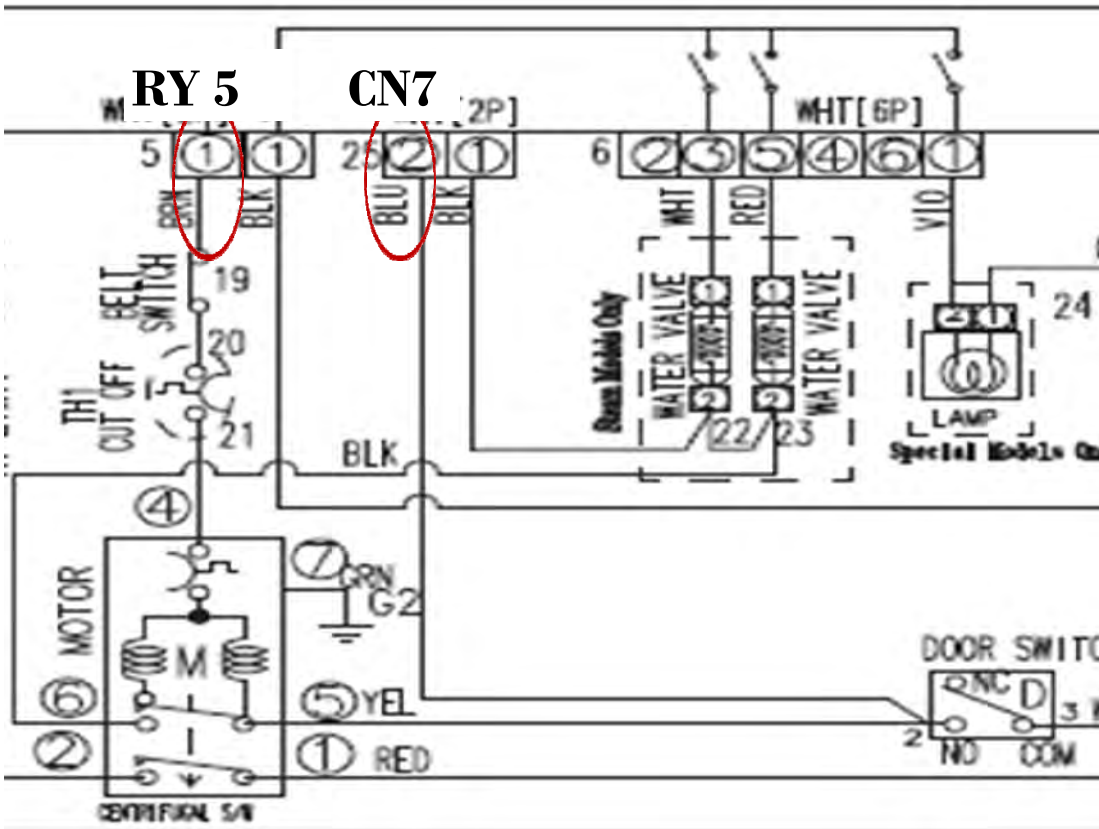
RY 5

Testing Main PCB power output to Heating & Motor circuit.

With motor running in the heating mode, read AC voltage across RY6 and RY5.

Any voltage reading means Main PCB is defective.

See page 4 for Main PCB layout for testing.



RY 5

CN7

Testing Motor circuit.

With power off read resistance between RY5 Brown and CN7 Blue.

Resistance reading of good motor circuit is about 1.9Ω. To test thermostat and switch use ohm meter on lowest scale, any resistance replace component.

See page 4 for Main PCB layout for testing.