

# MITSUBISHI

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# Model A9GT-70LTS

# Back Light

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## User's Manual

Thank you for purchasing the MELSEC-GOT Series.

Prior to use, please read both this manual and detailed manual thoroughly and familiarize yourself with the product.



MODEL	A9GT-70LTS-USERS
MODEL CODE	1DM116
IB(NA)-68984-D(0406)MEE	

# ● SAFETY PRECAUTIONS ●

(Always read before starting use)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product. For the safety precautions of the programmable controller system, please read the CPU module user's manual.


In this manual, the safety precautions are ranked as "DANGER" and "CAUTION".



Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the  **CAUTION** level may lead to a serious consequence according to the circumstances.

Always follow the precautions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

## [HANDING PRECAUTIONS]

### DANGER

- Prior to replacing the back lights, make sure to shut off all the phases of GOT power supply (When GOT is connected via bus line, make sure to shut off all the phases of PC CPU power supply externally.) and remove the main unit of GOT from the cabinet. Electric shocks are possible unless all the phases of the power supply are shut off. The main unit of GOT could drop to cause personal injury if replacing the back lights while the main unit is assembled on the cabinet.

### CAUTION

- When replacing the backlight, use the gloves.  
Otherwise, it may cause you to be injured.  
If you should directly touch the plated area of the main unit case with hand, be sure to wipe off the fingerprint and so on, and install the main unit case.  
Otherwise, it may cause a trouble or malfunction or make the EMC Directives mismatched.
- Start changing the backlight more than 5 minutes after switching the GOT power off.  
Not doing so can cause a burn due to the heat of the backlight.

## [DISPOSAL PRECAUTIONS]

### CAUTION

- Dispose of this product as industrial waste.

## Revisions

\* The manual number is noted at the lower left of the back cover.

Print Date	*Manual Number	Revision
Jul., 1998	IB(NA)-68984-A	First printing
Feb., 2000	IB(NA)-68984-B	Partial additions Chapter 1, Chapter 2
Feb., 2003	IB(NA)-68984-C	Partial additions Chapter 2
Jun., 2004	IB(NA)-68984-D	Partial correction SAFETY PRECAUTION, Manuals, Chapter 2 Addition WARRANTY MODEL CODE change Changed from 13JM99 to 1DM116

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## Manuals

The following manuals are also relevant to this product.  
Refer to the following list and order the required manuals.

### Detailed Manual

Manual name	Manual No. (Model code)
A985GOT/A975GOT/A970GOT/A960GOT User's Manual (Available as option)	SH-4005 (1DM099)

### Relevant Manual

For relevant manual, refer to the PDF manual stored within the drawing software.

## 1. Overview

The table below lists the performance specifications of the back lights.

Item	Specifications
Applicable models	A970GOT-SBA, A970GOT-SBD, A970GOT-SBA-EU, A970GOT-LBA, A970GOT-LBD
Kind	Cold cathode fluorescent tube back light
Life [h]	40,000

## 2. How to Change the Backlight for Liquid Crystal

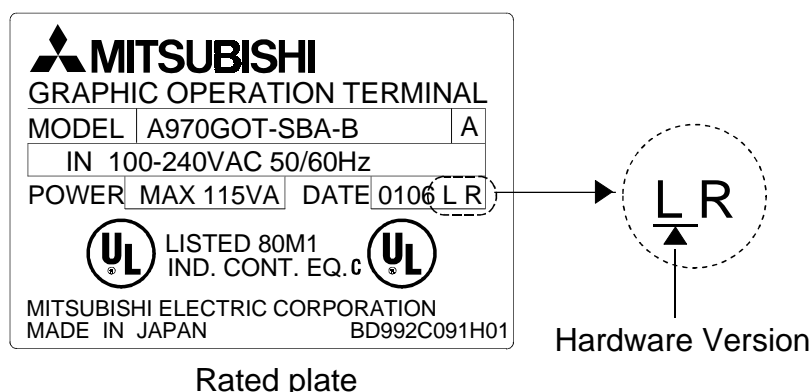
In GOT, back lights are incorporated for the indicator LCD. These back lights lose the luminance as they are used. Replace the back lights if the luminance lowers such that the performance of the indicator screen deteriorates.

The backlight changing method changes depending on the hardware version of the GOT.

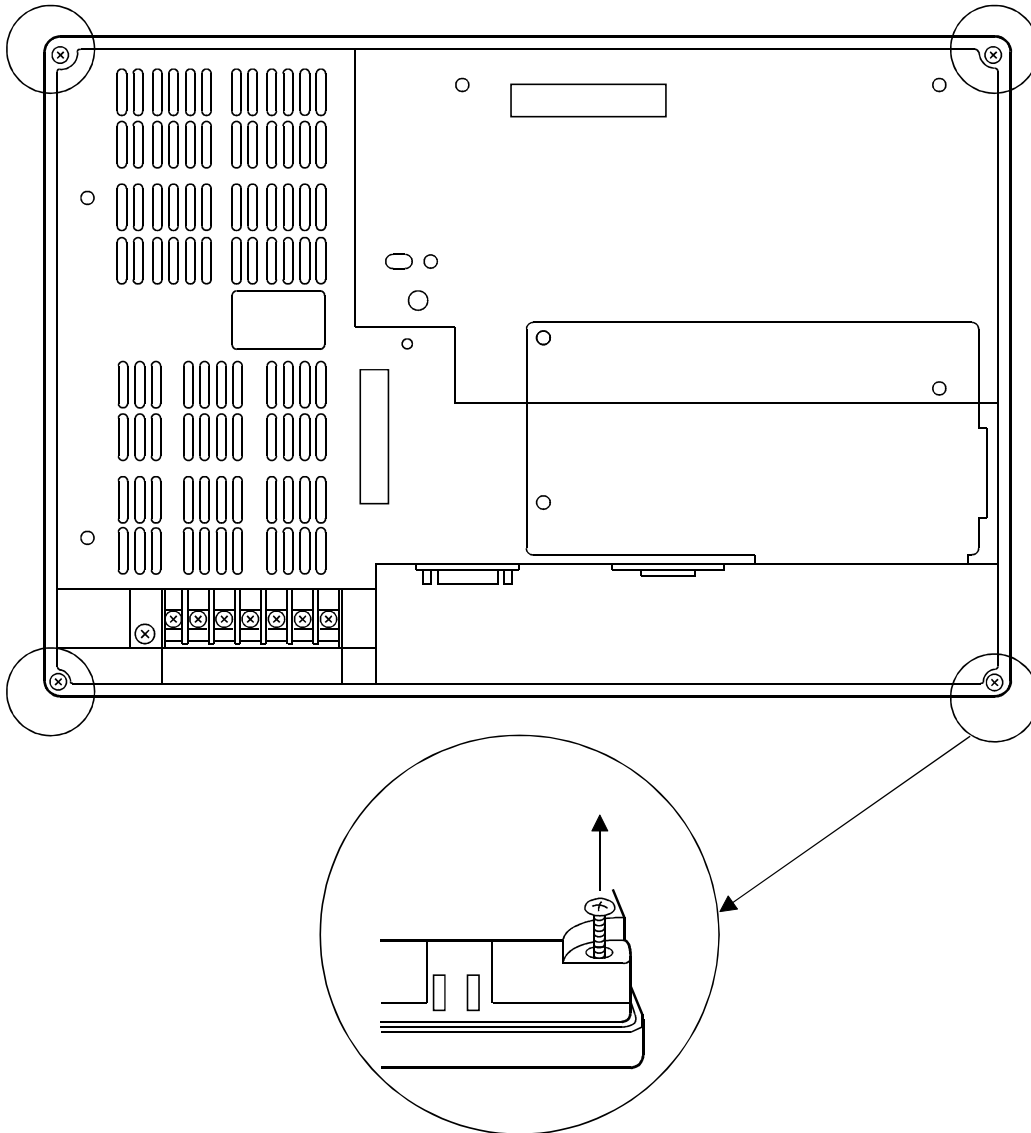
Change the backlight after confirming the hardware version of the used GOT.

Type	Hardware Version	Changing Method Reference Destination
A970GOT-SBA/LBA	Version K (May, 2001) or earlier, Version S (May, 2002) or later	(1)
A970GOT-SBD/LBD	Version K (May, 2001) or earlier, Version R (May, 2002) or later	
A970GOT-SBA/LBA	Version L (June, 2001) to Version R (April, 2002)	(2)
A970GOT-SBD/LBD	Version L (June, 2001) to Version Q (April, 2002)	

The GOT hardware version is located on the rating plate at the rear of the GOT.

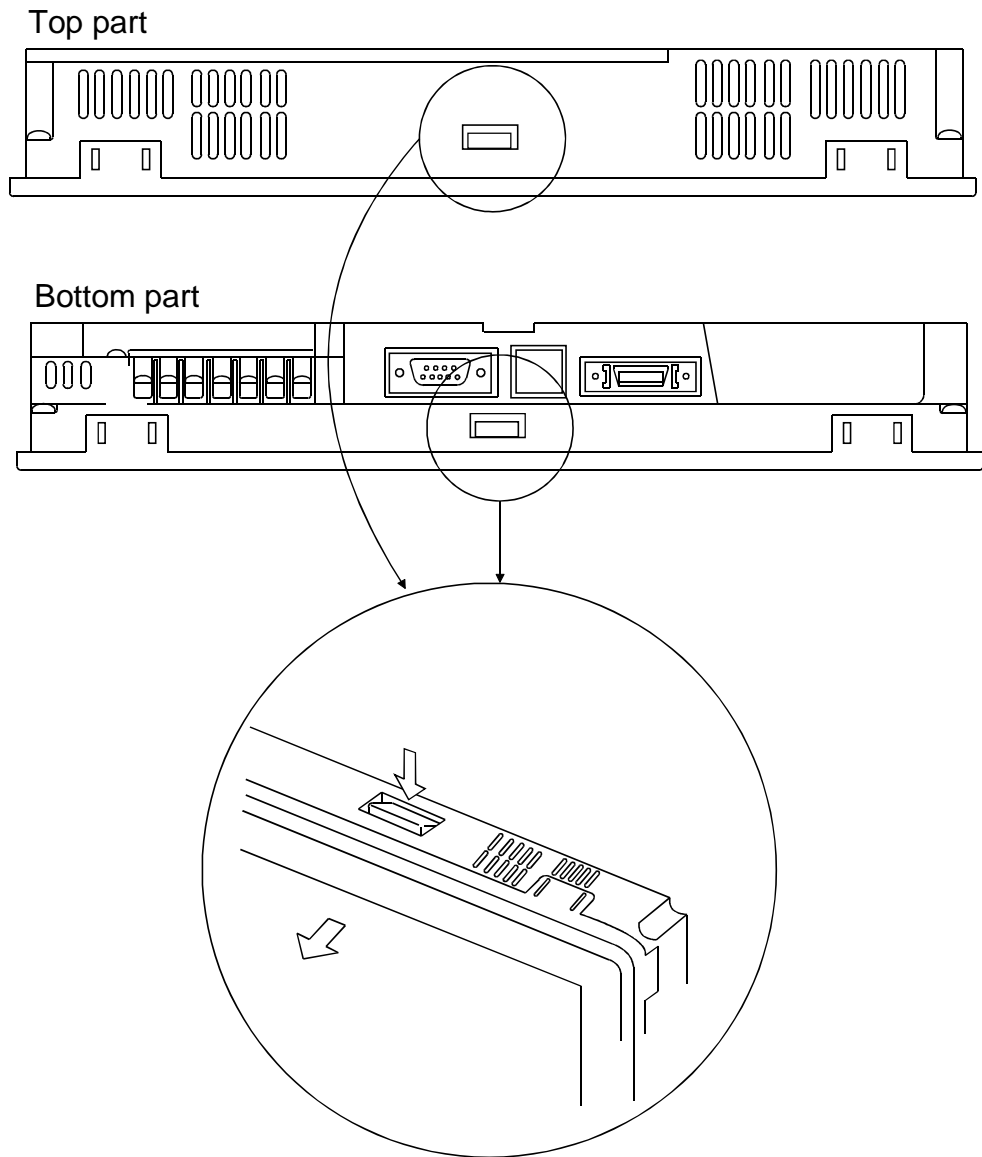


## (1) Backlight replacement procedure 1

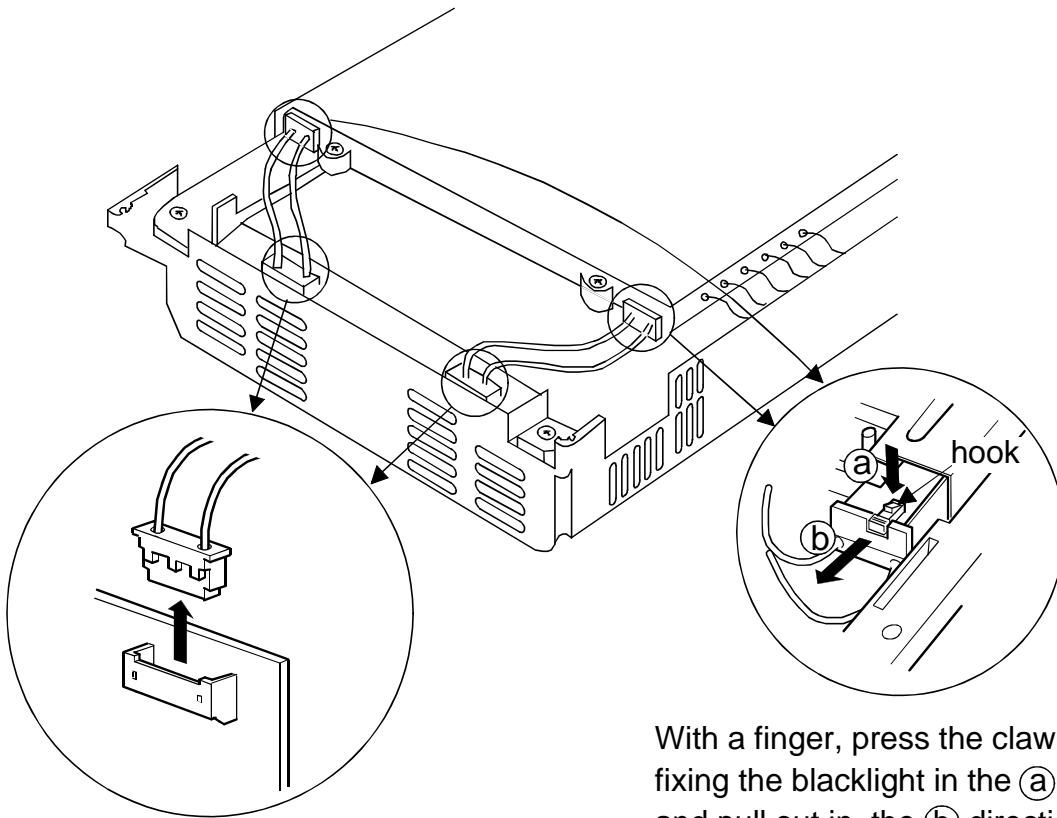


- 1) Turn off the GOT power supply. Remove the wire from the power terminal. Then remove the communications cable.
- 2) Loosen the metal fitting on GOT to remove GOT from the cabinet.
- 3) Use a screw driver and remove four fastening screws on the back of GOT.





- 4) After removing the fastening screws, remove the indicator cover from GOT, while pressing four fastening hooks. The fastening hooks are provided on the left/right sides in addition to on the top/bottom sides.



Remove the cable connector on the back lights from the indicator connector.

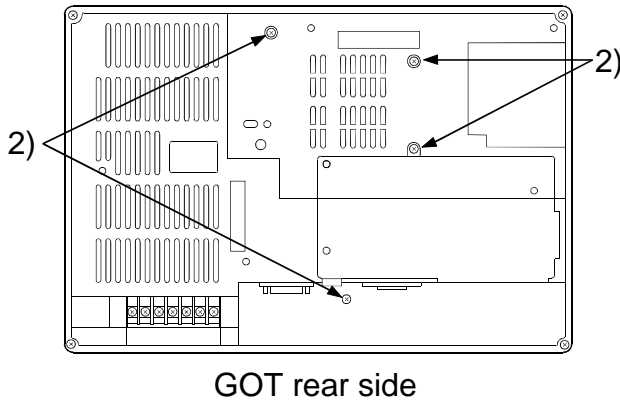
With a finger, press the claw (black) fixing the backlight in the (a) direction, and pull out in the (b) direction.

- 5) Show the front face of GOT, and remove two cable connectors on top and bottom of the back lights from the indicator connector.
- 6) Pull out two back lights on top and bottom from the indicator.
- 7) To install new back lights, follow the procedure opposite to that of removing. Similarly, follow the opposite procedure for installing the indicator. Make sure to securely install the indicator and apply a torque in the specified range from 36 to 48N.cm to the fastening screws for GOT.

## (2) Backlight replacement procedure 2

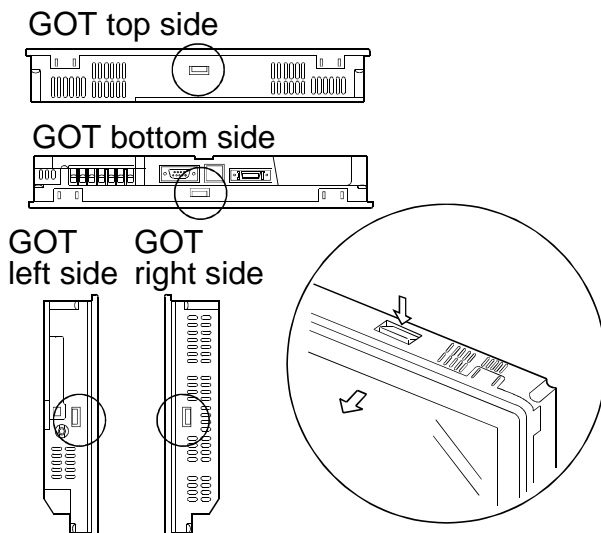
Remove the screws recognizing each size during backlight replacement, since they have different sizes depending on the mounted positions.

Be sure to store the screws by size after removing them.



1) Remove the connector cover for RS-232C interface, printer interface or communication module, if it has been mounted to the GOT. Also, remove the wires connecting cable, various modules or terminal block to the GOT, if the wiring has been installed.

2) Unscrew four fixing screws on the GOT rear side with a driver. (They cannot be completely removed.) (Tightening torque range: 36 to 48N•cm)



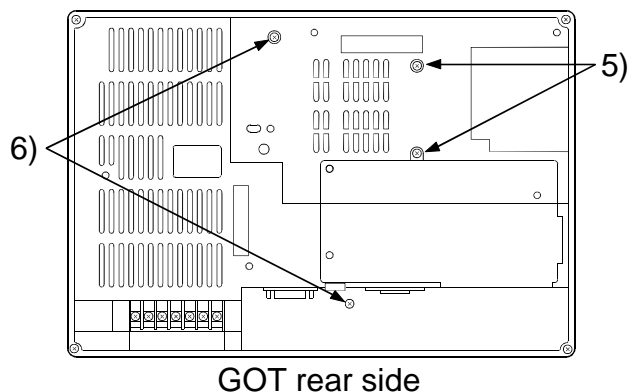
3) Remove the display cover from the GOT while pressing four fixing tabs, which are situated on top/bottom/right/left sides of the GOT.

A flat cable is attached under the fixing tab on the top side of the GOT.

Take care not to apply excessive force on the fixing tabs while pressing them with a driver or similar device. Failure to observe this instruction may damage them. Be sure not to apply excessive pressure on the GOT case, which is made of resin. Failure to observe this instruction may also damage them.

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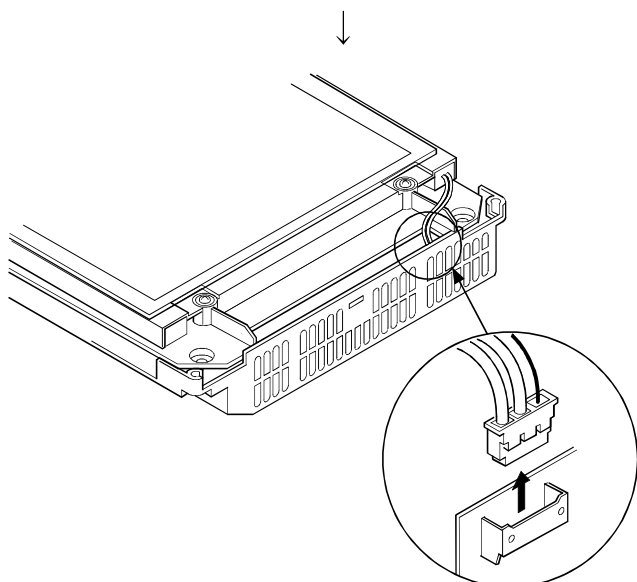
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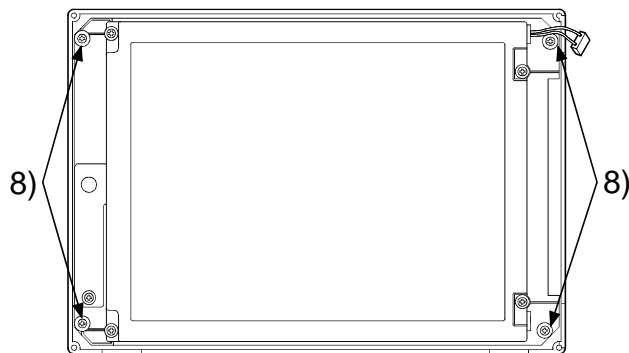
4) Put the GOT on the liquid crystal display side.  
Keep the liquid crystal display away from scratch or dirt by laying a sheet on the work table in advance.

5) Remove two screws from the rear side.  
((M2.6 screw)10 to 13N•cm)

6) Remove two screws from the rear side.  
((M3 screw)18 to 24N•cm)  
Please note that the screws are different in size.



Remove the cable connector for backlight.



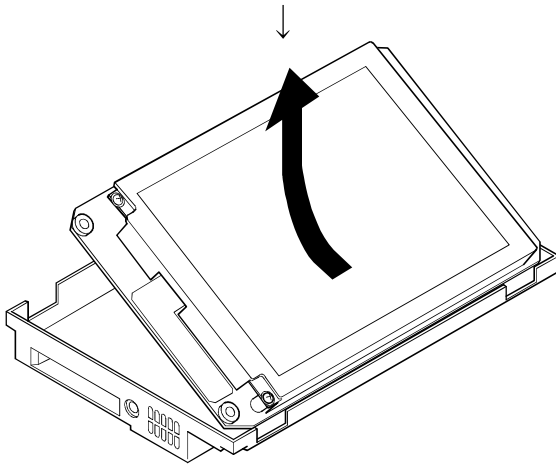
7) Put the liquid crystal display side up and then remove the cable connector for backlight.  
Remove two connectors on the top and bottom sides.

8) Remove four screws (chassis mounting screw) on the outmost side.  
(Tightening torque range: 36 to 48N•cm)

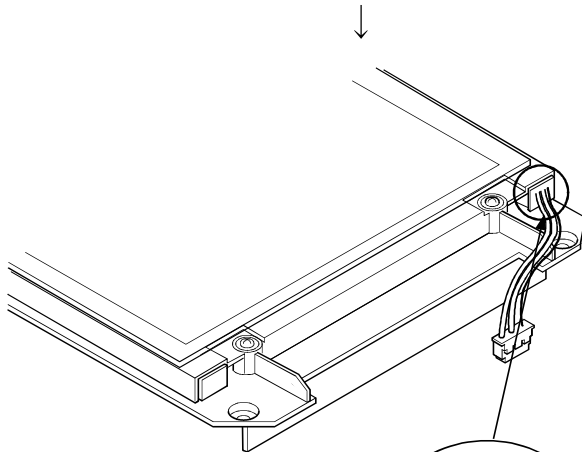
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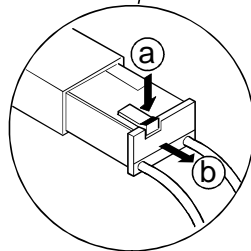
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9) Remove the liquid crystal display and circuit board from the rear case by holding up the top side.



10) Remove the backlights keeping the liquid crystal display up. Remove two connectors on the top and bottom sides. Keep the liquid crystal display away from scratch or dirt by laying a sheet on the work table in advance.



Pull out the backlight in (b) direction pressing the fixing tab (black) in (a) direction.

11) Mount new backlight(s) in a reverse order to the removal procedures. Then, mount the liquid crystal display, circuit board and display cover in a reverse order as well.<sup>\*1</sup> Be sure to securely mount the liquid crystal display, circuit board and display cover, and tighten the fixing screws within the specified torque range.

\*1: Pay full attention to the followings while mounting the liquid crystal, circuit board and display cover.

- Insert the GOT connectors and terminals into the corresponding holes on the rear case when mounting liquid crystal and circuit board onto it.
- Be sure to gently tighten the screws mentioned in 8) and 2), and then retighten them within the specified torque range.
- Insert the cable connectors for backlights completely, making sure that it is correctly mounted.
- Attach the display cover taking care that the flat cable is not pinched` between the GOT and display cover.
- Remove the dust from the liquid crystal display or inside of the front panel.

## Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

### For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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