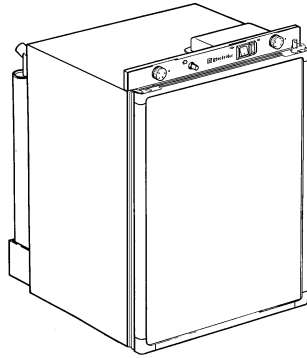




RECORD THIS INFORMATION FOR FUTURE REFERENCE BEFORE INSTALLING THE UNIT:

Model No. _____ Serial No. _____
Product No. _____
Date Purchased _____ Place of Purchase _____



REFRIGERATOR MODEL RM 4180 & RM 4181 UL

For Mobile Home or Recreational Vehicle Installation

Operation by LP Gas, 12V DC or 120V AC

USA
SERVICE OFFICE
The Dometic Corp.
509 So. Poplar St.
La Grange, IN 46761
Phone: 219 463 4858

CANADA
Dometic Dist.
866 Langs Dr.
Cambridge, Ontario
Canada N3H 2N7
Phone: 519 653 4390

**FOR SERVICE CENTER
ASSISTANCE**
CALL: 800 544 4881



FOR CHILD SAFETY

DANGER: Risk of child entrapment. Before you throw away your old refrigerator: Take off the doors, leave the shelves in place, so that children may not easily climb inside.

FOR YOUR SAFETY

If you smell gas:

1. Shut off gas supply at main valve.
2. Open windows.
3. Don't touch electrical switches.
4. Extinguish any open flame.
5. Immediately call your gas supplier.

FOR YOUR SAFETY

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

WARNING

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

AVIS

Cet appareil doit être réparé seulement par un réparateur autorisé. Modification de l'appareil pourrait être extrêmement dangereuse, et pourrait causer mal ou mort.

INSTALLATION & OPERATING INSTRUCTIONS

REFRIGERATOR MODELS RM 4180 RM 4181

Dometic Siegen GmbH
In der Steinwiese 16
D- 57074 Siegen

821 2674-02 01/03

**IMPORTANT INSTRUCTIONS
READ CAREFULLY**

OPERATING AND INSTALLATION INSTRUCTIONS FOR DOMETIC REFRIGERATORS

GENERAL

To ensure good refrigeration and economical operation, the refrigerator must be installed and used as described in these instructions.

This appliance is designed for storage of food and making ice cubes.

The refrigerators outlined herein have been design certified by CSA under ANSI Z21.19b and CGA 14-M94 Refrigerator Standard for installation in a mobile home or recreational vehicle and are approved by the Canadian Gas Association. The certifications are, however, contingent on the installation being made in accordance with the following instructions as applicable.

In the U.S.A., the installation must conform with:

1. National Fuel Gas Code ANSI Z223.1-(latest edition)
2. Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280
3. Recreational Vehicles ANSI A119.2-(latest edition).

The unit must be electrically grounded in accordance with the National Electric Code ANSI/NFPA 70-(latest edition) when installed if an external alternating current electrical source is utilized.

4. Any applicable local code.

In Canada, the installation must conform with:

1. Current CGA B 149 Gas Installation Codes
2. Current CSA Standard Z 240.4 GAS-EQUIPPED RECREATIONAL VEHICLES AND MOBILE-HOUSING
3. Any applicable local code

The unit must be electrically grounded in accordance with the CANADIAN ELECTRICAL CODE C 22 Parts 1 and 2.

TRANSIT DAMAGE

Inspect the refrigerator for damage. Transit damage must be reported to whoever is responsible for delivery not later than seven days after the refrigerator was delivered.

! WARNING

FOR YOUR SAFETY, it is recommended that all LP gas appliances which are vented to the outside should be shut off when refueling. The refrigerator must be shut off during refueling.

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OPERATING INSTRUCTIONS

CONTROLS

The refrigerator can be run on either 120V AC, 12V DC or LP gas. Changing between these modes of operation is carried out by means of the controls of the control panel shown in fig 3.

Two rocker switches are used to select the electric power supply, one for 120V AC (B) and one for 12V DC (A).

Refrigerator temperature is controlled by a thermostat (C) when the unit runs on 120V AC. The gas supply is turned on/off by means of the knob (D). When lighting the gas, press in the knob as explained further on.

The refrigerator is fitted with a safety device which automatically shuts off the supply of gas if the flame goes out.

In model **RM 4180** a manual piezo-electric igniter is used. When the button (F) is pressed, sparks are generated at the burner.

Inside the refrigerator at bottom left is a sight glass for the burner. A blue light can be seen through it when the flame is alight (**RM 4180**).

In model **RM 4181**, the gas flame is electronically lit, monitored and relit if necessary. For this the toggle switch (E) should be "on" during gas operation.

An indicator lamp in the switch flashes when the automatic igniter attempts to light the burner. Otherwise this lamp is off.

STARTING THE REFRIGERATOR

CAUTION

Only use one source of energy at a time.

The position numbers refer to **fig. 3., pg. 10**


LP Gas operation

After initial installation, servicing, or changing gas cylinders etc., the gas pipes may contain some air which should be allowed to escape by briefly turning on the refrigerator or other appliances. This will ensure that the flame lights immediately.


To start gas operation:

1. Open the shut-off valve of the gas bottle (check that there is enough gas). Open any on-board shut-off valve.
2. Check that the switches for mains and 12 V operation are off.

If you have Model **RM 4181** proceed as follows:

3. Turn on the gas supply by pressing the (D) knob and turning it to the position .
4. Set the thermostat knob (E) to the highest position.
5. Depress switch (F). The switch now starts to flash, indicating that sparks are being generated at the burner.
6. Keep the (D) button pressed for a further 10 to 15 seconds to active the flame failure device, then release it.
7. When the flame lights, the sparking stops automatically and the switch stops flashing.

If you have Model **RM 4180** proceed as follows:

3. Turn on the gas supply by pressing the gas control (D) and turning it into position .
4. Set the thermostat knob (E) to the highest position.
5. Keeping the flame failure device (D) pressed, activate the igniter (F) several times until the flame lights.
6. Keep the knob (D) depressed for a further 10-15 seconds.
7. Release the knob and again check that the flame stays alight.

The flame can be observed in a viewing glass inside the refrigerator at the bottom left (**RM 4180**).

To terminate gas operation, turn knob (D) to "●" and (when applicable) set switch (F) to "0".

120V AC Operation

- Turn off gas or 12V operation when applicable.
- Turn the knob (C) of the thermostat to its highest (coldest) position.
- Set switch (B) to position I. The switch will light up green when the power supply is connected

12V DC Operation

Only operate your refrigerator on 12V DC when the engine of the vehicle is running - otherwise your battery will soon be discharged.

- If applicable, turn off the gas operation.
- Set the 12V rocker switch (A) to I. The switch will light up red when the power supply is connected.

WINTER OPERATION

Please check that the ventilation grilles or the flue outlet are not blocked by snow, leaves etc.

DOMETIC ventilation grilles **L100/L200** (fig 2), can be fitted with winter covers, to protect the cooling unit against cold air. The covers may be fitted when the outside temperature is below approx. 10°C and should be fitted when the temperature is below the freezing point.

We suggest that you fit the winter covers also in the case that the vehicle is laid up during the winter months.

REGULATING THE TEMPERATURE

The position number refers to fig. 3.

It will take a few hours for the refrigerator to reach normal operating temperature. So we suggest you start it well in advance of a trip and if possible store it with precooled foodstuffs.

On 120V operation the refrigerator is controlled by a thermostat and the thermostat knob (C) should be set at 3-5. If a lower (colder) temperature is desired, set the thermostat to a higher figure.

On 12 V operation the refrigerator works continuously.

On LP gas operation the refrigerator temperature is regulated by the rotary knob (D), which should be set at 3-5. If a lower (colder) temperature is desired, set the thermostat to a higher figure.

TRAVEL CATCH

Make sure that the travel catch is engaged when the vehicle is on the move, (fig 1).

The travel catch at the top of the door can be set in two different positions. In one position the door is held tightly shut. In the other position the door is secured ajar so that the refrigerator can be aired when not in use.

FOOD STORAGE

Always keep food in closed containers. Never put hot food in the refrigerator; allow it to cool first.

Never keep items in the refrigerator which might give off flammable gases.

Avoid using large dishes and do not stack food or food containers too closely as this interferes with the circulation of cold air within the cabinet.

If possible, start the refrigerator on gas or AC the day before it is to be used, to allow time for the interior to be cooled. It is then preferable to load the refrigerator with food which has been precooled.

Before moving the vehicle, make sure that all containers are tightly covered to avoid spills. If required, crumpled paper may be packed between bottles and other items to prevent shifting while traveling.

Engage the travel catch at the top of the front corner of the door before moving the vehicle.

ICE MAKING

It is practical to make ice during the night - then the refrigerator is less demanded and the cooling unit has more reserves. Fill the ice tray to just below the brim with drinking water and place it on the freezer shelf.

To speed up the ice making, one can spill one or two spoonfuls of water on the freezer shelf to improve the contact to the ice tray.

DEFROSTING

Frost will gradually accumulate on the refrigerating surfaces. It must not be allowed to grow too thick as it acts as an insulator and adversely affects refrigerator performance. Check the formation of frost regularly every week and when it gets about 3 mm thick, defrost the refrigerator. To defrost the `fridge, turn it off and remove the ice tray and all food items.

Warning: normally the temperature of items of foods would rise unduly during defrosting and so they should be consumed within 24 h or discarded. The defrost water runs from a collector channel to a receptacle at the rear of the refrigerator where it evaporates. When the ice has melted, wipe the refrigerator dry and restart it. Place the food items back inside but wait until the refrigerator is cold before making ice cubes.

CAUTION

DO NOT use a hot air blower. Permanent damage could result from warping the metal or plastic parts. DO NOT use a knife or an ice pick, or other sharp tools to remove frost from the freezer shelf.

CLEANING THE REFRIGERATOR

Clean the inside of the refrigerator regularly to keep it fresh and hygienic.

To clean the interior of the refrigerator, use lukewarm water and a mild dishwashing detergent. Use only warm water to clean the finned evaporator, gaskets, ice trays and shelves. **NEVER** use strong chemicals or abrasives to clean these parts as the protective surfaces will be damaged. It is important to always keep the refrigerator clean.

The exterior of the refrigerator should be wiped clean now and again, using a damp cloth and a small quantity of detergent. But not the door gasket, which should only be cleaned with soap and water and then thoroughly dried.

TURNING OFF THE REFRIGERATOR

If the refrigerator is not to be used for some time:

1. Set any switches to 0.
2. Set the gas valve (D) to ●.
3. Shut off any on-board valve in the gas line to the refrigerator.
4. Empty the refrigerator. Defrost and clean it as described earlier. Leave the door of the refrigerator ajar. Use the travel catch to hold in this position.
5. When the vehicle is laid up for a long period of time (e.g. during the winter months), we suggest fitting the winter covers ,fig. 2, onto the vent grills.

IF THE `FRIDGE FAILS TO WORK

Check the following points before calling a service technician:

1. That the STARTING THE REFRIGERATOR instructions have been followed.
2. The refrigerator is level.
3. If it is possible to start the refrigerator on any of the connected sources of energy.
4. If the refrigerator fails to work on gas, check:
 - That the gas bottle is not empty.
 - That all LP-gas valves are open.
5. If the refrigerator fails to work on 12 V, check:
 - That the 12 V supply is connected to the refrigerator.
 - That the fuse on the 12 V supply is intact.
 - That the 12 V switch is on.
6. If the refrigerator fails to work on 120V, check:
 - That the 120V supply is connected to the refrigerator.
 - That the fuse is intact.

If the refrigerator is not cold enough it may be because:

1. The ventilation is inadequate owing to reduced area of the ventilation passages (partial blockage of grilles from wire mesh etc).
2. The evaporator is frosted up.
3. The temperature control setting is incorrect.
4. The gas pressure is incorrect - check the pressure regulator at the gas container.
5. The ambient temperature is too high.

6. To much food is loaded at one time.
7. The door is not properly closed or the magnetic sealing strip is defective.
8. More than one source of energy is used at the same time. If the refrigerator still does not work properly, call a service technician.

CAUTION

The sealed cooling system must not be opened, since it is under high pressure.

SOME USEFUL HINTS

Make sure that:

- The refrigerator is not operating on 12 V when the vehicle is parked, otherwise you will drain the car battery in a short time.
- Defrosting is carried out periodically.
- The refrigerator is left with the door ajar when it is not in use for some time.
- Liquids or items with a strong odour are well packaged.
- The ventilation openings are unobstructed.
- The door is secured by means of the travel catch when the vehicle is on the move.
- Only one mode of operation at a time is used to run the refrigerator.

MAINTENANCE & SERVICE

The user should be aware of service that must be done on a regular schedule to keep the refrigerator operating properly (once or twice a year is recommended.).

The service should only be performed by a qualified technician who is familiar with LP gas systems and refrigerators.

Besides, it is recommendable to contact an authorized service for repair works.

A. It is important to keep the area at the back of the refrigerator clean. Check the lower vent, upper vent and area between these openings for any obstructions such as bird/insect nests, spider webs, etc. Clean the coils on the back of the refrigerator. Use a soft bristled brush to dust off the coils.

NOTE: AVOID SPRAYING WATER THROUGH THE REFRIGERATOR VENTS WHEN WASHING THE RV.

It is important to keep the refrigerator vent area free from combustible material, gasoline and other flammable vapors or liquids.

B. Check all connections in the LP gas system (at the back of the refrigerator) for gas leaks. The LP gas supply must be turned on. Apply a noncorrosive bubble solution to all LP gas connections. The appearance of bubbles indicates a leak and should be repaired immediately **by a qualified service technician who is familiar with LP gas systems and refrigerators.**

! WARNING

DO NOT USE A FLAME TO CHECK FOR GAS LEAKS.



TECHNICAL DATA

RM 4180/81

Overall dimensions, refrigerator

Height	617 mm
Width	401 mm
Depth (incl. cooling unit)	
without door	417 mm
with door	451 mm

Build-in dimensions

Height	620 mm
Width	405 mm
Depth	430 mm

Capacity

gross	40 lit.
net	37 lit.

Weight (without packaging) 18 kg

Electrical data

Input AC 120V	105 watt
DC 12V	100 watt
Energy consumption /24 h	2,2 kWh

LP gas data

Input min	293 Btu/h
max	635 Btu/h
Energy consumption /24 h	0,24 kg

Cooling medium Ammonia (R 717)

INSTALLATION INSTRUCTIONS

REPOSITIONING THE HINGES

The door hinges can be moved to the opposite side in the following way:

- Unscrew the upper hinge pin, taking care not to lose the set of washers and bushes.
- Lift the door from the lower hinge pin.
- Unscrew the pin and mount it on the opposite side hinge.
- Unscrew the travel catch and mount it on the opposite side.
- On the upper edge of the door are two plastic inserts for the alternative holes of the travel catch. Pry out carefully and exchange.
- Fit the door on the pin and reassemble the pin with washers and bushes in its new place.
- Check that the door closes properly and seals all round.

DOOR PANEL

The door panel can easily be mounted or changed. The dimensions of the panel must be:

Height	522 mm
Width	370 mm
Thickness	max 1,3 mm

- Remove the door, see REPOSITIONING THE HINGES.
- Remove the lower trim moulding and then withdraw the panel by sliding it downwards.
- Fit new panel in place and slide it up as far as possible.
- Fit the trim moulding back in place.

BUILDING-IN

The refrigerator is intended for installation in a caravan or motorhome, and the description relates to this application.

The refrigerator must not be exposed to radiated heat from hot objects (e.g. below a cooker without proper heat shielding).

Excessive heat irradiation impairs performance and leads to increased energy consumption. For this reason the refrigerator should be installed if possible not at the entrance side of the vehicle - normally orientated south and often with an awning - which would impair the dispersion of heat and combustion gases from the ventilation openings.

It is not a good practice to install the refrigerator so that the vent openings are covered by the vehicle's entrance door when this is open. This would reduce the ventilation air flow to the cooling unit and reduce refrigeration performance.

The Enclosure

The refrigerator must be installed in an enclosure, the dimensions of which are shown in **TECHNICAL DATA**. The bottom of the enclosure must be horizontal and even so that the refrigerator can be easily pushed into place. It must be sturdy enough to carry the weight of the refrigerator.

Battens must be installed at the enclosure and fitted with sealing strips, as shown in fig. 4.

Slide in the refrigerator until it is flush with the front of the recess. There must be 10-20 mm free space behind the refrigerator.

Four fasteners are fitted in plastic bushings in the side walls of the fridge, fig. 7. They are used for securing the refrigerator in the enclosure.

The side walls of the enclosure and/or any wooden braces installed to hold the refrigerator must be dimensioned to seat the screws securely, also considering the forces due to the movement of the vehicle.

With the refrigerator in place, drive the screws through the bushings in the lining (fig.7) of the refrigerator into the walls of the enclosure. There must not be more than 3mm of clearance between refrigerator and enclosure on each side. If necessary, wooden strips or similar should be fitted.

Note: This is the only approved means of securing the refrigerator to the enclosure and to the vehicle. Fasteners penetrating other parts of the insulation (PU) foam of the refrigerator might damage components like electric wiring etc.

VENTILATION OF THE UNIT

At high ambient temperatures the refrigeration unit will only perform adequately when properly ventilated.

The refrigeration unit is ventilated via two openings in the wall of the caravan (see fig. 5). Fresh air enters through the lower opening and warm air is discharged through the upper one.

Locate the lower opening immediately above the floor of the recess, and the upper one as high as possible above the condenser (C) of the refrigeration unit, at least as shown in fig. 6b but preferably as shown in fig. 6a.

Ventilation grilles Fig. 2

The openings in the caravan wall must be fitted with the Dometic ventilation systems.

Fitting the grilles, model **L100/L200**, which were specially developed by Dometic for this purpose (shown as D in fig. 6). It is a good idea, to install the frame (A in the same figure), at the same time. Then the grilles can be easily removed which permits inspection and small repairs to be carried out without the necessity for removing the refrigerator from the recess.

If there is no outer grille at floor level where leaking gas can escape, a 40 mm hole to the outside should be made in the floor of the recess to drain any unburnt gas to the outside gas.

Fit the hole with wire mesh and an angled plate to protect from stones, mud etc.

Removal of flue gases

The ventilation passage at the rear of the recess, between the outer wall of the vehicle and the refrigerator (fig. 6), is sealed off against the living space, and so cold draughts are excluded (winter camping) and no flue gases can penetrate into the vehicle. Thus a special flue outlet is no longer necessary - the gases are dispersed through the upper vent grille.

Note: With this mode of installation the same type of grilles (without an integrated flue outlet), should be installed at the upper as well as at the lower vent opening. The angled T-piece for the flue tube (when delivered) should not be used in this case.

The top of the enclosure above the flue tube (I), fig. 6, should be covered with aluminum sheet metal, as indicated in (B), to facilitate the heat dispersion.

In fig. 6 the letters have the following meaning:

- A. Frame for the grilles
- B. Aluminum cladding
- C. Condenser of cooling unit
- D. Vent grill
- E. Sealing profile (optional extra)
Width 522 mm
- F. Refrigerator rear wall
- G. Wooden batten approx. 10 x 20 mm (see fig. 4)
- H. Height of the enclosure
(see **TECHNICAL DATA**)
- I. Flue tube

LP GAS CONNECTION

CHECK THAT THE GAS SUPPLIED TO THE REFRIGERATOR IS AT THE CORRECT PRESSURE. LOOK AT THE REDUCING VALVE ON THE LP GAS CONTAINER.

The refrigerator is designed for operation on LP gas of Butane type the pressure of which must be 28 mbar for Butane and 37 mbar for Propane.

The refrigerator is not designed for operation on town gas or natural gas.

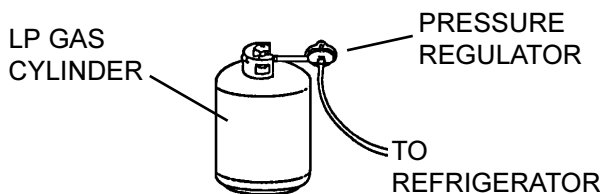
CAUTION

Check that this is stated on the data plate. The refrigerator is not designed for operation on town gas or natural gas.

The gas installation should only be carried out by an authorised gas fitter.

The supply pipe should preferably be of copper. If any other material is used, it must be of a type approved for use with continuously operating bottled-gas appliances, and have threaded compression connections throughout. **PUSH-ON CONNECTIONS MUST NOT BE USED** (We do not approve the use of "rubber" type flexible tubing for connecting permanently operating appliances of this type). All connectors etc. should be of a type specifically designed for the type and diameter of the connection pipe used, and screwed joints should be sealed with a joining compound approved for use with bottled gas. The gas supply pipe should be connected to the gas inlet pipe on the right hand side of the gas control valve by means of a suitable threaded compression coupling.

In making the connection to the refrigerator, a gas cock of an approved type for use LPG must be incorporated in the supply line in a position which is readily accessible to the user. For eventual servicing purposes, the union should be on the outlet side of the cock and the pipework should be positioned so as not to prevent the refrigerator from being readily withdrawn.



ELECTRICAL CONNECTION

The electrical installation must be carried out in a proper and durable manner, taking into account all relevant regulations and codes of practice. For mains voltage operation, it is important that the circuit to and in the caravan is effectively earthed.

ALL MAINS VOLTAGE WIRING IN THE CARAVAN MUST BE INSTALLED IN ACCORDANCE WITH CURRENT REGULATIONS .

For connection to a 120V electricity supply, the refrigerator has a 3-core mains lead which is intended for connection to a properly earthed plug and socket outlet or fused spur.

IMPORTANT: The wires in the mains lead of this appliance are coloured in accordance with the following code: GREEN-AND-YELLOW = EARTH

BLUE = NEUTRAL

BROWN = LIVE

As the colours of the wires may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured **GREEN-AND-YELLOW** must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol \equiv or coloured green or green-and-yellow.

The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter L or coloured red.

CAUTION

WARNING! THIS APPLIANCE MUST BE EARTHED!

CAUTION

Electrical leads must be routed and secured so that they cannot come into contact with hot or sharp parts of the refrigerator.

120 V Supplies

Check that the voltage stated on the data plate is the same as the mains voltage in use (120V AC). Diagram for the mains installation: fig. 9.

12 V Supplies

Connect the refrigerator to the vehicle battery by a direct cable. To avoid a voltage drop, the cross sectional area of the connecting cable between battery and refrigerator must be at least 2.5 mm² if the distance is less than 9 meters, and at least 4 mm² if the distance is more than 9 meters.

To ensure satisfactory operation, the positive lead must be fitted with a fuse rated at max. 16 A.

To prevent the refrigerator from draining the battery, make sure that the current supplied to the caravan is cut off when the vehicle engine is not running, for example by fitting an ignition control relay.

Diagram for the 12 V installation:

fig. 10 (RM 4180), fig.12 (RM4181)

The notations in the wiring diagram are:

- A. Electronic igniter/reigniter
- B. Electrode (at burner)
- C. 12 V heating element
- D. Switch for 12 V operation
- E. Switch for reigniter (gas op.)
- F. Electric thermostat
- G. Heating element, 120 V
- H. Switch for 120 V operation
- J. Terminal block
- L. Terminal block

12 V supply of reigniter (RM 4181)

Fig.12 shows the wiring diagram of the refrigerator as delivered. The 12 V supply enters at (L). The reigniter (A) is fed via two wires (1) and (2) at terminal block (L).

It is advisable to feed the reigniter and the lighting from a separate 12 V source. To do this: remove the wires (1) and (2) and connect the supply as is shown in fig. 11.

The reigniter should not be connected directly to a battery charger but only over a battery.

CAUTION

DO NOT connect lights or any other electrical components to the same circuit that is used by the refrigerator.

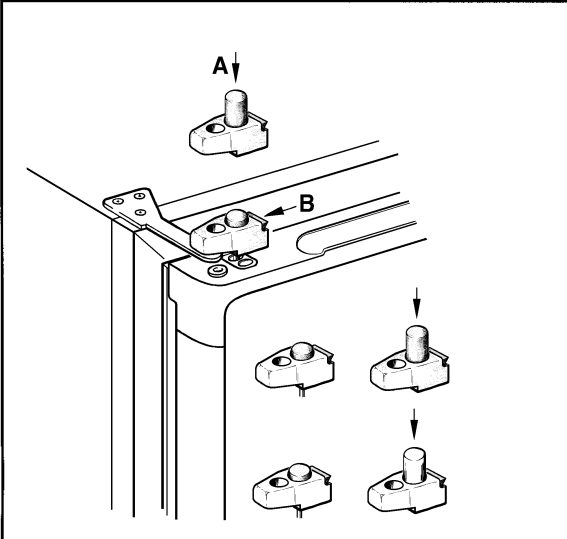


Fig. 1

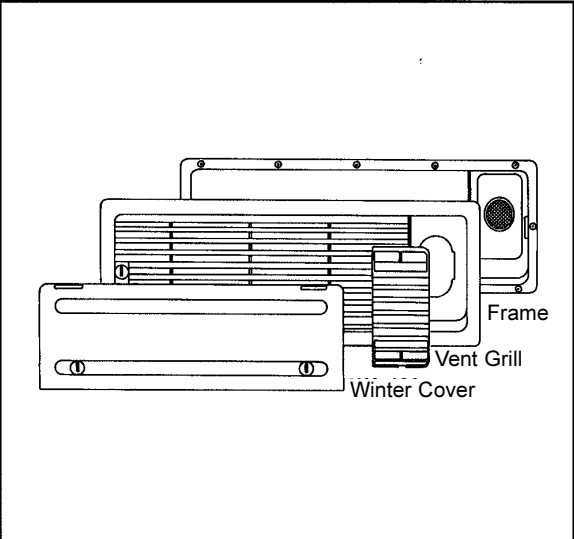


Fig. 2

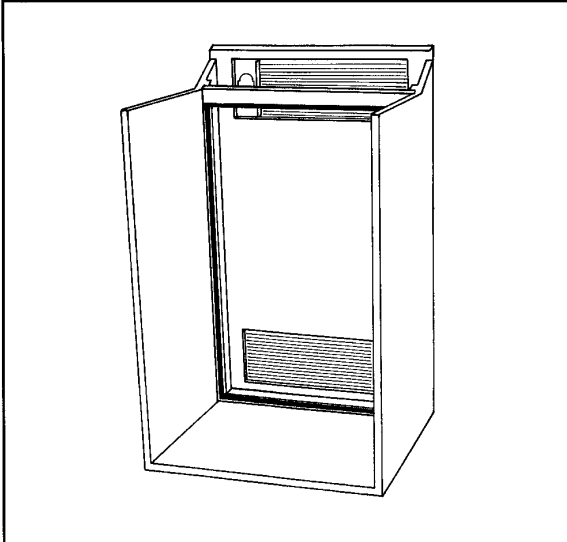


Fig. 4

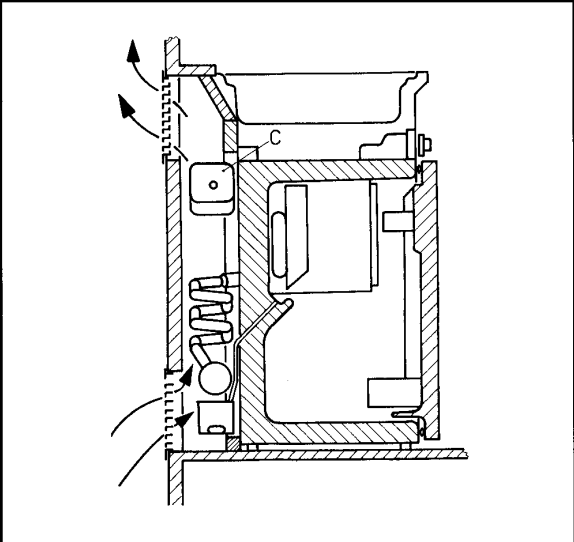


Fig. 5

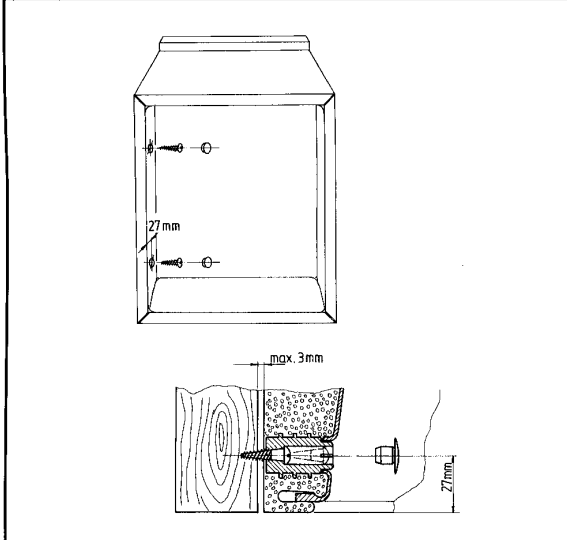


Fig. 7

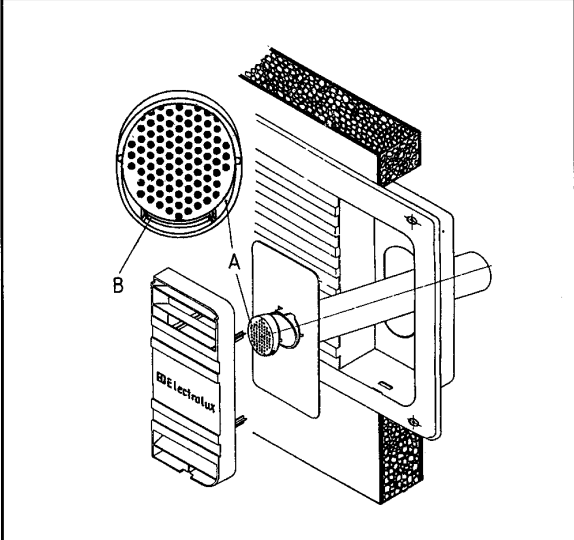


Fig. 8

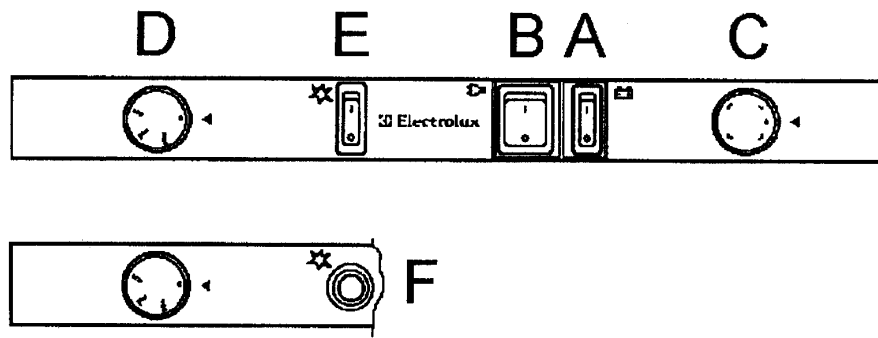


Fig. 3

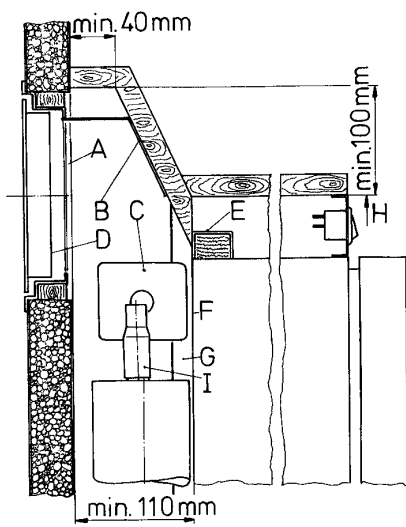


Fig. 6a

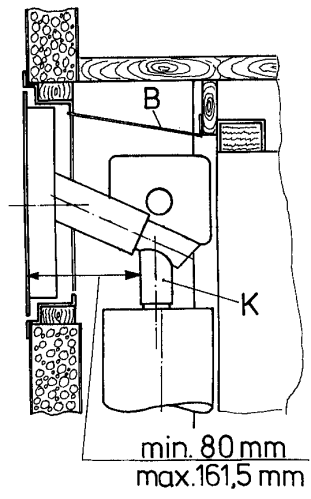


Fig. 6b

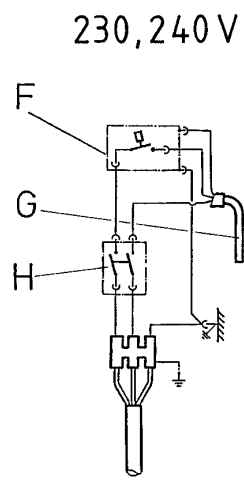


Fig. 9

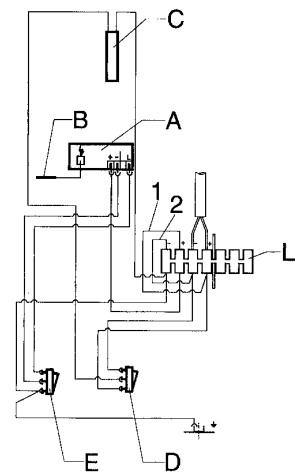


Fig. 10

