

NORCOLD

Service Bulletin No. 02

Date MAY 3, 1982

IMPORTANT INFORMATION
NORCOLD GAS-ELECTRIC REFRIGERATORS

I. Procedure for Handling Defective Warranty Cooling Units

- A. Defective Cooling Units that have been replaced under warranty should be returned for credit to:

NORCOLD Service Center
600 S. Kuther Rd.
Sidney, OH. 45365

NOTE: They may be shipped freight collect.

- B. Defective cooling units that have been replaced out of warranty should NOT be returned.

II. Procedure for Handling Defective Warranty Parts (All parts except cooling units)

- A. Defective parts that have been replaced under warranty should be held for 90 days for possible inspection and then disposed of.

III. Procedure for Handling Warranty Labor and/or Freight Charges

- A. Submit repair form listing following:

1. Date of repair.
2. Brand name, model & year of R.V.
3. Date of purchase
4. Retail customer name & address
5. Model and serial number of refrigerator
6. Description of work performed

- B. Attach copy of freight bill when applicable.

- C. Submit directly to:

NORCOLD Service Center
600 S. Kuther Rd.
Sidney, OH. 45365

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Service Bulletin No. 04

Date 9/7/82

STANDARD SAFETY PROCEDURE TO REPLACE, REPAIR OR TEST GAS/ELECTRIC CONTROL

1. Shut off gas valve at the supply tank and wait ten minutes
2. Disconnect the 115 A.C. power cord from the coach receptacle
3. Disconnect all 12 V D.C. leads from terminal block of refrigerator
4. Remove the thermostat and gas valve knobs
5. Remove the four (4) screws from the control panel
6. Pull the control panel forward to remove
7. Perform the necessary repair, replacement or testing function
8. Turn on the gas valve at the supply tank
9. Soap bubble test all joints for gas leaks
10. Remount the control panel to refrigerator

CAUTION:

Check the gas valve shaft for clearance. Shaft must be free from contact with rim of hole in control panel. If contact is observed enlarge the panel hole to accommodate free turn of gas valve shaft.

11. Static test the coach gas line system using the following procedure:

Remove the gas burner from the range, slip the rubber hose end of the water manometer over the gas jet and turn on the gas valve. Observe the manometer gauge for constant pressure. A drop in pressure indicates a gas leak. Locate and repair.

12. Plug in the 115V supply cord.
13. Connect the 12 V D.C. leads to the refrigerator.

Restart the refrigerator and check for performance.

Any questions pertaining to the above procedure or other refrigerator problems that may arise please call us on our toll free number 1/800-543-1219 or in-state line, 1/ 513-492-1111.

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Service Bulletin No. 06

Date 4-18-83

POWER CHECKS AT INTERFACE BOARD

GAS MODE

With refrigerator in gas mode check for 12V D. C. across the following interface board pins and ground:

1. 7 12V power supply from battery or converter
2. 8 12V power from rocker switch
3. 1 12V power to thermostat
4. 2 12V power from thermostat to I. F. board
5. 3 12V power back to rocker switch
6. 11 12V power to fenwal module

In addition check for 12V D. C. across pins 10 and 7.

ELECTRIC MODE

With refrigerator in electric mode check for 120V A. C. between interface board pins as follows:

1. 4 & 5 120V power to rocker switch
2. 8 & 5 120V power from rocker switch
3. 1 & 5 120V power to thermostat
4. 2 & 5 120V power out of thermostat to I. F. board
5. 3 & 5 120V power back from I. F. board to rocker switch
6. 6 & 5 120V power to heater



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Service Bulletin No. 07

Date 10/28/83

C A U T I O N ! ! ! ! !

RE: USE OF "LOW TEMPERATURE" GAS LEAK DETECTOR SOLUTION

Engineering recently tested samples of gas leak detector solutions for electrical conductivity.

These solutions are commonly brushed or sprayed on gas line joints to detect gas leaks. Generally, the product is available as a soapy solution (referred to as high temperature solution) or as a soapy solution with anti-freeze added (referred to as low temperature solution).

The testing determined that the low temperature solution is electrically conductive; whereas, the high temperature solution (without anti-freeze) is not conductive.

If the low temperature solution is carelessly or inadvertently spilled or sprayed onto electrical components (such as the spark ignition or interface board on the refrigerator), there is the possibility that short circuits could result, and, in rare cases, a fire could result.

THEREFORE, WE RECOMMEND USING HIGH TEMPERATURE LEAK TEST SOLUTIONS ONLY (NOT SOLUTIONS WITH ANTI-FREEZE ADDED).

A widely available source for high temperature leak detector is:

SHERLOCK 5-SECOND LEAK DETECTOR,
HIGH TEMPERATURE TYPE

Manufactured by:

WINTON PRODUCTS
BOX 36332
CHARLOTTE, N. C. 28236

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Service Bulletin No. 08

Date 84/1/19

UL AND SERIAL NUMBER LABEL CHANGE

The location of the serial plate on our Gas/Electric refrigerators has been changed. A drawing is enclosed covering the new location. Please note, the vent kit certification is now packed with the installation instructions. This is stated on the serial plate and is in accordance with AGA requirements.

The affected models, starting serial numbers, and production change date are given below:

<u>MODEL</u>	<u>STARTING SERIAL #</u>	<u>CHANGE DATE</u>
774 EG2	8738	12/8/83
774 EG3	5427	12/9/83
776 EG2	27699	12/8/83
776 EG3	9142	12/16/83
838 EG2	30279	12/8/83
838 EG3	6394	12/7/83
8310 EG2	12673	12/9/83
8310 EG3	5167	12/12/83

enclosure



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Service Bulletin No. 09

Date 84/1/24

OPERATION - GAS MODE

Shown in figure 1 is the wiring diagram for the gas mode of operation. The 12 volt power supply connection is made at the interface board. The positive side of the 12 volt power supply is routed through a 3 amp fuse to pin #7 of the interface board. From pin #7, power flows through the wiring harness to pin #6 of the eyebrow assembly where it is passed on to the blue indicator lamp and to one side of the rocker switch. When the rocker switch is in the gas position, current flows on to pin #5 of the eyebrow assembly and back to pin #8 of the interface board. Current then flows first to the transistor switch thereby completing the positive circuit of the blue and red indicator lamps. The negative circuit of these lamps runs from the lamps to pin #3 of the eyebrow assembly on to pin #10 of the interface board. Secondly, the current flows from pin #8 to pin #1 through the thermostat on to pin #11 of the eyebrow assembly and through the second section of the rocker switch. The current then proceeds on to pin #2 of the eyebrow assembly and back into the interface board at pin #11 where it is passed directly to the ignition control module. The ignition control module then applies 12 volt to the solenoid valve, opening gas flow to the burner, and supplies current to the electrode for ignition spark. Once the flame is lit, the burner sensor signals to the ignition control module that the flame is present and current is no longer needed at the electrode. If ignition does not take place within a specific amount of time the ignition module will go into lockout. During lockout, current is disrupted to the solenoid valve and electrode and instead is diverted through the lockout terminal of the ignition module and into the interface board at pin #9. The current then passes on to pin #4 of the eyebrow and causes the red check lamp to illuminate thus signaling a problem. Once the system goes into lockout the rocker switch must be switched to the off position for 10 seconds to reset the ignition module, then another ignition cycle can be initiated.

CHECK OUT PROCEDURE

Testing at the interface board with the refrigerator in gas mode check for 12 volts across the following interface board pins and ground. Voltage at pin #7 indicates that you are receiving current from the battery or converter and through the 3 amp fuse. Voltage at pin #8 indicates that current has gone to and returned from one side of the rocker switch. Voltage at pin #1 indicates that current is being supplied to the thermostat. Voltage at pin #11 indicates that current has passed through both the thermostat and section two of the rocker switch, and is being routed on to the ignition control module. In addition, check for 12 volts across pins #10 and #7 to verify that the transistor switch in the interface board is completing the negative circuit of the gas and check lamps. Absence of

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Date 84/1/24

voltage at one of these pins indicates a loose wire or a defect in the component or components responsible for supplying current to that particular pin.

LAMPS

The 12 volt gas and check lamps can be checked by testing for continuity at the lamp leads.

THERMOSTAT

The thermostat can be tested by checking for continuity across the connector tabs.

IGNITION MODULE - SOLENOID VALVE - ELECTRODE AND SENSOR

First check to see that current is being supplied to the module from the interface board. If the solenoid valve fails to open check for voltage at the valve terminals. If voltage is present the valve is defective. If voltage is not being supplied to the valve first check for a loose connection and, if necessary, replace the ignition module. In case of failure to sense that the flame is lit or continuous ignition spark, check to see that the electrode and flame sensor are properly positioned so that ignition spark is directed from the electrode to the burner head, not between the electrode and the flame sensor. The flame sensor should be positioned well into the flame and scraped periodically to eliminate carbon build-up. Also, if the gas pressure is set too high it will cause the flame to lift off the burner head, the flame sensor will not react and ignition spark will continue. If ignition spark is not present check for proper gap between the electrode and burner head and a good connection at both ends of the electrode cable. After having made these checks and/or adjustments the ignition control module continues to malfunction, it can be determined as defective and a replacement made.



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Service Bulletin No. 10

Date 84/1/24

OPERATION - AC ELECTRIC MODE

Figure two shows the wiring diagram for the electric mode of operation.

The 120 volt power cord is connected directly to the interface board with the hot side being routed to pin #4 of the interface board. Current then flows on to pin #10 of the eyebrow assembly where it is routed into one side of the rocker switch. With the rocker switch in the electric position, current flows to the green indicator lamp and on to pin #5 of the eyebrow assembly. Current then flows on to pin #8 of the interface board where it is routed to pin #1 and into the thermostat. The thermostat passes the current on to pin #11 of the eyebrow assembly thereby supplying current to section two of the rocker switch. The current then flows on through the rocker switch to pin #8 of the eyebrow assembly. From pin #8, the current flows directly onto the AC heating element.

CHECK OUT PROCEDURE

Testing at the interface board, with the refrigerator in the electric mode, check for voltage between the interface board pins and as follows: voltage between pins #4 and #5 indicates that current is being supplied to side one of the rocker switch. Voltage between pins #8 and #5 indicates that current is being returned from the rocker switch to the board. Voltage between pins #1 and #5 indicates that current is being supplied to the thermostat. Voltage between the positive lead to the heater element and the J-5 tab of the interface board indicates that current is being passed on by the thermostat to one side of the rocker switch and into the heater element. As on the gas side check-out, absence of voltage at one of these check points indicates a loose wire or a defect in the component or the components responsible for supplying current to that particular point. The heater element should be checked for proper placement and sizing, and tested for continuity or proper resistance.

AC LAMP

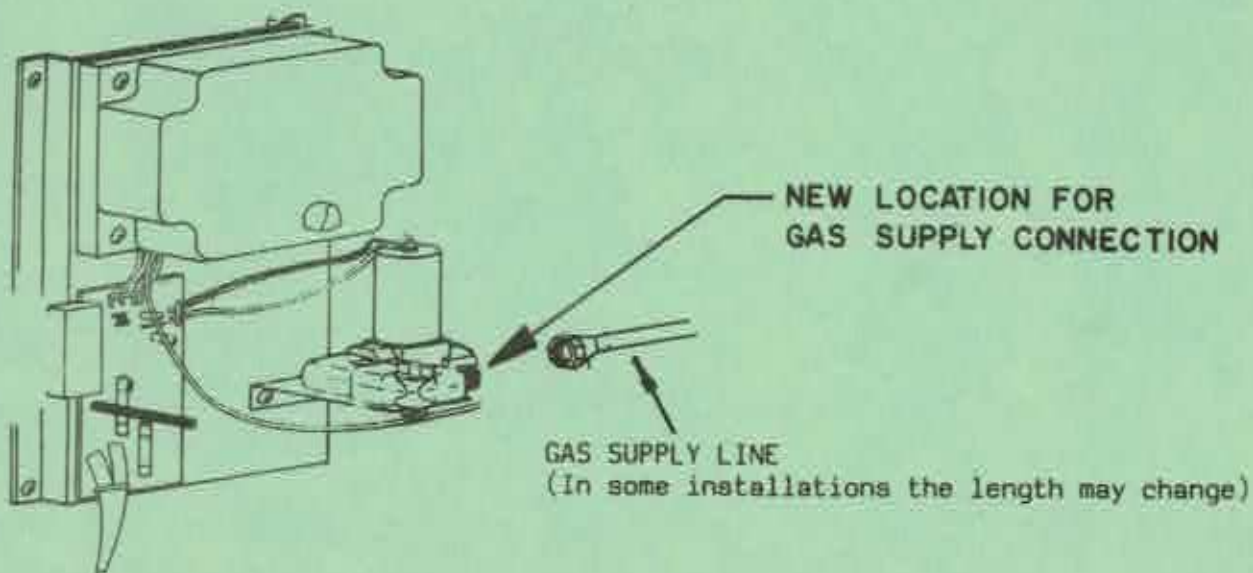
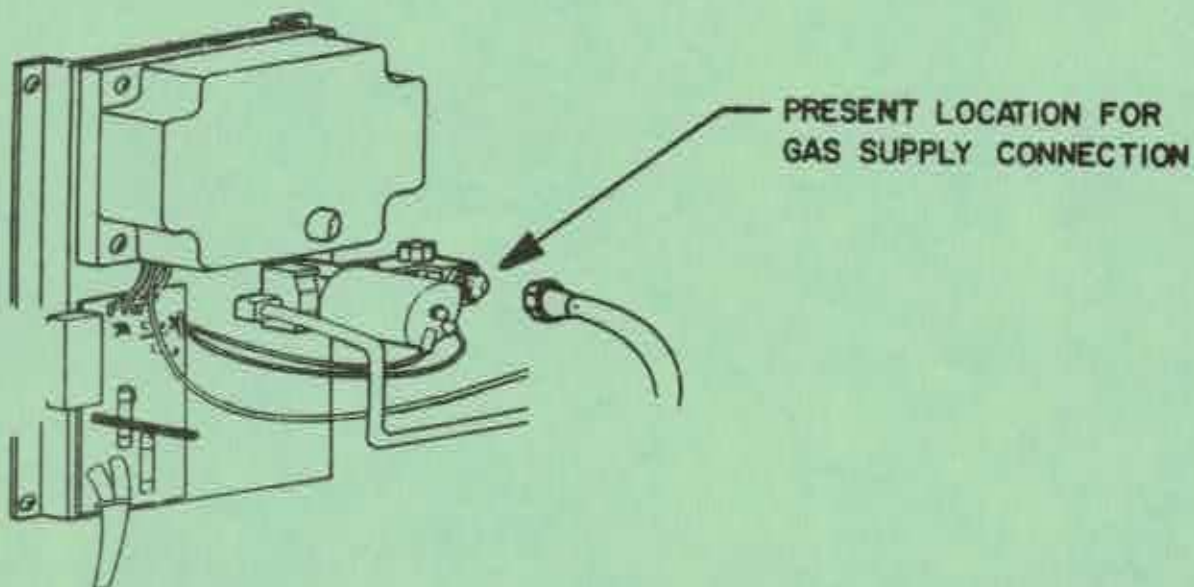
The electric mode 120 volt lamp is neon and should be checked by testing at the eyebrow to see that AC current is being supplied to the bulb.

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Service Bulletin No. 11

Date 2/27/84

Norcold models 838EG and 8310EG will be shipped from the factory in early March with a new location for the gas supply connection. The change keeps the connection point in the same general area but is intended to be more accessible in making the gas line hook-up. The fitting size remains unchanged (3/8" male flare connection.) The drawings below illustrate the change.



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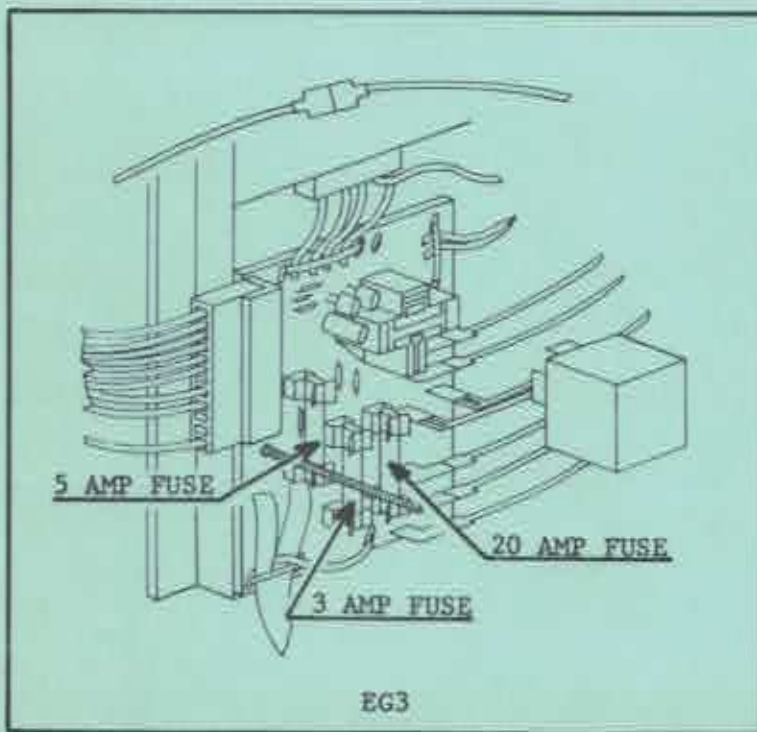
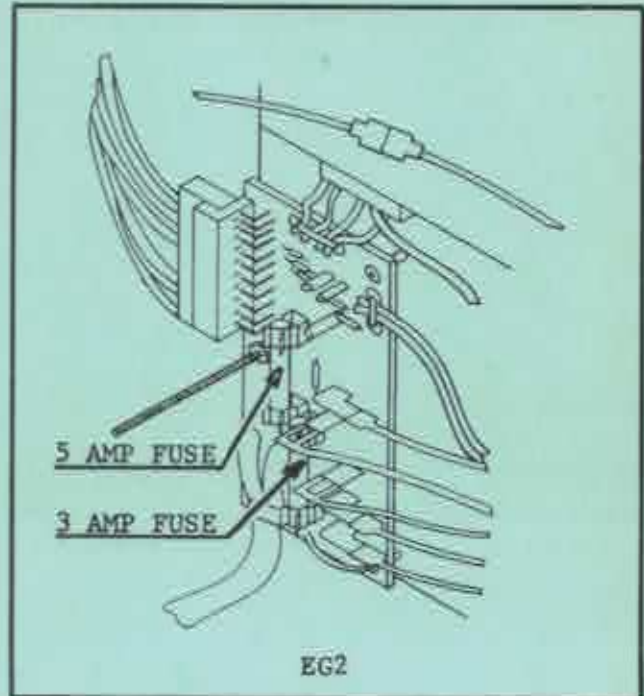
Service Bulletin No. 12

Date 84/5/17

838/8310
FUSE LOCATION

IF A REPLACEMENT IS REQUIRED,
USE A FUSE OF THE SAME AMPERAGE.

DO NOT OVER-FUSE THESE CIRCUITS.



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Service Bulletin No. 14

Date 84/5/18

INFORMATION ABOUT REVERSE POLARITY

Electrical codes specify 120 volt A.C. circuits to be wired so that the neutral and "hot" wires are always connected to outlet receptacles in the same way. This is a safety measure to avoid hazards when appliances are improperly grounded.

If the A.C. circuit, to which the model 838EG or 8310EG is connected, is reversed, the A.C. mode light (green light) will remain on even though the mode selector is switched to gas (or D.C.) (see FIG. 1). This condition is not a problem with the refrigerator but indicates a reverse polarity in the A.C. circuit wiring.

A qualified electrician (after disconnecting the electric power) can locate the cause for reverse polarity as follows:

- 1.) Check the receptacle to which the refrigerator is connected. The black and white wires should be connected as shown in FIG. 2A. If the wires are reversed as shown in FIG 2B, they should be re-connected.
- 2.) If the receptacle is found to have the wires correctly wired (as shown in FIG. 2A), then the reverse polarity is in the wiring leading to the receptacle. This could be at the distribution panel. If an extension cord is being used as a temporary hook-up, it's plug connection could be reversed.

CAUTION: Only a qualified electrician should attempt to trace the cause of the reverse polarity condition.



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Service Bulletin No. 15

Date 84/7/12

-REMINDER-

In November, 1983, you were notified, as well as all Manufacturers and Dealers, of the retrofit on the interface cover of our model 838EG and 8310EG refrigerators. All information regarding this retrofit was provided, including the affected models and their serial numbers.

As we are now into our busy season, and people are making good use of their recreational vehicles, we want to take the opportunity to once again remind you of this retrofit and ask your cooperation and assistance in completing this. All white covers need to be changed to black covers.

Whenever a customer enters your place of business, please take a moment to check the color of the interface board cover and the serial number of the refrigerator.

The following models and serial numbers need to have the cover changed:

<u>MODEL</u>	<u>SERIAL #</u>
838 EG2	1000 through 16882
838 EG3	1000 through 3590
8310 EG2	1000 through 6249
8310 EG3	1000 through 2569

If you should find one of these units that has not been changed, please call our toll-free number, 1-800-543-1219, or call collect in the State of Ohio, 513-498-4034 or 4035.

Thank you for your continuing efforts.



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Service Bulletin No. 16

Date 84/8/10

The information in this bulletin will expand upon Norcold Service Bulletin #7, (attached), regarding use of leak detector fluid around electronic components.

As stated in Bulletin #7, addition of anti-freeze solution to detector fluids causes these fluids to be good conductors and should not be used in the vicinity of electrical or electronic components. We have since determined that there are some soaps found to be electrically conductive, although not to the extent of those with anti-freeze additive.

Because of the required compact design of the refrigerator, the electronic controls are located in the same area as the gas controls

THEREFORE, WE CAUTION AGAINST THE USE OF LEAK DETECTOR FLUIDS APPLIED FROM A SPRAY (WINDEX) TYPE BOTTLE WHEN LEAK TESTING GAS JOINTS IN THE VICINITY OF THE REFRIGERATOR'S ELECTRONICS CONTROLS.

Instead, a brush (such as the type used to apply solder flux) should be used to "soap" the gas piping joints. This method removes the possibility of an unintentional overspray onto the electronic boards.

REINSTALL ALL COVERS, (IGNITION MODULE AND INTERFACE BOARD), BEFORE ANY TESTS OF L. P. FITTINGS WITH LEAK DETECTOR SOLUTION.

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