

Amana Technical Information—Electric Range

ARTSC8651 P1143902N, P1143904N, P1143912N

- Due to possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this unit.
- This technical sheet replaces RT2320034 Rev. 0.
- Refer to Service Manual RS2320004 for detailed installation, operating, testing, troubleshooting, and disassembly instructions.
- Refer to Parts Manual RP2320091 for part number information.



CAUTION

All safety information must be followed as provided in Service Manual RS2320004.



WARNING

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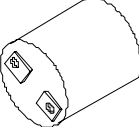
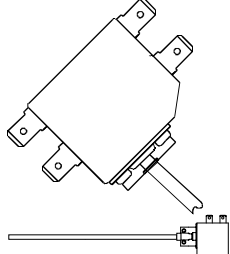
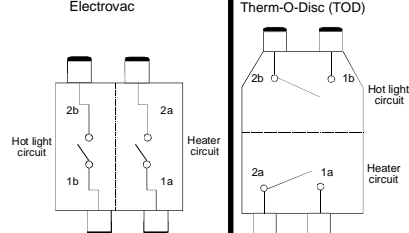
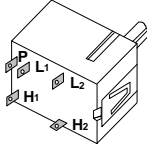
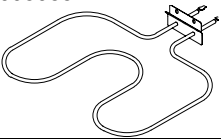
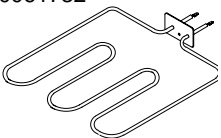

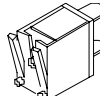
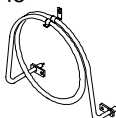
Model	ARTSC8651	Model	ARTSC8651
Power Source @ 120/240V		Cooktop Surface – Upswept	
Electrical rating	13.2	Spillsaver™ cooktop	X
Amperage	40 Amp.	Frameless glass door with window	X
Frequency	60 Hz	Interior oven light	X
Element Wattage @ 240 V		Three oven racks – 5 positions	X
6-inch ribbon radiant	1,200	Automatic oven door latch	X
7-inch ribbon radiant	1,500	Removable full width storage drawer	X
8-inch ribbon radiant	2,000	Exclusive Insta-Broil™ broiling system	X
6/9 inch dual ribbon radiant	1,000/2,500	EvenAir Plus™ convection cooking system	X
Oven Wattage @ 240 V		Touchmatic® ERC3 with mylar overlay caps	X
Convection	2,200	Product Exterior Dimensions in. (cm)	
Bake	2,500	Height overall	47 (119)
Broil	3,000	Width	30 (76)
Oven Interior Dimensions in. (cm)		Depth oven door closed with handle	28 1/4 (72)
Height	16 (41)	Clearance oven door	22 (56)
Width	23 (58)	Height of cooktop	36 (91)
Depth	17 1/2 (45)	Weight lbs. (kg)	
		Approximately shipping weight	171 (78)

Component Testing Procedures



WARNING

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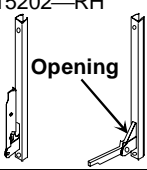

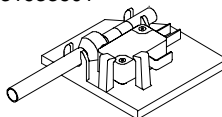
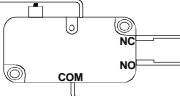
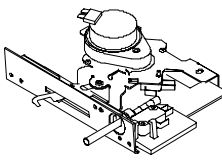
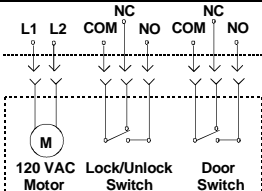

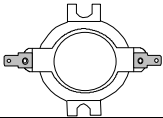
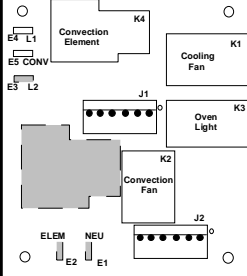
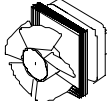
Illustration	Component	Test Procedure	Results												
31823701 	Oven light socket	Remove one wire from receptacle and test resistance of terminals. Measure voltage at oven light.	Indicates continuity with bulb screwed in. 120 VAC, see wiring diagram for terminal identification. If no voltage is present at oven light, check wiring or light switches.												
31938901–1200 W 31939001–1500 W 31939101–2000 W 31852001–2500 W	Ribbon radiant elements	Remove one wire lead from element and measure resistance of the element. Dual element–1000 + 1500 = 2500 W	Continuity, if not replace. 1200W: 45 to 51 Ω 1500W: 36 to 41 Ω 2000W: 27 to 31 Ω 2500W: 90 to 100 Ω												
0316689 	Ribbon surface thermal limiter/hot light switch	Turn surface element on and test for voltage. See wiring diagram and schematic. 1a–2a 240 VAC 1b–2b 120 VAC Disconnect leads and measure resistance on the following: 1a–2a room temperature–continuity 1b–2b room temperature–infinite	240 VAC 												
31891202 	Infinite switch	Remove wiring from terminals H1 and H2. Connect Volt/ohms meter to H1 and H2. Measure the following for voltages at LO, MED, HI: H1 to H2	<table><tr><th></th><th>Time On</th><th>Time Off</th></tr><tr><td>LO</td><td>5%</td><td>95%</td></tr><tr><td>MED (4-5)</td><td>50%</td><td>50%</td></tr><tr><td>HI</td><td>100%</td><td>0%</td></tr></table> 240 VAC, if not replace switch.		Time On	Time Off	LO	5%	95%	MED (4-5)	50%	50%	HI	100%	0%
	Time On	Time Off													
LO	5%	95%													
MED (4-5)	50%	50%													
HI	100%	0%													
0059552 	Bake element	Disconnect wire leads to element and measure resistance of terminals. Measure voltage at bake element.	Continuity, approximately 23 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at bake element check wiring.												
0061732 	Broil element	Disconnect wire leads to element and measure resistance of terminals. Measure voltage at broil element.	Continuity, approximately 19 Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at broil element check wiring.												
31769301 	Convection motor fan and blade	Verify supply voltage. Check continuity of terminals, and verify terminals are not shorted to chassis.	120 VAC Continuity												
31722801 	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.												
305245 	Convection element	Disconnect wire leads to element and measure resistance of terminals. Measure voltage at convection element.	Continuity, approximately Ω, if not replace. 240 VAC, see wiring diagram for terminal identification. If no voltage is present at convection element check wiring.												

Component Testing Procedures



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Illustration	Component	Test Procedure	Results
314907-All others 31968201-P1143913N 	Oven temperature sensor	Measure resistance.	Approximately 1100 Ω at room temperature 75°F.
31715201-LH 31715202-RH 	Hinge	Carefully open the hinge fully, and insert a wooden dowel or screwdriver bit into opening. Remove top and bottom screws securing hinge. Slide hinge top towards rear of unit and guide hinge out through frame opening or storage drawer.	<div>  CAUTION Do not place hands in hinge area when oven door is removed. Hinge can snap closed and pinch hands or fingers. </div>
31933601 	Door plunger switch Class F	Remove switch from unit and measure the following points: C-NC C NO	Plunger in infinite, Plunger out continuity. Plunger in continuity, Plunger out infinite.
31899201 	Micro-switch Class F	Switch connection in following positions: Unlocked Locked	COM-NO=Open, COM-NC=Closed COM-NO=Closed, COM-NC=Open
31933401 	Autolatch assembly with door plunger switch	Disconnect wires and test for continuity per diagram.	
0316160 	Rocker switch	Measure continuity of switch positions: Closed Open	Continuity Infinite
0316699 	Control limit	Normally Closed Verify proper operation. Closed 205°F Open 235°F	Continuity Infinite If open at room temperature, replace.
0316079 	Relay board ARTSC8651	Listen for relay to actuate. Verify input and output power.	If relay does not actuate, verify power to relay. See wiring diagram.
0309884 	Cooling fan	Verify supply voltage. Check continuity of terminals, and verify terminals are not shorted to chassis.	120 VAC Continuity at terminals. No continuity from terminals to chassis.

Component Testing Procedures



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ERC Mylar Switch Matrix

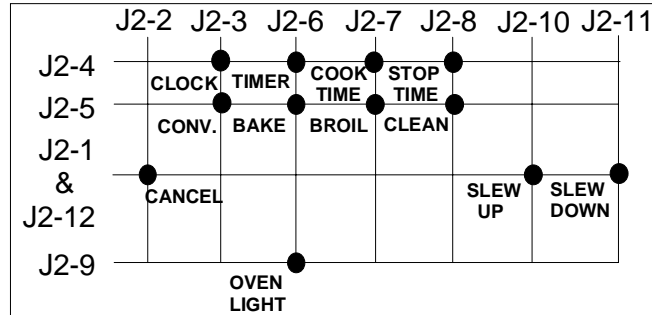


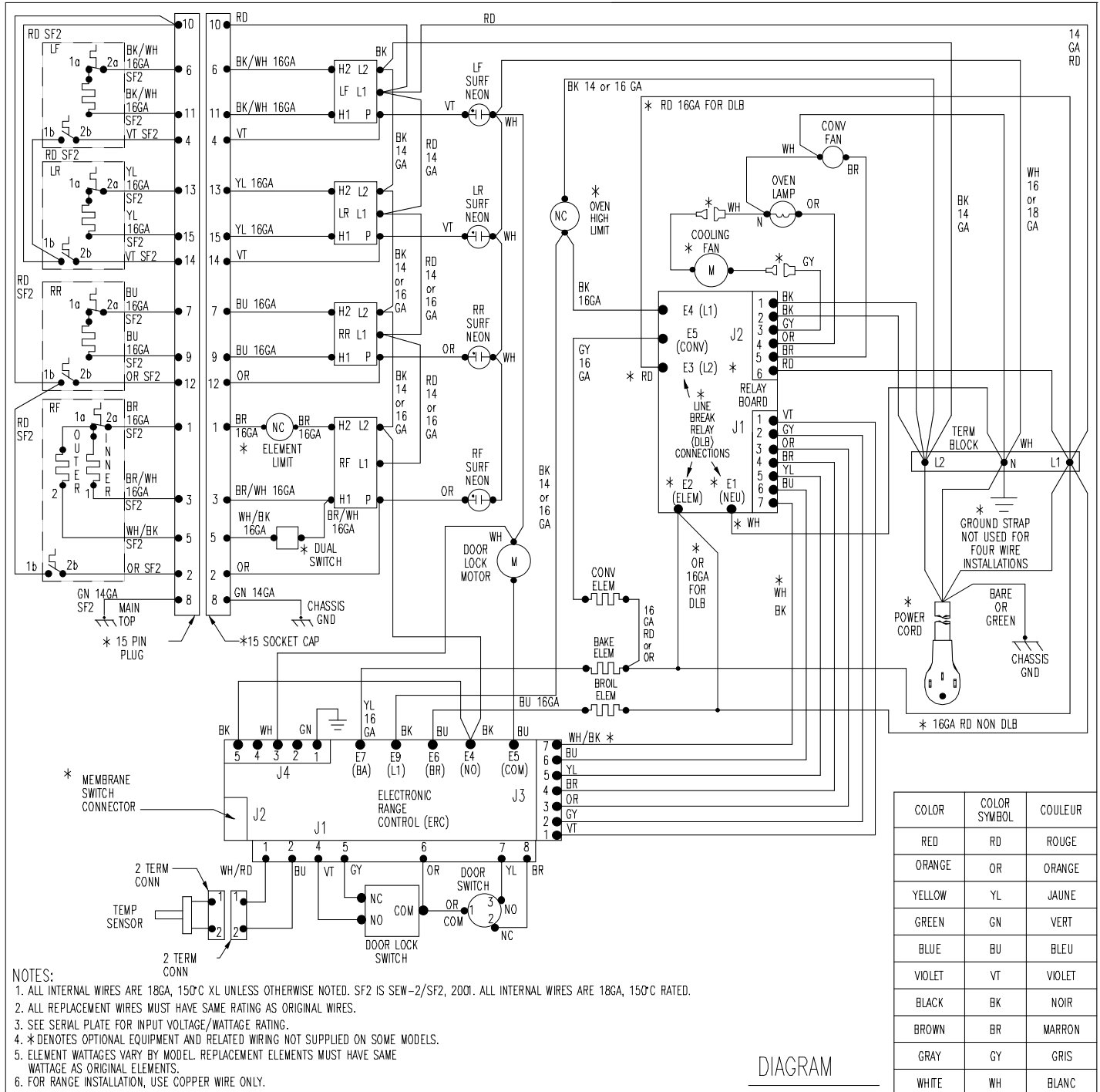
Illustration	Component	Test Procedure	Results
31949201 	ERC	F1 - Shorted input pad. F2 - Oven cavity over temperature. F3 - Open sensor or sensor circuit. F4 - Shorted sensor or sensor circuit. F5 - Watchdog circuit problem. F9 - Motorized door lock error. DOOR - Lock status is not sensed within 20 seconds of energizing door lock relay.	Replace mylar panel. Check sensor wiring, sensor, and temperature limiter. Check sensor resistance and wiring. Check sensor resistance and wiring. Replace ERC. Check latch switch. Verify operation of door latch switches.
ERC Controlled	Oven temperature adjustment	Touch BAKE . Touch slew until an oven temperature greater than 500° shows on display. Immediately touch and hold BAKE until "00" appears in display, approximately 5 seconds. To decrease oven temperature (for a cooler oven), touch slew until negative numbers appear. Oven can be adjusted from -5 to -35 degrees lower. To avoid over adjusting oven move temperature -5 degrees each time. To increase oven temperature (for warmer oven), touch slew until positive numbers appear. Oven can be adjusted 5 to 35 degrees higher. To avoid over adjusting oven move temperature 5 degrees each time. Touch OVEN CANCEL . Temperature adjustment will be retained even through a power failure.	While increasing or decreasing oven temperature, this does not affect self-cleaning temperature.
ERC Controlled	Child lock out	This is a safety feature that can be used to prevent children from accidentally programming the oven. It disables the electronic oven control. Touch and hold Bake and Clock for 10 seconds. "OFF" will display where the temperature normally appears. To reactivate the control, touch and hold Bake and Clock for 10 seconds. Child lockout features must be reset after a power failure.	
ERC Controlled	Twelve hour off	Control will automatically cancel any cooking operation and remove all relay drives 12 hours after the last pad touch.	

Wiring Diagram and Schematic



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NOTES:

1. ALL INTERNAL WIRES ARE 18GA, 150°C XL UNLESS OTHERWISE NOTED. SF2 IS SEW-2/SF2, 200I. ALL INTERNAL WIRES ARE 18GA, 150°C RATED.
2. ALL REPLACEMENT WIRES MUST HAVE SAME RATING AS ORIGINAL WIRES.
3. SEE SERIAL PLATE FOR INPUT VOLTAGE/WATTAGE RATING.
4. * DENOTES OPTIONAL EQUIPMENT AND RELATED WIRING NOT SUPPLIED ON SOME MODELS.
5. ELEMENT WATTAGES VARY BY MODEL. REPLACEMENT ELEMENTS MUST HAVE SAME WATTAGE AS ORIGINAL ELEMENTS.
6. FOR RANGE INSTALLATION, USE COPPER WIRE ONLY.

DIAGRAM

WARNING

— ELECTRICAL SHOCK HAZARD
— DISCONNECT POWER AT MAIN



FUSE OR CIRCUIT BREAKER BEFORE
SERVICING. FAILURE TO DO SO
COULD RESULT IN SERIOUS INJURY
OR DEATH.

DANGER

RISQUE DE CHOC ELECTRIQUE
DEBRANCHER L'ALIMENTATION
ELECTRIQUE. AVANT D'ENTREtenir CETTE
UNITE. LE MANQUE DE RESPECT DE CETTE
CONSIGNE POURRAIT AVOIR COMME RESULTAT
UNE BLESSURE GRAVE OU MORTELLE.

Wiring Diagram and Schematic



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