

DOMETIC Refrigerators

Mobile living made easy.



Proper Cooling Unit Testing

Before going any further in diagnosing a fridge that has a complaint of not cooling properly, use your senses... See, Smell, Hear.

See:

- If you can see a visible leak on or around the cooling unit (yellow or green residue). In this case, clean the area if only a small amount is present (Sodium Chromate will dissolve in warm water), if the residue appears again overnight there is a compromise in the sealed system and the cooling unit will need to be replaced.

Smell:

- If there is a strong smell of ammonia present there is a leak within the cooling unit and it will need to be replaced.

Hear:

- If you can hear a "gurgle" sound coming from the cooling unit, there is a pin hole leak in the sealed system and the cooling unit will need to be replaced.



If any of these issues are present, your diagnosis is done. **DO NOT** perform any further testing, the cooling unit has been compromised and will need to be replaced.

Three Criteria have to be met:

Leveling:

- The unit must be level in order for the mixture within the cooling unit to cycle through and gravity feed down to repeat.

Heat Source:

- There must be a source of heat to boil the mixture in the cooling unit to have the proper heat transfer. We require testing to be done on the AC side, not LP.

Ventilation:

- The proper clearances and baffling must be in place in order to have good air movement over the coils, through the condenser fins, and expel out of the upper vent.

Once these three criteria have been verified and met, if there is a complaint of the fridge not cooling properly, then we can move on to the **Cooling Unit Bypass Test...**

To Perform a Bypass Test of the Cooling Unit

Unplug at P2

Americana/Americana Plus

Disconnect the thermistor from the control board at **P2** (with the thermistor unplugged no temperature is sensed, therefore, it will run continuously). This was designed intentionally so that if the thermistor fails the unit will get as cold as it possibly can since there are no error codes to display and warn the customer that the thermistor has failed.



To Perform a Bypass Test of the Cooling Unit

Unplug

RM3762/RM3962/RM1350/ & DMR702

- RM1350 with water in the door—drain the bladder first
- Disconnect the thermistor from the control board. Connect a secondary test thermistor and let it hang out the lower sidewall vent to sense outside ambient temperature. This will trick the system to run “wide open” and never feel satisfied.

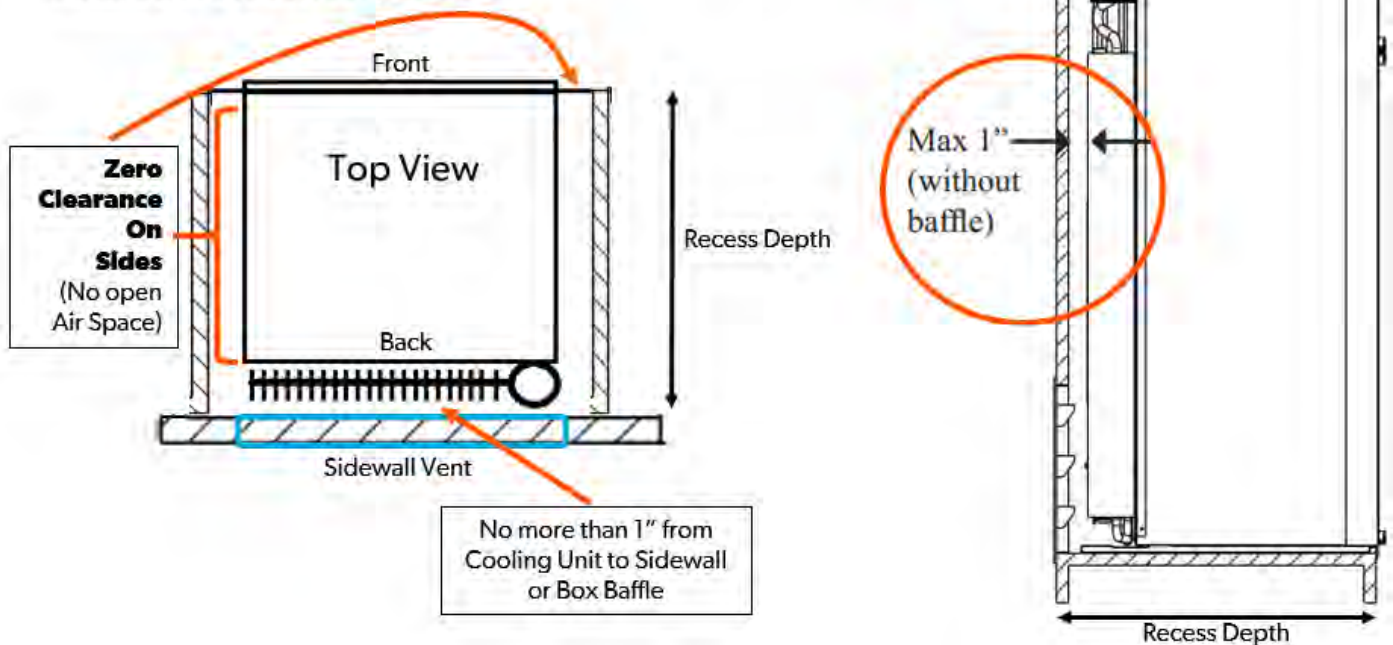


Note: This can only be done when the outside/shop ambient temperature is 50° F or warmer.

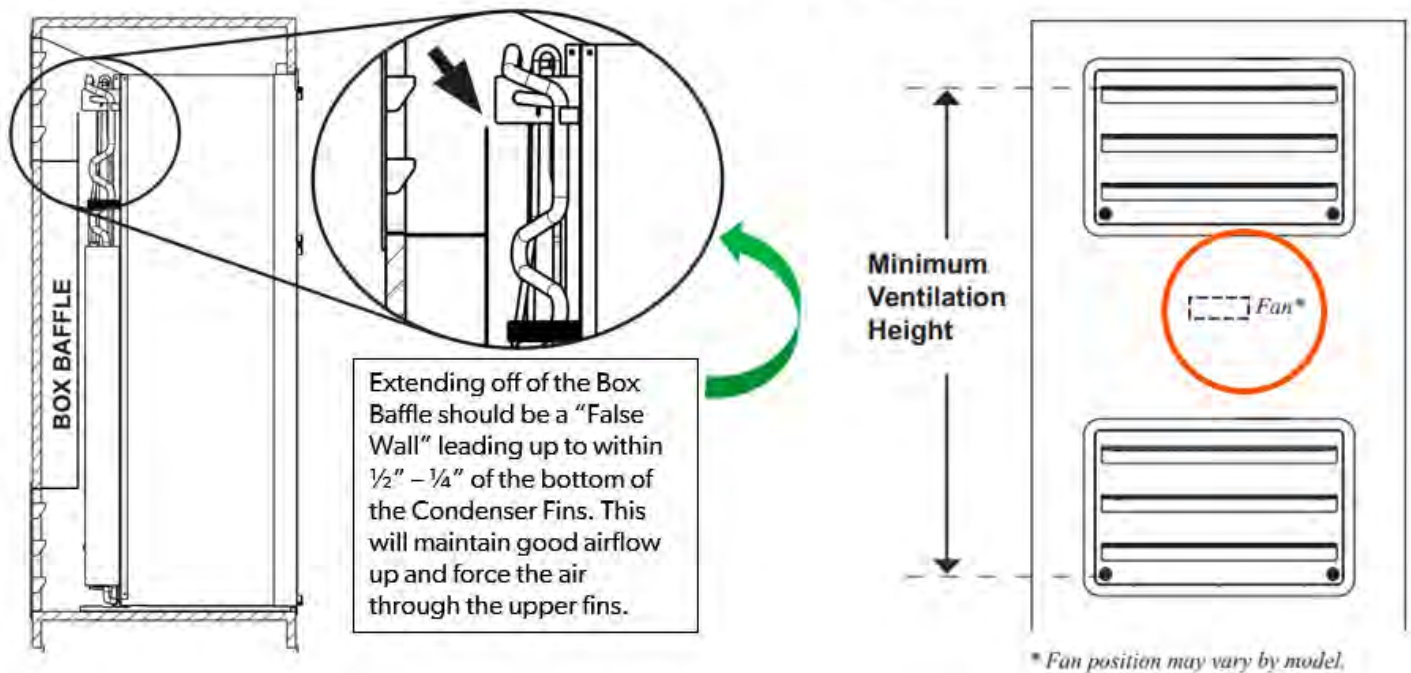
Ventilation

Make sure that you check ventilation and air flow

- 0" clearance on the sides and top. Any open air space on the top, left, or right side of the unit should be filled with insulation.
- No more than 1" from the back of the cooling unit to the sidewall. (A box baffle may need to be installed to help direct air through the coils).
- If there is an auxiliary fan, check that it is working properly and installed in the correct position.



Slide Out Installation with Two Sidewall Vents



Thermistor

The function of the thermistor is to monitor the temperature inside the refrigerator box using resistance

Symptom: Over cooling (low Ohms) or under cooling (high Ohms)

Check the ohms value of the thermistor. In a glass of ice water at approx. 34°F you should see between 8,500 and 9,500 ohms +/- 10%.



If cooling on electric but not on gas, check the gas components.

Heating Element

The function of the heating element is to provide the boiler with a specific amount of BTU's of heat

AC Heating Element 6 - 10 cubic ft.

Ohms – Approx. 44 +/- 10% (At room temp.)

Amps – Approx. 2.7 (During operation)

Watts – 325

Series AC Heating Element for Side by Side

Ohms – Approx. 34.3 +/- 10% (At room temp.)

Amps – Approx. 3.5 (During operation)

Watts – 420

DC Heating Element (not shown) 6 cubic ft.

Continuity – yes or no

Amps – Approx. 18 (During operation)

Watts – Approx. 215

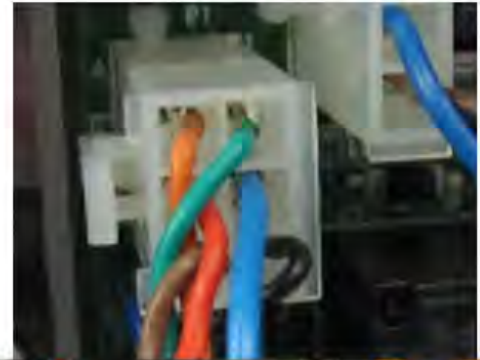
Note: Only use DC heating element when driving from location to location or to maintain temperature.



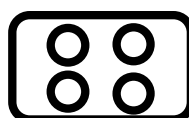
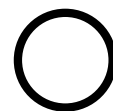
5/6 Wire Harness

Allows communication from the lower control board to the upper control board

- Test Harness by unplugging from P1 and checking continuity through each wire to chassis ground.
- Test communication with the harness plugged into P1 at the lower board.
- Turn on refrigerator.
- Check DC voltage at the 5/6 wire harness plugged into the P1 terminal on the lower board.
 - Check from - **red** to + **orange** (power up to the eyebrow).
 - **Note: If no voltage, check 3 amp fuse and also power at terminal block.**
 - Check from - **red** to + **green** (gas down) and - **red** to + **black** (electric down).

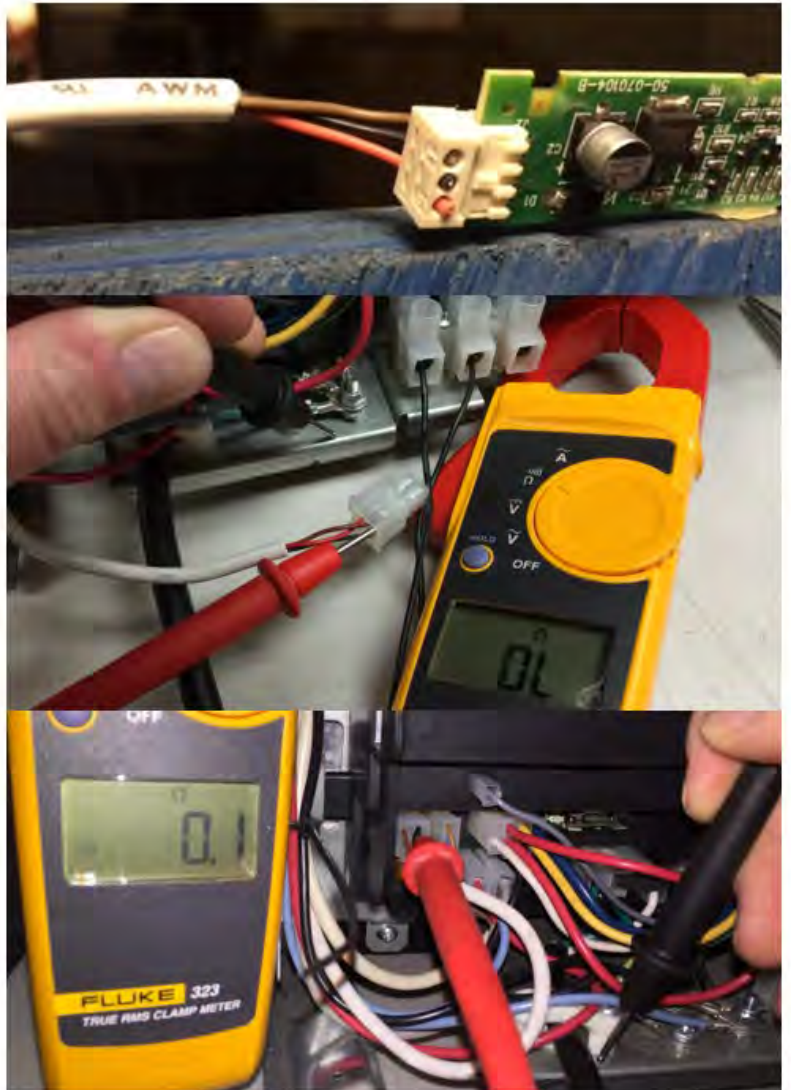


Used With: _____

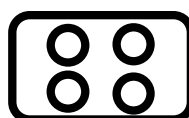
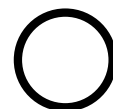


3 Wire Display Harness

- **Positive**, **negative** & **communication**
- Test for continuity on the **brown** communication wire
- Test for power on the + **red** and - **black** wire at the upper control board
- With both ends (top and bottom) unplugged, check each wire to chassis ground to verify the harness is not grounded, you should not have continuity



Used With: _____



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Over the years of running a mobile RV repair service, having a dedicated place to access service manuals for all the different appliances and components found on RVs was something that I always had a desire to create.

I hope this resource makes your RV repairs easier, as it has mine, but please be careful and follow proper safety practices when attempting to repair your own RV.

If in doubt, please consult with a professional RV technician!



DARREN KOEPP - OWNER, MY RV WORKS, INC.

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