

TO REMOVE AND REPLACE THE REFRIGERATOR

Before working on the refrigerator make sure that 120V A.C. And 12 V D.C. leads are disconnected. Shut the gas valve. Unscrew the hexagon nut and gas shut-off valve, see fig. 1 pos. 6. Let the gas valve remain on the gas supply line.

Loosen the screws fixing the refrigerator to the enclosure and remove the refrigerator. See fig. 9.

When replacing the refrigerator make sure that the sealing strips are properly positioned. After reassembly the gas connection should be checked for leaks.

CERTIFIED INSTALLATION

Certified installations require one roof vent and one lower side vent.

Certified vent system kits, see separate list.

For further information contact your dealer or distributor.

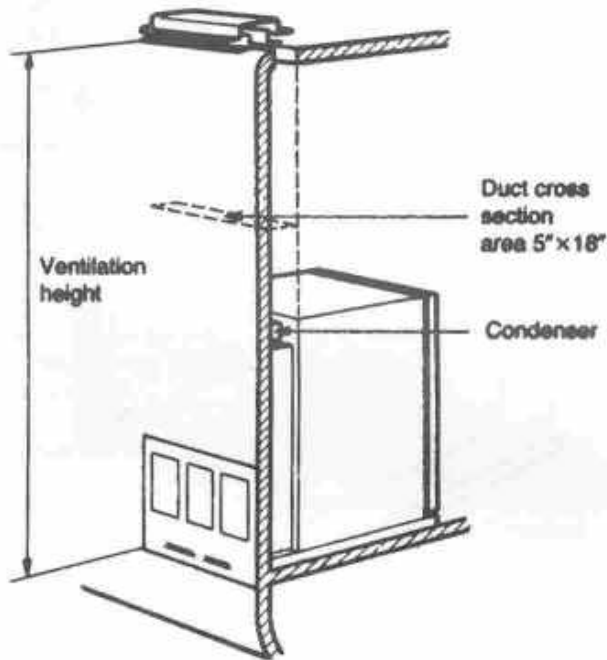


Fig. 10

METHODS OF INSTALLATION

Refrigerator model	Overall dimensions			Installation dimensions			Recess dimensions			Distance between top of condenser and refrigerator e	
	Height A	Width B	Depth C	Height h	Width w	Depth d	Height H	Width W	Depth D		
RM 3601	inch mm	50 5/16 1278	23 1/32 585	24 11/16 627	49 7/32 1250	21 17/32 547	22 15/16 582	49 13/32 1255	21 13/16 554	23 15/16 608	1 1/8 29
RM 3801	inch mm	56 7/32 1428	24 11/16 633	24 11/16 627	55 1/8 1400	23 7/16 595	22 15/16 582	55 5/16 1405	23 13/16 605	23 15/16 608	1 1/8 29

The methods of installation are shown in figure 10. It is essential that all maximum or minimum dimensions are strictly maintained as the performance of the refrigerator is dependent on an adequate flow of air over the rear of the refrigerator.

VENTILATION HEIGHTS

Installation with roof vent and lower side vent refrigerator	Minimum ventilation heights in	
	inches	mm
RM3601	54	1372
RM3801	60	1524

CLEARANCES

Minimum clearances in inches to combustible materials are

G: Top 0

K: Side 0

L: Bottom 0

M: Rear 1

N: See example below

Clearance M between the rearmost part of the refrigerator and the wall behind the refrigerator.

Clearance N on top of the condenser is related to the minimum ventilation height.

See fig. 11, 12 and examples below

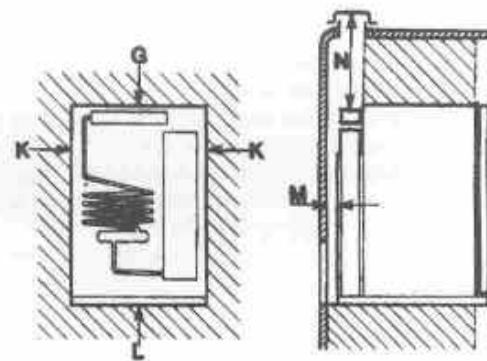


Fig 11

Examples

The clearance N for the RM3601 model is derived in the following way Installation with roof vent and lower side vent

N = Minimum ventilation height 54 (1372 mm) minus installation height

$49 \frac{7}{32}$ plus distance between condenser top and refrigerator top $1 \frac{1}{8}$ plus distance between roof surface and roof vent cap $5 \frac{1}{4}$ $N = 54 - 49 \frac{7}{32} + 1 \frac{1}{8} + 5 \frac{1}{4} = 11 \frac{5}{32}$ inches $N = 1372 - 1250 + 29 + 133 = 284$ mm

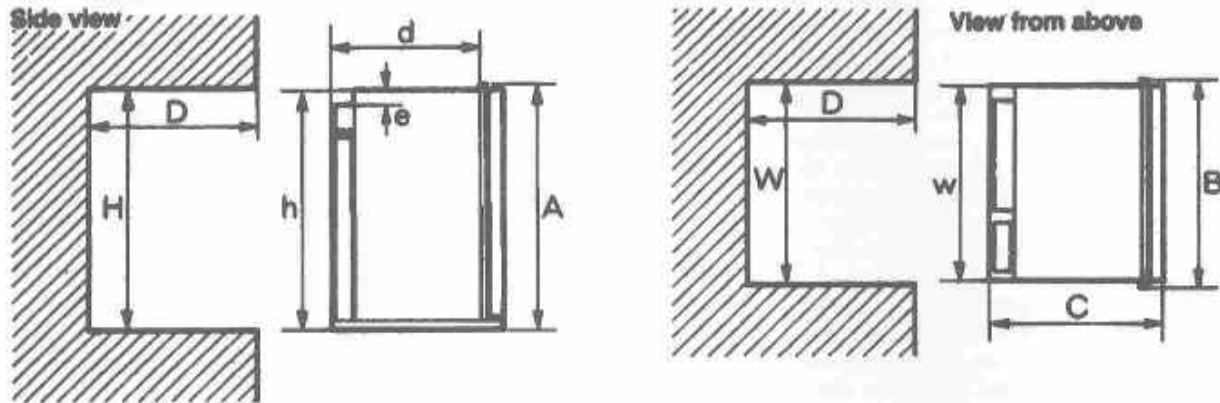


Fig. 12

INSTRUCTIONS FOR USE

HOW TO START THE REFRIGERATOR

Leveling

In the boiler ammonia vapor is distilled from an ammonia-water mixture and carried to the finned condenser, where it liquifies. The liquid flows to the evaporator, where it creates cold by evaporating into a circulating flow of hydrogen gas. If the evaporator or coil is not level the liquid readily accumulates, forming pockets which can impair the gas circulation or even block it, in which case, of course, the cooling will stop. When the recreational vehicle is stationary it must be leveled to be comfortable to live in. If the refrigerator is properly installed, i.e. the freezer shelf parallel to the floor, the refrigerator will then also perform well. A bubble level should be placed on the freezer shelf. When the vehicle is moving, the continuous rolling and pitching movement will not affect the refrigerator as long as the movement passes either side of level, but when the RV is temporarily parked this sensitivity of the refrigerator should be remembered. **So, once more, before you start the refrigerator make sure it is level.**

Operation (Fig.4)

Before starting the refrigerator check the gas valve in the piping. Do not forget the valve on the rear of the refrigerator, (6) Fig. 1.

1. To start the refrigerator set the switch 7 to position ON. Lamp shall now be green
2. Turn the thermostat knob inside the cabinet to suitable setting, e.g. start with normal position
3. To shut off the refrigerator set the switch 7 to position OFF.

Information on the operation of the refrigerator

General

This refrigerator is equipped with an Automatic Energy Selector (AES) system. The control system selects the most suitable available energy source. The selection will be made with highest priority to 120 V

AC, second priority to 12 V DC from the alternator, lowest priority has gas operation. No manual operation is necessary for change of energy source unless desired. The automatic energy control will, when switched on, start up in AES mode. The AES mode follows the above mentioned priority list and will select the best energy source available.

Mode indication and gas start up failure.

However the AES system also provides the possibility to be operated in reduced freedom of choice. If the mode button is pressed, the AES system will only select between 120 V and gas operation with 120 volts as first priority list above.

Gas mode only can be selected by pressing the gas switch (pos 8 fig 4). The AES system will then operate on gas regardless if 120 V or 12 V alternator power is present. If the fridge does not succeed in lighting up the gas (regardless in which mode selected) the lamp will be lit. If gas is the only available energy and the ignition fails indicating the LPG bottles is empty,

will be lit and the green mode selector button will be shut off. If either 120 V or 12 V alternator power became available to the refrigerator the selected mode push button will be turned on to indicate that the refrigerator is running on either 120 V or 12 V alternator power but has failed to start on gas operation. Further information is given below under the head **orange light**.

Operating information:

The AES system is equipped with an information panel. When the push-button marked is pressed, the AES system will show which energy source the refrigerator is operating on. The four different indications are 120 V 12 V DC clock and gas . The show that the fridge is operating on 120 V. The shows that the fridge is operating on 12 V alternator power. The clock indicates that the AES system is in a delay position, (this indicates that the fridge will not select gas for operation). The delay will be activated if 12 V alternator power has been available but no longer is, and 120 V is not connected. Further information is given below

under head **delay for gas startup**. The **F** shows that the fridge is operating on gas.

Low voltage on 12 V DC control system

The AES system always requires 12V DC to be able operate on any energy mode. If however the voltage drops below 9.5 Volts, the AES system will operate as follows: Regardless if the refrigerator is operating on 120V AC or gas, the AES system will select gas continues operation independent of the thermostat. During the low voltage (9.5V DC) condition the thermostat is not connected to the system.

To indicate that the AES system is in a low DC condition the selected mode indicator will be turned off. As soon as the 12V DC system is recharged, the AES system will go back to normal operation. The interior light is unaffected during the whole procedure.

12 Volt heater operation.

The AES system has a built in battery protection system. The battery protection system senses the incoming voltage at the terminal connector (fig 3 part 15) on the fridge and works as follows. When current is available on ign. lock, the battery protection system is activated. Current to the 12 Volt heater will be let through if the voltage at the positive terminal (fig 3 point 15) is above 13.6 Volts for at least 1 minute. The current will be shut down if the voltage is lower than 11.6 Volt at the positive terminal. When the voltage is lower than 13.6 Volts, the AES system will select gas operation.

If the fridge is operating on gas because the battery voltage is below 13.6 Volts and the Ign.key is turned off, the system shuts down the gas flame and goes into the delay mode. If the fridge is now hooked up to mains, 120 Volt will automatically be selected. When the delay time is completed, the gas flame will be lit up. Whenever Ign.key is turned on again the whole procediur is repeated. For instance if delay time is not completed, it will start from scratch when Ign.key is turned off.

There is no by-pass flame on these refrigerators

The control system shuts off the gas when the refrigerator has correct temperatures. The gas flame will be lit by the control system when the temperature increases above the preset one.

F Delay for gas start up

In order to avoid a gas-flame at gasoline stations the refrigerator is programmed to delay gas start up for about 30 min after 12 V operation. Please observe that this delay occurs even after only 1 minute of 12 V operation from your engine in order to cover events when you have to wait in line for a gasoline pump. If you want a quick gas start up after 12 V operation you can switch OFF the refrigerator for a few seconds and then switch back to ON.

O Orange light

If the lamp **O** begins to lit the refrigerator control system has tried to lit the gas flame but it did not succeed in doing so. We recommend following operations:

1. Set switch 7 to position OFF and back to ON again. The lamp AES shall now be green and the control system does a new start attempt. If the refrigerator has not been in operation for a while or you have just refilled gas, this operation

may have to be repeated several times. Each start attempt will last for up to three minutes. If the starting is not successful the lamp **O** will turn on again.

2. If operation 1. is not successful, check your gas supply.
3. If you have gas - make sure that all valves in the gas pipe are opened.
4. If none of these operations are successful contact a service center.

Note. The first start is always a problem. To empty the gas pipe from the gas vessel up to the refrigerator may take several minutes - i.e. 3-4 operations as to point 1. above. Electric operation and selection of electric operation is not blocked during **O** light. Gas operation can only start after OFF- ON OPERATION.

The orange **O** light indicates faulty gas operation. The mode push-button indicator selected will be turned off if no energy source is available. If either 120 V or 12 V alternator power is available that mode indicator button will be lit simultaneously to the orange **O** light to indicate that the fridge is operating on another energy source but gas operation is no longer possible. If you want to shut down the orange **O** light please make an OFF-ON switch. The orange warning light then goes out but would be lit again if gas is chosen without the gas bottle having been replaced.

HOW TO USE THE REFRIGERATOR

Food Storage Compartment

The food storage compartment is completely closed and unventilated, which is necessary to maintain the required low temperature for food storage. Consequently foods having a strong odor or liable to absorb odors should be covered. Vegetables, salads etc should be covered to retain their crispness. The coldest positions in the refrigerator are underneath the cooling evaporator and at the bottom of the refrigerator, and the least cold positions are on the upper door shelves. This should be considered when different types of food are placed in the refrigerator. The bottle retainer in the lowest door compartment is divided in two removable parts, see fig.

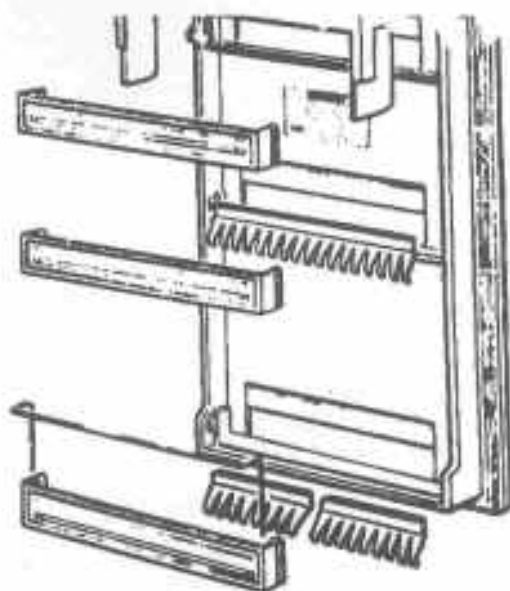


Fig. 12

CAUTION

Do not store explosive substances in the refrigerator, such as cigarette lighter gas, petrol, ether or the like.

Defrosting

Shut off the refrigerator.

Empty the refrigerator leaving the drip tray under the finned evaporator and the cabinet and freezer doors open. If desired, defrosting may be speeded up by filling the ice tray with hot water and placing it in the freezer. It might be necessary to empty the drip tray one or two times during the defrosting period.

When all frost is melted, empty the drip tray and dry the interior of the refrigerator with a clean cloth. Replace the drip tray and ice tray, replace all food stuffs and set the thermostat to MAX for a few hours. Then reset the thermostat knob to its normal position.

Note: On RM 3801 the drip tray is placed on the rear side of the refrigerator.

Frozen Food Storage Compartment

The ice trays should be placed in direct contact with the freezer shelf for fastest ice making. Quick frozen soft fruits and ice cream should be placed in the coldest part of the compartment which is at the bottom of the aluminum liner or, in models with a shelf, on this or just below it. Frozen vegetables, on the other hand, may be stored in any part of the compartment.

The compartment is not designed for the deep or quick freezing of food stuffs. Meat or fish foods, whether raw or prepared, and provided they are precooled in the refrigerator, can however, also be stored in the frozen food storage compartment.

They can then be stored about three times as long as in the fresh food storage compartment. To prevent drying out, keep food in covered dishes, in plastic, bags or wrapped in aluminum foil.

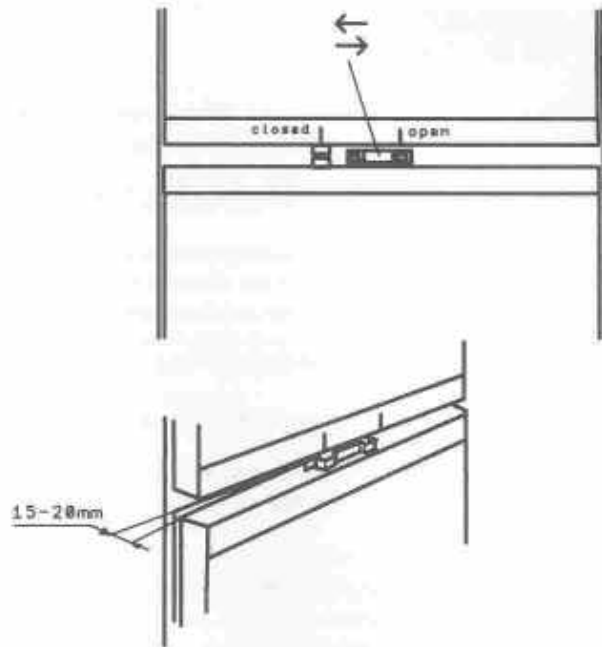
Ice Making

Ice cubes can be made in the ice trays which should be filled with water to within 1/4" (5 mm) from the top. To release the ice cubes seize the tray with both hands and twist the tray. Cubes not required should preferably be replaced in the tray. Refill the tray with water and replace the tray on the freezer shelf.

Ice making is accelerated if the thermostat knob is turned to setting "MAX". It is a good idea to do this a few hours before an anticipated need for ice but be sure to turn the knob back to normal setting when the ice is formed or the foodstuffs in the cabinet may become frozen hard.

To Shut off the Refrigerator (Fig.4)

To shut off the refrigerator turn the knob 7 to OFF position. If the cabinet is not in operation over a period of weeks, it should be emptied and cleaned and the door left ajar. Use the travel latch to lock the door in that position (see fig). The ice trays should also be dried and kept outside the cabinet.



Travel latch for 2-door refrigerator

Cleaning

To clean the interior lining of the refrigerator use lukewarm weak soda solution. The evaporator, ice trays and shelves must, however, be cleaned with warm water only. Never use strong chemicals or abrasives to clean these parts or the protective surface will be damaged. It is important always to keep the refrigerator clean.

GAS EQUIPMENT

Flue Top and Baffle

The flue baffle is suspended from the top and must be in position in the central tube of the cooling unit.

The Flame Failure Safety Device (Fig. 1 and 2)

The feeler of the thermo couple shall reach in over two slots of the burner. To replace the thermo couple proceed as follows:

1. Unscrew plug 69 and retainer 20 and pull thermo-couple straight out
2. Bend the new thermo-couple to the same shape as the old one.
3. Reassemble in reverse order. Check that feeler has been correctly refitted in relation to burner. See Fig.2.
4. Mount the retainer. The plug must be properly tightened to the valv housing to ensure good contact between the thermocouple and the magnetic coil within the housing.

The Thermostat knob (inside the cabinet)

The refrigerator is equipped with a thermostat which is regulated by turning the knob to different settings in order to obtain the desired controlled cabinet temperature.

By choosing a setting from Min to Max various controlled temperatures can be obtained, the closer to Max, the lower the temperature.

As soon as the required cold temperature inside the cabinet is reached, the thermostat cuts the burner.

At MAX The burner is running continuously at full gas rate. Lowest cabinet and freezer temperatures are obtained at this setting.

ELECTRIC EQUIPMENT

Cartridge heater

The refrigerator is equipped also for electric operation. These models are equipped for both 120 Volts A C and 12 Volts D C operation.

There is an electric cartridge heater mounted in a pocket of the boiler system.

To replace the heater first of course check that the wall plug is disconnected. Also make sure that the 12 V leads are disconnected. Then proceed as follows, see fig. 5:

1. Disconnect the heater connector
2. With a pair of pliers unfold the lug holding the lid of the boiler casing and open the lid
3. Remove some insulation wool so that the heater is accessible.
4. Turn and lift the heater out of its pocket
5. Fit the new heater into the pocket
6. Connect the leads and pull on the hose around the leads
7. Reset the insulation and close the lid of the boiler casing

PERIODIC MAINTENANCE

NOTE. Before working on the refrigerator make sure that 120 V A.C and 12 V D.C leads are disconnected. Shut off gas valve.

The Burner and the Burner Jet (Fig. 1)

The colour of the flame shall be clear blue over the slots of the burner (Fig. 2).

Once or twice a year depending on use, it is necessary to clean and adjust the burner assembly. Proceed as follows:

1. Loosen screw and remove cover plate for burner housing.
2. Disconnect lighter cable from the electrode.
3. Loosen burner fixing screw and withdraw burner.
4. Clean burner tube with a brush. Blow with compressed air.
5. Screw off jet and clean with alcohol. Blow with compressed air. Never use a needle or similar.
6. Reassemble.
7. Be careful that the end of the burner fits into the slot on the bracket.

The slots of the burner must be centrally located under the boiler tube.

The Electrode

For a proper ignition function it is necessary to keep the electrode insulation dry and free from dirt. The gap between burner tube and electrode shall be max. 3/16" (5mm) and min. 1/8" (3mm).

WARNING

If the refrigerator is used intermittently it should be checked at least once a year.

It is important to keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids. Check the venting system. The flow of combustion and ventilating air must not be obstructed.

Check the flue baffle that it is clean and reasonably free from soot. Heavy soot formation indicates improper functioning of the burner. Clean baffle and flue. Further, clean cooling unit and floor under refrigerator.

The entire gas installation should be checked for leaks at intervals. Test all pipe connections with soapy water, not with an open flame.

Check the energy selector system by connecting/disconnecting main voltage, start/stop the engine etc tc.

Compare and check that the system behaves as it is described on p. 7 above. If in doubt please contact a service center.

NOTE. Any service of the gas controls, with exception for the above, mentioned replacement, maintenance and cleaning operations must be performed by an authorized service center only.

FAULTTRACING

The refrigerator does not freeze satisfactorily

Causes and remedies

- a) Jet orifice clogged. Unscrew jet and blow clear or wash in alcohol. Do not use wire or pin to clean orifice.
- b) Check the leveling of the refrigerator.

- c) Air circulation around cooling unit is restricted. Be sure that refrigerator is properly ventilated.
- d) The evaporator is heavily coated with frost. Defrost.
- e) Flue baffle not inserted into the central tube of the cooling unit.
- f) The thermostat is incorrectly used. See paragraph on thermostat.
- g) Burner head clogged. Clean.
- h) Burner damaged. Replace. See fig. 1.
- i) Burner may be dislocated. Relocate.
- j) Wrong gas pressure at the burner. Have pressure checked at burner and at gas bottle. Pressure at burner must not fall below 11 "W.G.

ODOR FROM FUMES

Causes and remedies

- a) The flame touches side of the boiler due to dislocation of the burner. Relocate. Burner dislocation

may also cause smoke and discoloring of walls and ceiling.

- b) Burner damaged. Replace.
- c) The flue tube is dirty. Clean flue as follows: Cover burner and jet. Remove flue top and baffle. Clean flue with special flue brush. Clean baffle before putting back in place.

All the above instructions are to be followed closely. The refrigerator is quality-guaranteed. However, we are not responsible for any failures caused by improper adjustments and unfavorable installation conditions. Contact service point or distributor service dept. for assistance.

Replacement Parts Suppliers: See page 1.

Note:
Avoid water spraying through the refrigerators vents while washing your RV.

INSTRUCTIONS FOR MOUNTING THE DOOR PANEL

The refrigerator is normally delivered without door panel(s). Before starting the mounting work check that the panel dimensions are in compliance with those given in the table and read the instructions through. When mounting the panel, proceed as follows.

- Remove the door decoration list (2) with its two screws (1). The upper corners of the upper panel (2-door models) and the lower corners of the lower panel has to be cut according to the sketch.
- Insert one of the vertical edges of the panel into the groove of the door frame (3).
- Bend the panel gently so that the free side of the panel can be sloped into the corresponding groove of the door frame (4).
- Push the panel downwards so that the lower horizontal edge of the panel is fitted into the bottom groove (5).
- Between the upper edge of the panel and the door frame there is now a gap which should be covered by the decoration strip.
- Put the strip across the door so that the gap is covered and push it upwards (6). The tabs on the inside of the strip should fit in behind the flange of the door frame. Secure the decoration strip by means of the two screws (1).

Panel dimensions

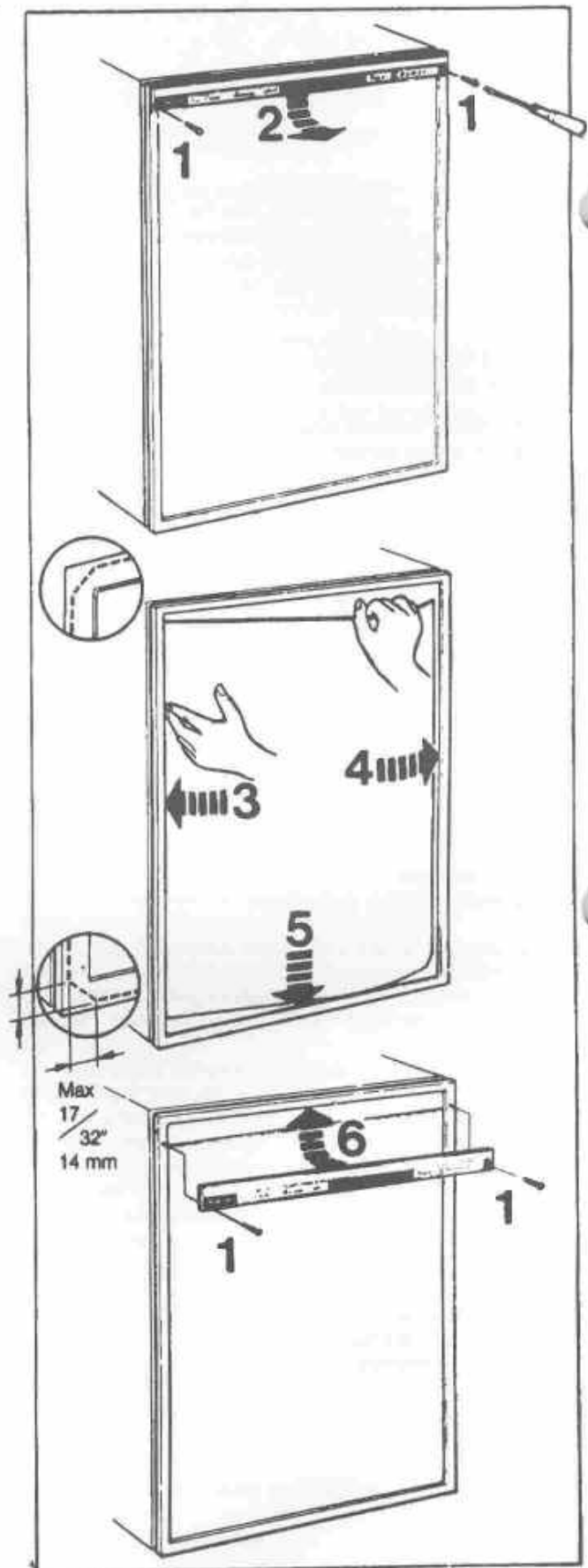
Thickness max. 5/32" (4mm)

REFRIG-MODELS	HEIGHT		WIDTH		
	MAX.	MIN.	MAX.	MIN.	
RM 3601 upper	mm	323	321	570	568
	inch	12 23/32	12 21/32	22 7/16	22 3/8
lower	mm	836	834	570	568
	inch	32 29/32	32 27/32	22 7/16	22 3/8
RM 3801 upper	mm	395	393	618	616
	inch	15 17/32	15 15/32	24 5/16	24 1/14
lower	mm	914	912	618	616
	inch	35 31/32	35 29/32	24 5/16	24 1/14

TO CHANGE THE DOOR OPENING FROM LEFT TO RIGHT OR VICE VERSA

Open the door and unscrew the two screws holding the top front cover. The screws are accessible from beneath. Remove the top hinge pin and lift out the door. The lower pin for the refrigerator door should be shifted to the opposite side.

The door can then be remounted. Before the top front cover is refitted check that the door closes easily and that the gasket seals well on all sides.



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