

SERVICE AND WIRING SHEET

2176787FL



ELECTRICAL SHOCK HAZARD

Disconnect electrical power before servicing

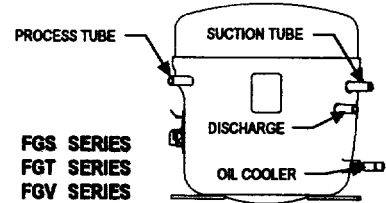
Failure to do so can result in death or electrical shock

PERFORMANCE DATA (NORMAL OPERATING CONDITIONS)			
AMB	WATTS	SYSTEM PRESSURE (PSIG)	
		HIGH SIDE	LOW SIDE
70°	180 ± 20	95 ± 20	-7 TO 3
90°	170 ± 20	135 ± 20	-4 TO 3
110°	190 ± 20	185 ± 20	-2 TO 4

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

NOTE: Watt 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.

(OIL COOLER IS OPTIONAL)
EMBRACO



SERVICE INFORMATION (2194986REL)

1. COMPRESSOR SUCTION AND PROCESS STUBS MAY NOT BE INTERCHANGED UNLESS INDICATED BY **.
2. REFRIGERANT CHARGE MUST BE APPLIED TO HIGH SIDE ONLY.
3. ICE MAKER AND WATER VALVE NOT ORIGINAL EQUIPMENT ON ALL MODELS.
4. CAUTION: ICE MAKER CYCLE MUST BE INITIATED ELECTRICALLY. DO NOT TRY TO MANUALLY START CYCLE.
5. SERVICE DEFROST BIMETALS - 50°F OPEN.
6. 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.
7. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX (COMPONENTS BY CUBIC FOOT SIZE)

SERVICEABLE PARTS	20 & 22 CUBIC FOOT		25 & 27 CUBIC FOOT			WATTAGE		RESISTANCE	
	120v	220v/230v	120v	220v/60Hz	230v/50Hz	120v	220-230v	120v	220-230v
COMPRESSOR	2169426	2169449	2169443	2169450	2169451				
RUN WINDINGS	*	*	*	*	*			1-5	5-15
START WINDINGS	*	*	*	*	*			3-11	10-30
PTC RELAY	1108190	2154755	1108190	2154755	2154755				
OVERLOAD	2154760	2169412	2154697	2176790	2176860				
RUN CAPACITOR (OPT)	2169137	2154718	2169137	2154718	2154718				
THERMOSTAT	see note 7	see note 7	see note 7	see note 7	see note 7				
BAFLE MODULE (OPT)	2161467	2175156	2161467	2175156	2175156				
DEFROST TIMER ** (OPT)	2162046	2162057	2162046	2162057	2162057				
ADAPTIVE DEFROST ** (OPT)	2169267	N/A	2169267	N/A	N/A				
DEFROST HEATER	2176064	2175046	2176065	2175047	2175047	550-650	450-690	27-21	70-100
DEFROST BI-METAL	2176066	2176066	2176066	2176066	2176066				
EVAPORATOR FAN	see note 7	see note 7	see note 7	see note 7	see note 7	6-10	6-12		
CONDENSER FAN	see note 7	see note 7	see note 7	see note 7	see note 7	7-13	10-20		

** PRIMARY SOURCE PART NUMBER

STEPS TO ENTER ELECTRONIC DEFROST CONTROL TEST MODE (IF APPLICABLE)

OPTION #1 (BI-METAL CLOSED)

STEPS

- #1 - POWER OFF TO REFRIGERATOR FOR AT LEAST 30 SECONDS
- #2 - THERMOSTAT OFF
- #3 - POWER ON TO REFRIGERATOR

OPTION #2 (BI-METAL CLOSED)

STEPS

- #1 - THERMOSTAT OFF 15 SECONDS
- #2 - THERMOSTAT ON 5 SECONDS
(REPEAT STEPS 1 & 2 TWO MORE TIMES)
- #3 - THERMOSTAT OFF

ENTER TEST MODE

IN 3 - 8 SECONDS, CONTROL WILL TURN ON DEFROST HEATER. DEFROST HEATER WILL TURN ON FOR 21 MINUTES OR UNTIL BI-METAL OPENS. TO TERMINATE TEST EARLY, REMOVE POWER FROM REFRIGERATOR.

NOTE: IF OPTION #2 DOES NOT WORK, TRY OPTION #1 BEFORE REPLACING CONTROL. ALWAYS CHECK CONNECTIONS BEFORE REPLACING CONTROL.

HELPFUL HINT: UPON ENTERING TEST MODE, A RELAY TURNS OFF THE COMPRESSOR AND TURNS ON THE DEFROST TIMER. LISTEN FOR THE RELAY TO CLICK. IF RELAY CLICKS ONCE UPON ENTERING TEST MODE, CHECK FOR DEFROST HEAT. IF RELAY CLICKS TWICE, CHECK FOR BI-METAL OPEN.

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

BAFFLE MODULE DIAGNOSTIC TEST (IF APPLICABLE)

The diagnostic steps given below are for evaluating the Baffle Module. Steps 4 and 5 include the settings and results. If the results listed do not occur after putting the controls in the given settings, then further in-depth diagnosis of the product is required. Possible areas to evaluate include wiring connections to all electrical components, freezer thermostat, defrost timer, baffle module, evaporator fan, condenser fan, and compressor.

STEP

1. VERIFY THAT THE PRODUCT IS NOT IN DEFROST.
2. OPEN THE REFRIGERATOR AND FREEZER DOORS SO THAT THE PRODUCT WARMS UP ENOUGH TO TRIP THE THERMOSTATS.
3. NOTE THE THERMOSTAT SETTINGS AND REMOVE THE CONTROL BOX FRONT COVER.
4. SET BOTH CONTROLS IN THE FOLLOWING MANNER, THEN CHECK FOR THE GIVEN RESULTS:

CONTROL	SETTING
FREEZER THERMOSTAT	COLDER (FAR RIGHT)
REFRIGERATOR THERMOSTAT	OFF (FAR LEFT)

COMPONENT	RESULTS
BAFFLE DOOR	10 SECONDS - CLOSED
COMPRESSOR	ON
CONDENSER FAN	ON
EVAPORATOR FAN	ON

5. SET BOTH CONTROLS IN THE FOLLOWING MANNER, THEN CHECK FOR THE GIVEN RESULTS:

CONTROL	SETTING
FREEZER THERMOSTAT	COLDER (FAR RIGHT)
REFRIGERATOR THERMOSTAT	COLDER (FAR RIGHT)

COMPONENT	RESULTS
BAFFLE DOOR	10 SECONDS - OPEN
COMPRESSOR	ON
CONDENSER FAN	ON
EVAPORATOR FAN	ON

6. TEST COMPLETE - BAFFLE MODULE GOOD. SET CONTROLS AT MID SETTINGS AND REPLACE CONTROL BOX FRONT COVER.

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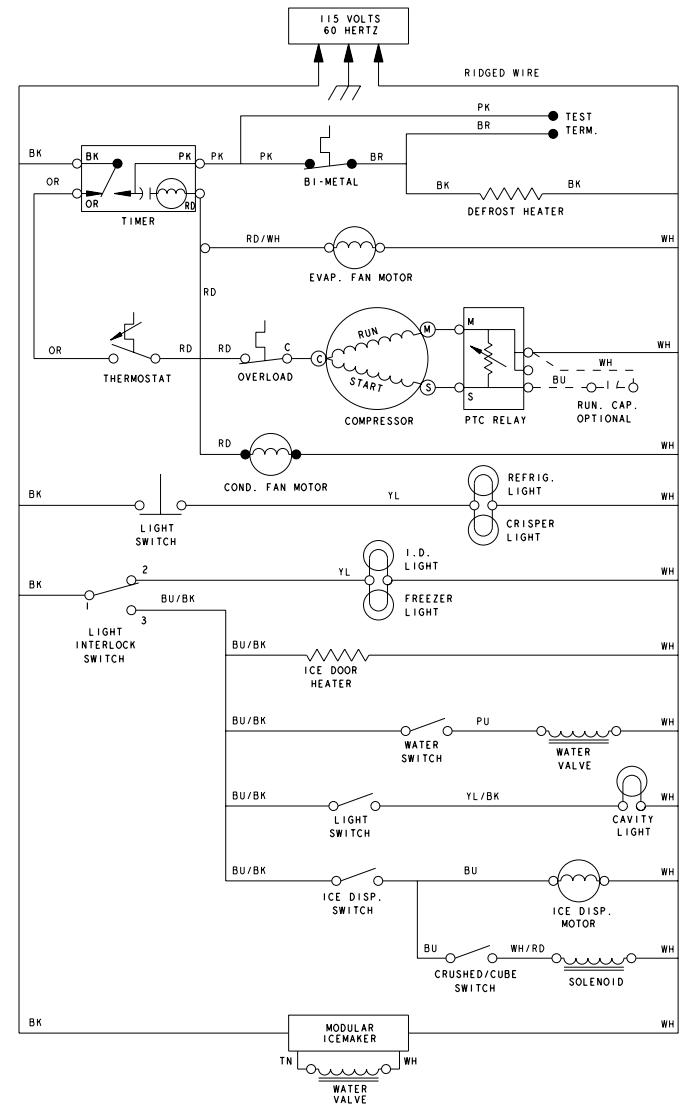
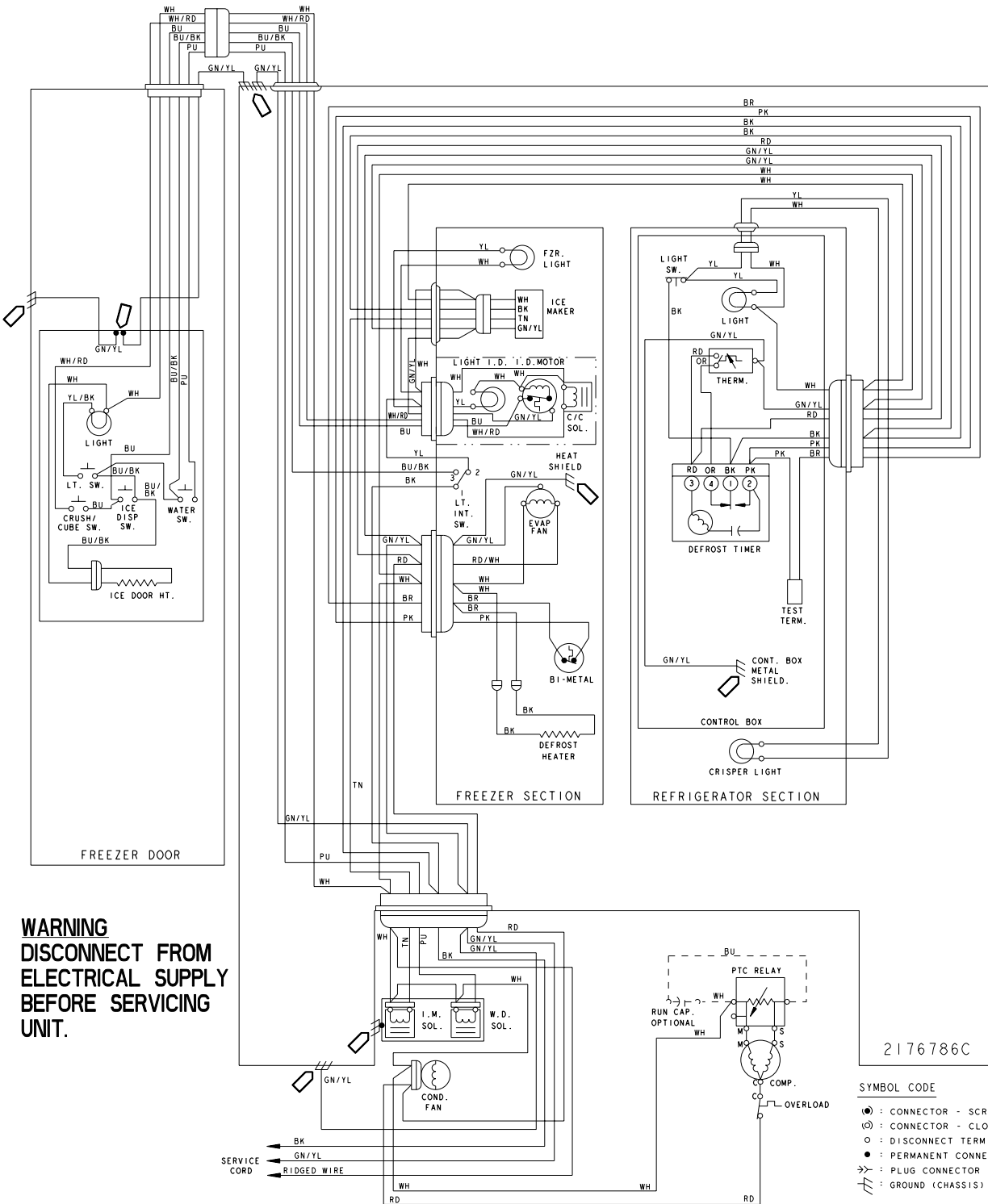
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- NOTES:
 1. GROUND COMPRESSOR THROUGH CONDENSER
 2. I.M. SOLENOID VALVE GROUNDED THROUGH MOUNTING.
 3. EVAP. COVER GROUNDED THROUGH HEAT SHIELD.

WIRING DIAGRAM



WIRE COLOR CODE

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

SYMBOL CODE

- ⊙ : CONNECTOR - SCREW ON
- ⊕ : CONNECTOR - CLOSED END
- : DISCONNECT TERMINAL
- : PERMANENT CONNECTION
- ⊚ : PLUG CONNECTOR
- ⊥ : GROUND (CHASSIS)

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	4,685,708	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	4,706,169	4,776,178	4,920,758	5,042,398
4,327,557	4,707,401	4,787,516	4,924,680	5,046,704
4,330,310	4,709,556	4,799,362	4,934,541	5,050,777
4,640,432	4,715,512	4,800,335	4,936,641	5,070,708
4,649,712	4,728,759	4,801,181	4,944,566	5,077,985
4,649,717	4,745,656	4,833,894	4,958,890	5,079,461
4,649,718	4,745,775	4,862,577	4,956,848	

OTHER PATENTS PENDING

WARNING
 DISCONNECT FROM
 ELECTRICAL SUPPLY
 BEFORE SERVICING
 UNIT.

SERVICE & WIRING SHEET NO. XXXXXXXX

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