Commercial Microwave—Technical Information

120 V, 60 Hz Models

RCS10	**P1324601M**	**RCS10MP**	**P1324602M**
RCS10MPS	**P1324902M**	**RCS10MPSED**	**P1324904M**
RFS10S	**P1324701M**	**RFS10SW2**	**P1324702M**
RFS12S	**P1324703M**	**RFS12MPS**	**P1324704M**
RFS12SW2	**P1324705M**	**RFS9B**	**P1324706M**

- 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 RT2240004 Rev. 1.
- Refer to Service Manual 16021520 (RS2240001) for installation, operating, testing, troubleshooting, and disassembly instruction.
- Refer to Parts Manual RP2240008 for part number information.

⚠ CAUTION

All safety information must be followed as provided in Service Manual 16021520 (RS2240001).

⚠ WARNING

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

Models	RCS10, RCS10MP, RCS10MPS, RCS10MPSED	RFS9B RFS10S RFS10SW2	RFS12S RFS12MPS RFS12SW2
Power Source			
Voltage AC	120 VAC	120 VAC	120 VAC
Amperage (Single Unit)	15 A	20 A	20 A
Frequency	60 Hz	60 Hz	60 Hz
Single Phase, 3 wire grounded	X	X	X
Receptacle	5-15R	5-20R	5-20R
Plug	5-15P	5-20P	5-20P
Power Output			
Nominal microwave energy (IEC705)	1000 Watts	1000 Watts	1200 Watts
Traditional power test	900 Watts	900 Watts	1100 Watts
Operating Frequency	2450 MHz	2450 MHz	2450 MHz
Power Consumption			
Cook Condition Microwave	1700 Watts	1700 Watts	2000 Watts
Dimensions			
Cabinet			
Width	21 5/8” / 54.9 cm	21 5/8” / 54.9 cm	21 5/8” / 54.9 cm
Height	14 1/8” / 35.9 cm	14 1/8” / 35.9 cm	14 1/8” / 35.9 cm
Depth	19 13/16” / 50.3 cm	19 13/16” / 50.3 cm	19 13/16” / 50.3 cm
Oven Interior			
Width	13 1/2” / 34.3 cm	13 1/2” / 34.3 cm	13 1/2” / 34.3 cm
Height	9 1/2” / 24.1 cm	9 1/2” / 24.1 cm	9 1/2” / 24.1 cm
Depth	15 11/16” / 39.8 cm	15 11/16” / 39.8 cm	15 11/16” / 39.8 cm
Weight			
Crated	58 lbs. / 26.3 kg	68 lbs. / 30.8 kg	68 lbs. / 30.8 kg

Component Testing Procedures

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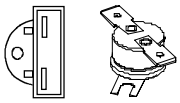
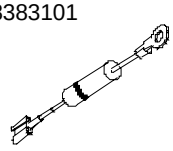
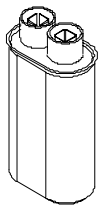
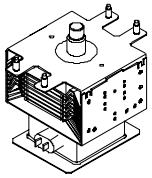
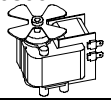
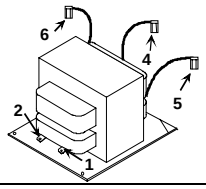
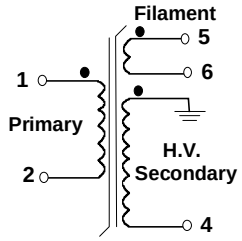
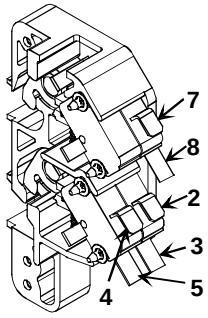
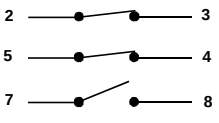
Illustration	Component	Testing	Results
	Thermal cutout B5795305———————— B5684106————————	Disconnect all wires from TCO. Measure resistance across terminals. Cavity TCO Magnetron TCO	 Opens at 243°F (117°C) Closed at 180°F (82°C) and open at 280°F (138°C)
B8383101 	Diode	**Discharge Capacitor** Remove diode lead from capacitor and connect ohmmeter. Reverse leads for second test.	Infinite resistance should be measured in one direction and 50KΩ or more in the opposite direction. **NOTE:** Ohmmeter must contain a battery of 6 volts minimum.
	Capacitor 10366919 — RFS10* RCS10* 10366908 — RFS12* 12548804 — RFS9B	**Discharge Capacitor** Remove wires from capacitor terminals and connect ohmmeter, set on highest resistance scale to terminals. Also check between each terminal and capacitor case.	 Between Terminals: Meter should momentarily deflect towards zero then return to over 5 MΩ. If no deflection occurs, or if continuous deflection occurs, replace capacitor. Terminal to Case: Infinite resistance
	Magnetron 10489401— RFS9B RFS10* RCS10* 12096201 — RFS12*	**Discharge Capacitor** Remove wires from magnetron and connect ohmmeter to terminals. Also check between each terminal and ground.	Between Terminals: Less than 1 Ω Each terminal to ground measures Infinite resistance. **Note:** This test is not conclusive. If oven does not heat and all other components test good replace the magnetron and retest.
D7670306 	Blower motor	Remove all wires from motor. Measure resistance across coil	 Approximately 14 Ω
10426611 — RFS9B RFS10* RCS10* 10426612 — RFS12* 	Transformer 	**Discharge Capacitor** Remove all wires from terminals. Measure resistance from: Terminal 1 to 2 Terminal 5 to 6 Terminal 4 to Ground screw on transformer stack	 Less than <1 Ω Less than <1 Ω Approximately 138 Ω — 10426611 Approximately 78 Ω — 10426612
12360506 	Interlock switch assembly  **After verifing or replacing the module, re-connect wires to switch and check operation of monitor circuit before operating the oven.**	Disconnect wires to switch. With door open measure resistance from: Terminal 7 to 8 Monitor Terminal 4 to 5 Primary Terminal 2 to 3 Secondary With door closed measure resistance from: Terminal 7 to 8 Monitor Terminal 4 to 5 Primary Terminal 2 to 3 Secondary	 Indicates continuity Infinite Ω Infinite Ω Infinite Ω Indicates continuity Indicates continuity

Component Testing Procedures

⚠ WARNING

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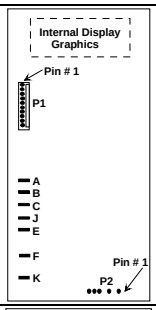
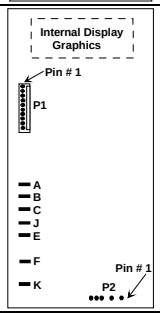
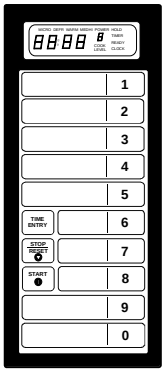
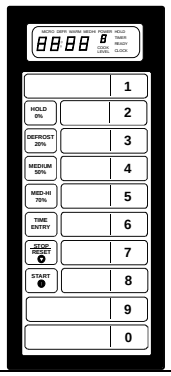
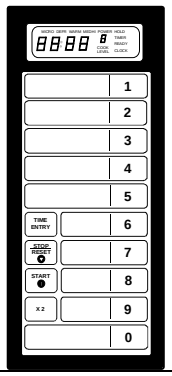
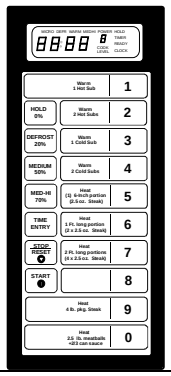
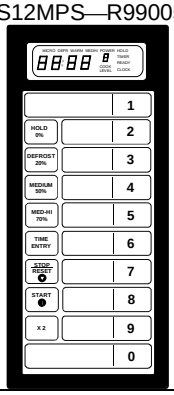
Illustration	Component	Testing	Results
	P.C. board RFS9B — 12495219Q RCS10 — 12470101 RCS10MP — 12495212Q RCS10MPS — 12495213Q RCS10MPSED R0131385 RFS10S — 12495204Q	At 8 pin connector: Pin 1 (black) to Pin 3 (white) Relay 1 (blower relay) Terminal C (black) to terminal J (blue) Relay 2 (cook relay) Disconnect wires to terminals F and K and tape wires apart. Set multimeter to “Ohms” and attach meter leads to F and K. Terminal F (orange) to terminal K (red)	Line voltage input to control transformer Cook condition—0 volts Idle condition—Line voltage Cook condition—Indicates continuity Idle condition— Infinite Ω
	P.C. board RFS10SW2– 12495205Q RFS12SW2– 12495207Q RFS12MPS– 12470102 RFS12S– 12495206Q	At 8 pin connector: Pin 1 (black) to Pin 3 (white) Relay 1 (cook relay) Terminal F (black) to terminal K (blue) Relay 2 (blower relay) Terminal C (black) to terminal J (brown) Output drive voltage to triac Triac Gate to T1	Line voltage input to control transformer Cook condition—0 volts Idle condition—Line voltage Cook condition—0 volts Idle condition—Line voltage Cook condition—0.9 VAC Idle condition—0 volts
RFS9B / RCS10—R9900588 	Touch panel assembly	Continuity is indicated as 100 Ω and below. 	**Pad** / **Trace** / **Measurement** DEFROST 6 & 7 Continuity MEDIUM 5 & 7 Continuity MED-HIGH 4 & 7 Continuity TIME ENTRY 7 & 8 Continuity STOP/RESET 4 & 8 Continuity START 4 & 9 Continuity HOLD 3 & 8 Continuity X 2 6 & 8 Continuity 1 8 & 10 Continuity 2 7 & 10 Continuity 3 6 & 10 Continuity 4 5 & 10 Continuity 5 4 & 10 Continuity 6 3 & 10 Continuity 7 8 & 9 Continuity 8 7 & 9 Continuity 9 6 & 9 Continuity 0 5 & 9 Continuity

RCS10MP—R9900589	RFS10S / RFS12S—R9900590	RFS10SW2 / RFS12SW2—R9900591	RCS10MPS / RCS10MPSED / RFS12MPS—R9900592
			

Component Testing Procedures

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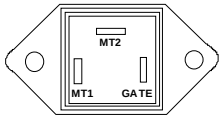
Illustration	Component	Testing	Results
B8371401	Lamp receptacle	Test continuity of receptacle terminals.	Indicates continuity with bulb installed.
10664502	Lamp 41 W	Measure resistance of filament.	Approximately 28 Ω
R0157373 	Triac	Disconnect wires to triac. Measure resistance from: MT1 to MT2 MT1 to Gate MT2 to Gate All terminals to ground	**Caution - Do not operate oven with wire to terminal MT2 removed.** Infinite Approximately 40 Ω or more Infinite Infinite
10172901Q 	Snubber Assembly	Disconnect wires to snubber. Measure resistance across terminals.	 Infinite
	Wire Harness	Test continuity of wires	Indicates continuity

Power Test (Traditional Test Method)

Test equipment required is Amana power test kit R0157397(Fahrenheit), or Menumaster power test kit M95D5 (Celsius).

1. Fill the plastic container to the bottom of the 1000 ml. line with cool tap water.
2. Using the thermometer; stir the water, measure and record the water temperature. **Initial water temperature should be approximately 60°F (20°C).**
3. Place container on the center of the oven shelf and heat the water for 62 seconds.

NOTE: Use a watch second hand, not the oven timer.

4. Stir the water, measure and record the temperature of the water after heating time is complete.
5. Subtract the starting water temperature (Step 2), from the ending water temperature (Step 4) to obtain the temperature rise.
6. See the Temperature Chart provided below.

NOTES:
- The IEC-705 test method requires precision measurements and equipment. It is not practical to perform the IEC test in the field. To convert the traditional power test results to the approximate IEC-705 rating, take the traditional power test results and add 100 watts per magnetron for the unit being tested.

  Example: 930 — watts output using the traditional power test for model RCS10MP
  + 100 — watts (1 magnetrons X 100 watts)
  1030 — Approximate IEC-705 results

- Always perform power test three times for accuracy, changing the water after each test is performed.
- Variation or errors in the test procedure will cause a variance in the temperature rise. Additional power tests should be made if temperature rise appears marginal.
- Low line voltage will cause lower temperature rise.

Temperature Chart

ONE MINUTE, THREE SECONDS run time chart for units less than 1550 Watts cooking power

ΔT (°F)	Cooking Power Output	ΔT (°F)	Cooking Power Output	ΔT (°C)	Cooking Power Output	ΔT (°C)	Cooking Power Output
12	464	22	852	7	490	15	1050
13	504	23	891	8	560	16	1120
14	542	24	930	9	630	17	1190
15	580	25	969	10	700	18	1260
16	620	26	1007	11	770		
17	659	27	1046	12	840		
18	697	28	1085	13	910		
19	736	29	1124	14	980		
20	775	30	1162				
21	814	31	1201				

Wiring Diagram and Schematic

WARNING

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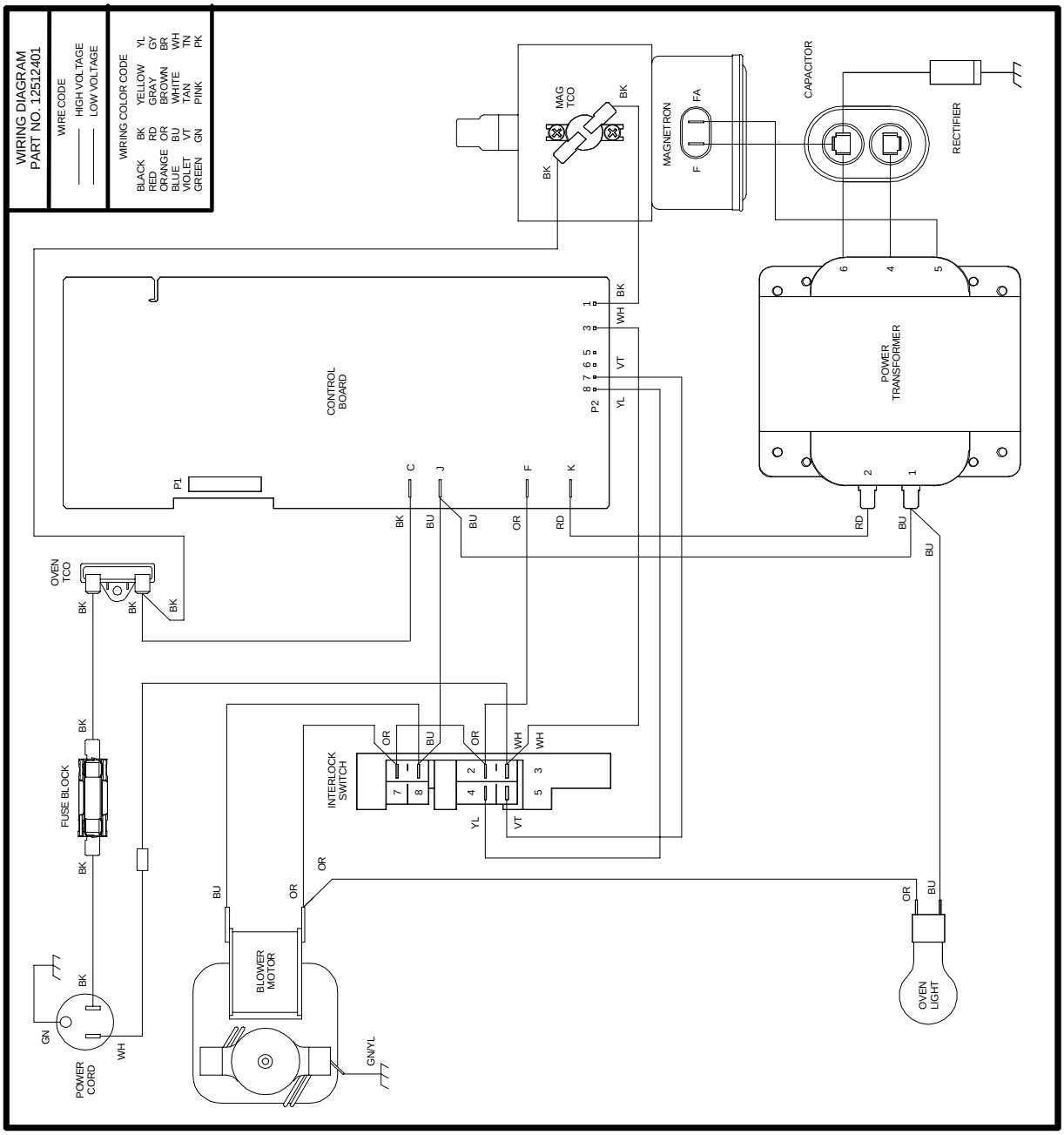

12512401

DANGER

HIGH VOLTAGE

RCS10	**P1324601M**	**RCS10MP**	**P1324602M**	**RCS10MPS**	**P1324902M**
RCS10MPSED	**P1324904M**	**RFS10S**	**P1324701M**	**RFS9B**	**P1324706M**

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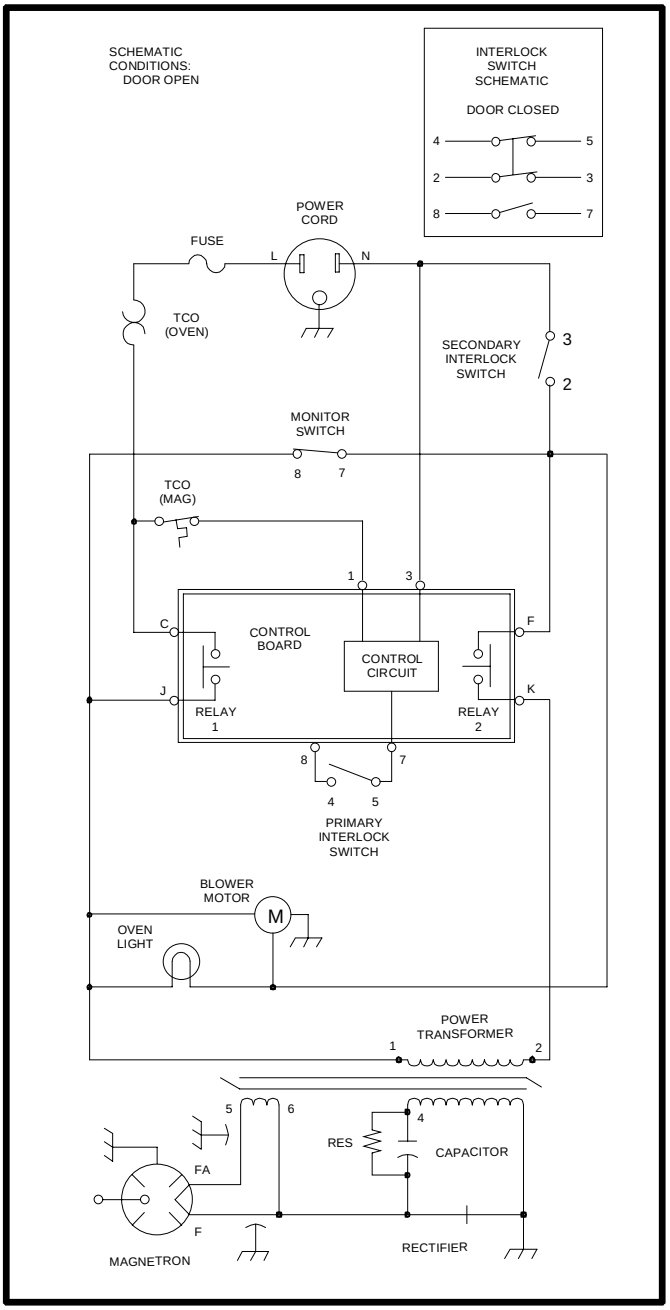

12512401

DANGER

HIGH VOLTAGE

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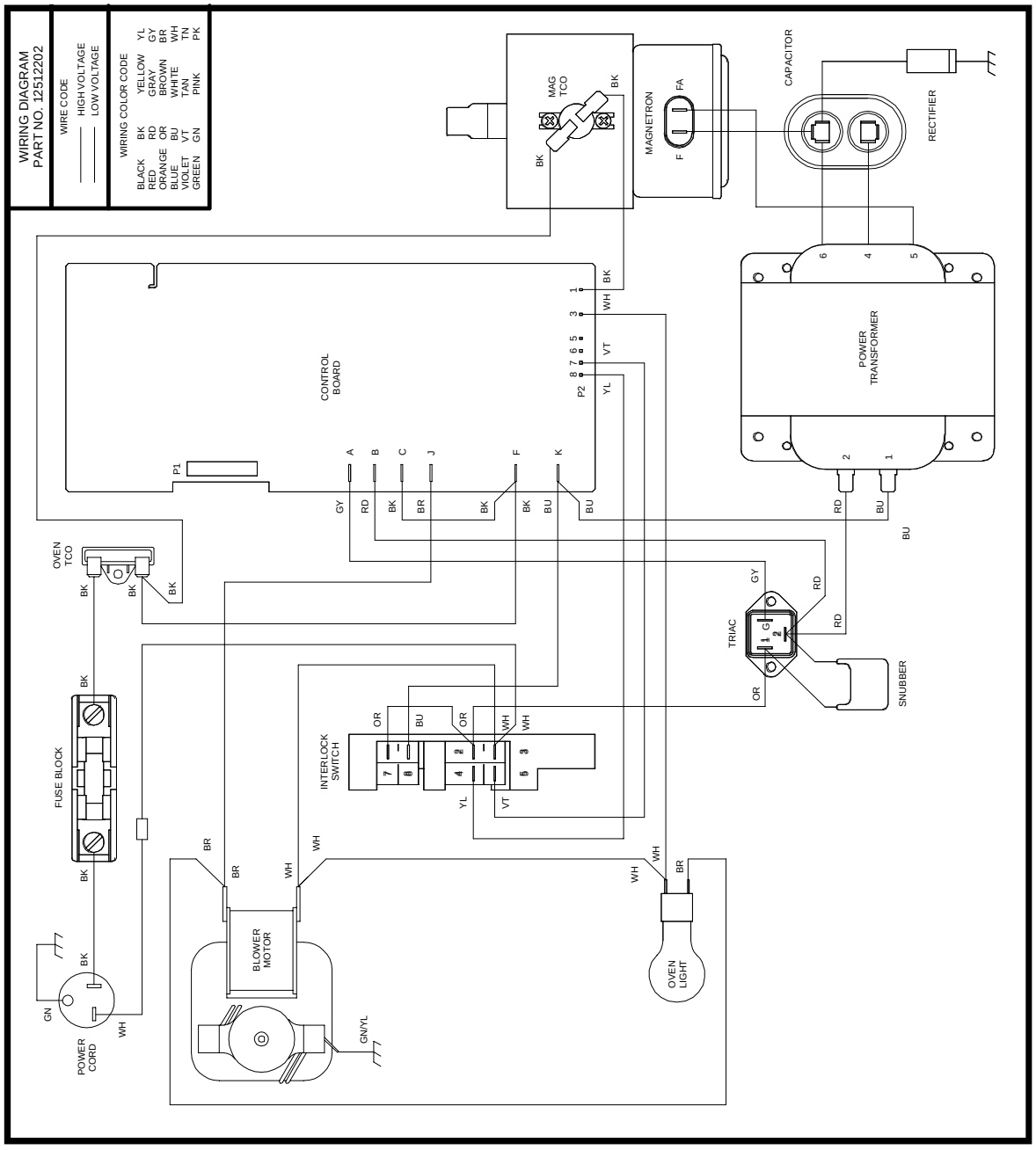

12512202

DANGER

HIGH VOLTAGE

RFS10SW2	**P1324702M**	**RFS12S**	**P1324703M**
RFS12MPS	**P1324704M**	**RFS12SW2**	**P1324705M**

Wiring Diagram and Schematic

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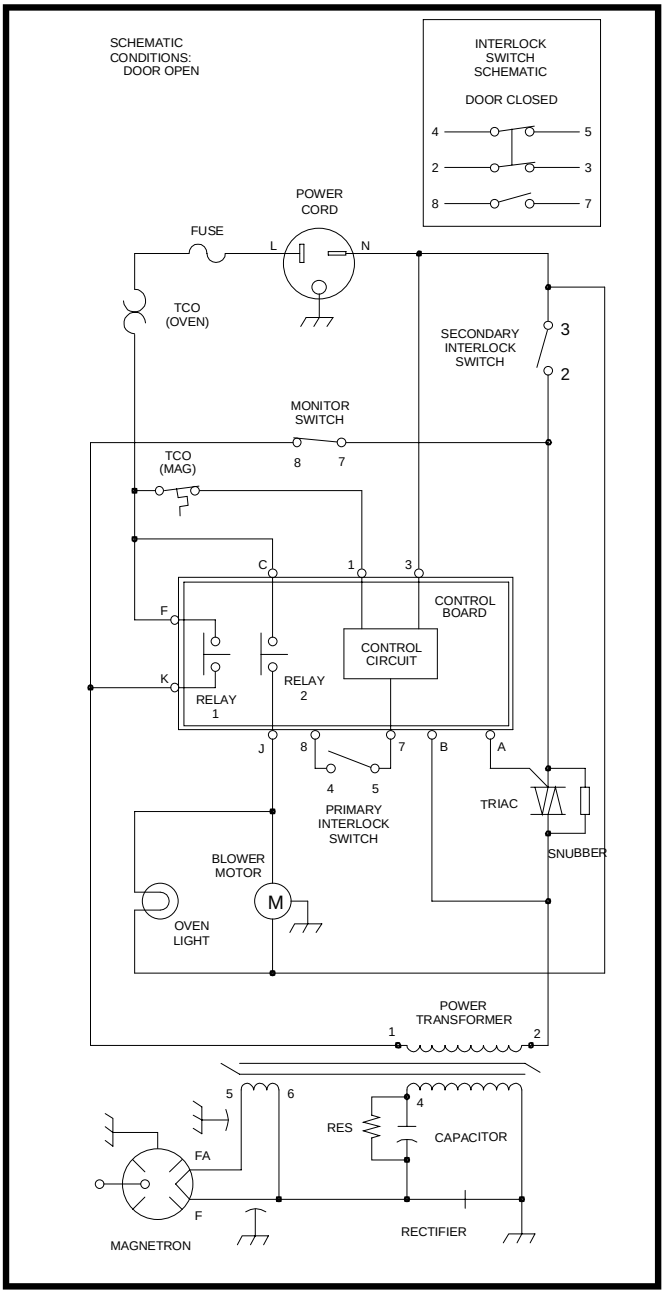

12512202

DANGER

HIGH VOLTAGE

RFS10SW2	**P1324702M**	**RFS12S**	**P1324703M**
RFS12MPS	**P1324704M**	**RFS12SW2**	**P1324705M**