Technical Information—Dual Fuel Slide-In Range JDS9860AA* JDS8850AA*

- 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 16022089 for detailed installation, operating, testing, troubleshooting, and disassembly
 instructions.

CAUTION

All safety information must be followed as provided in Service Manual 16022089.

WARNING

5.8 (4.5)	
5.8 (4.5)	
1 1	4.0 (3.0)
30 Amp	30 Amp
60 Hz	60 Hz
5 in. W.C.P.	5 in. W.C.P.
10 in. W.C.P.	10 in. W.C.P.
10,000 (8,500)	12,000 (8,000)
10,000 (8,500)	9,100 (6,000)
8,000 (8,000)	6,500 (4,500)
8,000 (8,000)	10,500 (8,000)
2,500 (1,900)	2,500 (1,900)
4,000 (3,000)	4,000 (3,000)
16 1/2 (41.9)	16 1/2 (41.9)
23 (58.4)	23 (58.4)
18 1/8 (46)	18 1/8 (46)
35 3/4 (90.8)	35 3/4 (90.8)
29 8/8 (75.9)	30 3/4 (78.1)
26 3/16 (66.5)	26 3/16 (66.5)
28 3/16 (71.6)	28 3/16 (71.6)
Yes	Yes
205 (93)	205 (93)
	5 in. W.C.P. 10,000 (8,500) 10,000 (8,500) 8,000 (8,000) 8,000 (8,000) 2,500 (1,900) 4,000 (3,000) 16 1/2 (41.9) 23 (58.4) 18 1/8 (46) 35 3/4 (90.8) 29 8/8 (75.9) 26 3/16 (66.5) 28 3/16 (71.6) Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

^{**}Rating of 208 VAC is approximately 80% of 240 VAC value.

Component Testing Procedures

A

WARNING

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

Component Testing Procedures

Illustration	Component	Test Procedure	Results
	Oven light housing	Disconnect connector and test	Verify bulb is plugged in properly.
	3	resistance of terminals	Indicates continuity with bulb installed.
		Measure voltage at oven light	120 VAC, see wiring diagram for terminal identification. If no voltage is present at oven light, check wiring or light switches.
Primary	Step-down	Measure voltage at:	•
Secondary	transformer	Primary terminals Secondary terminals	120 VAC (tolerance: 108 to 127 VAC) 10W load (bulb): 11.4 to 11.8 VAC 20W load (bulb): 10.8 to 11.4 VAC
	Door plunger switch	Remove switch from unit and measure the following points: COM to NO	Plunger in continuity, plunger out infinity.
	Autolatch assembly	Disconnect wires and test for continuity per wiring diagram. Refer to Parts Manual for correct	See wiring diagram for schematic layout. Access assembly by removing screws from the front and dropping control panel.
0000		autolatch switch associated with the correct manufacturing number.	Common is in neutral position unless locking or unlocking autolatch assembly.
	Pressure regulator	Verify gas pressure (W.C.P.).	5" Natural 10" LP/propane
		If on LP service verify proper gas supply conversion.	
	270° valve	Verify gas is supplied.	
	6.5 K btu 9.1 K btu 10.5 K btu 12 K btu	Adjust set screw for simmer control.	
	Model JDS8850AA*		
	Spark switch Model JDS8850AA*	Test for voltage at terminals Disconnect wiring and check for continuity in LITE position	120 VAC Continuity in LITE position.
(b)	Spark ignition	Test for resistance of spark lead	Continuity In ETTE position.
	electrode Model JDS8850AA*	Test ignitor to chassis	No continuity from ignitor to chassis.
	Venturi, right front, left front, left rear burners Model JDS8850AA*	Shutter settings	Nominal: .038" (tolerance: .035" to .041")
	Venturi, right rear burner Model JDS8850AA*	Shutter settings	Nominal: .038" (tolerance: .035" to .041")
	Top surface burner	Verify gas is supplied	Check for obstructions in burner ports.
	6.5 K btu 9.1 K btu 10.5 K btu 12 K btu Model JDS8850AA*	Verify burner cap is positioned correctly.	
	Top surface burner cap Model JDS8850AA*	Verify cap is positioned correctly	Check for obstructions in burner ports.

Component Testing Procedures



WARNING

Illustration	Component	Test Procedure	Results
L A D B D	Spark module 4 + 0	Test for voltage at terminals L and N	120 VAC (tolerance: 109 to 125 VAC)
Model JDS8850AA*		Check polarity and ground	See wiring diagram
	Ignitor Model JDS8850AA*	Test for voltage at terminals Test for the amount of amperage in the circuit	120 VAC. 3.2 – 3.6 Amps If not replace.
Burner valve, left, 360° JDS9860AA*		Sufficient amperage to open valve). Verify gas is supplied. Orifice adjusted for Natural or LP. Adjust set screw for simmer control	To replace burner valve(s), complete assembly must be replaced (manifold and valves). 16,000 BTU per hour minimum. See conversion section.
	Burner valve, left and right, 180° JDS9860AA*	Verify gas is supplied. Orifice adjusted for Natural or LP. Adjust set screw for simmer control	To replace burner valve(s), complete assembly must be replaced (manifold and valves). See conversion section.
	Shut-off valve JDS9860AA*	Verify gas is turned on	Gas ON end slot is vertical. Gas OFF end slot is horizontal.
	Spark switch Model JDS8850AA*	Test for voltage at terminals Disconnect wiring and check for continuity in LITE position	120 VAC Continuity in LITE position.
	Double valve switch Model JDS9860AA*	Test for voltage at terminals Disconnect wiring and check for continuity in LITE position	120 VAC Continuity in LITE position.
	Snap switch JDS9860AA*	Test for voltage at terminals Disconnect wiring and check for continuity in LITE position	120 VAC Continuity in LITE position.
A D B D A 1 D B 1 D	Spark module 4 + 0 JDS9860AA*	Test for voltage at terminals L and N Check polarity and ground	120 VAC. See wiring diagram.
The state of the s	Venturi, front (short) JDS9860AA*	Nominal air shutter setting	.375 3/8" .030 1/32"
1	Venturi, rear (long) JDS9860AA*	Nominal air shutter setting Tolerance	.375 3/8" .030 1/32"
	Tube, front (short) JDS9860AA*	Nominal air shutter setting Tolerance	.250 1/4" .031 1/32" (approx.)

Component & Oven Control Testing Procedures



WARNING

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

Illustration	Component	Test Procedure	Results
	Tube, rear (long) JDS9860AA*	Nominal air shutter setting Tolerance	.585 19/32" (approx.) .031 1/32" (approx.)
	E-burner grill assembly JDS9860AA*	Verify gas is supplied	Check for obstructions in burner ports.
2	E-burner ignitor JDS9860AA*	Test for resistance of spark lead Test ignitor to chassis	Continuity. No continuity from ignitor to chassis.
5.	Bake element	Disconnect wiring to element and measure cold resistance of terminals Measure voltage at bake element	Approx. 20.6 to 22.6 Ω. 120 VAC.
	Broil element	Disconnect wiring to element and measure cold resistance of terminals Measure voltage at broil element	Approx. 13.3 to 14.7 Ω. 120 VAC.
	Hi-limit temperature switch	Normally closed, verify operation: Open: 269° to 291°F (132° to 144°C) Closed: 173° to 207°F (78° to 97°C)	Infinite. Continuity.
	Convection assembly Convection motor	Measure voltage	120 VAC. (tolerance: 105 to 135 VAC) No continuity. RPM: Approx. 1750 to 2250.
	Cooling fan motor	Measure voltage	120 VAC. No continuity. RPM: Idle: 3395 Load: 3000 Breakdown: 2400
	Downdraft motor Model JDS9860AA*	Measure voltage	120 VAC. No continuity. RPM: 1550, 2.4 amp
	NOTE: To avoid equipment damage, use caution when checking electronic control circuitry voltages.	Door logic sensor	P11 (Red, pin 5) to P11 (Black, pin 2): Door Locked: Continuity Door Unlocked: Infinity P2 (Red) to P2 (Red). See chart , page 8. P14 (Tan) to P5 (White): 120 VAC P22 (Orange) to P5 (White): 120 VAC
	Temperature sensor	Measure resistance	Approx 1100 Ω at room temperature 75° F (23.8° C).

Oven Control Testing Procedures

Changing factory set default options: 1. Press Setup Options and the desired pad simultaneously (see table below).

- 2. Press Autoset to change the option.
- 3. Press any pad except *Cancel* to accept the change.
- 4. Press *Cancel* to cancel the operation.

Control	Component	Test Procedure	Results
EOC II	Oven temperature adjustment	Press Bake pad and enter 550° F (288° C). Press and hold Bake pad until TEMP ADJ displays. Press Autoset pad to adjust oven in 5° F (-15° C) increments, from -35° F (-37° C) to 35° F (2° C).	While increasing or decreasing oven temperature, this does not affect self-cleaning temperature.
EOC II	End-of-Timer Reminder beeps	Press Setup Options and the applicable timer pad (Timer 1 or Timer 2) simultaneously.	Selects the number of beeps emitted when a timed bake cycle ends.



WARNING

Control	Component	Test Procedure		Results	
EOC II	Control Lock	Press Setup Options and the Control Lock pad	Press Autoset	to select op	tion (enable or
		(also the 1 pad) simultaneously.	disable). The t	imer, clock	and oven light
			are operational		
EOC II	Twelve Hour off/	Press Setup Options and the 12 Hour Off pad	Disables the no		
	Sabbath mode	(also the 2 pad) simultaneously.	allowing the ov		
EOC II	Sound Level	Press Setup Options and the Sound Level pad	Press Autoset		tting (I lowest
	(Beeper Volume)	(also the 3 pad) simultaneously.	through IIIIIII 8	highest).	
EOC II	24-Hour Clock	Press Setup Options and the 12/24 Hour Clock	Press Autoset		tion (12-hour
500 II		pad (also the 4 pad) simultaneously.	time or 24-hour		
EOC II	Scroll Speed	Press Setup Options and the Scroll Speed pad	Press Autoset		
EOC II	End-of-Cook-Time	(also the 5 pad) simultaneously. Press Setup Options and Cook Time Beeps pads	messages (slove Press Autoset		
EOCII	Signal	(also the 6 pad) simultaneously.	beeps emitted		
	Signal	(also the o pau) simultaneously.	controlled" coo		or a clock-
EOC II	Temperature Display	Press Setup Options and the Temp C/F pad	Press Autoset		ntion
20011	Temperature Display	(also the 7 pad) simultaneously.	(°F or °C).	to soloci o	ption
EOC II	Language Display	Press Setup Options and the Language pad	Press Autoset	to select o	ntion
200	Languago Biopia)	(also the 8 pad) simultaneously.	(English, Frenc		
EOC II	Factory Default	Press Setup Options and the Default pad (also	Press Autoset		
	,	the 9 pad) simultaneously.	settings.		,
EOC II	Clock Display	Press Setup Options and the Display On/Off pad	Press Autoset	to select cl	ock display
		(also the <i>Clock</i> pad) simultaneously.	(on or off).		
EOC II	Test Access	Press and hold <i>Cancel</i> and <i>Broil</i> pads for 3	Allows access	to each fun	ction for
		seconds at power up or within 5 minutes of power	testing purpose	es.	
		up mode. See "Quick Test Mode."		,	
Control Pa	anel Assembly	Closed circuitry resistance	<u>Pad</u>	<u>Trace</u>	Measurement
		(defined as continuity):	1	7 & 8	Continuity
		1350 – 2250 Ω for Cancel pads 1 & 20	3	14 & 15 10 & 14	Continuity Continuity
		1275 – 2125 Ω for Cancel pads 2 & 19	4	6 & 7	Continuity
		$320 - 2200 \Omega$ for all other pads	5	6 & 8	Continuity
		Open circuitry resistance:	6	5 & 6	Continuity
		Greater than 10 M Ω	7	4 & 5	Continuity
			8	4 & 6	Continuity
			9	3 & 4 3 & 6	Continuity Continuity
		Pin 20 -	Cancel	1 & 2 or	•
			Caricei	1 & 19 or	Continuity
		E 4//// //////		2 & 20 or	Continuity
		[19 & 20	Continuity
			Clock	13 & 14	Continuity
		Pin 20 Pin 1	Quick Preheat	16 & 18	Continuity
		Pin 1	Bake Broil	15 & 16 16 & 17	Continuity Continuity
		1 111 1	Keep Warm	12 & 13	Continuity
			Convect Warm	6 & 10	Continuity
			Convect Roast	3 & 18	Continuity
			Cook Time	10 & 18	Continuity
			Stop Time	14 & 18	Continuity
			Clean Proofing	15 & 18	Continuity
			Drying	8 & 10 9 & 10	Continuity Continuity
			Meat Probe	6 & 18	Continuity
			Vent Fan	11 & 12	Continuity
			Auto Set	17 & 18	Continuity
			Timer 1	12 & 14	Continuity
			Timer 2	10 & 12	Continuity
			Oven Light	10 & 11	Continuity



WARNING

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

Relay Logic

NOTE: Subsequent changes implemented after the release of this technical sheet may have altered the parameters identified in this chart.

INDEX					
X - OFF				Ω	
O - ON				開	
- CYCLING			SP	S	
♦ - ON OR OFF (DETERMINED BY			王	2	
USER INPUT)			Z Z	Ζ	
			CONVECT FAN HI SPEED	CONVECT FAN LO SPEED	OVEN LIGHT
			EC.	EC.	LIG
	Â	OIL	\geq	\geq	N E N
COOKING MODE	BAKE	BROIL	8	8	0
IDLE	×	×	×	×	♦
BAKE PREHEAT			×	×	♦
BAKE			×	×	�
HIGH BROIL PREHEAT	×	0	×	×	*
HIGH BROIL	×	0	×	×	*
LOW BROIL PREHEAT	×		×	×	*
LOW BROIL	×		×	×	�
CLEAN PREHEAT	×	0	×	×	×
CLEAN	0	×	×	×	×
KEEP WARM PREHEAT		×	×	×	�
KEEP WARM		×	×	×	�
CONVECT ROAST PREHEAT			0*	×	�
CONVECT ROAST			0*	×	�
CONVECT BAKE QUICK PREHEAT			×	0*	�
CONVECT BAKE PREHEAT			×	0*	�
CONVECT BAKE			×	0*	�
QUICK PROOFING PREHEAT			×	0*	�
QUICK PROOFING			×	0*	�
STANDARD PROOFING PREHEAT			×	×	*
STANDARD PROOFING			×	×	�
DRYING PREHEAT			0*	×	*
DRYING			0*	×	*

^{*}Convection fan stops when oven door is opened.



WARNING

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

"Quick Test" Mode for Electronic Oven Control (EOC) II

Follow the procedure below to perform the EOC II quick test. Instructions must be entered within 16 seconds of each other (via the touch pad) or the EOC will exit the quick test.

- 1. Press and hold the Cancel and Broil pads for 3 seconds at power-up, or within 5 minutes of power-up.
- 2. Once the control has entered the "Quick Test" mode, release both pads.
- 3. Press each of the following pads indicated in the table below.

NOTE: Press and hold the applicable pad to activate the associated response. Release the applicable pad to deactivate the associated response.

The control display window normally displays "lu:d," where the "I" and "u" indicate the state of the motorized door lock and the "d" indicates oven door input status. Once the applicable pad is pressed and held, the "d" changes to either a "0" (open switch) or a "1" (closed switch). Once the pad is released, the display will return to "lu:d."

Display will indicate the following:

<u>Pad</u>	Response
BAKE	Bake relay activated, "1" displayed in control display window.
BROIL	Broil relay activated, "1" displayed in control display window.
CONVECT BAKE	Convection Bake relay activated, Convection Fan cycles, "1" displayed in control
	display window.
CONVECT ROAST	Convection Roast relay activated, Convection Fan cycles, "1" displayed in control
	display window.
OVEN LIGHT	Oven light relay activated, "1" displayed in control display window.
	Actual Probe temperature and "1" displayed in control display window.
	Downdraft fan activated at low speed, "1" displayed in control display window.
TIMER 2	Cooling fan activated, "1" displayed in control display window.
FAN	Downdraft fan activated at high speed, "1" displayed in control display window.
	Motorized Door Lock activated, "1" displayed in control display window.
STOP TIME	Beeper activated, "1" displayed in control display window.
	Displays most recent fault code.
	ETPress Bake pad and enter 550° F (288° C). Press and hold Bake pad for 4 seconds,
	release Bake pad, then press Bake pad again within 3 seconds. Use the digit pads
	(0 through 9) to adjust from -35° F (-37° C) to 35° F (2° C), oven in 5° F (-15° C)
	increments. This also applies to the CLEAN temperature.
CLOCK	Press Setup Options and the 12/24 Hour Clock pad (also the 4 pad)
	simultaneously, then press Autoset to display time in12-hour format or 24-hour
	format.
TEMPERATURE	Press Setup Options and the Temp C/F pad (also the 7 pad) simultaneously, then
	press Autoset to display degrees in Fahrenheit or Celsius.
CANCEL	
0	
1	
2	
3	
4	
5	
6	
7 8	
9	
AUTOSET	
/\U UUL	



WARNING

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

Description of Fault Codes

Each Fault Code consists of an "F" followed by a number, dash and a number or letter. The following table describes each Fault Code and the component to troubleshoot.

To view the most recent fault code:

- 1. Press and hold the Cancel and Broil pads for 3 seconds at power-up, or within 5 minutes of power-up.
- 2. Once the control has entered the "Quick Test" mode, release both pads.
- 3. Press the Cook Time pad to view the most recent fault (displayed in the control display window).

Fault Code	Description	Component to Troubleshoot/Replace
F0-0	No Fault.	None.
F1-1	Oven temperature above 650° F (343° C) in bake mode.	Ohm sensor and harness (see "Oven Sensor" chart). If OK, change control.
F1-3	Oven temperature above 950° F (510° C) during a clean cycle.	Ohm sensor and harness (see "Oven Sensor" chart). If OK, change control.
F1-5	Cancel pad not responding.	Ensure ribbon cable is securely connected, inspect ribbon cable and connector (shorts, breakage, corrosion, etc.). If OK, replace control.
F1-7	Membrane disconnected.	Ensure ribbon cable is securely connected, inspect ribbon cable and connector (shorts, breakage, corrosion, etc.). If OK, replace control.
F1-8	Shorted key (pad) in membrane switch.	Ensure ribbon cable is securely connected, inspect ribbon cable and connector (shorts, breakage, corrosion, etc.). If OK, replace control.
F1-9	Internal control communication errors.	Replace control.
F1-A	Lock/unlock switch state not advancing to control.	Check connections, harness, and motor. If OK, replace control.
F1-C	Oven door switch state not advancing to control.	Check connections, harness, and motor. If OK, replace control.
F1-E	Control not calibrated.	Replace control.
F1-F	Jumper not removed from printed circuit board (PCB).	Remove jumper from PCB.
F1-H	EEPROM error.	Replace control.
F1-N	Internal voltage for slave micro incorrect.	Replace control.
F3-1	Open or shorted sensor.	Ohm sensor and harness.
F8	Shorted meat probe.	Check probe jack and harness probe jack harness. If OK, check meat probe (see "Meat Probe" chart).
F9-1	Oven door will not lock.	Check wire connections. If OK, replace motorized door lock.
F9-2	Oven door will not unlock.	Check wire connections. If OK, replace motorized door lock.
F9-3	Oven door status is both locked and unlocked.	Check wire connections. If OK, replace motorized door lock.

8

OVEN SENSOR			
Sensor Type: RTD 1000Ω platinum			
Calibration: 165	54Ω (350° F/177° C)		
Temperature F (C)	Resistance (Ohms)		
100 (38)	1143		
200 (94)	1350		
300 (149)	1553		
350 (177)	1654		
400 (204)	1753		
500 (260)	1949		
600 (316)	2142		
700 (371)	2331		
800 (427)	2516		
900 (483)	2697		
1000 (538)	2874		

MEAT PROBE			
	NTC Thermistor		
Calibration: 99	tion: 9938Ω (150° F/65.5° C)		
Temperature F (C) Resistance (Ohms)			
122 (50)	18963		
150 (65.5)	9938		
156.2 (69)	8846		
165.2 (74)	7456		
210.1 (98.9)	3886		

Converting from Natural Gas to L.P. Gas



WARNING

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

Gas Conversion

Orifice Conversion: Natural Gas to LP Gas

- 1. Screw the burner orifice hoods down tight against the pins. *Do not over tighten.*
- 2. Screw the burner orifice hood down tight against the valve body. It is important to turn down the hood as far as possible to ensure complete conversion.

NOTE: On units using Eaton Oven Safety Valve, screw the valve orifice hood down tight against the valve body. It is important to turn down the hood as far as possible to ensure complete conversion.

3. Adjust burner air shutter to the widest opening that will not cause the flame to lift or blow off the burner when cold (adjust with pot in place).

Orifice Conversion: LP Gas to Natural Gas

1. Screw the burner orifice hood away from the pins.

NOTE: On units using Eaton Oven Safety Valve, screw the valve orifice hood away from the pins, approximately 1 ½ to 2 turns.

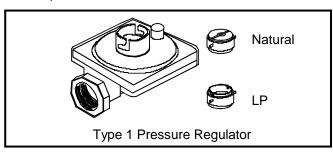
2. Adjust burner air shutter to the widest opening that will not cause the flame to lift or blow off the burner when cold (adjust with pot in place).

Pressure Regulator Conversion

Installed in the unit is one of three types of regulators.

Converting Regulator Type 1

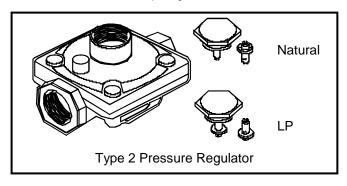
Push down and turn counterclockwise to remove cap. Turn cap over and reinstall.



Converting Regulator Type 2

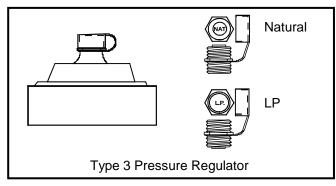
Remove cap and force plastic plunger from bottom of cap. Turn plunger over and force back to original location.

NOTE: Plunger must snap into position and the type of gas being supplied (NAT or LP) must be visible on lower side of plunger.



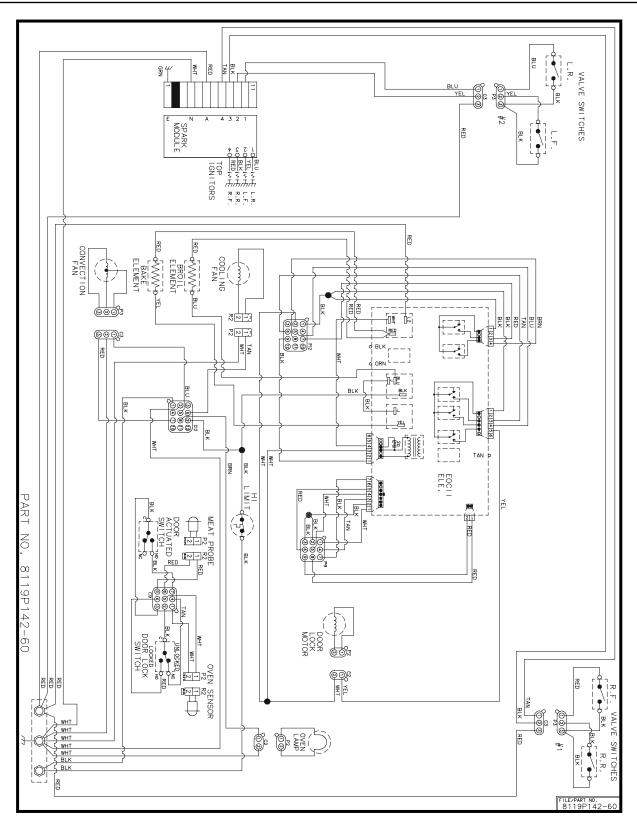
Converting Regulator Type 3

- Pop-off plastic dust cover from cap nut (top of regulator). Remove cap nut (plastic dust cover is attached to cap nut). Remove plastic dust cover from cap nut and reinstall on opposite side of cap nut.
- Reinstall cap nut into regulator. The marking for the type of gas being supplied (LP or N) must be visible in top of cap nut. Pop-on plastic dust cover.



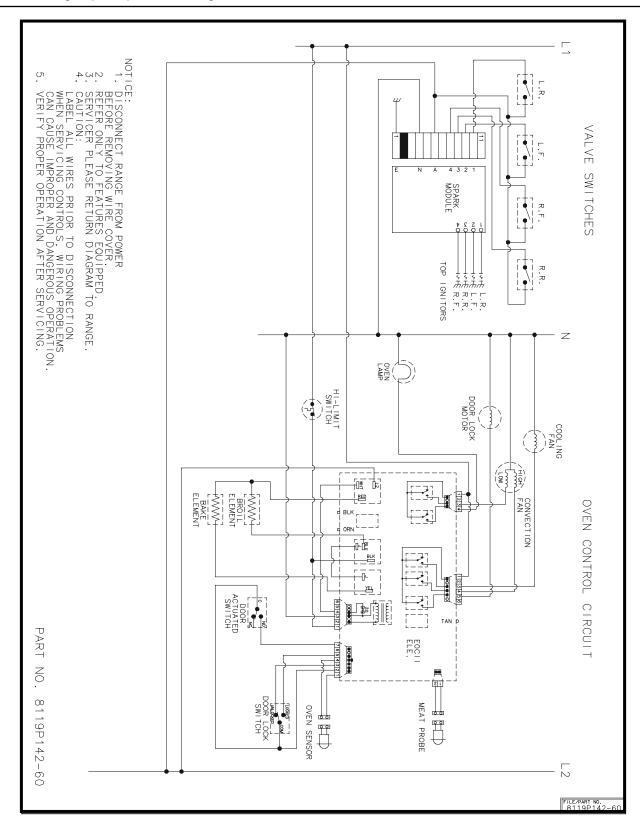
A

WARNING



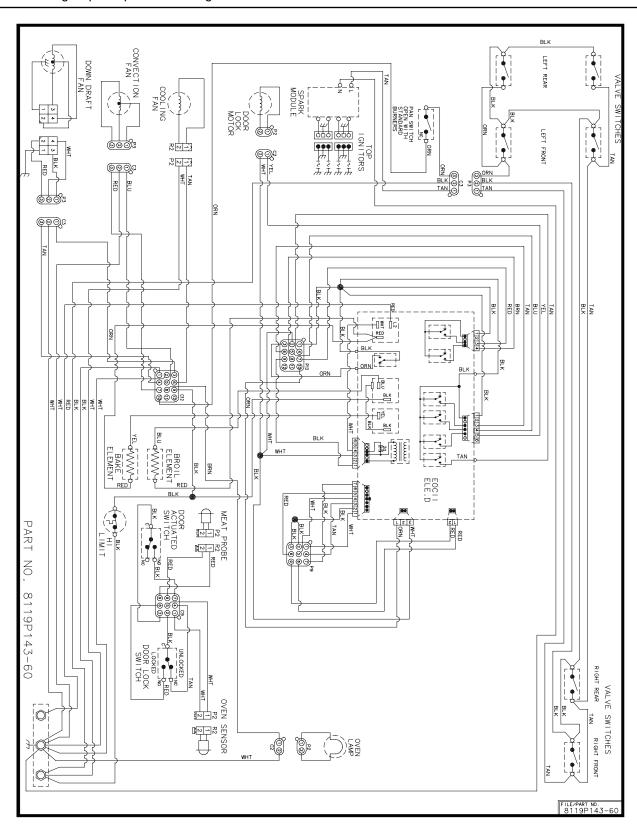
A

WARNING



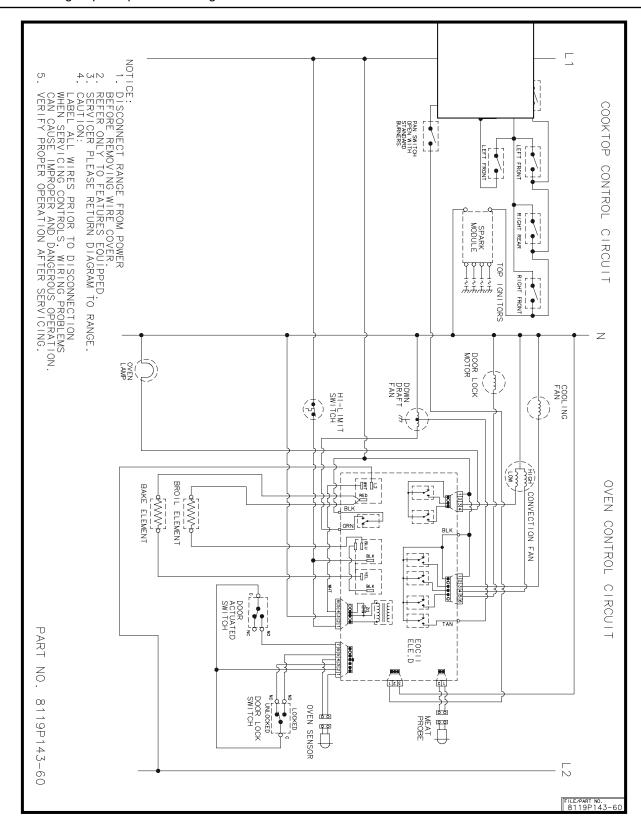
A

WARNING



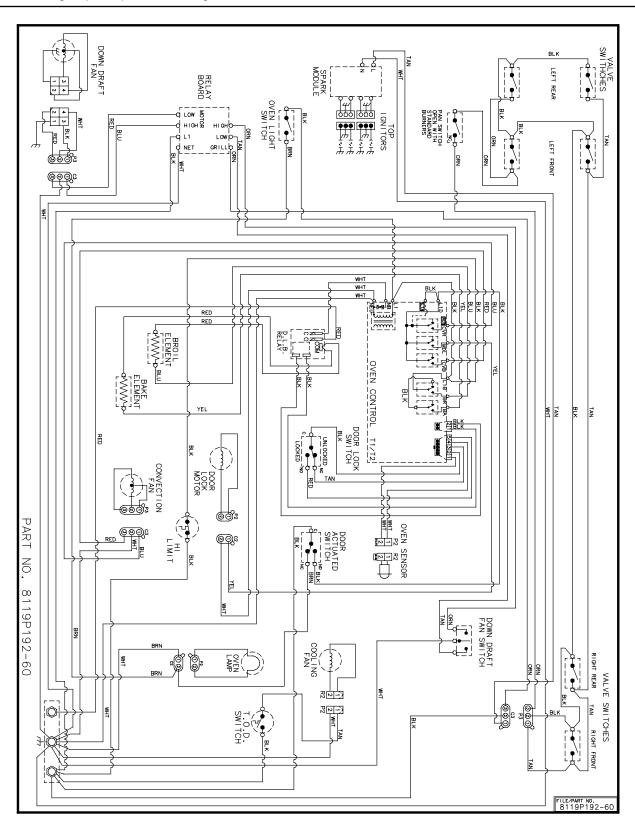
A

WARNING



A

WARNING



$\overline{\mathbf{A}}$

WARNING

