

RH450 assembly guide Version E

Scope

Document History

Date	Initials	Description
30-9-2008	MC	Document created
17-12-2008	MC	Temperature sensor mount changed on Figure 13. Torque specification added on top cover screws Figure 62 & Figure 63. Torque specification added on side cover screws Figure 64.
4-3-2009	MC	Torque specification changed on top cover screws Figure 62 & Figure 63 and side cover screws Figure 64. to meet screwdriver specification. Torque specification and use of thread lock added on nuts Figure 31 and Figure 42 All Torque specification converted to kgf*cm
26-05-2009	MC	Torque conversion error corrected (7,5 kgf*cm instead of 0,7 kgf*cm) under Figure 31 and Figure 42.

Related documents

- [1] Doc1
- [2] Doc2

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Power screen assembly

Dirch fan connector assembly guide

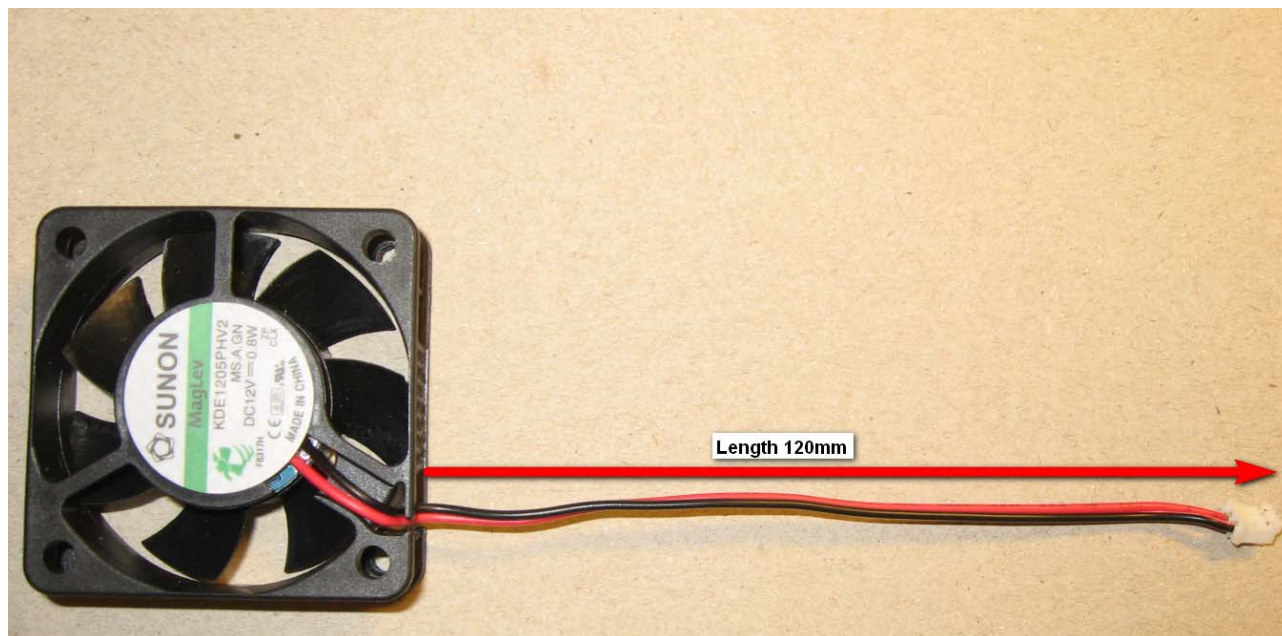


Figure 1: Use fan E59802111 Wire length is 120mm from housing of fan to bottom of connector.

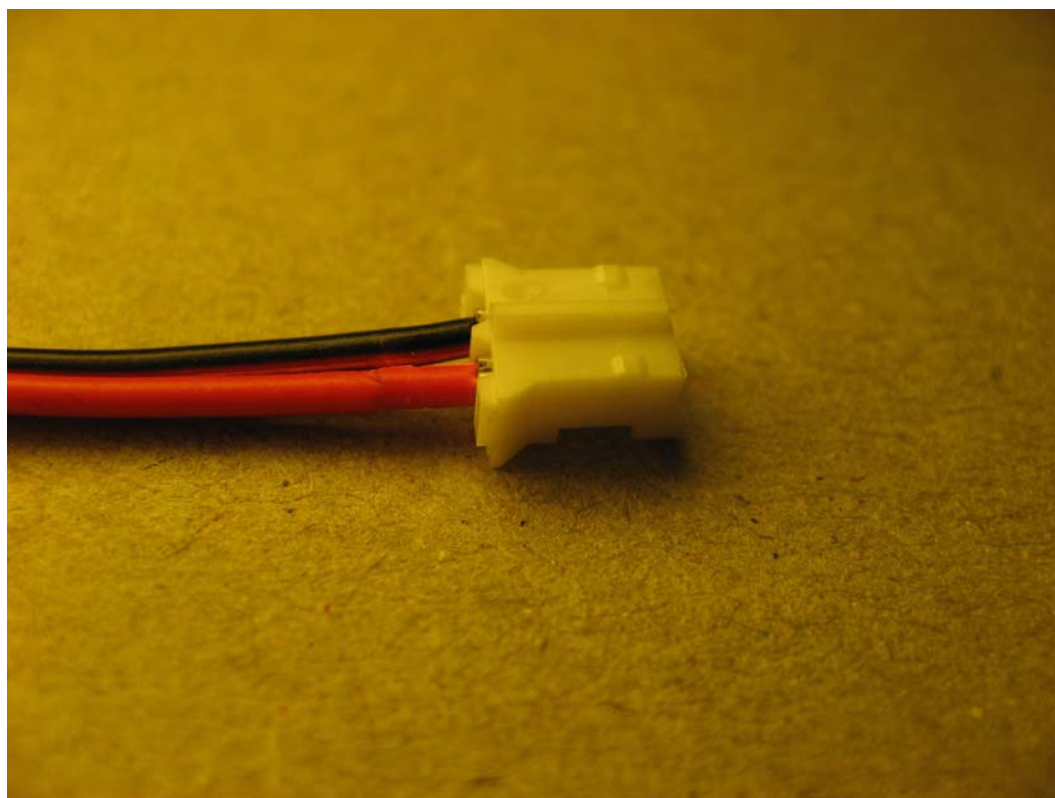


Figure 2: Polarity should be as shown in the picture. (The connector consists of 2 pcs. E52300611 and 1 pcs. E52300711)

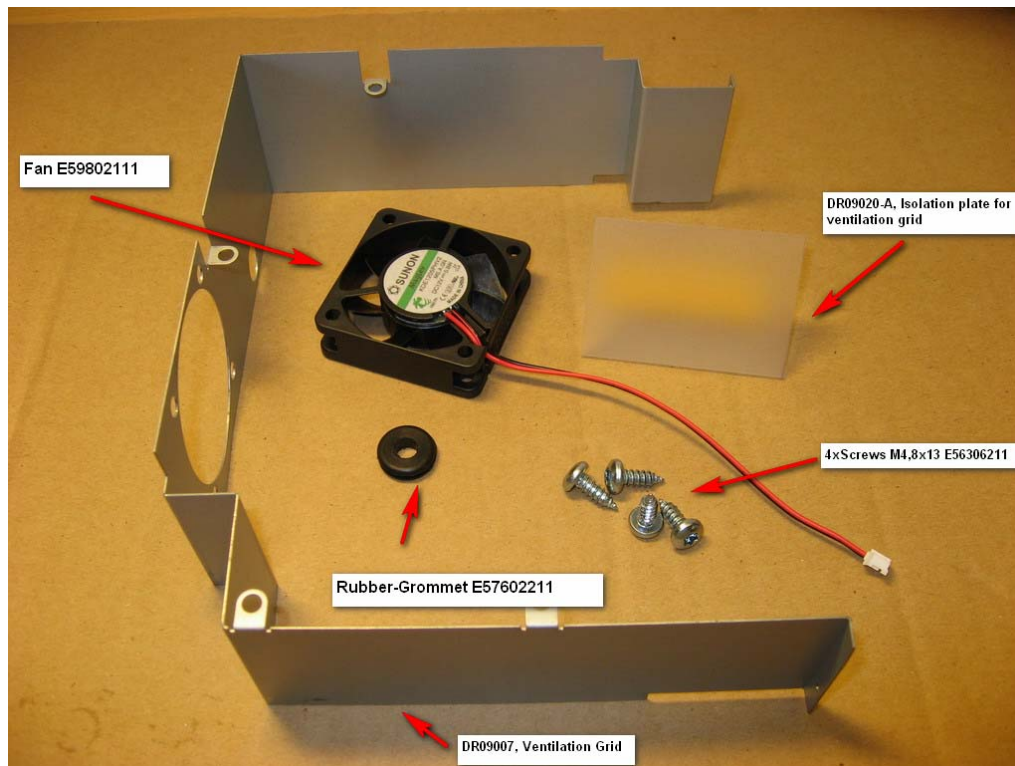


Figure 3: Total amount of components used for fan assembly.

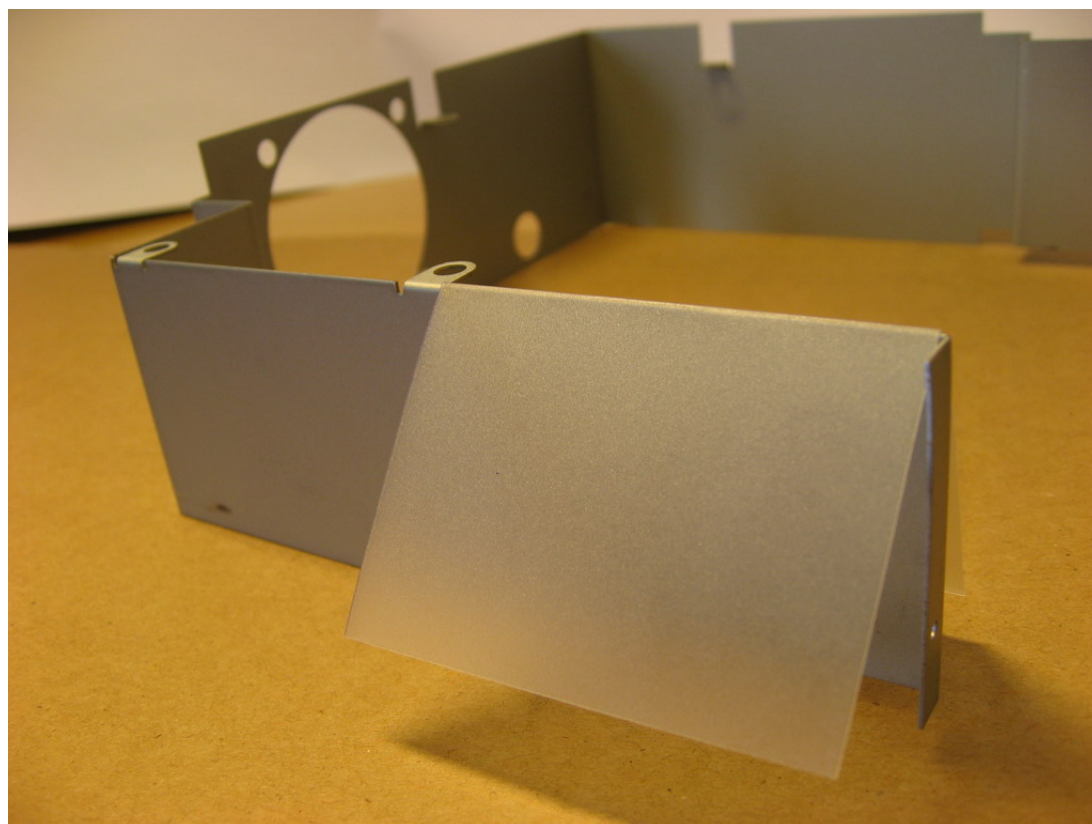


Figure 4: Mount Isolation plate for ventilation grid as shown in picture. **THIS IS A SAFETY COMPONENT AND IT IS VERY IMPORTANT THAT IT IS MOUNTED AS SHOWN IN THE PICTURE.** Use the adhesive tape on Isolation plate to attach it to ventilation grid.



Figure 5: Mount Rubber-Grommet and Fan as shown in the picture. It is important that the fan is positioned correctly due to the direction of the air flow.



Figure 6: The fan is mounted using the 4 screws M4.8x13 E56306211.

Power board Assembly

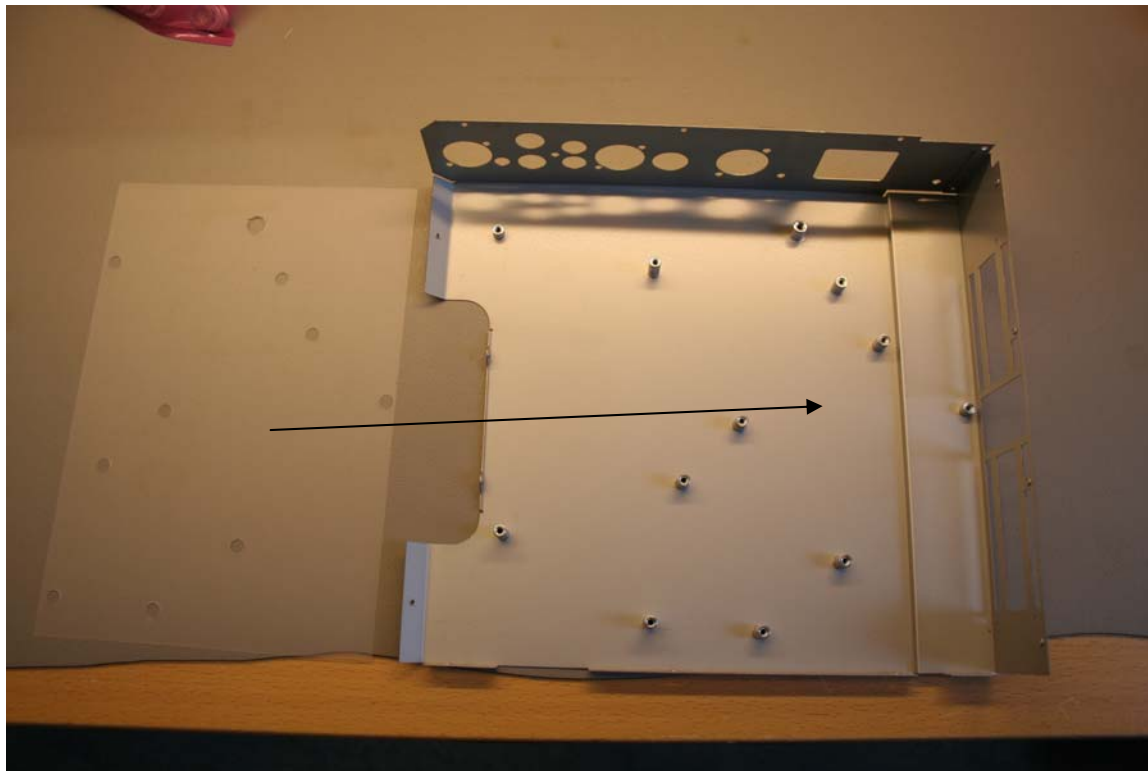


Figure 7: Use isolation plate DR09019 and Inner box Bottom DR09006-F, for this sub assembly.

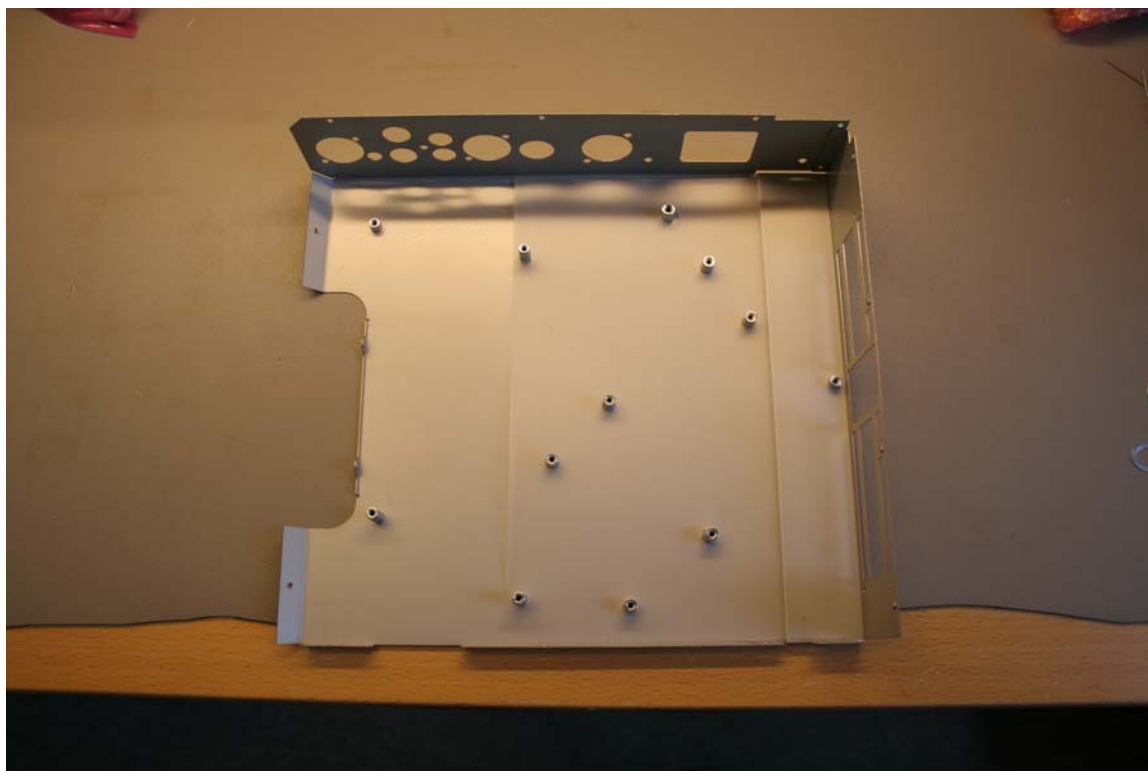


Figure 8: Mount isolation plate for 1038 Dirch Powerboard (DR09019) as shown in picture. **THIS IS A SAFETY COMPONENT AND IT IS VERY IMPORTANT THAT IT IS MOUNTED AS SHOWN IN THE PICTURE.**

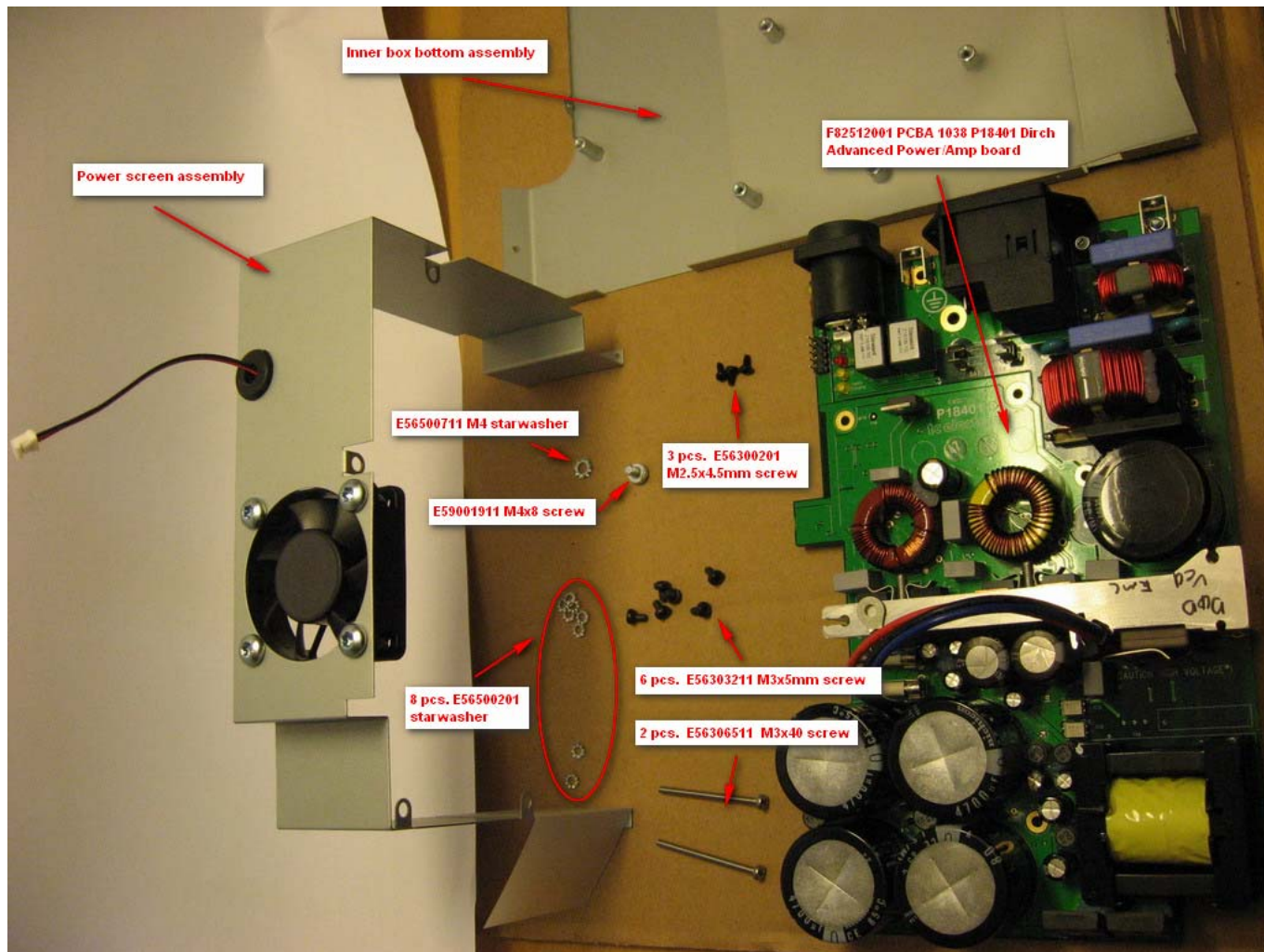


Figure 9: Components used for power board assembly.

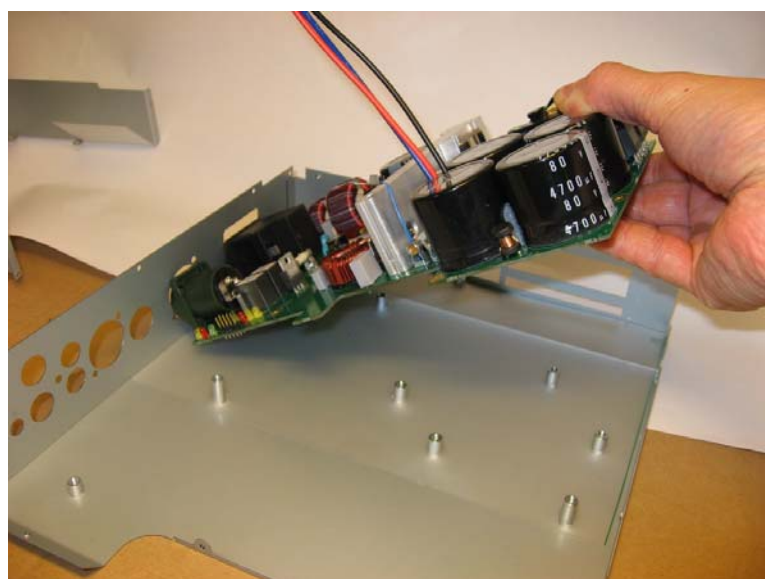


Figure 10: Mount the power board in the inner box. Be sure to put it in, in an angel so the surface mounted components on the backside of the PCB are not damaged.

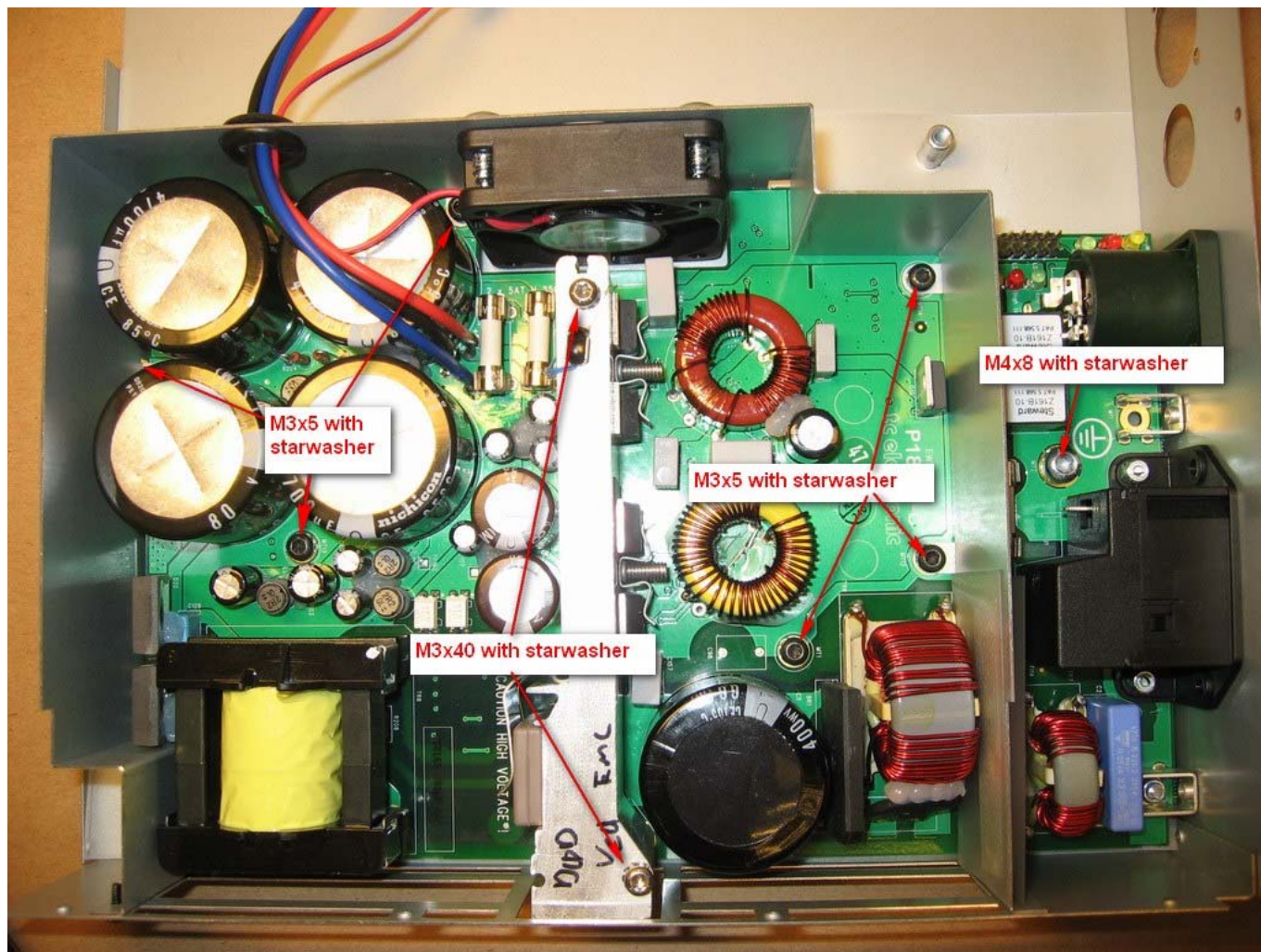


Figure 11: Mount the power board in the inner box, using the screws shown in the picture.

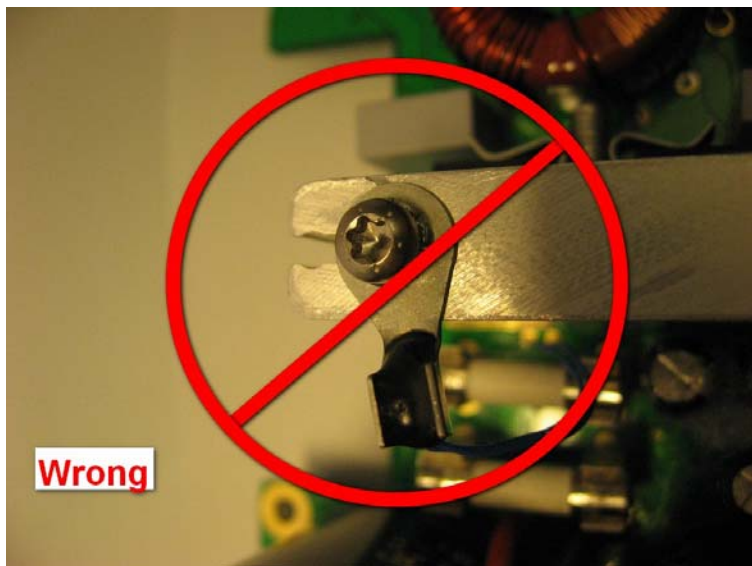


Figure 12: Be sure to mount the sensor correctly!! This is WRONG.



Figure 13: Be sure to mount the sensor correctly!! This is WRONG.

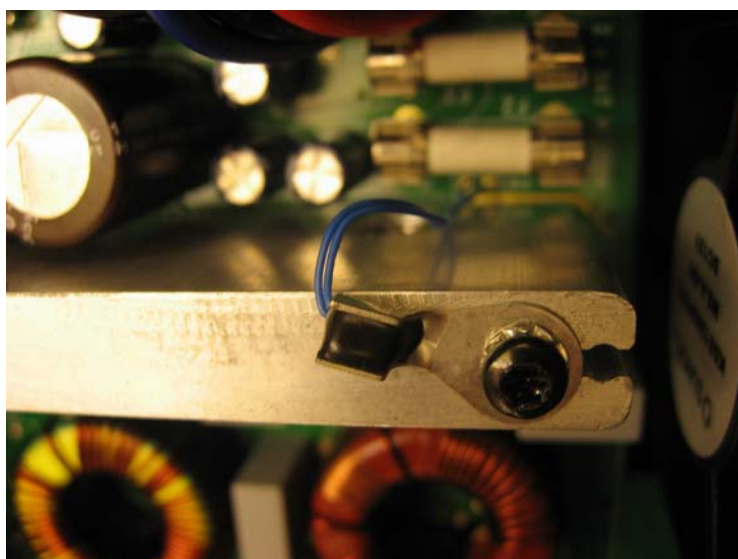


Figure 14: Be sure to mount the sensor correctly!! This is CORRECT.

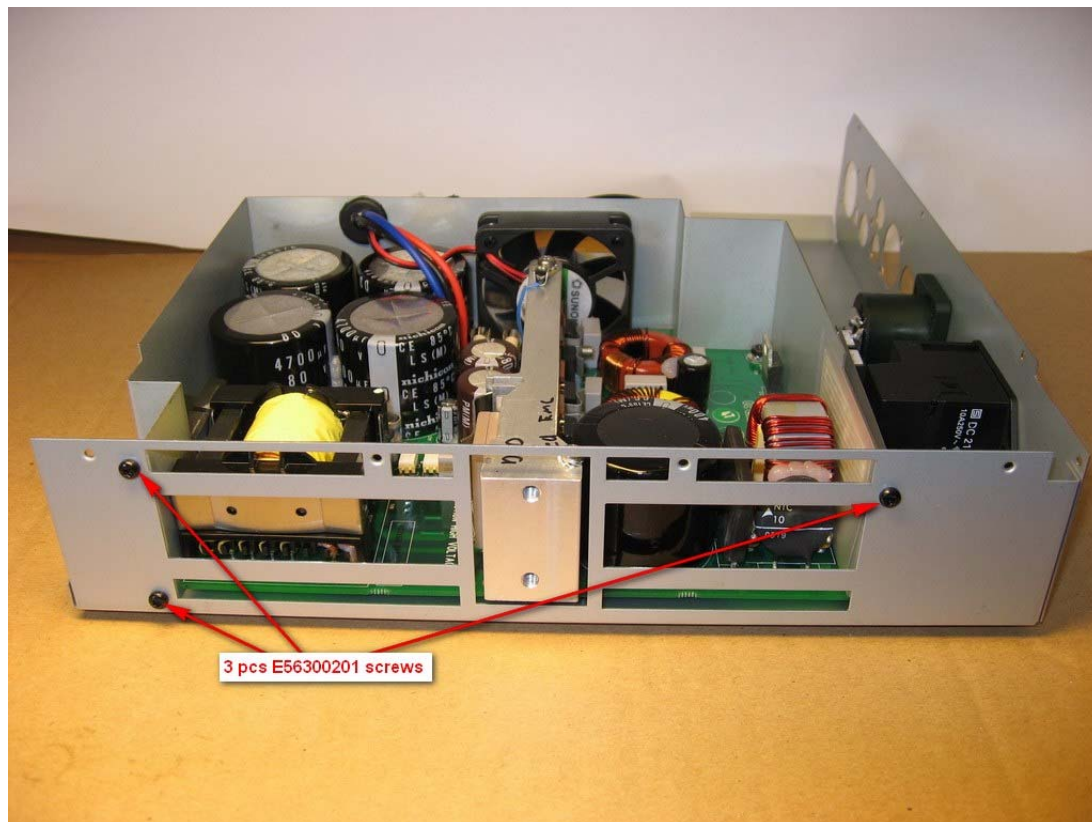


Figure 15: Use the three M2.5x4.5mm screws to mount the power screen to the inner box bottom.

Main board Assembly

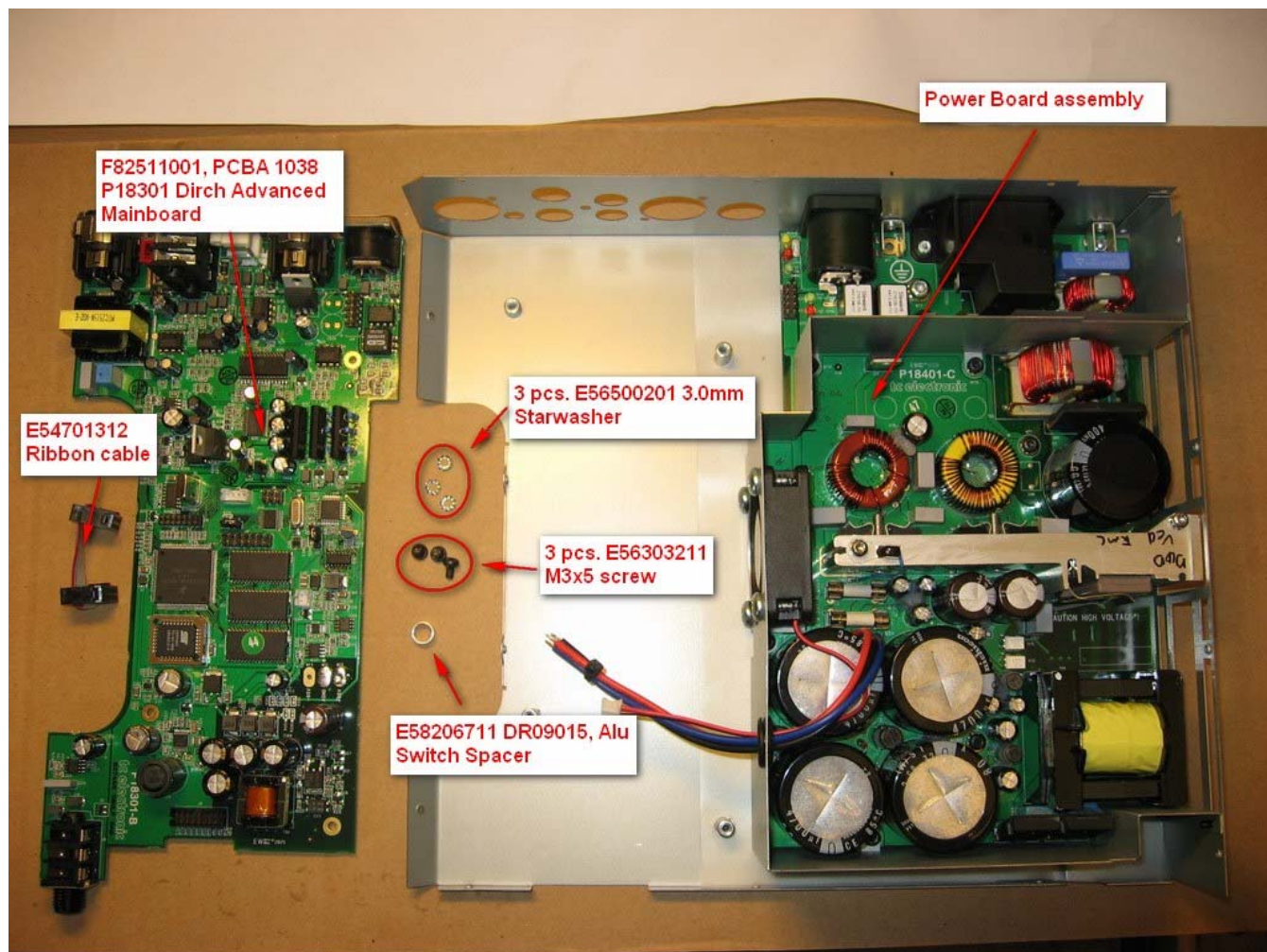


Figure 16: Components used for Main board assembly.

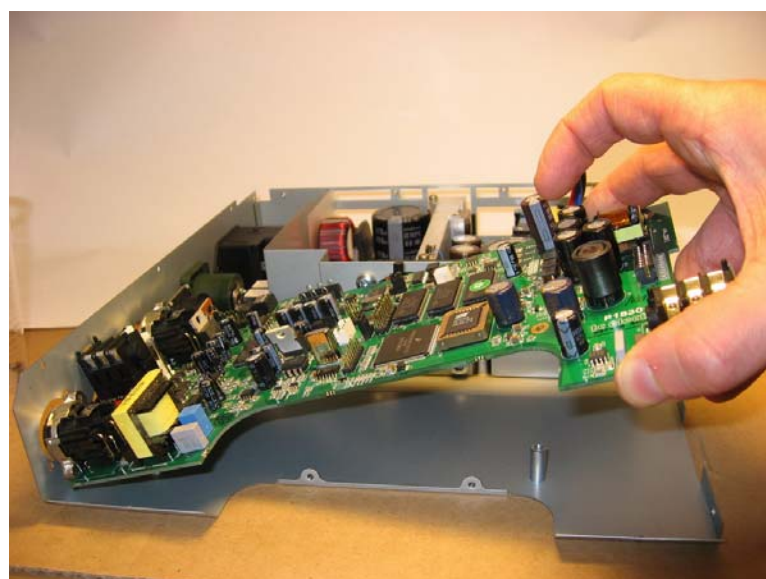
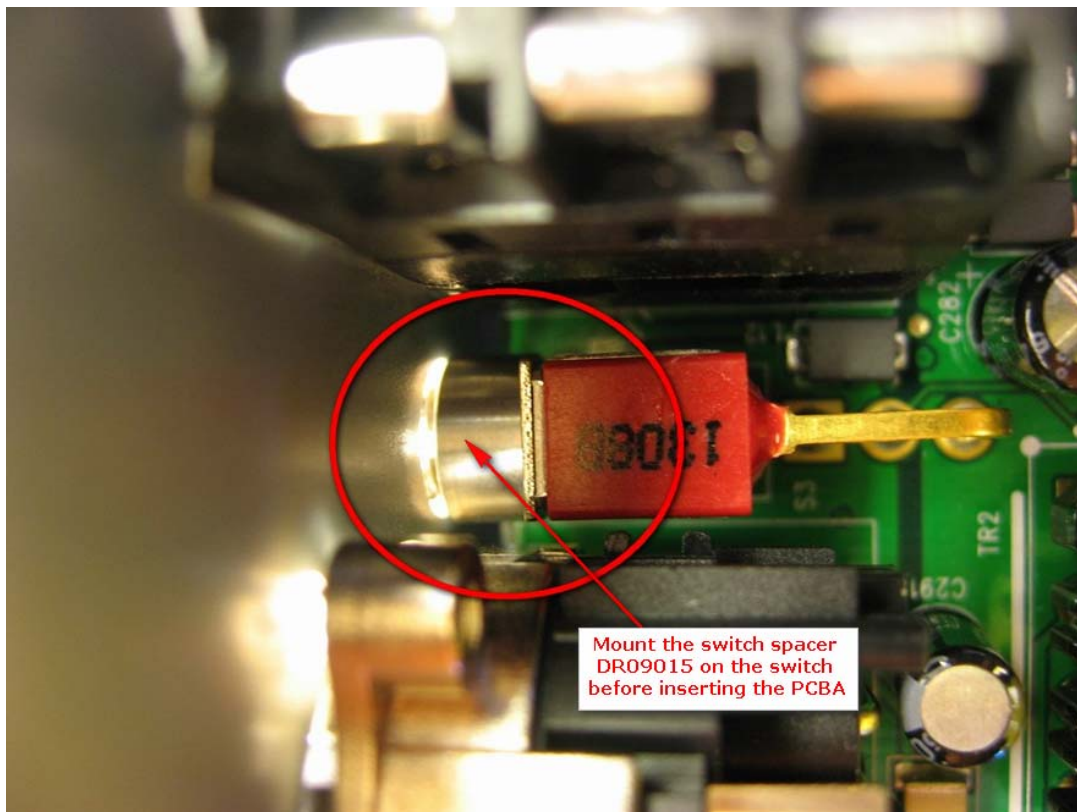
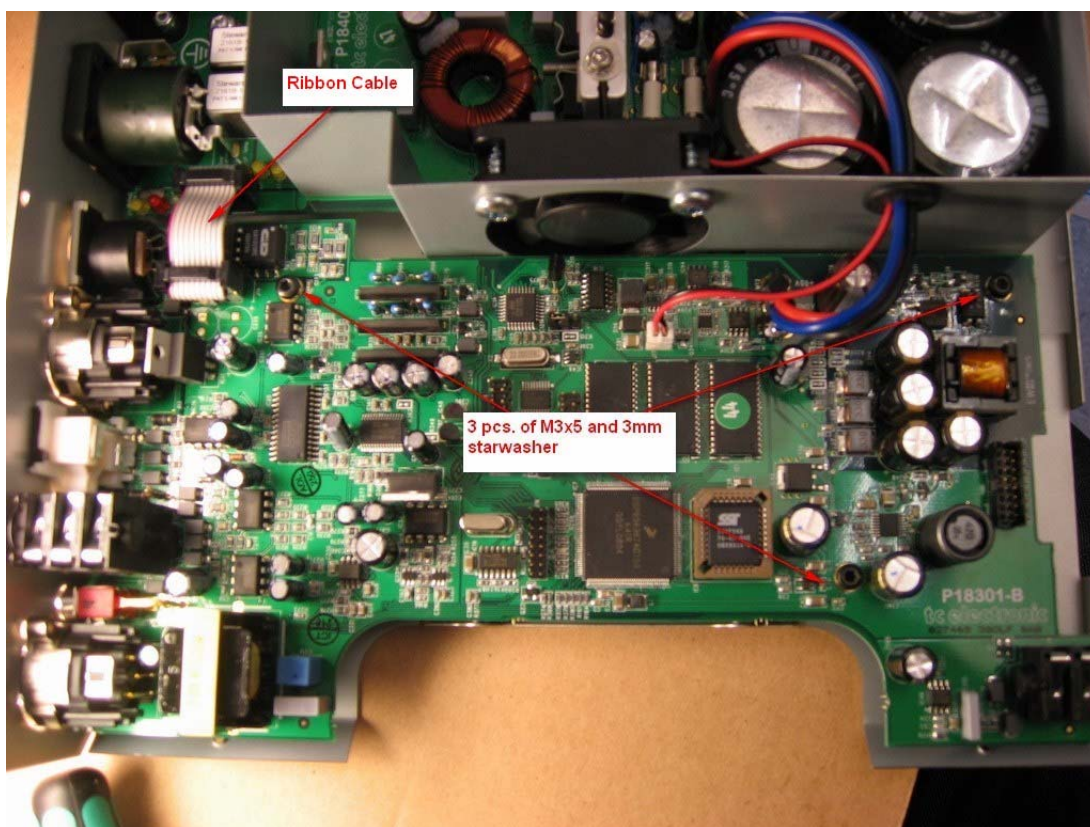


Figure 17: Mount the main board in the inner box. Be sure to put it in, in an angel so the surface mounted components on the backside of the PCB are not damaged.



Mount the switch spacer DR09015 on the switch before inserting the PCBA

Figure 18: Remember to mount the aluminum switch spacer before the main board is inserted in the inner box.



Ribbon Cable

3 pcs. of M3x5 and 3mm starwasher

Figure 19: Secure the main board with 3mm screws and washers and mount the Ribbon cable.

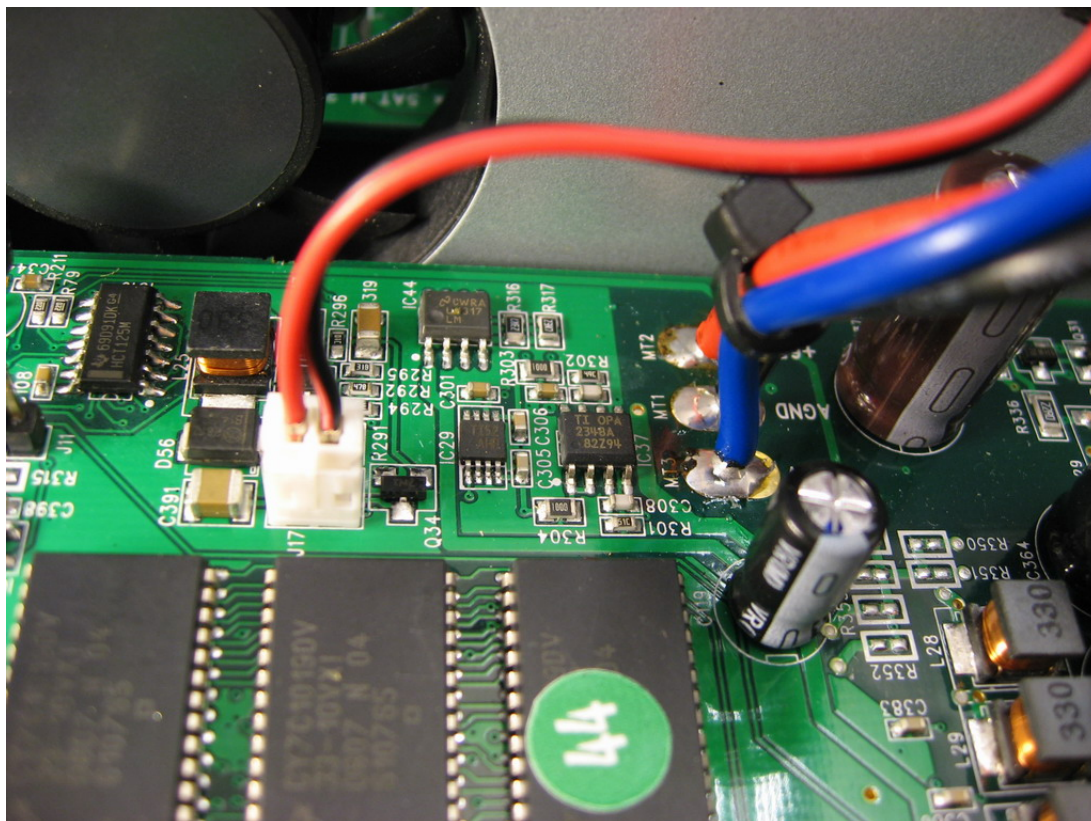
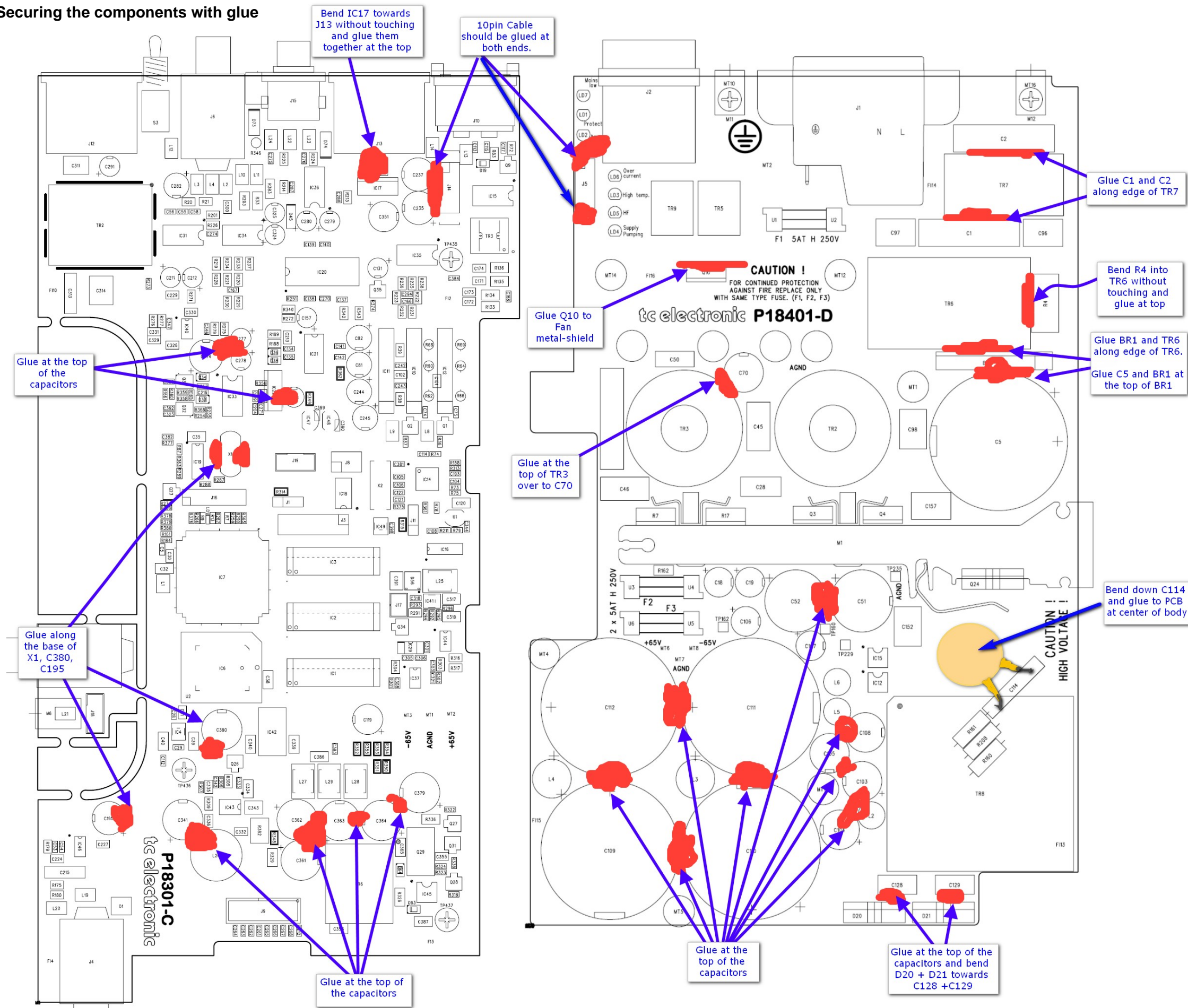


Figure 20: Mount the Fan-Cable and solder in the wires from the main board.

Securing the components with glue



Use Sikaflex 521-FC

Figure 21. Glue must be Sikaflex 521-FC

Front Assembly

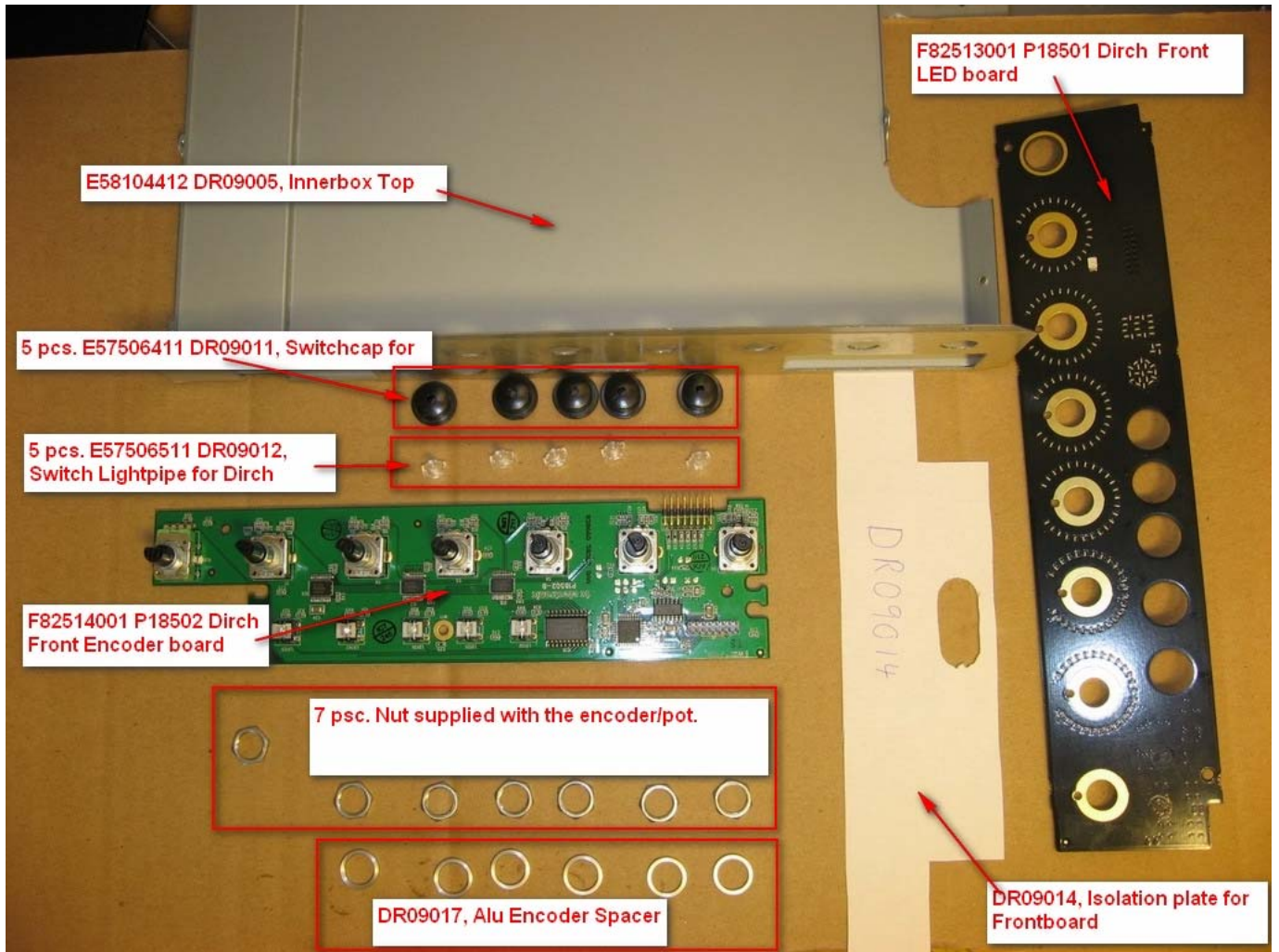


Figure 22: Components used for front assembly.

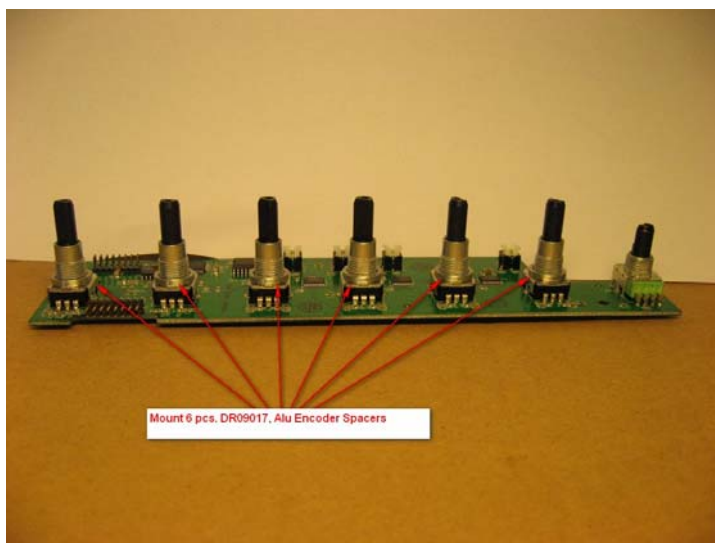


Figure 23: Mount aluminum encoder spacers.

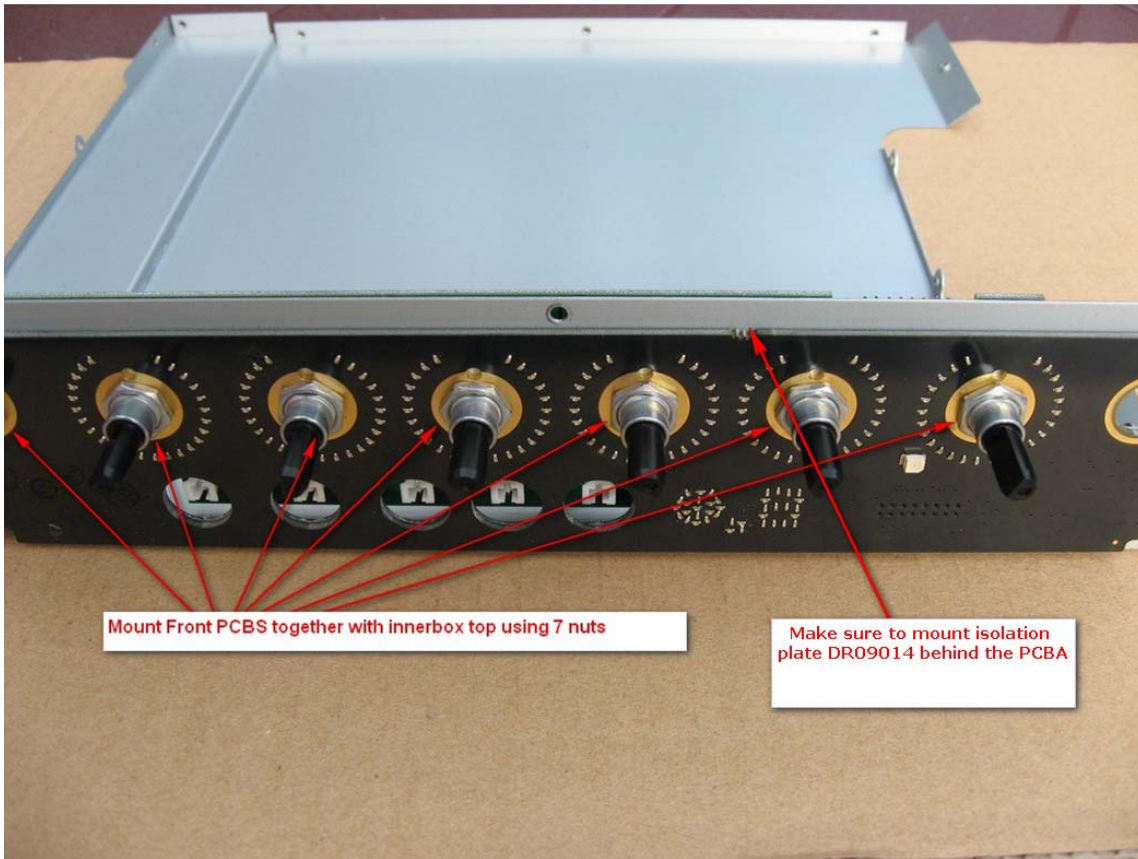


Figure 24: Mount Front PCBs together using 7 nuts see Figure 25 for details.

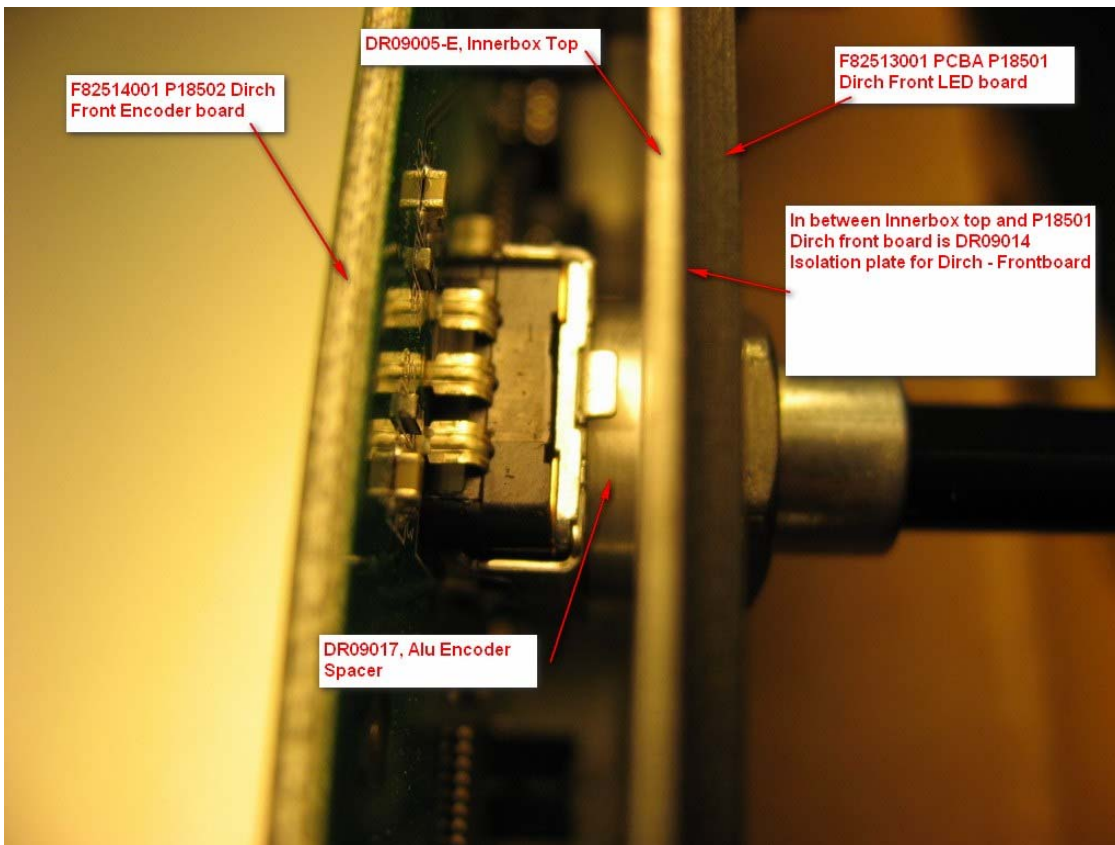


Figure 25: It is important to mount the different parts as shown in the picture.



Figure 26: Mount 5 DR09012, Switch Lightpipes as shown in the picture.

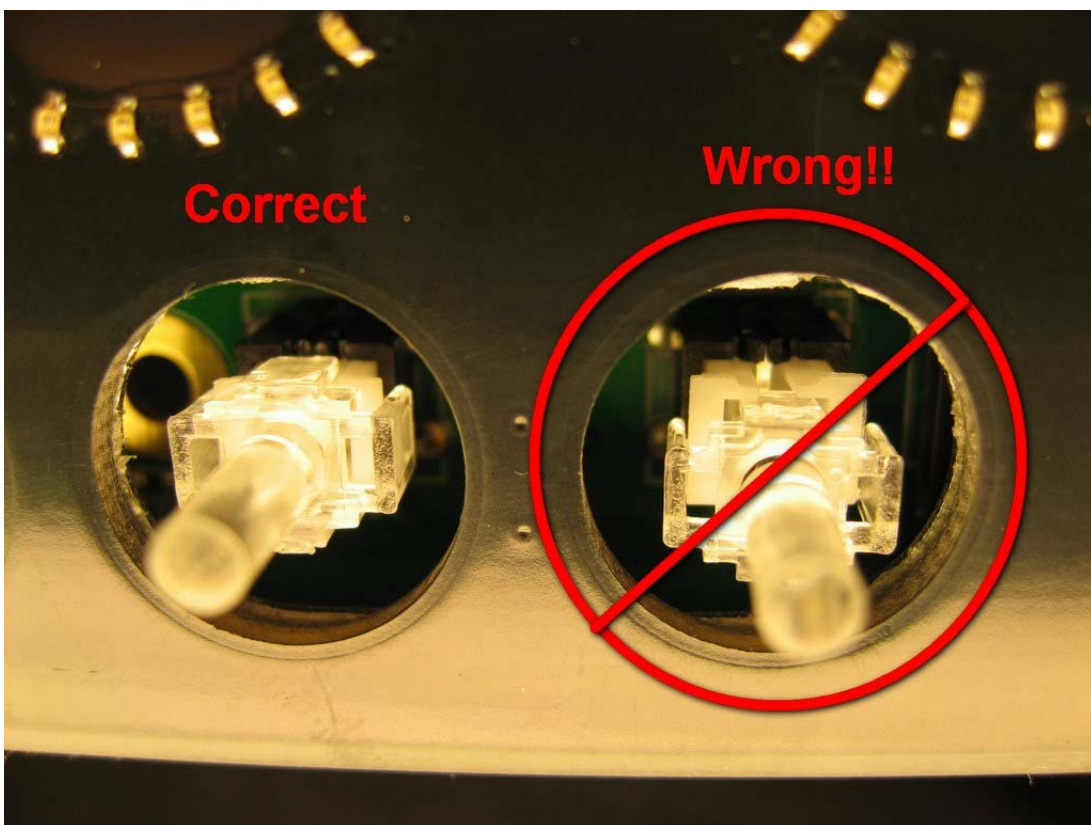


Figure 27: Be sure to mount the light pipes as shown in the “correct” picture.



Figure 28: Mount 5 psc. of DR09011 Switchcap as shown in the picture.

Headphone breakout Assembly

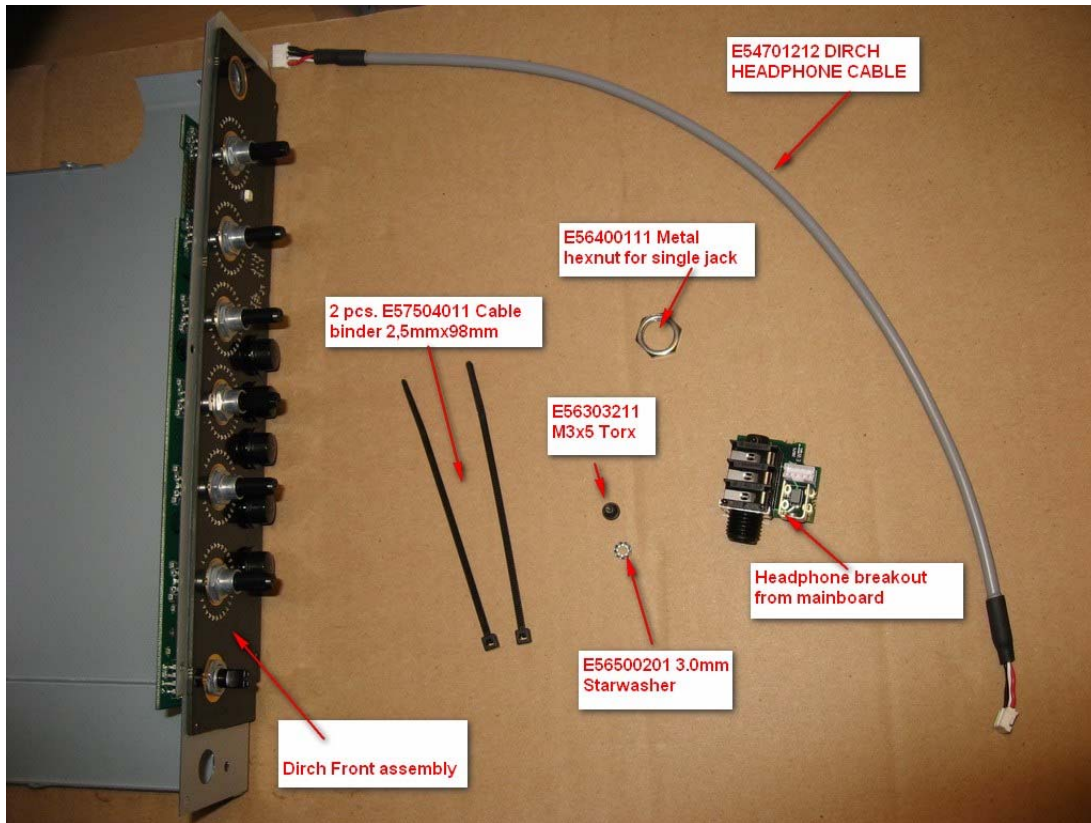


Figure 29: Components used for the headphone breakout assembly.

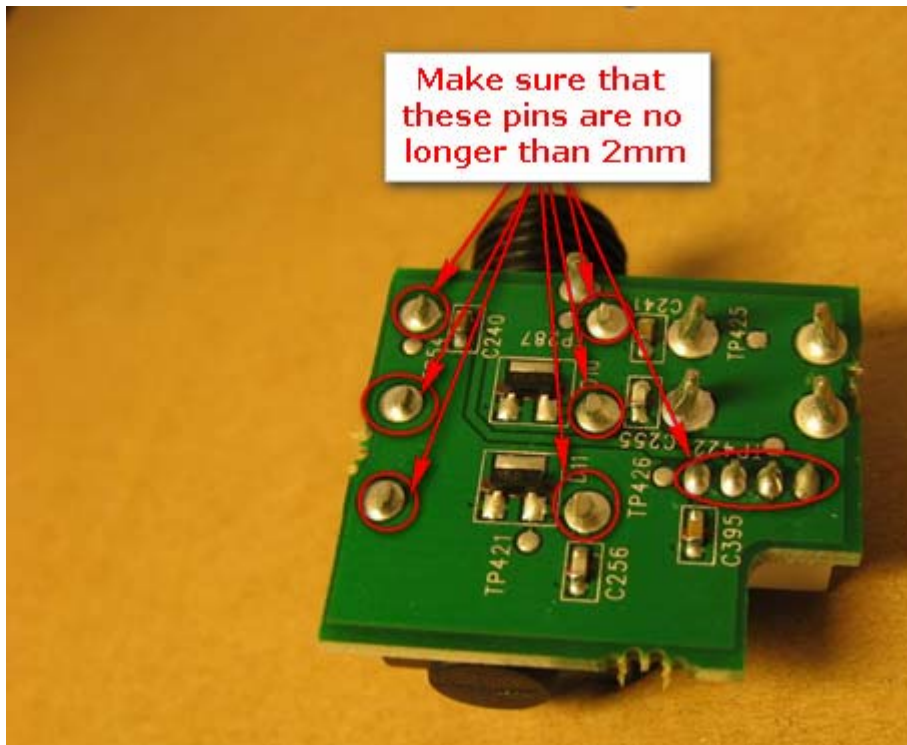


Figure 30: Make sure that pins marked with red circles are less than 2mm high.



Figure 31: Mount the Headphone breakout PCB using the M3x5 screw, the 3mm star washer and the hex nut as shown in the picture. **The hex nut must be tightened using 7,5 kgf*cm (0.7 Nm) force. Thread lock must be used on hex nut!**

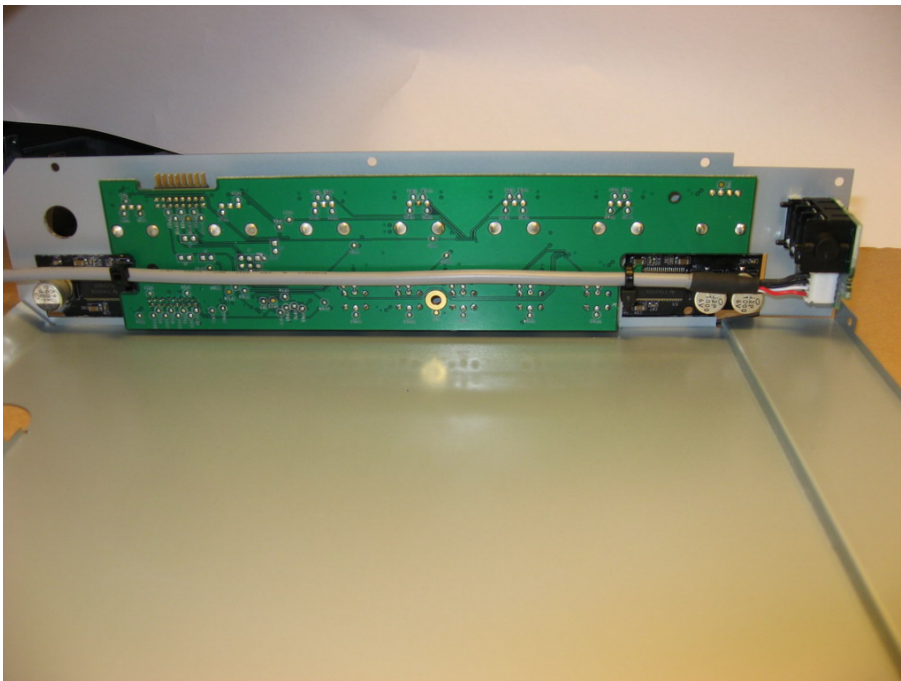


Figure 32: Connect the headphone cable to the Headphone breakout PCB and secure it using the two cable ties.

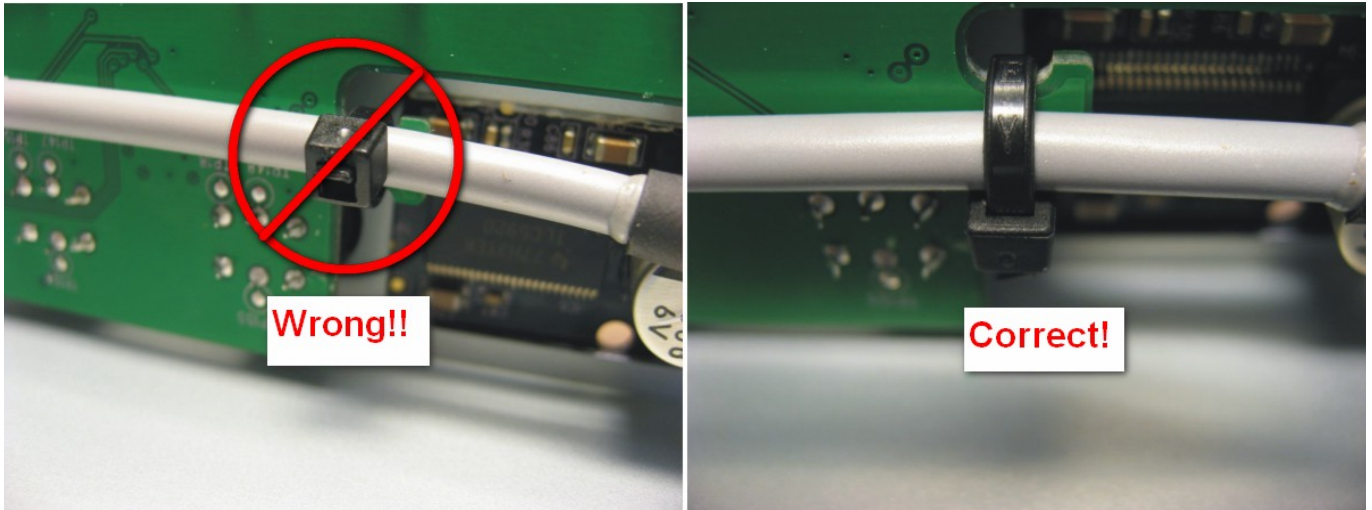


Figure 33: The cable tie near the Headphone breakout PCB must be mounted as shown in the “correct picture” to prevent it from hitting the power screen.

Inner box assembly

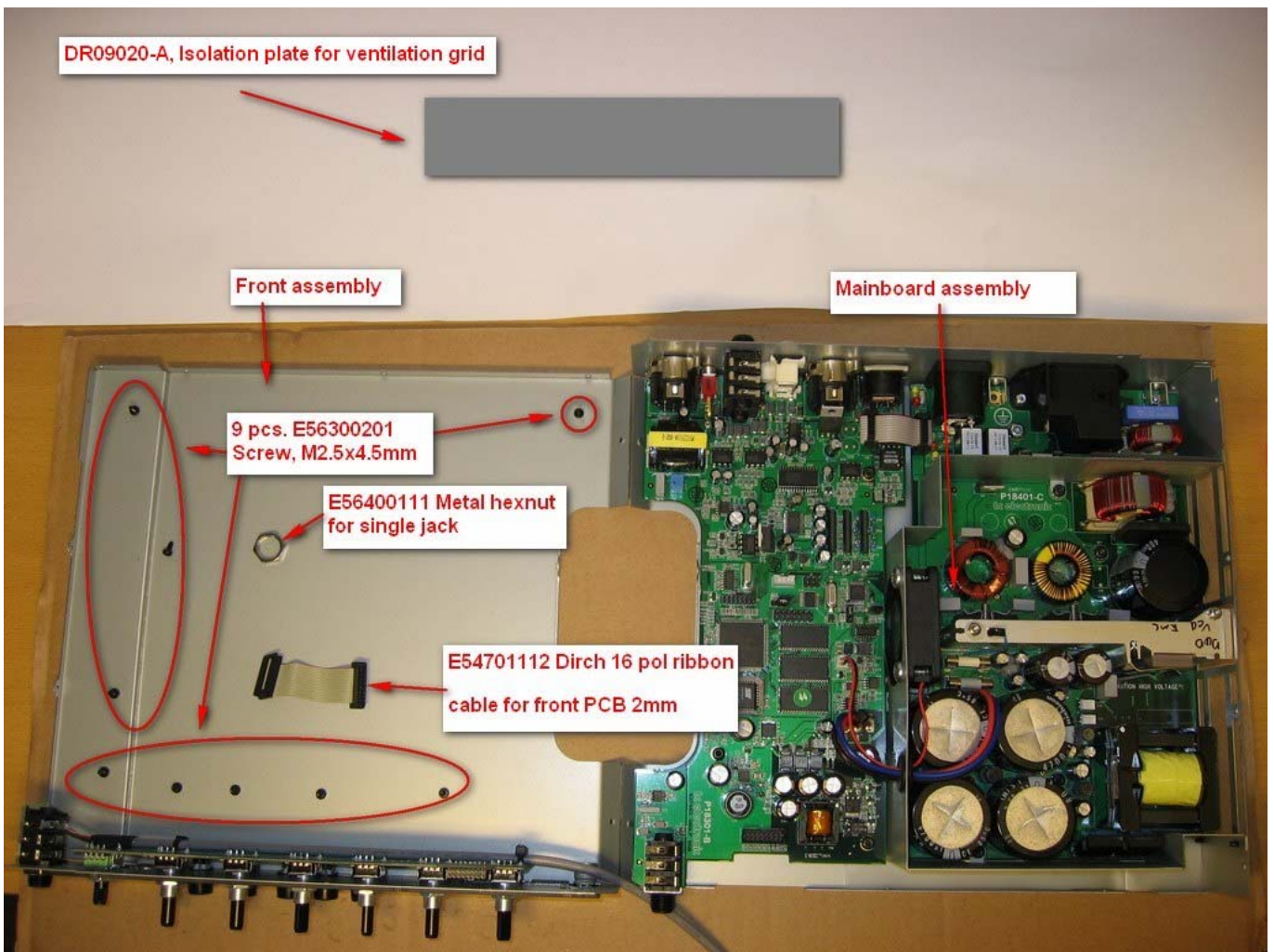


Figure 34: Components used for the inner box assembly.

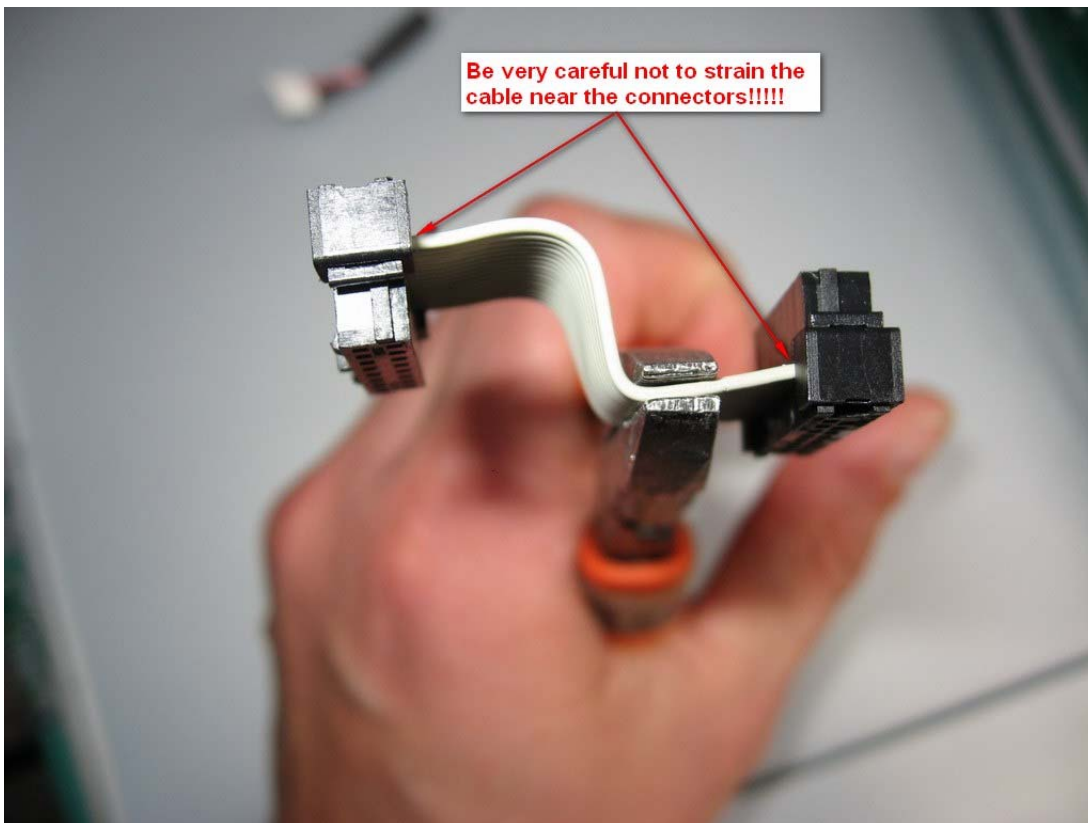


Figure 35: Bend the cable in to shape using a pair of flat-nose pliers. BE VERY CAREFUL NOT TO PUT ANY STRAIN ON THE CABLE NEAR THE CONNECTORS!!!!

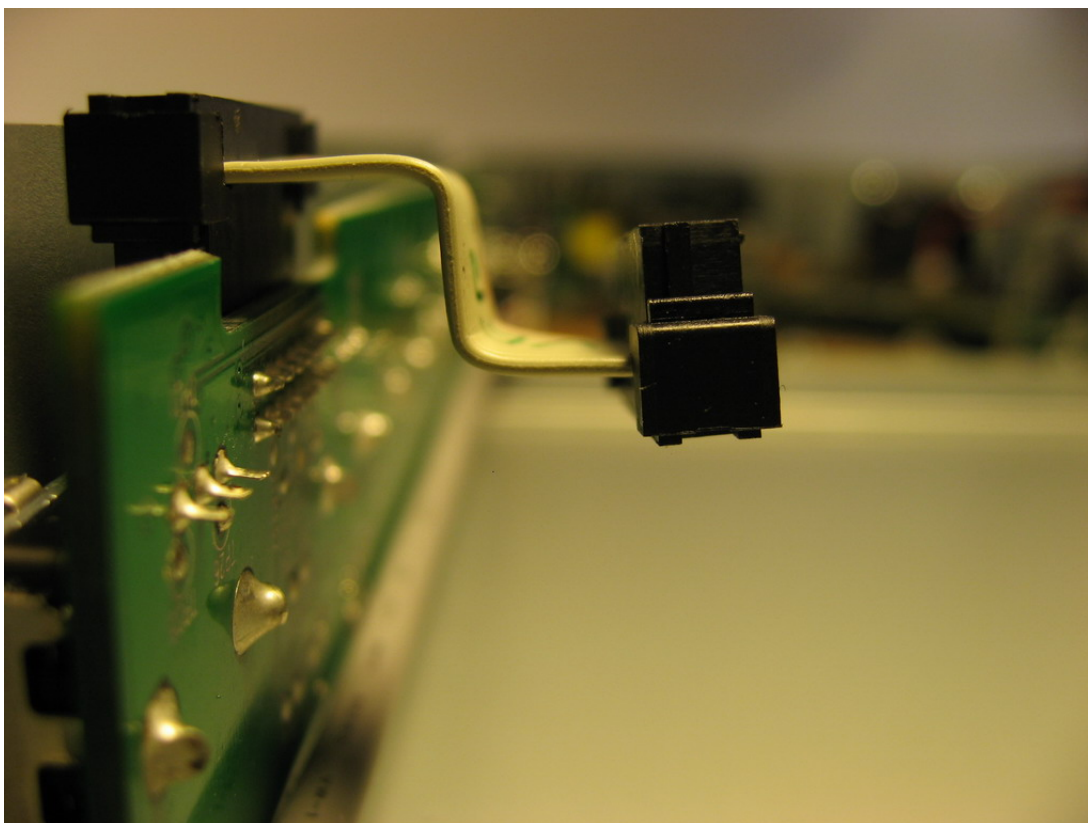


Figure 36: Mount the ribbon cable to the front board as shown in the picture.



Figure 37: Mount the foam in the “inner box top” parallel to the side.

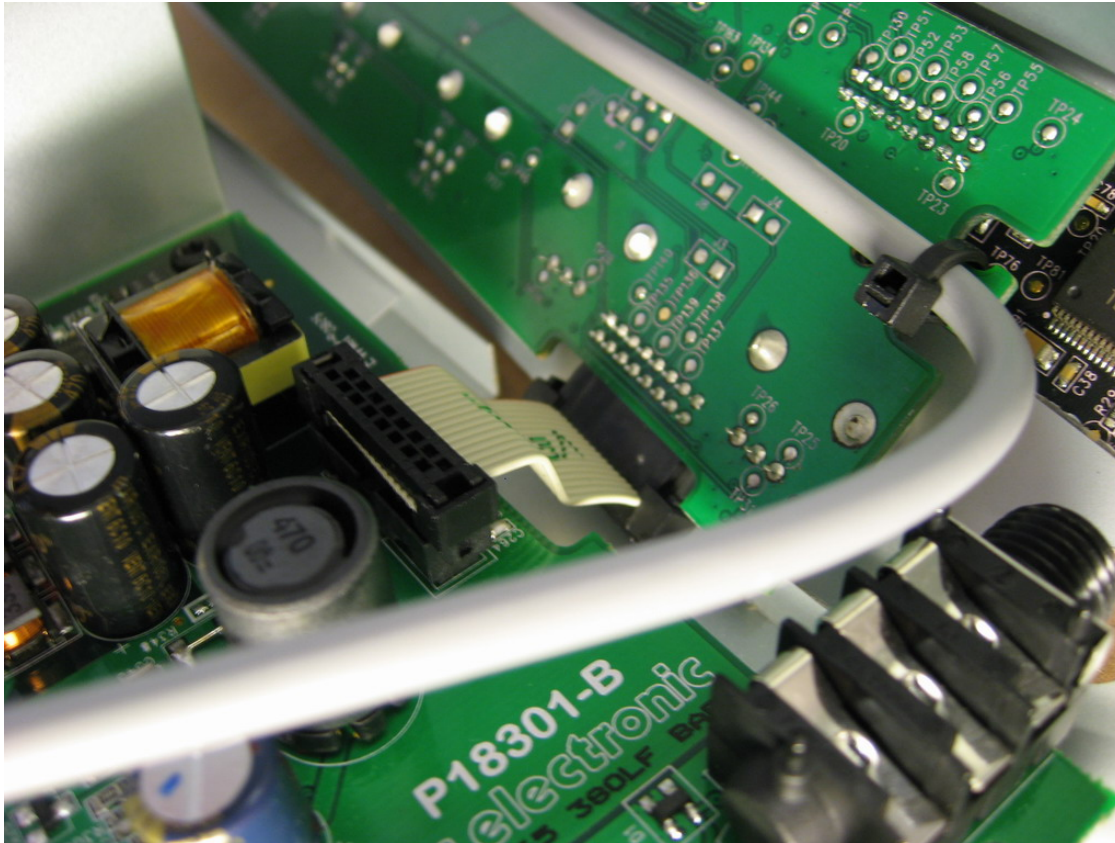


Figure 38: Mount the ribbon cable to the main board as shown in the picture.

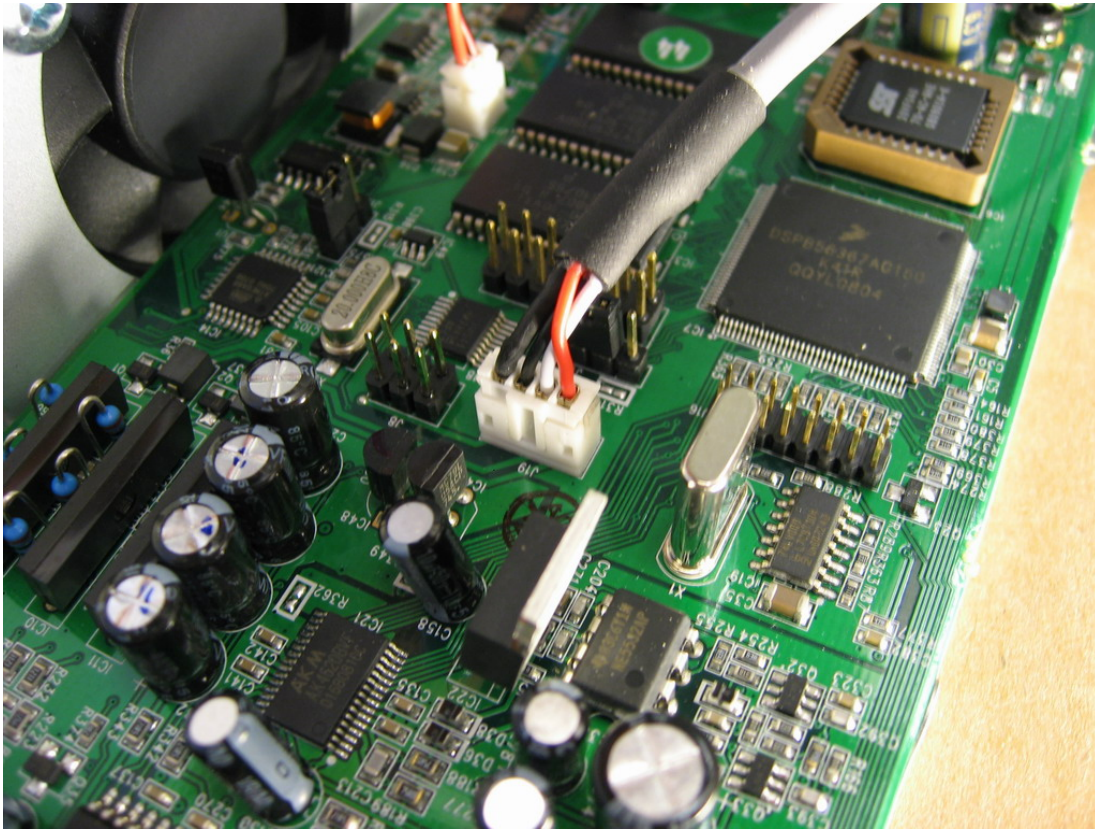


Figure 39: Mount the headphone cable to the main board as shown in the picture.

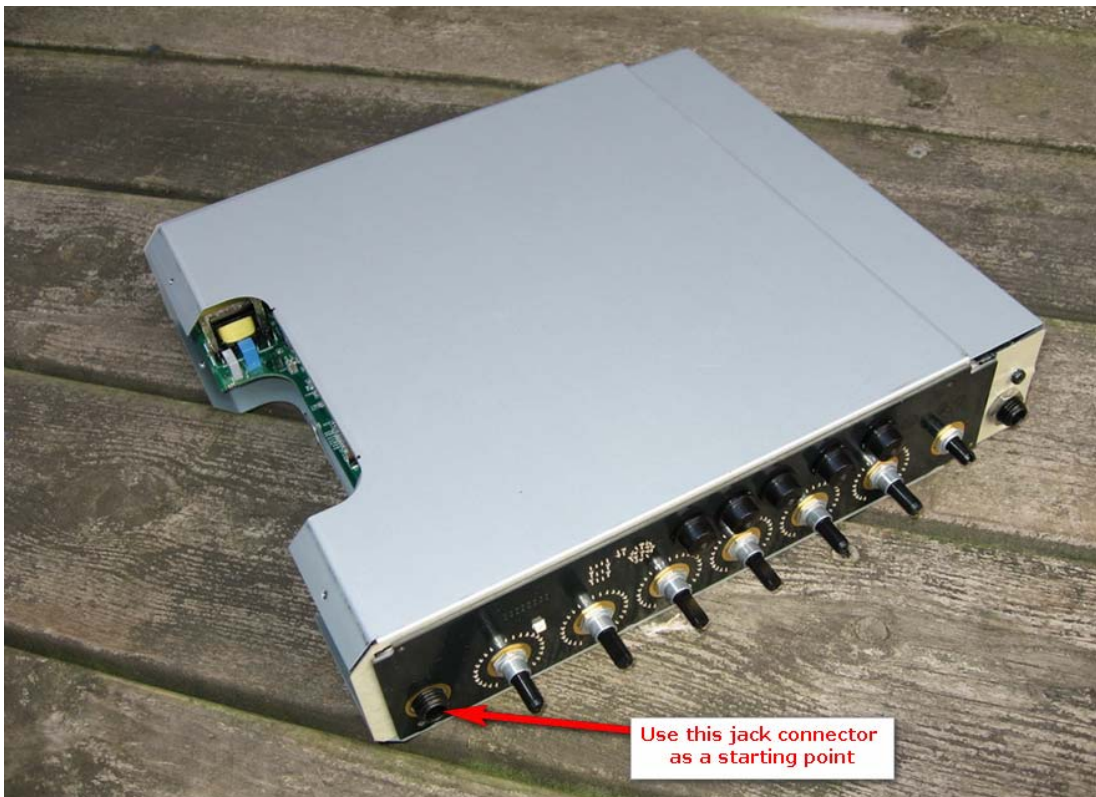


Figure 40: Fit the top assembly to the main board assembly as shown in the picture. Use the jack connector on the main board as a starting point.



Figure 41: Mount one screw at the back side of the product as shown in the picture.



Figure 42: Mount four screws and one hexnut at the front side of the product as shown in the picture.

The hex nut must be tightened using 7,5 kgf*cm (0.7 Nm) force. Thread lock must be used on hex nut!

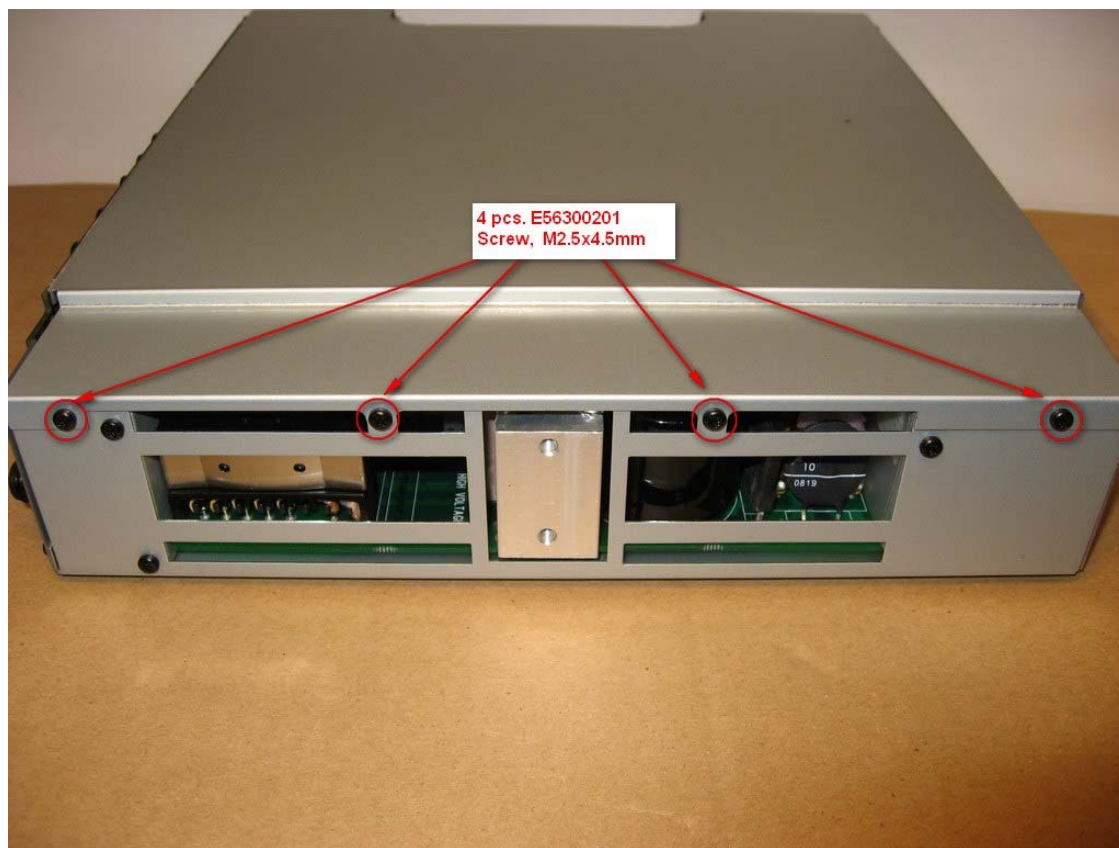


Figure 43: Mount four screws at the side of the product as shown in the picture.

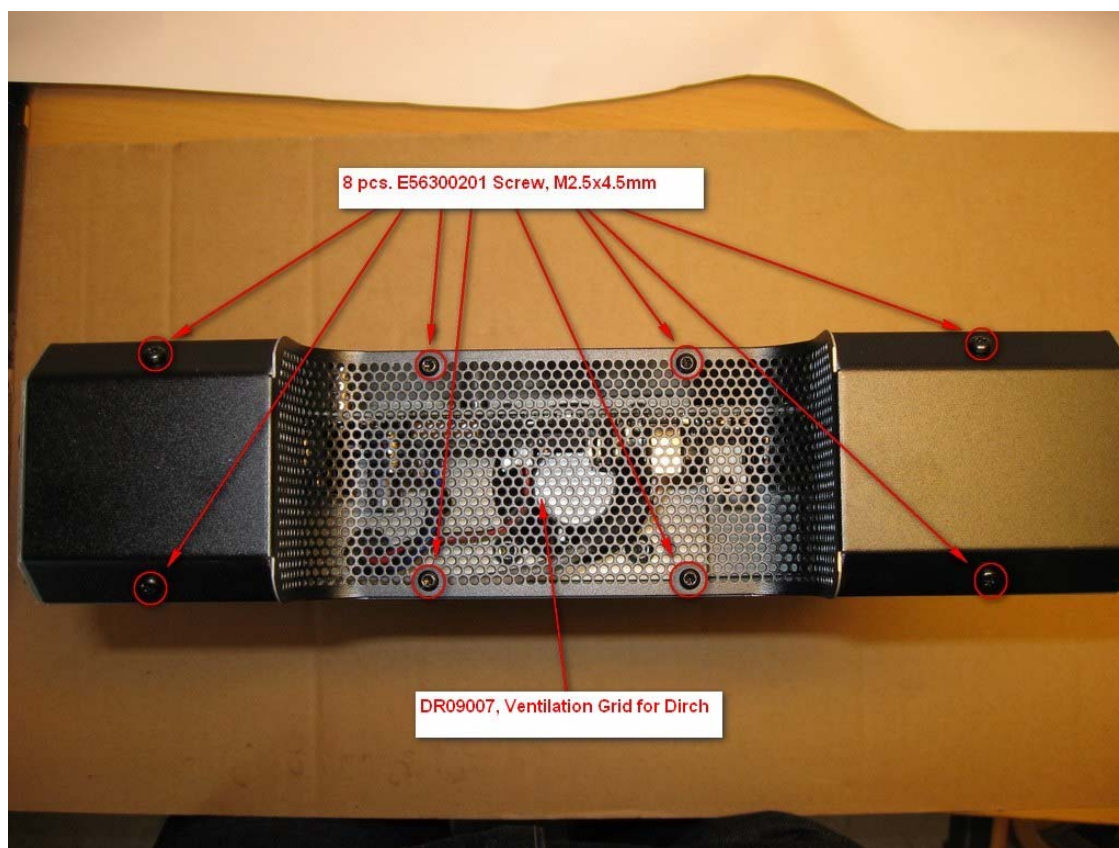


Figure 44: Mount the ventilation grid using eight screws as shown in the picture.

Back plate assembly

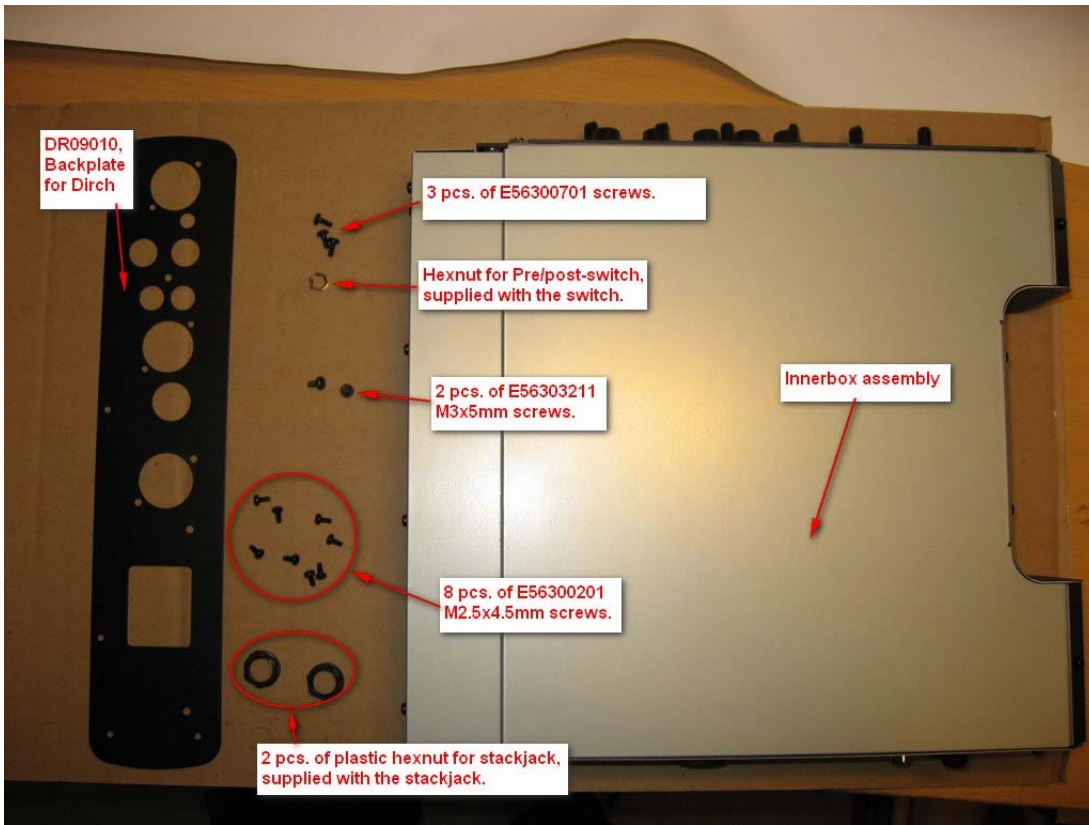


Figure 45: Components used for the back plate assembly.

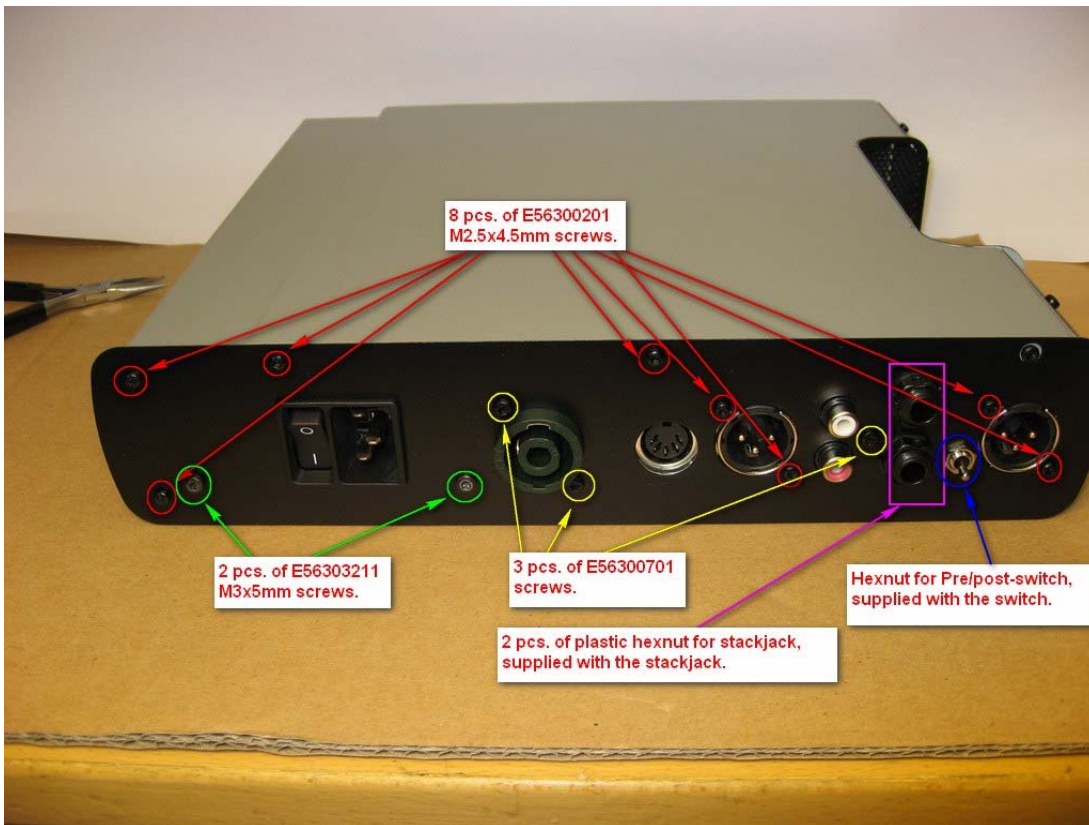


Figure 46: Mount the back plate using the screws/nuts shown in the picture.

Rubber feet assembly

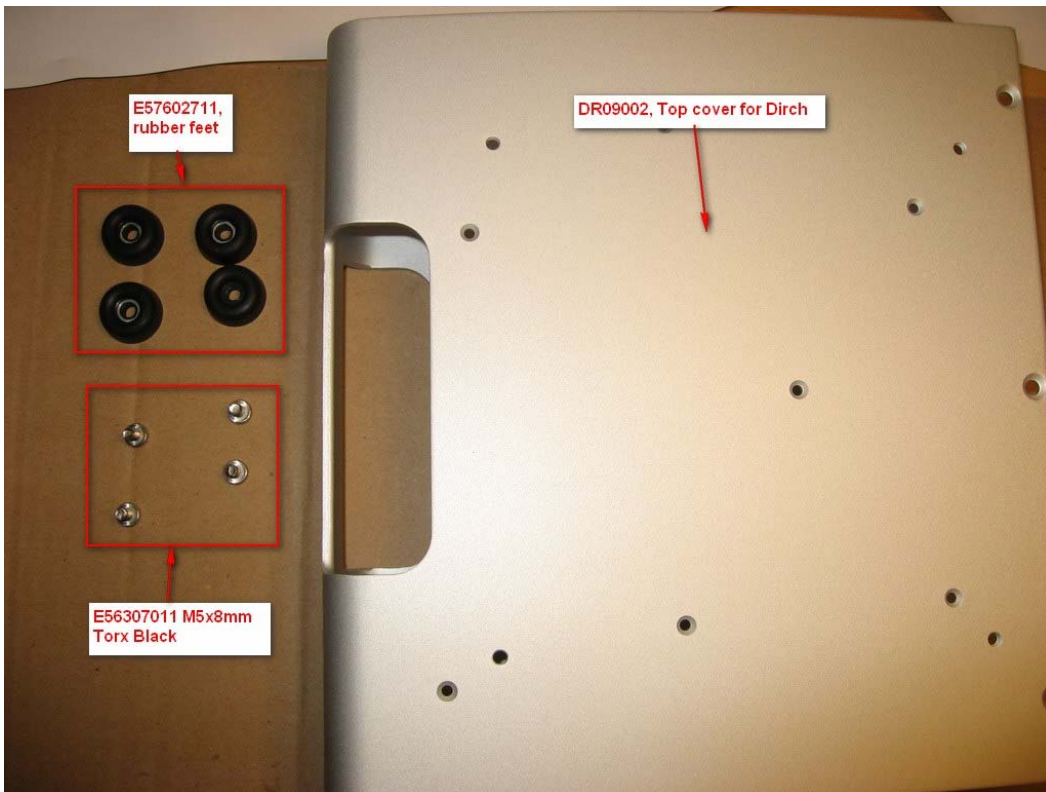


Figure 47: Components used for the rubber feet assembly.

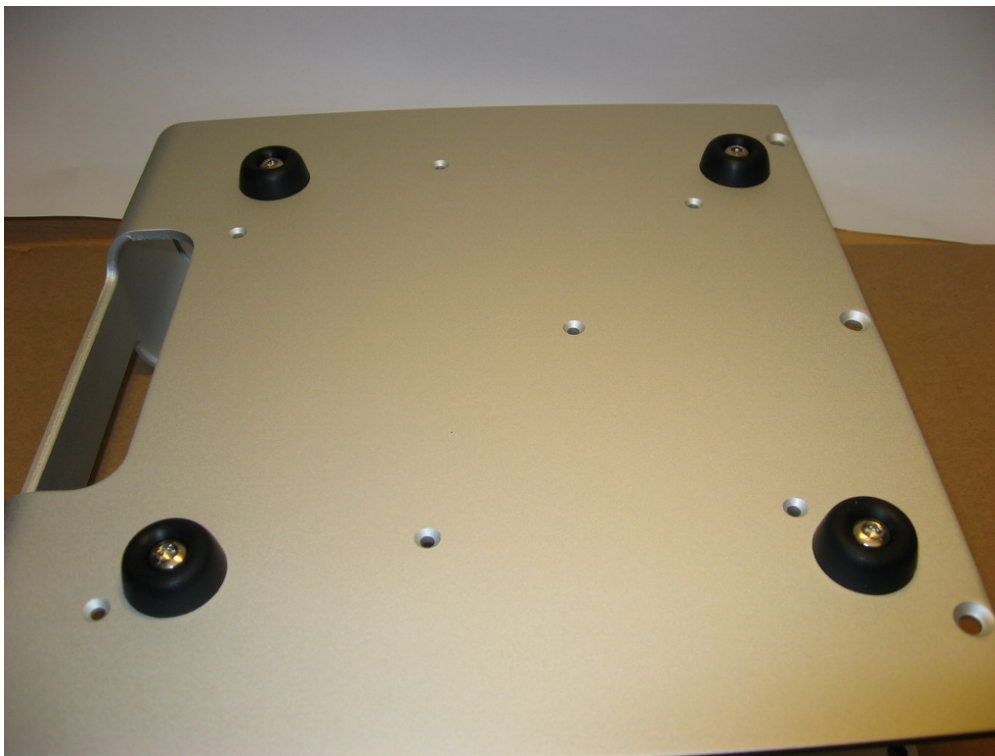


Figure 48: Mount the rubber feet's using the four screws as shown in the picture.

Window assembly

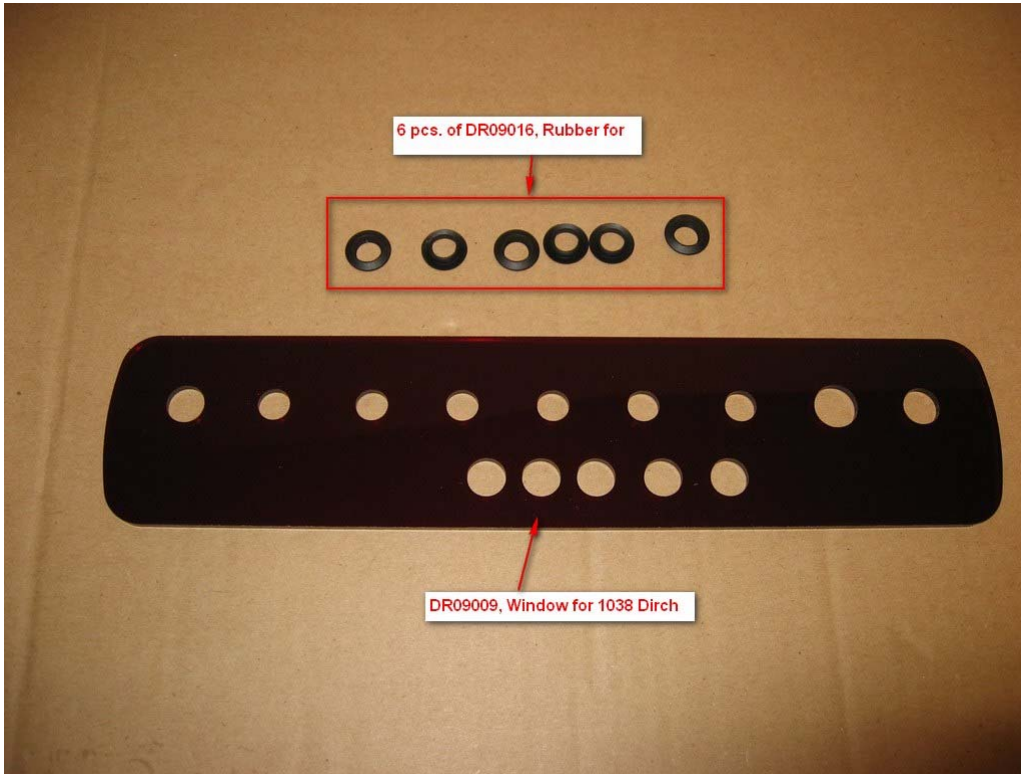


Figure 49: Components used for the window assembly.

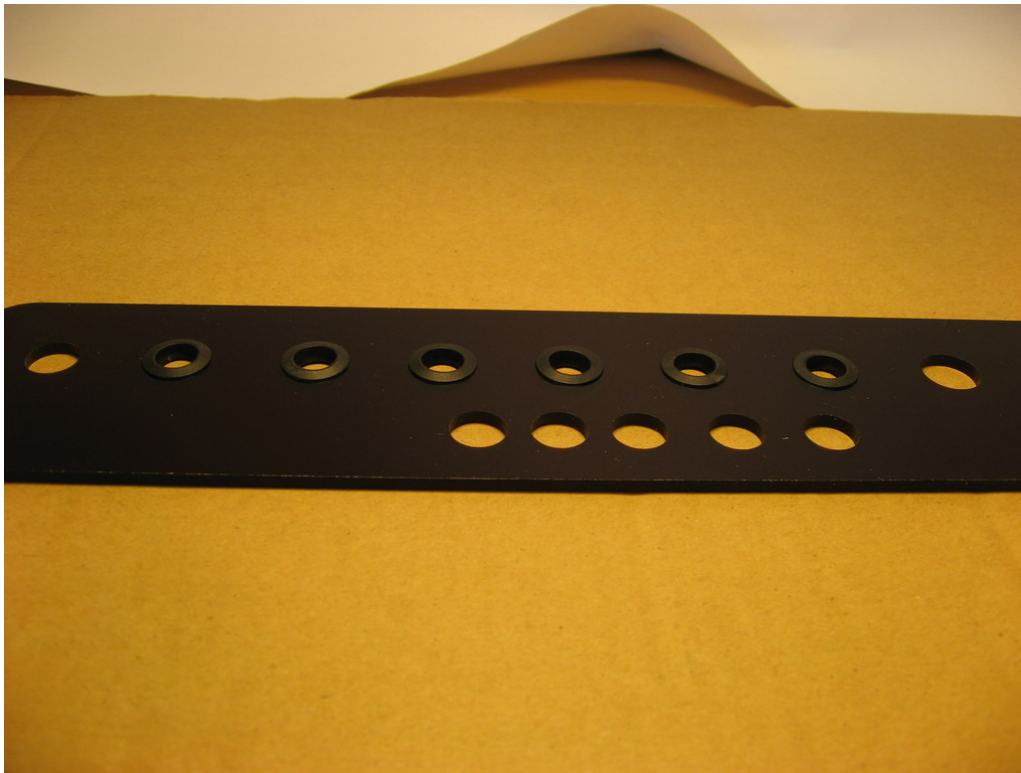


Figure 50: Mount the "DR09016 Rubber for encoder" in the holes shown in the picture.

Top Cover assembly

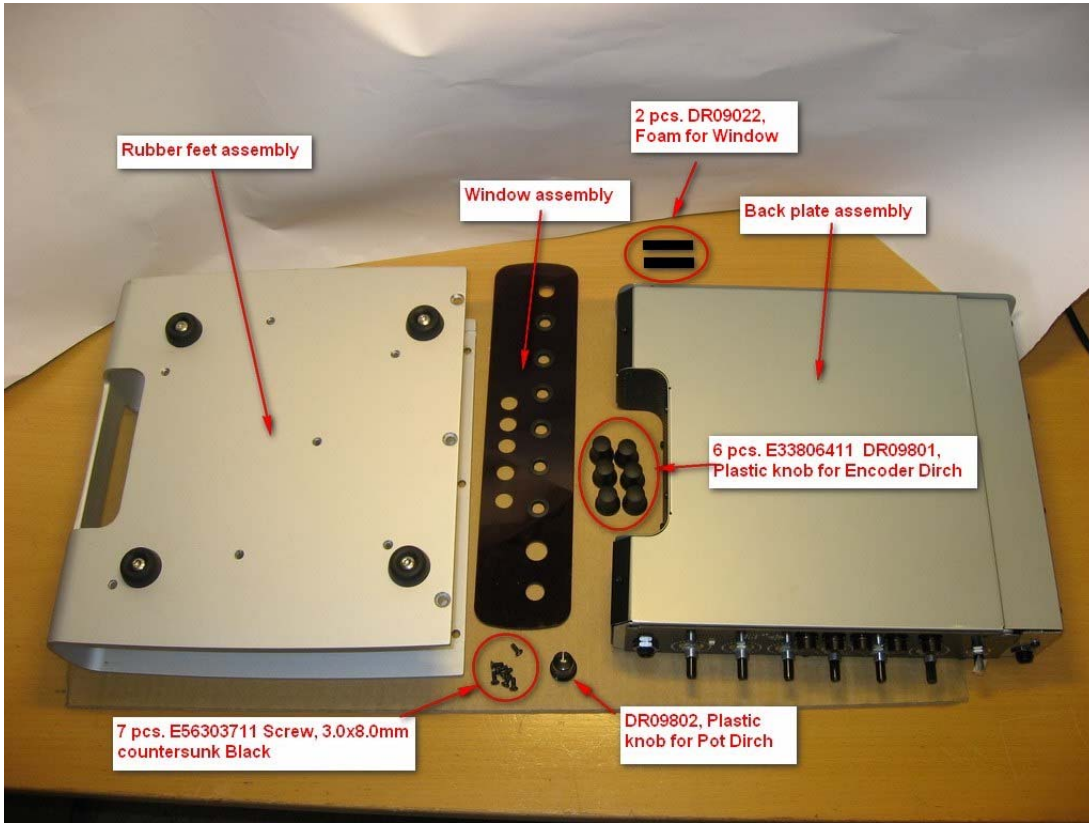


Figure 51: Components used for the Top Cover assembly.



Figure 52: Mount one pcs. of “DR09022-A, Foam for Window” as shown in the picture.

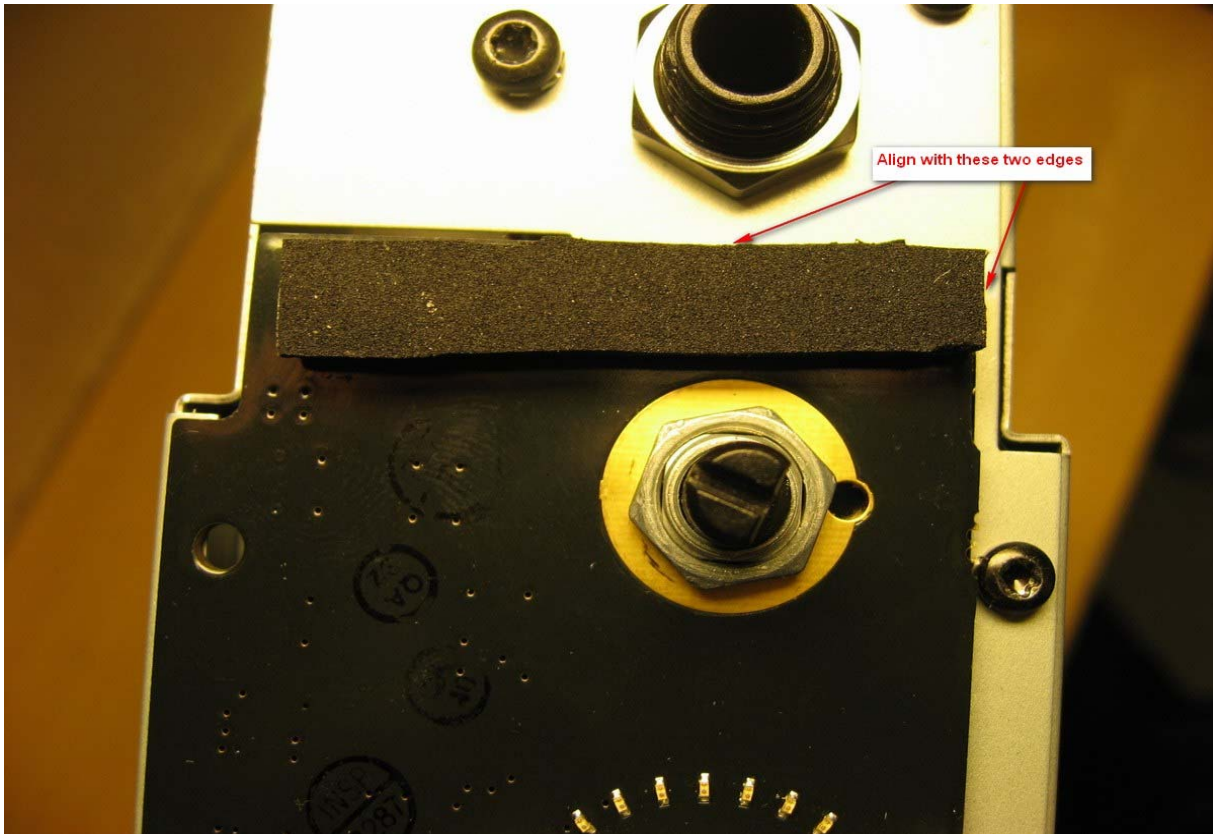


Figure 53: Mount one pcs. of “DR09022-A, Foam for Window” as shown in the picture.



Figure 54: Mount the “Window assembly” as shown in the picture.



Mount 6 pcs. DR09801, Plastic knob for Encoder Dirch

Mount one DR09802-C, Plastic knob for Pot. Dirch

Figure 55: Mount knobs as shown in the picture.



Figure 56: Slide inner box into top cover as shown in the picture.



Figure 57: Make sure the window fits into the groove all the way round the top cover as shown in the picture.

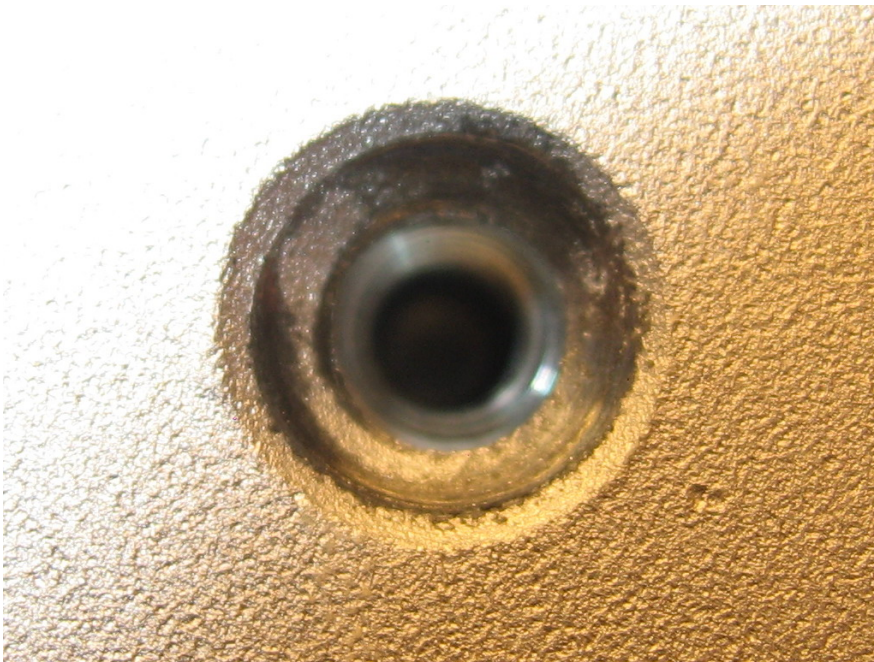


Figure 58: Align all the 3mm press nuts with the holes in the “Top Cover” as shown in the picture.

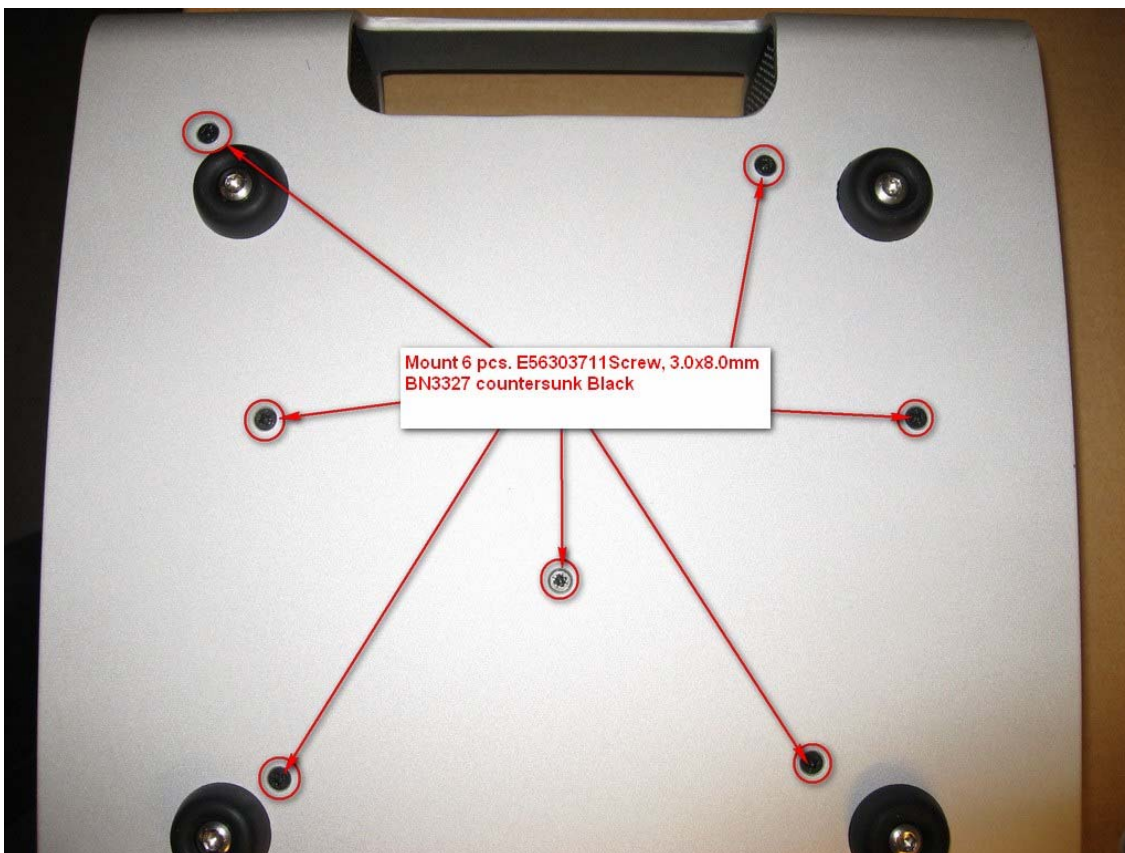


Figure 59: Mount the top cover to the inner box using seven screws as shown in the picture.

Side cover assembly

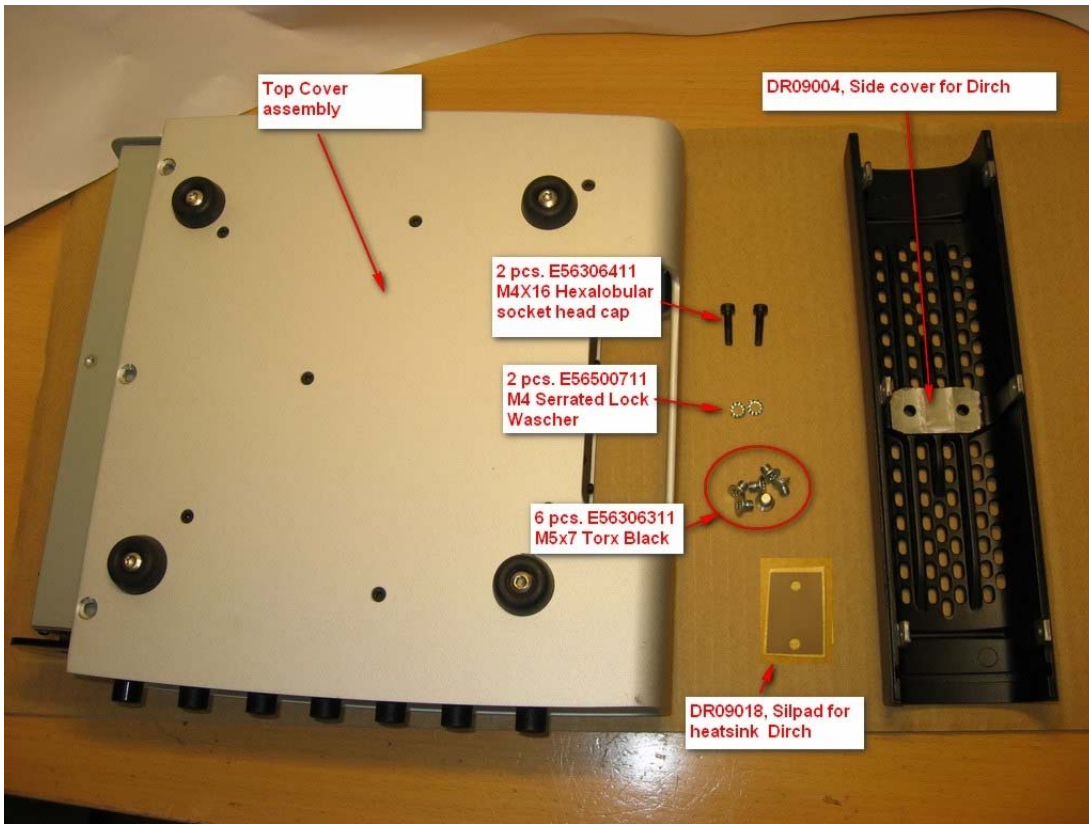


Figure 60: Components used for the Side cover assembly.

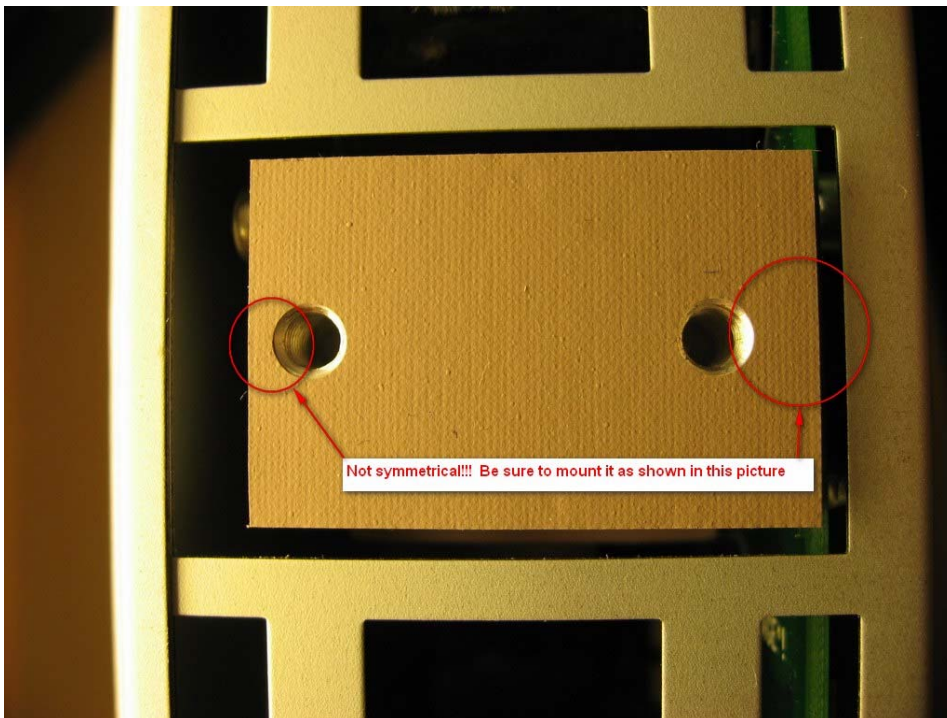


Figure 61: Mount the silpad as shown in the picture.

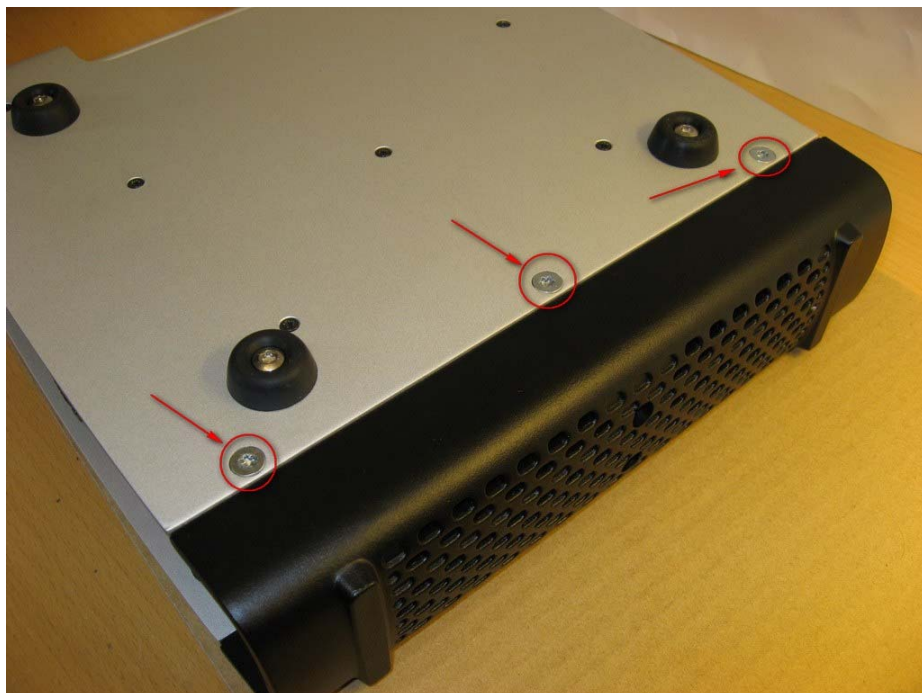


Figure 62: Mount the three screws as shown in the picture.



Figure 63: Mount the three screws as shown in the picture.

These six screws must be tightened using 16 kgf*cm (1.6 Nm) force.



Figure 64: Mount the two screws and two lock washers as shown in the picture.

These two screws must be tightened using 16 kgf*cm (1.6 Nm) force.