

# Technical Service Bulletin No. 23

**Created by: Lab.gruppen AB Service Department**

**Date: 2011-11-02**

**Reference no: Measure for broken NTC in DC/DC on SP200PCF**

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It is highly recommended to implement this service bulletin as preventative maintenance if the unit is serviced for another issue.

## **Affected models**

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PLM20000Q

## **Affected boards/modules**

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Describe which boards/modules this technical issue affects.

SP200PFC07e-F01

SP200PFC08a-F01

SP200PFC08c-F01

SP200PFC08d-F01

SP200PFC08e-F01

SP200PFC08f-F01

SP200PFC08g-F01

SP200PFC08h-F01

SP200PFC08i-F01

SP200PFC08j-F01

SP200PFC08k-F01

SP200PFC08l-F01

SP200PFC09b-F01

SP200PFC09c-F01

SP200PFC09e-F01

SP200PFC09g-F01

SP200PFC09h-F01

## **Symptom**

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Firmware will tolerate 1 out of the 3 NTC in the DC/DC to be broken without displaying a fault message, that's why all three NTC's need to be measured every time the unit is in for service.

If more than 1 NTC in the DC/DC is broken, or if any of the other NTC's are broken (there is a total of 7 on SP200PFC), the following fault message will be displayed on the front panel of the PLM: "NEED SERVICE:6"

## Solution

Ohm measure NTC601, NTC702 and NTC802. If outside ~18-20kOhm at room temperature, the NTC need to be replaced.

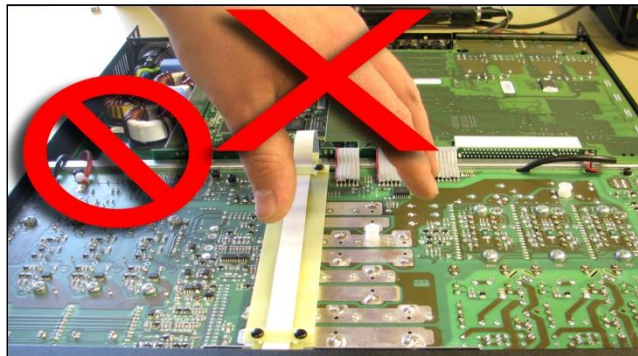
## Instructions

### Needed material

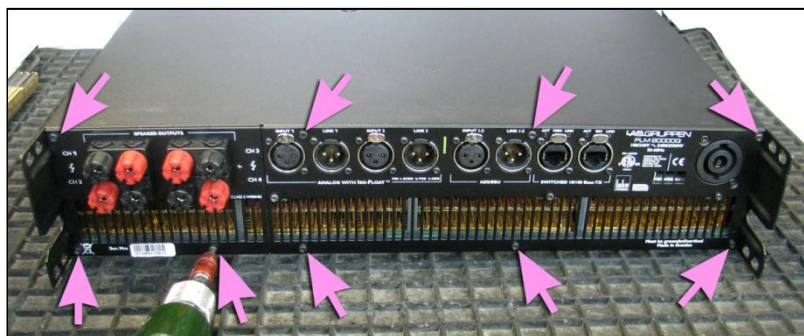
Part No.	Description	Amount	Info	Pos
NTC100KPEFILM	Resistor Ntc 100k Pe Film	1 - 3	Measure	NTC601, NTC702, NTC802
ISSR28x15AD	Insulator Silicon Rubber 28x15mm Adhesive	1 - 3		On Cooler
TSK.075x12	Tape Selfadhesive Kapton 0.075x12mm			Tape

### Actions

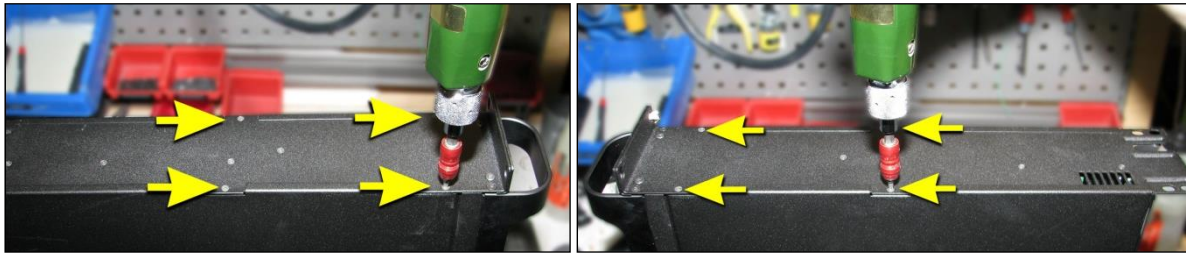
		Info	Pos
1.	<p><b>Amplifier mains plug disconnected.</b></p> <p><b>Wait 10 minutes in order to let the capacitors discharge.</b></p> <p><b>Observe! Do not touch PCB without being ESD-protected.</b></p>		



2.	Remove screws from the rear panel.		
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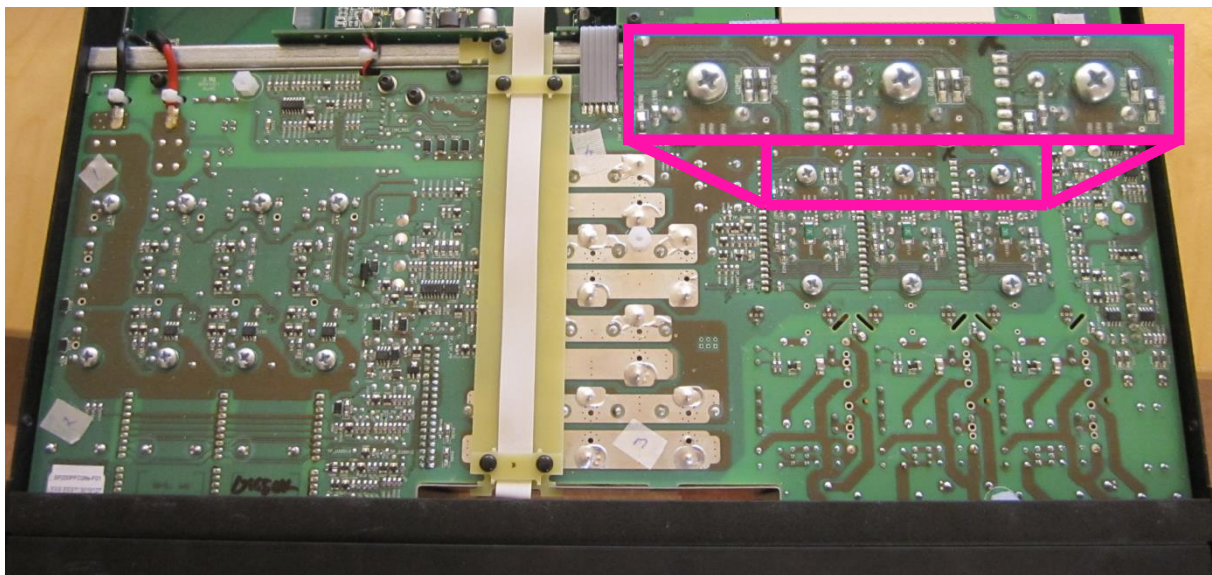
3.	Remove screws from the side panels.		
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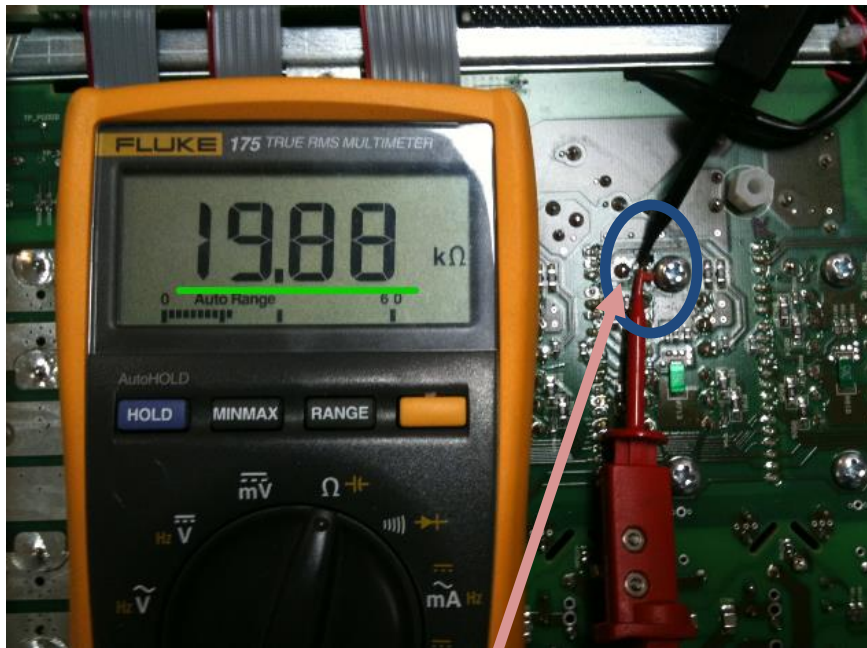
4.	Remove screws from the top and bottom covers. Remove the covers.		
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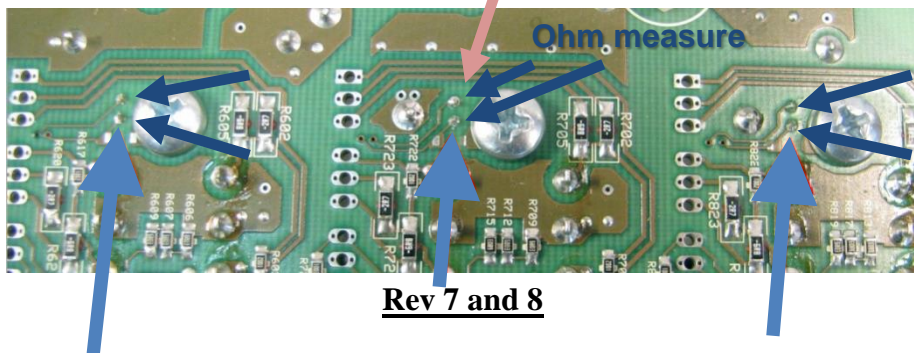
5.	At room temperature, <b>Ohm measure;</b> NTC601, NTC702, NTC802	~18kOhm to ~20kOhm	
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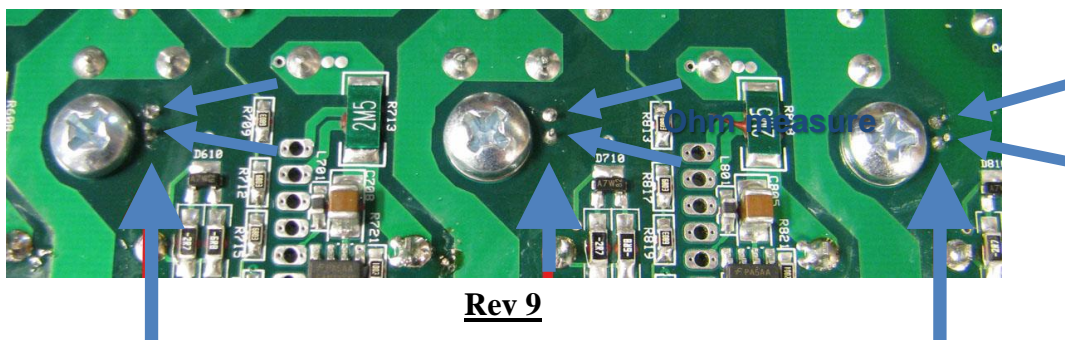
**Overview SP200 of which region of the board.**



Example OK measurement of NTC702 on a Rev8 SP200



Rev 7 and 8

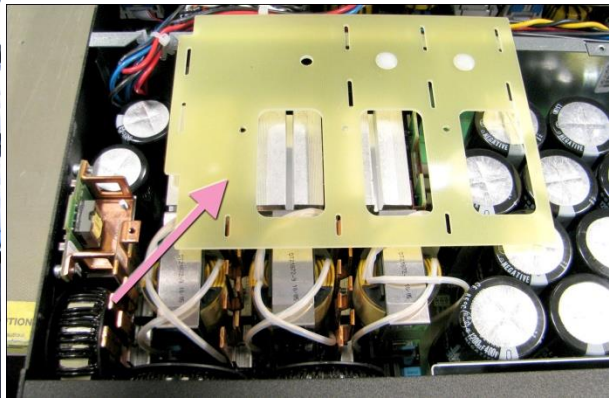
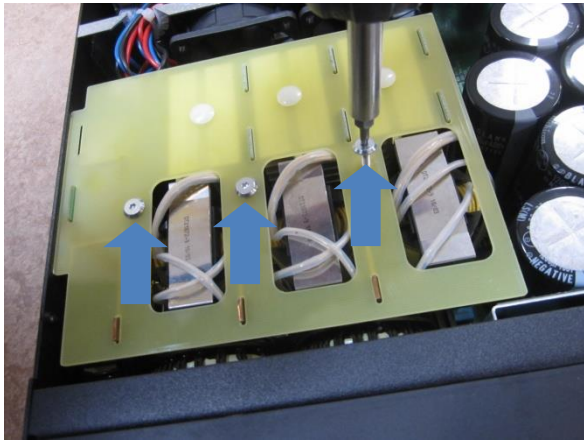



Rev 9

6.	If any of NTC601, NTC702, NTC802 does <b>not</b> pass ~18-20kOhm at room temperature, this NTC needs to be exchanged.		
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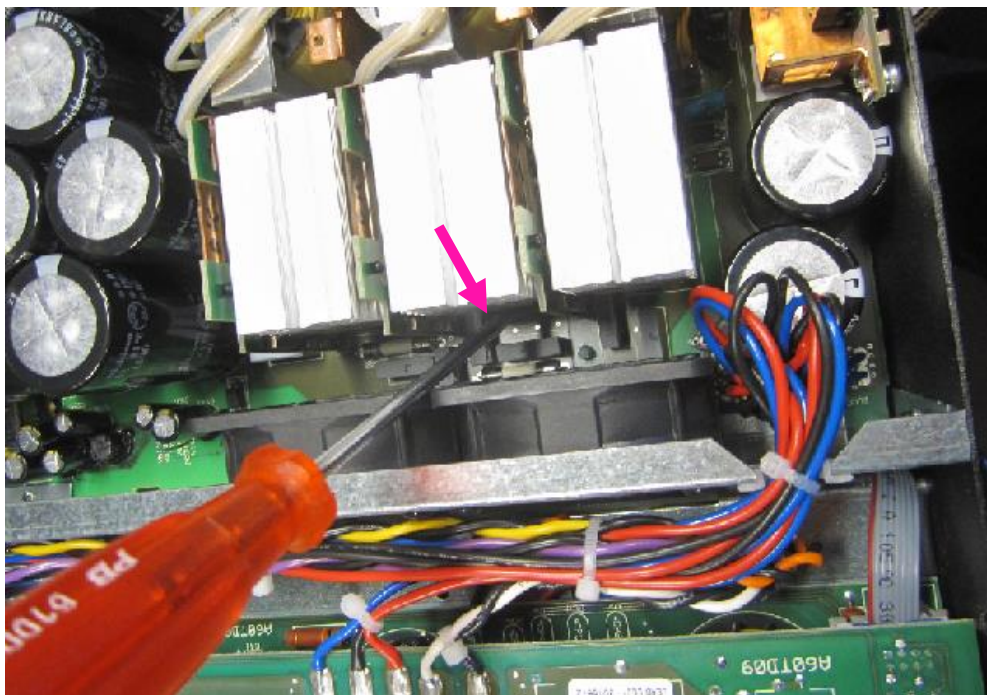
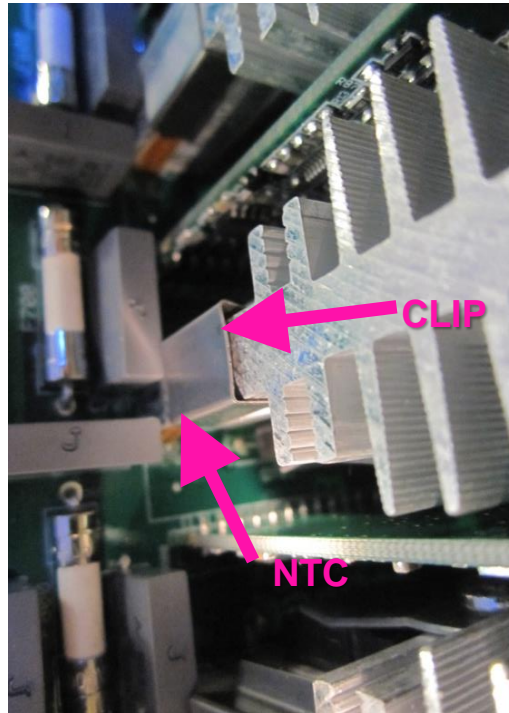
**1.1 The following is an example on how to exchange NTC702 (exactly the same for NTC601 or NTC802 on either side).**

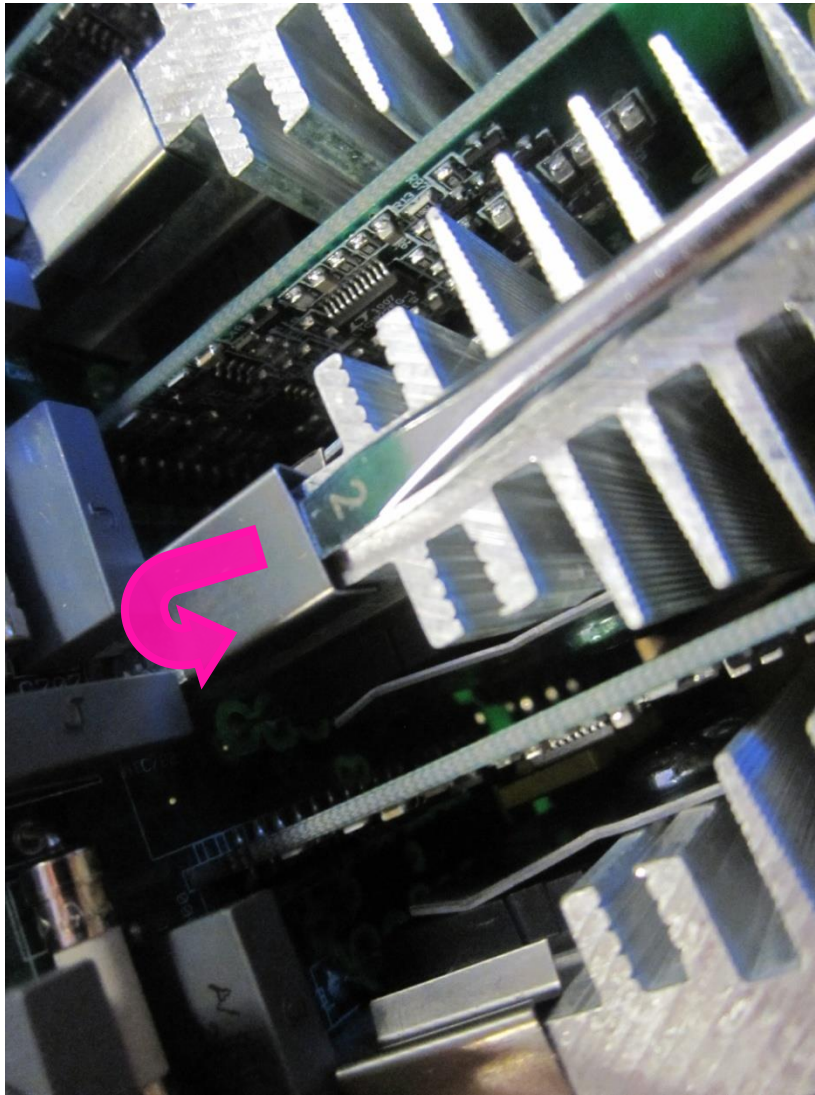
7.	Remove laminate.		
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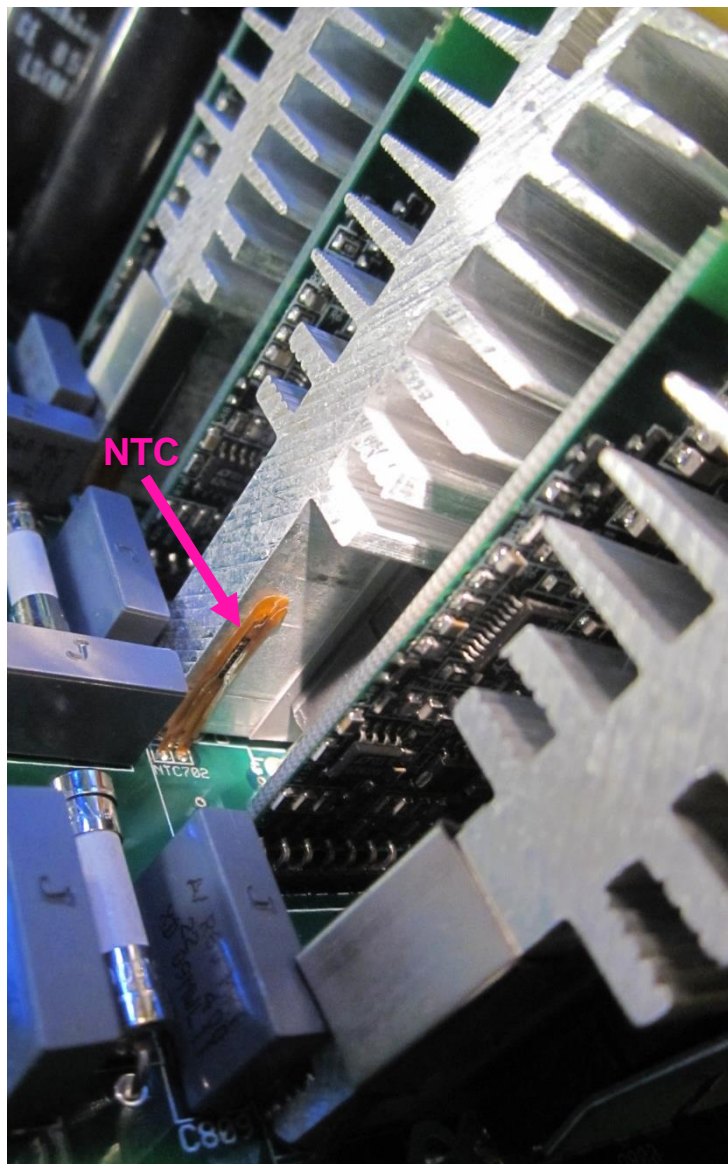
8.	Use a flat screwdriver.		
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9.	Put it behind the clip and the aluminum cooler, and bend carefully.		
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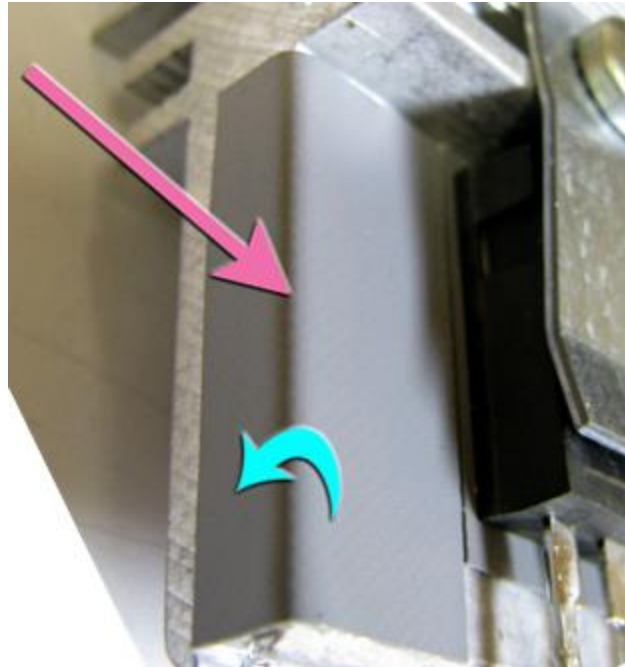


10.	<p>Now the NTC is free, and can be exchanged if needed. The NTC shall be soldered straight so it can be placed flat against the cooler. Put the PLM on the side, so that you can heat on the backside of the PCB and pull out the NTC at the same time.</p> <p><b>Confirm that the exchange NTC is OK. <u>Unmounted and in room-temperature it shall measure ~100kOhm</u> (due to lack of biasing).</b></p>		
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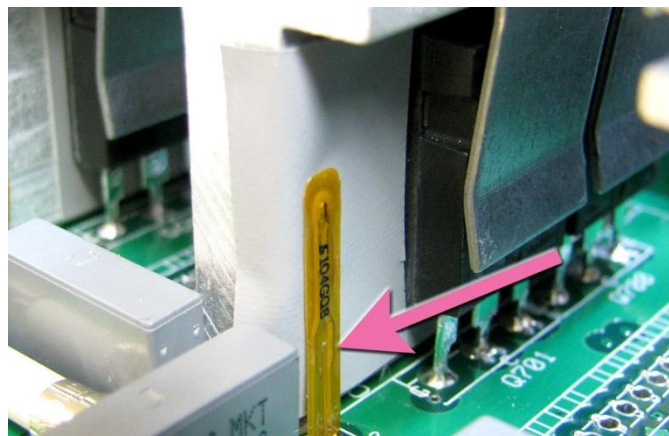




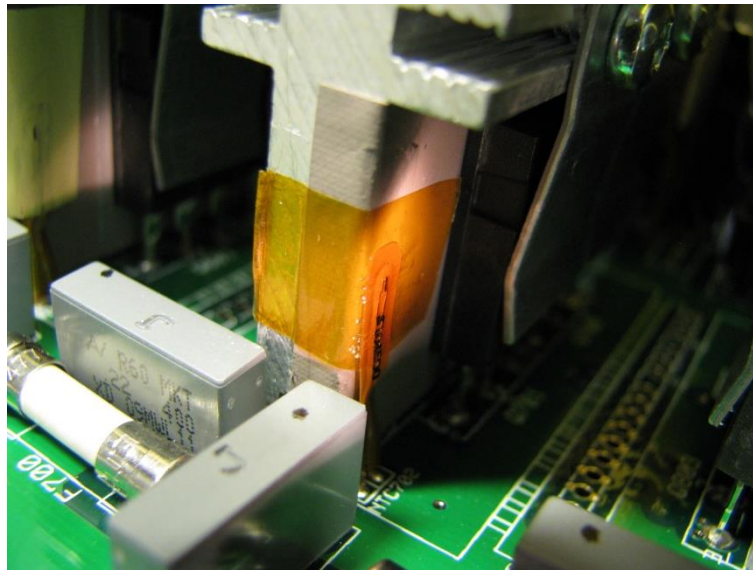
11.	Mount the adhesive silicone sheet on the cooler where the NTC is going to be mounted (fold around edge).		
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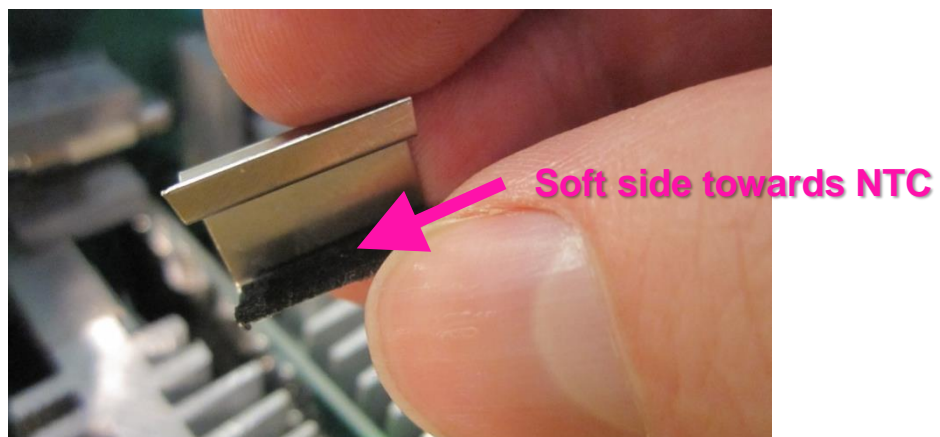
12.	Place the NTC resistor against silicon sheet.		NTC
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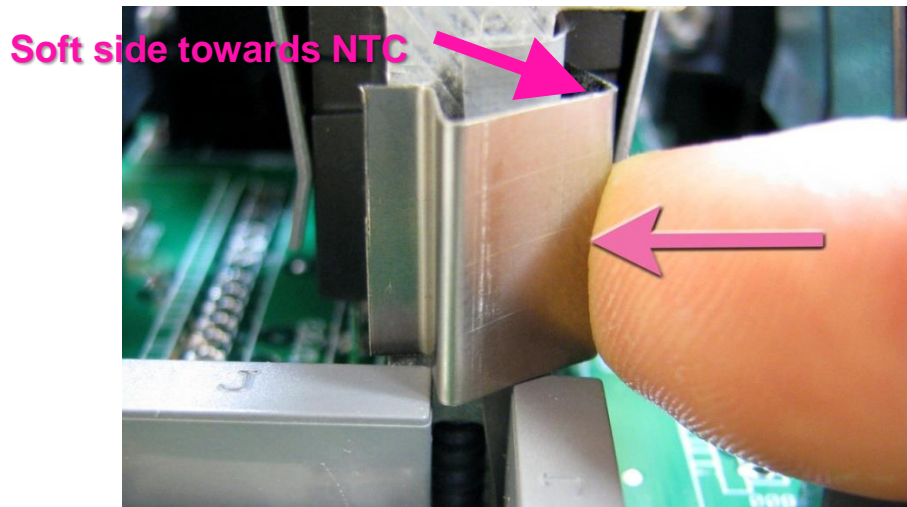
13. Mount specified tape to fixate the NTC.		Tape
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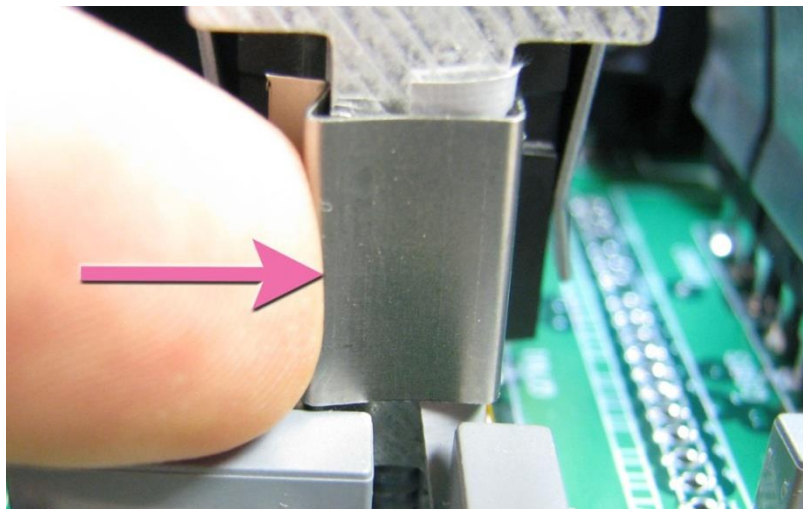
14. Observe that the clip needs to be mounted with the soft side towards the NTC.		
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15.	Assemble clip on this side with the foam first.		
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16.	Then the other side.		
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17.	Reverse actions 5-6 and 4 to 2.		
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**Service repair report forms**

Write "Technical Service Bulletin no.23" in the service repair report form, column "Repair Remedy" besides other normal repair information.

**History**

Date	Created By	Status	Bulletin no.	Comment
20111102	DABER	OLD	23	
20140408	ALRIQ	SHARP	23	Service repair report form information added