Technical Information—Double Oven Electric Range

MER6555AAB/Q/W MER6751AAB/Q/S/W MER6755AAB/Q/S/W MER6775AAB/F/N/Q/S/W

- 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 16023416 for detailed installation, operating, testing, troubleshooting, and disassembly instructions.

⚠ CAUTION

All safety information must be followed as provided in Service Manual 16023416.

⚠ WARNING

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

Model	MER6555AA*	MER6751AA*	MER6755AA*	MER6775AA*
Power Source @ 240 V (208 V)				
Electrical rating	12.9 kW (9.7 kW)	12.9 kW (9.7 kW)	12.9 kW (9.7 kW)	12.9 kW (9.7 kW)
Amperage	40 Amp	40 Amp	40 Amp	40 Amp
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Element Wattage @ 240 V				
Coil element, 4-turn	1,500* (2)	N/A	N/A	N/A
Coil element, 5-turn	2,350* (2)	N/A	N/A	N/A
Ribbon element, 6”	N/A	1,200 W* (2)	1,200 W* (2)	1,200 W* (2)
Ribbon element, 9”	N/A	2,500 W* (2)	2,500 W*	N/A
Ribbon element, 12”	N/A	N/A	2,700 W*	N/A
Ribbon element, Dual, 9”	N/A	N/A	N/A	2,400/1,100 W*
Ribbon element, Dual, 12”	N/A	N/A	N/A	2,700/1,700 W*
Warming element, 6”	N/A	N/A	N/A	100 W*
Oven Wattage @ 240 V (208 V)				
Upper Bake 4 pass	1800	1800	1800	1800
Lower Bake 4 pass	2600	2600	2600	2600
Upper Broil 4 pass	2200	2200	2200	2200
Lower Broil 4 pass	3000	3000	3000	3000
Oven Interior Dimensions in. (cm)				
Height	16 ½ (42)	16 ½ (42)	16 ½ (42)	16 ½ (42)
Width	23 (58)	23 (58)	23 (58)	23 (58)
Depth	17 ½ (46)	17 ½ (46)	17 ½ (46)	17 ½ (46)
Product Exterior Dimensions in. (cm)				
Height overall	46 ¾ (118)	46 ¾ (118)	46 ¾ (118)	46 ¾ (118)
Width	29 7/8 (76)	29 7/8 (76)	29 7/8 (76)	29 7/8 (76)
Depth oven door closed without handle	26 1/8 (66)	26 1/8 (66)	26 1/8 (66)	26 1/8 (66)
Features				
Frameless glass door with window	X	X	X	X
Interior oven light	X	X	X	X
Two oven racks – 8 positions	X	X	X	X
Automatic oven door latch	X	X	X	X
Porcelain Broil Pan	X	X	X	X
Cooktop Fifth Element	N/A	N/A	N/A	X
Weight lbs. (kg)				
Crated	240 (110)	240 (110)	240 (110)	240 (110)

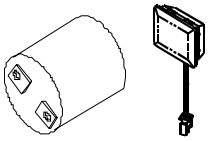
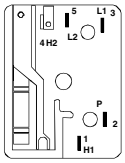
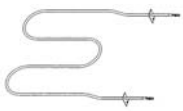
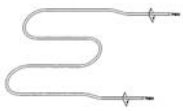
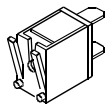
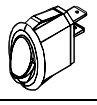
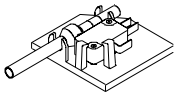
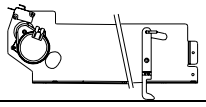
*** Rating of 208 VAC is approximately 80% of 240 VAC value.**

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Component Testing Procedures

⚠ WARNING

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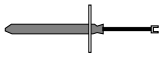
Illustration	Component	Test Procedure	Results
	Oven light socket	Remove one wire from receptacle and test resistance of terminals..... Measure voltage at oven light.....	Indicates continuity with bulb screwed in. 120 VAC, see wiring diagram for terminal identification. If no voltage is present at oven light, check wiring or light switches.
4-turn 5-turn (Model MER6555AA*)	Coil elements	Remove element and measure resistance across terminals.	Continuity, if not replace. 4-turn: 37 to 45 Ω Approximately 5-turn: 23 to 27 Ω Approximately
1200 W 2500 W 2400 W/1100 W (Dual) 2700 W/1700 W (Dual) (Dual elements: Model MER6775AA*) 2700 W (Single) (Model MER6755AA*)	Ribbon elements	Remove element and measure resistance across terminals.	Continuity, if not replace. 1200W: 45 to 49 Ω Approximately 2500W: 20 to 24 Ω Approximately 1100W: 40 to 46 Ω Approximately (Inner) 1300W: 47 to 54 Ω Approximately (Outer) 1700W: 30 to 36 Ω Approximately (Inner) 1000W: 53 to 59 Ω Approximately (Outer) 2700W: 19 to 23 Ω Approximately
	Snap Action Infinite switch	Connect Volt-ohms meter to H1 and H2. Measure the following for voltages at LO, MED, HI: H1 to H2.....	**Approximate** **Time On / Time Off** LO 5% 95% MED (4-5) 35% 65% HI 100% 0% 240 VAC, if not replace switch.
	Bake element, Upper	Disconnect wire leads to element and measure resistance of terminals..... Measure voltage at bake element.....	Approximately 31.0 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at bake element check wiring.
	Bake element, Lower	Disconnect wire leads to element and measure resistance of terminals..... Measure voltage at bake element.....	Approximately 21.3 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at bake element check wiring.
	Broil element, Upper	Disconnect wire leads to element and measure resistance of terminals..... Measure voltage at broil element.....	Approximately 25.4 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at broil element check wiring.
	Broil element, Lower	Disconnect wire leads to element and measure resistance of terminals..... Measure voltage at broil element.....	Approximately 18.6 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at broil element check wiring.
	Oven indicator light and Surface indicator light	Measure voltage at indicator light.	If voltage is present and light does not work replace light. If no voltage is present at indicator light check wiring.
	Rocker switch	Measure continuity of switch positions: Closed..... Open.....	Continuity Infinite
	Door plunger switch	Measure continuity at the following points: C-NO	Plunger in infinite, Plunger out continuity.
	Autolatch assembly with switch	Disconnect wires and test for continuity per wiring diagram.	See wiring diagram for schematic layout. Refer to Parts Manual for correct autolatch switch associated with the correct manufacturing number.

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Component Testing Procedures

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Illustration	Component	Test Procedure	Results
	Limiter	Normally Closed Verify proper operation. Open .....Approx. 216°F ..... Closed .....Approx. 176°F	 Infinite Continuity
	Temperature sensor	Measure resistances.....	Approximately 1100 Ω at room temperature 75°F.
H3 Controlled	Oven temperature adjustment (Upper Oven)	Press ***Upper Bake*** pad. Enter ***550*** on the digit-pad. Immediately press and hold ***Upper Bake*** pad for 3 seconds. Oven can be adjusted from -35 to +35 degrees in 5-degree increments by pressing ***More+*** or ***Less***-pads. To avoid over adjusting the oven, move temperature 5 degrees each time. Wait 4 seconds for the data entry timer to expire to accept the change. Temperature adjustment will be retained even through a power failure.	While increasing or decreasing oven temperature, this does not affect self-cleaning temperature.
H3 Controlled	Oven temperature adjustment (Lower Oven)	Press ***Lower Bake*** pad. Enter ***550*** on the digit-pad. Immediately press and hold ***Lower Bake*** pad for 3 seconds. Oven can be adjusted from -35 to +35 degrees in 5-degree increments by pressing ***More+*** or ***Less***-pads. To avoid over adjusting the oven, move temperature 5 degrees each time. Wait 4 seconds for the data entry timer to expire to accept the change. Temperature adjustment will be retained even through a power failure.	While increasing or decreasing oven temperature, this does not affect self-cleaning temperature.
H3 Controlled	Temperature display	Press and hold ***Upper Cancel*** and ***Upper Bake*** pads for 3 seconds.	This mode enables the user to indicate °F or °C on the display.
H3 Controlled	Factory Default	Press and hold ***Upper Cancel*** and ***Warm*** pads for 3 seconds.	Allows the clock to be reset to factory settings.
H3 Controlled	Clock Display	Press and hold ***Upper Cancel*** and ***Clock*** pads for 3 seconds.	Allows clock to be toggled On or OFF.
H3 Controlled	24 Hour Clock	Press and hold ***Upper Cancel*** and ***Delay*** pads for 3 seconds.	Allows the time on the clock to be toggled from 12 hour or 24 hour display.
H3 Controlled	Demo	Press and hold ***Upper Cancel*** and ***Less -*** pads for 3 seconds.	Enters a demonstrative sales mode.
H3 Controlled	Twelve hour off	Control will automatically cancel any cooking operation and remove all relay drives 12 hours after the last pad touch.	See Sabbath mode to disable.
H3 Controlled	Sabbath Mode	Hold ***Clock*** pad for 5 seconds to activate Sabbath mode. Hold ***Clock*** pad for 5 seconds to disable Sabbath mode. Oven must be in BAKE mode before enabling SABBATH.	"SAb" displays and flashes for 5 seconds. All pad inputs are disabled except for CANCEL and CLOCK pads. This mode disables the normal 12 hour shutoff to allow operation of the bake mode for a maximum of 72 hours.
H3 Controlled	Beeper Volume	Hold ***Upper Cancel*** and ***More+*** pads for 3 seconds to adjust beeper loudness level.	Volume settings are Low, Medium and High.

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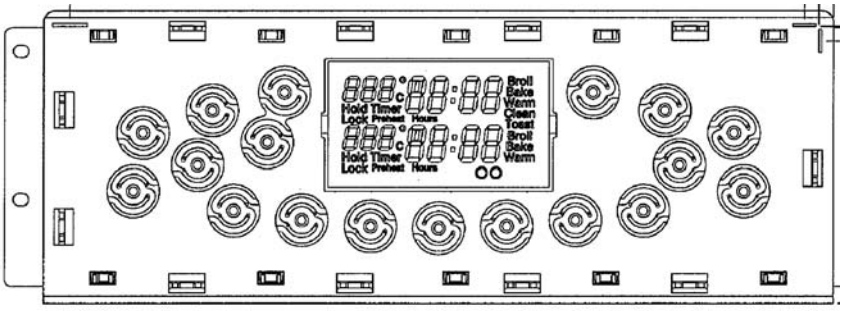
Component Testing Procedures

⚠ WARNING

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Illustration	Component	Test Procedure	Results
H3 Controlled	Child lock out	Press and hold ***Upper Cancel*** and ***Cook & Hold*** pads for 3 seconds. **"OFF"** will display where the temperature normally appears. "**LOCK**" will display flashing while door is locking. To reactivate the control, press and hold ***Cancel*** and ***Cook & Hold*** pads for 3 seconds.	This is a safety feature that can be used to prevent children from accidentally programming the oven. It disables the electronic oven control. Child lockout features must be reset after a power failure.
H3 Controlled	Diagnostic Code Display	Press and hold ***Upper Cancel*** and ***Timer*** for 3 seconds within 5 minutes of power up. See "Quick Test Mode." Cycle through the codes.	The last 5 diagnostic codes will be stored in the non-volatile memory. See **"Description of Error Codes"** for explanation.





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Component Testing Procedures

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Relay Logic

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

COOKING MODE	BAKE	BROIL	CONVECT ELEMENT	OVEN LIGHT
IDLE	×	×	×	◈
BAKE PREHEAT	■	■	×	◈
BAKE	■	■	×	◈
BROIL PREHEAT	×	■	×	◈
BROIL	×	■	×	◈
CLEAN PREHEAT	×	■	×	×
CLEAN	×	■	×	×
KEEP WARM	■	×	×	◈

INDEX

× - OFF
■ - CYCLING
◈ - ON OR OFF (DETERMINED BY USER INPUT)

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Component Testing Procedures

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"Quick Test" Mode for Electronic Range Control

Follow the procedure below to perform the Electronic Range Control (ERC) quick test. Instructions must be entered within 32 seconds of each other (via the touch pad) or the ERC will exit the quick test.

1. **Press and hold** *UPPER CANCEL* and *BROIL* pads for 3 seconds.
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 the applicable pad once to activate the associated response.
Press the applicable pad a second time to deactivate the associated response.

Display will indicate the following:

Pad	Response
UPPER BAKE	Upper Bake DLB and Upper Bake relay activated
LOWER BAKE	Lower Bake DLB and Lower Bake relay activated
TOAST	DLB relays activated
UPPER BROIL	Upper Broil DLB and Upper Broil relay activated
LOWER BROIL	Lower Broil DLB and Lower Broil relay activated
UPPER KEEP WARM	Motorized Door Lock - Upper
LOWER KEEP WARM	Motorized Door Lock - Lower
OVEN LIGHT	Oven lights activated
COOK & HOLD	Displays last diagnostic code
LESS (-)	Displays EEPROM version number
MORE (+)	Displays main code version number
CLOCK	All display segments illuminated

Description of Error Codes

The Diagnostic Code Display Mode allows viewing of the error diagnostic codes.
Each error code consists of four digits. The following table describes the function of each digit.

Digit	Description	
1st	Primary System:	1 – Local to the control circuit board 3 – Sensor or meat probe 4 – Control input 9 – Door lock
2nd	Error Type:	d – Diagnostic: measurable parameter c – Control related, replace control
3rd	Secondary System:	Sequential numbering
4th	Oven Cavity:	1 – Upper oven (or single cavity oven) 2 – Lower oven c – Control specific

Diagnostic Code Display Mode is accessed via the Quick Test Mode. To view the last 5 error codes, enter the Quick Test Mode by **pressing and holding** the *UPPER CANCEL* and *UPPER BROIL* pads for 3 seconds within 5 minutes of power-up. **Diagnostic Code Display Mode may be activated only when applying power to the control.**

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Component Testing Procedures

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Diagnostic Code Checking

Code	Description	When Checked	Detection
1c1c	Shorted key	Always	1 minute
1c2c	Keyboard tail disconnected	Always	1 minute
1c31	Cancel key circuit problem	Always	20 seconds
1c32	Cancel key circuit problem	Always	20 seconds
1c4c	Micro Communication Failure	Always	1 minute
1c5c	VCC or ground	Always	1 minute
1c6c	EEPROM error	When accessing EEPROM	3 tries
1c7c	Control not calibrated	Always	3 tries
1c8c	Cooking program error	Cook or clean programmed	3 tries
1d11	Runaway temp (650°F), door unlocked	Latch unlocked	1 minute
1d12	Runaway temp (650°F), door unlocked	Latch unlocked	1 minute
1d21	Runaway temp (950°F), door locked	Latch locked	1 minute
1d22	Runaway temp (950°F), door locked	Latch locked	1 minute
3d11	Sensor open (single cavity or upper cavity)	Cook or clean active	20 seconds
3d12	Sensor open (lower cavity)	Cook or clean active	20 seconds
3d21	Sensor shorted	Cook or clean active	20 seconds
3d22	Sensor shorted (lower cavity)	Cook or clean active	20 seconds
9d11	Latch will not lock	Latch should be locked	See Note [6]
9d12	Latch will not lock (lower cavity)	Latch should be locked	See Note [6]
9d21	Latch will not unlock	Latch should be unlocked	See Note [6]
9d22	Latch will not unlock (lower cavity)	Latch should be unlocked	See Note [6]
9d31	Latch state unknown, both locked and unlocked	Latch should be locked or when lock attempted	See Note [6]
9d32	Latch state unknown, both locked and unlocked (lower cavity)	Latch should be locked or when lock attempted	See Note [6]
9d41	Latch state unknown, neither locked or unlocked	Latch should be locked/unlocked or when lock/unlock attempted	See Note [6]
9d42	Latch state unknown, neither locked or unlocked (lower cavity)	Latch should be locked/unlocked or when lock/unlock attempted	See Note [6]

Diagnostic Code Handling

Code	Measurable	What is Displayed	Action Taken By Control
1c1c	Keypress	Nothing	Disables audible for affected key depression Disables all outputs [1, 2] Disables lights and timers
1c2c	Keyboard loop improper value	Nothing	Disables audible for key depression Disables all outputs [1] Disables lights and timers
1c31	Cancel key improper value	BAKE flashes [3]	Disables all outputs for cavity [1]
1c32	Cancel key improper value	BAKE flashes [3]	Disables all outputs for cavity [1]
1c6c	No response from EEPROM	Nothing	Disables all outputs [1]
1c7c	Calibration value out of range	"CAL" in the time digits	Completely disables oven [4]
1c8c	CRC invalid	Nothing	Cancels active cook function
1d11	Sensor resistance > 2237 Ω	BAKE flashes [3]	Disables all cook function for cavity
1d12	Sensor resistance > 2237 Ω (lower cavity)	BAKE flashes [3]	Disables all cook function for cavity
1d21	Sensor resistance > 2787 Ω	BAKE flashes [3]	Disables all cook function for cavity
1d22	Sensor resistance > 2787 Ω (lower cavity)	BAKE flashes [3]	Disables all cook function for cavity
3d11	Sensor resistance > Infinite Ω	BAKE flashes [3]	Disables all cook function for cavity
3d12	Sensor resistance > Infinite Ω	BAKE flashes [3]	Disables all cook function for cavity
3d21	Sensor resistance > 0 Ω	BAKE flashes [3]	Disables all cook function for cavity
3d22	Sensor resistance > 0 Ω	BAKE flashes [3]	Disables all cook function for cavity
9d11	Lock switch not closed	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d12	Lock switch not closed (lower cavity)	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d21	Unlock switch not closed	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d22	Unlock switch not closed (lower cavity)	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d31	Latch both locked and unlocked	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d32	Latch both locked and unlocked (lower cavity)	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d41	Latch neither locked or unlocked	LOCK flashes [3]	Disables Clean and Lockout functions [4]
9d42	Latch neither locked or unlocked (lower cavity)	LOCK flashes [3]	Disables Clean and Lockout functions [4]

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Component Testing Procedures

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NOTES:

1 "Action Taken" applies as long as the condition exists. If the condition goes away, the control recovers.

2 If there is a cook function or timer active, the function continues. The user cannot edit the function, and [Cancel] will cancel the cook mode.

3 Flash rate: 0.2 seconds on, 0.1 second off. Pressing any key will clear the display until the fault clears and is re-triggered.

4 "Action Taken" applies until there is a POR (Power On Reset ["hard reset"]).

5 If the control believes the door is locked, it will attempt to unlock it when the function cancels and the cavity temperature cools.

6 Special conditions for latch faults (9dxx):

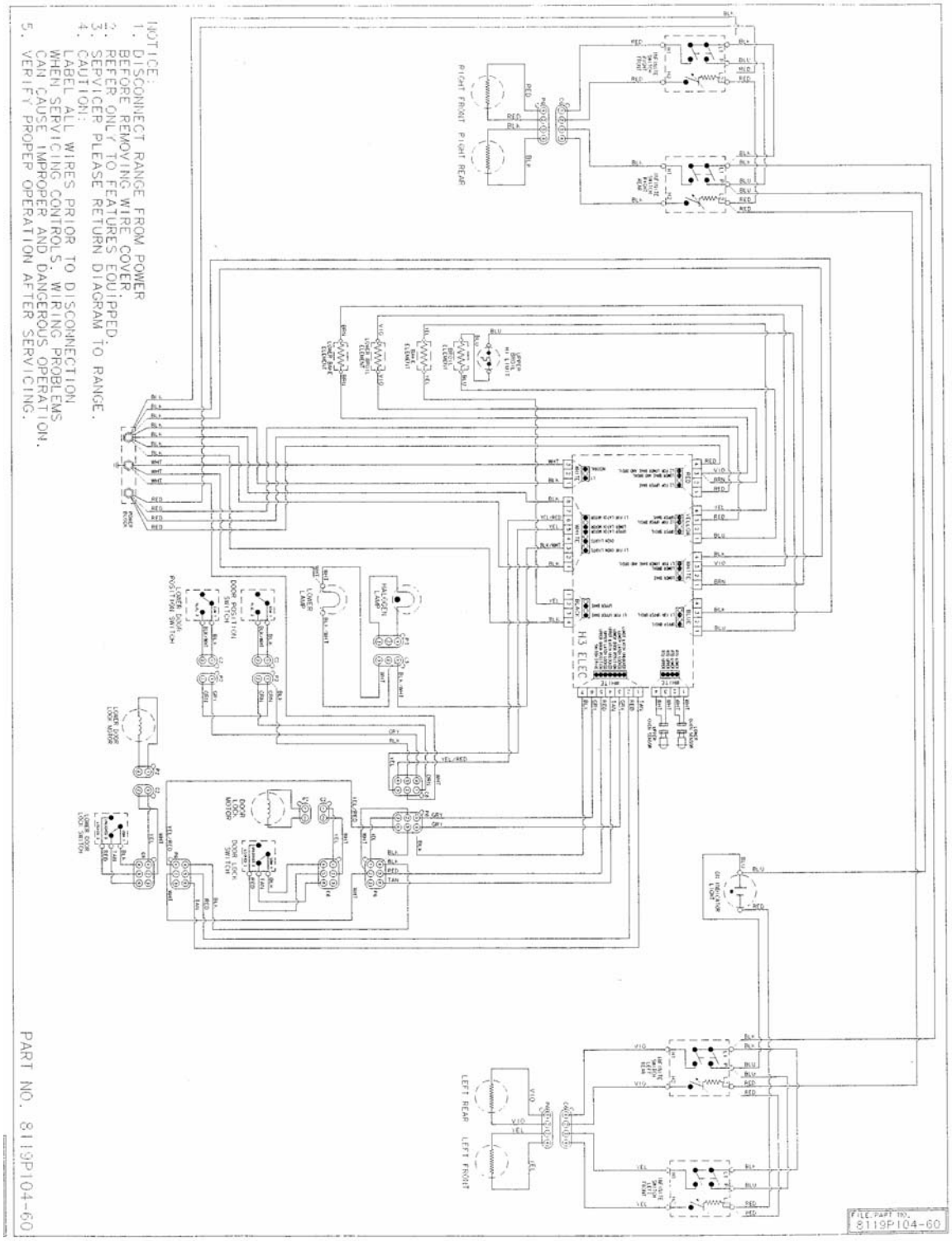
- A known good **unlock** position is defined as when the unlock switch reads closed and lock switch reads open.
- A known good **lock** position is defined as when the unlock switch reads open and lock switch reads closed.
- A **faulted switch** means the switch input is reading an invalid state, both/neither open and/or closed.
- Once a latch fault occurs, latch movement is disabled until there is a POR. An error tone will sound if a function requiring a faulted latch is attempted.
- If at POR, the latch is not at a known good unlock position:
    - If the latch is at a good lock position, it will attempt to unlock when the RTD (Resistance Temperature Device) temperature is below 400°F.
    - If the latch is not at a good lock position, the control will fault.
- If a latch fault occurs while the RTD is above the lock temperature, the latch will not try to move, but the fault is still logged to EEPROM after the first stage of detection.
- The Display column for latch faults applies 1) If the latch was moving when the fault occurred; 2) If the latch is already in a known locked state when the fault occurs.
    - LOCK flashes after a fault is detected and until the unlocked position is achieved. The unlock position may be identified by a successful unlock switch closure, or as the result of timing when the unlock switch is not functioning properly.
- If the last known good position was unlock (e.g. baking, or idle) and a latch fault occurs, the motor is never moved. The fault is logged to EEPROM and is not seen by the user.
- Latch fault detection is in two stages. The first stage is to allow the control to recover without moving the latch. After this:
    - If the latch was previously at a known good unlock position, the latch will not move and the control will fault.
    - If the control was previously in a known good lock position:
        - If the RTD is below 400°F, the latch will attempt to recover to it's proper position (up to three revolutions). If it cannot, the control will fault and the latch will move to a calculated unlock position.
        - If the RTD is at or above 400°F, the control will fault. When the RTD cools to below 400°F, the control will attempt to recover to a good unlock position (up to three revolution). If it cannot, the control will fault and the latch will move to a calculated unlock position.
        - **Note:** If the unlock position cannot be found, this may result in a second fault, the first fault occurring when the latch request was locked, and the second when the latch request is unlocked.
    - If the latch is moving when the fault occurs, the control will bypass the first stage of detection and immediately try to find it's proper position. If it cannot, the control will fault and the latch will move to a calculated unlock position.
- Affected DLBs (Double Line Breaks) and loads are disabled during detection.
- If the control is in a known good unlock position and the lock switch becomes faulted:
    - The control will not fault.
    - If a function requiring latch movement is attempted while the lock switch is faulted, the control will sound an error tone and the function will be disabled.
- If the control is in a known good lock position and the unlock switch becomes faulted:
    - The control will not fault.
    - After the function is canceled and unlock is attempted, the control will attempt to unlock the latch according to the procedures in these notes.

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Wiring Diagram and Schematic

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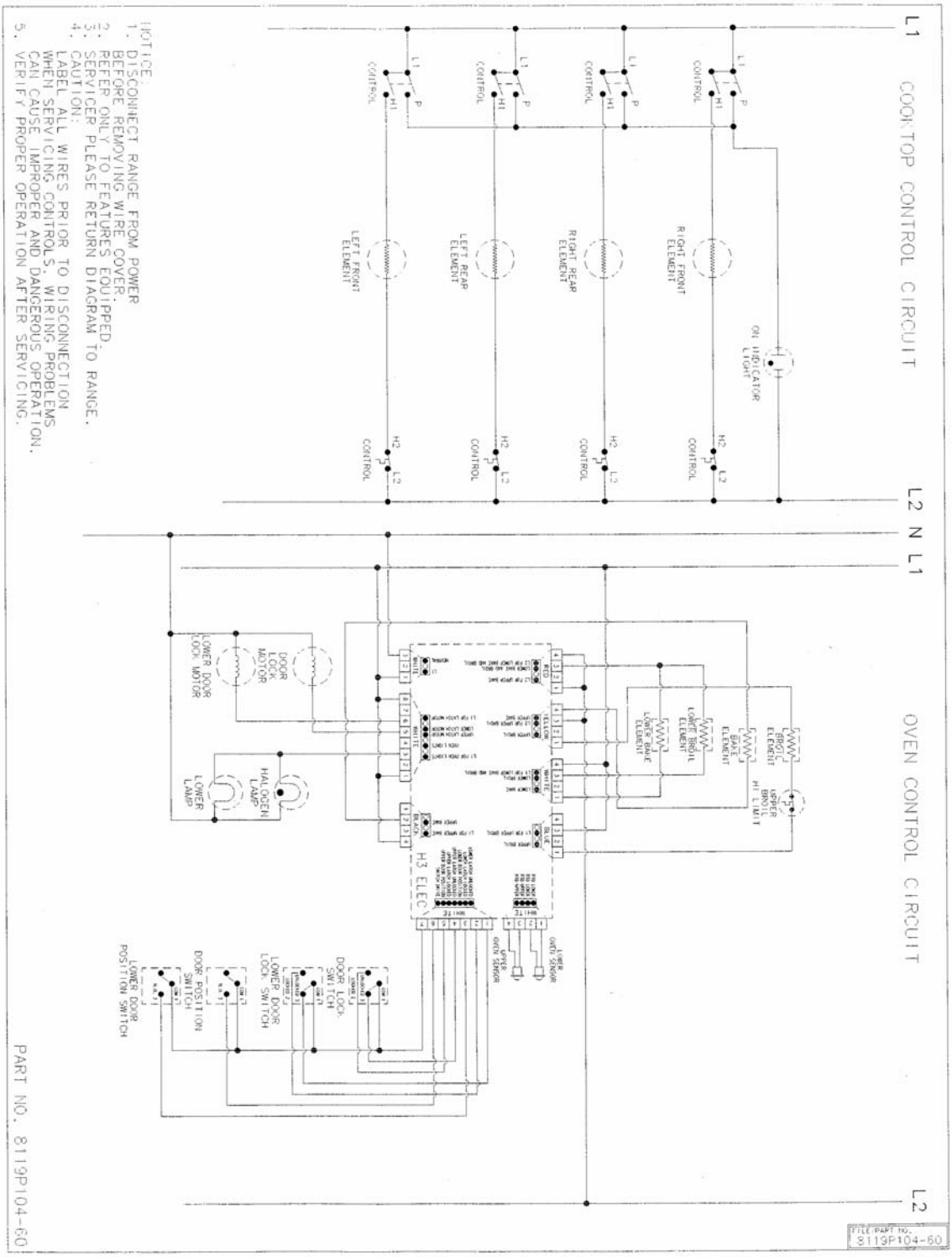
MER6555AA* Wiring Diagram

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Wiring Diagram and Schematic

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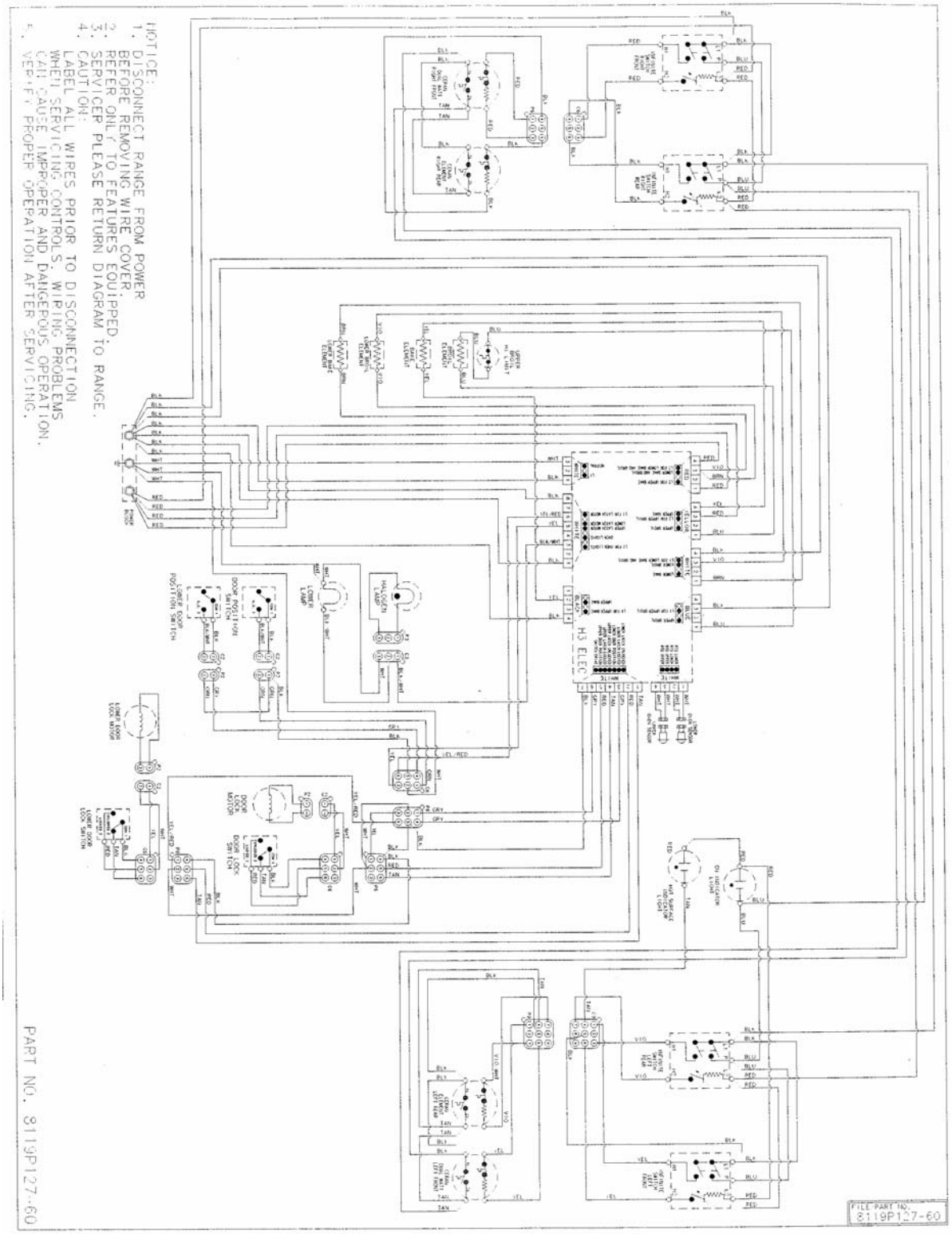
MER6555AA* Schematic

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Wiring Diagram and Schematic

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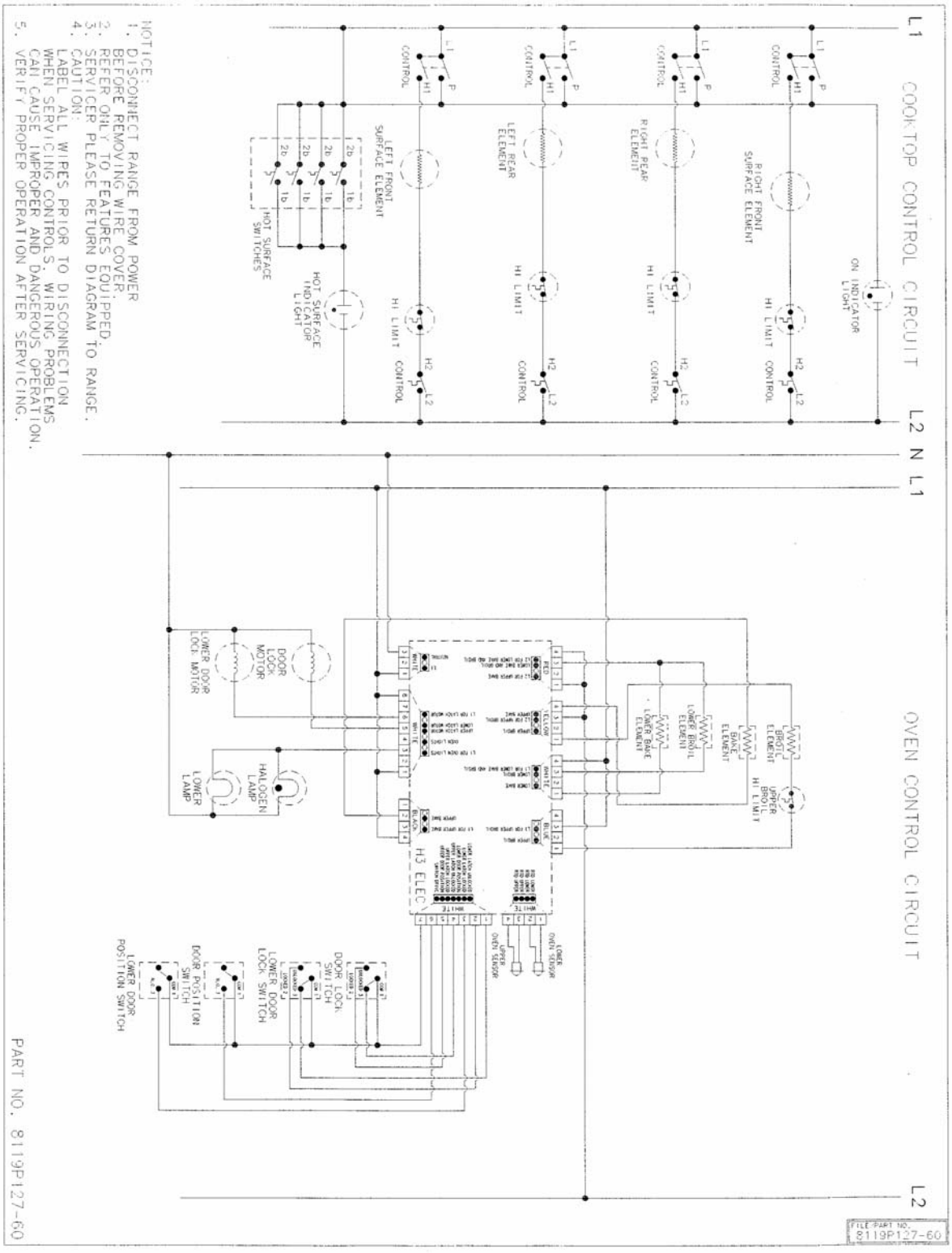
MER6751AA*, MER6755AA* Wiring Diagram

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Wiring Diagram and Schematic

⚠ WARNING

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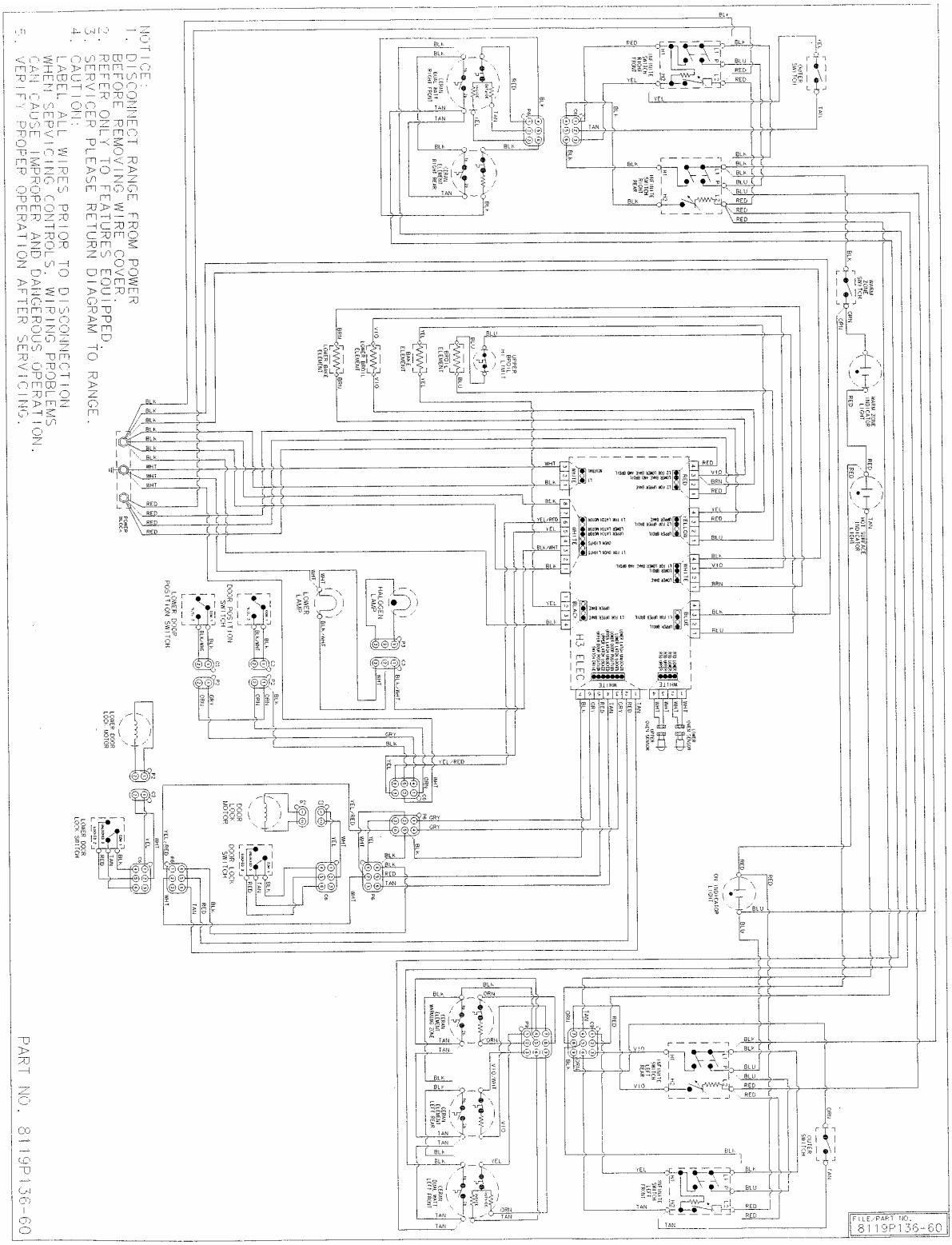
MER6751AA*, MER6755AA* Schematic

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Wiring Diagram and Schematic

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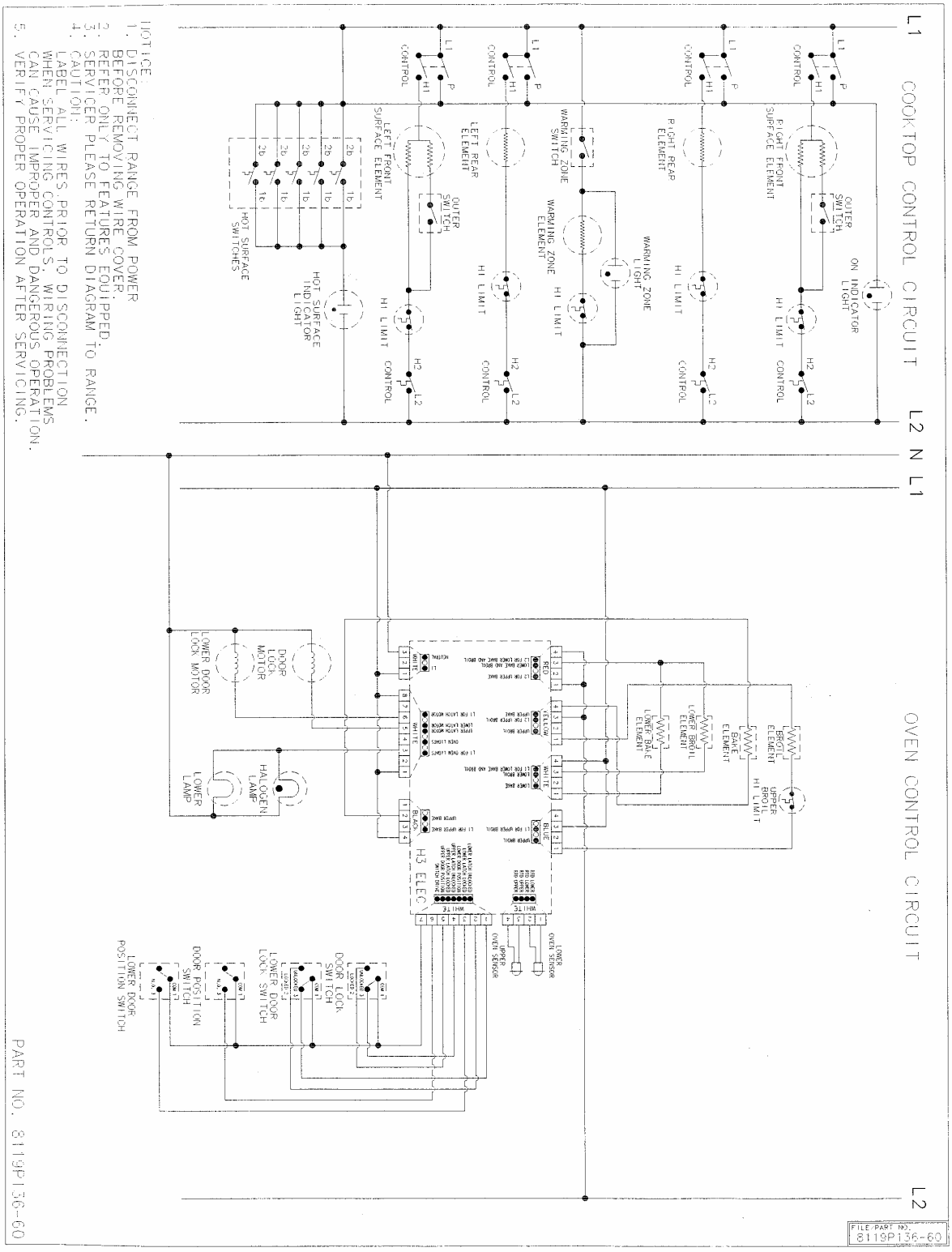
MER6775AA* Wiring Diagram

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Wiring Diagram and Schematic

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