

## Refrigerator Cooling Unit Diagnosis

RV refrigerators use ammonia absorption refrigeration as a cooling source. These refrigerators require a heat source to move the ammonia solution through the cooling unit (the coils) to operate properly. All cooling units require the following:

1. The unit must be level for proper operation.
2. The unit requires proper ventilation in the cabinet.
3. The unit requires correct heat to the coils.

If these requirements are met, the refrigerator should be cooling properly.

### **Sniff Test**

The first indication that a refrigerator is bad is the smell of ammonia in the box. If the smell of ammonia is present and has not been introduced by a recent cleaning with ammonia-based products, the unit is leaking and will need to be replaced. Two options exist, either replace the entire unit or replace the cooling unit which can be done by ordering a replacement cooling assembly as a complete unit. If the general condition of the refrigerator is good, a replacement cooling assembly can save a lot of money getting the unit back in operation. The replacement is not a difficult task and can be performed relatively easily. More information on refrigerator cooling unit replacement is provided later in this document.

### **Powder on Exterior**

If sodium chromate is present, a yellow/green, the unit more than likely has a leak and the cooling unit will need to be replaced.

### **Loud Gurgling**

The heat source moves a liquid solution through the coils to create the cooling source for the refrigerator. If the unit is not cooling and you easily hear a gurgling sound when in operation, the unit probably has a leak and needs to be replaced. A light gurgling noise may be present in a properly operating unit but is not as loud as a bad unit with a leak.

### **Marginal Operation**

Several circumstances could cause marginal operation. Leaking door seals can let cold air escape and warm air enter the refrigerator. Check the door seals by placing a dollar bill in the seal and closing the door. Pull the bill out of the door. If it pulls easily, the seal may be leaking and causing the resulting loss of cold air. The seal will need to be replaced.

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The other circumstance is poor ventilation. If the unit is not able to exhaust the heat, the unit may not be able to cool properly. Look for blockage in the ventilation of the unit.

## **Gas or Electric Operation**

If the cooling unit operates on one heat source better than the other, then the problem may lie in the ventilation of the heat source or the heat source not functioning properly. This is usually true when the electric source works better than gas. The gas source may have blocked orifices providing gas or the flu may have rust or carbon built up. A regular cleaning will keep gas operating properly and may resolve the problem.

## **Allow Time**

Given that the key requirements for cooling are met, the refrigerator will take some time to get down to a desired temperature. You should see evidence of cooling on the cooling vents after several hours but you may have to wait overnight to get the refrigerator down to normal operating temperature. Once proper operating temperature is reached, the refrigerator should be able to maintain the operating temperature.

## **Replacement Cooling Units**

Replacement units can be purchased that exactly match the original cooling unit for your refrigerator. Units are usually shipped to your desired address as a complete unit including proper insulation. The old unit can be easily removed by removing the retaining fasteners and cutting the foam insulation around the refrigerator box. The replacement unit comes complete with insulation in place to slip into the original location. The replacement unit is pre-charged and ready to operate with your existing heating sources. This is a good alternative if the original refrigerator is in good shape.

Look online for sources for replacement cooling units. One source is [www.rvmobile.com](http://www.rvmobile.com).

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