SERVICE AND WIRING SHEET

02-Oct-2007 13:18:22

W10159834 A

⚠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.

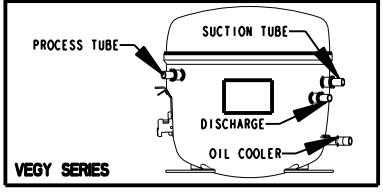
- Normal operating conditions are viewed when the air and temperature controls are at mid-sitting, freezer section 0 to 5°F and unit is cycling.

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

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 (W10159830 A)

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. DEFROST TIMER MAY CONTAIN A CAPACITOR IN SERIES WITH MOTOR. DO NOT CONTINUITY TEST WHEN CHECKING FOR FAILED TIMER MOTOR. INSTEAD, ENERGIZE TIMER AND LISTEN FOR GEAR MOVEMENT.
6. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX COMPONENTS

SERVICEABLE PARTS	Part No.	Watt/Res.	SERVICEABLE PARTS	Part No.	Watt/Res.
COMPRESSOR	2223393	70-130W @120 Vac	CONDENSER FAN	2188875	3±1W@120 Vac
RUN WINDINGS	*	6.4Ω	EVAPORATOR FAN	2259385	2-5W@12 Vdc
START WINDINGS	*	6.4Ω	DEFROST BI-METAL	2309373	
INVERTER ASSY	WI0133449	Supply Voltage 120 Vac	FILL TUBE HEATER	2221240	4.2W±5% (3.4kΩ)@120 Vac
THERMISTOR (RC & FC)	2188820	NTC 2.7kΩ@25°C 23kΩ@0F, 7.6kΩ@37F	FLIPPER MULLION ASSY	2307938	5W±7.5% (115Ω)@24 Vdc
AIR BAFFLE ASSY	2220377	12 VDC @ 300 pps, Blue to White & Red to Yellow both 415±45Ω	ICC - DELI COVER SHELF ASSY, RH	2309009	
MAIN CONTROL BOARD (GEMINI)	2304135	Supply Voltage 120 Vac	ICC - DELI COVER SHELF ASSY, LH	2309008	
ICC (DELI) CONTROL BOARD (PHOENIX)	2303091	Supply Voltage 120 Vac	ICEMAKER OPTICS EMITTER	2220398	
DEFROST HEATER	2306176	740 W (19.4Ω)@120 Vac	ICEMAKER OPTICS RECEIVER	2255114	
MAIN U.I. (TOP OF RC)	2309244				

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 2 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 (25 minutes) is reached.

SERVICE DIAGNOSTICS MODE

As a requirement to run the Service Diagnostics routine, the product must be turned ON. Service Diagnostics is entered through a 2 key sequence. To place the control into the Service Diagnostics routine, the Service Technician must press and hold the RC Temp Increase key first then the Power key and hold both for 3 seconds. Once the Service Technician is satisfied the component has passed the "Component Evaluation Mode", the user can step to the next sequence by pressing the RC Temp Up key once or by pressing the Up Arrow. The routine ends automatically after all steps have been completed or after 20 minutes (whichever comes first). The control will then resume normal cooling mode.

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.

Component Description	FC Sequence No.	RC Code	RC Code Description
FC Thermistor	01	01	Freezer Thermistor within Operating Region
		02	Freezer Thermistor within "Open Region"
		03	Freezer Thermistor within "Short Region"
RC Thermistor	02	01	Refrigerator Thermistor within Operating Region
		02	Refrigerator Thermistor within "Open Region"
		03	Refrigerator Thermistor within "Short Region"
Evaporator Fan Motor	03	- -	Evaporator Fan Motor ON
Condenser Fan Motor	04	- -	Condenser Fan Motor ON
VC Compressor	05	01	VC Compressor ON at 4500 RPM
		02	VC Compressor OFF, waiting for min off delay
Air Door	06	- -	Air Door opens to full position then closes and stops
Defrost Heater/Bi-metal	07	01	Defrost Heater energized / Bi-Metal Closed
		02	Defrost Heater energized / Bi-Metal Open
Bin Accent Lighting	08	- -	Turn on Bin Accent Lighting for this step only
Left Bin Thermistor	09	01	Left Bin Thermistor within Operating Region
		02	Left Bin Thermistor within "Open Region"
		03	Left Bin Thermistor within "Short Region"
Left Bin User Selection /LED test	10	01	Correct key press
		02	Incorrect key press
Left Bin Air Door	11	- -	Air Door opens to full position then closes and stops
Right Bin Thermistor	12	01	Right Bin Thermistor within Operating Region
		02	Right Bin Thermistor within "Open Region"
		03	Right Bin Thermistor within "Short Region"
Right Bin User Selection /LED test	13	01	Correct key press
		02	Incorrect key press
Right Bin Air Door	14	- -	Air Door opens to full position then closes and stops
End Routine			Resume normal cooling

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

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WIRE COLOR CODE

BK = BLACK	BU/OR = BLUE/ORANGE TRACER
BU = BLUE	WH/BU = WHITE/BLUE TRACER
BR = BROWN	WH/BR = WHITE/BROWN TRACER
GY = GRAY	YL/BK = YELLOW/BLACK TRACER
OR = ORANGE	YL/OR = YELLOW/ORANGE TRACER
PK = PINK	YL/RD = YELLOW/RED TRACER
PUR = PURPLE	BR/WH = BROWN/WHITE TRACER
RD = RED	OR/BK = ORANGE/BLACK TRACER
TN = TAN	RD/WH = RED/WHITE TRACER
WH = WHITE	GN/YL = GREEN/YELLOW TRACER
YL = YELLOW	BK/YL = BLACK/YELLOW TRACER
V = VIOLET	BU/BK = BLUE/BLACK TRACER
	WH/RD = WHITE/RED TRACER
	BK/WH = BLACK/WHITE TRACER
	TN/RD = TAN/RED TRACER
	WH/BK = WHITE/BLACK TRACER
	WH/TN = WHITE/TAN TRACER

WARNING

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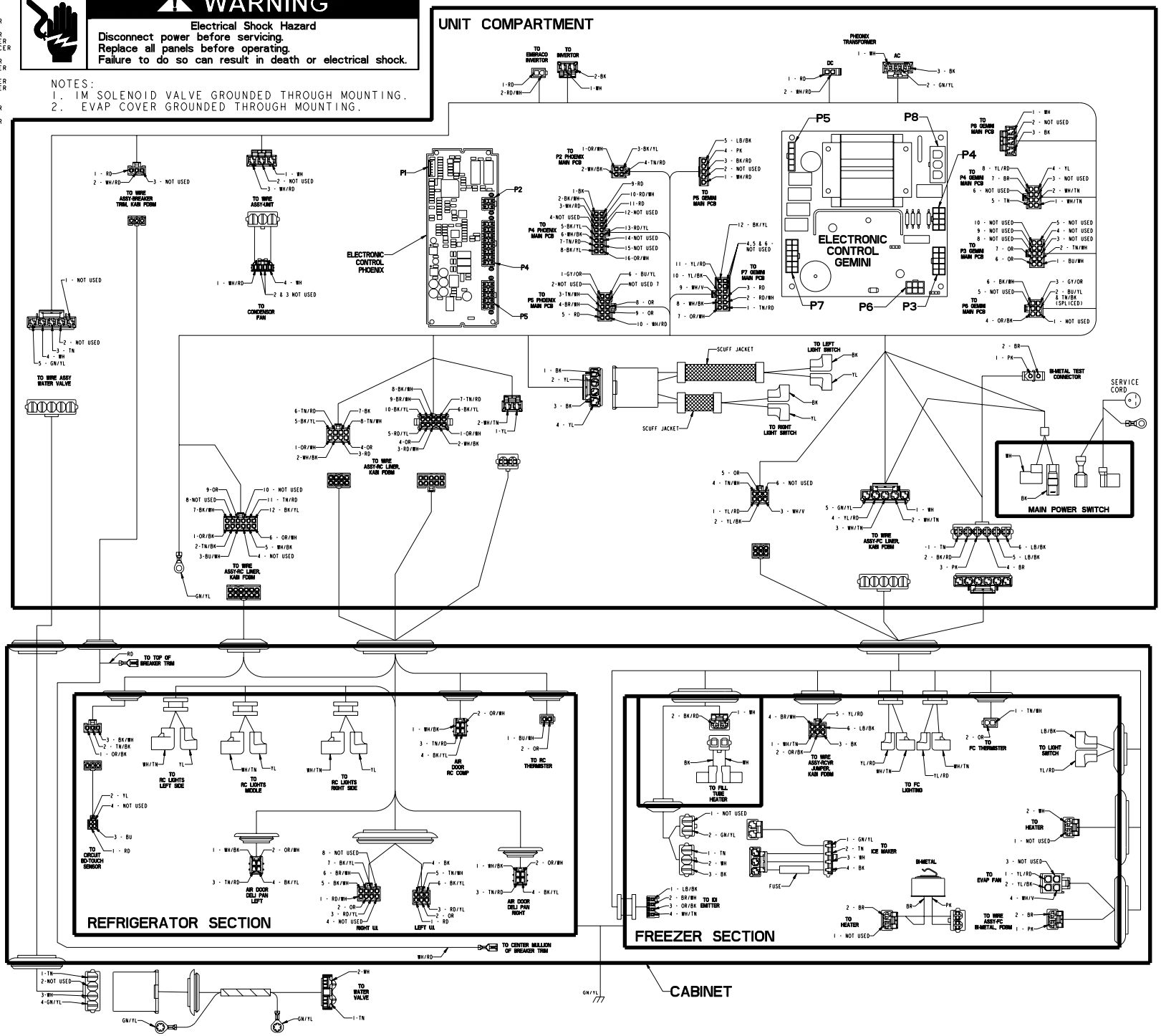
NOTES:
1. IM SOLENOID VALVE GROUNDED THROUGH MOUNTING.
2. EVAP COVER GROUNDED THROUGH MOUNTING.



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MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING UNITED STATES PATENTS

3,960,631 4,659,157 4,765,696 4,908,544 5,011,101
4,084,725 4,665,708 4,767,896 4,911,508 5,033,182
4,090,641 4,694,553 4,768,353 4,914,928 5,033,273
4,102,660 4,706,469 4,776,178 4,920,758 5,042,398
4,327,557 4,707,401 4,787,216 4,924,680 5,044,704
4,330,310 4,709,556 4,799,362 4,934,541 5,050,777
4,640,432 4,715,512 4,800,935 4,936,641 5,070,708
4,649,712 4,728,359 4,801,181 4,944,566 5,077,985
4,649,717 4,745,656 4,833,894 4,958,890 D309,461
4,649,718 4,745,775 4,862,577 4,996,848

OTHER PATENTS PENDING

⚠WARNING

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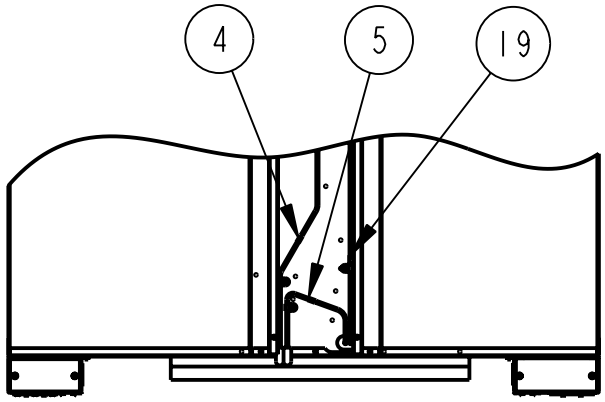
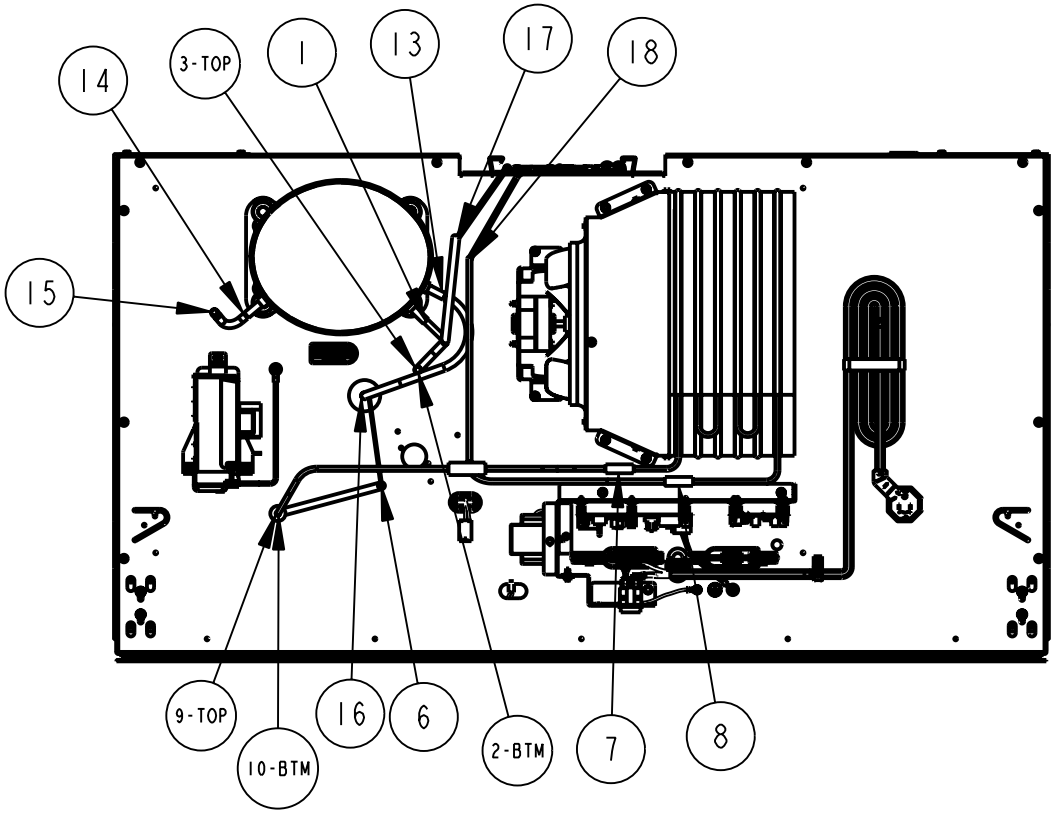
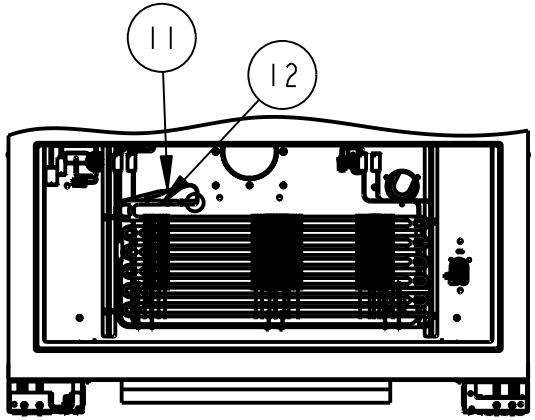
REFRIGERANT SYSTEM DIAGRAM
(W10160558 REL)

99.5% OF ALL LEAKS ARE AT JOINTS.





TOP



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