

ENGEL

Fridge / Freezer

MODEL

MB40V – A

MB40V

MB40V – AH

MB40V – H

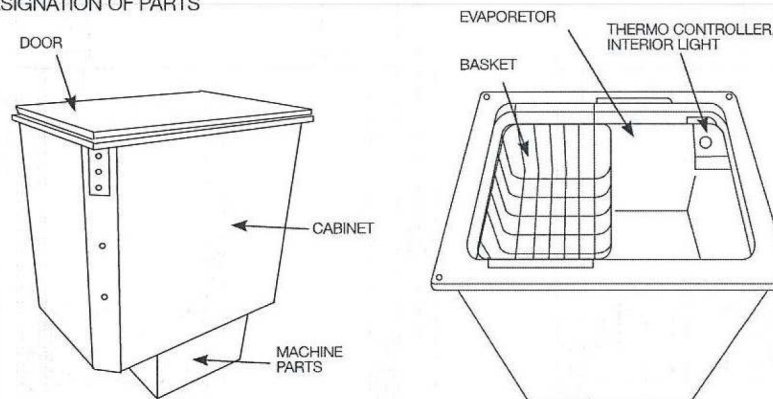
OWNER'S MANUAL

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GUNMA 370-0344, JAPAN
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SPECIFICATION

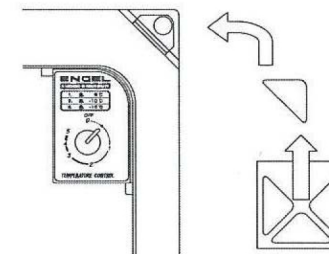
MODELMB40V-A , MB40V , MB40V-AH , MB40V-H
NET VOLUME.....40L
INPUT RATINGDC12V 3.0A / DC24V 1.5A 36W
REFRIGERANTHFC-134a
WEIGHTAPPROX.20kg

DESIGNATION OF PARTS



ATTACHMENTS

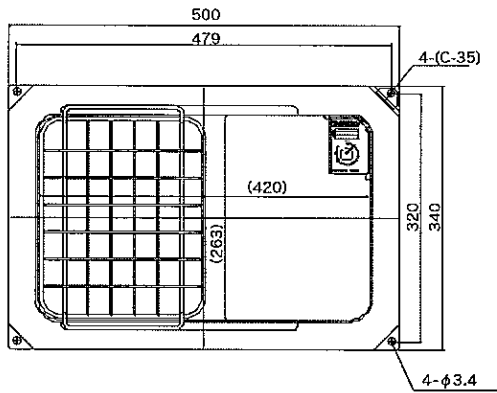
- ①MB40V – A, MB40V , MB40V – AH , MB40V – H
Attachments of Triangle Sticker (4 pcs) can be used for corner screw hole coverage.
- ①-1.TRIANGLE STICKER×4
(corner screw hole coverage)
- ②MB40V-A, MB40V ONLY
- ②-1.THERMISTOR EXTENSION CORD:1
- ②-2.THERMO CONTROLLER EXTENSION CORD:1



PRODUCT DIMENSION

① MB40V-A, MB40V

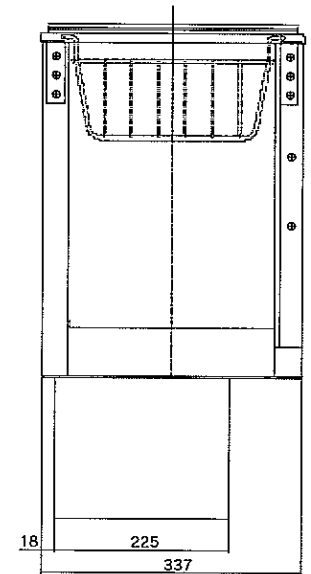
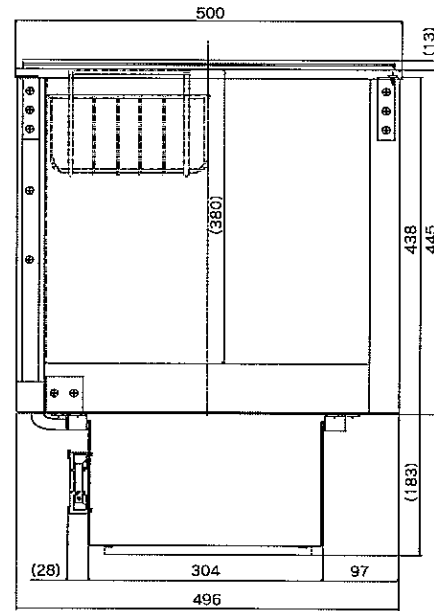
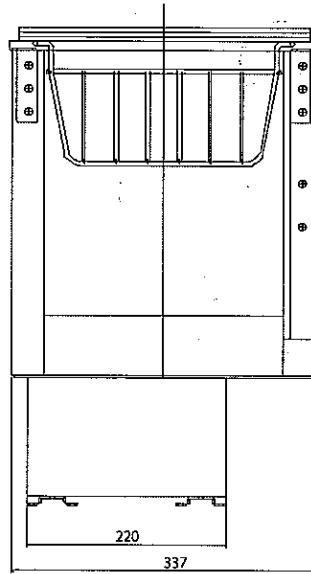
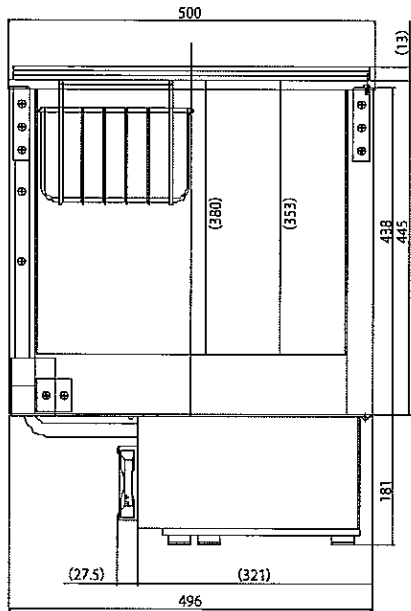
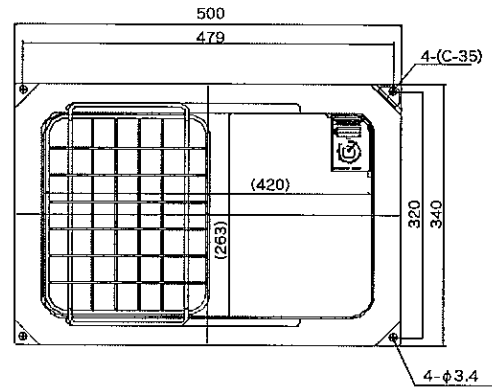
※The figure below is reference dimensions.



PRODUCT DIMENSION

② MB40V-AH, MB40V-H

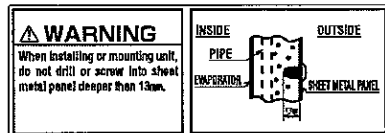
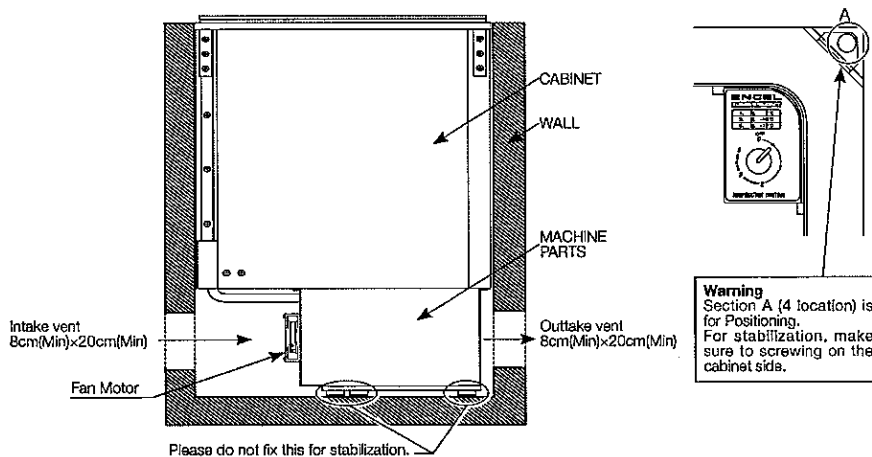
※The figure below is reference dimensions.



INSTALLATION

① MB40V-A, MB40V

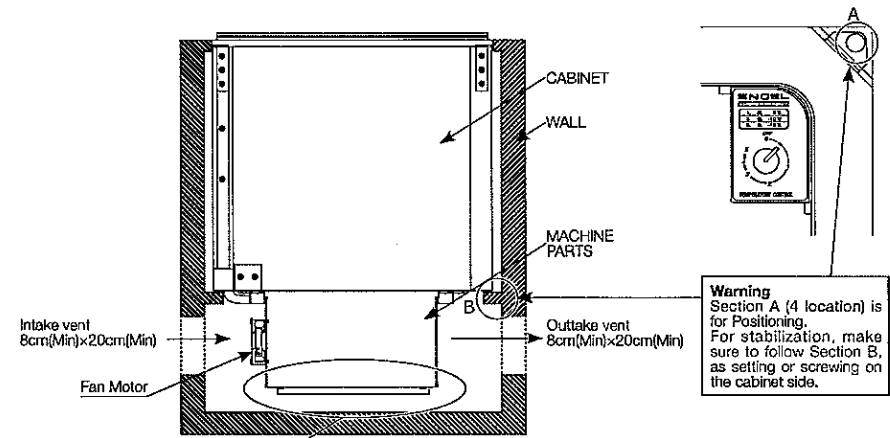
- 1) Make sure to install the product horizontally. When installing in the Vehicle or Boat, make sure the product does not install an unstable place.
- 2) Make sure to install the product where the air flow is available.
If the machine parts air flow contaminated, the cooling system will degrade.
- 3) Avoid from direct Sunlight, Stove, or anything related to heat.
If you install the product near a gas stove, a heater, any other heat-generating appliances or place in direct sunlight, the cooling performance is deteriorated. And there is a risk of discoloration or deformation.
- 4) Avoid installing the product close to a kitchen sink or water faucet.
Easily with the dew on the outer case and inner case and then installed in wet locations.
If installed in locations subject to water will damage the electrical circuits and other.
- 5) Make sure to set the product and the door cover within the $\pm 3\text{mm}$ center when setting.
This product does not have the cover door set fixed.
Make sure to use the cover door fixed.
(By fixing the cover door, this will help the door coming off by sudden break or sudden acceleration)
- 6) To achieve good cooling performance and less current consumption, adequate ventilation for product is needed
 - a) Below drawing: the heat will flow in the arrow direction.
 - b) Make sure NOT to block the intake vent and outtake vent of the Machine parts.
 - c) Recommended vent size : vertical length of 8 cm and side length of 20 cm
If blocked, the cooling performance is deteriorated.
And there is a risk of the failure of the cooling system.



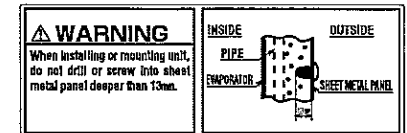
INSTALLATION

② MB40V-AH, MB40V-H

- ※ This product is specifically for Hanging use only.
Make sure the machine does not touch the ground surface. (must have at least 20 mm apart from the ground surface) Also, cabinet and the wall should not touch. (make sure there is a space between the cabinet and the surrounding wall) ※ When it is touched, it will cause load noise due to the vibration.
- 1) Make sure to install the product horizontally. When installing in the Vehicle or Boat, make sure the product does not install an unstable place.
 - 2) Make sure to install the product where the air flow is available.
If the machine parts air flow contaminated, the cooling system will degrade.
 - 3) Avoid from direct Sunlight, Stove, or anything related to heat.
If you install the product near a gas stove, a heater, any other heat-generating appliances or place in direct sunlight, the cooling performance is deteriorated. And there is a risk of discoloration or deformation.
 - 4) Avoid installing the product close to a kitchen sink or water faucet.
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Warning
Make sure the machine does not touch the ground surface. (must have at least 20 mm apart from the ground surface)



Connection Refrigerator DC cord



- = Black Cord + = Red Cord

=CAUTION=

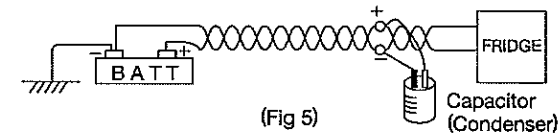
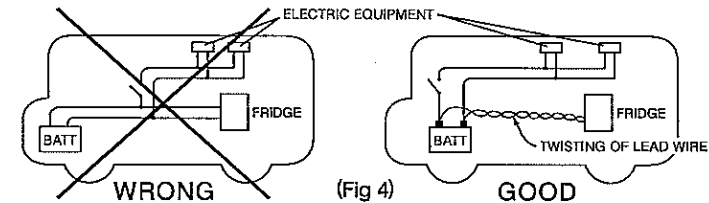
- * Never use the product to store gasoline or other inflammable vapors and liquids as these may cause explosion.
- * Do not touch the evaporator and other metal parts of the cabinet with wet hands, as this may cause frostbite.
- * Do not remove or modify any of the electrical parts as this may cause electric shock or damage to the product.
- * Do not use the refrigerator inside the vessel's bridge, in close proximity to receiving antennas or near navigation and radio-communication equipmen
- * Acoustic Noise information 3. GSGV
The sound pressure level is 70dB (A) or less according to ISO 7779.

ELECTRIC POWER SOURCES

The product operates on a 12 or 24 volt battery. If the voltage is too high it will damage the product. If it's too low, the cooling efficiency will be reduced, the running time will increase and the battery will be subjected to an increased load.

DIRECT WIRING FOR PERMANENT VEHICLE INSTALLATION (OPTIONAL)

- ① TWIST THE LEAD WIRE
To further reduce the radio interference during DC operation, twist the negative and positive cables (use separate cables) together into a spiral form, between the battery and the DC outlet socket (see Fig 4)
- ② CONNECT PRODUCT DIRECT TO BATTERY
Any switches and lead wires for other electrical equipment should not be shared with the wiring between the product and battery. (Other equipment can generate high voltage pulses which may cause transistor damage to the product power supply.)
- ③ TO PREVENT RADIO NOISE AND AVOID ABSORBING HIGH SURGE FREQUENCY.
Insert a capacitor. (10000µF) (see Fig 5)



④ WIRE GAUGE IS IMPORTANT TO AVOID "VOLTAGE DROP"

Connect the product to the battery as follows:

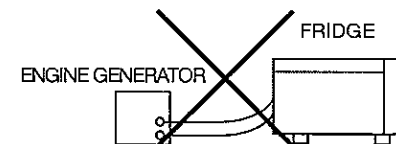
Distance between product and battery	Wire Gauge	
	DC 12 VOLT USE	DC 24 VOLT USE
Less than 6m (19ft.)	SWG#16 (AWG#14) / 2.1mm ²	AWG#16 / 1.25mm ²
From 6m (19ft.) to 10m (32ft.)	SWG#14 (AWG#12) / 3.3mm ²	AWG#14 / 2.1mm ²
More than 10m (32ft.) (Not recommended, too long)	SWG#12 (AWG#10) / 5.3mm ²	AWG#12 / 3.3mm ²

⑤ INSTALLING A FUSE IN THE WIRING CIRCUIT

To avoid burn out of wiring from battery to the product in the event of a short circuit, install 10A fuse in the wiring circuit, nearby the battery.

⑥ NEVER CONNECT THE PRODUCT DIRECTLY TO AN ENGINE GENERATOR.

The product will be damaged by high voltage and high surge pulse from the power source, please utilize an automatic voltage regulator for the product. Please contact your ENGEL dealer if there are any questions regarding engine generators and the product compatibilities.



TEMPERATURE SETTING

Inside Temperature Control

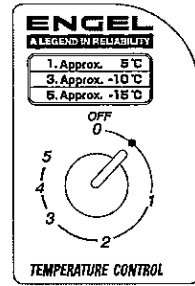
When using the product, please twist the dial in order to adjust your desire Temperature.

Inside Temperature varies, depending on the outside Ambient Temperature.

To adjust the Dial : when outside Temp 30°C

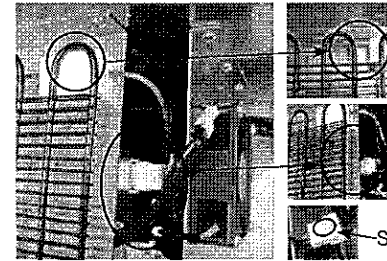
Dial Location	Approx. Temperature
OFF	shut OFF
1	Approx. +5 °C
3	Approx. -10 °C
5	Approx. -15 °C

※ If the Outside Temperature decreases, the inside product Temperature will be colder.

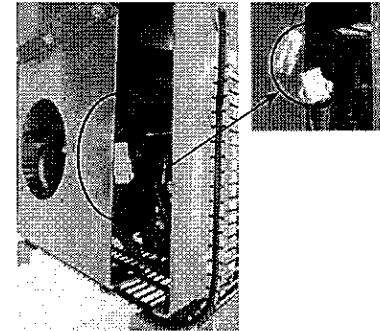


TEMPERATURE CONTROL

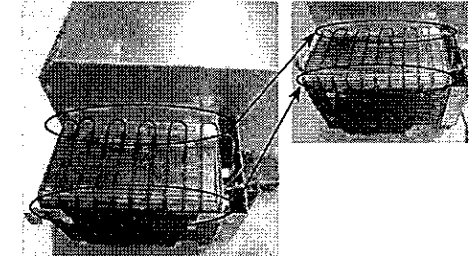
Changing Fuse



- ① Machine Parts (Fan Motors area)
Remove the pipe from the pipe hold cushion.
- ② Take off the 3 coupler from the Power Supply.
(At this time, make sure to press the stopper of the coupler for release.)

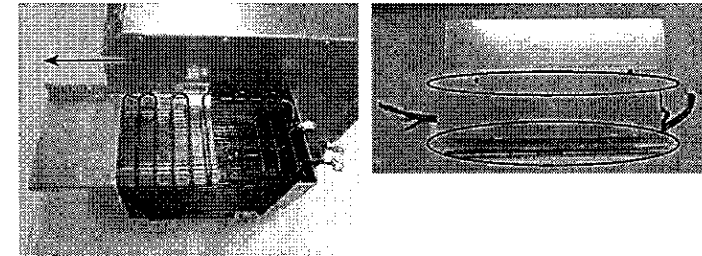


- ③ Take off the coupler on the opposite side of the Fan Motor.
(At this time, make sure to press the stopper of the coupler for release. Do not force to release)

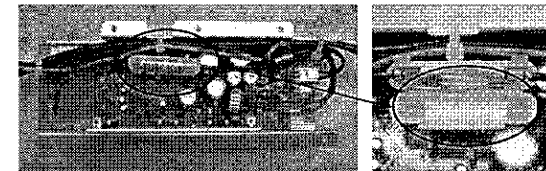


- ④ Take off the screws which holds the power supply by using the screw-driver.

- ⑤ Remove the screws that hold the power supply and plate by using the screw-driver.



- ⑥ Open the Fuse Compartment and change the fuse as needed. Required Fuse : 10A ENGEL Fuse.



- ⑦ At the end, reverse this above process and place the Power Supply on.

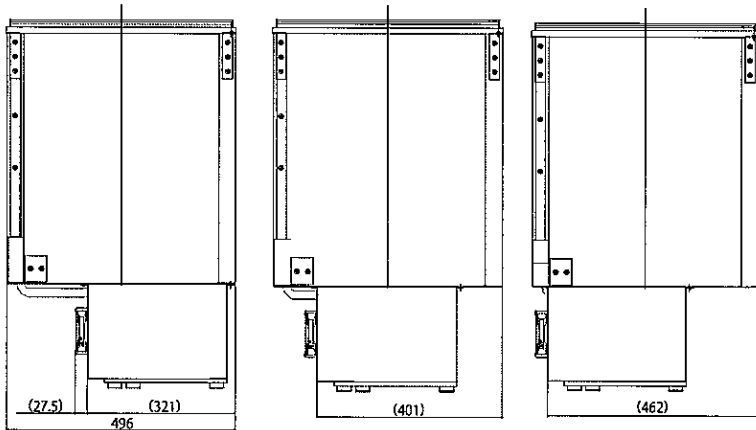
When storing Food and Beverages

- 1) Please do not overload. Try to have some space in between when loading goods into the product. When overloading goods in the product, some goods may not be cooling.
- 2) Please do not store warm or heated foods or beverages.
(Make sure to cool the foods and beverages before storing into the product)
- 3) Watery goods or strong smell food store should be wrapped.
- 4) Make sure to cool enough before storing the goods into the product.
- 5) The product has been thoroughly cleaned prior shipment from the factory.
However, it is advisable to clean the interior once again before use.
Clean the interior with a damp cloth in warm water, and wipe with a dry cloth.

RELOCATING THE MACHINE PARTS

MB40V-A, MB40V ONLY

This product's Machine parts can be relocate, the position to 3 different locations.



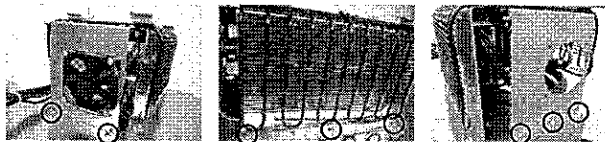
a. Machine parts located Right side. b. Machine parts to the Center c. Machine parts to the Left side.

Preparation:

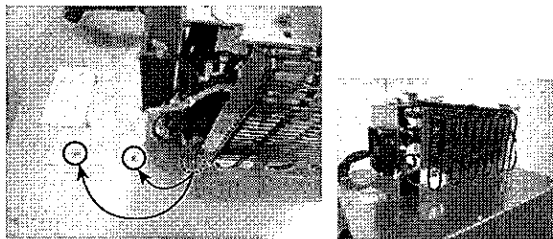
Take off the door parts from the product, and flip the product so that the Machine parts comes on the top.

At this time, make sure not to scratch the top of the product by placing spreading the cloth. Use the hand gloves to avoid injury.

Take off the 8 location of the screw which are holding the Machine parts from the product.



Fixed with screws to move the Machine parts as shown below.



This picture shows the case that you screw in the center.

PLACING THE MACHINE PARTS APART FROM THE PRODUCT

MB40V-A, MB40V ONLY

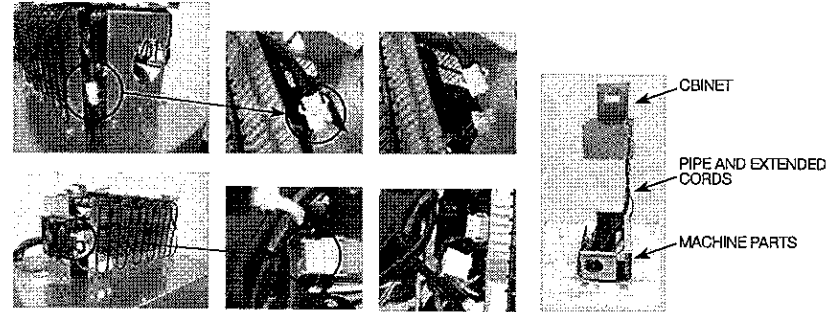
(YOU CAN TAKE THE MACHINE PARTS APART AND PLACE 1.5m AWAY)

Preparation:

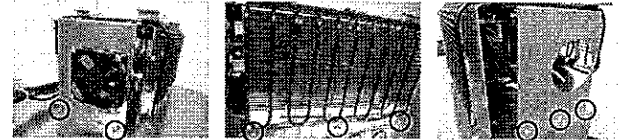
Take off the door parts from the product, and flip the product so that the Machine Parts comes on the top.

At this time, make sure not to scratch the top of the product by placing spreading the cloth. Use the hand gloves to avoid injury.

* First, take off the 2 couplers as you can see from below pictures.
(Press the stopper of the coupler to release)



* Secondly, take off 8 screws which are holding the Machine parts, by using screw-driver.



* Take off the Machine parts apart from the product unit.

At this time, you need to take out the pipe from the Machine parts which is stored, and straightening by rolling to the opposite, direction of the roll.



- * Connect the extended cords (2 cords come with the package separately) and connect by the following the pictures below.



- * Screw 3 location of the leg parts (see below picture) as screwing the Machine parts to the cabinet or deck.



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