

Refrigerator Cooling Unit Problems

The article below was copied from the February 2012 issue of Family Motor Coaching Magazine. It speaks to a Norcold refrigerator, but I believe it applies to all absorption refrigerators. This is similar to the same problem we experienced with our Norcold Model 1210IM beginning when it was about 18 months old, with it really failing to cool at around 30 months. I do believe we had the condition of a partial blockage, as the problem was random. If it is leaking ammonia, normally you would smell it. The solution, in **Bold** below, is the correct one. See Page 2 for more information.

Ted -- WebMaster

From the Tech Talk Section:

I have a Norcold 683 refrigerator. The freezer works great, but the refrigeration box doesn't get cold. I've read of this problem in different forums but have never seen any diagnosis or solutions given. Can you help or point me in the right direction?

**A Reader
Webster, New York**

It's likely that the cooling unit is starting to fail. It has either developed a partial blockage, causing a loss in efficiency and circulation, or it has lost some of the refrigerant or hydrogen charge. With the lost efficiency, it is not distilling enough ammonia to supply both evaporators. The freezer evaporator is first in line for the refrigerant, and there evidently is enough ammonia to keep the freezer cold, but there is not enough ammonia to satisfy the secondary evaporator for the food storage compartment. The condition will continue to deteriorate until nothing gets cold. **Unfortunately, it sounds to me as though you will need to have the cooling unit replaced or purchase a new refrigerator.**

You also should verify that the manufacturer of your motorhome has installed the refrigerator using optimum clearances. If air does not circulate correctly behind the refrigerator due to incorrect installation, this could lead to the cooling unit's poor performance. So, before replacing the cooling system, assure that the installation is correct.

TECH TALK

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First of all, for the lower unit of the refrigerator to adequately cool your food, it needs to stay at 38F degrees or lower, preferably around 34F to 36F. For it to do this, the cooling fins (in the back of the lower cooling compartment) temperature needs to be around 24F degrees or lower, preferably around the 21F to 23F range, or even a little lower. **If your lower cooling unit temperature runs around 40F or above, your food will spoil.**

The following information is based on my experience with our Norcold Model 1210IM back in 2010 and 2011. Our refrigerator would quit cooling adequately in the lower unit when we were dry camping for a few days and it running on LPG. The cooling fin temperature would run up to 27F to 30F degrees and the resulting cooling compartment temperature would run from 42F to 46F. When we moved the motorhome (put it on the road), the refrigerator would begin cooling normal again. Also, for some reason, in the beginning we did not have this problem when the refrigerator ran off of AC power. We had two different Norcold Technician Teams work on and diagnose the refrigerator and they even replaced the burner, although they said the flame and heated temperature in the back of the unit was adequate. They first said they thought our refrigerator had a partial or temporary blockage and that the cooling unit needed to be replaced. However, they later decided that cooling fins with a temperature of 27F and a lower refrigerator compartment at 41F was all that was needed to keep food cool. We eventually took our motorhome to Tiffin in Red Bay. While sitting in their work bay and switching from LPG to AC, the fin temperature rose from 23F to 27F in a few hours. Tiffin replaced the whole refrigerator while it was still under the initial three year warranty.

Ted -- WebMaster