Fast Track Troubleshooting

Models:
DV501AE*
DV501AG*

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

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Error Display	Trigger	Action Taken
ERROR! Temperature Sensor Problem	**The Thermistor resistance is very low or high.**	**Check for :** - **Clogged lint screen** - **Restricted vent system.** - **Check Thermistor resistance.**
ERROR! Door is open.	**Running the dryer With door open**	**Check for :** - **Close the door, and run the dryer** - **Loose or open wire terminals in Door sense circuit.**
ERROR! Door Open Sensing Problem	**Invalid state for More than 256 Milliseconds**	**Check for :** - **Loose or open wire terminals in Door sense circuit.**
ERROR! A Button is either stuck or is being pressed continuouly.	**Invalid state of Key circuit short for 75secs**	**Check for :** - **Display PCB key circuit short or not**
ERROR! Time Limit Exceeded	**Invalid Dry time in excess Dry time**	**Check for :** - **Sensor bar Open** - **Using Adjust time Up excessively**
ERROR! Overheated	**Invalid heating Temp in running the dryer**	**Check for :** - **Restricted vent system.** - **Check Thermistor resistance.**
ERROR! Electronic Control Problem	**Invalid state of Eeprom comm- unication**	**Check for :** - **PCB on Eeprom circuit**
ERROR! Power Interruption	**Invalid power source Frequency**	**Check for :** -**Not using regular power source frequency** - **Invalid power frequency sense circuit**

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
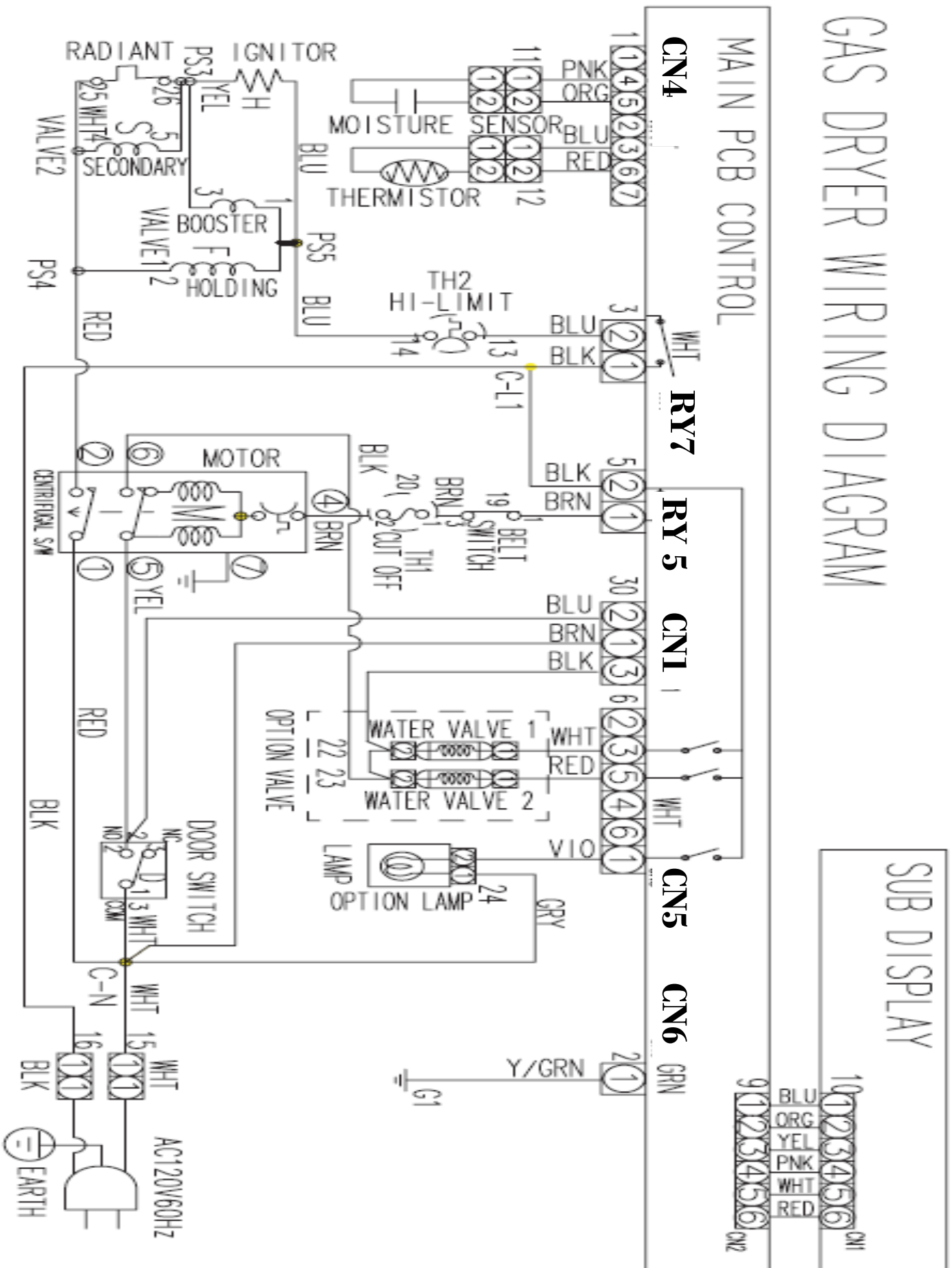   Programs for Fridges, Laundry, Ranges & D/W

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

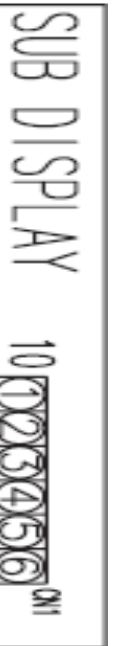Gas Dryers 120 VAC, 60 Hz, 15 Amps, 3-wire installations

Location consideration In the USA

- **All Dryers Must be vented to the outside.**

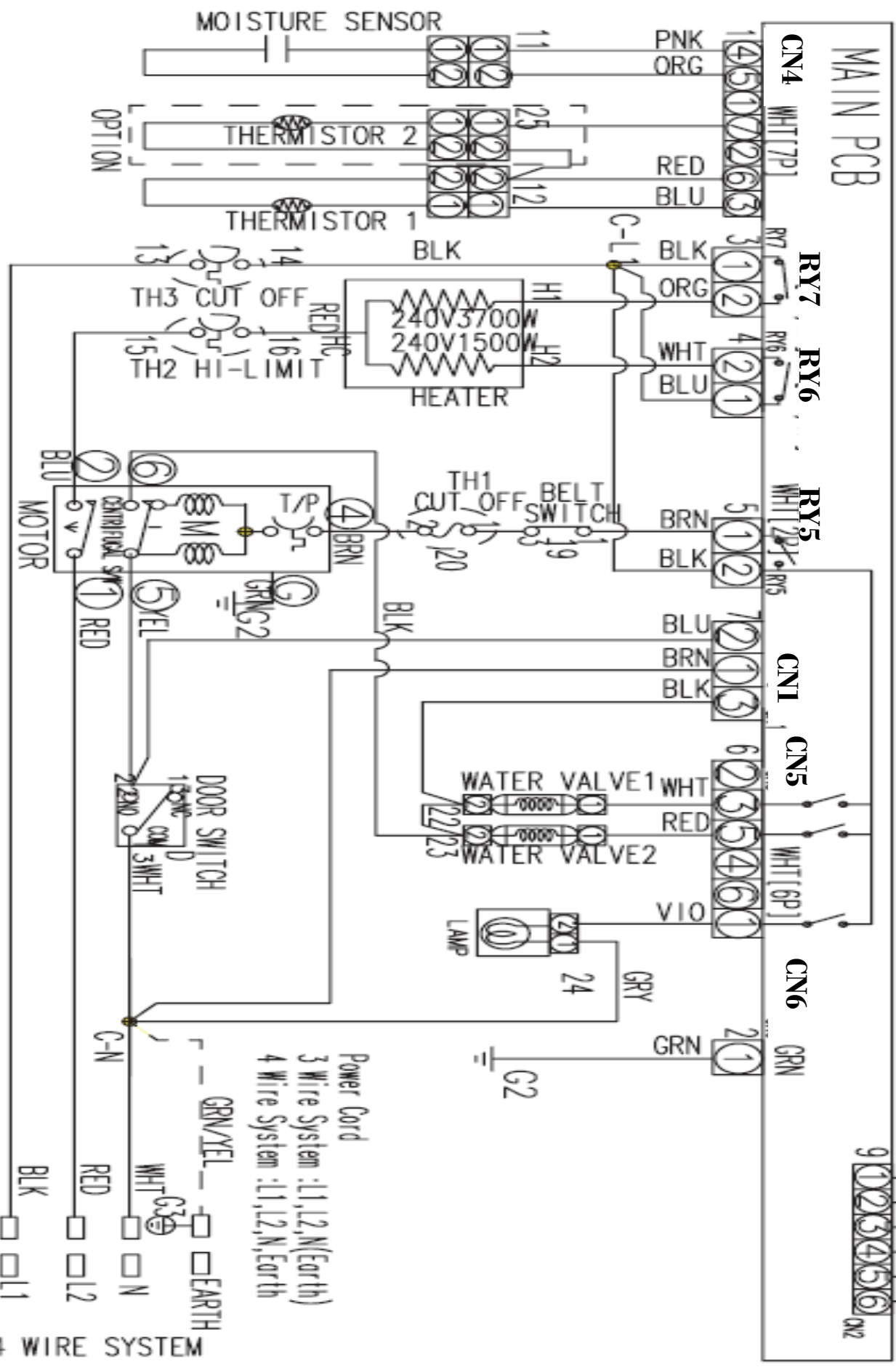- **Only rigid or flexible metal duct should be used for venting.**

GAS DRYER WIRING DIAGRAM

MAIN PCB CONTROL

CN4

RADIANT   IGNITOR
PS3
YEL
26   5
25 WHT4
VALVE2
SECONDARY
H
BLU

3
BOOSTER
VALVE1
F
HOLDING
PS5
BLU

PS4
RED

MOISTURE   SENSOR
11
12

THERMISTOR

PNK
ORG
BLU
RED

1
4
5
2
3
6
7

12

TH2
HI-LIMIT
14   13
C-L1
BLU
BLK
WHT

3
2
1

RY7

MOTOR
2   6
CENTRIFUGAL S/W
M
4
BRN
1   5
YEL

BLK
20
2 OUT OFF
TH1
BRN
19
BELT
SWITCH

BLK
BRN

BLU
BRN
BLK

BLK
5
2
1

RY 5   CN1

30
2
3

OPTION VALVE
22 23

WATER VALVE 1
WATER VALVE 2

6
2
3
5
4
6
1

WHT
RED
WHT
VIO

CN5

RED

BLK

NO 2
NC
COM
D 13 WHT
DOOR SWITCH

LAMP
OPTION LAMP
24

C-N
WHT

16
15
BLK   WHT

EARTH
AC120V60Hz

GRY

Y/GRN
2
1
G1
GRN

CN6

SUB DISPLAY

9
10
1
2
3
4
5
6
CN2

BLU
ORG
YEL
PNK
WHT
RED

10
1
2
3
4
5
6
CN1

ELECTRIC DRYER WIRING DIAGRAM

MAIN PCB

MOISTURE SENSOR

PNK
ORG

CN4

WHT[7P]

OPTION

THERMISTOR 2

THERMISTOR 1

RED
BLU

RY7

BLK C-L1
BLK
ORG

13 14
TH3 CUT OFF

240V 3700W H1
240V 1500W H2
HEATER

15 16
TH2 HI-LIMIT

WHT
BLU

RY6

MOTOR
BLU
2 6
CENTRIFUGAL SW
M T/P
4 BRN
1 5
RED YEL
GRN
G2

TH1
CUT OFF
BELT
SWITCH

BRN
BLK

RY5
WHT[2P]

CN1
BLU
BRN
BLK

DOOR SWITCH
2 NO
1 NC
COM
3 WHT

WATER VALVE1
WHT

WATER VALVE2
RED

CN5

WHT[6P]

LAMP
24
GRY

VIO

CN6

GRN

G2

GRN

C-N

Power Cord
3 Wire System : L1,L2,N(Earth)
4 Wire System : L1,L2,N,Earth

GRN/YEL
G3

BLK
RED
WHT
EARTH
L1 L2 N

4 WIRE SYSTEM

SUB DISPLAY

BLU
ORG
YEL
PNK
WHT
RED

CN2

CN1

CN1
1 120vac N (Brn)
2 AC Pwr Off Detection (Blu)
3 Door Detection (Blk)

CN5
1 Lamp (Vio)
3 Water Valve (Wht)
5 Water Valve (Red)

CN2 Sub PCB Display
5-4 5VDC (Wht-Pnk)
6-4 12VDC (Red-Pnk)

CN4
3-6 Thermistor 1 (Blu-Red)
4-5 Moisture Sensor (Pnk-Org)
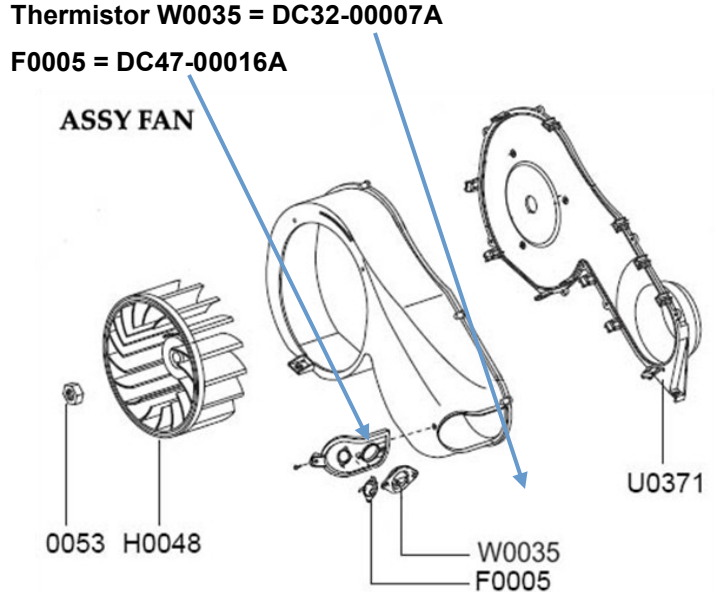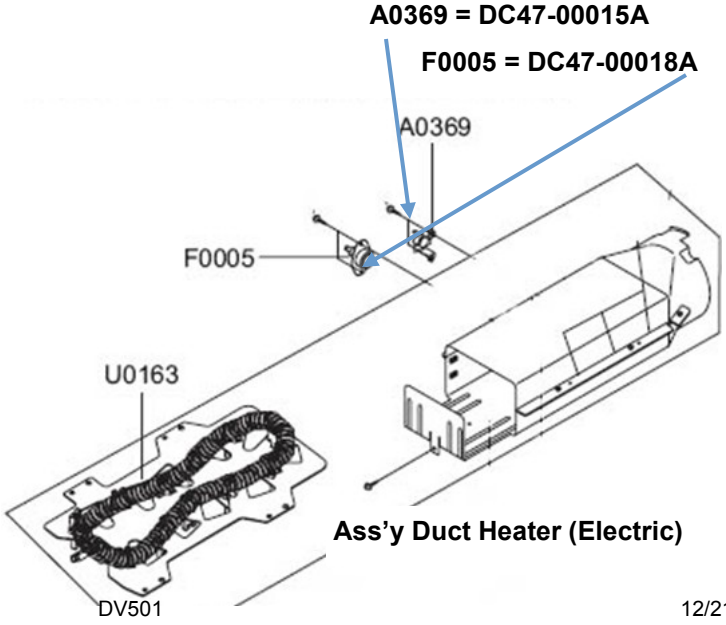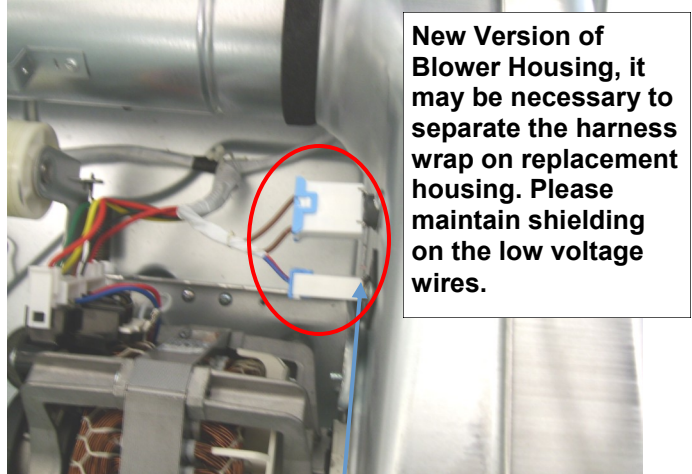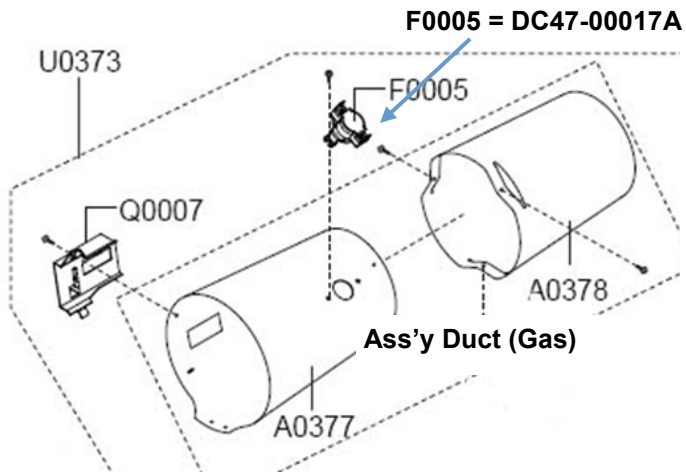
Relay 5
1 Motor Belt Sw (Brn)
2 120vac L1 (Blk)

Relay 7 (Gas Valve)
1 120vac L1 (Blk)
2 TH2 Hi Limit (Blu)
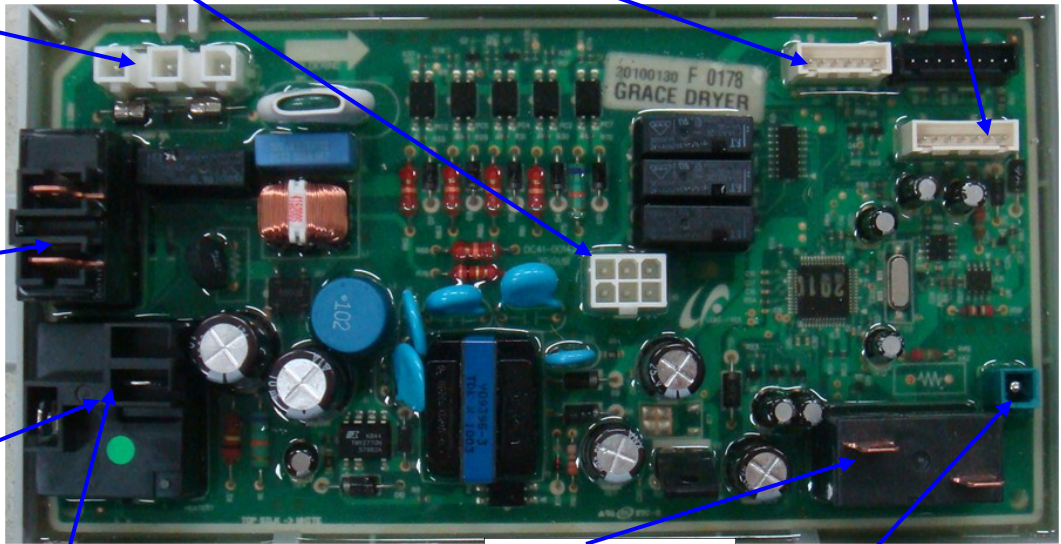
Relay 7 (Electric)
1 120vac L1 (Blk)
2 Heater 1 (Blu)

Relay 6 (Electric)
1 120vac L1 (Blk)
2 Heater 2 (Wht)

CN6
1 Earth Ground (Grn)

New Version of Blower Housing, it may be necessary to separate the harness wrap on replacement housing. Please maintain shielding on the low voltage wires.

F0005 = DC47-00017A

U0373

F0005

Q0007

A0378

A0377

Ass'y Duct (Gas)

A0369 = DC47-00015A

F0005 = DC47-00018A

Thermistor W0035 = DC32-00007A

F0005 = DC47-00016A

A0369

F0005

U0163

Ass'y Duct Heater (Electric)

ASSY FAN

0053 H0048

W0035
F0005

U0371

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.
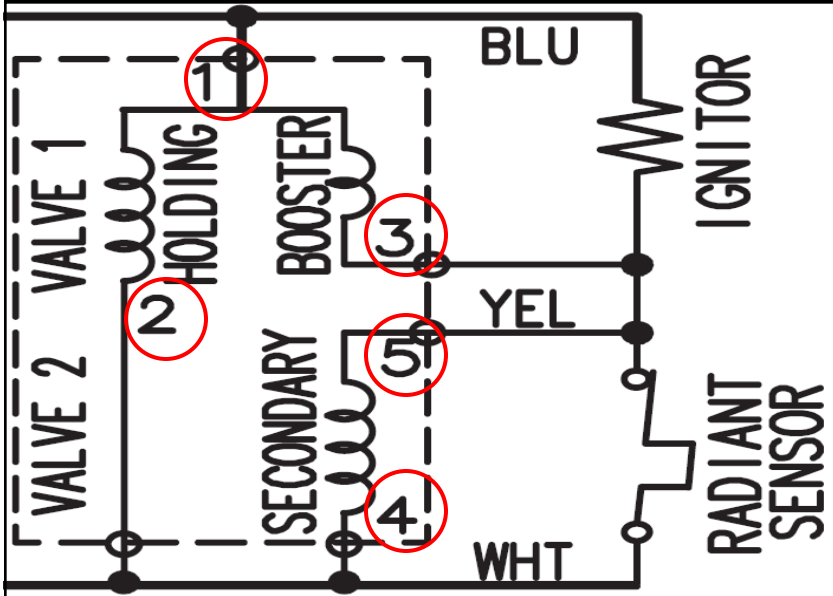
New
DC81-00220A

Cycle Count Test Mode

How to Enter:
Press Temp + Mixed Load Bell Keys for 3 sec during Power On State.
Press Mixed Load Bell for 3 seconds (until beep)
Note: Test mode subject to change without notice

Sensor Bar Touch Data Mode

How to Enter:
Power on dryer, open door and press in door switch.
Start dryer tumbling. Press Temp + Mixed Load Bell for 3 sec.
Touch both sensor bars with wet cloth, sensor hit numbers show in display.
Note: Test mode subject to change without notice

Software Version Test Mode

How to Enter:
Press Temp + Mixed Load Bell Keys for 3 sec during Power On State.
Press Temp key for 3 seconds (until beep)
Note: Test mode subject to change without notice

Data Display Mode
How to Enter:
• With Power On, (unit can be running) press AdjustUp Key + AdjsutDown Key for 7 seconds until it sends out a beeping sound .
• If not pressed any keys for 5 minutes, it will be set back from Data Display Mode
• If pressing AdjustUp Key in this mode ,Display Mode ID will be increased.
• If pressing AdjustDown Key in this mode ,Display Mode ID will be decresed.
Definition of Software Version Mode:
• Display Mode 0 : Temperature data in C
• Display Mode 1 : Average Touch Sensor data for 1 minute
• Display Mode 2 : Average Temperature data for minute

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	14.3m (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 White wire from RY6, turn power on, start dryer read voltage between RY6 Blue wire and CN6 Green wire.

Disconnect Orange wire from RY7, turn power on, start dryer read voltage between RY6 Blue wire and CN6 Green wire.
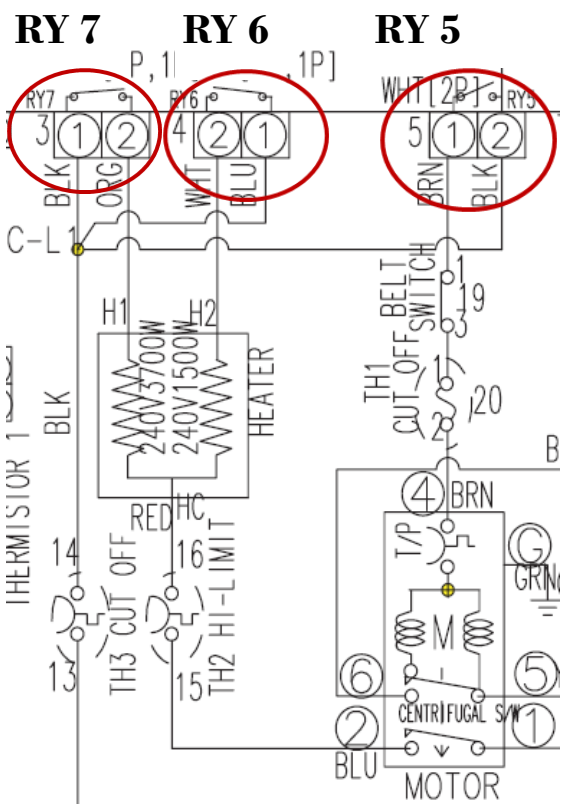
Reading of 120VAC means a proper operating heater circuit. 0VAC means open in circuit.

One heater reading 0vac means that heater is open.

To test thermostat use ohm meter on lowest scale, any resistance replace component
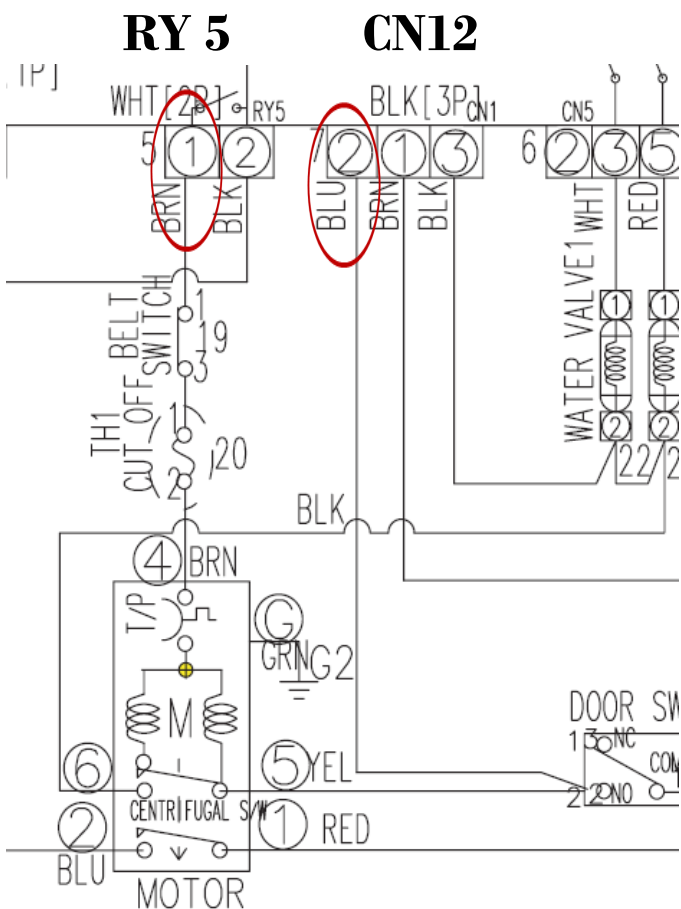
See page 4 for Main PCB layout for testing.

DV501   12/21/11   6

RY 7 **RY 6** **RY 5**
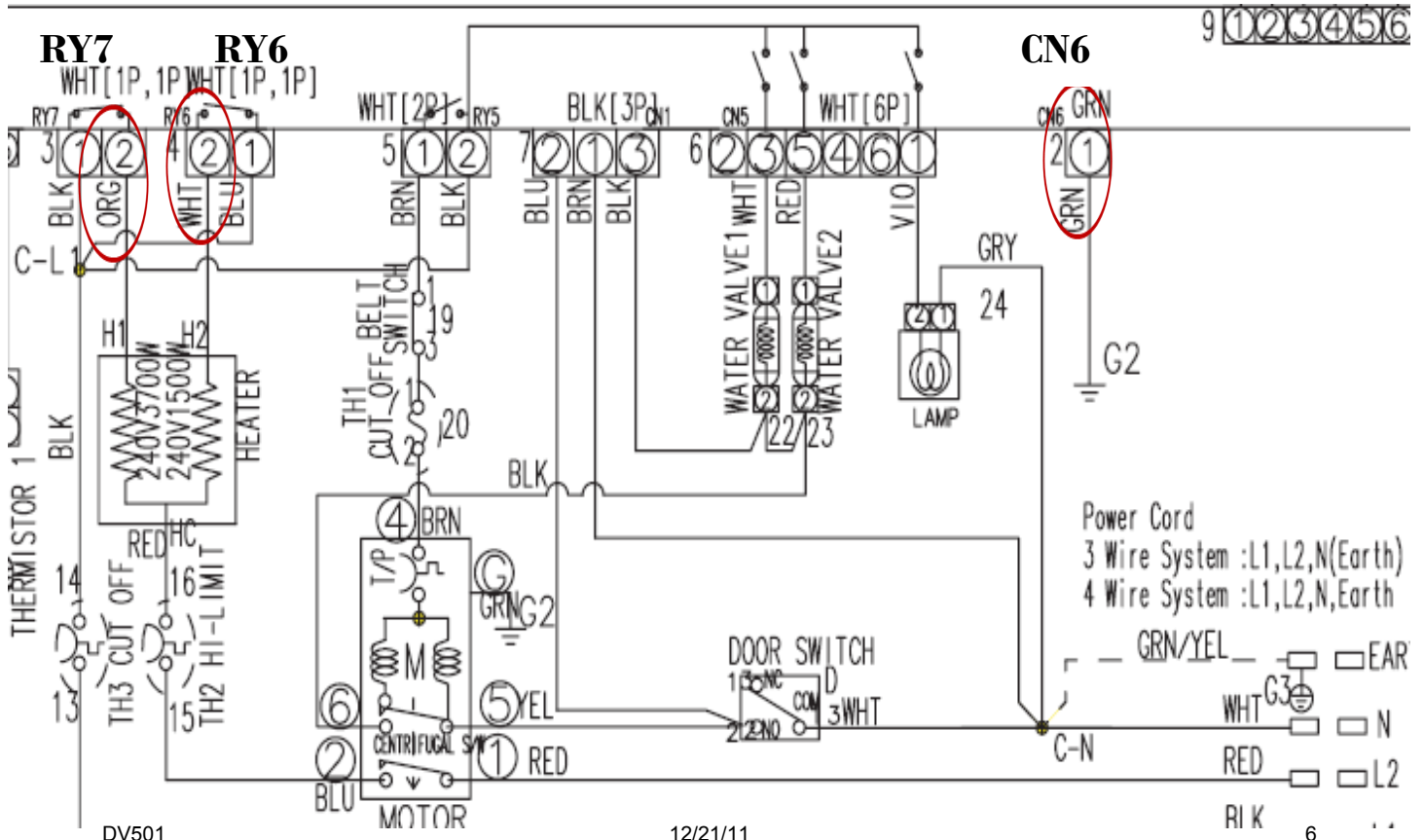
Testing Main PCB power output to Heating & Motor circuit.

With motor running in the heating mode, read AC voltage across RY7, RY6 and RY5.

Any voltage reading means Main PCB is defective.

See page 4 for Main PCB layout for testing.

RY 5 **CN12**

Testing Motor circuit.

With power off read resistance between RY5 Brown and CN1 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.

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.