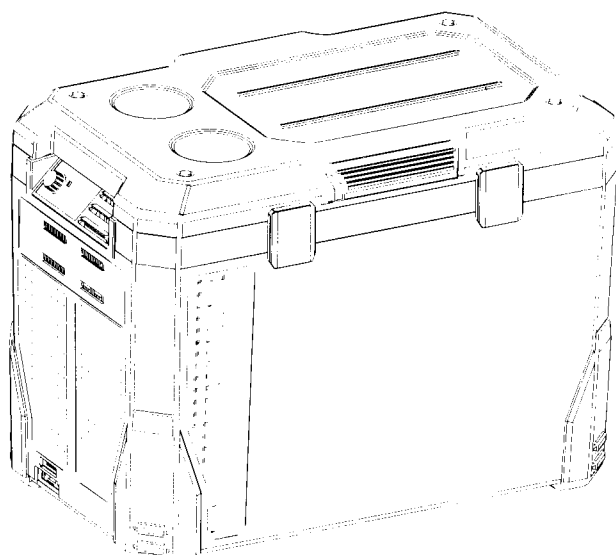


# ENGEL

## DUAL VOLTAGE FRIDGE/FREEZER MODEL MR40F-G4



## OWNER'S GUIDE

SAWAFUJI ELECTRIC CO., LTD.

This Owner's Guide contains important information regarding the operation and maintenance of your ENGEL dual voltage refrigerator (fridge).

In order to obtain the maximum enjoyment and usage of your fridge, we suggest you familiarize yourself with the contents of this booklet.

We would like to take this opportunity to thank you for choosing a ENGEL and assure you of our continuing interest in your traveling pleasure and satisfaction.

Yours sincerely,

SAWAFUJI ELECTRIC CO.,LTD.

This appliance has been designed for refrigerating purposes and is operable on both AC and DC power supplies when installed as directed by the manual.

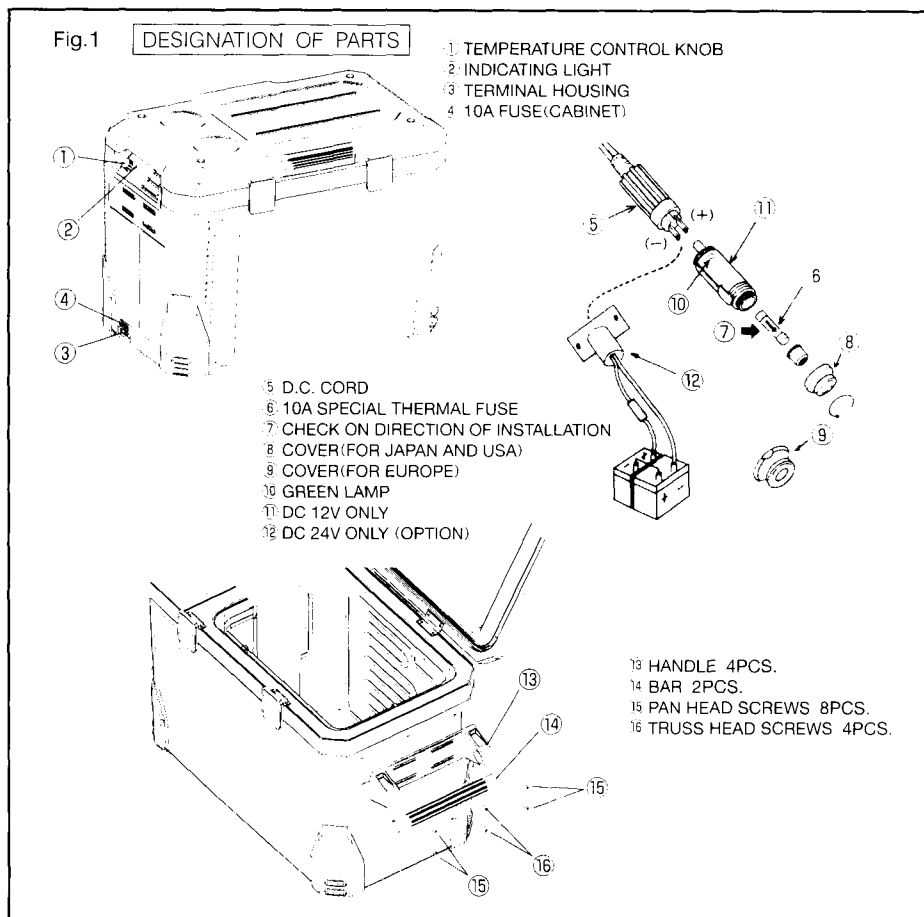
The model and serial number may be found on the outside of the fridge cabinet, close to the vented section.

Before installing your unit, record and retain the model serial number and service code for reference and warranty purposes.

### MODEL

DC 12/24V Series (POWER SUPPLY)

MR40F-G4 : (AC240V 50Hz, DC12/24V)



## 1 INSTALLATION

Your shockproof fridge is best installed on a level and solid surface.

Although it will operate satisfactory for long periods on angles of up to 30°.

Be sure your fridge is not in direct sunlight, near a gas stove, heater, or other heat-generating appliances.

Adequate ventilation and suitable distance from each wall (at least 150mm or more) will result in maximum cooling efficiency and minimum electric current consumption.

Avoid installing your fridge close to a kitchen sink or faucet.

Your fridge has been thoroughly cleaned before shipment from the factory. It is advisable, however, to clean the interior once more before use.

Clean the interior with a cloth moistened in warm water and wipe with a dry cloth.

= CAUTION =

- \* Never use your ENGEL fridge to store gasoline or other flammable vapors and liquids as these sometimes cause explosion.
- \* Do not touch evaporator and any other metal parts inside cabinet with a wet hand or fingers as this may result in frostbite.
- \* Do not remove or modify any of the electrical components, as this may cause electric shock, damage your fridge, as well as void the warranty.

## 2 ELECTRIC POWER SOURCES

### 2.1 Connection to 240V, 50Hz AC Mains.

Both AC and DC voltages may be connected simultaneously for convenience. Unit will select AC operation when available.

Your ENGEL fridge may be connected to a standard domestic mains power source, using the mains lead provided. Insert the square molded mains plug into the right-hand side of the input terminal housing on the fridge. Turn the temperature control knob to "0" (OFF) until the current has been turned on. Then, turn the knob to the required setting. The temperature control knob serves the dual purpose of governing AC and DC operation. When turned as far as possible in an anticlockwise direction, the setting is "5" (FREEZE).

### 2.2 Connection to 12V DC Power Supply

#### • DC 12Volt Series

Your fridge needs a 12 volt battery

Ensure that the battery voltage corresponds with the voltage stated on the fridge label and a fuse is fitted in that line. If the voltage supplied is too high it will damage the power supply. If the voltage is too low the cooling efficiency will be reduced, the running time will increase.

Set the temperature control knob to "OFF" and insert one end of the DC cord (provided with the fridge) into the connector and the other end into the cigarette lighter socket of your car. In most passenger cars, the lighter is on the dashboard. Pull out the lighter and insert the fridge plug.

NOTE : – For permanent fitment ENGEL recommend a genuine ENGEL A or B pan accessory socket fitted to vehicle. ENGEL advise that some imported motor vehicles have a larger than standard cigarette lighter socket.

= IMPORTANT =

- \* Green power light indicates thermostat operation. Compressor activity is automatically controlled to meet your selected temperature requirements whilst unit is switched on. (Power light failure indicates a defective power source or reversed polarity in the DC connection).

NOTE : – In case of green light on and compressor not operating. Check voltage at battery with fridge switched on to ensure sufficient voltage.

- \* When not using the fridge, remove the plug from the cigarette or accessory socket to prevent unnecessary discharge of car battery.

- \* Pay attention to correct polarity, the inner contact of cigarette lighter socket adapter must be connected to the positive supply, whilst the outer contact is connected to earth (negative) . Nearly all modern vehicles are wired on the negative earth system.

### 2.3 Connection to 24V DC Power Supply

For connection to 24V DC ensure that the CIGARETTE TIP is removed and that the lead is connected directly to the power source. This power line must contain a 10A fuse.

ENGEL recommends use of genuine.

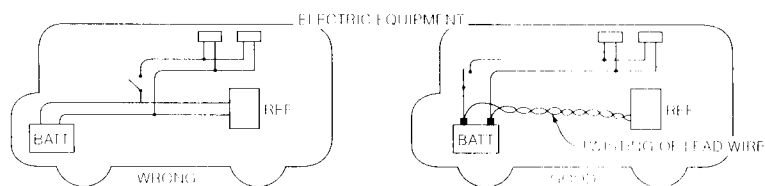
ENGEL accessory socket model A or B pan.

#### 《DIRECT WIRING FOR PERMANENT VEHICLE INSTALLATION》

ENGEL recommends use of genuine ENGEL accessory socket model A or B pan.

ENGEL fridges are protected against radio interference to the requirements of EMC. However, to further avoid radio interference whilst on DC operation, please use separate positive and negative cables, twisted together in a spiral form, between your battery and the DC outlet socket.

Any switches and lead wires for other electrical equipment should not be shared with the wiring between your fridge and battery (other equipment sometimes generates high voltage pulses which may cause defects in the fridge power supply).



WIRE GAUGE IS IMPORTANT TO AVOID "VOLTAGE DROP"  
Connect your fridge to battery by use of the following wire:

| Distance Between Refrigerator And Battery            | Wire gauge           |                   |
|------------------------------------------------------|----------------------|-------------------|
|                                                      | DC 12 volt series    | DC 24 volt series |
| Less than 6m (19ft.)                                 | SWG#16(AWG#14)/2.1mm | AWG#16/1.25mm     |
| From 6m (19ft.) over to 10m (32ft.)                  | SWG#14(AWG#12)/3.3mm | AWG#14/2.1mm      |
| More than 10m (32ft.)<br>(Not recommended, too long) | AWG#10/5.3mm         | AWG#12/3.3mm      |

### INSTALL A FUSE IN WIRING CIRCUIT

To avoid damage to the fridge in the event of reverse polarity or short circuit, install 15A fuse (DC 12 VOLT), 10A fuse (DC 24 VOLT) in the wiring circuit, near the battery.

### APPLICATION FROM ENGINE GENERATOR

Before using an engine generator to power your ENGEL fridge, users are advised to contact their ENGEL dealer for operating instructions in order to protect the fridge from damage caused by high voltage.

- \* 12VOLT DC OPERATION is safe to use from a vehicle battery being charged by the 12 volt DC output of your generator set (Do not use without a battery).
- \* 240VOLT AC OPERATION • To ensure proper cooling and to avoid serious damage to your ENGEL fridge, it is important to maintain the power output of your generator at 240 volt AC. Generators are required to have an automatic voltage regulator (A.V.R.).
- Avoid sudden power fluctuations by switching of your ENGEL fridge before;
  - Starting or stopping your generator
  - Switching other appliances off / on

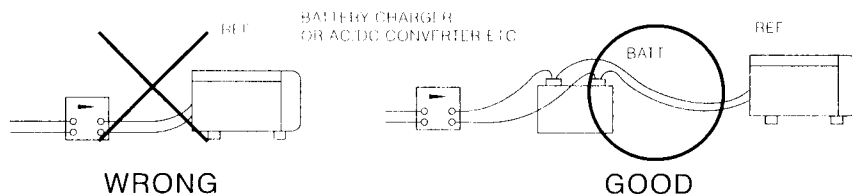
### 3 SAFETY DEVICES

#### POLARITY GUARD FOR DC BATTERY OPERATION

In order to protect the power supply from damage caused by reversed polarity the fridge is fitted with an automatic polarity guard. Should incorrect polarity be applied, the green power lamp will not light and the fridge will not operate. Following the connection of polarity care should be taken check the special thermal fuse in the cigarette plug and 10A fuse on the fridge cabinet to endure it is not damaged. Following the correction of the current supply, the green power lamp will light up and normal operation will be resumed. However, if the green power lamp does not light, this indicates a possible power supply fault, and users are advised to contact their ENGEL dealer for service.

### 4 BATTERY MAINTENANCE AND CAUTIONS

1. Should the DC voltage at the fridge input terminals fall below 10.7 volts, the cooling efficiency will immediately be reduced. Please pay attention to the maintenance of your battery to ensure a good state of charge.
2. Quick charges supply the battery with excess voltage in performing their intended function. Should the fridge remain switch-on whilst a quick charger is connected to the battery, the fridge can suffer damage.



FOR YOU REFERENCE

The Wiring Diagram shown below is recommended for dual battery hookup.

#### NOTE

TO PROTECT THE INVERTOR OF THE REFRIGERATOR  
SHUT OFF THERMOSTAT WHEN  
BATTERIES ARE "QUICK CHARGED"

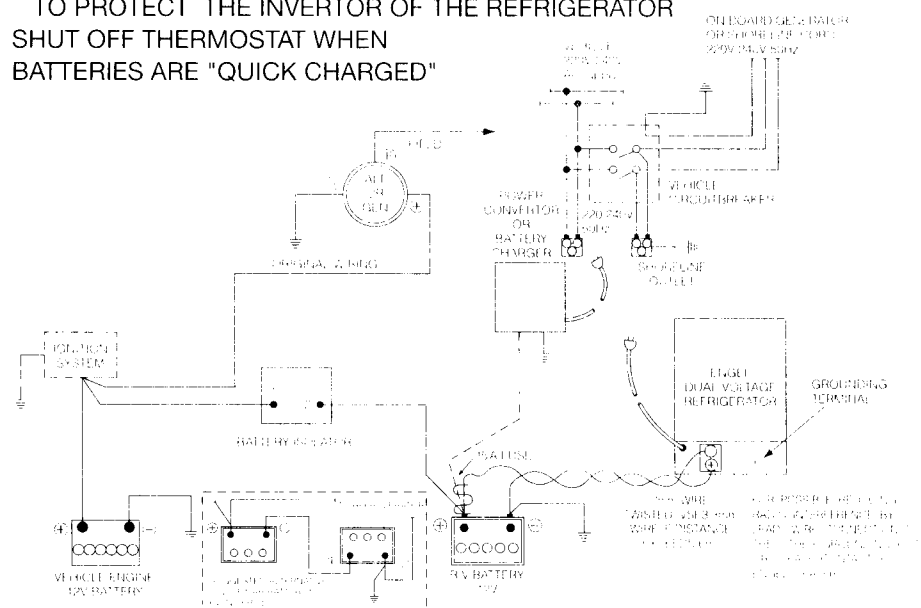
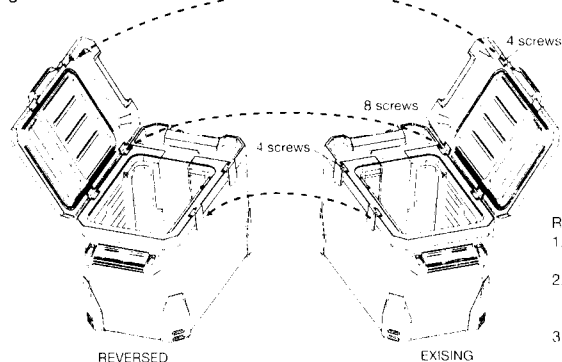


Fig.2



#### REVERSE THE LID SWING

1. Remove the 16 screws that attached the door and cabinet.
2. Remove the latches, latch plates and hinges, and attach them to opposite sides.
3. Tighten the 16 screws to the door and cabinet.

3. Never use a battery, transformer / rectifier, or non approved AC/DC converter to supply your ENGEL fridge. Such equipment can, under certain circumstances, deliver current at a voltage which may damage the power supply. In order to use these devices always ensure that a battery is connected in parallel between the charging equipment and the fridge.

#### 5 DEFROSTING

Due to the humidity of the air within the cabinet storage space, frost will form on the surface of the evaporator when the unit has been working for some time. A layer of frost in excess of about 6mm (1/4in), has an adverse effect upon cooling efficiency, therefore the evaporator must be defrosted at regular intervals. For this purpose, set the power switch to "O" (OFF). After defrosting the cabinet, interior must be cleaned and dried before the fridge is switched on again.

#### 6 CLEANING

ALWAYS DISCONNECT POWER SOURCE BEFORE CLEANING. Remove all water resulting from defrosting, if left this will cause an unpleasant odour and will contaminate the fridge contents. Wipe the cabinet interior clean with a damp cloth wrung out in warm water containing a mild, non-abrasive household detergent. Dry thoroughly with a soft, dry cloth. Never use brushes, scrapers, soap powders, petrol, bleach, benzene or thinners. These will damage the cabinet lining. Door or lid linings must not be allowed to become too wet, water may be absorbed by the insulation material, and insulating efficiency will be adversely affected until the insulation has dried out. Wash all removable fittings in warm soapy water, then rinse and dry with a soft clean cloth.

#### 7 STORAGE

It is recommended by the manufacturer that your fridge is operated at regular intervals if being stored for periods of time.

A suggestion is to utilize your ENGEL as a 2nd freezer / fridge or Bar fridge at home during these periods.

SAWAFUJI ELECTRIC CO.,LTD.

(Cat.No.5490 353 1000)