



IMPORTANT PRODUCT INFORMATION

Norcold refrigerator models 3163T and 3163G installed in the Rialta and Eurovan Camper may experience a cooling deficiency while operating in the gas mode. The cooling deficiency occurs when the vehicle's interior ambient temperatures are 90°F or higher. Performance while operating in the AC or DC modes is not affected.

To rectify this deficiency, Norcold offers a product upgrade kit. This kit is available through the Winnebago service network. Customers who experience cooling deficiencies while operating in the gas mode should operate their refrigerator on AC or DC until the upgrade kit is installed. All product upgrades are to be completed by an authorized dealer or service center.

The refrigerator models 3163T and 3163G installed in the Rialta and Eurovan Camper are the only Norcold refrigerator models affected with this cooling deficiency. The following is the list of product serial numbers which are affected.

<u>3163T</u>	<u>3163G</u>
Serial Number Range	Serial Number Range
001001CLTPC4 - 001850CLTPH4	001001CMGYC4 - 002150CMGYH4

Accompanying this notice are complete instructions for installing the product upgrade kit, tool requirements, and time allotted for installation. Removal of the refrigerator from its enclosure is required.

WIRING PICTORIAL – MODEL 3163

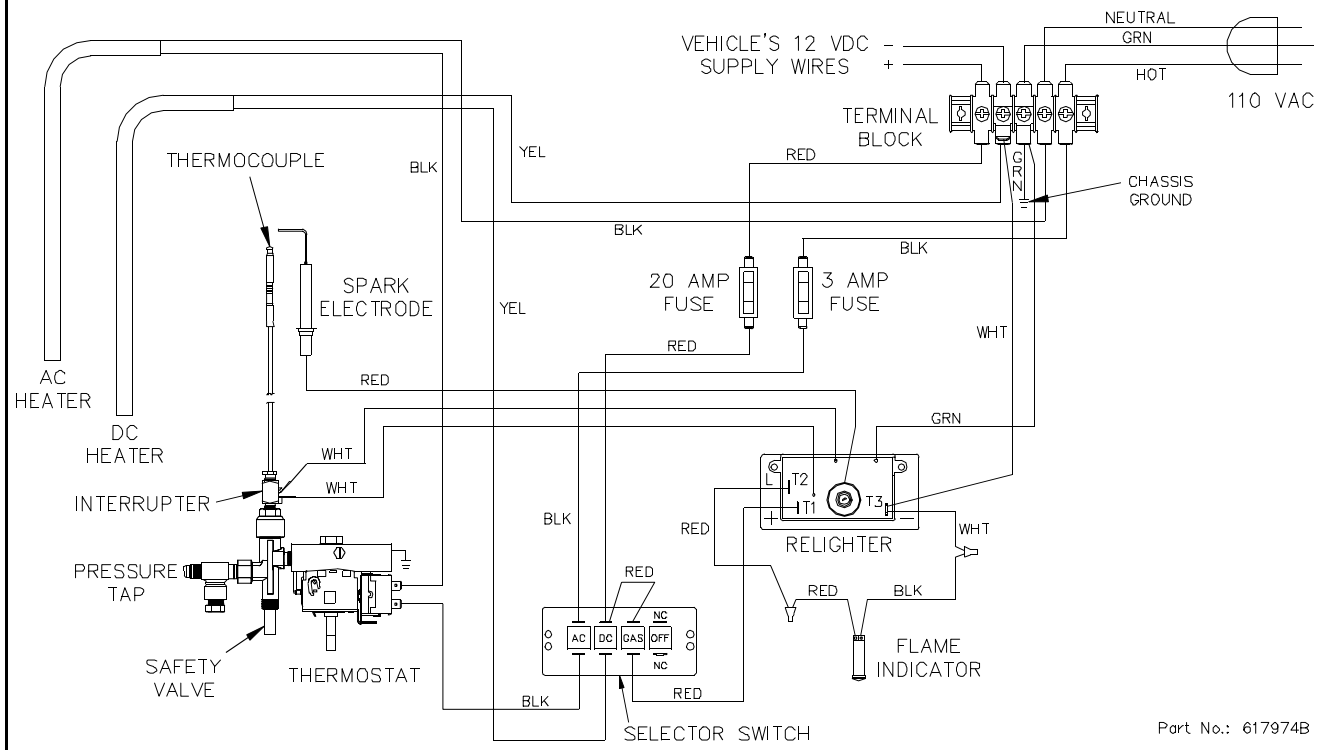


Figure 1 - Before Upgrade

WIRING PICTORIAL – MODEL 3163

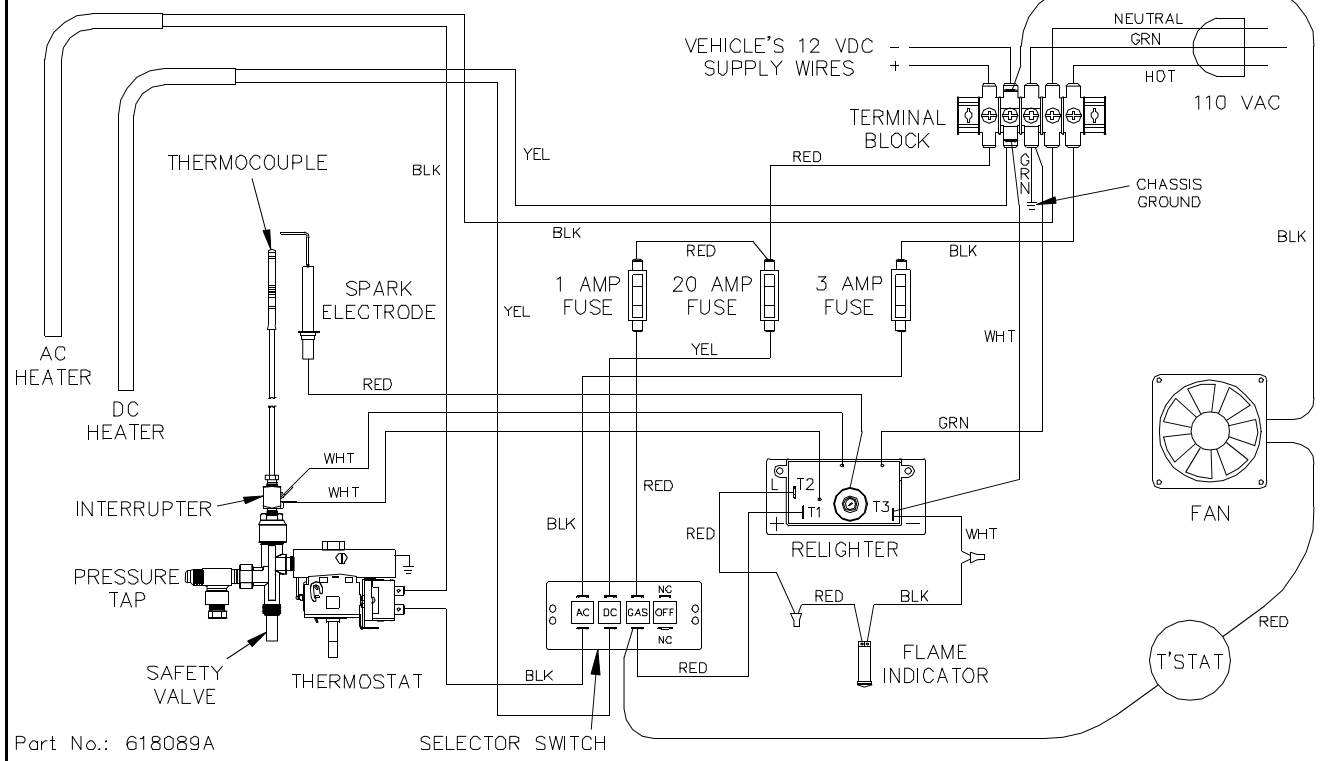


Figure 2 - After Upgrade

Upgrade Kit Components

- 1 - Installation Instructions
- 1 - Burner Box Gasket
- 3 - #8 Hex SD Screws
- 4 - Screws (#6 x 3/8")
- 2 - Metal Screw (#6 x 1 1/4")
- 1 - 6" Red Wire w/3" Jumper
- 1 - 6" Yellow Wire
- 1 - 7" Red Wire
- 1 - Spade Terminal Connector (Double 45)
- 1 - #11 Burner Orifice (Red Dot)
- 1 - Burner Heat Shield
- 1 - 1.0 AMP Fuse
- 1 - 1.0 AMP Fuse Label
- 1 - DC Fuse Holder
- 1 - Plastic Fuse Cover
- 1 - 12 Volt DC Fan (With Brackets and wire extensions)
- 1 - 12 Volt DC Thermostat (Fan)
- 1 - 20" Red Wire
- 1 - Exhaust Flexible Vent Tube w/Insulation
- 1 - Wiring Diagram Label

Tools Required

- 1 - Pliers
- 1 - Tin Snips
- 1 - Screw Gun with Phillips Head or Phillips Screwdriver
- 1 - 1/4" Hex Head Driver
- 1 - Volt Ohmmeter
- 1 - 7/16" Open End-Wrench
- 1 - 1/2" Open End-Wrench
- 1 - 5/8" Open End-Wrench
- 1 - Manometer
- 1 - 3/8" Power Drill
- 1 - 3/32" Drill Bit
- 1 - 1/16" Drill Bit

Specifications

Installation of the upgrade kit will change the rating specifications for the LP gas mode. The specifications are as follows:

LP Gas Mode: 925 BTU/Hr. input; 11" W.C. Gas Supply; .011" Orifice (LP11)

Time Allowance

The time allotted to upgrade the refrigerator is 2.0 hours. The allotted time is to be multiplied by the service facility prevailing shop labor rate. The time allowance includes diagnostic times, upgrade kit installation, refrigerator removal and re-installation, and gas leak test.

NOTE: A gas leak test is required when gas connections, either the main supply line or the refrigerator gas components, have been disconnected.

Refrigerator Removal Procedures

Eurovan Camper

1. Turn off the gas supply at the main tank.
2. Turn the refrigerator's mode selector to "OFF".
3. Remove the vehicle's middle bench seat.
4. Remove the refrigerator's system cover located on the left front of the refrigerator by removing 5 retaining screws.
5. Remove 5 retaining screws securing refrigerator to enclosure.
6. Remove the monitor panel located directly above the refrigerator by removing 6 retaining screws.

CAUTION: It is not necessary to disconnect wiring from the monitor panel. Pull panel forward and away from the monitor panel's mounting bracket. Lay monitor panel on galley top. Take care not to scratch the galley and its surrounding surfaces, or the face of the control panel.

7. Remove the monitor panel's mounting (frame) bracket by removing four retaining screws. The retaining screws are located on both the left and right sides of the bracket.

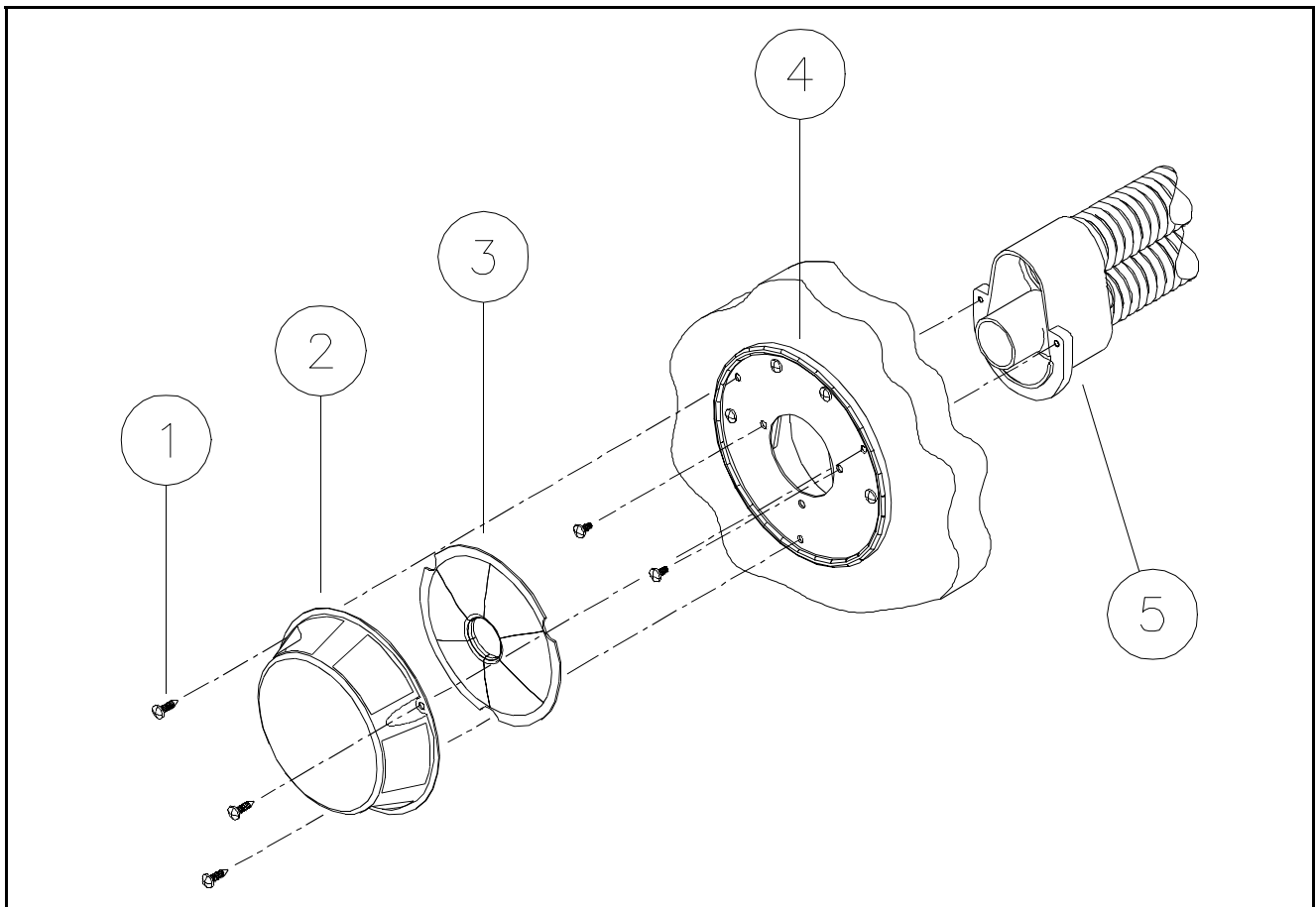


Figure 3 - Vent Terminal Housing

8. Turn the manual shut-off valve located on top of the refrigerator to "OFF". See Figure 4.

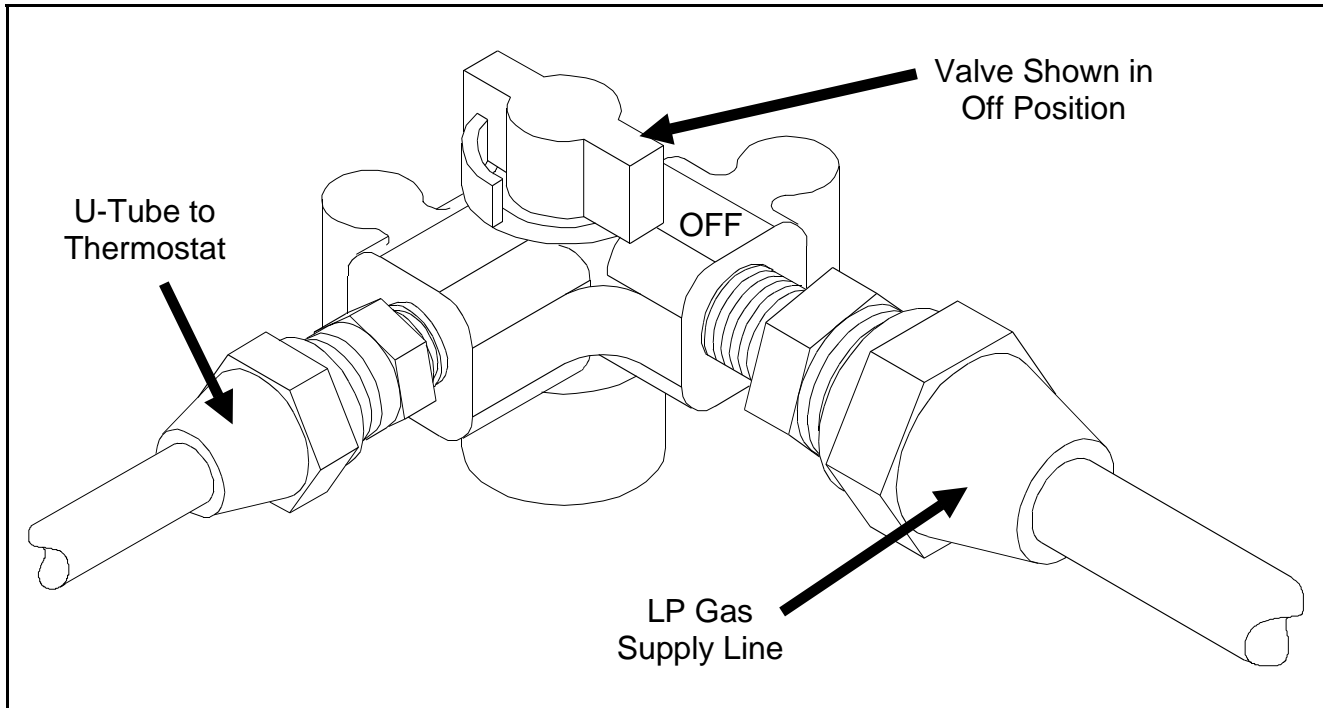


Figure 4 - Manual Shut-Off Valve

9. Remove both the positive and negative leads from the vehicle's battery.
10. Disconnect the vehicle's 12 volt DC supply wires from the refrigerator's terminal block (Figure 1).
11. Disconnect the LP gas supply line from the refrigerator's manual shut-off valve. See Figure 4.

CAUTION: To prevent gas leaks or damage to the gas supply lines and fittings, use two wrenches when connecting or disconnecting gas fittings.

12. Remove the three (3) screws securing the vent cover to the vehicle's exterior surface. See Figure 3.
13. Remove the two (2) screws securing the inner disk to the vent terminal housing. See Figure 3.
14. Carefully push the vent terminal housing inward until free from the vehicle's wall.
15. Carefully pull the refrigerator forward to gain access to the refrigerator's AC power cord. Disconnect the refrigerator's AC power cord from the wall receptacle.
16. Remove the refrigerator from it's enclosure.

Rialta

1. Turn off the gas supply at the main tank.
2. Turn the refrigerator's mode selector to "OFF".
3. Remove the refrigerator's system cover located on the left front of the refrigerator by removing 5 retaining screws.
4. Remove 5 retaining screws securing the refrigerator to the enclosure.
5. Remove the drawer directly above the refrigerator.
6. Turn the manual shut-off valve located on top of the refrigerator to "OFF". See Figure 4.
7. Disconnect the vehicle's 12 volt DC supply wires from the refrigerator's terminal block (Figure 1).
8. Disconnect the LP gas supply line from the refrigerator's manual shut-off valve. See Figure 4.

CAUTION: To prevent gas leaks and damage to the gas supply lines and fittings, use two wrenches when connecting or disconnecting gas fittings.

9. Disconnect the refrigerator's AC power cord from the wall receptacle.
10. Open the cabinet door to the left of the refrigerator. Remove the access panel at the rear of the cabinet. This will allow access to the refrigerator's vent-air intake and exhaust piping.

Note: Observe the routing of the existing flexible piping. It will be necessary to duplicate this configuration with the replacement tube.

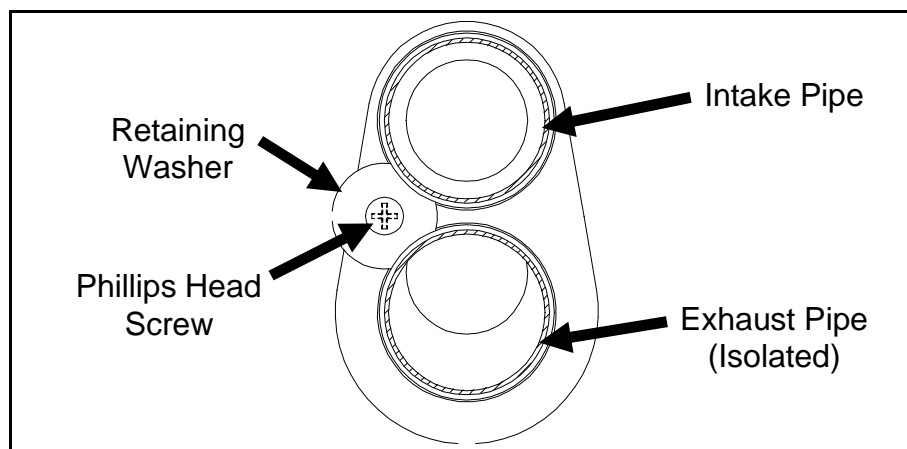


Figure 5 - Vent Terminal Housing

11. Remove the phillips head screw and retaining washer which secure the vent-air exhaust and intake flexible vent piping to the vent terminal housing. See Figure 5.
12. Remove both the intake and exhaust vent piping from the vent terminal housing.
Care must be taken not to damage the "O" ring seals when removing the piping.
13. Remove right dinette assembly cover panel to access the refrigerator retaining bracket. Reference "Right Dinette Assembly Cover Panel Removal" in the Interior Section
14. Loosen and remove the refrigerator's retaining screws at rear base of the refrigerator.
15. Position the flexible vent-air intake and exhaust piping to remove the refrigerator from its enclosure.

Installing the Upgrade Kit

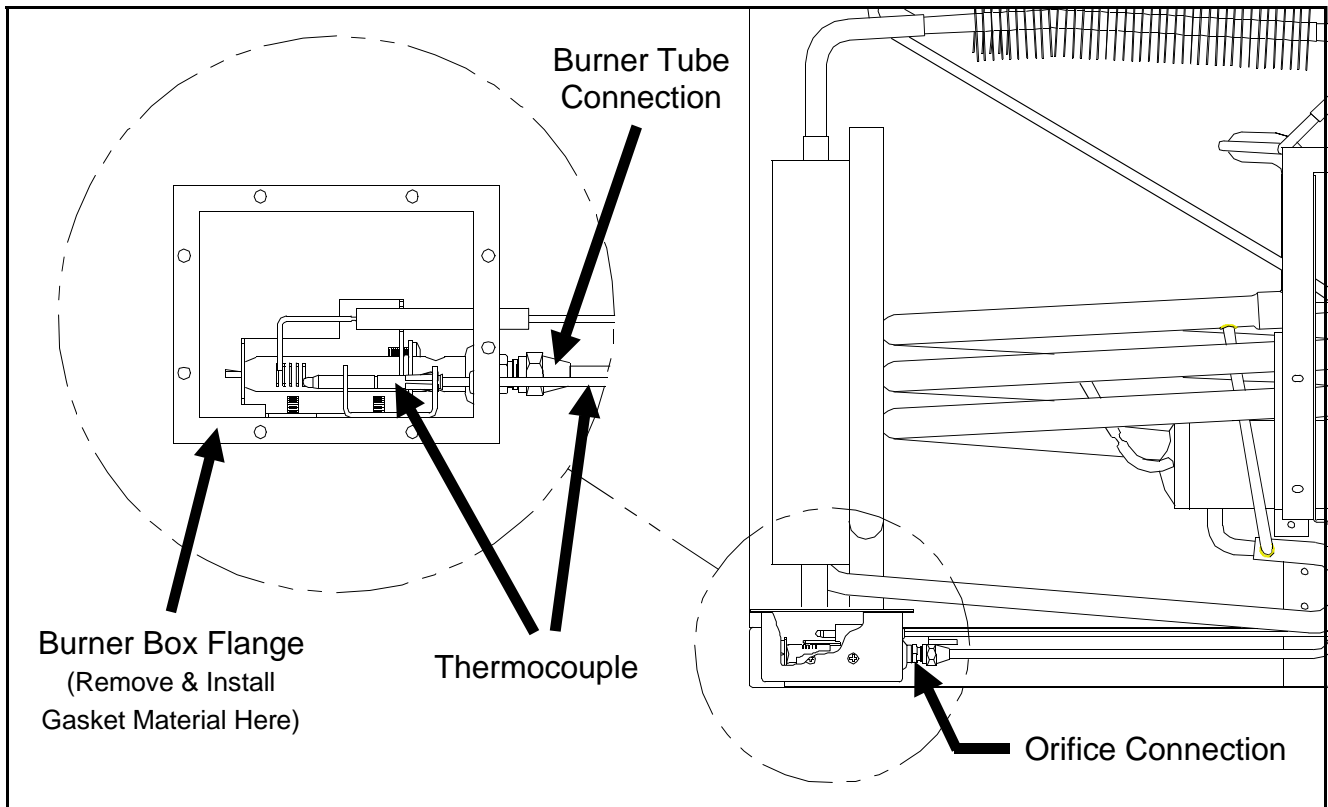


Figure 6 - View of Burner Box

Burner Orifice (Rialta and Eurovan Camper) - Reference Figure 6

1. Once the refrigerator is removed from its enclosure, lay the refrigerator on its side with the cooling unit facing up.
2. Using a 9/16" open-end wrench, loosen and remove the burner tube from the burner orifice.
3. Using a 1/2" open-end wrench, loosen and remove the burner orifice from the burner. Discard the orifice just removed.
4. Install the orifice received (Red Dot) with the upgrade kit by reversing the above procedures.

CAUTION: Do not over-tighten the orifice or the burner tube connections. Over-tightening these connections can result in undue stress and can create gas leaks.

Burner Box Gasket Installation and Thermocouple Alignment (Rialta and Eurovan Camper) - Reference Figure 6

5. Using a phillips screw driver, remove the 8 screws securing the burner box to the cooling unit.

6. Pull the burner box away from the refrigerator until the burner, ignition electrode, and thermocouple are visible.
7. Remove gasket material from the top flange of the burner box.
8. Pull the thermocouple away from the burner box until two clicks are heard.
Do not pull the thermocouple completely out of the burner box.
9. Push the thermocouple into the burner box. The thermocouple tip must be positioned over the first slot of the burner as illustrated in Figure 6 on page 6.
10. Install the new gasket material around flange of burner box.

Caution: Do not install a damaged gasket. Use care when handling the replacement gasket material. If torn, a new gasket (Part # 617977) must be ordered. Call 1-800-543-1219 to place order.

11. Re-attach the burner box to the cooling unit. Insure the gasket remains around the flange of the burner box.

Burner Shield Installation (Rialta and Eurovan Camper) - Reference Figure 7

12. Remove the screw located on the right front face of the burner box and save it for later installation.
13. Slide the heat shield between the refrigerator's cabinet and burner box. ***It may be necessary to lift the burner box up to position the burner shield in place.*** Secure the heat shield to the burner box with the screw removed in Step 12.
14. Align the side of the heat shield with bottom of the refrigerator's support bracket. Secure the heat shield with the two self-tapping screws provided with the kit.

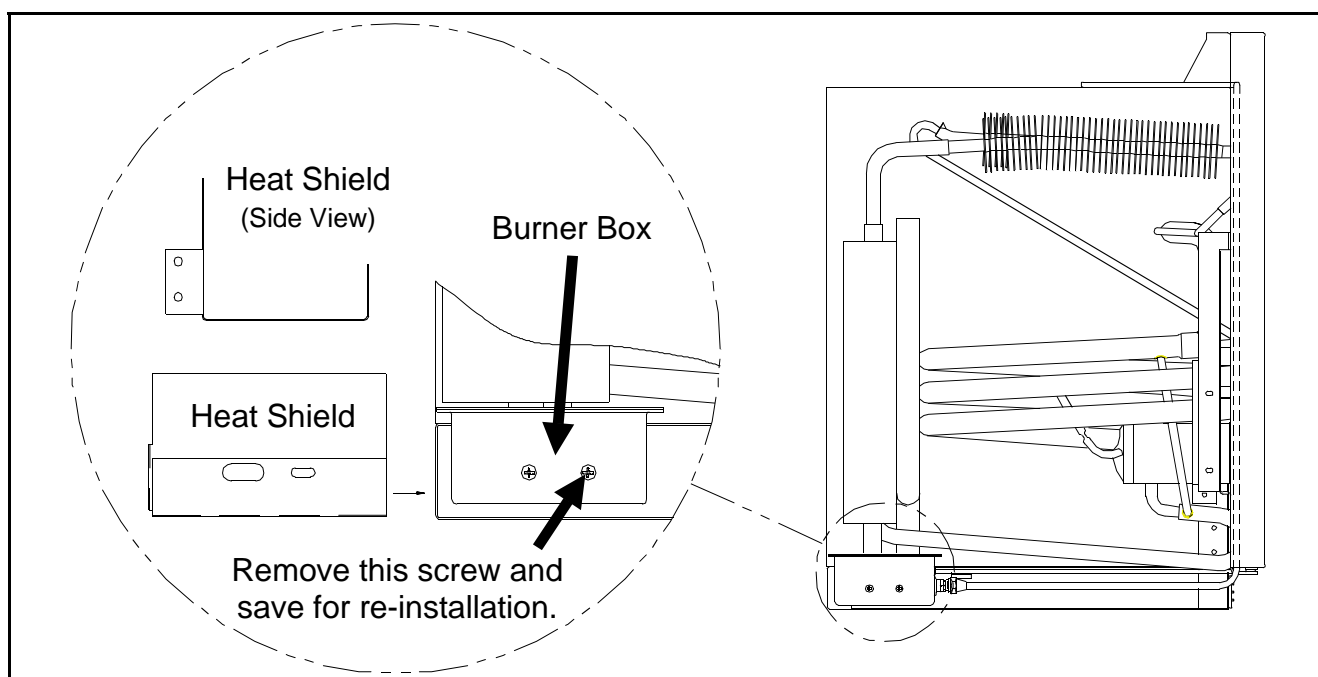


Figure 7 - Heat Shield Installation

PERFORM ELECTRICAL MODIFICATIONS TO REFRIGERATOR BEFORE RE-INSTALLING

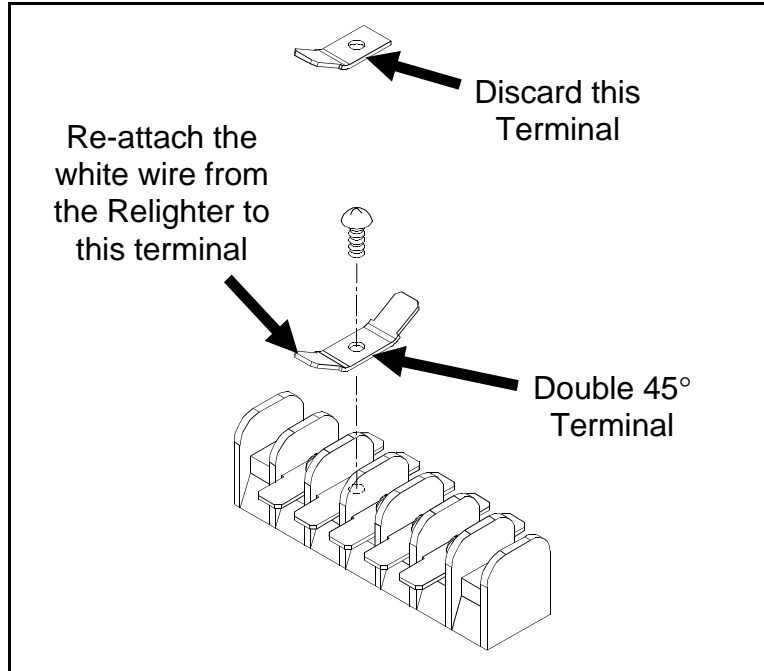


Figure 8 - Terminal Block

Terminal Block Modification (Rialta and Eurovan Camper) - Reference Figure 8

1. Remove the white wire from the negative terminal spade at the terminal block.
2. Using a phillips screwdriver, remove the screw securing the single 45° terminal. Remove and discard the terminal. Attach the supplied double 45° spade terminal with the screw just removed.
3. Re-attach the white wire to the newly installed spade terminal on the spade closest to the front of the refrigerator.

DC Fuse Block Addition (Rialta and Eurovan Camper) - Reference Figure 2

4. Attach the 1 amp fuse label on the left side of the 20 amp fuse.
5. Using the power drill and the 1/16" drill bit, drill a starter hole through the circle on the label. ***Do not drill the hole deeper than 1/8"***.
6. Using a phillips screwdriver, attach the supplied fuse holder with the supplied #6 x 3/8" screw next to the label.
7. Install the supplied 1 amp fuse in the fuse holder.
8. Install the supplied plastic fuse holder cover over the fuse holder. Insure that all electrical contact surfaces (except for the spade terminals) are covered.
9. Remove the red wire between the + 12 volt DC terminal and the 20 amp fuse.
10. Locate the supplied 6" red wire with the 3" pigtail. Connect the end with the pigtail to the input terminal of the 20 amp fuse. Connect the 3" pigtail to the 1 amp fuse holder. Connect the remaining end to the +12 volt DC terminal of the terminal block.

Modify Wiring of the Refrigerator Electrical Circuit - Reference Figures 1 & 2

11. Remove the red wire with jumper located between the 20 amp fuse and the mode selection switch and save for later installation.
12. Remove the red wire located between the mode selection switch and the relighter and discard.
13. Install the supplied 6" yellow wire between the output of the 20 amp fuse to the top DC spade terminal of the mode selection switch.
14. Install the supplied 7" red wire (without jumper) between the 1 amp fuse and the top spade terminal of the Gas mode selection switch.
15. Using the wire saved in Step 11, connect the end with the pigtail to the bottom Gas terminal of the Mode Selection Switch. Connect the pigtail lead of the wire to the open terminal (exposed terminal when removing wire in Step 12) of the relighter. The other lead will be used later when connecting the fan.

Ventilation Fan Assembly Installation

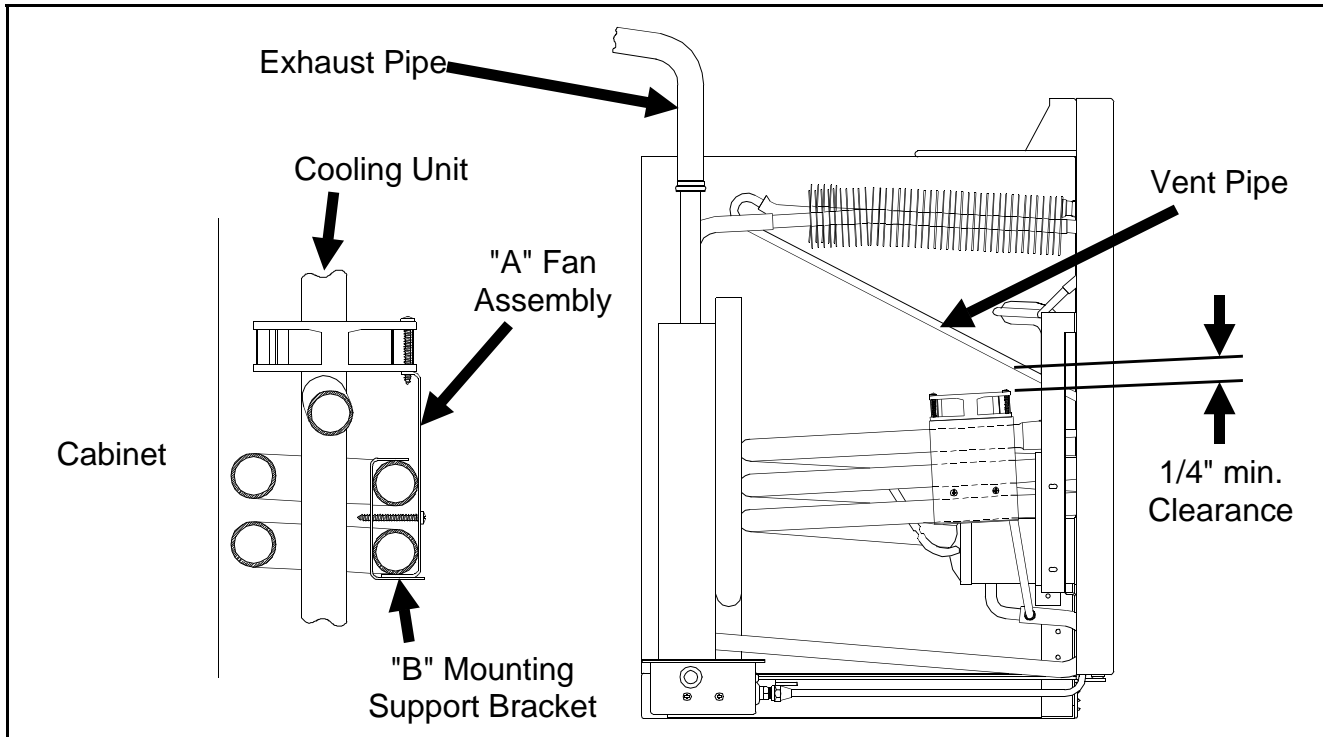


Figure 9 - Eurovan Camper & Rialta Fan Assembly Installation

1. Position the mounting support bracket (B) inside the lower two absorber coils of the cooling unit. The flanges of the mounting support bracket are to point outward and the larger flange is to be at the bottom.
2. Position the fan assembly (A) so that the bottom flange is between the bottom absorber coil and the bottom of the mounting support bracket (B).
3. While holding the fan assembly (A) and the mounting support bracket (B) together, slide them to the right along the absorber coils leaving a minimum of 1/4" clearance between the top of the fan and the vent pipe. Insure the two fan wires are not constricted in any way.
4. Insert the two 1 1/4" screws provided with this kit through the clearance holes of the fan assembly (A) and into the pilot holes in the mounting support bracket (B).
5. Tighten screws to secure ventilation fan assembly to the refrigerator.

Exhaust Vent Pipe Installation

1. Loosen clamp at base of the exhaust pipe.
2. Remove the exhaust pipe and insulation from the refrigerator and discard both items.
3. Install the exhaust pipe and insulation provided with this kit. Tighten clamp to secure exhaust pipe to refrigerator.

Caution: Do not reuse the original exhaust and insulation removed in Step #2 above.

Thermostat Installation

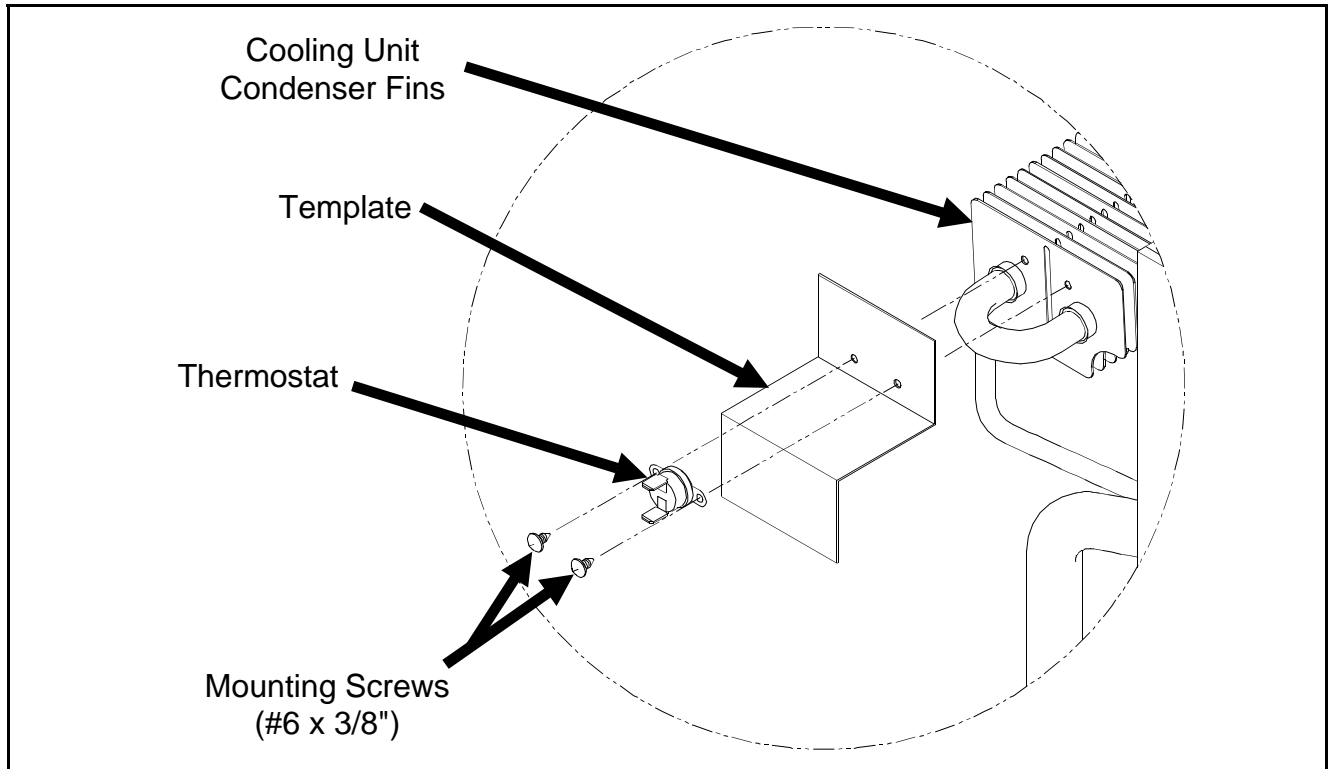


Figure 10 - Eurovan Ventilation Fan Installation

1. Align the provided template with the kit as illustrated in Figure 10

Warning: Contents of the cooling unit under pressure. Rupturing the cooling unit will release chemicals which can cause severe damage to the eyes and skin. Use the provided drill template. Wear protective safety eye glasses and clothing before drilling the pilot holes.

2. Using the 3/8" drill, 3/32" drill bit, and the provided template, drill two pilot holes as illustrated in Figure 10
3. Remove template and save for future installations.
4. Align the thermostat clearance holes with the pilot holes drilled in Step 2.
5. Insert the two #6 x 3/8" screws provided with the kit through the clearance holes of the thermostat and into the pilot holes in the cooling units condenser fins.
6. Tighten screws to secure thermostat to the condenser fins.
7. Attach the black wire of the fan to the open 45° terminal on the refrigerators terminal block.
8. Attach the red wire of the fan to the bottom terminal of the fan terminal.
9. From the kit, remove the 20" red wire. Attach the female end to the top terminal of the fan thermostat. Route the male end up and connect to red wire from the mode selection switch.
10. Proceed to the following section before re-installing the refrigerator.

Test Refrigerator's Electrical Circuit Before Re-Installing the Refrigerator

DC Circuit

1. With the ohmmeter in the "Ohms" mode, connect the black lead to the - DC input and the red lead to the + DC input terminals.
2. The following measurements must be observed in each of the selected modes of operation: (NOTE: These measurements do not depend on thermostat setting.)

<u>Mode</u>	<u>Nominal</u>	<u>Low Limit</u>	<u>High Limit</u>
AC Mode	Open Circuit	Open Circuit	Open Circuit
DC Mode	1.4 ohms	0.5 ohms	3.0 ohms
Gas Mode	365 ohms	190 ohms	664 ohms

3. Remove the ohmmeter from the DC input terminals.

AC Circuit

4. With the Ohmmeter in the "Ohms" mode, Connect the ohmmeter leads to the AC input terminals on the terminal block.
5. With the thermostat in the start position, the ohmmeter should measure an open circuit in all of the push-button selector modes of AC, DC, and Gas.
6. With the thermostat at the #2 setting, observe the following measurements in each of the selected modes:

<u>Mode</u>	<u>Nominal</u>	<u>Low Limit</u>	<u>High Limit</u>
AC Mode	86.5 ohms	65 ohms	105 ohms
DC Mode	Open Circuit	Open Circuit	Open Circuit
Gas Mode	Open Circuit	Open Circuit	Open Circuit

7. Remove the ohmmeter leads from the AC input terminals of the terminal block.

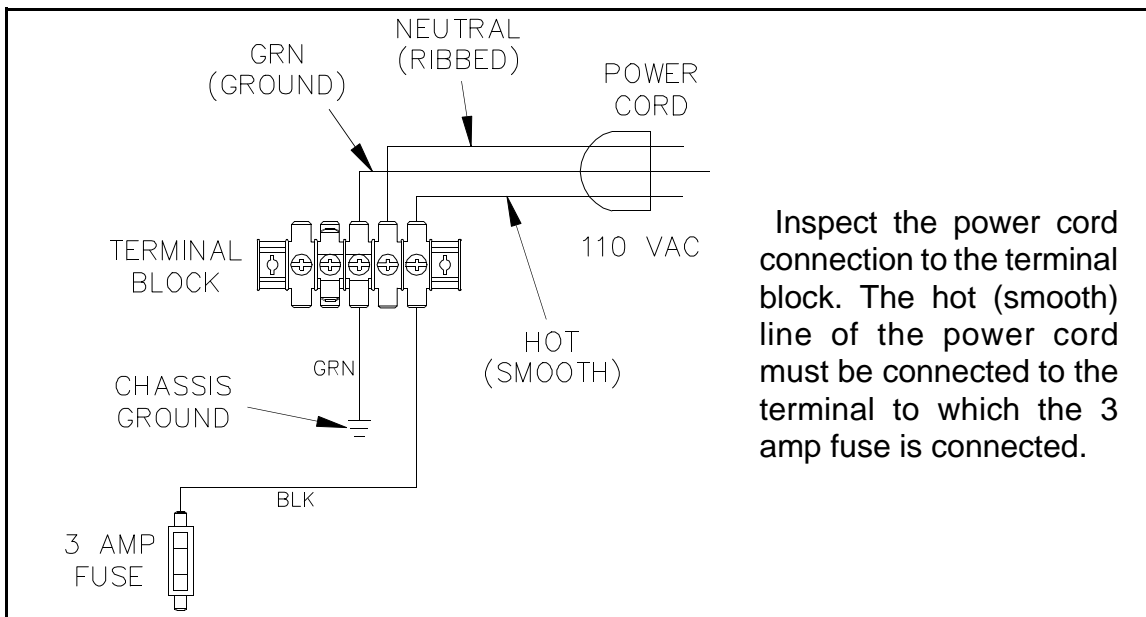


Figure 11

Re-Installing Refrigerator

1. Attach the supplied wiring diagram over the existing diagram located at the top of the refrigerator.
2. Slide the refrigerator halfway into the enclosure.
3. Proceed to slide the refrigerator into the enclosure while making sure the ventilation fan wires are not pinched or entangled. **Be sure to have 2" minimum clearance to any wiring or plumbing.**
4. Re-install the refrigerator by reversing the removal procedures.

NOTE: Insure that the "O" ring seals are on the ends of the flexible piping which connects to the vent terminal housing. When connecting the vent-air intake and exhaust piping to the vent terminal housing, connect the piping as follows:

Exhaust Pipe - This pipe is insulated and connects to the flue tube of the cooling unit. Route and connect to the bottom opening of the vent terminal housing.

Intake Pipe - This pipe is ***not*** insulated and connects to the burner cover. Route and connect to top opening of the vent terminal housing.

5. After connecting the vehicle's gas supply line to the refrigerator's manual shut-off valve, turn the valve on. Use a manometer and verify that the input gas pressure is at 11" W.C.
6. Turn off the gas supply at the manual shut-off valve. Observe the manometer to verify that the gas pressure is maintained for 5 minutes. If a gas leak is noted, apply leak test solution to all gas fittings and observe for signs of leakage. **Do not test for gas leaks with an open flame.** Correct any leaks and retest the system.

When technical assistance is required, call 1-800-543-1219