



Dometic

INSTALLATION AND OPERATING INSTRUCTIONS

REFRIGERATOR FOR LP-GAS AND ELECTRIC OPERATION EQUIPPED WITH AUTOMATIC ENERGY SELECTOR

FOR YOUR SAFETY

If you smell gas:

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

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



AUTOMATIC ENERGY SELECTOR

RM763 RM1303

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quality leisure line products

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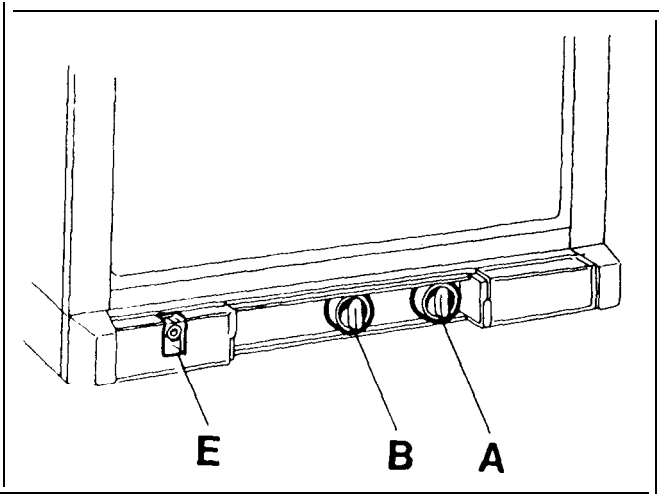
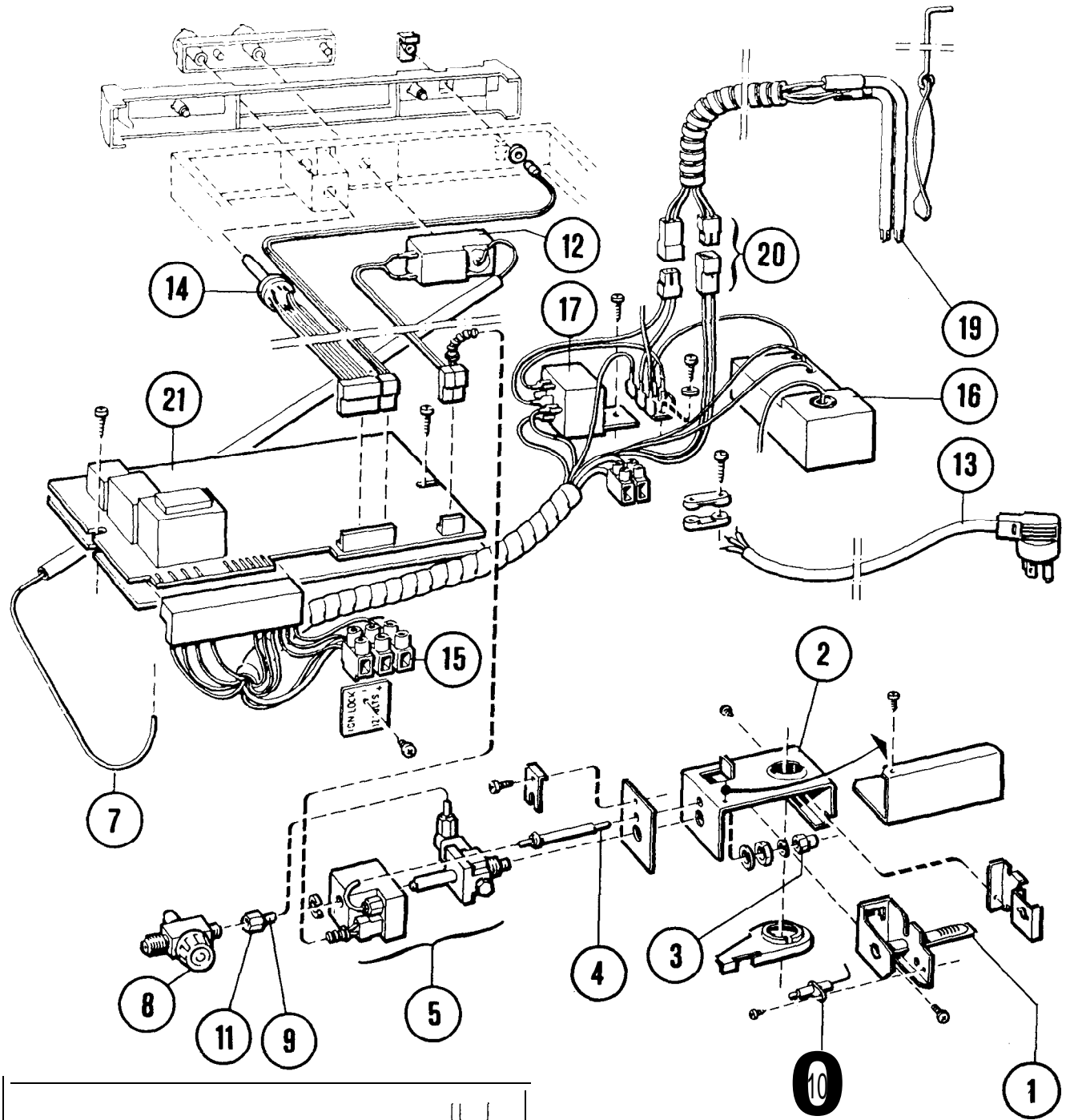


Fig. 1

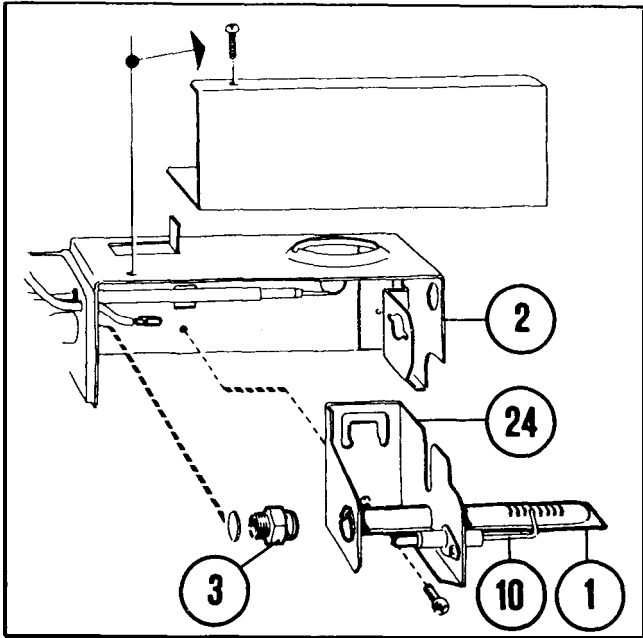


Fig. 2

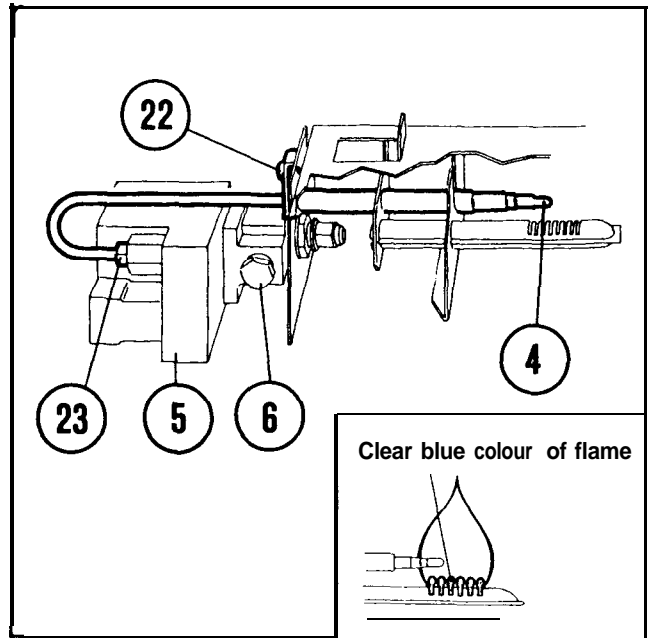


Fig. 3

Fig. 4

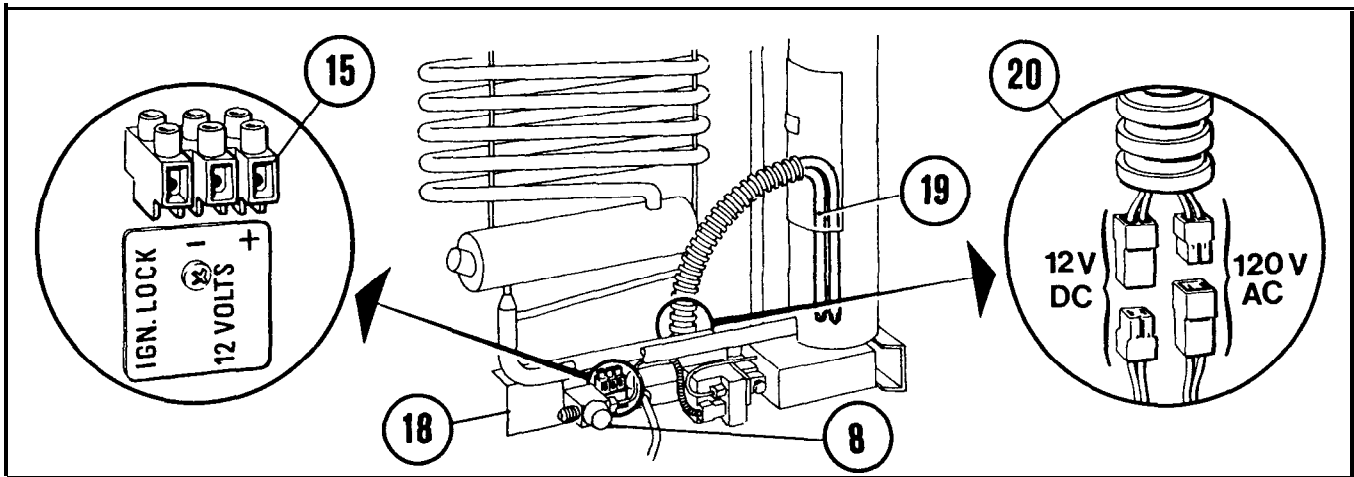


Fig. 5

Gas equipment parts

- 1. Burner tube
- 3. Burner Jet
- 5. Thermo-electric solenoid valve incl. flame failure device.
- 6. Pressure test gage connection
- 7. Capillary tube for thermostat
- 8. Shut-off valve
- 9. Gas tube
- 10. Firing tip
- 11. Hexagon nut



INSTALLATION

GENERAL INSTRUCTIONS

The refrigerators outlined hereon have been design certified under ANS Z21.19b - 1982. Refrigerators by the American Gas Association 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.

The Installation must In the USA conform with:

1. National Fuel Gas Code Z223. H 980
2. Mobile Homes ANSI/NFPA No. 501 B-1977
3. Recreational Vehicles ANSI/NFPA No. 501 C-1977

The unit must be electrically grounded in accordance with the National Electric Code ANSI/NFPA No. 70-1981 when installed if an external alternating current electrical source is utilized.

4. Any applicable local code

In Canada

1. Standard CGA 10.0-CSA 2240.4, gas equipped mobile housing and recreational vehicles
2. Standard CSA Z240.6.1 electrical requirements for mobile housing
3. Standard CSA Z240.6.2/C22.2 No 148 electrical requirements for recreational vehicles.

This appliance is designed for storage of foods and storage of frozen foods and making ice.

Note. Do not install the appliance directly on carpeting. Carpeting must be protected by a metal or wood panel beneath the appliance which extends at least full width and depth of the appliance.

Ventilation

The installation shall be made in such a manner as to separate the combustion system from the living space of the mobile home or recreational vehicle. Openings for air supply or for venting of combustion products shall have a minimum dimension of not less than 1/4 Inch.

Proper installation requires one lower fresh air intake and one upper exhaust vent. The ventilation kits shown in this instruction booklet have been certified for use with the refrigerator models listed in the tables. Certified vent system kits, see separate list. The ventilation kits must be installed and used without modification. An opening towards the outside at floor level in the refrigerator compartment must be provided for ventilation of heavier-than-air fuel gases. The lower vent of the recommended kits is provided with proper size openings. The flow of combustion and ventilating air must not be obstructed.

For ready serviceability of the burner and control manifold parts of the refrigerator the lower side vent is fitted with a liftout panel which provides an adequate access opening.

GAS CONNECTION

Hook-up to the gas supply line is accomplished at the manual gas valve, which is furnished with a 3/8" SAE (UNF 5/8"- 18) male flare connection. All completed connections should be checked for leaks with soapy water.

The gas supply system must incorporate a pressure regulator to maintain a supply pressure of not more than 11 Inches water gage.

In case detailed instructions on the installation and connection to the gas supply are required. contact your dealer or distributor.

ELECTRICAL CONNECTION

120VOLTSAC

The refrigerator is equipped with a three prong (grounded) plug for protection against shock hazards and should be plugged directly into a properly grounded three prong receptacle. Do not cut or remove the grounding prong from this plug. The cord should be routed to avoid coming in contact with the burner cover, flue cover or other hot components.

12V DC

THREE WAY CONNECTION

The connection is to be made to a terminal block 15, see fig 5. The refrigerator must be connected to the battery circuit with two wires of adequate capacity to avoid voltage drop. The wire gage should be chosen with consideration to the wire length in accordance with table below. The 12 V circuit must be fused. Maximum circuit fuse size: 30 Amps for RM763 and 40 Amps for RM1303. Do not use the body or chassis of the vehicle as a substitute for either of the two conductors. No other electrical equipment or lighting should be connected to the refrigerator circuit. The refrigerator will draw from 20 to 23 Amps at 12 Volt depending on model.

Suggested maximum two conductor wire length in feet

AWG	RM763	RM 303
10	13	
6	22	19
6	34	31
4	55	50

12 V power operation

When power operation from the alternator is desired a low current, positive, 12V DC signal shall be given into the control system. A connection has to be made between the ignition system of the engine and the block marked IGN LOCK on the back of the fridge, see fig 5. Examples of circl diagrams are shown in fig 6 and 7.

If the connection to the ignition system is not made the refrigerator will not operate on 12 V power, i.e. gas will be used whenever 120 V is not available.

12VDC

TWO WAY CONNECTION

When the refrigerator is not to be operated on 12 V power do not connect to ignition lock (delete the 16-ga wire in the examples). Use minimum 14-ga wire between the battery and the refrigerator for the control voltage (connection points 12 V + and - in fig. 5, part 15. Leave IGN LOCK key open). In this case the maximum fuse size shall be 4 Amps instead of the fuse sizes mentioned above.

Caution

It is necessary with a battery in the 12 Volt circuit. The operation of the 12 Volt control system can be disturbed if it is powered by a converter only.

SPECIAL HINTS

The refrigerator must be installed in a substantial enclosure and must be level. A spirit level is supplied with each refrigerator and by placing it in the freezer compartment one can level the refrigerator both ways front to back and side to side. When installing the refrigerator in the enclosure care should be taken to ensure a complete sealing between the front frame of the refrigerator and the top, sides and bottom of the enclosure. For this purpose a length of sealing strip is applied to rear surfaces of the front frame.

Any space between counter or storage area and the top of the refrigerator greater than 1 1/2" should be blocked. The heat produced at the rear of the refrigerator will otherwise become trapped in this space making the top of the refrigerator hot and reducing the efficiency of the refrigerator.

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.

TO REMOVE AND REPLACE THE REFRIGERATOR

Before working on the refrigerator make sure that 120 V A.C. and optional 12 V D.C. leads are disconnected.

Unscrew the hexagon nut 11 and the bracket which holds gas shut-off valve 8, see fig. 1 pos. 8. Let the gas valve remain on the gas 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.

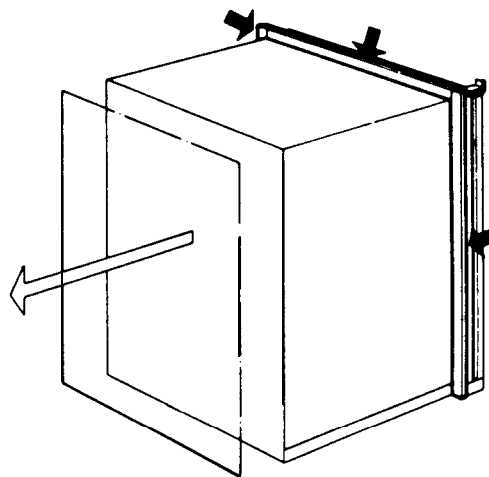


Fig. 8

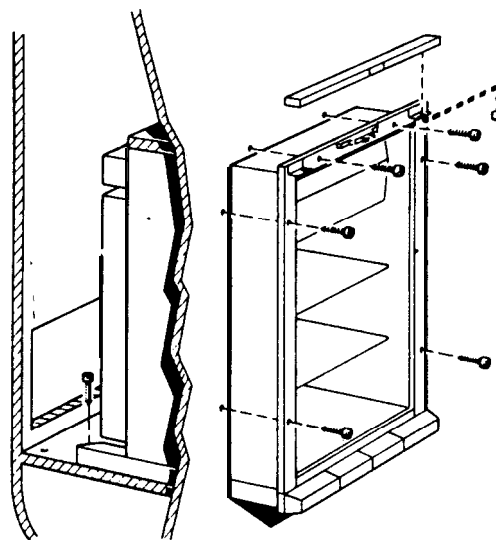


Fig. 9

WIRING DIAGRAMS

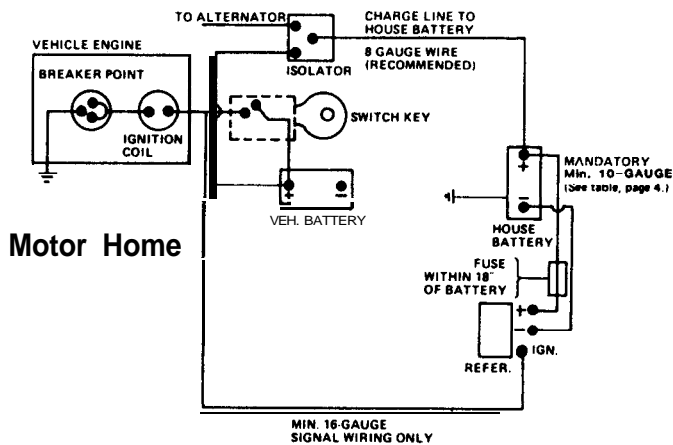


FIG. 6.

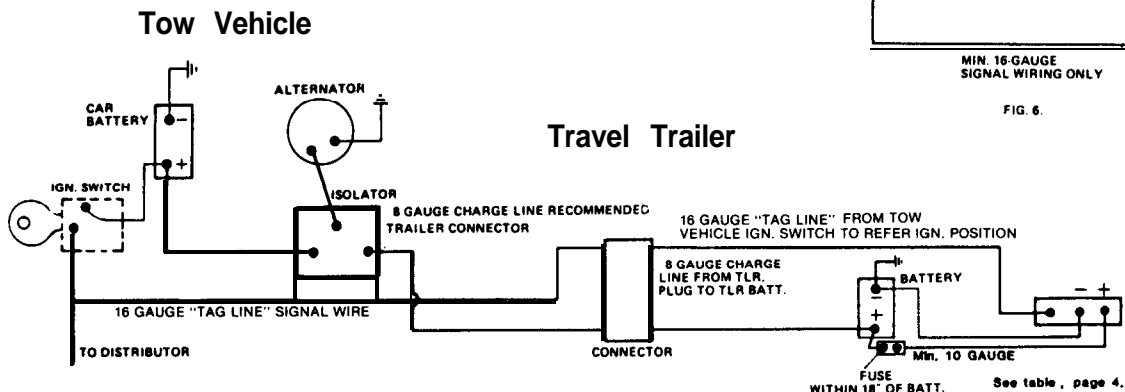


FIG. 7.

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.

METHODS OF INSTALLATION

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 tower side vent Refrigerator	Minimum ventilation heights in inches
RM763	56
RM1303	62

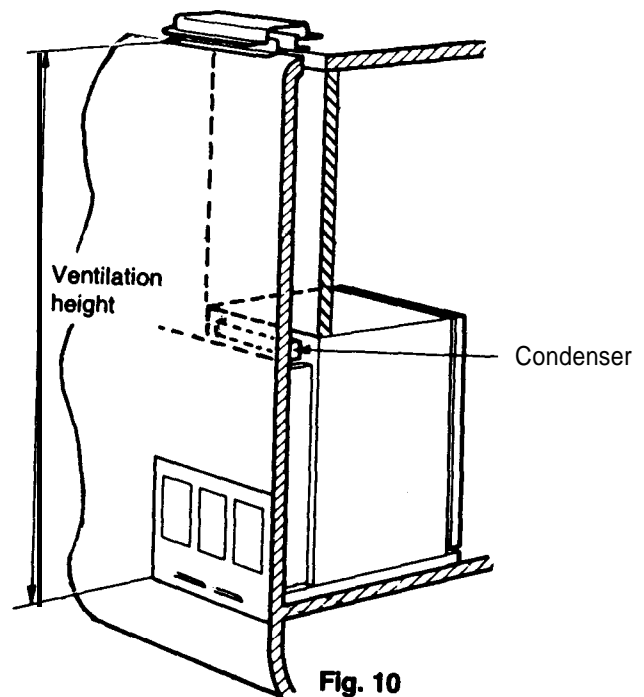


Fig. 10

CLEARANCES

Minimum clearances in inches to combustible materials are

G: Top 0
K: Side 0
L: Bottom 0
M: Rear 1

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

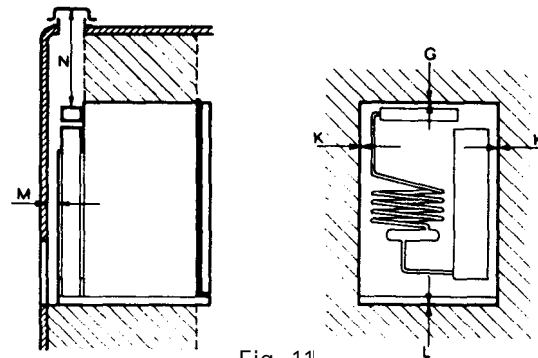


Fig. 11

Refrigerator model	Overall dimensions			Installation dimensions			Recess dimensions			Distance between top of condenser to top of refrigerator E
	Height A	B	Depth C	Height H	Width W	Depth D	Height H	Width W	Depth D	
RM763	52	23	24 11/16	51-3/16	21 9/16	22-3/4	51-3/8	21-13/16	23-3/4	1/8
RM1303	57-15/16	24-15/16	24-11/16	57 1/4	23 7/16	22-3/4	57-1/2	23-13/16	23-3/4	1/8

This method of installation and these clearances will give you adequate space for servicing and for proper operation.

EXAMPLES

The clearance N for the RM763 model is derived at in the following way

Installation with roof vent and lower side vent

N=Minimum ventilation height 56 minus installation height 51 3/16 plus distance between condenser top and refrigerator top 1/8 plus distance between roof surface and roof vent cap 5 1/4
 $N = 56 - 51 \frac{3}{16} + \frac{1}{8} + 5 \frac{1}{4} = 10 \frac{3}{16}$

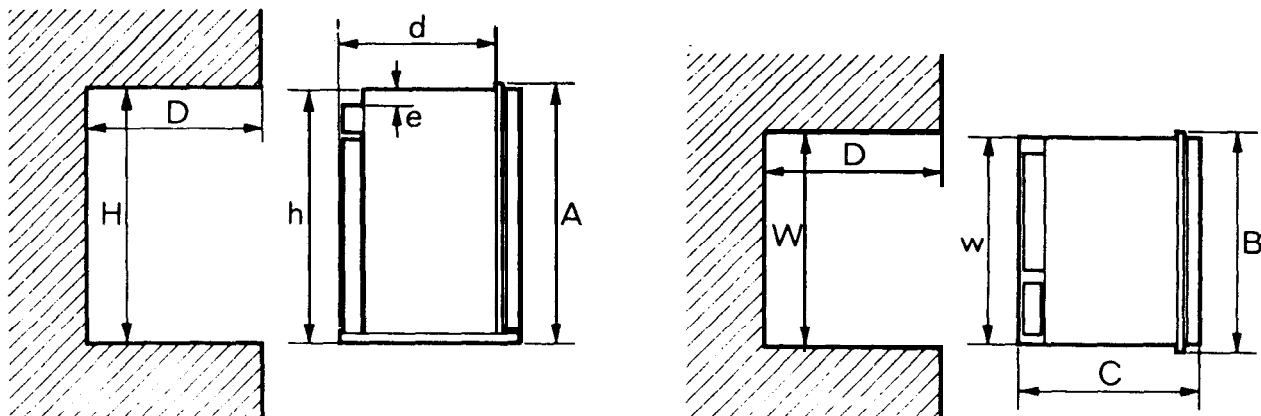


Fig. 12

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 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

Before starting the refrigerator check the gas valves in the piping. Do not forget the valve on the back of the refrigerator.

1. To start the refrigerator turn knob A to position On. Lamp E shall now be green.
2. Turn the thermostat B to a suitable setting, try 4.
3. The fridge is shut off by turning knob A to position Off.

Information on the operation of the refrigerator

This refrigerator is equipped with an automatic energy selector system. The control system selects the most suitable available energy source. The selection will be made with highest priority to 120 V. Second priority to 12 V from the alternator. lowest priority has gas operation. No manual operation is necessary for change of energy. If the fridge does not succeed in lighting the gas the lamp E will change from continuous green into red flashing light. Further information is given below under the head line **red flashing light**. If the battery voltage drops, the control system will start continuous gas operation. The lamp will not be lit. The thermostat will not be in operation. When the voltage increases, normal operation will start up again.

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.

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.

Note: **This operation is only available when the refrigerator is connected for three-way use, see p. 4 12 V operation.**

Red flashing light

If the lamp E begins to flash with red light the refrigerator control system has tried to lit the gas flame but it did not succeed in doing so. We recommend following operations:

1. Turn knob A to position off and back to on again. The lamp 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 will turn red 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 to 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 red flashing light. Gas operation can only start after ON - OFF - ON OPERATION

The red flashing light indicates faulty operation. If you will operate the refrigerator on any electrical source connect and supply the available voltage and make an ON-OFF-ON operation. Please remain in the OFF position as long as the red light flashes.

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.

Defrosting

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.

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.

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 foodstuffs. 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

To shut off the refrigerator turn the knob A 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. The ice trays should also be dried and kept outside the cabinet.

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.

CAUTION

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

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 Burner and the Burner Jet (Fig. 2)

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

See "Periodic maintenance".

The Flame Failure Safety Device (Fig. 3)

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 23 and holder 22 and pull thermo-couple straight out.
2. Remove holder 24.
3. Pull out holder sideways from burner housing.
4. Bend the new thermocouple to the same shape as the old one.
5. Reassemble in reverse order. Check that feeler has been correctly refitted in relation to burner. See Fig. 4.
6. Mount holder. The plug must be properly tightened to the valve housing to ensure good contact between the thermo-couple and the magnetic coil within the housing.

The Thermostat (knob B)

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.

With the dial 1-7 various controlled temperatures can be obtained, the higher the number, 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 DC operation.

The heat necessary for the operation of an absorption type cooling unit is supplied by 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. Push the metal hose upwards
2. Disconnect the heater connector
3. With a pair of pliers unfold the lug holding the lid of the boiler casing and open the lid
4. Remove some insulation wool so that the heater is accessible.
5. Turn and lift the heater out of its pocket
6. Fit the new heater into the pocket
7. Connect the leads and pull on the hose around the leads
8. 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.

The Burner and the Burner Jet (Fig. 2)

The colour of the flame shall be clear blue over the slots of the burner (Fig. 4).

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.

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" (5 mm) and min. 1/8" (3 mm).

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 liquides. 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.

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.

FAULT TRACING

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. 2.
- 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 cover.

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.

- A. Remove the top decoration strip (2) with its two screws (1).
- B. Insert one of the vertical edges of the panel into the groove of the door frame (3).
- C. Bend the panel gently so that the free side of the panel can be slipped into the corresponding groove of the door frame (4).
- D. Push the panel downwards so that the lower horizontal edge of the panel is fitted into the bottom groove (5).
- E. Between the upper edge of the panel and the door frame there is now a gap which should be covered by the decoration strip.
- F. 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"

TYPE	HEIGHT		WIDTH		
	MAX.	MIN.	MAX.	MIN.	
RM763 upper	296 11 21/32'	293 11 17/32"	569 22 13/32"	566 29 9/32"	mm inch
RM763 lower	809 31 27/32"	806 31 23/32"	569 22 13/32"	566 22 9/32"	mm inch
RM1303 upper	369 14 17/32"	366 14 13/32"	618 24 11/32"	615 24 7/32"	mm inch
RM1303 lower	888 35"	885 34 27/32"	618 24 11/32"	615 24 7/32"	mm inch

