



# Installation and Owner's Manual

For N3000 models with touchscreen



Improper installation, adjustment, alteration, service or maintenance can cause personal injury or property damage. Refer to this manual. For assistance or additional information, contact a qualified installer, service agency, or the gas supplier.

## FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquid in the vicinity of this or any other appliance.

## FOR YOUR SAFETY

If you smell gas:

1. Open windows
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.



DO NOT install this refrigerator in below deck marine applications. Do not install this refrigerator in fixed indoor cabin or other dwelling applications. This refrigerator must use only NORCOLD designed and approved outside air intake and exhaust ventilation for correct and safe operation. Any other ventilation could cause lethal combustion exhaust fumes and/or propane gas fumes to be present in the living area and/or below deck.

**English**

NORCOLD, Inc.  
P.O. Box 4248  
Sidney, OH 45365-4248

Norcold Customer Support Dept.  
Telephone: 800-543-1219  
Fax: 937-497-3183  
Web Site: [www.norcold.com](http://www.norcold.com)

Part No. 635607E (2013/05/14)

## Table of Contents

---

Owner's Manual .....	3
Safety Awareness.....	3
Safety Instructions.....	3
About Your Refrigerator.....	4
Refrigerator components.....	4
Storage Volume.....	4
Leveling.....	5
Operation during travel.....	5
Use of refrigerator compartment .....	5
Moving storage shelves .....	5
Moving door bins.....	5
Freezer compartment.....	5
Control Panel with Touchscreen.....	6
Turn refrigerator on .....	6
Anti-condensation heater .....	6
Selecting a Source .....	7
Sources.....	7
Select cooling level .....	7
Turn refrigerator off .....	7
Temperature Control System.....	8
Effects of High Altitude on Propane Gas Operation .....	8
Effects of Freezing Temperatures on Refrigerator Operation.....	8
Refrigerator Care Checklist.....	8
Defrosting.....	9
Cleaning .....	9
Check the Seal of the Doors .....	10
Refrigerator Maintenance Checklist .....	10
Refrigerator Storage.....	11
Refrigerator Maintenance.....	11
Gas flame appearance.....	11
Remove and clean the burner orifice .....	12
Wiring Diagram and Pictorial.....	13
Replacement Parts.....	14
Troubleshooting.....	14
Frequently Asked Questions .....	14
Installation Manual.....	15
Safety Awareness.....	15
Safety Instructions.....	15
Certification and Code Requirements .....	16
Ventilation Requirements .....	16
Key Refrigerator Dimensions .....	17
Assemble the Enclosure for the Refrigerator .....	17
Install the Lower and Upper Vents .....	18
Reverse the Door Swing (optional) .....	22
Handling .....	23
Install the Refrigerator.....	23
Combustion Seal.....	23
Connect the Electrical Components.....	24
Connect the 120 volts AC supply .....	24
Connect the 12 volts DC supply.....	24
Connect the Propane Gas Components .....	25
Connect the propane gas supply system .....	25
Connect the gas supply line to the refrigerator .....	25
Examine the gas supply system for leaks.....	26
Ignition and Start Up.....	26
Control Panel with Touchscreen.....	26
Removing Air From the Propane Gas Supply Lines.....	27
Set the Controls to Automatic Mode Operation .....	28
Turn Refrigerator Off .....	28
Remove the Refrigerator .....	28

# Owner's Manual

## Safety Awareness

---

Read this manual carefully and understand the contents before you use the refrigerator.

Be aware of possible safety hazards when you see the safety alert symbol on the refrigerator and in this manual. A signal word follows the safety alert symbol and identifies the danger of the hazard. Carefully read the descriptions of these signal words to fully know their meanings. They are for your safety.



This signal word means a hazard, which if ignored, can cause dangerous personal injury, death, or much property damage.



This signal word means a hazard, which if ignored, can cause small personal injury or much property damage.

## Safety Instructions

---



- The storage of flammable materials behind or around the refrigerator creates a fire hazard. Do not use the area behind the refrigerator to store anything, especially flammable materials (gasoline, cleaning supplies, etc.)
- Do not remove the round ground prong from any of the AC power cords. Do not use a two prong adapter or an extension cord with any of the AC power cords.
- A circuit overload can result in an electrical fire if the wires and/or fuses are not the correct size. Use only the wire and fuse sizes as written in the "Installation Manual".
- Incorrect installation, adjustment, change to, or maintenance of this refrigerator can cause personal injury, property damage, or both. Have service and maintenance work done by your dealer or by a Norcold authorized service center.
- Disconnect both the AC and DC power sources before doing any maintenance work on the refrigerator. All service work on this refrigerator must be done by a qualified service technician.
- Do not bypass or change the refrigerator's electrical components or features.
- When you discard an appliance, remove all doors to prevent accidental entrapment and suffocation.
- Do not spray liquids near electrical outlets, connections, or the refrigerator components. Many liquids are electrically conductive and can cause a shock hazard, electrical shorts, and in some cases fire.
- The refrigerator cooling system is under pressure. Do not try to repair or to recharge a defective cooling system. The cooling system contains sodium chromate. The breathing of certain chromium compounds can cause cancer. The cooling system contents can cause severe skin and eye burns, and can ignite and burn with an intense flame. Do not bend, drop, weld, move, drill, puncture, or hit the cooling system.
- At regular intervals, make sure that the refrigerator flue the burner, the vent areas, and the ventilation air pathway between the vents is completely free from any flammable material or blockage. After a period of storage, it is especially important to check these areas for any flammable material or blockage caused by animals.

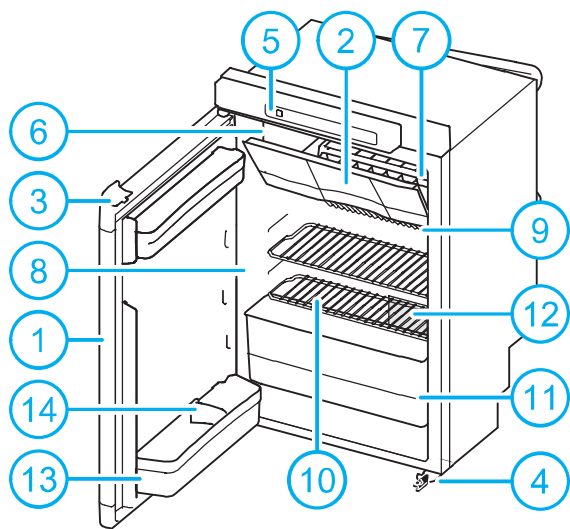


- The rear of the refrigerator has sharp edges and corners. To prevent cuts or abrasions when working on the refrigerator, be careful and wear cut resistant gloves.

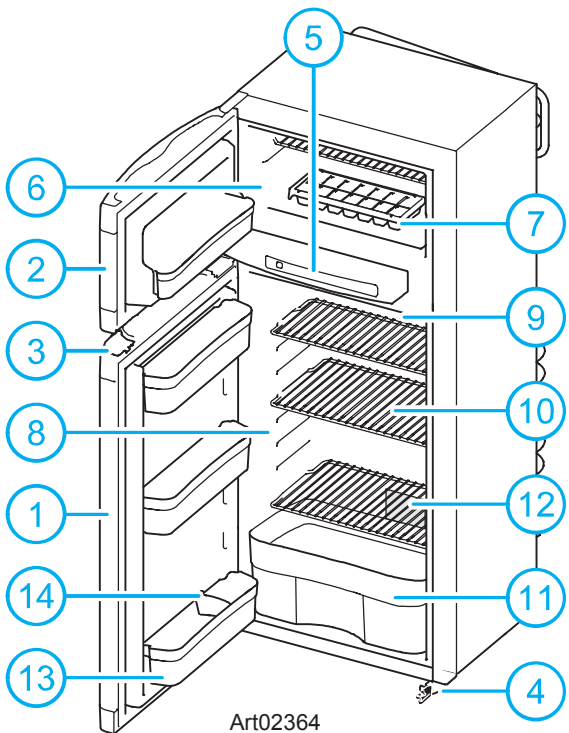
About Your Refrigerator

model N3104

model N3150



Art02363



Art02364

Refrigerator components

1.....	Refrigerator door
2.....	Freezer door
3.....	Door lock
4.....	Security lock (dependent on model)
5.....	Control panel with LCD touchscreen
6.....	Freezer compartment
7.....	Ice cube tray
8.....	Refrigerator compartment
9.....	Cooling fins
10.....	Storage shelves
11.....	Vegetable bin
12.....	Serial label
13.....	Door bins
14.....	Bottle retainer

Storage volume

This refrigerator is made for storage of foods and frozen food and for making ice.

Total capacity:                      model N3104 - 3.7 cubic feet                      model N3150 - 5.3 cubic feet

## Leveling



The refrigerator is made to operate within 3° off level side-to-side and 6° off level front-to-back (as looking at the front of the refrigerator). Operating it at more than these limits can cause damage to the cooling system and create a risk of personal injury or property damage. Make sure the vehicle is level before you operate the refrigerator.

## Operation during travel

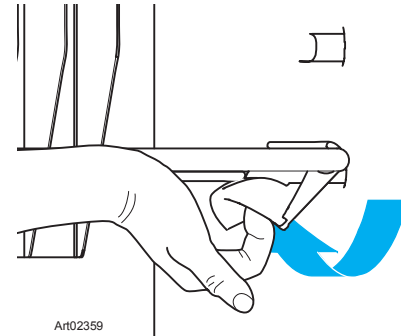
While the refrigerator should be level when the vehicle is stopped, performance during travel is not usually affected.

## Use of refrigerator compartment

You can organize your refrigerator as desired by moving the storage shelves and door bins. Make sure the door can still be closed after reorganizing shelves and bins.

### Moving storage shelves

Remove and save the screw below the plastic clamp on the right side of the storage. Turn the plastic clamp upwards, as illustrated. Lift the right side a bit, and move the storage shelf to the desired position. First place the left side of the storage shelf in the refrigerator wall, then the right side in the corresponding groove. Turn the plastic clamp downwards, and replace the screw underneath.



### Moving door bins

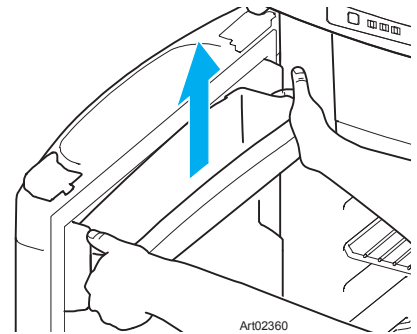
Push a door bin out of the locking with both hands, as illustrated. Place this door bin back in the desired position and push it back on the locking.

For the best cooling performance:

- Let air move freely inside the entire food compartment.
- Do not cover the shelves with plastic, paper, etc.

To decrease the amount of ice that collects on the cooling fins:

- Cover all liquids and moist foods.
- Let all hot foods cool before putting them in the refrigerator.
- Do not open the door any longer than necessary.



## Freezer compartment

The freezer compartment is made to keep pre-frozen food frozen and not to quick freeze food. Keep pre-frozen foods in the freezer compartment.

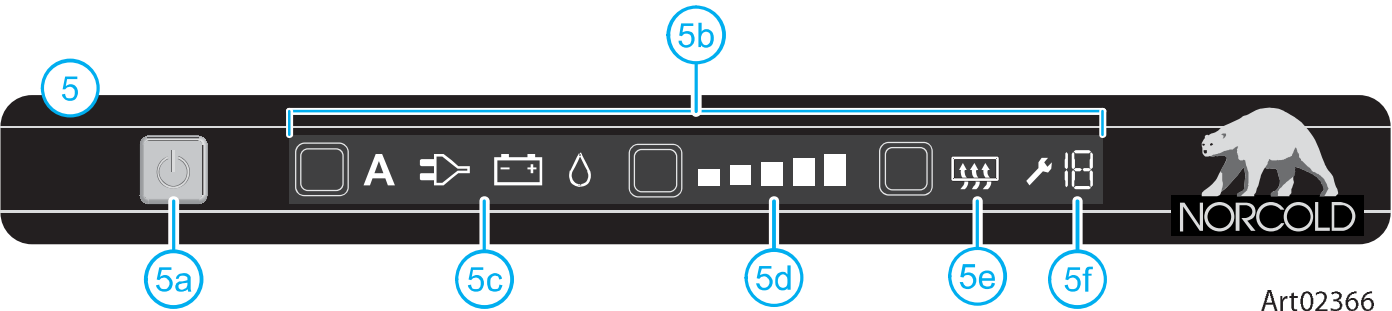
### NOTICE

*Do not put other items on the ice tray while the water is freezing. The water freezes more rapidly if the thermostat is at the COLDEST position.*

### NOTICE

*Do not wash the vegetable bins, door bins, or bin slides in a dishwasher. The vegetable bins, door bins, and bin slides are not dishwasher safe.*

Control Panel With Touchscreen



Art02366

5.....	Control panel with LCD touchscreen
5a.....	On/off switch
5b.....	Touchscreen
5c.....	Mode symbols
5d.....	Cooling level indicators
5e.....	Symbol 'anti-condensation' (only for model N3150)
5f.....	Error code

Turn refrigerator on

Start up the refrigerator and let it cool for eight hours before loading with food. If the refrigerator does not start to cool down after about two hours, contact your dealer or a Norcold authorized service center.

For best cooling performance, level your vehicle before operating the refrigerator.

To turn the refrigerator on, push the on/off switch and hold it for 1 second, as illustrated. A light in the on/off switch will turn green.

After 10 seconds the settings will dim. The green light indicates the refrigerator is still functioning.

To check the settings push the on/off button again. The currently active settings will light up. For optimal performance, turn the refrigerator on eight hours before placing food.

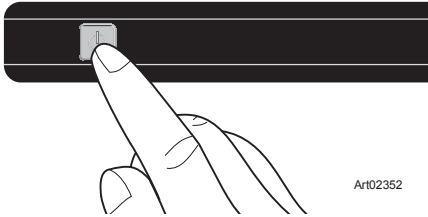
Anti-condensation heater (present on refrigerator model N3150 only)



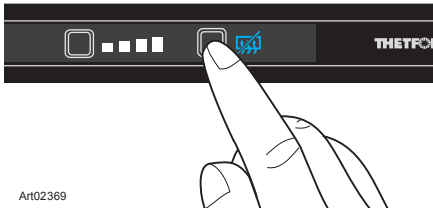
To prevent condensation from forming on the control panel , the anti-condensation function is automatically turned on (no symbol visible). Only turn this function off when it is necessary to conserve vehicle battery charge.

To turn OFF the anti-condensation heater, push on the anti-condensation button. The symbol on the control panel will light up, indicating that the anti-condensation heater has been turned OFF.

To turn the anti-condensation heater back on, push the anti-condensation button again. The symbol on the control panel will go off, indicating that the anti-condensation heater has been turned ON.



Art02352



Art02369

Selecting a source

After turning the refrigerator on, push the source button several times, as illustrated. Push until the desired source is selected.

Sources

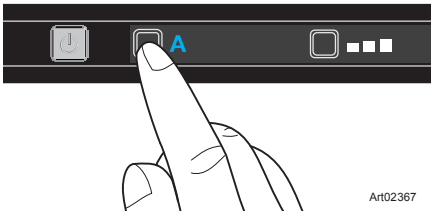
- Auto

The refrigerator automatically selects the best source available (in order: AC, DC, gas)
- AC

The refrigerator is powered by AC.
- DC

The refrigerator is powered by the battery of your vehicle.
- Gas

The refrigerator is powered by propane gas.



Always use the gas or AC mode to start up and cool. Operating on 12V DC is only effective while the engine of the vehicle is running.

If the 'auto' function on the refrigerator is selected, but no source is available, a light in the on/off switch blinks red.

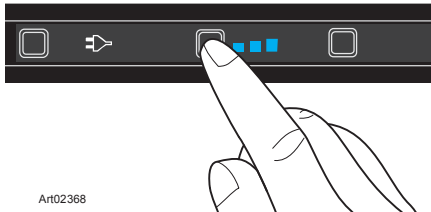
The performance of the refrigerator operating on 12V DC is dependent on the thickness and length of the wiring and the overall installation of the vehicle.

Select cooling level

After turning the refrigerator on, push the cooling level button several times, as illustrated. Push until the desired level is selected.



We advise to set the refrigerator on cooling level 3, with an ambient temperature between 60°F and 75°F. A higher temperature needs a higher cooling level, a lower temperature a lower level.

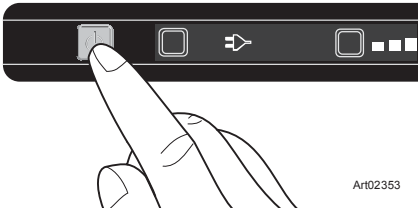


Turn refrigerator off

Before defrosting the refrigerator or storing your vehicle, turn the refrigerator off. Push the on/off switch, as illustrated, and hold it for 2 seconds to turn off the refrigerator. All lights will go out.

**NOTICE**

*If storing the vehicle for an extended period of time, make sure to disconnect the fan at the rear of the refrigerator, as explained in section entitled "Refrigerator Storage".*



## Temperature Control System

---

Although the refrigerator is not frost-free, it is made to limit frost on the cooling fins. At regular intervals, the temperature control system automatically melts most of the frost from the cooling fins. The water from the cooling fins drains into a collection cup that is attached to the back of the refrigerator. The heat of the cooling system evaporates the water from the collection cup.

## Effects of High Altitude on Propane Gas Operation

---

When you operate the refrigerator on propane gas at altitudes higher than 5500 feet above sea level:

- You may experience reduced cooling performance of the refrigerator.
- You may experience burner outages.

To avoid these possible problems, Norcold recommends that you operate the refrigerator on AC when at altitudes higher than 5500 feet above sea level.

## Effects of Freezing Temperatures on Refrigerator Operation

---

A gas absorption refrigerator is not designed to operate in freezing temperatures. If the refrigerator is not equipped for low temperature operation, and if the cooling system of the refrigerator is exposed to temperatures of 32° F or lower for an extended period of time, the refrigerator operation may be disrupted. The refrigerator operation will resume when the cooling system of the refrigerator warms sufficiently.

Disrupted operation of the refrigerator, due to extended exposure to temperatures of 32° F or lower, and any costs incurred to warm the cooling system of the refrigerator are not covered by the Norcold limited warranty. Please contact your local RV dealer for information about how to resume refrigerator operation or about how to equip your refrigerator for operation in freezing temperatures.

Do not change the installation or the venting of your refrigerator. Refrigerator failures, which are the result of changes to either the refrigerator installation or to the venting, are not covered by the Norcold limited warranty.

## Refrigerator Care Checklist

---

Your refrigerator will give you years of trouble free service if you do these simple checks every three to six months:

- Keep the food compartment and the freezer clean. See "Cleaning".
- Defrost the refrigerator as necessary. See "Defrosting".
- Make sure the door seals correctly. See "Door Sealing".
- Be aware of any cooling changes that are not because of weather, loading, or gas control changes. If changes occur, contact your dealer or service center.
- Make sure the gas supply is propane gas only and not butane or a butane mixture.
- When in propane gas operation, examine the appearance of the flame. See "Gas Flame Appearance".
- Make sure the air flow in the lower intake vent, through the refrigerator coils and condenser, and out the upper exhaust vent is not blocked or decreased.
- Make sure the area behind the refrigerator is clear. Do not use the area behind the refrigerator for storage of anything, especially gasoline and other flammable vapors and liquids.



## Defrosting

---

The cooling fins of the refrigerator operate at below freezing temperature and will naturally form frost from humidity, which is always present in the air. The humidity inside the refrigerator increases:

- with higher outside temperature and humidity.
- with the storage of non-sealed fresh foods or warm foods.
- with the amount of time that the door(s) are open.
- with any air leakage into the refrigerator.

Although the refrigerator is not frost-free, it is made to limit frost on the cooling fins. At regular intervals, the temperature control system automatically melts most of the frost from the cooling fins. The water from the cooling fins drains into a collection cup that is attached to the back of the refrigerator. The heat of the cooling system evaporates the water from the collection cup.

It is normal for frost to collect inside the freezer. Excess frost decreases the cooling performance of the refrigerator. Defrost the refrigerator and freezer as necessary:

- Remove all food from the refrigerator.
- Turn the refrigerator OFF.

**NOTICE** *Defrosting the refrigerator makes excess water inside the refrigerator.*

- Remove the drain hose from the drip cup at the rear of the refrigerator.
- Put the drain hose into a half-gallon or larger container to capture water.
- Put dry towels (etc.) inside the refrigerator and freezer to absorb melted frost.



**High temperatures can cause the inside surfaces of the refrigerator to warp or melt. Do not use pans of HOT water, hair dryer, or any other high temperature devices to defrost the refrigerator. Do not use any hard or sharp objects to remove frost. Damage to the interior of the refrigerator can occur.**

- To increase the speed of defrosting, put pans of WARM water in the refrigerator and freezer.
- Remove the wet towels (etc.) and dry the interior.
- Remove the drain hose from the large container and put the drain hose back into the drip cup.
- Remove the large container from the enclosure.
- Start up the refrigerator.
- Allow the refrigerator to cool down.
- Return all food to the refrigerator.

## Cleaning

---

A good time to clean the refrigerator is just after you defrost it. Clean the inside of the refrigerator as often as necessary to avoid food odors:

- Remove all food from the refrigerator.

**NOTICE** *Do not use abrasive cleaners, chemicals, or scouring pads because they can damage the interior of the refrigerator.*

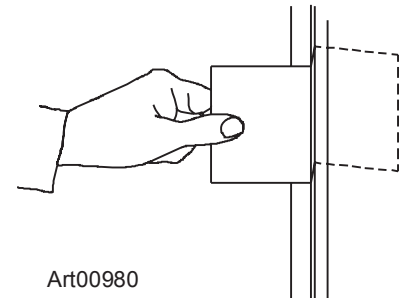
- Wash the interior with a mild cleaner or a solution of liquid dish detergent and warm water.
- Rinse with a solution of baking soda and clean water.
- Dry with clean cloth.
- Put all food in the refrigerator.

## Check the Seal of the Doors

---

If either door does not seal correctly, excess frost will collect inside the refrigerator. Make sure the doors seal correctly (See Art00980):

- Close each door on a piece of paper that is about the size and thickness of a dollar bill.
- Gently pull the paper.
  - You should feel a slight drag between the gasket and the cabinet.
  - Do this on all four sides of the door.
  - If you do not feel a slight drag on the paper, the door does not seal correctly.
  - Have your dealer or an authorized Norcold Service Center correct the seal of the door.



## Refrigerator Maintenance Checklist

---

Read and understand the following maintenance sections of this manual.

### NOTICE

*Norcold is not responsible for installation, adjustment, alteration, service, or maintenance performed by anyone other than a qualified RV dealer or a Norcold authorized service center.*

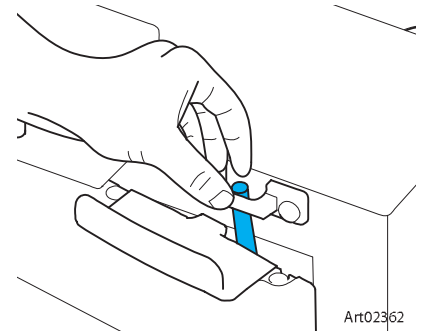
Have a qualified RV dealer or a Norcold authorized service center do these annual safety and maintenance checks:

- Examine the gas supply lines for leaks
  - Replace or repair if needed.
- Make sure the propane gas pressure is 11 inches of water column.
  - Adjust if needed.
- Make sure the combustion seal is complete and intact.
  - Replace or repair it if needed.
- Make sure the burner and the burner orifice are clean.
  - Clean if needed.
- Make sure the electrode spark gap is 1/8 - 3/16 inch.
  - Adjust if needed.
- Make sure the AC voltage is 108 - 132 volts and the DC voltage is 10.5 - 15.4 volts.
- Make sure the area at the rear of the refrigerator is free of any combustible materials, gasoline, and other flammable vapors and liquids.

## Refrigerator Storage

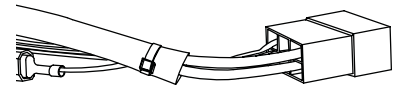
Before the refrigerator is stored for an extended (seasonal) period of time:

- Defrost and clean the interior of the refrigerator.
- To prevent odors and mold in the refrigerator, keep all doors open during storage. Rotate the hook at door lock 45 degrees and lock it in place by using the strike plate, as illustrated.
- Disconnect the fan at the rear of the refrigerator. Unplug the connector on the red wire of the DC power cord, where shown as illustrated.



If the refrigerator is stored for an extended period of time, before start up:

- Make sure there are no obstructions in the vents, the ventilation air pathway, the burner, the orifice, or the flue area.
- Reconnect the fan at the rear of the refrigerator. Plug together the connectors on the red wire of the DC power cord, where shown as illustrated.



Art02331

## Refrigerator Maintenance

### Gas flame appearance:

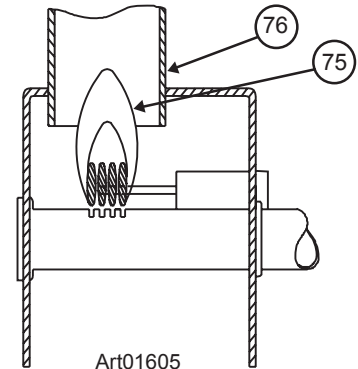
While in GAS operation, examine the appearance of the gas flame:

- Turn the refrigerator on, select manual gas mode, and coldest temperature setting.
- Open the lower intake vent.



**The burner box cover can be hot. Wear gloves to avoid burns.**

- Remove the burner box cover by removing the screw.
- Look at the gas flame [75] (See Art01605).
- The flame should be:
  - a darker blue color on the inside of the flame and a lighter blue color on the outside of the flame.
  - a constant shape without flickering.
  - Contact your dealer or Norcold authorized service center if the flame is:
    - yellow
    - flickering or changing shape.
  - Make sure the flame does not touch the inside of the flue tube [76].
  - If the flame touches the inside of the flue tube, contact your dealer or Norcold authorized service center.
  - Close the burner box door.

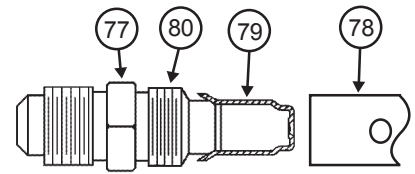


## Remove and clean the burner orifice

Your dealer or Norcold authorized service center must do this procedure.

Remove and clean the burner orifice (See Art00956):

- Close the valve at the propane gas tank(s).
- Push the on/off switch and hold it for 2 seconds to turn off the refrigerator.



Art 00956



**The burner box cover can be hot. Wear gloves to avoid burns.**

- Open the lower intake vent.
- Remove the burner box cover by removing the screw.



**To avoid possible propane gas leaks, always use two wrenches to loosen and tighten the gas supply line connections.**

- Remove the flare nut from the orifice assembly [77] (See Art00956).
- Remove the orifice assembly from the burner [78].

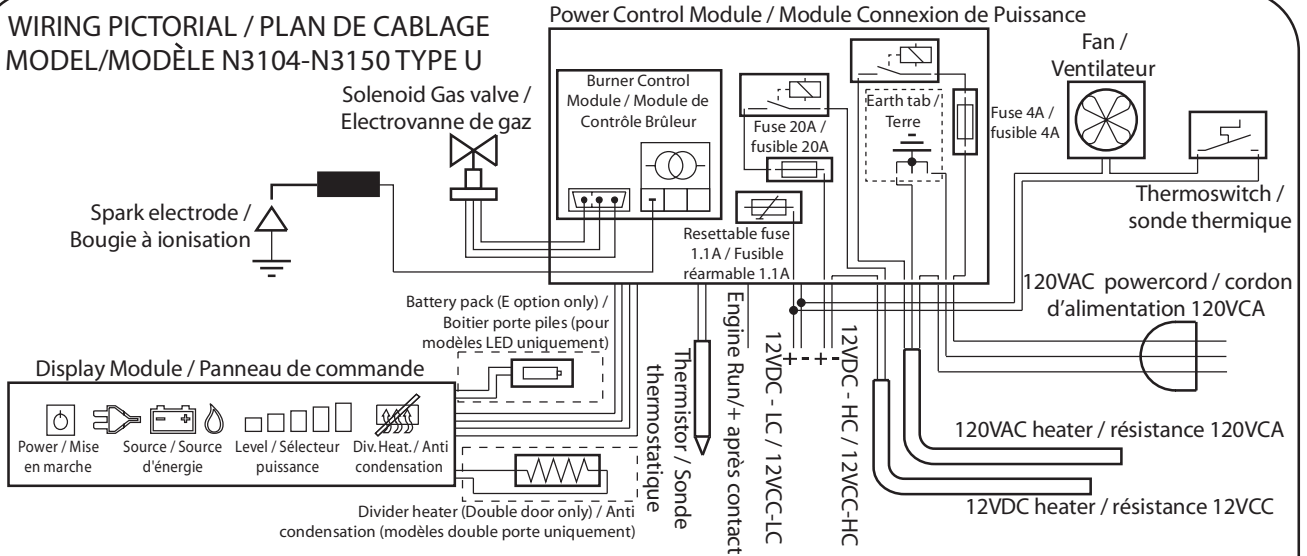


**Do not try to remove the orifice [79] from the orifice adapter [80] when cleaning. Removal will damage the orifice and seal of the orifice and can cause a propane gas leak. Leaking propane gas can ignite or explode which can result in dangerous personal injury or death. Do not clean the orifice with a pin or other objects.**

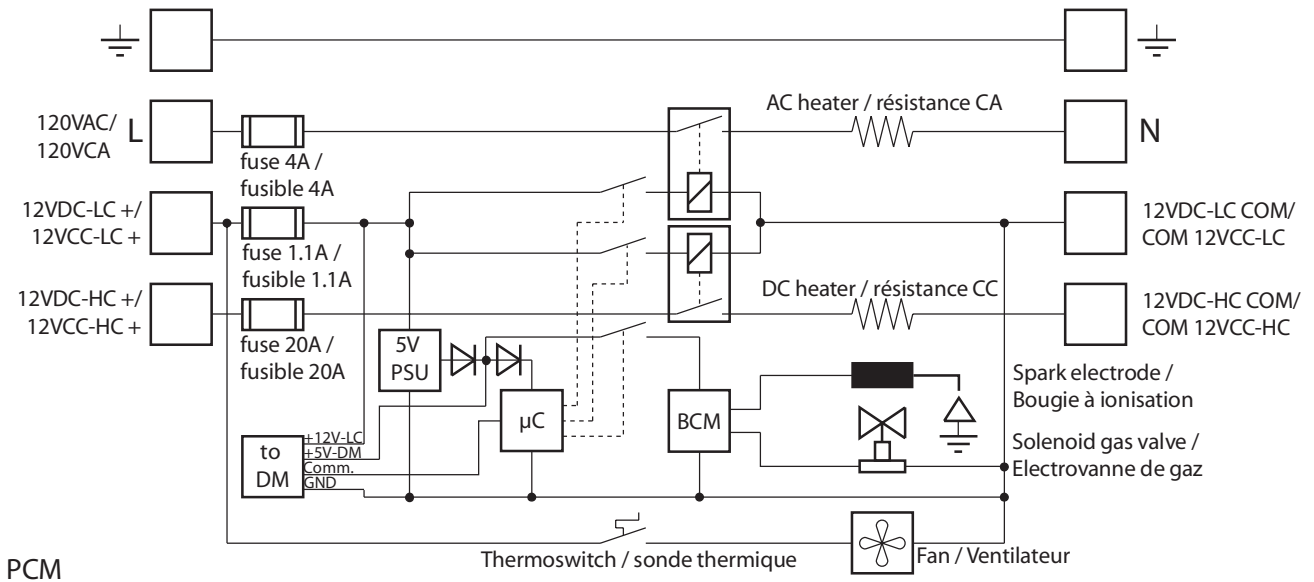
- Clean the orifice assembly with air pressure and alcohol only.
- Using a wrench, assemble the orifice assembly to the burner.
- Assemble the flare nut to the orifice assembly.
- Examine all of the connections for gas leaks.
- Clean the burner box.
- Assemble the burner box cover.

# WIRING PICTORIAL / PLAN DE CABLAGE

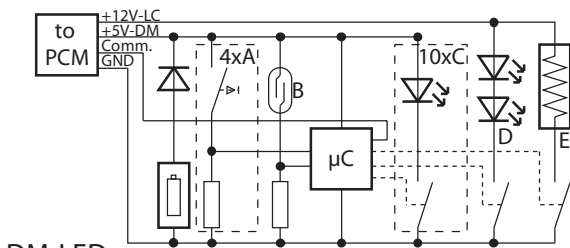
## MODEL/MODÈLE N3104-N3150 TYPE U



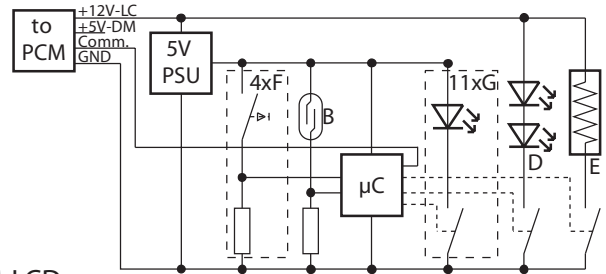
WIRING DIAGRAM / SCHEMA DE CABLAGE  
MODEL/MODÈLE N3104-N3150 TYPE U



## PCM



## DM-LED



## DM-LCD

- A) Push buttons: Power, Back, Mode/Enter, Next /  
Commandes: Mise en marche, Retour, Valider, Suivant.

- B) Reed switch / Contacteur

- C) LED's: 3x Source, 5x Temperature, Divider heater, battery (red) /  
Modèle LED = 3 sources d'énergie, 5 sélections de puissance,  
anti condensation, indicateur changement de piles (rouge)

- D) Interior lights / Lumière intérieure

- E) Divider heater (double door only) / Anti condensation (modèles double porte uniquement)

- F) Push button Power and 3x touch switch: source, temperature, divider heater / Commandes : Mise en marche et 3 commandes tactiles : Source d'énergie, sélection de puissance, anti condensation
- G) LCD symbols: auto mode, 3x source, 5x temperature, divider heater, 2 digit error code / modèle LCD = mode automatique, 3 sources d'énergie, 5 sélections de puissance, anti condensation, code erreur (2 chiffres).

Art02351

## Replacement Parts

---

You may purchase replacement parts through your local RV dealer or authorized Norcold Service Center.

## Troubleshooting

---

In case of a problem, an error code on the control panel can light up. When error codes 1, 2, 4, 5, 8, 9, 12 or 13 are visible, directly contact your dealer or a Norcold Service Center.

For below error codes, first read the associated instructions. If this will not solve the problem, contact your dealer or a Norcold Service Center.



The refrigerator does not work on gas: check if the gas bottle is not empty • check if the valve of the gas bottle and all shut-off valves are open • turn the refrigerator off and on again • try to run the refrigerator on another power source



The refrigerator does not work on 12V: make sure the engine is running • try to run the refrigerator on another power source



The refrigerator does not work on 12V: make sure the engine is running • try to run the refrigerator on another power source.



The refrigerator does not work on 120V: check if 120V AC is available • try to run the refrigerator on another power source



The refrigerator does not work in AUTO mode: check if the sources are connected • try to run the refrigerator manually on a power source



All symbols on the control panel light up: wait a few seconds until the refrigerator starts normal.

## Frequently Asked Questions

---

### What can I do, when the refrigerator does not start?

Check if you turned on the refrigerator according to the instructions, if the vehicle stands level or if there is an available energy source to start the refrigerator with. If none of this is the case, please contact your dealer or a Norcold Service Center.

### The refrigerator does not cool sufficiently, what can I do?

Check if the vents aren't covered or blocked from the outside, if the refrigerator stands level, if the highest cooling level of the refrigerator is selected, if the door of the refrigerator still closes properly, if there is not too much ice on the cooling fins, or if the fan wire is disconnected at the rear of the refrigerator. If none of this is the case, please contact your dealer or a Norcold Service Center.

### All lights on the control panel are blinking, what should I do?

Please contact your dealer or a Norcold Service Center.

# Installation Manual

## Safety Awareness

---

Read this manual carefully and understand the contents before you install the refrigerator.

Be aware of possible safety hazards when you see the safety alert symbol on the refrigerator and in this manual. A signal word follows the safety alert symbol and identifies the danger of the hazard. Carefully read the descriptions of these signal words to fully know their meanings. They are for your safety.



This signal word means a hazard, which if ignored, can cause dangerous personal injury, death, or much property damage.



This signal word means a hazard, which if ignored, can cause small personal injury or much property damage.

## Safety Instructions

---



- This refrigerator is not approved for use as a free standing refrigerator. It is equipped for the use of propane gas only and cannot be changed to use any other fuels (natural gas, butane, etc.).
- Incorrect installation, adjustment, alteration, or maintenance of this refrigerator can cause personal injury, property damage, or both.
- Obey the instructions in this manual to install intake and exhaust vents.
- Do not install the refrigerator directly on carpet. Put the refrigerator on a metal or wood panel that extends the full width and depth of the refrigerator.
- Do not allow anything to touch the refrigerator cooling system.
- Propane gas can ignite and cause an explosion that can result in property damage, personal injury, or death. Do not smoke or create sparks. Do not use an open flame to examine the propane gas supply line for leaks. Always use two wrenches to tighten or loosen the propane gas supply line connections.
- Make sure the electrical installation obeys all applicable codes. See “Certification and Code Requirements” section.
- Do not bypass or change the refrigerator’s electrical components or features.
- Do not spray liquids near electrical outlets, connections, or the refrigerator components. Many liquids are electrically conductive and can cause a shock hazard, electrical shorts, and in some cases fire.
- The refrigerator cooling system is under pressure. Do not try to repair or to recharge a defective cooling system.
- The cooling system contains sodium chromate. The breathing of certain chromium compounds can cause cancer. The cooling system contents can cause severe skin and eye burns, and can ignite and burn with an intense flame. Do not bend, drop, weld, move, drill, puncture, or hit the cooling system.



The rear of the refrigerator has sharp edges and corners. To prevent cuts or abrasions when working on the refrigerator, use caution and wear cut resistant gloves.

## Certification and Code Requirements

---

This refrigerator is certified by CSA International as meeting the latest edition of ANSI Z21.19 / CSA 1.4 standards for installation in mobile homes or recreational vehicles.

The refrigerator must be installed in accordance with this "Installation Manual" in order for the Norcold limited warranty to be in effect. In addition, the installation must conform to the following, as applicable:



Art01290

### In the United States and Canada:

- Local codes, or in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54, the Natural Gas and Propane installation Code, CSA B149.1, ANSI A119.2 Recreational Vehicles Code, and CSA Z240 RV Series, Recreational Vehicles.
- A manufactured home (mobile home) installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 [formerly the Federal Standard for Mobile Home Construction and Safety, Title 24 (part 280), and the current CSA Z240.4, Gas-equipped Recreational Vehicles and Mobile Housing.
- If an external power source is utilized, the appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, the National Electrical code, and ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2. Parts 1 and 2.

All propane gas supply piping and fittings must obey local, state, and national codes about type and size. These components must also obey the current NFPA 1192 section 2-4, and in Canada with the current CAN 1-6.10 Standard.

## Ventilation Requirements

---



### The completed installation must:

- **Make sure there is sufficient intake of fresh air for combustion.**
- **Make sure the living space is completely isolated from the combustion system of the refrigerator.**
- **Make sure there is complete and unrestricted ventilation of the flue exhaust which, in gas mode, can produce carbon monoxide. The breathing of carbon monoxide fumes can cause dizziness, nausea, or in extreme cases, death.**
- **Make sure the refrigerator is completely isolated from its heat generating components through the correct use of baffles and panel construction.**

Certified installation needs one lower intake vent and one upper exhaust vent. Install the vents exactly as written in this manual. Any other installation method voids both the certification and the factory warranty of the refrigerator.

The bottom of the opening for the lower intake vent, which is also the service access door, must be even with or immediately below the floor level. This allows any leaking propane gas to escape to the outside and not to collect at floor level.

CSA International certification allows the refrigerator to have zero (0) inch minimum clearance at the sides, rear, top, and bottom. While there are no maximum clearances specified for certification, the following maximum clearances are necessary for correct refrigerator performance:

Bottom	0 inch min.	0 inch max.
Each Side	0 inch min	1/2 inch max.
Top	0 inch min.	1/4 inch max.
Rear	0 inch min.	1 inch max.



These clearances plus the lower and upper vents cause the natural air draft that is necessary for good refrigeration. Cooler air comes in through the lower vent, goes up around the refrigerator coils where it removes the excess heat from the refrigerator components, and goes out through the upper vent. If this air flow is blocked or decreased, the refrigerator will not cool correctly.

Each NORCOLD model is certified by CSA International for correct ventilation. Install only the certified vents that are listed in this manual.

Key Refrigerator Dimensions

	Height* (in.)	Width (in.)	Depth* (in.)	Total Volume (cu. ft.)	Freezer Volume (cu. ft.)	Net Weight (lb.)
N3104Axx	32 5/16	20 11/16	23 3/8	3.7	0.39	61
N3150Axx	49 1/16	20 11/16	22 7/8	5.3	0.88	85

\* Height dimension includes feet. Depth dimension includes the door.

Assemble the Enclosure for the Refrigerator

1. Use the table below, and associated figures, to determine the enclosure size.

Model	Height (in.)	Width (in.)	Depth (in.)	Door Depth "FC" (in.)
N3104Axx	32 1/2	20 13/16 min. to 20 15/16 max.	20 3/8 min.	3 1/16
N3150Axx	49 3/16	20 13/16 min. to 20 15/16 max.	19 7/8 min.	3 1/16

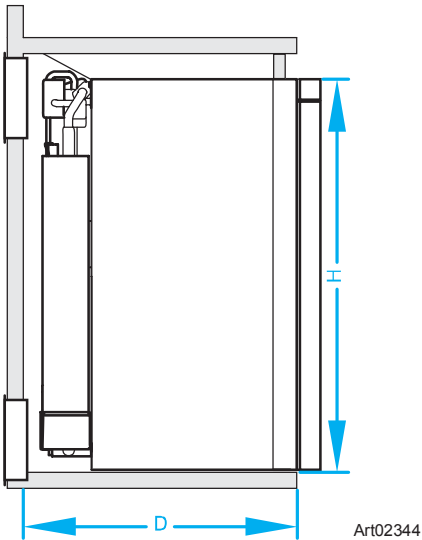
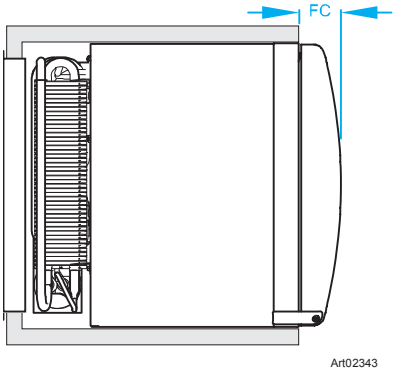
2. Make sure the floor is solid and level.

- The floor must be metal or a wood panel and extend the full width and depth of the enclosure.
- The floor must be able to support the weight of the refrigerator and its contents.

3. Make sure there are no adjacent heat sources such as a furnace vent, a hot water heater vent, etc.

4. If there is more than 1/2 inch between either side of the refrigerator and the inside of the enclosure:

- Fill the space with fiberglass insulation or add a baffle to eliminate the excess clearance.
- Make sure that the batt-type insulation extends from the enclosure face, to the combustion seal at the rear of the refrigerator cabinet.
- Securely attach the batt-type insulation to the enclosure so that it remains in this position during refrigerator installation, if it becomes wet, and in windy conditions.



## Install the Lower and Upper Vents

1. Using the following chart, decide which vents and rough opening (RO) sizes to use:

Certified Vent	P/N	RO Height	RO Width	Overall Vent Size
Upper Roof Exhaust Cap	622293	N/A	N/A	10½ in. x 33 in.
Upper Roof Exhaust Vent	616319	24 in.	5 1/4 in.	7 7/16 in. x 26 7/23 in.
Large Vent (3 Louver)	621156xx	13 ¾ in.	21 ½ in.	16 15/32 in. x 24 7/32 in.
Large Vent (10 Louver)	690136xx	9 13/16 in.	19 5/16 in.	11 1/16 in. x 21 in.
Small Vent	633588xx	6 5/32 in.	17¾ in.	7 11/32 in. X 19 1/32 in.
Universal Upper and Lower Vent	620505xx	6 3/16 in.	17 13/16 in.	8 5/32 in. X 19 5/8 in.

Install the vents exactly as described. Any other method will invalidate the warranty for the refrigerator.

2. Install the lower intake vent (See Art02337, Art02338, and Art02339):

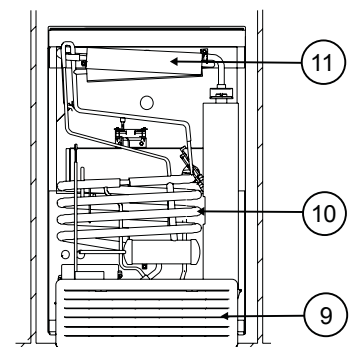
### NOTICE

*The lower intake vent is also the service access opening for the components on the rear of the refrigerator.*

### WARNING

**Make sure the bottom of the opening of the lower intake vent is even with or immediately below the floor level. This allows any leaking propane gas to escape to the outside and not to collect at floor level.**

- Make sure the bottom of the opening of the lower intake vent [9] is even with or immediately below the floor level.
- Align the lower intake vent vertically below the coils [10] and the condenser [11] of the refrigerator.



Art02339

3. Install the upper exhaust vent:

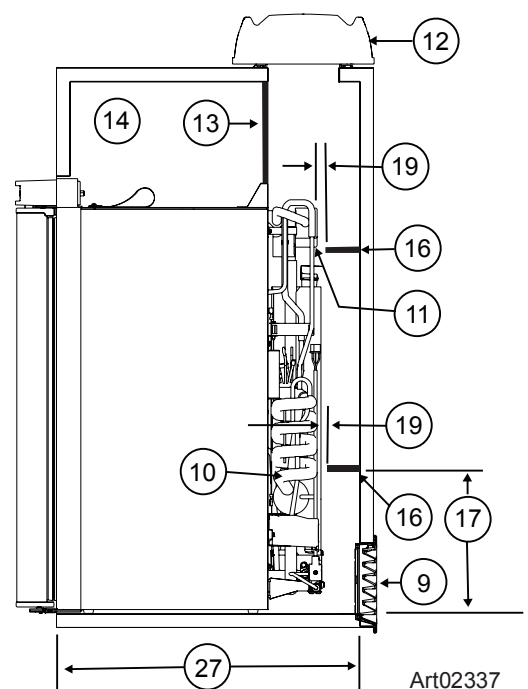
### CAUTION

**Make sure that no sawdust, insulation, or other construction debris is on the refrigerator or in the enclosure. Debris can cause a combustion hazard and prevent the refrigerator from operating correctly.**

### NOTICE

*Tighten the screws of the upper roof exhaust cap to 10 inch-pounds max. Also make sure that the air flow around the upper roof exhaust cap is not blocked or decreased by other roof mounted features such as a luggage carrier, an air conditioner, a solar panel, etc.*

- If the design of the vehicle allows, install the roof exhaust vent [12] directly above the condenser [11] of the refrigerator (See Art02337):
  - Install a baffle [13] to prevent stagnant hot air in the area [14] above the refrigerator.



Art02337

- Make sure the baffle is the full width of the inside of the enclosure.



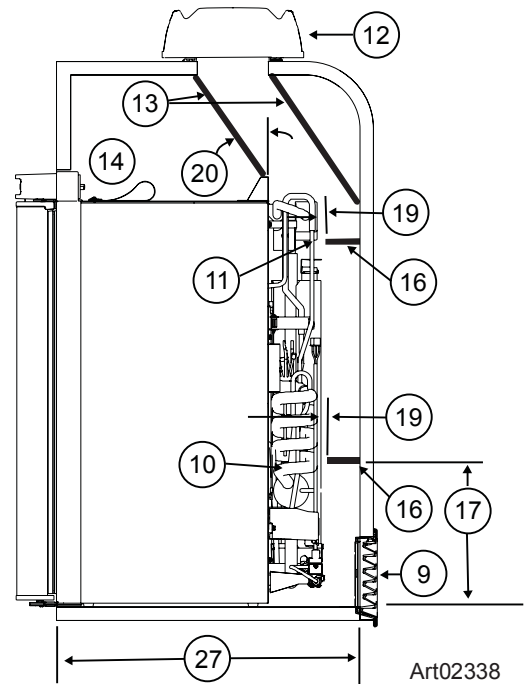
**The front baffle [13] completes the combustion seal at the top of the refrigerator. Make sure that the baffle is sealed around all edges (against the top edge of the refrigerator, against the enclosure side walls, and against enclosure ceiling in front of the vent). See also section entitled “Combustion Seal”.**

- If the design of the vehicle does not allow you to install the roof exhaust vent directly above the condenser [11] of the refrigerator (See Art02338):
  - Align the roof exhaust vent [12] above the condenser [11] of the refrigerator and move it inboard as necessary.
  - Install two baffles [13] to prevent stagnant hot air in the area [14] above the refrigerator.
    - Make sure the baffles are the full width of the inside of the enclosure.
    - Make sure that the baffles are no more than 45° from vertical [20].
    - Put one baffle between the top rear edge of the refrigerator and the inside edge of the upper exhaust vent opening.

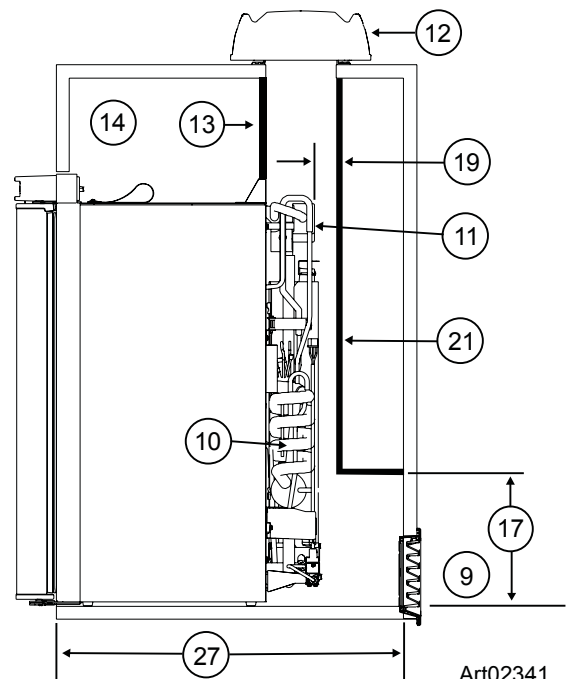


**The front baffle [13] completes the combustion seal at the top of the refrigerator. Make sure that the baffle is sealed around all edges (against the top edge of the refrigerator, against the enclosure side walls, and against enclosure ceiling in front of the vent). See also section entitled “Combustion Seal”.**

- Put the other baffle between the outside edge of the upper exhaust vent opening and the side wall of the vehicle.
- If the depth of the enclosure is 20 3/8 inches or more and is less than 21 3/8 inches [27], no baffles are necessary at the rear of the enclosure.



Art02338



Art02341

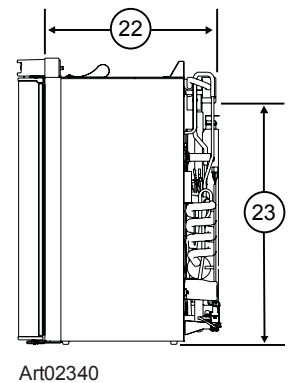
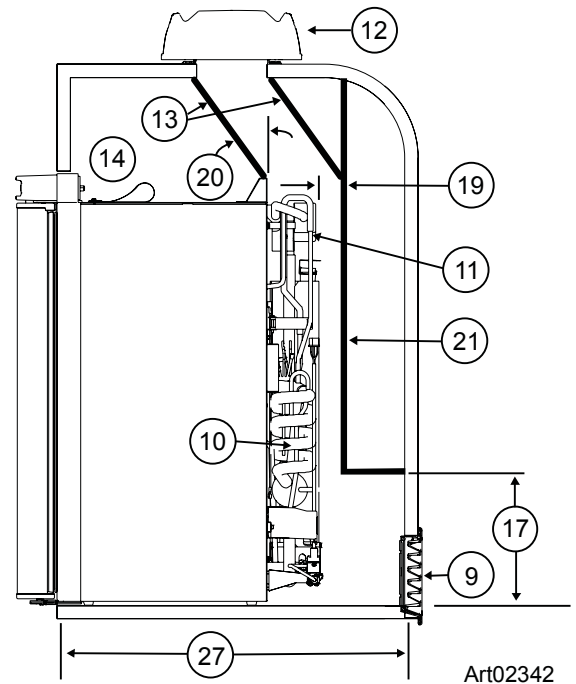
- If the depth of the enclosure is 21 3/8 inches or more and is less than 22 3/8 inches [27], add two baffles [16] to the rear of the enclosure (See Art02337 and Art02338).

- For model N3104, put one baffle 10 inches above the bottom of the enclosure [17], or at the top of the lower intake vent opening, whichever is higher.
- For model N3150, put one baffle 12 inches above the bottom of the enclosure [17], or at the top of the lower intake vent opening, whichever is higher.
- Put the other baffle at the lowest edge of the condenser [11] of the refrigerator.

- Make sure that the baffles are 1 inch or less [19] from the coils [10] and condenser [11] of the refrigerator.
- Make sure that the baffles are the full width of the inside of the enclosure.

- If the depth of the enclosure is more than 22 3/8 inches [27], install a wood or an aluminum or galvanized sheet solid box baffle [21] in the rear of the enclosure (See Art02341 and Art02342).

- Make sure that the horizontal bottom of the solid box baffle is even with or above the top edge of the lower exhaust vent [9].
- Make sure that distance from the enclosure floor to the vertical bottom edge of the solid box baffle [17] is 10 in. for N3104 models and 12 in. for N3150 models.
- Make sure that the back of the solid box baffle is perpendicular to the bottom of the enclosure.
- Make sure that the back of the solid box baffle is either against the top of the enclosure or against the angled baffle [13] (depending on the vehicle design).
  - Make sure that the solid box baffle is one inch or less [19] from the coils [10] and condenser [11] of the refrigerator.
  - Make sure that the solid box baffle is the full width of the inside of the enclosure.



- If the design of the vehicle does not allow you to install a roof exhaust vent, install an upper side-wall exhaust vent.

# NOTICE

The distance from the front of the breaker to the rear of the condenser [22] (See Art02340) is 19 11/32 in. for N3104 and 19 1/16 for N3150.

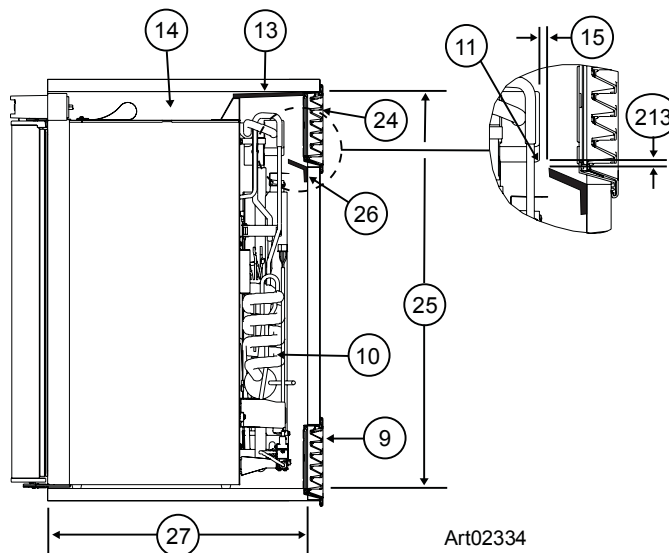
# NOTICE

The distance from the bottom of the refrigerator (including feet) to the bottom of the condenser [23] (See Art02340) is 27 1/4 in. for N3104 and 42 9/16 for N3150.



**Only use an upper side-wall exhaust vent on refrigerator models that are equipped with a fan. If you use an upper side wall exhaust vent on a refrigerator model that is not equipped with a fan, the refrigerator cooling performance will be poor.**

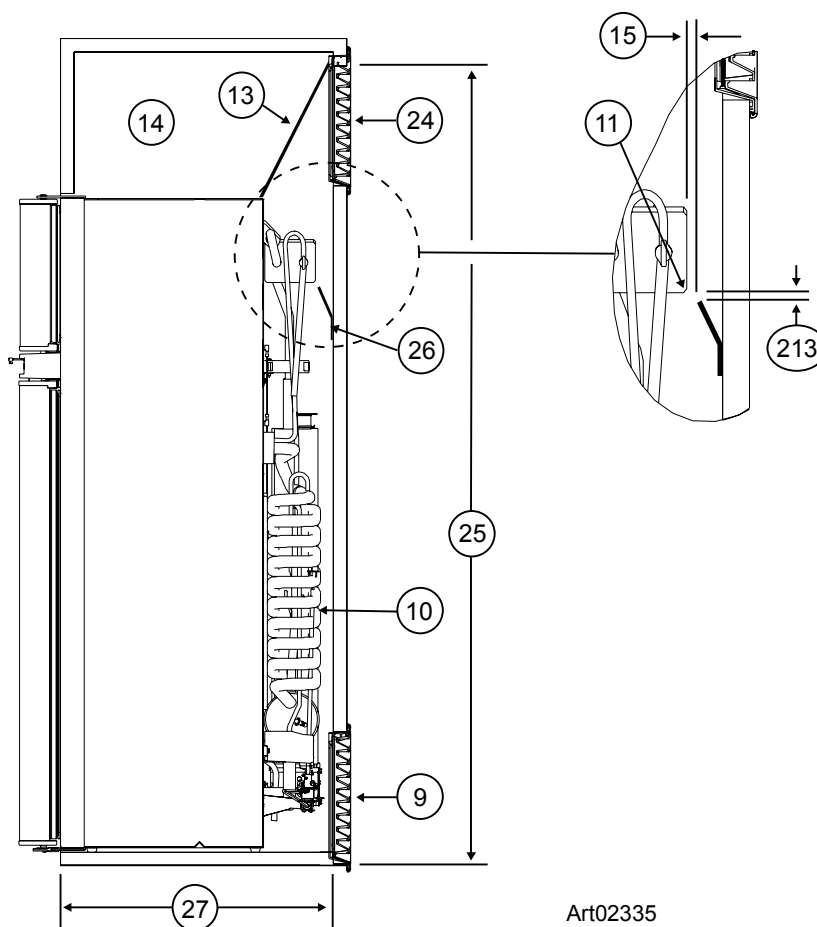
- Make sure the refrigerator model is equipped with a fan.
- Install the upper side-wall exhaust vent [24] (See Art02334 and Art02335).
  - Make sure the distance [25] from the bottom of the enclosure to the top of the rough opening for the upper exhaust vent is at least 32 1/2 in. for N3104 and 49 3/16 for N3150.
  - Align the upper exhaust vent [24] horizontally above the lower intake vent [9] of the refrigerator.
  - To prevent stagnant hot air in the area above the refrigerator [14], install an aluminum or galvanized steel sheet baffle [13] between the top of the refrigerator and the top of the upper exhaust vent.
  - Make sure the baffle is the full width of the inside of the enclosure.



Art02334

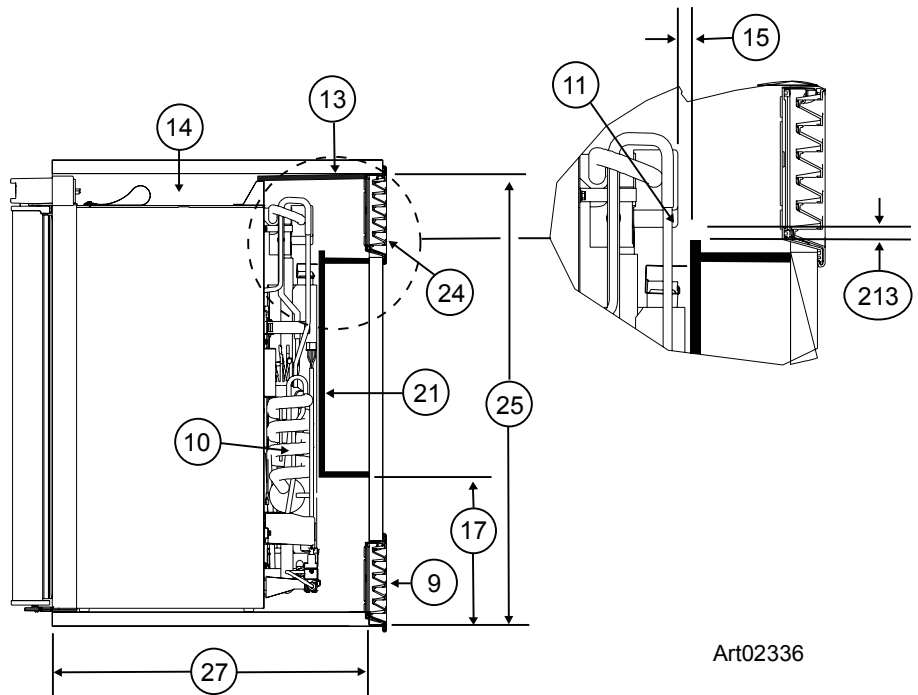


**The top baffle [13] completes the combustion seal at the top of the refrigerator. Make sure that the baffle is sealed around all edges (against the top edge of the refrigerator, against the enclosure side walls, and against vehicle wall or enclosure ceiling above the vent). See also section entitled "Combustion Seal".**



Art02335

- When using an upper side-wall exhaust vent:
  - If the depth of the enclosure is 20 3/8 inches or more and is less than 22 3/8 inches [27], install a bent aluminum or galvanized steel sheet baffle [26] to the rear of the enclosure (See Art02334 and Art02335).
    - Make sure that the bend of the baffle is the full width of the inside of the enclosure.
    - Make sure that the bend of the baffle is even with or below the bottom edge of the upper intake vent door frame.
    - Make sure that the top edge of the baffle is between 1/4 inch [213] below the condenser and 1 1/2 inches above the bottom of the condenser and that there is 1/4 inch or less clearance [15] between the rear of the condenser and the baffle.
      - For the best cooling performance, the baffle should be 1/4 inch below the bottom of the condenser.
  - If the depth of the enclosure is more than 22 3/8 inches [27], install a wood or an aluminum or galvanized steel sheet solid box baffle [21] between the lower intake vent and the upper exhaust vent (See Art02336).
    - Make sure that the solid box baffle is the full width of the inside of the enclosure.
    - Make sure that the horizontal bottom of the solid box baffle is even with or above the top edge of the lower exhaust vent [9].
    - Make sure that distance from the enclosure floor to the vertical bottom edge of the solid box baffle [17] is 10 in. for N3104 and 12 in. for N3150.
    - Make sure that the back of the solid box baffle is perpendicular to the bottom of the enclosure.
    - Make sure that the horizontal top of the solid box baffle is even with or below the bottom edge of the upper exhaust vent [24].
- Make sure that the vertical top edge of the baffle is between 1/4 inch [213] below the condenser and 1 1/2 inches above the bottom of the condenser.
- Make sure that there is 1/4 inch or less clearance [15] between the rear of the condenser and the baffle.



Art02336

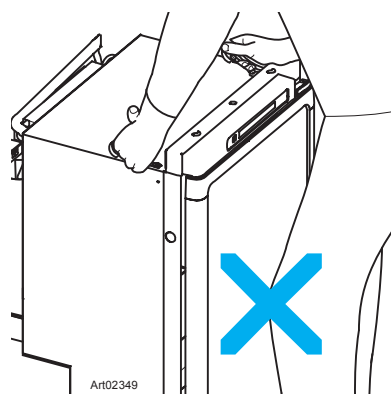
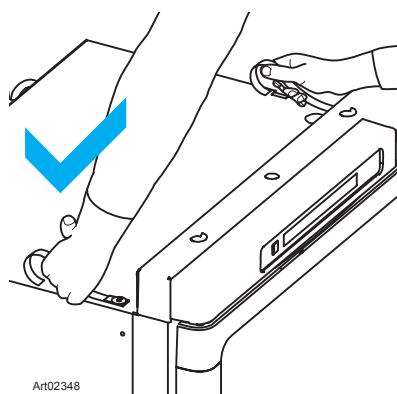
## Reverse the Door Swing (optional)

### NOTICE

N3000 series refrigerators are designed so that door swing can be reversed in the field, using kits that can be purchased separately. Door swing reversal should be done before installing the refrigerator in the vehicle.

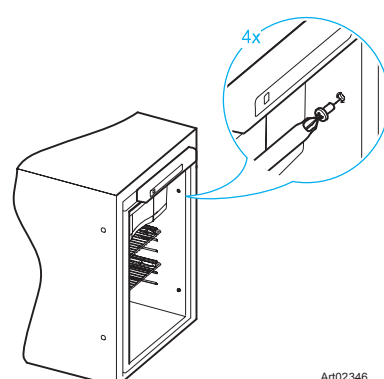
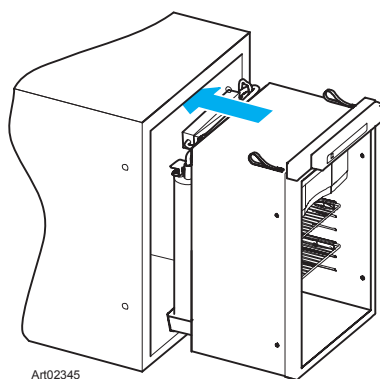
## Handling

Only carry the refrigerator at the strap handles on top (1), if equipped. Do not use your knee to lift the refrigerator (2).



## Install the Refrigerator

- Push the refrigerator completely into the enclosure.
- Use screws to fix the refrigerator, and the white caps for finishing.
  - For the N3104, 4 screws and 4 white caps are supplied.
  - For the N3150, 6 screws and 6 white caps are supplied.

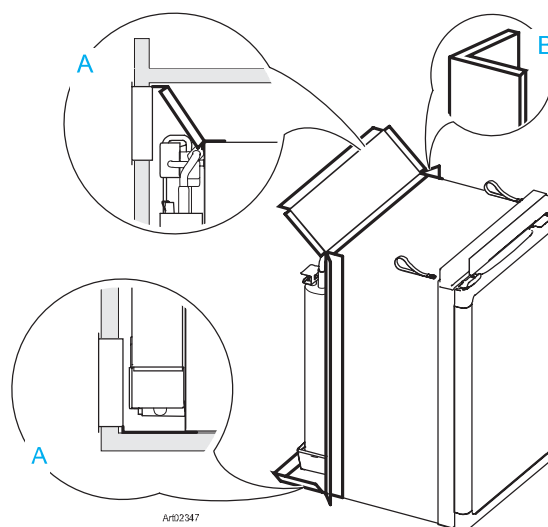


## Combustion Seal

Position sealing as shown in the figure.

Fix the strips to the sides of the refrigerator (B) in a vertical direction at the rear of the refrigerator.

Fix the upper and lower flap of the combustion sealing (A) as the drawing shows.



**NOTICE**

Upper flap (A) may have already been installed as a ventilation baffle. See also section entitled "Install the Lower and Upper Vents", Step 3.

The sealing area must be separated air-tight from the living area.



**If the combustion seals are not being used or fail to seal properly in the unit, use a different kind of sealing to keep hazardous combustion gases out of the living area of the vehicle. If the seal is not complete, exhaust fumes can be present in the living area of the vehicle. The breathing of exhaust fumes can cause dizziness, nausea, or in extreme cases, death.**

## Connect the Electrical Components

---

AC Operation, 120 volts AC voltage (132 volts max. - 108 volts min.)

DC Operation, 12 volts DC control voltage (15.4 volts max. - 10.5 volts min.)

This refrigerator operates on these electrical sources. Operation out of these limits may damage the refrigerator's electrical circuit parts and will void the warranty.



**The rear of the refrigerator cooling system has hot surfaces and sharp surfaces that can damage electrical wiring. Make sure that there is a good clearance between all electrical wiring and the cooling system of the refrigerator. Position any electrical wiring within the refrigerator enclosure opposite the burner side of the refrigerator. Do not put any electrical wiring through the roof exhaust vent. Failure to correctly position electrical wiring can result in electrical shock or fire.**

### Connect the 120 volts AC supply



**Connect the AC power cord(s) only to a grounded three-prong receptacle. Do not remove the round ground prong from any of the AC power cords. Do not use a two prong adapter or an extension cord with any of the AC power cords. Operation of the refrigerator without correct ground can cause dangerous electrical shock or death if you are touching the metal parts of the refrigerator.**

Plug the AC power cord(s) into a grounded three-prong receptacle:

- Make sure the receptacle is positioned within easy reach of the lower intake vent.
- Make sure the power cord(s) does not touch the burner cover, the flue pipe, or any hot component that could damage the insulation of the power cord.

### Connect the 12 volts DC supply

As the distance from the vehicle battery to the refrigerator increases, the correct AWG wire size and fuse size also increases. If the wire size is too small for the distance, a voltage drop occurs. The voltage drop decreases the output of the system heater and causes poor cooling performance.



**If you use an incorrect wire size and/or fuse size, electrical fire can result.**

1. Determine the min. wire size and the max. fuse size to use:

- Measure the distance from the vehicle battery to the refrigerator.
  - If the distance is 0 - 20 feet, use a minimum of 10 AWG wire and a maximum 30 Amp fuse.
  - If the distance is over 20 feet, use a minimum of 8 AWG wire and a maximum 40 Amp fuse.
  - If the wire size is larger than the min. size, use the correct fuse per RVIA A119.2 standard or local codes.



2. Install a fuse in DC power supply wires between the battery and the refrigerator:

- Put fuse as close to the battery as possible.

3. Connect the DC power supply wires:

These models have 2 connection points to prevent the battery from being discharged by the refrigerator when the engine is not running.

High current supply      red cable (+) and white cable (-) for heating element. Only turned on if signal on D+

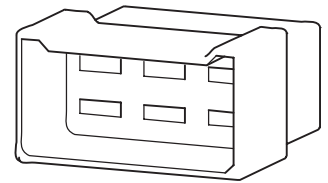
Low current supply      purple (+) and black (-) for electronics.

D+ signal      orange, + when engine runs

Use Stocko / Tyco / Amp 6-pole housing, or equivalent, with Lear connectors, or equivalent, wired as shown.

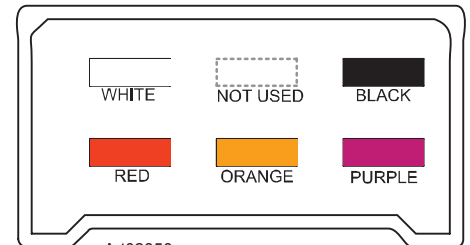
**NOTICE**

*Do not use the chassis of the refrigerator or the vehicle frame as one of the conductors. Attach the DC power supply wires only to the battery and the DC power cord of the refrigerator.*



Art02370

TYCO / AMP 180906



Art02350

TYCO / AMP 925276

## Connect the Propane Gas Components

This refrigerator operates on propane gas at a pressure of 11 inches Water Column Propane.

The controls operate on 12 volts DC (10.5 volts min. - 15.4 volts max.). Operation out of these limits can damage the refrigerator electrical circuit parts and will void the warranty.

### Connect the propane gas supply system:



**Be very careful when working on or near the propane gas system.**

- Do not smoke, or use an open flame near the propane gas system.
- Do not use an open flame to examine for leaks.
- Do not connect the refrigerator to the propane gas tank without a pressure regulator between them.
- To avoid a propane gas leak, always use two wrenches to tighten or loosen the propane gas supply line connections.
- Leaking propane gas leak can ignite or explode and result in dangerous personal injury or death.

### Connect the gas supply line to the refrigerator:

- Make sure that all tubing and fittings obey all local, state, and national codes about size and type.
- Make sure that all flexible metal connectors obey the current CAN1-6.10 Standard.





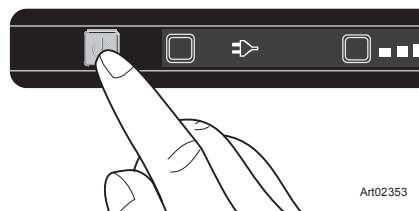
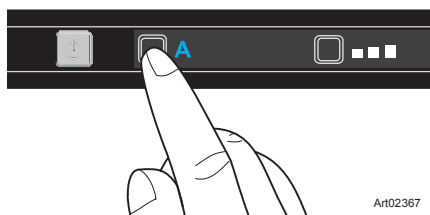
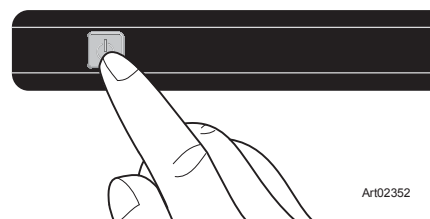
Control panel with LCD touchscreen .....	5
On/off switch .....	5a
Touchscreen .....	5b
Mode symbols .....	5c
Cooling level indicators.....	5d
Symbol 'anti-condensation' (only for model N3150) .....	5e
Error code.....	5f

## Removing Air From the Propane Gas Supply Lines

For safety reasons, the burner is made to ignite on propane gas within a specified amount of time. When starting the refrigerator for the first time, after storage, or after replacing propane gas tank, the propane gas supply lines can have air in them. Due to the air in the gas supply lines, the burner may not ignite on propane gas within the specified amount of time.


To remove the air from the propane gas supply lines:


- Make sure that all of the gas valves are open.
- To turn the refrigerator on, push the on/off switch and hold it for 1 second, as illustrated. A light in the on/off switch will turn green.
- Push the source button several times, as illustrated. Push until the flame  appears on the display. This means that the refrigerator is operating on propane gas.
- The refrigerator will start a 30 second trial for ignition. During the 30 second trial for ignition, the refrigerator controls open the gas safety valve and the igniter sparks. After 30 seconds, the refrigerator controls close the gas safety valve and the igniter stops sparking.
- If the air in the propane gas supply lines prevents the burner from ignition on propane gas, the fault code  **3** will appear in the center display.
- Push the on/off switch, as illustrated, and hold it for 2 seconds to turn the refrigerator off. All lights will go out.
- To start another trial for ignition, push the on/off switch and hold it for 1 second to turn the refrigerator on. A light in the on/off switch will turn green.
- The refrigerator will start another 30 second trial for ignition. During the 30 second trial for ignition, the refrigerator controls open the gas safety valve and the igniter sparks. After 30 seconds, the refrigerator controls close the gas safety valve and the igniter stops sparking.
- When the flame appears on the display and no fault code remains, this means that the refrigerator is operating on propane gas.
- At this time, all of the air is removed from the propane gas supply lines and you may select AUTO mode of operation if you wish.
- Depending on how much air may be in the propane gas supply lines, you may need to repeat the 30 second trial for ignition two or three times.
- If the burner does not ignite on propane gas after three attempts, refer to the "Troubleshooting" section of this manual; consult your local dealer or an authorized Norcold Service Center, if necessary.




## Set the Controls to Automatic Mode Operation

Push the source button several times, as illustrated. Push until the desired source (A, 'auto') is selected and displayed. **A**

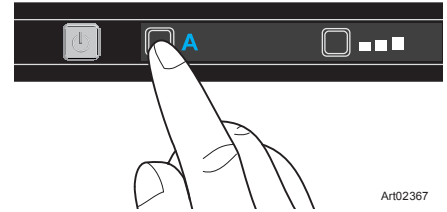
If the engine is running, DC mode will be selected and displayed. 

If the engine is not running, and 120 volts AC is available to the refrigerator, AC mode will be selected and displayed. 

If the engine is not running, and 120 volts AC is NOT available to the refrigerator, gas mode will be selected and displayed. 

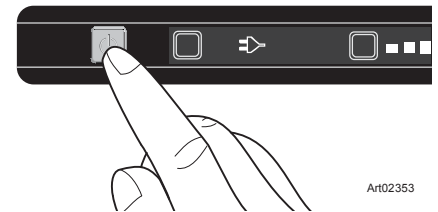
If the gas does not ignite after several attempts, refer to the "Troubleshooting" section of this manual.

If the 'auto' function on the refrigerator is selected, but no source is available, a light in the on/off switch blinks red.



## Turn Refrigerator Off

Before defrosting the refrigerator or storing your vehicle, turn the refrigerator off. Push the on/off switch, as illustrated, and hold it for 2 seconds to turn the refrigerator off. All lights will go out.



### NOTICE

*If storing the vehicle for an extended period of time, make sure to disconnect the fan at the rear of the refrigerator, as explained in section entitled "Refrigerator Storage".*

## Remove the Refrigerator

Your dealer or Norcold authorized service center must do this procedure.



**The rear of the refrigerator has sharp edges and corners. To prevent cuts or abrasions when working on the refrigerator, be careful and wear cut resistant gloves.**

1. Close the valve at the propane gas tank(s).



**To avoid possible propane gas leaks, always use two wrenches to loosen and tighten the gas supply line connections.**

2. Open the lower intake vent, and remove the refrigerator AC power cord from the receptacle.

3. Remove the DC wiring from the refrigerator:

- Remove the DC fuse or remove the DC wiring from the battery or the converter.
- Remove the refrigerator DC power cord from the vehicle wiring plug.

4. Remove the gas supply line from the bulkhead fitting of the refrigerator.

5. Remove the white plastic plugs from the sides of the refrigerator interior.

6. Remove the screws from the sides of the refrigerator interior.

7. Remove the refrigerator from the opening.