

NEWMAR CORPORATION WARRANTY DEPARTMENT

| TECHNICAL SERVICE BULLETIN | | | | | | | | | | | | | | | | | | | |
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| DATE ISSUED | | MODEL YEAR(S) AFFECTED | | MODEL(S) AFFECTED | | TSB # | | | | | | | | | | | | | |
| 07/28/08 | | 2008 | | MADP, EXDP, KGDB | | 350 | | | | | | | | | | | | | |
| BRAND | | | | | | TYPE | | | | | | | | | | | | | |
| All | <input type="checkbox"/> | American Star | <input type="checkbox"/> | Mountain Aire | <input checked="" type="checkbox"/> | All | <input type="checkbox"/> | T T | <input type="checkbox"/> | | | | | | | | | | |
| Cypress | <input type="checkbox"/> | Dutch Star | <input type="checkbox"/> | Kountry Aire | <input type="checkbox"/> | F W | <input type="checkbox"/> | C A | <input type="checkbox"/> | | | | | | | | | | |
| Northern Star | <input type="checkbox"/> | Kountry Star | <input type="checkbox"/> | Essex | <input checked="" type="checkbox"/> | D P | <input checked="" type="checkbox"/> | D B | <input checked="" type="checkbox"/> | | | | | | | | | | |
| Scottsdale | <input type="checkbox"/> | King Aire | <input checked="" type="checkbox"/> | London Aire | <input type="checkbox"/> | | | | | | | | | | | | | | |
| All Star ME | <input type="checkbox"/> | Ventana | <input type="checkbox"/> | Bay Star | <input type="checkbox"/> | | | | | | | | | | | | | | |
| <table border="0"><tr><td><input type="checkbox"/> Air Conditioning & Heating</td><td><input type="checkbox"/> Electrical Components</td></tr><tr><td><input checked="" type="checkbox"/> Appliances & Accessories</td><td><input type="checkbox"/> Exterior Components</td></tr><tr><td><input type="checkbox"/> Cabinets & Furniture</td><td><input type="checkbox"/> Interior Components</td></tr><tr><td><input type="checkbox"/> Chassis Components</td><td><input type="checkbox"/> Plumbing & Bath Components</td></tr><tr><td><input type="checkbox"/> Construction Components</td><td><input type="checkbox"/> Windows, Awnings, Vents, & Doors</td></tr></table> | | | | | | | | | | <input type="checkbox"/> Air Conditioning & Heating | <input type="checkbox"/> Electrical Components | <input checked="" type="checkbox"/> Appliances & Accessories | <input type="checkbox"/> Exterior Components | <input type="checkbox"/> Cabinets & Furniture | <input type="checkbox"/> Interior Components | <input type="checkbox"/> Chassis Components | <input type="checkbox"/> Plumbing & Bath Components | <input type="checkbox"/> Construction Components | <input type="checkbox"/> Windows, Awnings, Vents, & Doors |
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| <input checked="" type="checkbox"/> Appliances & Accessories | <input type="checkbox"/> Exterior Components | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Cabinets & Furniture | <input type="checkbox"/> Interior Components | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Chassis Components | <input type="checkbox"/> Plumbing & Bath Components | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Construction Components | <input type="checkbox"/> Windows, Awnings, Vents, & Doors | | | | | | | | | | | | | | | | | | |
| DESCRIPTION OF PROBLEM | | | | | | | | | | | | | | | | | | | |
| Pooling of moisture in the freezing compartments of 2117 series refrigerators during defrosting. | | | | | | | | | | | | | | | | | | | |
| RECOMMENDED SOLUTION | | | | | | | | | | | | | | | | | | | |
| <p>Norcold has issued the attached Service Bulletin to address this concern by installing a heat strip and circuit board to prevent the buildup of moisture / ice.</p> <p>Read the attached manufacturers information completely prior to beginning any diagnosis or repairs. Any questions regarding this TSB should be directed to Norcold.</p> | | | | | | | | | | | | | | | | | | | |

If you have any questions regarding this T.S.B., please contact a Warranty Service Representative at Newmar Corporation.

Purpose

Install this kit to eliminate pooling of moisture in the freezing compartments of 2117 series refrigerators during defrosting.

Safety Information

General: Do this whole procedure in the order presented. Obey all safety messages marked with the universal safety symbol shown at the left. Doing the procedure out of order or going against safety messages could result in electrical shock or damage to electrical circuits.

Service Kit Contents (PN 632699):

- Instructions, PN 632694A (1 ea)
- Defrost circuit board, PN 628668 (1 ea)
- Heater strip, PN632697 (1 ea)
- Aluminum pop rivet, PN 632698 (1 ea)
- Collared drill bit, PN 632700 (1 ea)

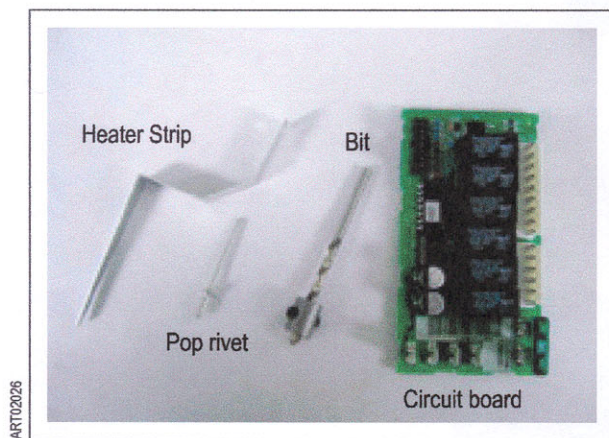


Figure 1. Kit Items

Tools You Will Need:

- Phillips screwdriver, medium
- Flat tip screwdriver, small
- Nut driver, 1/4 inch
- Electric drill
- Pop rivet gun
- Anti-static wrist strap

Procedure

Shutting Down

Shut Down the AC Electrical Power

1. Turn off the refrigerator at its control panel.
2. Open the service access/air intake vent.
3. Disconnect the refrigerator's black 120 AC power cord from the RV receptacle. Refer to Figure 2.
4. Disconnect the white 120 VAC power cord for the ice maker from the RV receptacle.

Caution: If the RV's 12 VDC+ supply line is exposed when you disconnect it below, immediately insulate it with electrical tape to avoid shorts and blown fuses or breakers.

5. Disconnect the RV's 12 VDC+ power at the power board. If necessary, tape the RV's connector to prevent shorts and blown fuses. Refer to Figure 2.
6. Disconnect the negative (GND) black wire from the power board.

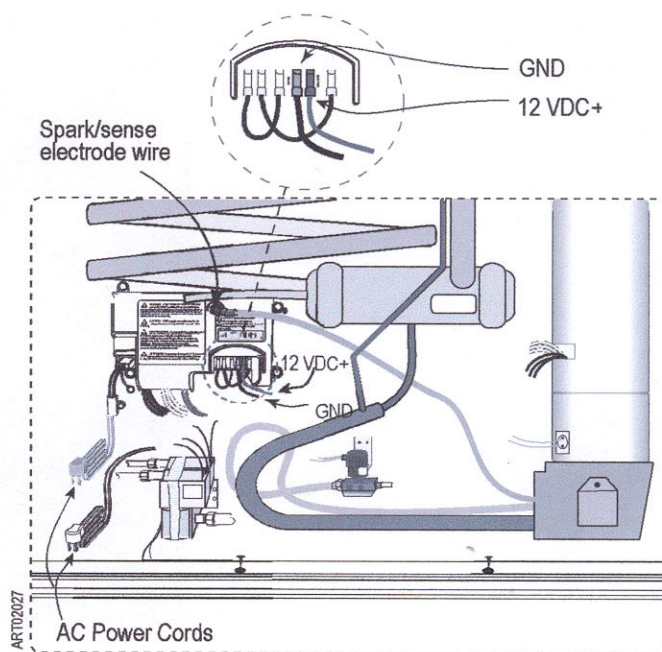


Figure 2. Power Board (as seen through exterior air intake vent)

- Take care to prevent damage to the terminal and wire end as you carefully disconnect the high voltage spark/sense electrode wire from the power board. Refer to Figure 2.

Defrosting the Refrigerator (if necessary)

If the freezer contains any ice, you will need to allow it to melt thoroughly before continuing.



Caution: Do not use hair dryers to melt ice and do not use sharp objects such as screw drivers to chip ice during defrosting. These practices will damage the refrigerator liner.



Caution: If ice build-up is significant, remove the drain tube from the drip cup and place it in a bucket to avoid overflow and damage to the enclosure or floor.

- If a large amount of ice is present, remove the drain tube from the drip cup and place it in a bucket. Refer to Figure 3.

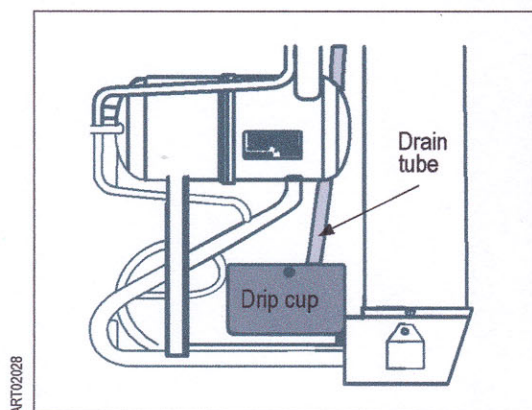


Figure 3. Drain Tube and Drip Cup

- Allow the ice to melt completely.
- Place the drain tube back into the drip cup.

Removing the Freezer Shelves and Evaporator Cover

- Remove the ice bin.
- Use a medium size Phillips screwdriver to loosen the freezer shelf locks. Refer to Figure 4.
- Lift up on the back of the shelves and remove them.
- Use a nut driver to remove the evaporator cover screws. Refer to Figure 5.
- Lay the cover aside.

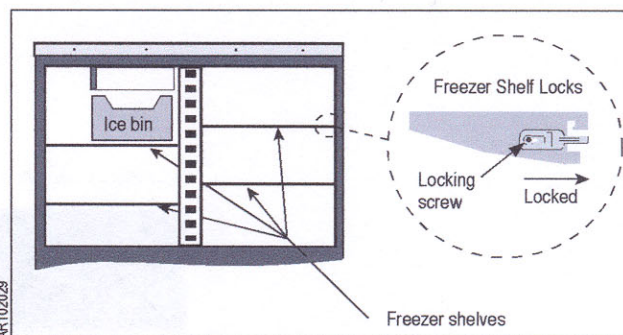


Figure 4. Shelves and Shelf Locks

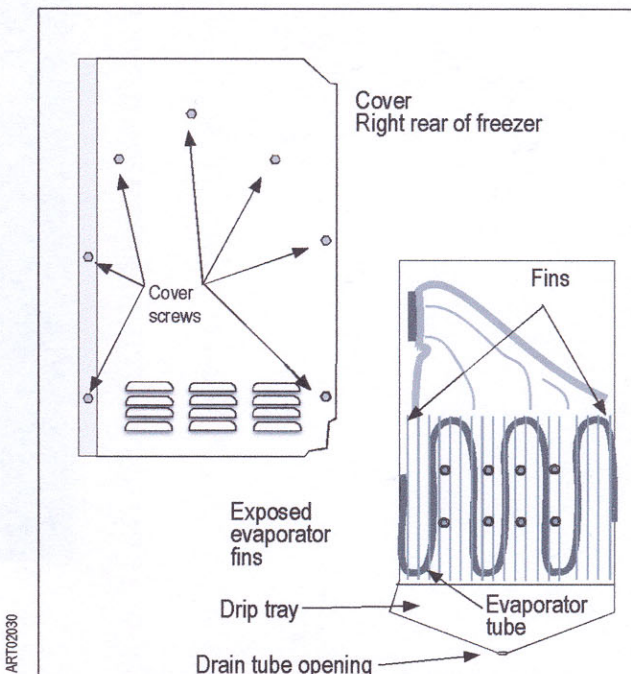


Figure 5. Evaporator Cover/Exposed Fins

Installing the Heater Strip

- Insert the tapered tip of the heater strip into the drain tube opening with the hole at the top of the strip (refer to Figures 5 and 6), and press the strip firmly against the bottom of the drip tray. Refer to Figures 7.
- With the strip in place, plug or tape the drain tube opening to prevent shavings from entering the tube.
- Use the hole in the top of the strip as a guide as you drill a hole with the pre-set collared bit in the back of the drip tray. Refer to Figure 7.
- Use the pop rivet and gun to attach the heater strip to the back of the drip tray. Refer to Figure 8.
- Clean away all shavings from the drip tray and freezing compartment.
- Remove the plug from the drain tube opening.

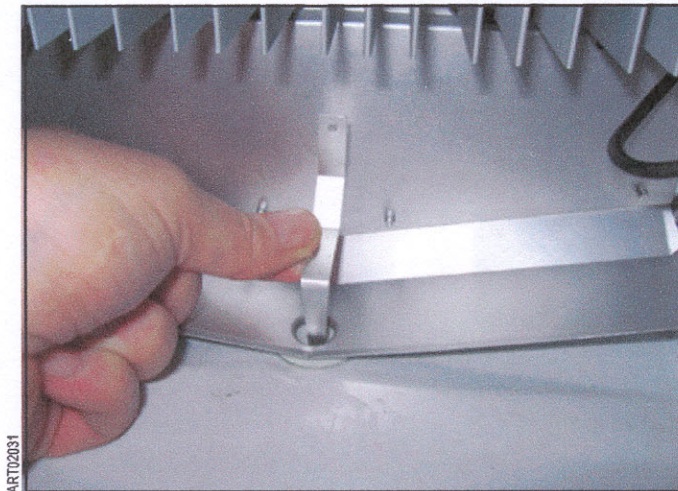


Figure 6. Inserting Heater Strip in Drain Tube

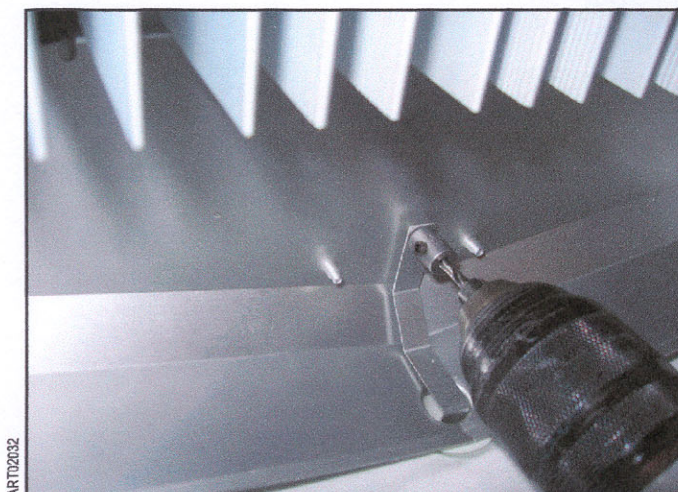


Figure 7. Drilling the Drip Pan



Figure 8. Pop Riveting Strip in Place

Exchanging the Defrost Circuit Board

Removing the Old Defrost Board

1. Put on the antistatic wrist strap and connect it to a ground point for the refrigerator.
2. Unplug the AC power cord plug from the bottom left of the power board. Refer to Figure 9.
3. Disconnect the red and black DC supply jumper wires connected at the defrost board (GND and 12V).

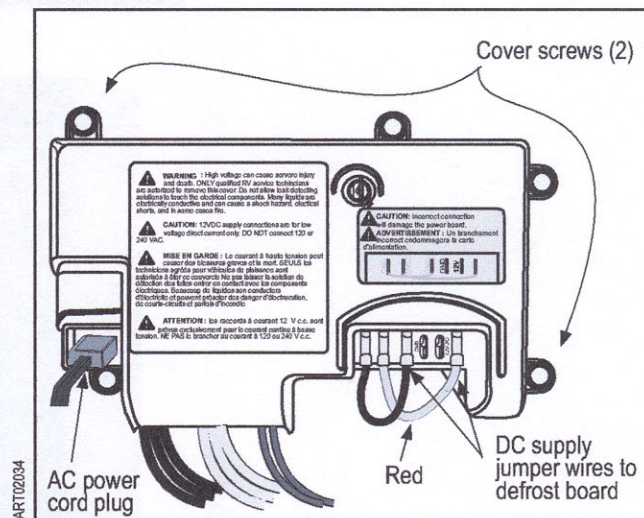


Figure 9. Remove the Power board Cover

4. Use the nut driver to remove the two screws that hold the power board cover in place, and remove the cover.



Caution: Pull straight up on the connectors to avoid bending the terminals as you disconnect the defrost board connectors.

5. Carefully pull straight up to disconnect the P1, P2, and P3 connectors from the defrost board. Refer to Figure 10.

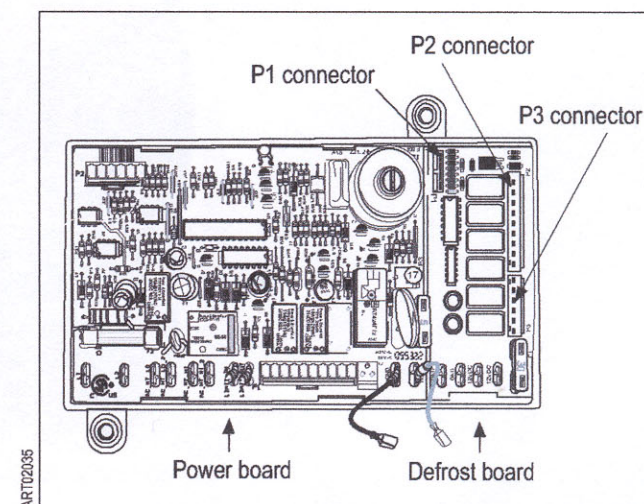


Figure 10. Power Board and Defroster Board



Caution: Use care to avoid damaging the plastic retainer as you pry the defrost board loose, below.

6. Insert the tip of a small screwdriver into the notched area at the top of the defrost board and pry the defrost board free of the plastic retainer. Refer to Figure 11. (Discard the old defrost board.)

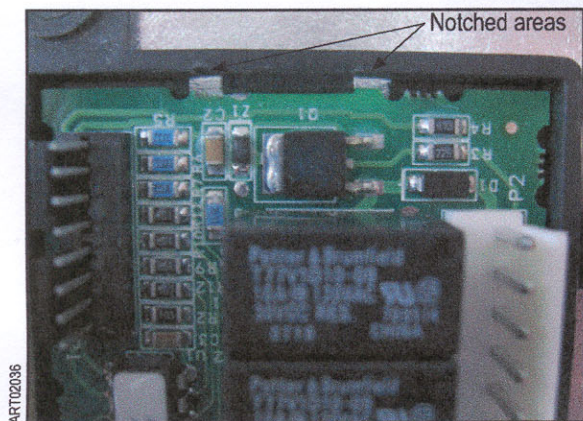


Figure 11. Removing the Defrost Board

Inserting the New Defrost Board

1. With your anti-static wrist strap still in place, remove the new defrost board, included in the kit, from its plastic bag.
2. Insert the bottom of the board into the retainer and snap the top into place.
3. Carefully reconnect connectors P1, P2, and P3 to the new board.
4. Replace the power board cover and use the nut driver to replace the two screws. Refer to Figure 9.



Caution: Take care to reconnect the power supply jumpers correctly to avoid damaging the power board.

5. Reconnect the red and black jumpers from the power board to the defrost board. Refer to Figure 12.

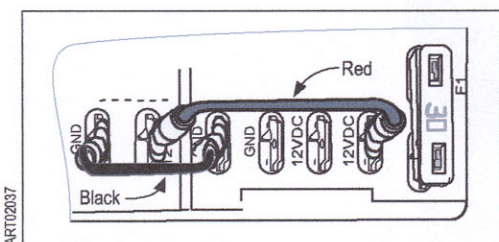


Figure 12. Jumper Connections

6. Remove your anti-static wrist strap.

Reinstalling the Fin Cover and Freezer Shelves

1. Hold the cover in place and use the nut driver to replace its seven screws. Refer to figure 5.
2. Reinstall the freezer shelves and use the Phillips screwdriver to fasten their locks in place. Refer to Figure 4.

Restoring Electrical Power

1. Check to be sure that you placed the drain tube back into the drip cup. Refer to Figure 3.
2. Reconnect the RV's ground wire to the ground terminal of the power board. Refer to Figures 2 and 12.
3. Remove the electrical tape from the RV's 12 VDC+ wire (if necessary) and connect it to the power board. Refer to Figures 2 and 12.
4. Connect the small end of the black AC power cord to the bottom left of the power board. Refer to Figure 9.
5. Plug both power cords (one black and one white) into the RV's AC receptacles. Refer to Figure 2.
6. Turn on the refrigerator at its control panel and check for proper operation.