12/24 VOLTS DC,120/240 VOLTS AC REFRIGERATORS INSTALLATION AND OWNER'S MANUAL

Service Information

If service or parts are required, contact the nearest Thetford China Service Center. To find an authorized Thetford China Service Center near you, please telephone the Thetford China Customer Support Dept. at +86 755 86272006/13801785859 or visit our web site at www.thetford.cn.

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Part No. 636058A

Model No. _____ Serial No. _____

THETFORD AC/DC Models - One Year Limited Warranty

THETFORD warrants for a period of one (1) year from the date of purchase that THETFORD will repair or replace its AC/DC refrigerators.

Limitations of Warranty

1. This warranty is the only warranty for THETFORD AC/DC refrigerators. This warranty does not cover glassware, electric light bulbs or replaceable fuses.

2. This warranty does not apply to refrigerators or component parts that have been subjected to misuse, improper installation, abnormal service, transit damage, recharging of cooling unit system, accident, fire, improper repair, tampering or abuse.

3. The duration of any implied warranty is limited to one (1) year.

4. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Limitations of Remedy

1. The responsibility of THETFORD under this or any warranty is limited to the repair or replacement (at THETFORD's option) of any defective refrigerator or component part.

2. **In no event and under no circumstances shall THETFORD be responsible for any other charge whatsoever, including but not limited to charges or claims for labor, lost business, lost time, lost profits, loss of use, or any kind of incidental or consequential damages, however denominated or described.**

3. Some states do not allow for the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

To obtain warranty service, contact Thetford China Customer Service at +86 755 86272006/13801785859 or visit our website at www.thetford.cn.

Legal Rights

This warranty gives you specific legal rights, and you may have other legal rights which vary from state to state.

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.

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

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

Model No. and Serial No.

The model and serial number are on a label which is inside the refrigerator on the left side and on the cover of this manual.

Operation

This refrigerator is made for refrigerating purposes and operates on a 12/24 volt DC power supply or 120 volt (60 hertz) / 240 volt (50 hertz) AC power when installed as written in this manual.

CAUTION **Never store combustible materials near the refrigerator. Storing combustible materials near the refrigerator creates a safety hazard and also decreases the ventilation of the cooling system which decreases the refrigerator performance.**

Do not touch the evaporator or other metal parts inside the refrigerator cabinet with wet hands because they can freeze to the refrigerator.

Always disconnect all power sources from the refrigerator when doing routine maintenance. Have service work done only by a qualified service technician.

The refrigerator temperature is controlled by a thermostat. Number “1” is the warmest and number “5” is the coldest thermostat position. For efficient operation, change the thermostat according to the types of food stored and the ambient temperature.

If you are not going to use the refrigerator for an extended period of time, put the thermostat to the “OFF” position (full counterclockwise position).

Over Heating Shut-off Device Operation

Operating the refrigerator in high ambient temperatures can over heat the cooling unit and cause premature failure of the compressor.

To protect the cooling unit from over heating, the refrigerator will automatically shut-off when the temperature of the refrigerator power module is higher than approximately 100° C (212°F).

The refrigerator will restart when the temperature of the refrigerator power module is lower than approximately 80°C (176° F).

Cleaning and Defrosting

Defrosting

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

CAUTION **Do not use sharp objects, a hair dryer, a heat gun, etc. to defrost the refrigerator. Damage to the interior of the refrigerator can occur.**

- Turn the thermostat to “OFF”.
- Remove all food from the refrigerator.

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

- Put dry towels (etc.) inside the refrigerator to absorb the excess water.
- Put trays of hot water in the freezer until the frost is melted.
- Empty the drip tray.
- Remove the wet towels (etc.) and dry the inside of the refrigerator
- Turn the thermostat to the desired setting.
- Put the drip tray and all food in 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 inside of the refrigerator.*

- Wash the inside of the refrigerator and the door gasket with a solution of liquid dish detergent and warm water.

- Rinse with clean water and dry.

- After cleaning, put a thin coating of petroleum jelly on the hinge side of the gasket to keep it soft and to prevent it from rolling.

Battery Maintenance

Over cooling drains your battery

When the ambient temperature is between 70° and 90° F, keep the thermostat at the “3“ position to avoid an excessive drain of the battery. When making ice, or storing frozen foods, turn the thermostat to the coldest setting “5“.

Maintain the battery

If the charge of your battery is not sufficient, the cooling performance of your refrigerator decreases.

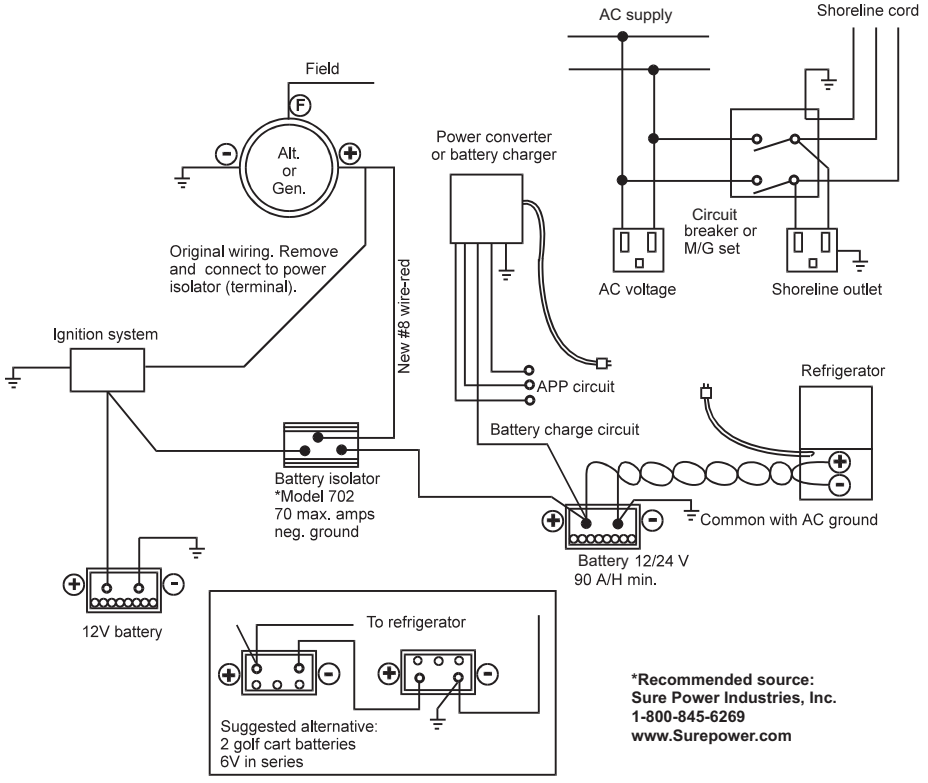
⚠CAUTION **Only use a “quick charger” on the battery if the thermostat is turned to “OFF”.**

Check the Battery charge Level

A fully charged battery will have a specific gravity reading of between 1.260 and 1.280. The battery voltage is best indicated when the refrigerator is “ON” and the battery charging system is “OFF”. Charge the battery when the specific gravity reading is less than 1.200.

For your reference

The wiring diagram shown below is recommended for dual battery hookup (See Art02373).



Art02373

Voltage Requirements

12.8 VDC / 24 VDC

Minimum (cut-out)	10.9 VDC / 23.8 VDC
Restart (cut-in)	12.2 VDC / 25.2 VDC
Maximum	17.0 VDC / 31.5 VDC
Fuse	15 A / 7.5 A

120 VAC / 240 VAC

Nominal	100 / 240 VAC, 50 / 60 Hz
Minimum	90 VAC
Maximum	264 VAC

Installation

The refrigerator should be located and secured on a solid surface with no gap between the bottom rails of the refrigerator and the supporting surface.

This refrigerator is a built-in design, it needs to be installed into a dimensioned cabinet before using.

Before installing the refrigerator into the opening, make sure the AC/DC supply is properly connected. In many cases, the AC/DC supply can be connected from outside the vehicle by means of the baggage or access door.

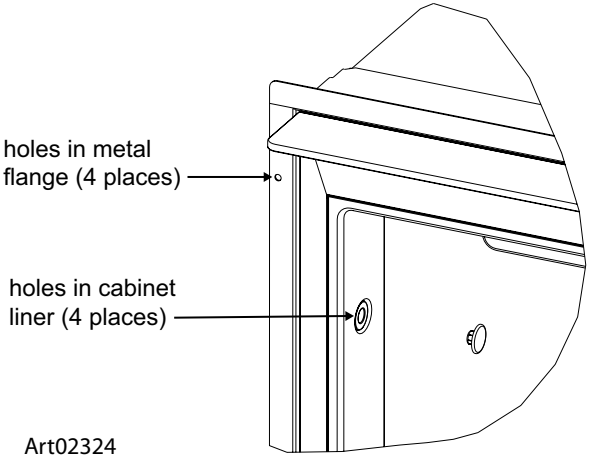
Measure the opening to determine if you have proper clearance for installation. Additional insulation space around the refrigerator is not necessary.

Make sure that the enclosure is the correct size:

- Model TRC40: 20.5 inches high x 15.25 inches wide x 17.75 inches deep.
- Model TRC51: 20.5 inches high x 18.5 inches wide x 21 inches deep.

If the refrigerator has mounting holes in the front metal flange, put screws through the flange (in four places) to securely mount the refrigerator into the opening (See Art02324).

If the refrigerator does not have mounting holes in the front metal flange, put screws through the holes in the sides of the cabinet liner (in four places) to securely mount the refrigerator into the opening.

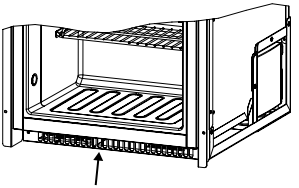


Be sure the refrigerator is not in direct sunlight or near a gas stove, a heater, or other heat-generating appliances. Avoid installing your refrigerator close to warm water lines or warm air ducts.

Your refrigerator was thoroughly cleaned before shipment from the factory. It is advisable, however, to clean the interior once more before using. Wipe the interior with a cloth and warm water. Then wipe with a dry cloth.

Ventilation

Sufficient ventilation (airflow) over the bottom mounted condenser of the refrigerator is necessary for the refrigerator to operate correctly. Cooler air goes into one side of the front lower grill and passes over the condenser. The air removes heat from the condenser and the warmer air goes out through the other side of the front lower grill. Make sure that the front lower grill is not blocked so the air can easily pass through it (See Art02325).



Art02325

CAUTION **If you do not make sure that the ventilation is correct, a shortened refrigerator life expectancy, poor refrigeration, continuous operation, accelerated battery discharge and a void warranty will result.**

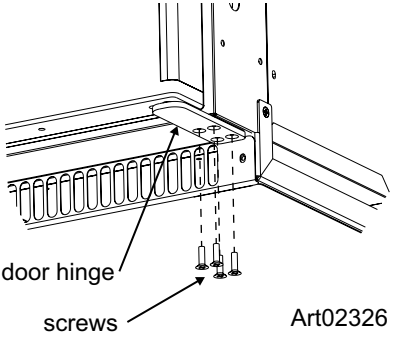
Installation Options

Install a decorative door panel

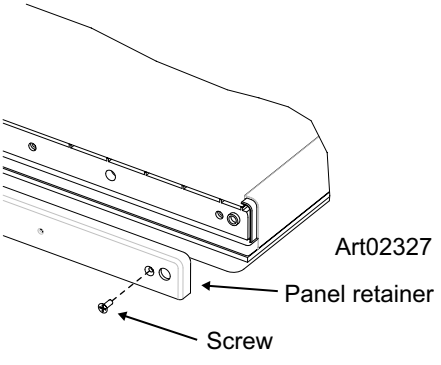
NOTICE *The decorative door panel must be 0.9 mm or less in thickness.*

1. Remove the door from the refrigerator by removing the four screws that attach the door hinge to the bottom of the refrigerator (See Art02326).

2. Remove the panel retainer by removing the three (3) screws that attach the panel retainer (See Art02327).



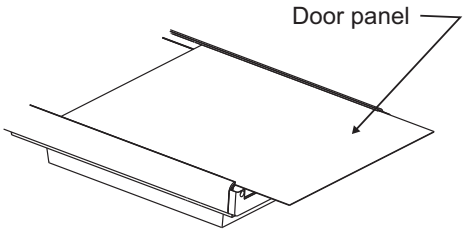
Art02326



Art02327

3. Gently pull the door panel out of the door (Art01895).

4. Push a new door panel into the door slot.



Art01895

CAUTION **Do not overtighten the screws and bolts.**

5. Put the panel retainer in the original location and attach with three (3) screws.

6. Put the door in the original location and tighten the four (4) screws.

Reverse the door swing:

1. Remove the door from the refrigerator by removing the four (4) screws that attach the door hinge to the bottom of the refrigerator.

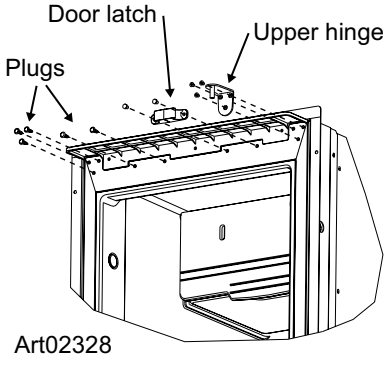
2. Open the door and pull it off of the top hinge pin.

3. Remove the three (3) screws that attach the upper hinge (See Art02328).

4. Remove the three (3) screws that attach the latch to the refrigerator.

5. Remove the hole plugs.

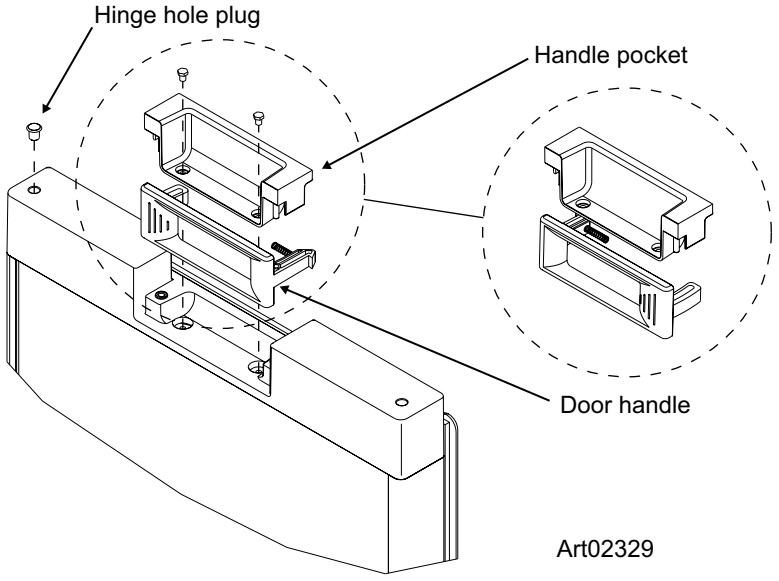
6. Attach the upper hinge and the door latch to the opposite sides of the refrigerator. Put the hole plugs into the empty holes.



Art02328

7. Move the latch to the opposite side of the door (See Art02329):

- Remove the two (2) screws that attach the door handle assembly to the door.
- Carefully pull the door handle off of the handle pocket, so that you do not lose the attached spring.
- Turn the door handle over and push it back onto the handle pocket.
- Reattach the door hadle assembly to the door with the two (2) screws.
- Remove the hinge hole plug and put it into the hole in the opposite end of the door.

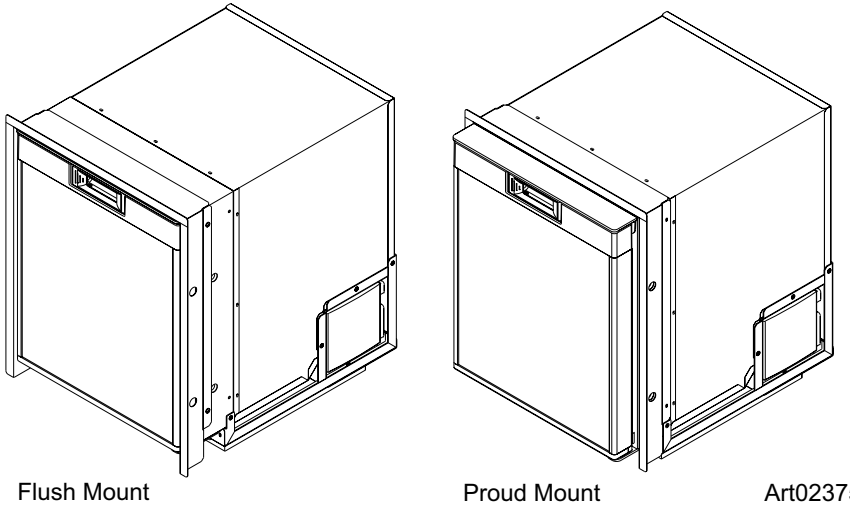


8. Put the door onto the refrigerator and make sure that the gasket seals correctly.

9. Install and tighten the four (4) screws that attach the door hinge to the bottom of the refrigerator.

Door mounting options:

This refrigerator is made to be installed in two ways (See Art02375). The “Flush Mount” is with the refrigerator door inside of the mounting frame. The “Proud Mount” is with the refrigerator door in front of the mounting frame.

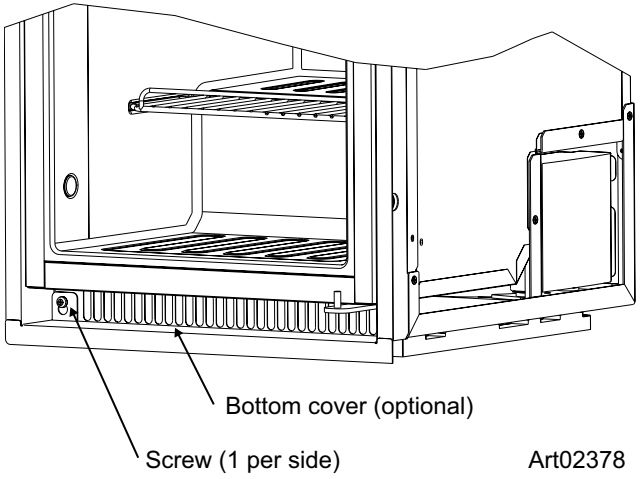


To change from “proud mount” to “flush mount”:

1. If the refrigerator has a bottom cover (optional), remove it (See Art02378).

   - Loosen (but do not remove) the two screws that attach the bottom cover to the refrigerator.

   - Lift the bottom cover upward and forward off of the screws.



Art02378

2. Remove the screws that attach the mounting frame to the refrigerator (See Art02374).

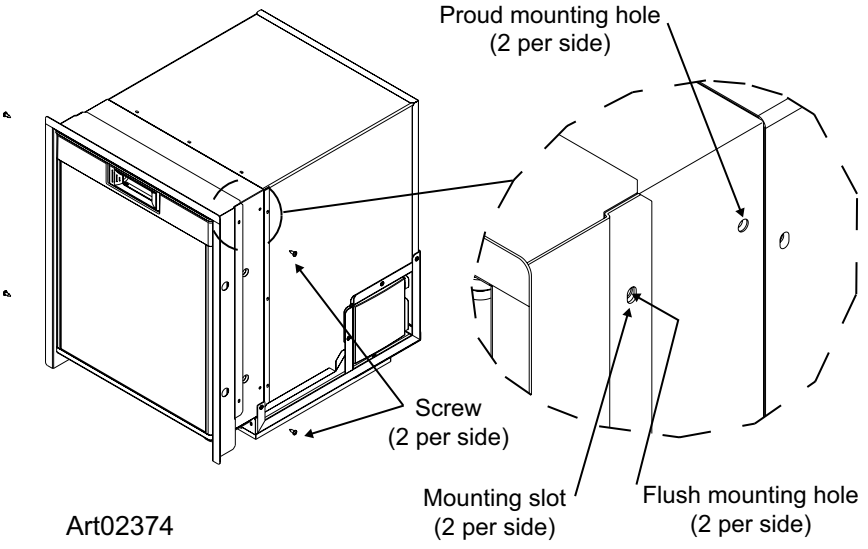
3. Pull the mounting frame forward until you can see the flush mounting holes through the mounting slots.

4. Attach the mounting frame using the screws removed in step 1.

5. If the refrigerator has a bottom cover (optional), put it back in its original position on the refrigerator.

   - Tighten the two screws that attach the bottom cover to the refrigerator.

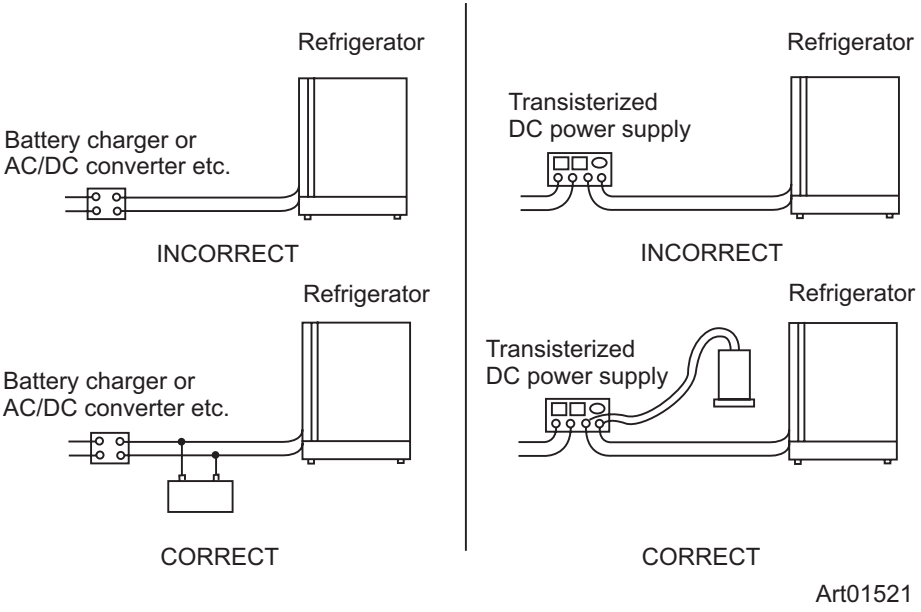
To change from “flush mount” to “proud mount”, perform the above procedure in the opposite sequence.



Connect the AC/DC supply

AC/DC models operate on either 120/240 volts, 50/60HZ AC current, or 12/24 volts DC current.

When using either a converter or a battery charger, make sure that they are connected in parallel between the battery and the refrigerator. Do not use a converter or battery charger to supply the DC power directly to the refrigerator because these two devices do not supply filtered DC power (See Art01521).

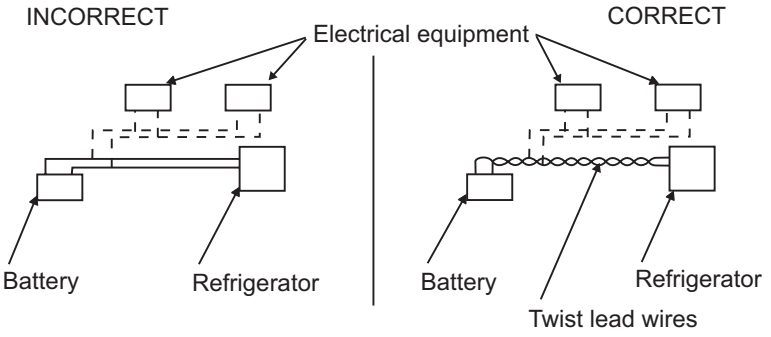


As the distance from the vehicle battery to the refrigerator increases, the correct AWG wire size also increases. If he wire size is too small for the distance, a voltage drop occurs. The voltage drop decreases the cooling performance of the refrigerator.

1. Norcold recommends that you use the following wire and fuse sizes:

- Measure the distance from the vehicle battery to the refrigerator:
  - If the distance is less than 12 feet, use 16 AWG wire and a 10 Amp fuse.
  - If the distance is between 12 and 20 feet, use 14 AWG wire and a 10 Amp fuse.
  - If the distance is more than 20 feet, use 12 AWG wire and a 10 Amp fuse.

- Twist the lead wires to reduce the radio interference and induction of a high voltage surge from the outside (See Art02376).



Art02376

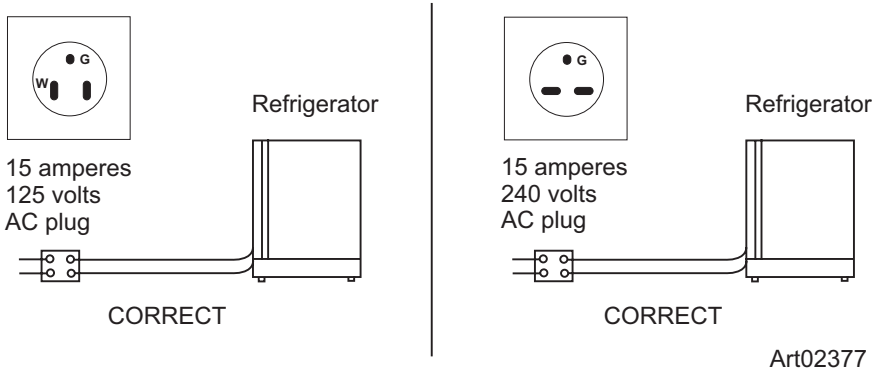
2. Connect the DC power supply.

3. Connect the AC power supply.

   - Identify the AC power supply (See Art02377).

     - Use the cord set with the 5-15P plug for connection to 120VAC.

     - Use the cord set with the 6-15P plug for connection to 240VAC.



Art02377