

INSTALLATION INSTRUCTIONS

Certification and Code Requirements

The refrigerators described herein are certified under the latest edition of ANSI Z21.19 Standards by the American Gas Association (A.G.A.) for installation in mobile home or recreational vehicle and approval by the Canadian Gas Association (CGA).

Installation must be made in accordance with these standards and with the installation instructions provided in this manual for the Norcold factory warranty to be in effect.

Installation must conform with local codes, or in the absence of local codes, with the following standards as applicable:

In the United States:

- National Fuel Gas Code, ANSI Z223.1.
- Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 23-80.
- Standard for Recreational Vehicles, ANSI A119.2, latest edition.

When an external electrical energy is utilized, the refrigerator must be electrically grounded in accordance with local codes, or in the absence of local codes, the National electrical Code, ANSI/NFPA 70.

In Canada:

- Current CGA B149.1 and B149.2 installation code for Propane Appliances and Equipment..
- Current CSA Z240.4.2 installation code for Propane Appliances and Equipment in Recreational Vehicles.
- Current CSA Z240.6.2/C22.2 No. 148 Electrical Requirement for Recreational Vehicles.

When installed, the appliance must be electrically grounded in accordance with the current Canadian Electrical Code C22.2 Parts 1 and 2.

Cut-Out Dimensions

The refrigerators certified for built installation and requires cut-out dimensions as indicated in Table 2 below.

TABLE 2
REFRIGERATOR CUT-OUT OPENINGS (INCHES)

<u>Model</u>	<u>Height</u>	<u>Width</u>	<u>Depth</u>
662,3	52 7/8	23 1/2	24
6162,3	52 7/8	23 1/2	24
682,3	59 7/8	23 1/2	24
6182,3	59 7/8	23 1/2	24
652,3	43 1/4	23 1/2	24
6052,3	43 1/4	23 1/2	24

Combustion Seals

Combustion seals (foam strips) are attached to the back surface of the refrigerator's mounting flanges. These seals isolate the products of combustion from the vehicle's living space. **The seals must be continuous between the wall and the mounting flanges to assure a complete combustion seal.** When installing or removing the refrigerator, insure that the seals are not missing or damaged.

Lower Flange Installation

The lower mounting flange and mounting screws are located in a clear plastic bag positioned in the coils at the rear of the refrigerator. After removing the plastic bag, slide the refrigerator partially into the enclosure and attach the lower mounting flange. Install the lower mounting flange by maneuvering it under and behind the bottom hinge and secure with the screws provided. Refer to Figure 7. **Do not omit installation of the lower mounting flange. This flange is part of the combustion seal.**

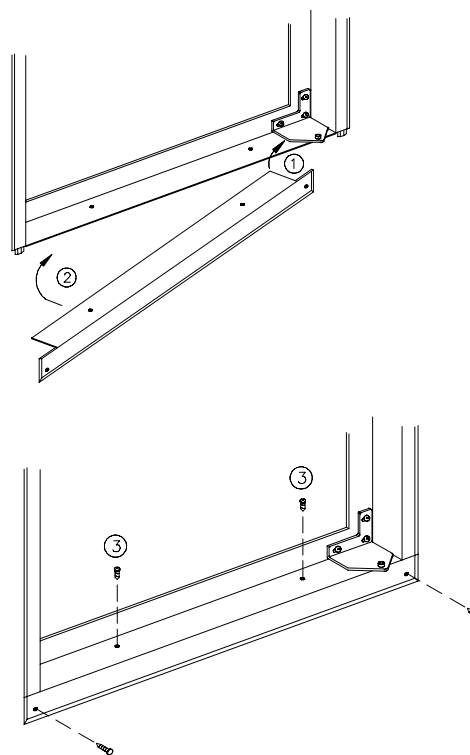


Figure 7

Securing the Refrigerator

Secure the refrigerator with screws through the mounting flange holes at the front of the refrigerator and the holes at floor level at the rear of the refrigerator. Screw covers are provided to cover the front mounting flange holes.

Gas Connection

The refrigerators are designed to operate on propane gas at a supply pressure of 11 inches water column. A pressure regulator is required between the refrigerator and the main gas tank. Do not connect the refrigerator directly to the main propane tank without a pressure regulator.

Use supply piping and fittings that comply with local, state, and national codes governing type and size. These components should also comply with NFPA 501C. Flexible metal connectors must comply with the current CAN 1-6.10 Standard. To prevent gas pressure loss to the refrigerator, the propane should be supplied by a 3/8 inch diameter copper piping. The gas supply piping is connected to the refrigerator by means of 3/8 inch SAE (UNF 5/8 - 18) male flare fitting.

Route the gas supply piping to limit vibration and abrasion. The gas supply piping should enter the refrigerator enclosure near the gas connection at the rear of the refrigerator. The hole through which the gas piping enters should be of sufficient size (approximately 1/2 inch diameter) to provide adequate clearance for the piping. Once the gas piping is in place, apply a sealant around the piping at its point of entry to minimize abrasion and vibration, and to serve as a barrier to external moisture.

CAUTION: Use two wrenches when manipulating the gas inlet fitting. Failure to use two wrenches can over stress the piping and create gas leaks.

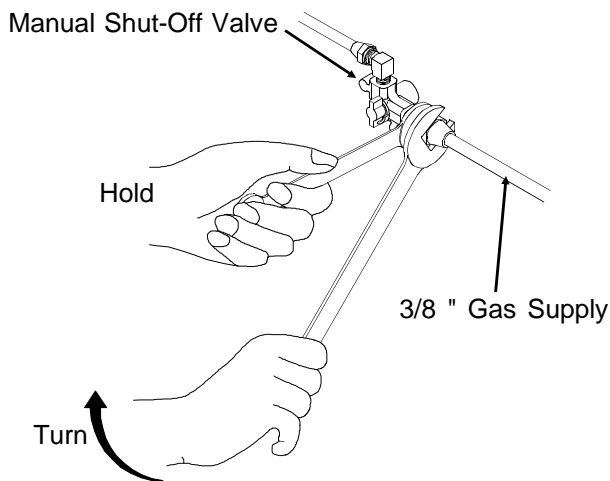


Figure 8

The gas supply is connected to the refrigerator at the inlet to the manual gas valve located at the bottom rear of the refrigerator. Access to this area is obtained through the vehicle's lower vent door. Care must be taken when connecting the gas piping to the refrigerator to insure the fittings are secure.

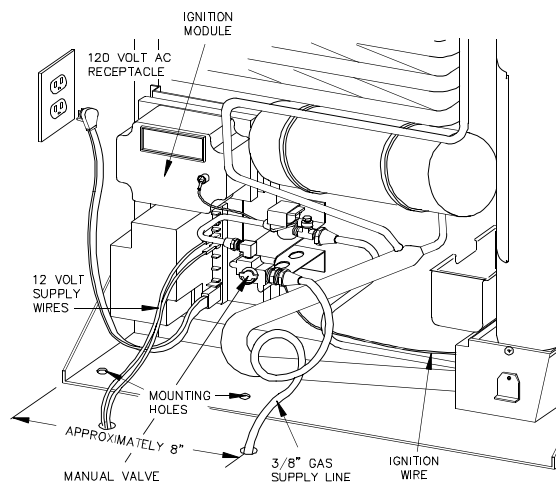


Figure 9

120 Volt AC Connection

WARNING: The refrigerators are designed to operate on a 120 volt, 60 Hertz grounded AC circuit. The refrigerator's AC power cord is equipped with a three-prong grounding plug which must mate with a three-prong grounded receptacle to protect against possible electrical shock hazards. Operating the refrigerator without proper ground can cause property damage, severe personal injury, or death. It is the installer's responsibility and obligation to provide a properly grounded electrical circuit to the refrigerator accordance with local codes, or in the absence of local codes, the National Electrical Code, ANSI/NFPA 70. Do not cut or remove the round grounding prong from the refrigerator's AC power cord. Do not use a two prong adapter or an extension cord.

The free length of the refrigerator's AC power cord is 24 inches. It is recommended that the three-prong grounded receptacle be located to the left side of the refrigerator (viewed from rear) and approximately 12 inches from the floor (see Figure 9 above). The AC power cord must be routed so as not to contact the refrigerator's burner, flue pipe, or any other component which could damage the cord insulation.

12 Volt DC Connection

A 12 volt DC supply is required to maintain the refrigerator's operating control functions. The DC supply connects to the refrigerator at the power supply

board located at the rear of the refrigerator (Figure 9). The 12 volt DC should enter the refrigerator's enclosure near the refrigerator's power supply board. The 12 volt DC connects at (2) one quarter inch quick connects. The positive DC input lead connects to terminal J4, and the DC ground input lead connects to terminal J3.

⚠ CAUTION: Correct polarity must be observed when connecting the DC supply. Do not use the chassis of the refrigerator or the vehicle frame as one of the conductors. Connect DC supply wires at the battery and route to the refrigerator.

The distance the current travels from the battery to the refrigerator dictates the wire size. Undersized wire can result in a voltage drop, which will affect the wattage output of the DC heater and result in reduced refrigerator performance. Norcold recommends the installation of a fuse in the supply wiring between the battery and the refrigerator. For optimum protection, install the fuse as close to the battery as possible.

⚠ WARNING: A circuit overload can result in an electrical fire when undersized wires or improperly sized fuses are used. To prevent a possible electrical fire, follow R.V.I.A. A119.2 Standards, Norcold's wire size and fuse specifications, or applicable state and local codes.

TABLE 3
12 VOLT SUPPLY WIRING AND FUSE SIZE

	6162, 6182 662, 682 6052, 652		6163, 6183 663, 683		6053, 653	
	min. wire size	max. fuse size	min. wire size	max. fuse size	Min. wire size	max. fuse size
0 - 20'	18 AWG	6 Amp	10 AWG	30 Amp	12 AWG	20 Amp
over 20'	18 AWG	6 Amp	8 AWG	40 Amp	10 AWG	30 Amp

If a wire size is installed which is larger than the minimum size indicated the table above, it must be fused in accordance with the R.V.I.A. A119.2 standard or local governing codes.

Hypot Test

A Dielectric Strength test (hypot) has been conducted at the factory; this refrigerator does not re-

quire an additional test. If hypot tests are conducted on the vehicle's 12 volt circuit, the 12 volts **must** be disconnected from the refrigerator to protect the flame ignition circuit.

Testing the Vehicle's Gas Supply Piping

When installation of the refrigerator is complete, the propane gas supply piping must be inspected and tested for leaks from the refrigerator to the main gas supply tank. Use a leak detection solution. **Do not test for leaks with an open flame.**

If compressed air is used for leak testing, the gauge pressure must not exceed 1/2 pound per square inch (14 inches water column).

The appliance and its individual shut-off valve (Figure 10) must be disconnected from the gas supply system during any pressure testing of that system at test pressures greater than 1/2 psig (14 inches water column).

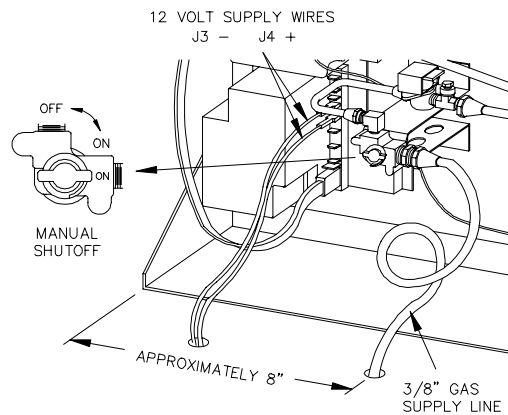


Figure 10

The appliance must be isolated from the gas supply system by closing its individual manual shut-off valve (Figure 9) during any pressure testing of that system at test pressure equal to or less than 1/2 psig (14 inches water column).

Check the gas pressure to the refrigerator without other gas appliances operating. The pressure should not exceed 11 inches water column. With other appliances operating the pressure should not be less than 10.5 inches water column.

Check Out - Flame Failure Safety Device

Before placing the refrigerator into operation, the gas safety device must be tested (see Operating Instructions on page). The purpose of the gas safety device is to prevent the escape of unburned gas from the burner if the burner flame is extinguished. While there is a flame present at the burner, disconnect the electrode wire to ignition module (see Figure 11).

Within 20 seconds the flame will go out, indicating the safety lock-out circuit is operational. Reconnect the wire to the ignition module upon completion of the test.

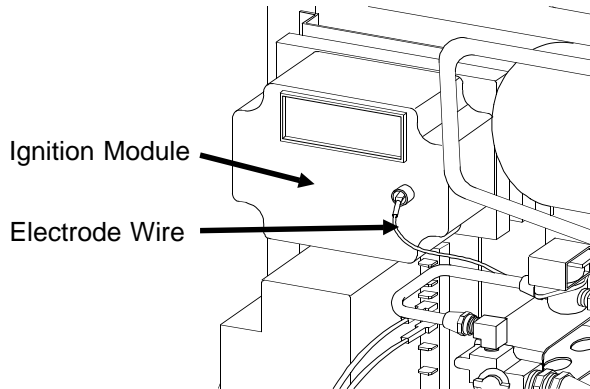


Figure 11

Door Panel Installation

The Norcold refrigerator doors provide slots for inserting decorative panels. Installation of the panels is accomplished by removing the handle assembly, inserting the decorative panel, and re-inserting the handle assembly. This procedure applies to both doors. (See Figure 12)

The frame slots are designed to accept panel thickness up to 3/16" maximum.

TABLE 4
PANEL DIMENSIONS

	662, 663 6162, 6163	682, 683 6182, 6183
Upper Door	19 11/16" x 16"	19 11/16" x 16"
Lower Door	19 11/16" x 32 1/4"	19 11/16" x 39 1/4" Note: use this dimension for models 652,3 & 6052,3 outer door

INSTRUCTIONS

1. Prepare panel by cutting to size indicated in accompanying chart. (See TABLE 4)
2. Remove handle assembly (A) by removing four screws (B). (See Figure 12)
3. Slide panel into frame slots.
4. Replace the handle assembly.

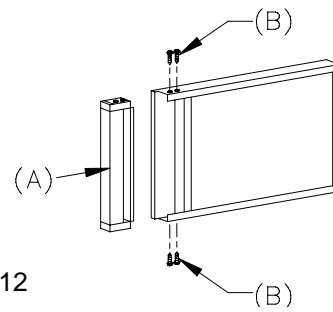


Figure 12

Instructions for Reversing Door Swing

Your refrigerator is equipped with convertible hinges which allows the door swing to be changed at any time.

TOOLS REQUIRED

- Phillips Screwdriver - Size #2
- Two Slotted Screwdrivers

REMOVING THE DOORS

1. Remove all items of food, juices, etc., from the doors. Remove the juice rack and storage bins. Close both doors before removing hinge pins.
2. Remove the top hinge pin using one of the slotted screwdrivers. Remove the center hinge pin (both pieces) using the two slotted screwdrivers; one on each end of the pin. Lastly, remove the bottom hinge pin. Be sure to save the pins for reassembly later. (See Figure 19)
3. Remove the upper door by opening the door slightly and pulling the bottom of the door away from the refrigerator. Allow enough room to slide the door down off of the upper hinge pin shoulder. (See Figure 13)

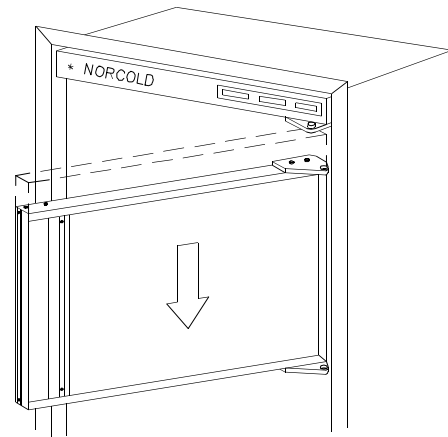


Figure 13

- 4 Remove the lower door by opening it slightly and pulling the top of the door away from the refrigerator. Allow enough room so the door can be lifted up and off of the bottom hinge pin shoulder (See Figure 14). Be sure to save the hinge plates along with the spacer used in the middle hinge bracket, for reassembly later. (See Figures 19A, 19B, and 19C)

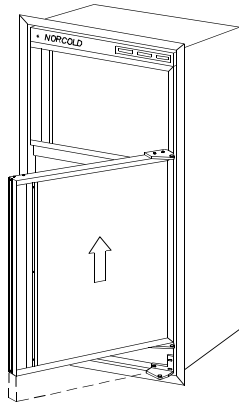


Figure 14

REMOVING AND RELOCATING THE HINGE BRACKETS

5. Remove the middle hinge bracket by using the #2 Phillips screwdriver and taking out the three screws holding it in place. Next, remove the three screws on the opposite side corresponding to the center hinge location. Relocate them in the holes just exposed by the removal of the hinge bracket. Attach the hinge bracket to the refrigerator on the opposite side. Do not tighten screws completely. (See Figure 15)

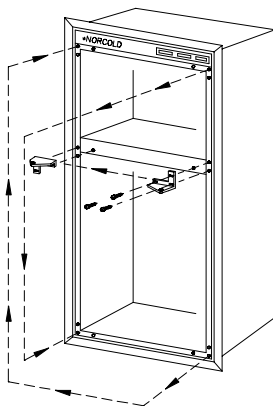


Figure 15

6. Remove the top hinge bracket and reposition it in the opposite bottom corner. Use the same technique as outlined in Step #5.
7. Remove the bottom hinge bracket and reposition it in the opposite top corner. Use the same technique as outlined in Step #5.

RELOCATING THE TRAVEL LATCHES

8. Remove both travel latches by taking out the two screws holding each to the refrigerator. Use the #2 Phillips screwdriver. Remove the two screws from each of the corresponding holes on the opposite side of the refrigerator. Relocate them in the two holes just exposed by the removal of the latches. Attach the latch in the new position so the tab points towards the opposite side of the refrigerator. Do not tighten screws completely. (See Figure 16)

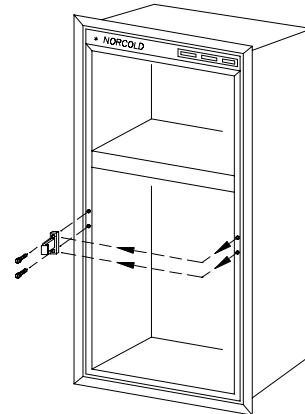


Figure 16

9. Turn the door over so that the end previously at the bottom is now at the top. Relocate the bottom of the door on the bottom hinge pin shoulder. Close door and align holes in top hinge brackets. The magnetic gasket will hold the door in place. Before reinstalling the top door, check to insure that the spacer is in place. (See Figures 17 and 19C)

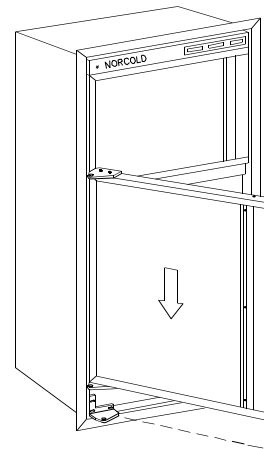


Figure 17

10. Reposition the upper door in a similar manner as described in Step #9, except the top of the door must be engaged into the hinge pin shoulder before setting the door in place. (See Figure 18)

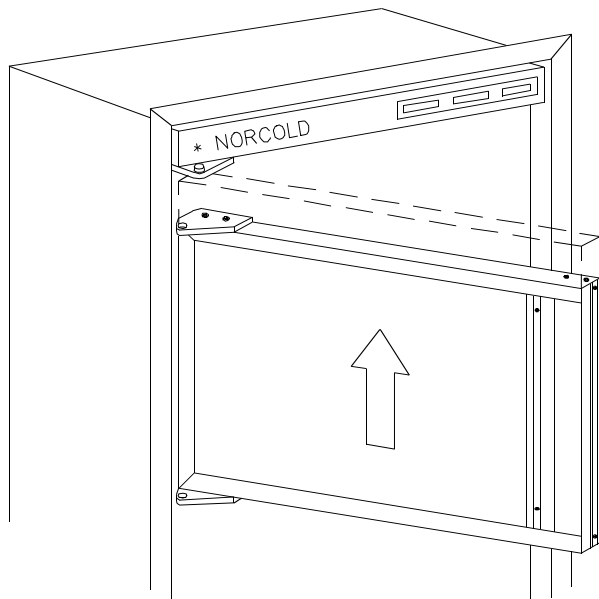


Figure 18

11. Starting at the top, replace the hinge pins using the slotted screwdrivers as in the removal procedure. Tighten all screws.

ALIGNMENT OF THE DOORS

12. Align the upper door with the lower so that there is a parallel gap between the doors and around the frame. Adjust the doors to the cabinet so the gaskets seal but do not bind. Tighten the screws holding the hinge brackets in place.
13. Door Seal: The door seal can be checked by closing the door on a 1" x 6" strip of paper. A slight drag should be noticed when the paper is pulled out from between the gasket and the cabinet. Repeat the process around all four sides of the door. If the door does not seal properly, readjust the hinge brackets.
14. Position the travel latches so that they secure the doors when closed but does not prevent the doors from closing properly. Tighten the two screws in each travel latch.
15. Replace the juice rack and storage bins into the door. Make sure that the milk bins (wider storage bins) are installed in the lowest door position.

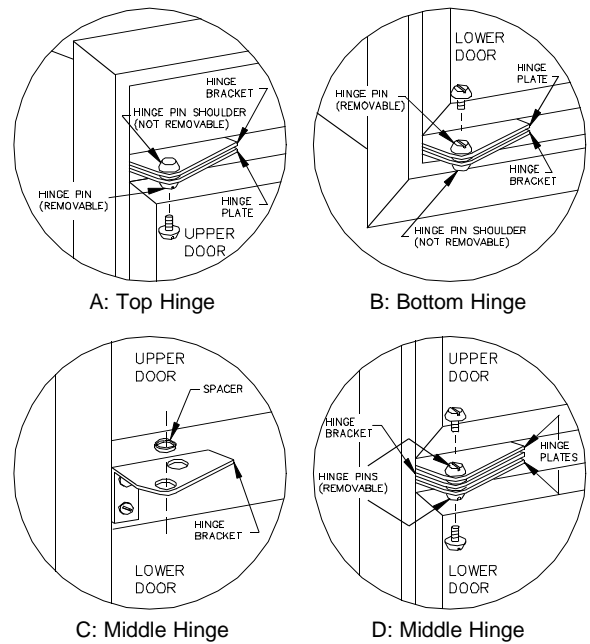


Figure 19