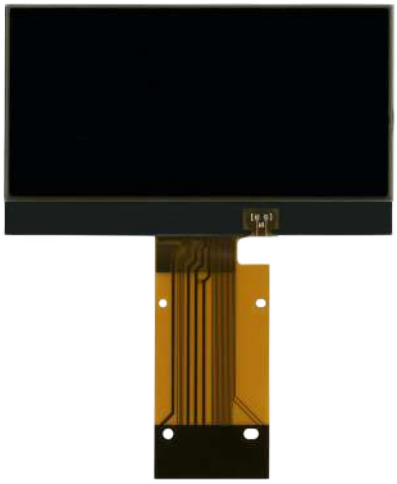
minitools



SEPDISP56

Installation and modification instructions

Ver. 4.0

www.minitools.com

INSTALLATION OF THE DISPLAY "SEPDISP56" AND OF THE BACKLIGHT SHEET

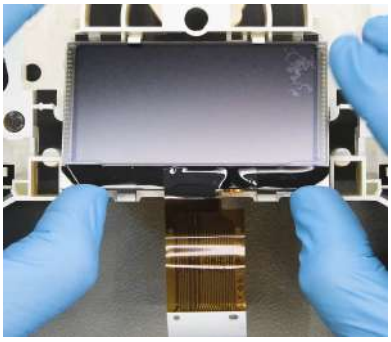
WARNING! The repair should be carried out only by qualified and competent staff.

· **Replace the display** in an ambient **temperature of 25 °C**.

· **Replace the backlight placed under the original LCD with the one supplied with the Minitools part to avoid chromatic discrepancies.**

Our technicians, for illustrative purposes, have made a video tutorial about how to repair the instrument cluster. Click on video.minitools.com/sepdisp56-en or scan the QR code to watch it.

1

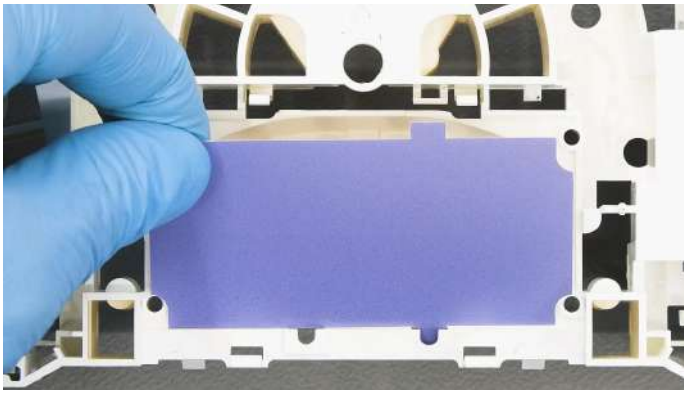


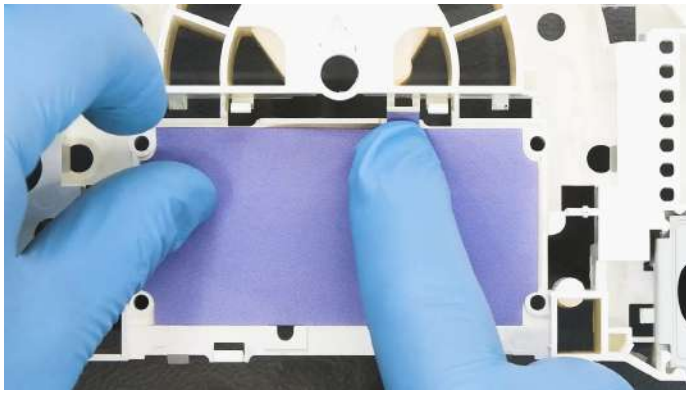
Remove the original display.

2

Undo and remove the diffuser and the pink original backlight.

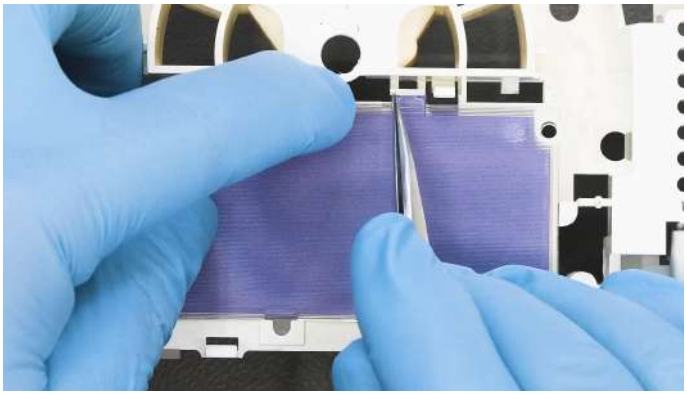
3





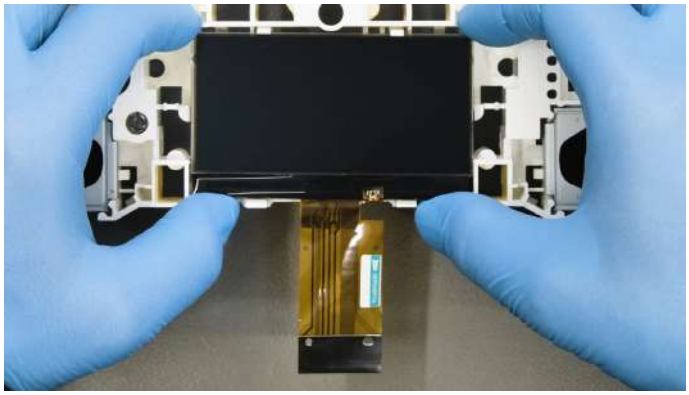
Fit and secure the new Minitools backlight.

4



Re-insert the diffuser.

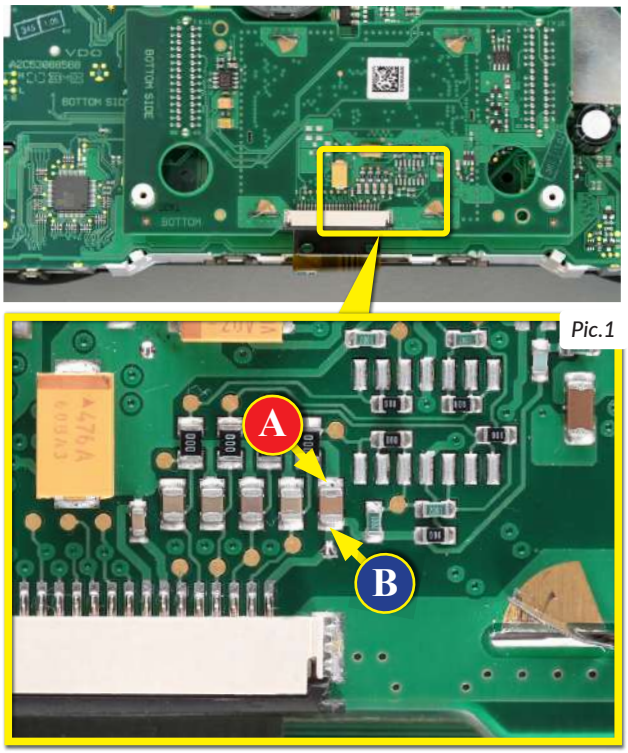
5



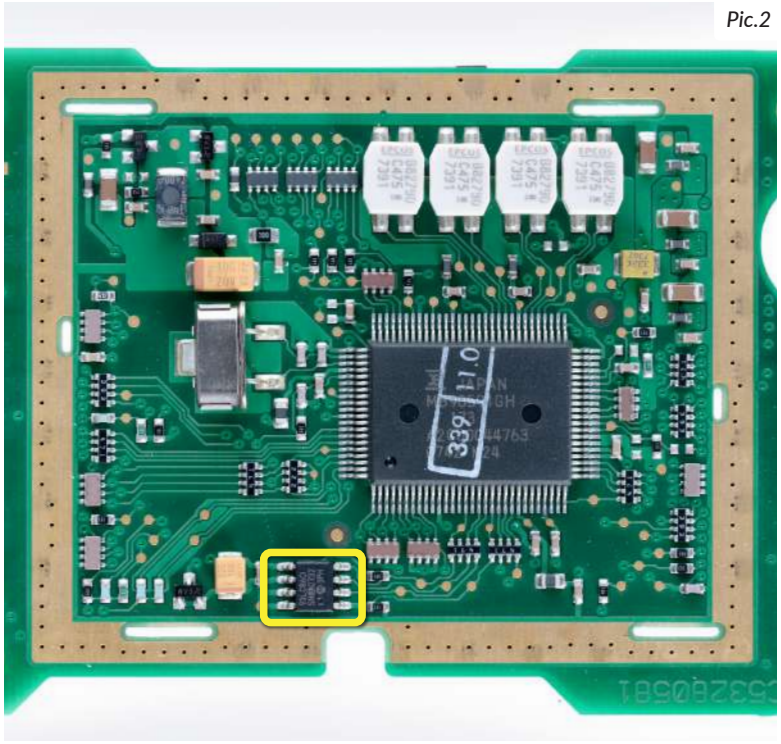
Fit the new Minitools display.

EEPROM MODIFICATION

· After replacing the LCD, **switch on the cluster** *(pin n° 1 negative, pin n° 2 positive)* and, with a multimeter, **measure the voltage on the PCB** on which the display is connected, **between the points A and B** indicated in picture 1.



Pic.1


Pic.2

▸ If the **voltage** measured is between **11,95 V and 12,05 V, no modification is necessary**;
▸ If the **voltage** detected is, instead, **lower than 11,95V or higher than 12,05V,** it is **necessary to do the modification** described in the following paragraph "**EEPROM MODIFICATION**".

— EEPROM MODIFICATION

NOTE: *For this modification it is necessary to use an EEPROM programmer. We recommend our* ***SEP-EECLIP.***

● First, set the programmer **reading in hexadecimal** (HEX).

● **De-solder the 93LC86 EEPROM** (*highlighted in picture 2)*, which is located inside the metal enclosure on the rear side of the display PCB.

● **ATTENTION: Make a backup of the de-soldered EEPROM,** before the modification.

● To reach a voltage between **11,95V and 12,05V**, it is necessary to **modify the value of the location 0240.** Please note that increasing or decreasing these locations by 1 HEX unit, the **variation will be +/-0,00625V**.

If not familiar with hexadecimal calculation, it is possible to use the ***calculation tool in the box beside****, simply typing in the values.*

NOTE: ***The tool works correctly only on computers. For the mobile version, click here.***

CALCULATION OF THE NEW VALUES OF THE LOCATIONS

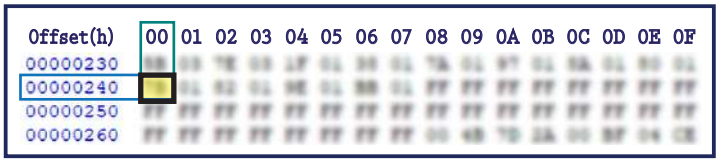
(The tool works correctly only on computers. For the mobile version, click here)

· *Type in the value of voltage measured between A and B points*

· *Type in the HEX value of the location identified**

· ***New value** to type in the location identified.*

**How to identify the value of the location on the EEPROM*



— VERIFICATION

Once these modifications have been done, **measure again the voltage between the points A and B** and **check that it actually is between 11,95V and 12,05V**. If not, increase or decrease the location until the value is as close as possible to the correct range.