

Gas Freestanding Range — Technical Information

AGR4412AD* C*31600AD* CGR1425AD* MGR4451AD* MGR4452AD* PGR4420LD*

- 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 16023522 for detailed installation, operating, testing, troubleshooting, and disassembly instructions.



CAUTION

All safety information must be followed as provided in Service Manual 16023522.



WARNING

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


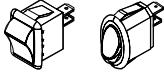

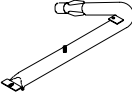
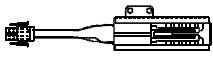
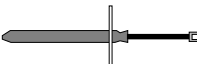


Models	AGR4412AD*	C*31600AD*	CGR1425AD*	MGR4451AD*	MGR4452AD*	PGR4420LD*
Power Source						
Electrical rating	120 VAC	120 VAC	120 VAC	120 VAC	120 VAC	120 VAC
Amperage	10 Amp	10 Amp	10 Amp	10 Amp	10 Amp	10 Amp
Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Water Column Pressure						
Natural	4 in. W.C.P.	4 in. W.C.P.	4 in. W.C.P.	4 in. W.C.P.	4 in. W.C.P.	4 in. W.C.P.
LP/Propane	10 in. W.C.P.	10 in. W.C.P.	10 in. W.C.P.	10 in. W.C.P.	10 in. W.C.P.	10 in. W.C.P.
Surface Burner BTU Nat. (LP)						
Right front	12 K (8.5 K)	12 K (8.5 K)	12 K (8.5 K)	12 K (8.5 K)	12 K (8.5 K)	12 K (8.5 K)
Left front	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)
Right rear	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)	9.2 K (8 K)
Left rear	7.2 K (6.5 K)	7.2 K (6.5 K)	7.2 K (6.5 K)	7.2 K (6.5 K)	7.2 K (6.5 K)	7.2 K (6.5 K)
Oven Burner BTU Nat. (LP)						
Bake	18 K (18 K)	18 K (18 K)	18 K (18 K)	18 K (18 K)	18 K (18 K)	18 K (18 K)
Oven Interior Dimensions in. (cm)						
Height	16.5 (42)	16.5 (42)	16.5 (42)	16.5 (42)	16.5 (42)	16.5 (42)
Width	23 (58)	23 (58)	23 (58)	23 (58)	23 (58)	23 (58)
Depth	18.1 (46)	18.1 (46)	18.1 (46)	18.1 (46)	18.1 (46)	18.1 (46)
Product Exterior Dimensions in. (cm)						
Height overall	46.75 (118.7)	46.75 (118.7)	46.75 (118.7)	46.75 (118.7)	46.75 (118.7)	46.75 (118.7)
Width	29.87 (75.87)	29.87 (75.87)	29.87 (75.87)	29.87 (75.87)	29.87 (75.87)	29.87 (75.87)
Depth oven door closed w/ handle	26.16 (69)	26.16 (69)	26.16 (69)	26.16 (69)	26.16 (69)	26.16 (69)
Features						
Sealed burners	X	X	X	X	X	X
Window	Large	Large	Large	Standard	Large	Standard
Auto shutoff	X	X	X	X	X	X
Oven light	X	X	X	X	X	X
Electronic control	X	X	X	X	X	X
2 standard racks – 5 positions	X	X	X	X	X	X
Weight lbs. (kg)						
Crated	185 (84)	165 (75)	165 (75)	169 (77)	169 (77)	165 (75)

Component Testing Procedures



WARNING

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Illustration	Component	Test Procedure	Results
	Oven light socket	Test continuity of receptacle terminals ... Measure voltage at oven light.....	Indicates continuity with bulb inserted. 120 VAC, see wiring diagram for terminal identification. If no voltage present, check wiring.
	Rocker switch	Measure continuity of switch positions: Closed Open	Continuity Infinite
	Door lock switch	Switch connection in following positions: Not engaged Engaged	Normally Open COM-NO=Open, COM-NC=Closed COM-NO=Closed, COM-NC=Open
	Bake burner	Verify gas is supplied. Verify proper orifice installed-Nat or LP .. Check for obstructions, contamination in ports or damage	Air shutter opening: .469" to .531". Blue flame with no yellow tipping. Replace if punctured or torn.
	Ignitor	Test for voltage at terminals Test for amount of amperage in circuit ... (Ignitor may glow, but not have sufficient amperage to open valve).	120 VAC 3.2 to 3.6 Amps.
	Temperature sensor	Measure resistance	Approximately 1000 Ω at room temperature 80° F.
	Pressure regulator	Verify gas pressure (WCP)..... If using LP service, verify proper gas supply conversion.	4" Natural 10" LP/Propane
	Spark ignition electrode	Test for resistance of spark lead..... Test ignitor to chassis.....	Continuity No continuity from ignitor to chassis.
NSC Controlled	Oven temperature adjustment	Press Bake pad. Enter 550 on the digit-pad. Immediately press and hold Bake pad for 3 to 5 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.
NSC Controlled	Keypad Lockout	Press and hold Cancel and Timer pads for 3 to 5 seconds. Press More + or Less - pads to change.	This mode disables keypad input to deter against accidental keypad entries.
NSC Controlled	Temperature display	Press and hold Cancel and Bake pads for 3 to 5 seconds. Press More + or Less - pads to change.	This mode enables the user to indicate °F or °C on the display.
NSC Controlled	Sabbath Mode	Hold Clock pad for 3 to 5 seconds to activate Sabbath mode. Hold Clock pad for 3 to 5 seconds to disable Sabbath mode. Desired bake function must be initiated before entering Sabbath mode.	"SAb" flashes for 5 seconds, then remains on until timed-out or cancelled. The status "SAb" is NOT fault code 5A6. 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. The oven light is not disabled.

Controller Testing Procedures



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Illustration	Component	Test Procedure	Results
NSC 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.
NSC Controlled	Diagnostic Code Display	Press and hold More + pad for 3 to 5 seconds when powering up the unit. Cycle through the codes using the More + or Less - pads.	The last 5 diagnostic codes will be stored in the non-volatile memory. See " Description of Error Codes " for explanation.
NSC Controlled	One-Watt Standby Mode	Press and hold Cancel and Less - pads for 3 to 5 seconds.	After 15 minutes in idle, the control will automatically enter this mode. The LED display remains active during this mode.

"Quick Test" Mode for Non-Self Clean Control

Follow procedure below to use the quick test mode. Entries must be made within 32 seconds of each other or the control will exit the quick test mode.

1. Press and hold **Cancel** and **Broil** pads for 3 to 5 seconds 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 one of the following pads once to activate the response.
Press the pad a second time to deactivate the response.

NOTE: If the temperature sensor is greater than 400° F or if the temperature sensor reaches 400° F while under test, the Quick Test mode is disabled.

Display will indicate the following:

Key	Operation
[Bake]	Bake relay activated
[Broil]	Broil relay activated
[Timer]	DLB relay activated
[Clock]	Alternate between ODD LED SEGMENTS and EVEN LED SEGMENTS on each keypress
[More +]	EEPROM version number
[Less -]	Code version number
[Cancel]	End Factory Test Mode

Description of Error Codes

Error diagnostic codes can only be viewed by entering the Diagnostic Code Display Mode. Each error code consists of four digits and each digit is described in the following table.

Digit	Description
1 st	Primary System: 1 – Local to the control circuit board 3 – Sensor or meat probe 4 – Control input
2 nd	Measurable: d – Diagnostic: measurable parameter c – Control related, replace control
3 rd	Secondary System: Sequential numbering
4 th	Oven Cavity: 1 – Oven c – Control specific

Enter Diagnostic Code Display Mode by pressing **More +** pad for 3 to 5 seconds within 60 seconds of powering up the control.

Controller Testing Procedures



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Diagnostic Code Checking

Code	Description	When Checked	Detection
1c1c	Shorted key	Always	1 minute
1c31	Cancel key circuit problem	Always	1 minute
1c4c	Micro communication failure	Serial communications	5 tries
1c5c	Vcc or ground	Cook active	1 minute
1c6c	EEPROM error	Cook active	5 tries
1c7c	Control not calibrated	Always	5 seconds
1c8c	Cooking program error	Cook active	5 tries
1d11	Runaway temp (650° F)	Always	5 seconds
3d11	Sensor open	Cook active	5 seconds
3d21	Sensor shorted	Cook active	5 seconds

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
1c31	Cancel key improper value	Nothing	Disables all outputs ¹
1c4c	Checksum invalid	Nothing	Disables all outputs ¹
1c5c	Vcc/ground at testpoint	Nothing	No action
1c6c	EEPROM error	Nothing	Disables all outputs ¹
1c7c	Calibration value out of range	Nothing	No action
1d11	Sensor resistance > 2218 Ohms	Nothing	Return to idle; disables all outputs ¹
3d11	Sensor resistance > Infinite Ohms	BAKE flashes ³	Disables all cooking functions
3d21	Sensor resistance > 0 Ohms	BAKE flashes ³	Disables all cooking functions

NOTES:

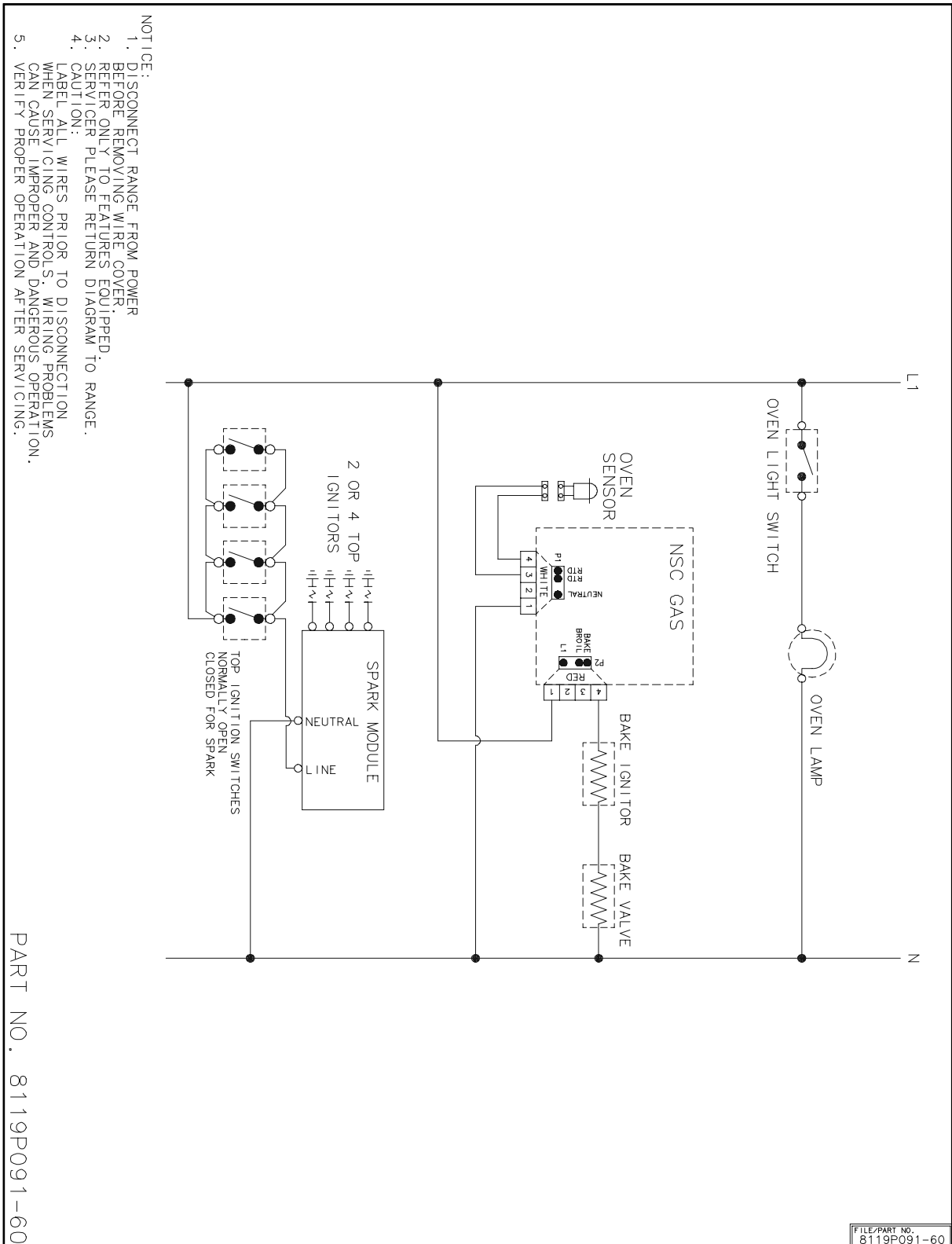
- ¹ "Action Taken" applies as long as the condition exists. If the condition goes away, the control recovers.
- ² If there is a cook function or timer active, the function continues. The user cannot edit the function, and [Cancel] will cancel the cook mode.
- ³ Flash rate: 0.2 seconds on, 0.1 second off. Pressing any key will clear the display until the fault clears and is re-triggered.

Wiring Diagram and Schematic



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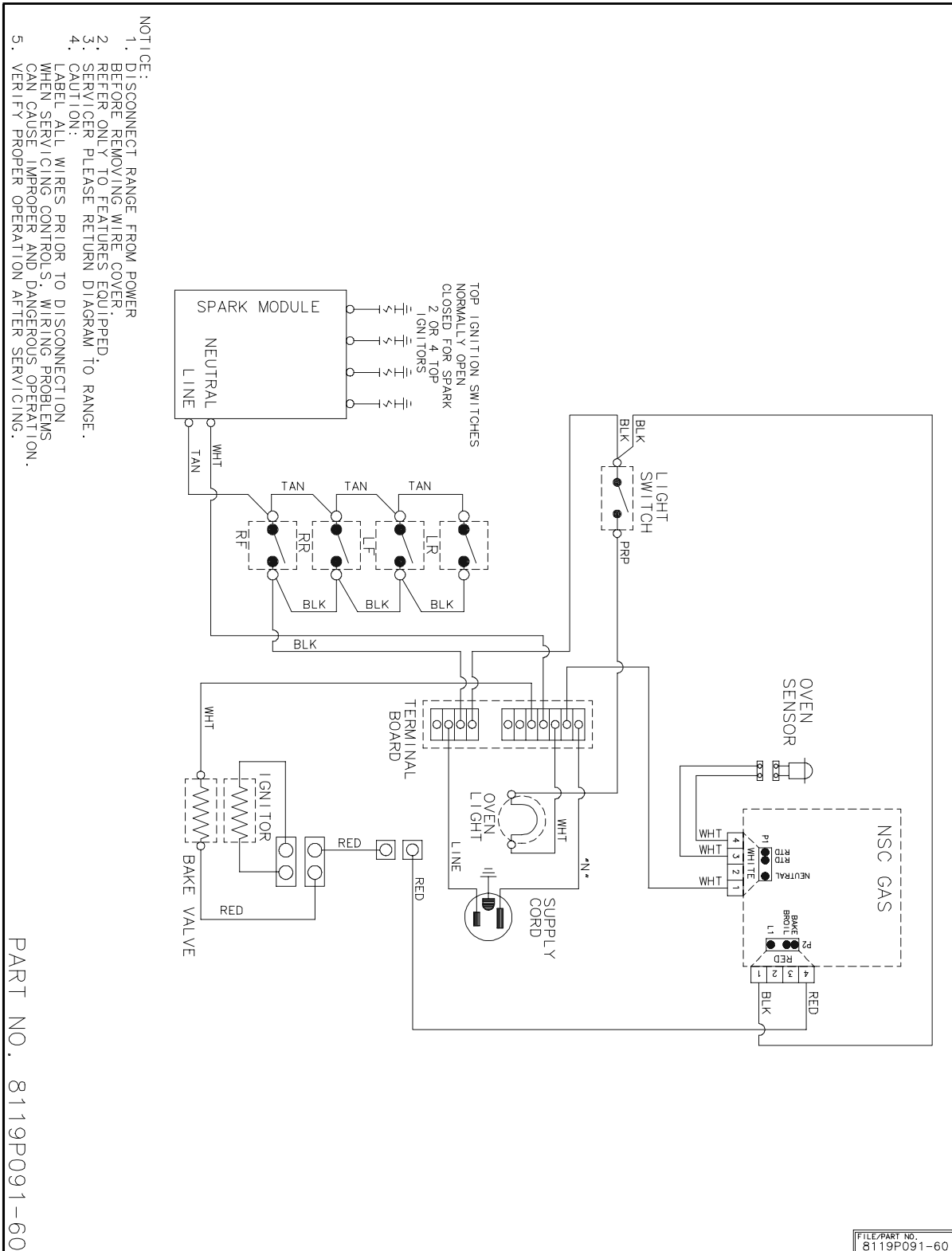
Schematic Diagram

Wiring Diagram and Schematic



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PART NO. 8119P091-60

Wiring Diagram