



Installation Manual

For 1200ACXX models: 12.0 cu.ft., 2-way, 4-door, R.V. refrigerator.
For 120XAC-IMXX models: 12.0 cu.ft., 2 way, 4-door, R.V. refrigerator with ice maker.

The letter “X”, in the model numbers above, stands for a letter or numeral which means a refrigerator option.



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

FOR YOUR SAFETY

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



WARNING: DO NOT install this refrigerator in below deck marine applications. Do not install this refrigerator in a 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.

English

French

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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.

Safety Instructions

 **WARNING:**

- This refrigerator is not approved for use as a free standing refrigerator.
- 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.
- 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.



CAUTION:

- 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



Art01691

This refrigerator is certified by CSA International as meeting the latest edition of UL250 standards for installation in mobile homes or recreational vehicles.

The installation must obey these standards and this "Installation Manual" for the NORCOLD limited warranty to be in effect. Installation must conform with the following as applicable:

In the United States and Canada:

- Local codes, or in the absence of local codes, 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.

Ventilation Requirements



WARNING: The completed installation must 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.

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 allow 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.

The refrigerator also has two thermostat controlled fans to move air across the cooling system. These fans turn on when the condenser fin temperature at the thermostat is about 130° F or higher and only when the refrigerator controls are on. These fans turn off when the condenser fin temperature at the thermostat is about 115° F or less. Even with these fans, if the 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

These key refrigerator dimensions are for your reference as necessary (See Art01734).

Refrigerator cabinet width w/o trim - 32.4 in. 1
 Refrigerator width overall w/ trim - 35.0 in. 2
 Refrigerator cabinet to side trim - 1.30 in. 3
 Refrigerator cabinet height w/o trim - 63.2 in. 4
 Refrigerator height overall w/ trim - 65.1 in. 5
 Refrigerator cabinet to top/bottom trim - 0.90 in. 6
 Enclosure wall to hinges - 3.10 in. 7
 Refrigerator cabinet to center of handles - 40.5 in. 8
 Enclosure wall to door (w/dispenser) - 3.90 in. 123

Assemble the Enclosure for the Refrigerator

1. Make sure the enclosure is 63.25 - 63.38 inches high x 32.69 - 32.82 inches wide x 24 inches deep.
2. Make sure the enclosure shelf is solid and level. The enclosure shelf must be:
 - a metal or a wood panel and extend the full width and depth of the enclosure.
 - able to support the weight of the refrigerator and its contents.
 - level to maintain door alignment.
3. Make sure there are no adjacent heat sources such as a furnace vent, a hot water heater vent, etc.
4. The enclosure face must be perpendicular to the enclosure shelf to provide a combustion seal.
5. The cutout opening must be square and perpendicular to the enclosure shelf to maintain door alignment.

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
Upper Roof Exhaust Cap	622293	N/A	N/A
Upper Roof Exhaust Vent	616319	24 in.	5 1/4 in.
Lower Square Corner Intake	616010	9 3/4 in.	19 3/8 in.
Upper Exhaust & Lower Intake Plastic	621156	13 3/4 in.	21 1/2 in.

2. Install the lower intake vent:

NOTE: 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.

- Make sure the bottom of the opening of the lower intake vent [9] is even with or immediately below the floor level (See Art01597).
- Make sure that the opening for the lower intake vent is between 1/2 inch and 1 inch from the heat source side of the refrigerator enclosure.

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.

NOTE: 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 refrigerator cooling system (See Art01597 and Art01596).
 - Align the roof exhaust vent above the lower intake vent.
 - Install a baffle [13] to prevent stagnant hot air in the area [14] above the refrigerator.

- Make sure there is less than 1/4 inch clearance [15] between the baffle and the top of the refrigerator.
- Make sure the baffle is the full width of the inside of the enclosure.
- If the design of the vehicle does not allow you to install the roof exhaust vent directly above the refrigerator cooling system:
 - Align the roof exhaust vent [12] above the lower intake vent and move it inboard as necessary (See Art01597 and Art01595).
 - 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 roof exhaust vent opening.
 - Put the other baffle between the outside edge of the roof exhaust vent opening and the side wall of the vehicle.
- If the depth of the enclosure is 24 inches or more and is less than 25 inches, no baffles are necessary at the rear of the enclosure.
- If the depth of the enclosure is 25 inches or more and is less than 26 inches, add two baffles [16] to the rear of the enclosure (See Art01595 and Art01596).
 - Put one baffle 18 inches to 18 1/2 inches above the bottom of the enclosure [17] (4 1/4 inches to 4 3/4 inches above the top of the lower intake vent opening REF) [18].
 - 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 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 26 inches, install a wood or an aluminum or galvanized sheet solid box baffle [21] in the rear of the enclosure (See Art01644 and Art01645).
 - Make sure that the bottom of the solid box baffle is 18 inches to 18 1/2 inches above the bottom of the enclosure [17] (4 1/4 inches to 4 3/4 inches above the top of the lower intake vent opening REF) [18].

- 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 of the refrigerator.
 - Make sure that the solid box baffle is the full width of the inside of the enclosure.
 - If there is more than 1/2 inch of clearance between either side of the refrigerator and the wall, fill the space with fiberglass insulation or add a baffle to eliminate the excess clearance.
 - If the design of the vehicle does not allow you to install a roof exhaust vent, install an upper side-wall exhaust vent.
- NOTE: The refrigerator is 23.7 in. min. to 24.0 in. max. from the rear of the breaker to the rear of the condenser [22] and is 59.0 in. min. to 59.3 in. max. from the bottom of the refrigerator to the bottom of the refrigerator condenser [23] (See Art01600).
- Install the upper side-wall exhaust vent [24] so that the distance [25] from the bottom of the enclosure to the top of the rough opening for the upper exhaust vent is at least 63 inches (see Art01588 and Art01589).
 - Align the upper exhaust vent horizontally above the lower intake vent [9].
 - To prevent stagnant hot air in the area above the refrigerator, 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 there is 1/4 inch or less of clearance between the baffle and the top of the refrigerator and that the baffle overlaps the refrigerator 1 inch or less [19].
 - Make sure that the baffle is against the wall of the vehicle at the top of the upper exhaust vent and 1/4 inch or less from the top of the opening for the upper exhaust vent [124].
 - Make sure the baffle is the full width of the inside of the enclosure.
 - Make sure the clearance at the sides of the refrigerator is correct:
 - If there is more than 1/2 inch of clearance between either side of the refrigerator and the wall, fill the space with fiberglass insulation or add a baffle to eliminate the excess clearance.
 - When using an upper side-wall exhaust vent:
 - If the depth of the enclosure is more than 24 inches and less than 26 inches [27], install a bent aluminum or galvanized steel sheet baffle [26] to the rear of the enclosure (See Art01588).
 - 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 flush with the bottom edge of the upper intake vent door frame.
 - Make sure that the top edge of the baffle is 1/4 inch or less [124] below the condenser [11] and that there is 1/4 inch or less clearance [124] between the lower rear corner of the condenser and the baffle.
 - If the depth of the enclosure is more than 26 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 Art01589).
 - Make sure that the solid box baffle is the full width of the inside of the enclosure.
 - Make sure that the bottom of the solid box baffle is 18 inches to 18 1/2 inches above the bottom of the enclosure [17] (4 1/4 inches to 4 3/4 inches above the top of the lower intake vent opening REF) [18] .
 - 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 the bottom edge of the upper exhaust vent [24].
 - Make sure that the vertical top edge of the baffle is 1/4 inch or less [24] below the lower rear corner of the condenser [11].
 - Make sure that there is 1/4 inch or less clearance [124] between the rear of the condenser and the baffle.

Install Decorative Door Panels (non-metal door models)

NOTE: The doors are made to accept decorative panels. The decorative panels must be 3/16 inch or less in thickness. Install the decorative door panels in the refrigerator doors before installing the refrigerator in the vehicle.

1. Make two upper door panels that are 16 13/64 inches wide x 18 3/8 inches high:
 - Raised panels must be centered on each door and no larger than 15 11/32 inches wide x 17 17/32 inches high.
2. Make two lower door panels that are 16 13/64 inches wide x 41 13/64 inches high:
 - Raised panels must be centered on each door and no larger than 15 11/32 inches wide x 40 11/32 inches high.
3. Install the decorative door panels:
 - Pull the panel retainer [37] off of each door [39] (See Art00965).
 - Push a decorative door panel 38] into the slots of each door.
 - Make sure that each panel retainer is correctly positioned and push the curved snap [125] of the panel retainer [37] inside of the curved snap [126] of the door (See Art01648).

Install the Refrigerator

1. Put the refrigerator in position:

NOTE: Be careful when you put the refrigerator into position. The refrigerator has vacuum insulating panels on the top and sides. If punctured, these panels lose insulation value which decreases the cooling performance of the refrigerator. It is not necessary to remove the protective packaging from the doors of metal door models to install or operate the refrigerator.

- Make sure that the flue cap is not pushed down against the top of the flue tube.
 - Push the refrigerator into the enclosure so the side trim is approximately one inch from the wall.
2. Make sure that the side trim pieces [127] are in the correct position (See Art01649 and Art01650):
 - Slide both side trim pieces up or down as necessary so that the ends of the side trim pieces are fully covered by the upper and lower trim pieces [40 and 128].

- Pull the left hand side trim piece toward the left as far as it will go so that there is no gap between the edge of the side trim piece and the upper and lower trim pieces.
- Pull the right hand side trim piece toward the right as far as it will go so that there is no gap between the edge of the side trim piece and the upper and lower trim pieces.
- Push the refrigerator completely into the enclosure.

2. Install the mounting screws and trim:

- Put the upper trim piece [40] onto the front of the refrigerator (See Art01649).
- Put the four screws [41] through the mounting flange on the front of the refrigerator and into the enclosure wall.
- Put a cap plug [129] on each of the screw holes in the upper trim piece on the front of the refrigerator.
- Push the lower trim piece [128] onto the front of the refrigerator (See Art01650).
- Put the four screws [41] through the mounting flange on the front of the refrigerator and into the enclosure wall.
- Put a cap plug [129] on each of the screw holes in the lower trim piece on the front of the refrigerator.
- Put two or more screws through the mounting flange on the rear of the refrigerator and into the floor.

3. On metal door models only, you may wish to remove the protective packaging from the doors.

NOTE: Be careful to not scratch or dent the metal doors. Do not use any abrasive cleaners, chemicals, or scouring pads because they can damage the finish of the doors.

Optional Installation

You can change enclosures that were made for Norcold model N8XX refrigerators so that you can put Norcold model 120X refrigerators into them.

To change the Norcold model N8XX refrigerator enclosure [130] into the Norcold model 120X refrigerator enclosure [131] (See Art01597):

- Increase the height of the enclosure by 3 3/8 inches [132].
- Increase the width of the enclosure by 8 13/16 inches [133].
- Make sure to add the additional width to the left side of the enclosure (as looking at the rear of the refrigerator).

Install the necessary baffles only as written in the "Install the Upper and Lower Vents" section of this manual.

The locations of the 12 VDC supply and the 120 VAC supply do not change.

Connect the Ice Maker (optional)

The ice maker is assembled to the refrigerators at the factory as optional equipment. If the refrigerator does not have a factory installed ice maker, one can not be added to the refrigerator at a later time.

The refrigerator installer must connect a cold water supply line to the solenoid valve at the rear of the refrigerator. The following are necessary to connect the icemaker:

- 1/4 in. OD copper tubing for the water supply line.
- OR
- 1/4 in. OD plastic tubing for the water supply line.
 - 1/4 in. shut off valve in the water supply line. This should be easily accessible through the lower intake vent.

Connect the water supply line:

Install a 1/4 in. OD water supply line [43] from the water shut off valve of the vehicle to the solenoid water valve [44] at the rear of the refrigerator (See Art01014):

NOTE: A brass compression nut [45], a brass sleeve, a plastic sleeve [46], and a brass insert [47] are supplied and attached to the rear of the refrigerator (See Art01604).

- Put the compression nut and then the sleeve onto the water supply line [43].
 - For copper tubing, use the brass sleeve.
 - For plastic tubing, use the plastic sleeve [46].
 - For plastic tubing with .040 in. wall thickness, also use the brass insert [47].
- Flush the water supply line until the water is clear.
- Put the tubing into the adapter [48] until it is against the stop of the adapter.
- Tighten the compression nut by hand (hard finger tight).
- Using two wrenches, tighten the compression nut 1 ½ to 2 turns.

- Open the water shut off valve of the vehicle.
- Examine the connections for leaks.

Connect the Electrical Components

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



WARNING: 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:



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

Put 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 flue pipe or any hot component that could damage the insulation of the power cord.

Connect the 12 volts DC supply:

The refrigerator controls operate on 12 VDC power. 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.

Use a minimum of 18 AWG wire and a maximum 6 Amp fuse. If the wire size is larger than the min. size, use the correct fuse per RVIA A119.2 standard or local codes.

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

- Put fuse as close to the battery as possible.

2. Connect the DC power supply wires (See Art01748):

- Attach a 1/4 inch Quick Connect terminal to each DC power supply wire.

NOTE: 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 power board [49] of the refrigerator.

- Connect the positive DC power wire [50] onto the terminal of the power board [49] that is marked 12VDC.
- Push the DC ground wire [51] onto the terminal of the power board [49] that is marked GND.
- Make sure each DC power supply wire is on the correct polarity terminal.

Start Up

Before start up of the refrigerator:

- 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 there are no combustible materials in or around the refrigerator.

Start up:

1. Push the ON/OFF button [30] to start the refrigerator (See Art01333).
2. Push the SET TEMP button [32] as needed to set the thermostat at "4-6" temperature setting.

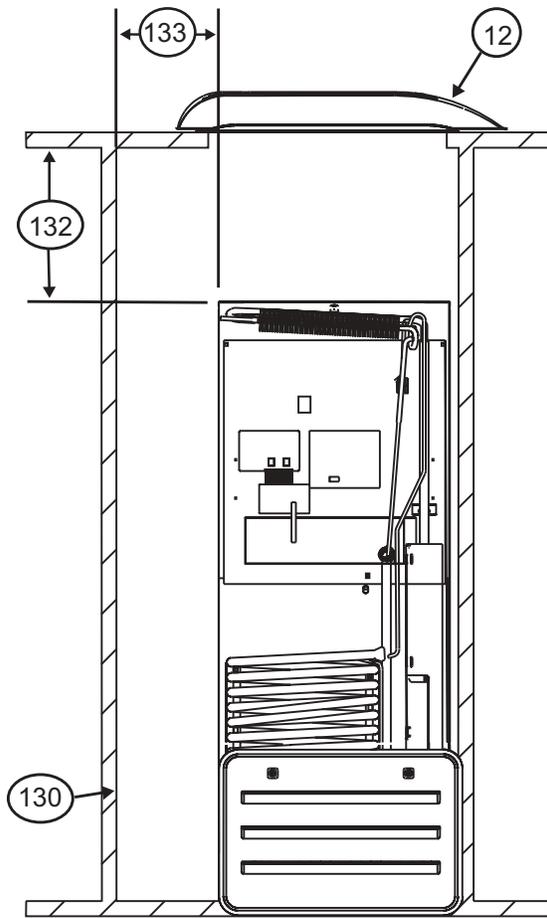
Shut down:

To shut down the refrigerator, push and hold the ON/OFF button for one second.

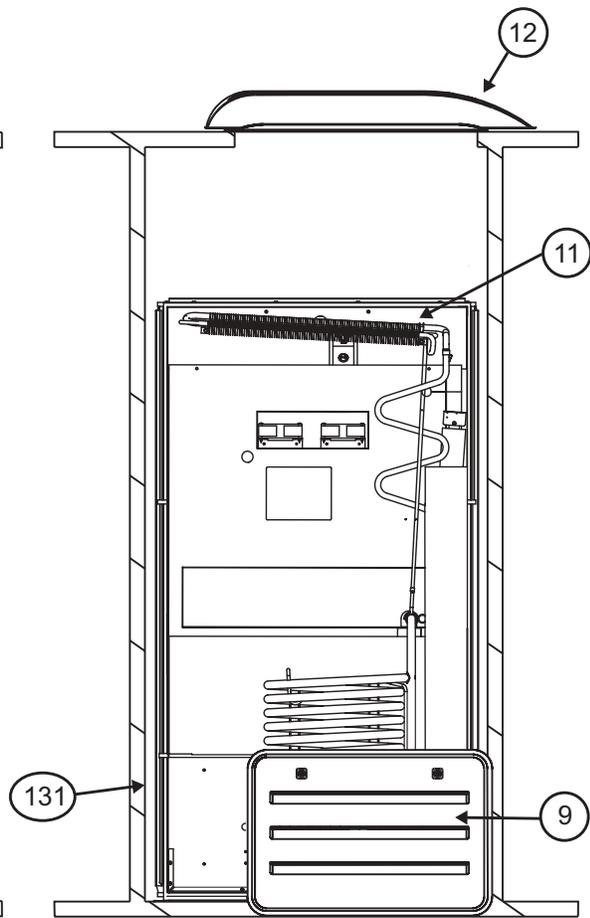
Fault Codes

Fault Codes	Fault Code Meaning	Corrective Actions
No display.	DC voltage is unavailable to the refrigerator control panel or the refrigerator is OFF.	Check: <ul style="list-style-type: none"> - That the refrigerator is ON. - That the battery charging equipment of the vehicle is operational. - That the AC/DC converter is operational (if applicable). - See your dealer or a Norcold authorized service center.
" dr " Audible alarm also.	The door was open for more than 2minutes.	Close the door.
" no " " AC " Audible alarm also.	AC voltage is unavailable to the refrigerator control.	Check: <ul style="list-style-type: none"> - That the refrigerator plugged into a serviceable outlet. - That the fuse or circuit breaker of the vehicle is intact. - That the vehicle generator is operational (if applicable). - See your dealer or authorized Norcold Service Center.
" dc " " LO "	DC voltage to the refrigerator control panel is too low.	Check: <ul style="list-style-type: none"> - That the battery charging equipment of the vehicle is operational. - That the AC/DC converter is operational (if applicable). - See your dealer or authorized Norcold Service Center.
" LI " " oP"	The high temperature limit switch is open.	This is not owner serviceable. See your dealer or authorized Norcold Service Center.
Temperature number flashes when SET TEMP button is pushed.	The refrigerator is operating on the "Back Up Operating System".	This is not owner serviceable. See your dealer or authorized Norcold Service Center.
" AC " " rE " Audible alarm also.	This is a fault within the refrigerator controls.	This is not owner serviceable. See your dealer or authorized Norcold Service Center.
" AC " " HE " Audible alarm also.	This is a fault within the refrigerator controls.	This is not owner serviceable. See your dealer or authorized Norcold Service Center.
" Sr " Audible alarm also.	This is a fault within the refrigerator controls.	This is not owner serviceable. See your dealer or authorized Norcold Service Center.

Art01780

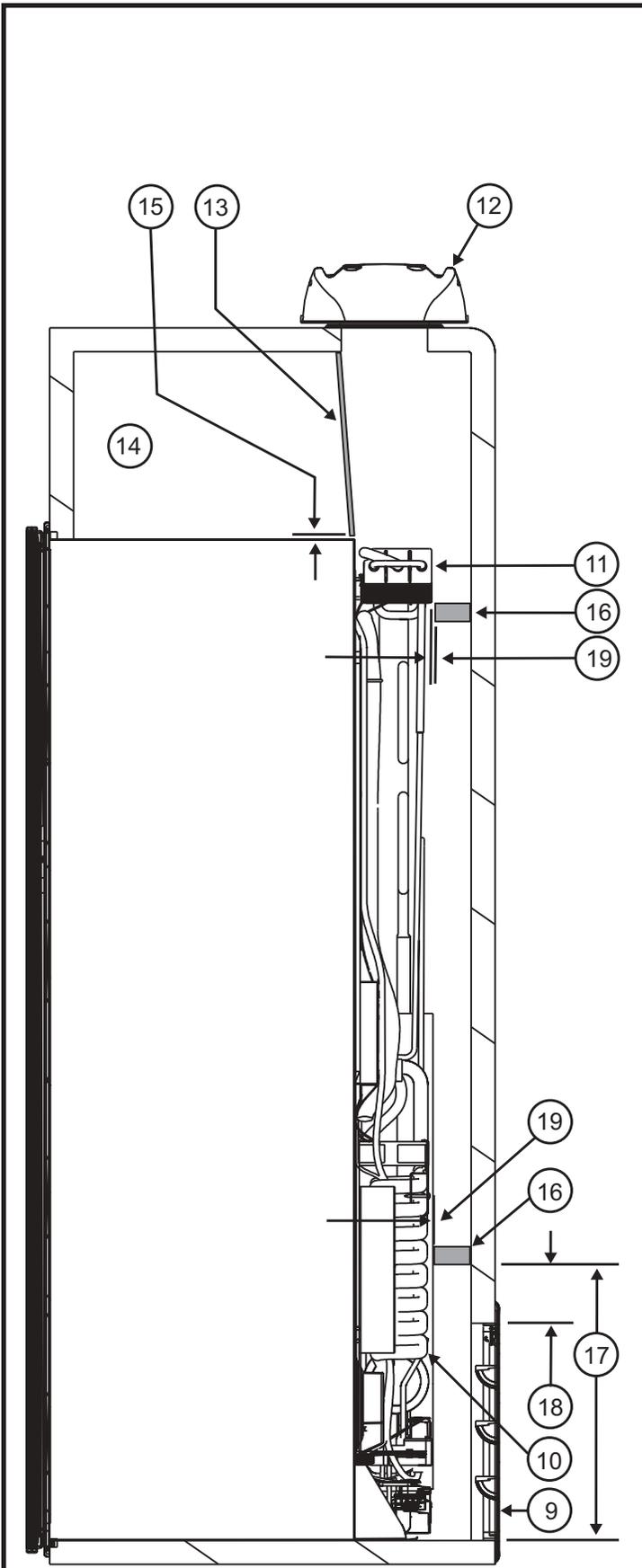


N8XX

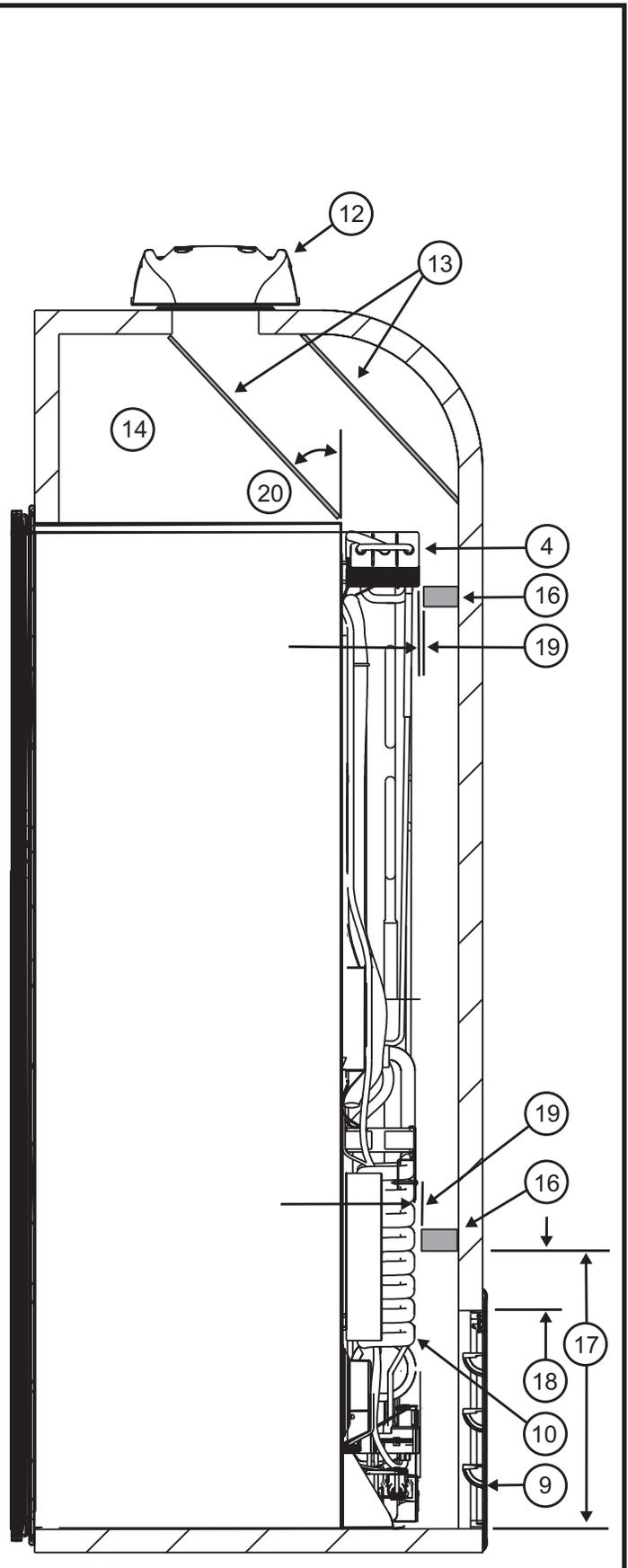


120X

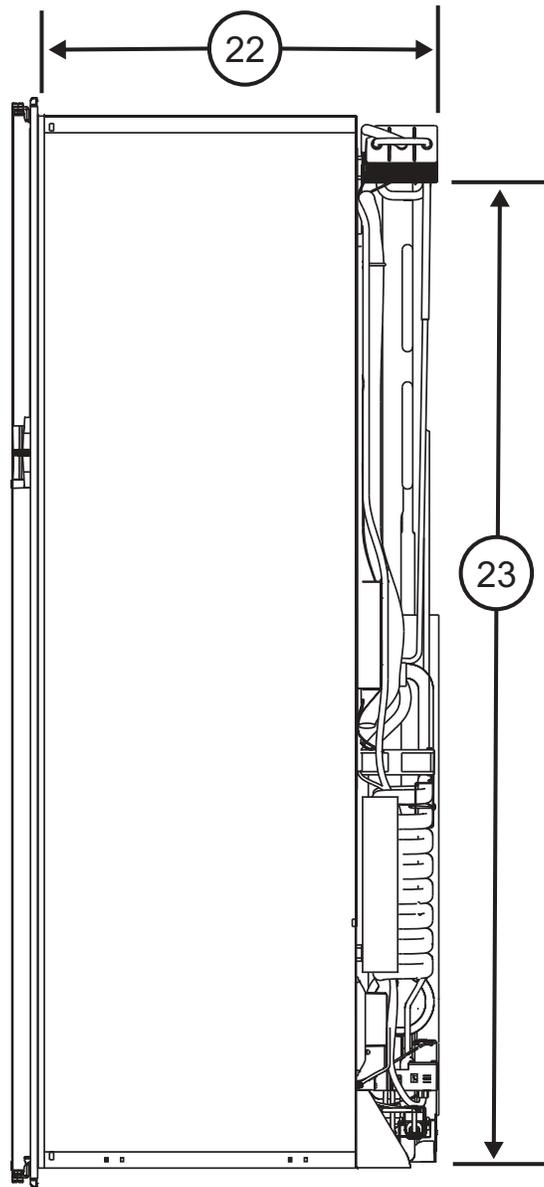
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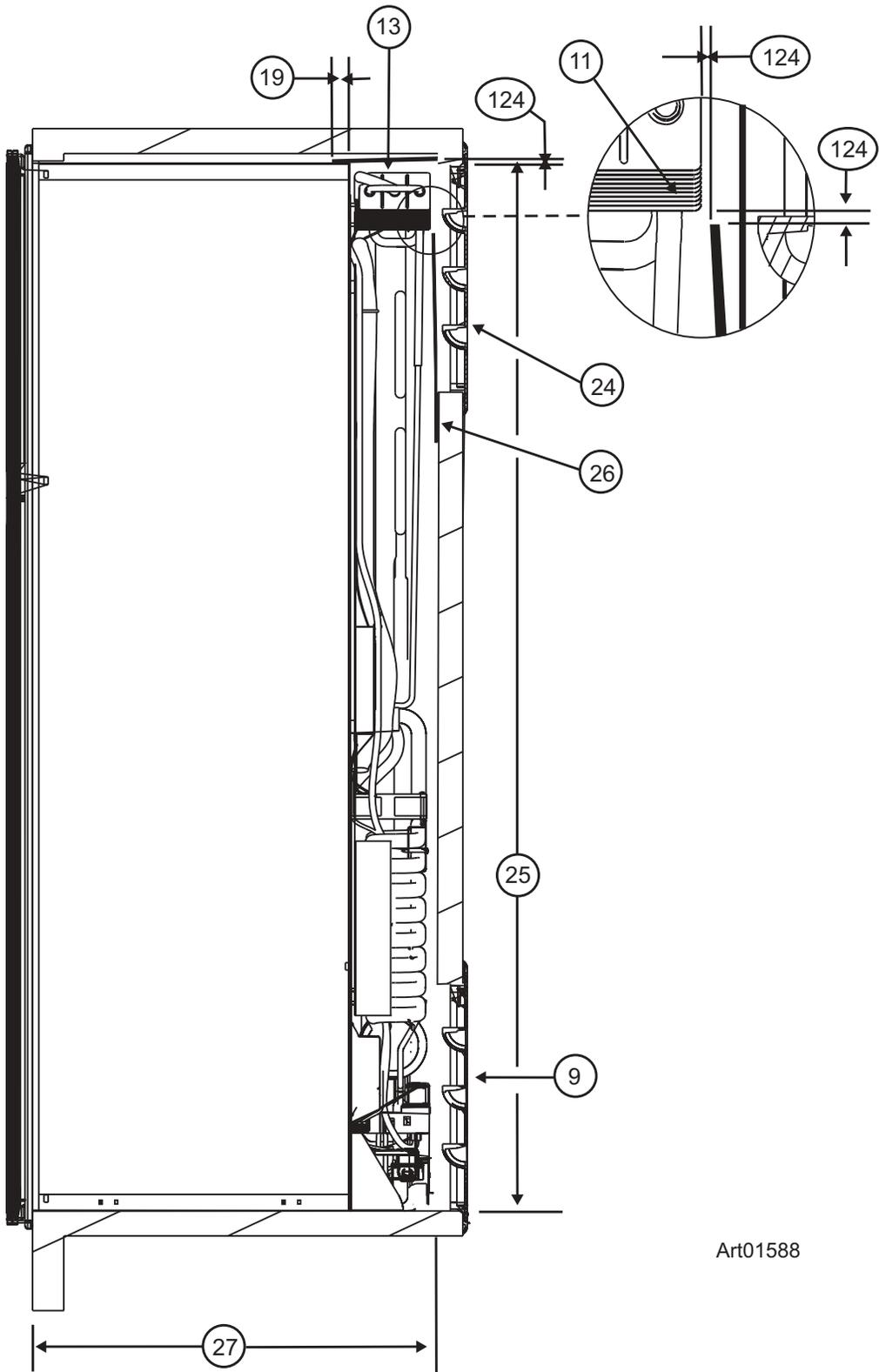
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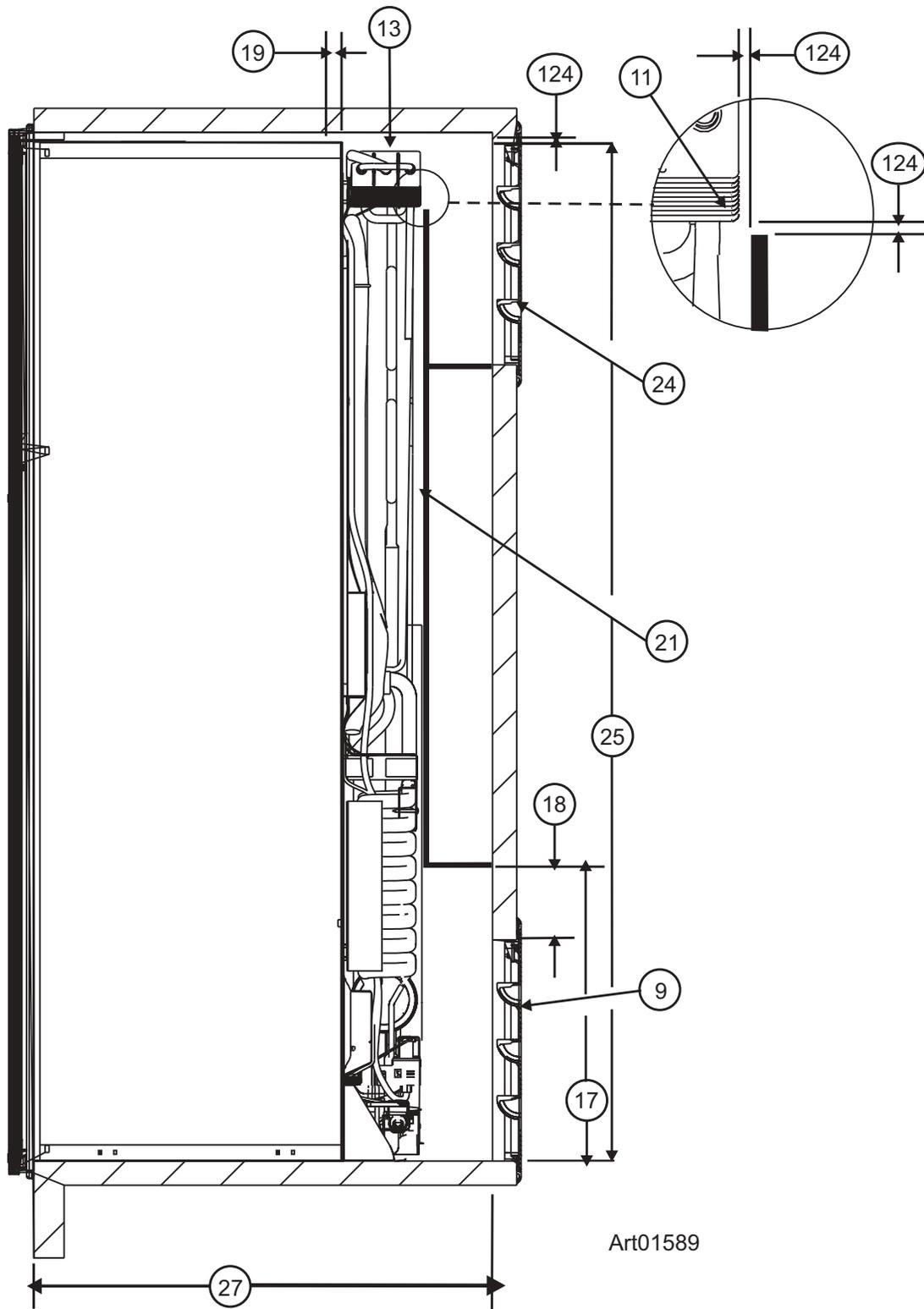
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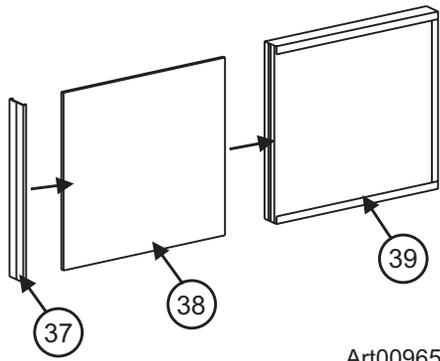
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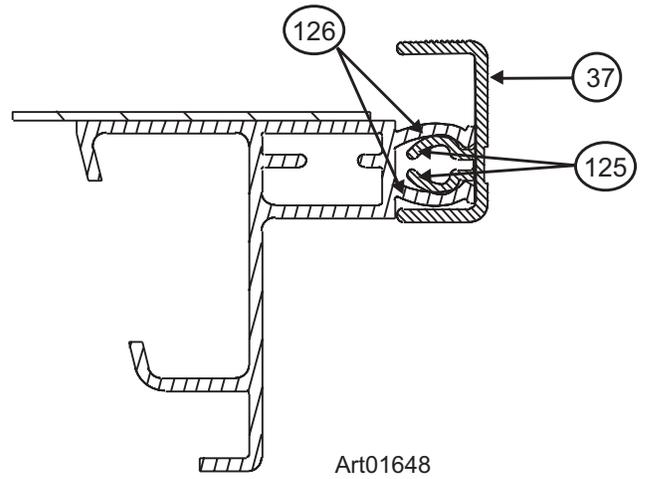
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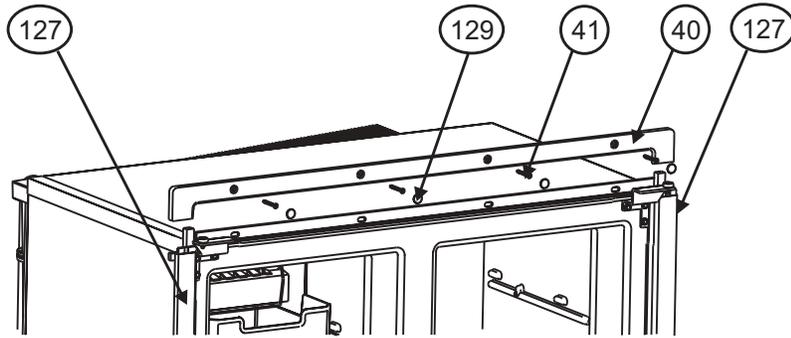
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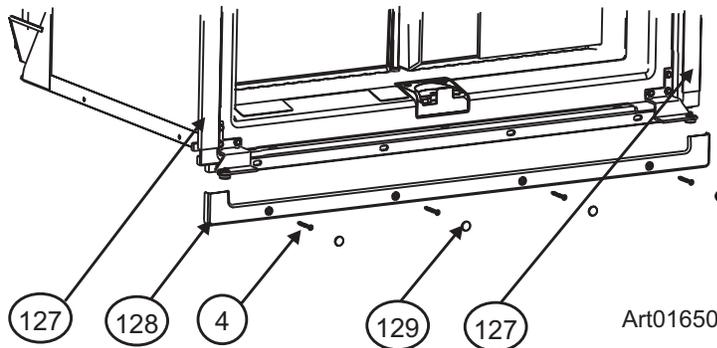
Art00965



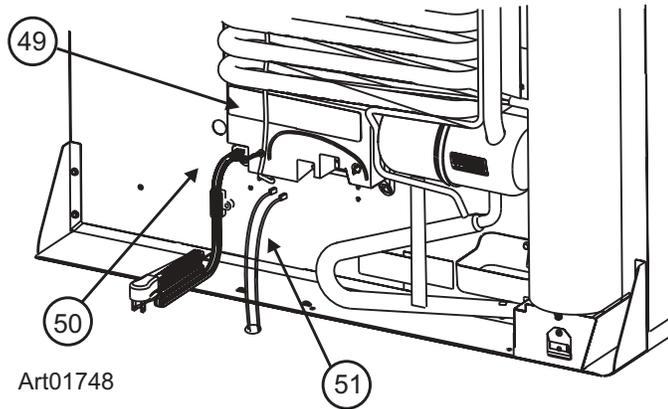
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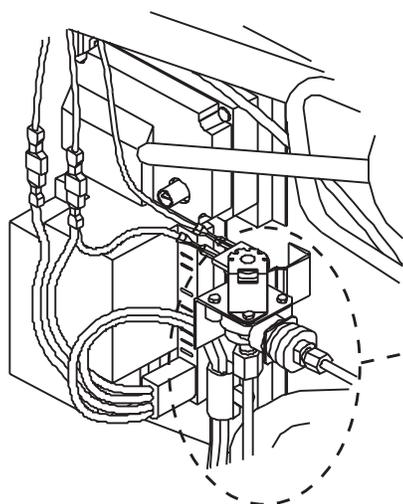
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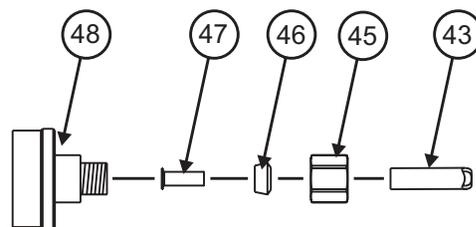
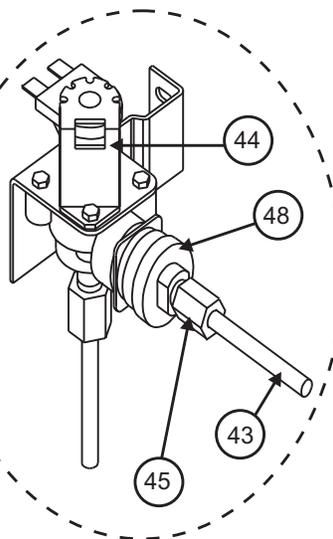
Art01650



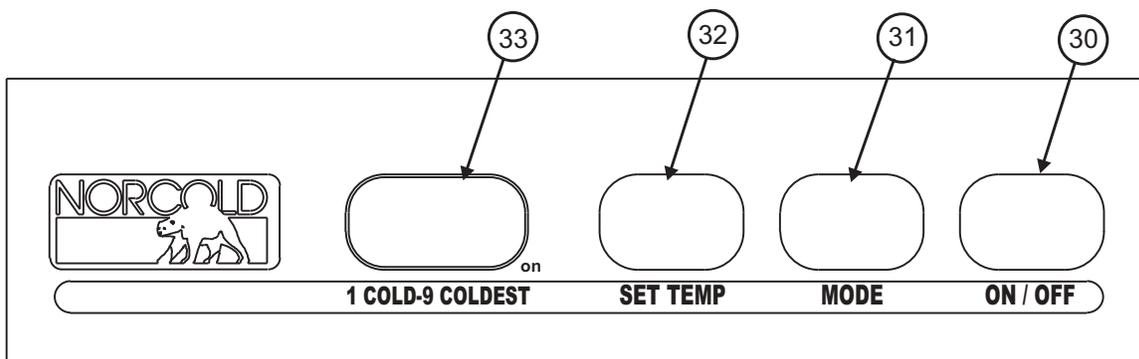
Art01748



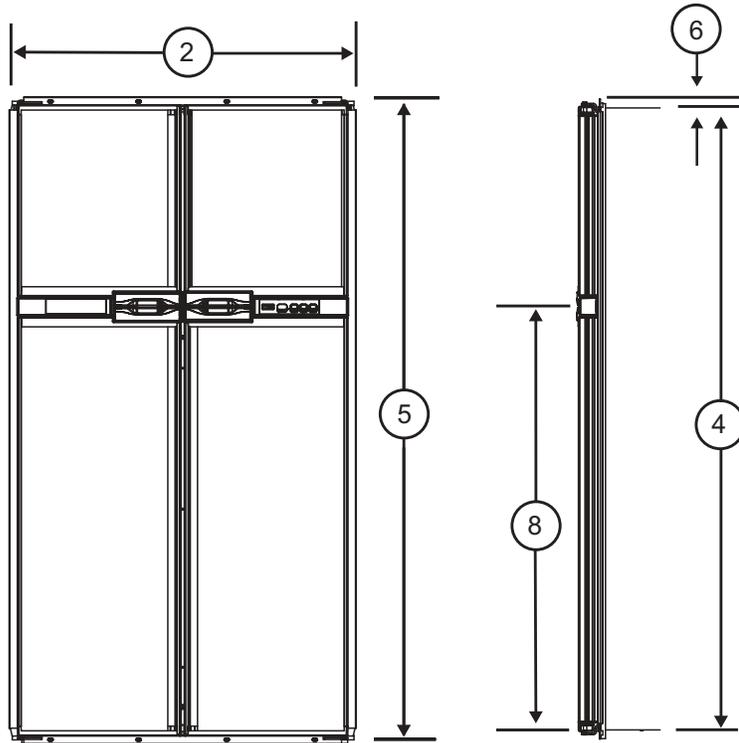
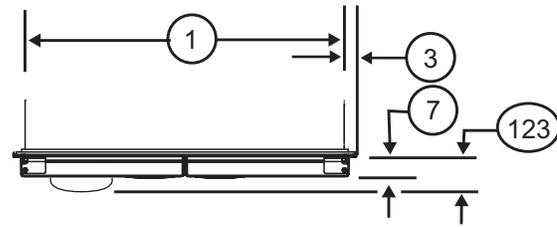
Art01014



Art01604



Art01333



Art01734