

SERVICE AND WIRING SHEET

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W10205541A



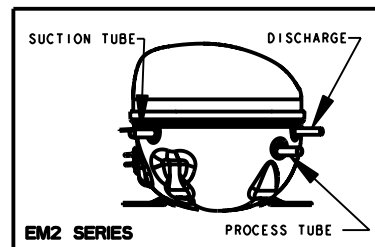
WARNING

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 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.

PERFORMANCE DATA (NORMAL OPERATING 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



SERVICE INFORMATION (W10205543 A)

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

SERVICEABLE ELECTRICAL PARTS MATRIX (COMPONENTS BY CUBIC FOOT SIZE)

SERVICEABLE PARTS	20/22 CUBIC FOOT	25, 26 AND 27 CUBIC FT		WATTAGE	RESISTANCE
	120V				
COMPRESSOR	EM2Z70	EM2Z80	EM2Y80		
	W10189229	W10183575	W10183577		
RUN WINDINGS	*				1-5
START WINDINGS	*				3-11
START DEVICE, OVERLOAD	See Note 7				
RUN CAPACITOR (IF EQUIPPED)	See Note 7				
THERMOSTAT	See Note 7				
MAIN CONTROL (Unit compartment)	See Note 7				
USER INTERFACE	See Note 7				
BAFFLE MODULE (OPT)	W10151372 / 2216112				
DEFROST TIMER (OPT)	See Note 7				
ADAPTIVE DEFROST ** (OPT)	See Note 7				
ADC/FILTER INDICATOR (OPT)	See Note 7				
DEFROST HEATER	See Note 7			550-650	27-21
DEFROST BI-METAL	See Note 7				
EVAPORATOR FAN	See Note 7			2-9	
CONDENSER FAN	See Note 7			3-12	
** PRIMARY SOURCE PART NUMBER					

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

OPTION #1 (BI-METAL CLOSED)

STEPS

- POWER OFF TO REFRIGERATOR FOR AT LEAST 30 SECONDS
- THERMOSTAT OFF
- POWER ON TO REFRIGERATOR

OPTION #2 (BI-METAL CLOSED)

STEPS

- THERMOSTAT OFF 15 SECONDS
- THERMOSTAT ON 5 SECONDS
(REPEAT STEPS 1 AND 2 TWO MORE TIMES)
- 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 HEATER. LISTEN FOR THE RELAY TO CLICK. IF RELAY CLICKS ONCE UPON ENTERING TEST MODE, CHECK FOR DEFROST HEAT. IF RELAY CLICKS TWICE (ALLOW UP TO 30 SEC BETWEEN CLICKS), CHECK FOR BI-METAL OPEN.

ATTENTION: 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

- VERIFY THAT THE PRODUCT IS NOT IN DEFROST.
- OPEN THE REFRIGERATOR AND FREEZER DOORS SO THAT THE PRODUCT WARMS UP ENOUGH TO TRIP THE THERMOSTATS.
- NOTE THE THERMOSTAT SETTINGS AND REMOVE THE CONTROL BOX FRONT COVER.
- 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

- 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

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

SERVICE AND WIRING
SHEET NO.

W10205541A

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SERVICE SHEET



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SERVICE INFORMATION (W10180849 B)

ELECTRONIC DISPENSER CONTROL FEATURES

The dispenser control system consists of two electronic controls: A dispenser UI Control which is attached to the back portion of the dispenser bezel assembly and a Dispenser Power Supply/Relay Control that is located in the unit compartment.

SERVICE DIAGNOSTICS MODE

The Service Diagnostic Mode tests the functionality of the dispensing system.


How to Enter Service Diagnostic Mode:

- Unit must not be in Lockout prior to entering Service Diagnostic Mode.
- While depressing the ICE button, press and hold the LIGHT button for about 3 seconds, then release both buttons after the unit beeps.
- Diagnostics will begin in Step 1.
- All button and pod inputs shall be ignored (with error beep) and all outputs shall be off, except as described in the actions for each step.
- The table below shows the component tested of each step.
- The diagnostic mode ends automatically after 30 seconds have passed. Diagnostic mode can also be manually exited by pressing and holding the ICE and LIGHT buttons during any step or in the case that electrical power is cycled. Following the exit of diagnostic mode, the controls will then resume normal operation.

Step #	Component Tested	Suggested Diagnostics Routine	Component Status Indicator
1	All UI indicators	Turn on all UI icons. Verify that all UI icons turn on automatically during 3 seconds.	Icons ON
2	All UI indicators	Turn off all UI icons. Verify that all UI icons turn off automatically.	Icons OFF
3	Dispenser Lighting	Verify that the dispenser lighting cycles between Minimum and Maximum output levels three times.	Dispenser lights TURN ON & TURN OFF
4	UI Pad and Button Test	Displays the current Ice Type Icon. Depress the Ice pad to verify the appropriate status indications as shown in the Component Status Indicator Column. Depress Ice Type UI button to change ice type and verify again with the Ice pad the appropriate status indications as shown in the Component Status Indicator column. Depress Water Pad to verify the appropriate status indications as shown in the Component Status Indicator Column.	<u>Ice Type Icon:</u> Ice Pad Blink current selection (Cube or Crush) <u>WFI Icons:</u> Water Pad Turn on all

- NOTES:
1. IM SOLENOID GROUNDED THROUGH MOUNTING.
 2. EVAP COVER GROUNDED HEAT SHIELD.
 3. POLARITY ON THE DISPENSER IS ACCOMPLISHED USING A RELAY ON THE MAIN BOARD. THE WH/RD AND THE GY/OR WIRES SWITCH POLARITY DEPENDING ON THE CRUSH/CUBE POSITION. SEE TABLE BELOW.
- | CRUSH/CUBE | GY/OR | WH/RD |
|------------|-------|-------|
| CRUSH | + | - |
| CUBE | - | + |

WIRING DIAGRAM



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WIRE COLOR CODE		WIRE COLOR CODE	
WH/GN	WHITE/GREEN TRACER	V/WH	VIOLET/WHITE TRACER
OR/BK	ORANGE/BLACK TRACER	BU/YL	BLUE/YELLOW TRACER
YL/RD	YELLOW/RED TRACER	YL/BU	YELLOW/BLUE 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		
PK/BK	PINK/BLACK TRACER		
BR/WH	BROWN/WHITE TRACER		
OR/BU	ORANGE/BLUE TRACER		
RD/WH	RED/WHITE TRACER		
LB/BK	LIGHT BLUE/BLACK TRACER		
TN/WH	TAN/WHITE TRACER		
TN/BK	TAN/BLACK TRACER		
RD/YL	RED/YELLOW TRACER		

WIRE COLOR CODE

BU	= BLUE
BK	= BLACK
RD	= RED
WH	= WHITE
YL	= YELLOW
OR	= ORANGE
BR	= BROWN
GY	= GRAY
PK	= PINK
V	= VIOLET
TN	= TAN

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
4,090,681	4,694,553	4,768,353	4,914,928	5,033,273
4,102,680	4,706,169	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	4,728,759	4,801,181	4,944,566	5,077,985
4,649,717	4,745,656	4,833,894	4,958,890	5,099,461
4,649,718	4,745,775	4,862,577	4,996,848	

OTHER PATENTS PENDING

SYMBOL CODE

- ⊙ : CONNECTOR - SCREW ON
- Ⓢ : CONNECTOR - CLOSED END
- : DISCONNECT TERMINAL
- : PERMANENT CONNECTION
- : PLUG CONNECTOR
- ⏏ : GROUND (CHASSIS)

WIRING SHEET NO. W0180848D

