

SERVICE AND WIRING SHEET

01-Jun-2004 12:50:16



⚠ WARNING

Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

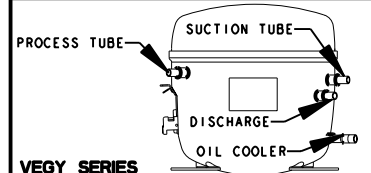
• Normal operating conditions are viewed when the air and temperature controls are at mid-setting, freezer section O to -5°F and unit is cycling.

NOTE: Wall and pressure readings will vary and are influenced by the existing condition of the appliance, such as iced-up evaporator, condition of condenser, defrost cycle, pull-down time and customer use.

2223419T

PERFORMANCE DATA • (NORMAL OPERATION CONDITIONS)			
AMB	WATTS	SYSTEM PRESSURE (PSIG)	
		HIGH SIDE	LOW SIDE
70°	140±20	95±20	-7 TO 3
90°	150±20	135±20	-4 TO 3
110°	170±20	185±20	-2 TO 4

(OIL COOLER IS OPTIONAL)
 EMBRACO



SERVICE INFORMATION (2223420B)

1. COMPRESSOR SUCTION AND PROCESS STUBS CAN NOT BE INTERCHANGED.
2. REFRIGERANT CHARGE MUST BE APPLIED TO HIGH SIDE ONLY.
3. NOTE: ICE MAKER CYCLE MUST BE INITIATED ELECTRICALLY. DO NOT TRY TO MANUALLY START CYCLE.
4. SERVICE DEFROST BIMETALS (50° F OPEN)
5. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX COMPONENTS

SERVICEABLE PARTS	PART NUMBER			WATT / RES.
	WHIRLPOOL	KENMORE	KITCHENAID	
COMPRESSOR		2223801		50-200
RUN WINDINGS		*		6.4Ω
START WINDINGS		*		6.4Ω
INVERTER ASSY		2306957		
THERMISTOR (REFRIG AND FRZ)		2188820		2.7KΩ@25°C
BAFFLE MODULE		2220377		
ELECTRONIC CTL (MAIN CONTROL)		2223443		
ELECTRONIC CTL (DISPLAY)		2306988		
TOUCHPAD BOX SUB ASSY (DISPLAY)	2306990	2306999	2306989	
CIRCUIT BOARD - EMITTER		2220398		
CIRCUIT BOARD - RECEIVER		2255114		
DEFROST HEATER		2210737		614W/23.5Ω
DEFROST BI-METAL		2188824		
EVAPORATOR FAN		2259385		12VDC / 3W
CONDENSER FAN		SEE NOTE 5		3-5.3W

ELECTRONIC CONTROL FEATURES

The electronic control in this appliance controls the temperatures in the refrigerator and freezer compartments independently, delays the operation of the evaporator fan (optional), pulses the defrost heater and monitors the water filter usage. The fan delay and pulsed defrost features are controlled in the following manner:

1. Pulsed Defrost Heat - During the defrost cycle the heater is energized continuously for the first 7 minutes. It is then cycled off for 60 seconds and on for 120 seconds. The on/off cycle is repeated until the bi-metal opens or the maximum defrost time (33 minutes) is reached.

SERVICE DIAGNOSTICS MODE

The Service Diagnostic Mode has two methods of verifying components. The main control board automatically tests steps 1 through 2. The component status is displayed on the RC display. Steps 4 through 7 require the service technician to visually inspect the component on test. He/She will need to physically look at the component on test to verify the component is active.

How to Enter Service Diagnostic Mode:

- While depressing the **°C or TEMP MODE** button, press and hold the **POWER ON/OFF** button for 3 seconds, then release both buttons.
- Diagnostics will begin at step #1:

Each step displays the sequence number in the FC temperature display area and the component status in the RC display area. The freezer compartment (FC) temperature display will show "O1" to indicate the control is in Step #1 of the diagnostics routine and the refrigerator compartment (RC) temperature display will show the component status.

- The table below shows the "Step #", the "Component Tested", the "Suggested Diagnostics Routine" and the "Component Status Indicator" at each step.
- Each step must be manually advanced by pressing the Freezer up arrow or + key to move to the next step in the sequence.

The FC display advances each time the Freezer up arrow or + key is pressed indicating the completion of the previous step.

- The diagnostic mode ends automatically after the steps are completed or 20 minutes have passed (whichever comes first). The control will then resume normal cooling operation.

Service Tip: If the control does not respond it may be necessary to remove power from the entire appliance for a few seconds. Re-apply power and perform the service diagnostics routine to verify that the control is working correctly.

Step #	Component Tested	Suggested Diagnostics Routine	Component Status Indicator
1	FC Thermistor	Step 1 and Step 2 are internal board tests, which means the Main Controller board will check the resistance value of each thermistor and display the results on the RC display.	"O1" Pass
2	RC Thermistor		"O2" Thermistor Open "O3" Thermistor Short
3	Evaporator Fan Motor	Step 3 is a visual inspection test. When Step 3 is selected, if the motor is not functioning, verify 12VDC is between White/Violet and Yellow/Red of the fan motor connection.	"O1" Fan Motor Energized
4	Condenser Fan Motor	Step 4 is a visual inspection test. When Step 4 is selected, if the motor is not functioning, verify 120VAC is between line and neutral at the condenser fan motor connection. (white/red and white wires)	"O1" Condenser Fan Motor Energized
5	Compressor	Step 5 should turn on the compressor within a 7 second window and will run at full speed, 4500 rpm. NOTE: If compressor does not turn on during this step, wait 7 minutes and re-check the compressor.	"O1" Compressor On / Speed OK "O2" Compressor Off
6	Air Baffle Motor	Step 6 is a visual inspection test. When Step 6 is selected, if the damper motor is operating correctly, the damper will attempt to open fully.	"O1" Air Door Open
7	Defrost Heater/Bi-metal	Step 7 is a visual inspection test. When Step 7 is selected, the heater will energize if the Bi-Metal is closed and the RC display will display "O1". If the heater does not energize, the Bi-metal may be open and will need to be by-passed for the heater to operate. See Warning below.	"O1" Defrost Heater Energized/Bi-metal closed "O2" Defrost Heater Energized/Bi-metal open

The water valve inputs to the control board can be checked when you are in the normal cooling mode. To verify that the water valve inputs are correctly connected to the main control open the Refrigerator door and press in the door switch. Activate the water dispenser and look at the RC indicator. The RC display should read "O1". Repeating the process above for the icemaker valve should display "IO" on the RC indicator.

WARNING: IF BI-METAL IS BY-PASSED FOR TESTING (IF APPLICABLE), DO NOT OVERHEAT EVAPORATOR AREA.

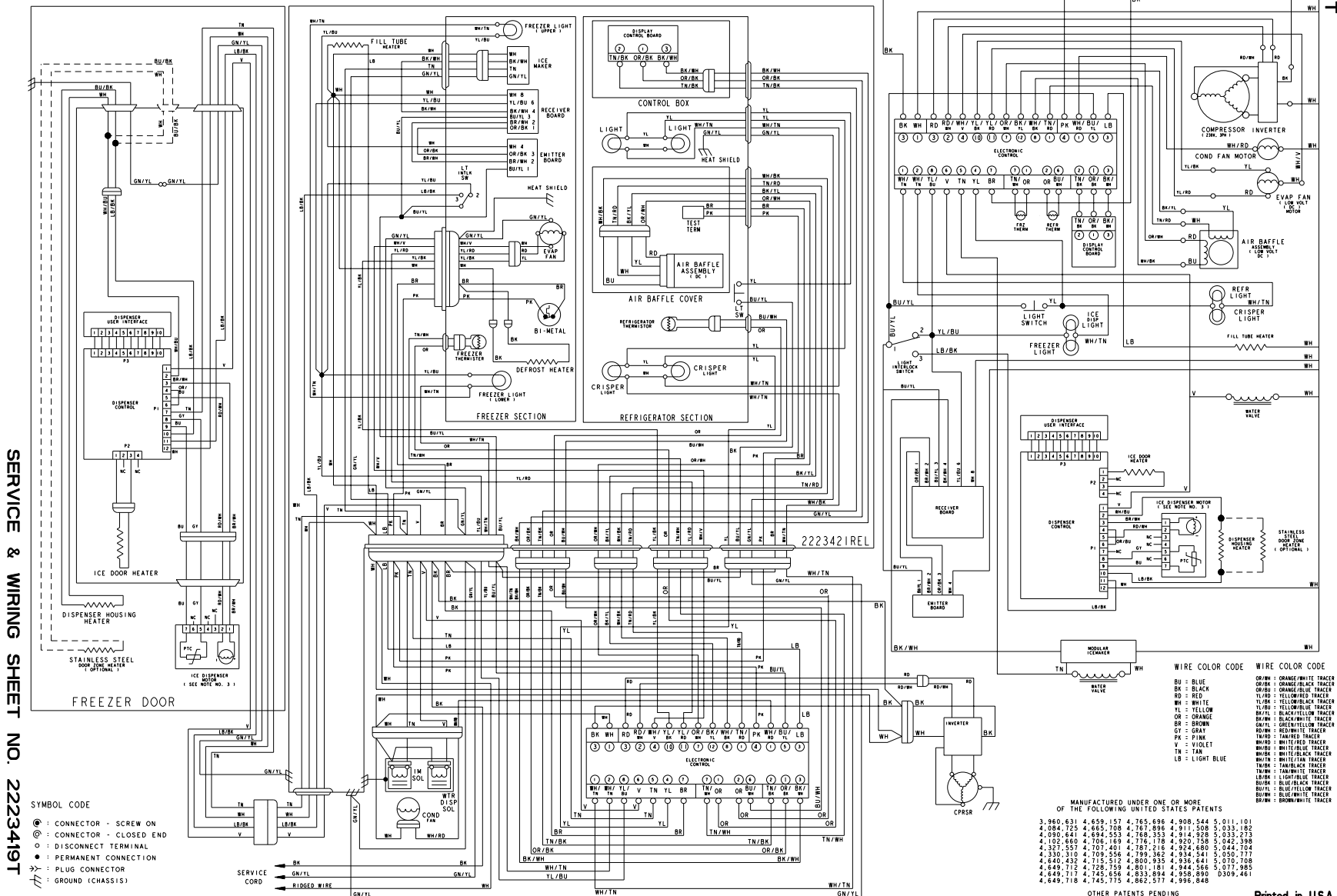
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WIRING DIAGRAM



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