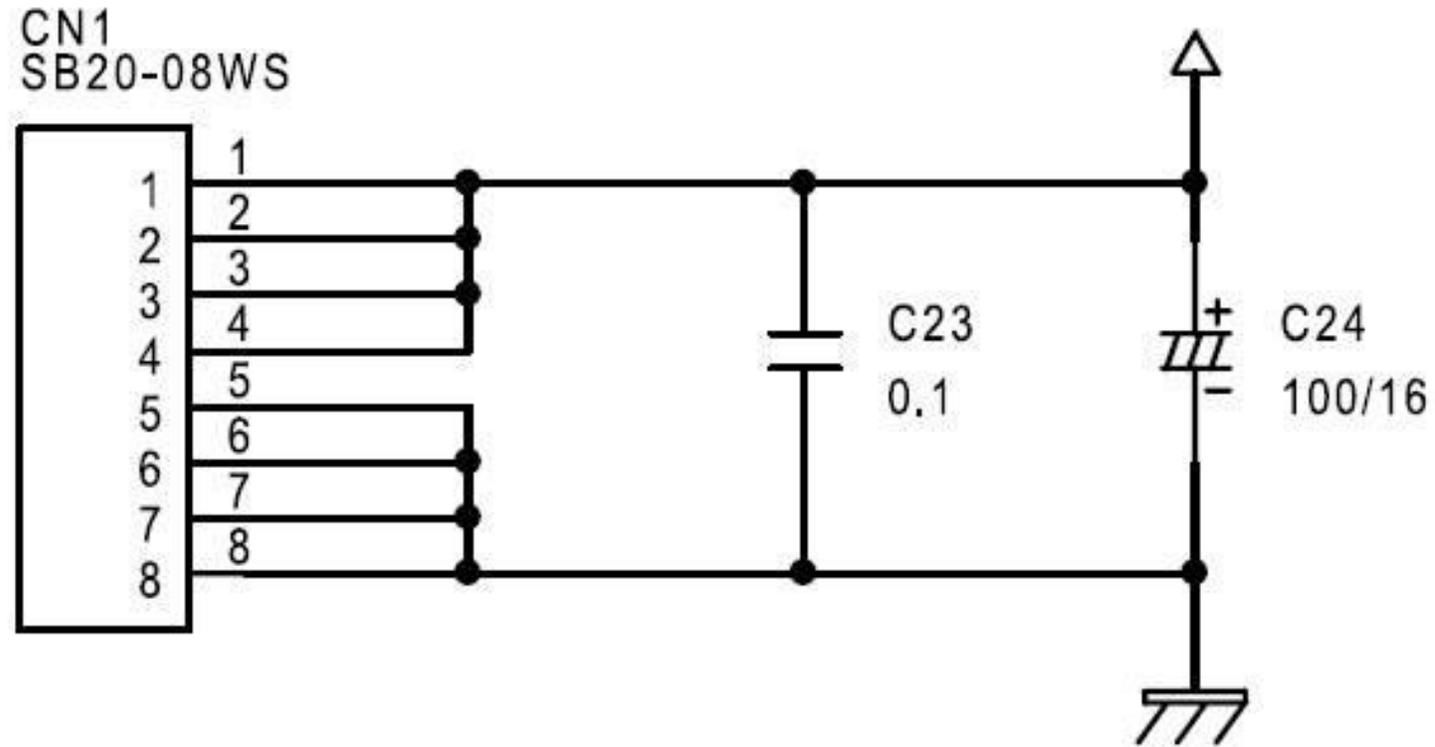
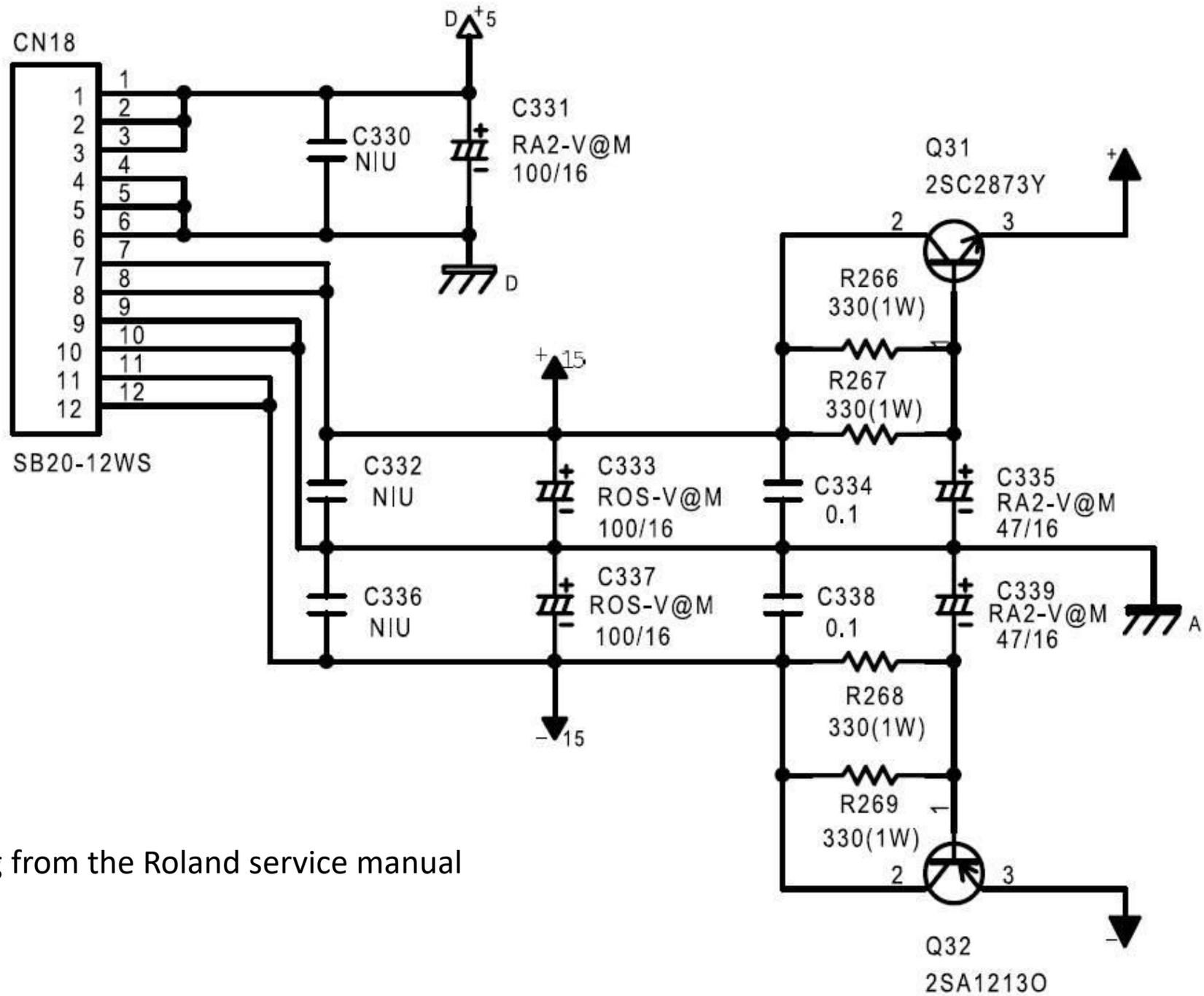


the 8 pins connector wiring from the Roland service manual



From:PS Board



the 12 pins connector wiring from the Roland service manual

Models and Ratings

ECM40 XP

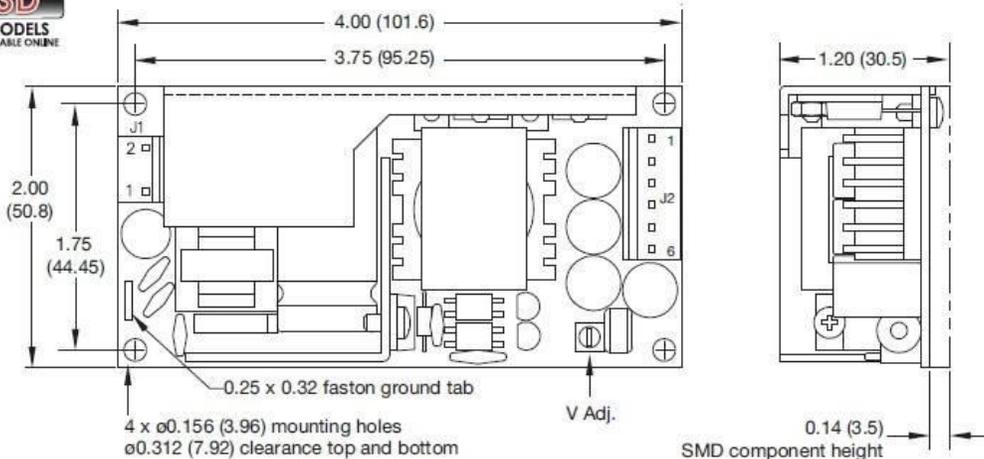
AC-DC

Output Power	Output 1		Output 2		Output 3		Model Number ⁽¹⁾
	Voltage	Current Min/Max ⁽²⁾	Voltage	Current Min/Max	Voltage	Current Min/Max	
40 W	5.0 V	0.0 A/8.0 A					ECM40US05
	7.0 V	0.0 A/5.7 A					ECM40US07
	9.0 V	0.0 A/4.4 A					ECM40US09
	12.0 V	0.0 A/3.5 A					ECM40US12
	15.0 V	0.0 A/2.7 A					ECM40US15
	18.0 V	0.0 A/2.2 A					ECM40US18
	24.0 V	0.0 A/1.7 A					ECM40US24
	33.0 V	0.0 A/1.2 A					ECM40US33
	48.0 V	0.0 A/0.9 A					ECM40US48
	+5.0 V	0.5 A/6.0 A	+12.0 V	0.1 A/2.0 A			ECM40UD21
	+5.0 V	0.5 A/6.0 A	+15.0 V	0.1 A/1.5 A			ECM40UD22
	+5.0 V	0.5 A/6.0 A	+12.0 V	0.1 A/2.0 A	-12.0 V	0.0 A/0.5 A	ECM40UT31
	+5.0 V	0.5 A/6.0 A	+24.0 V	0.1 A/1.0 A	-12.0 V	0.0 A/0.5 A	ECM40UT32
	+5.0 V	0.5 A/6.0 A	+15.0 V	0.1 A/1.5 A	-15.0 V	0.0 A/0.5 A	ECM40UT33
	+5.0 V	0.5 A/6.0 A	+3.0 V	0.1 A/1.5 A	+12.0 V	0.0 A/0.5 A	ECM40UT34
+5.0 V	0.5 A/6.0 A	+3.3 V	0.1 A/1.5 A	+12.0 V	0.0 A/0.5 A	ECM40UT35	

Notes

- V2 will track a change in V1 by the same percentage change in voltage as V1 is trimmed.
- To receive unit with cover fitted, add suffix '-C' to model number. For Class I operation only.
- A 120% peak load can be taken for up to 100 ms with a 25% duty cycle. Average load not to exceed 40 W.

Mechanical Details



Input Connector J1	
Pin 1	Line
Pin 2	Neutral

J1 mates with Molex housing 43061-0003 & Molex series 5194 crimp terminals. Ground tab (0.25 faston) standard.

Output Connector J2		
Pin	Single	Multi
1	V1	+V1
2	V1	+V1
3	RTN	RTN
4	RTN	RTN
5	NC	V3
6	NC	+V2

J2 mates with Molex housing 43061-0006 & Molex series 5194 crimp termin.

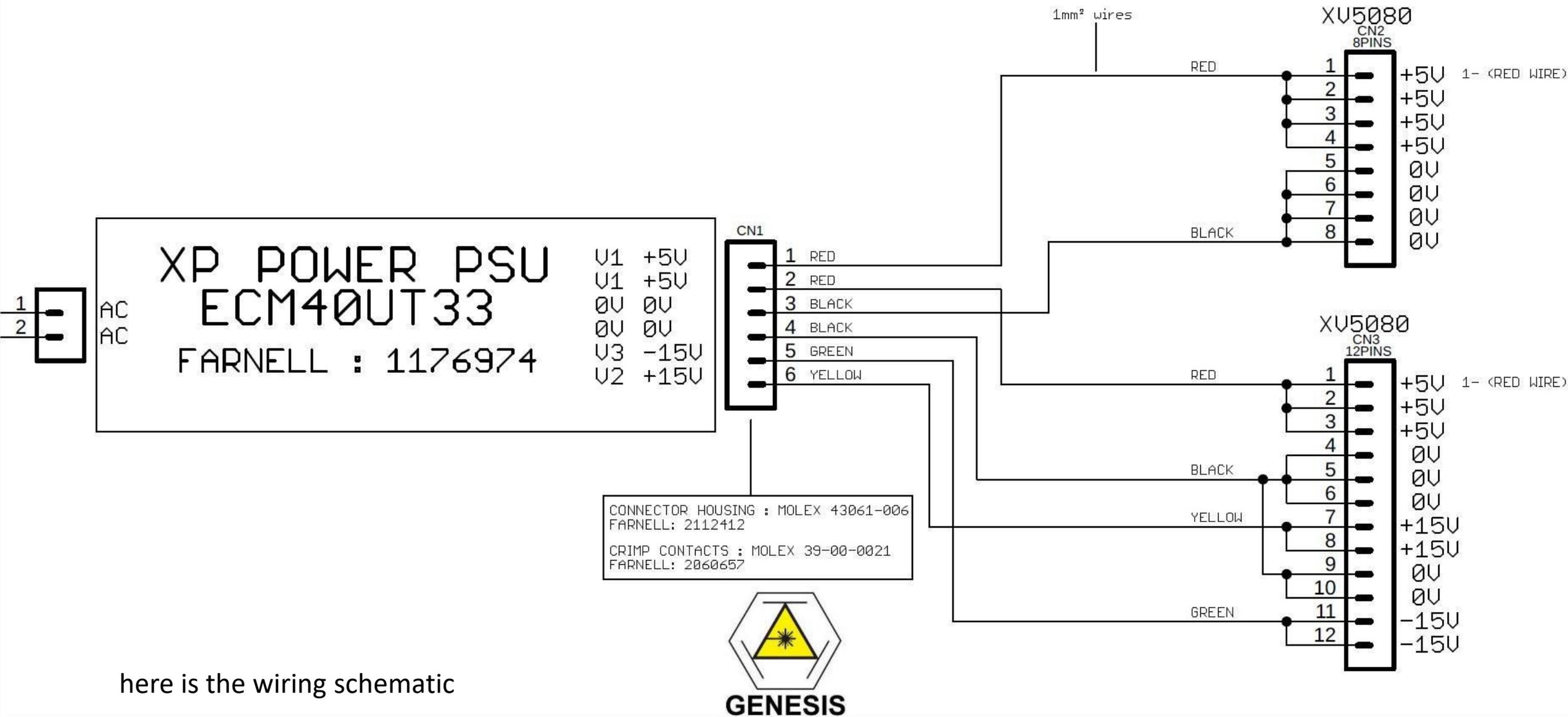
Notes

- All dimensions in inches (mm). Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25)
- Weight: approx. 0.33 lbs (150 g)
- Cable harnesses with 90° connectors available.
- Mating connector kit available. Order part number ECM40/60 CONKIT†.
- Covers available. Order part number ECM40/60 COVER†^.



you must order

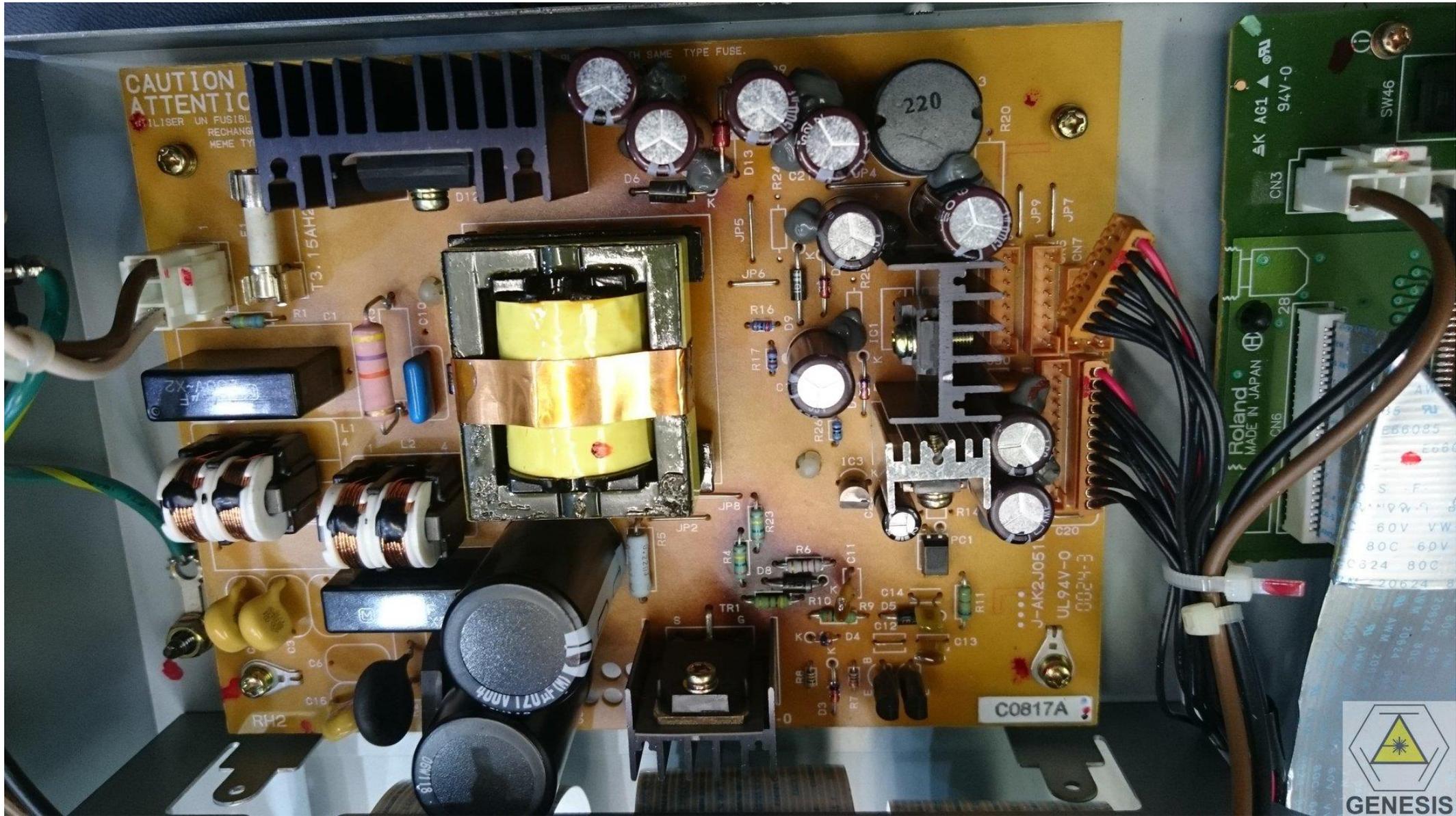
- the PSU (XP POWER ECM40UT33)
 - MOLEX connector (you can also buy a molex connector already prewired which will keep you from having to crimp your own)
 - Molex crimp contacts
 - a SMBJ5.0 transil diode if you want
 - black, red, green, yellow 1mm² wires
 - 4mm heat shrink tubing
 - self adhesive foot
 - Ties
 - Solder iron
 - Wire stripper
 - Screwdrivers
 - Drill with 3mm bit
 - Vacuum cleaner
- Note: I bought my PSU and the prewired molex connector from Newark.com. The PSU was between \$40-50 US. It was double on Amazon.



here is the wiring schematic



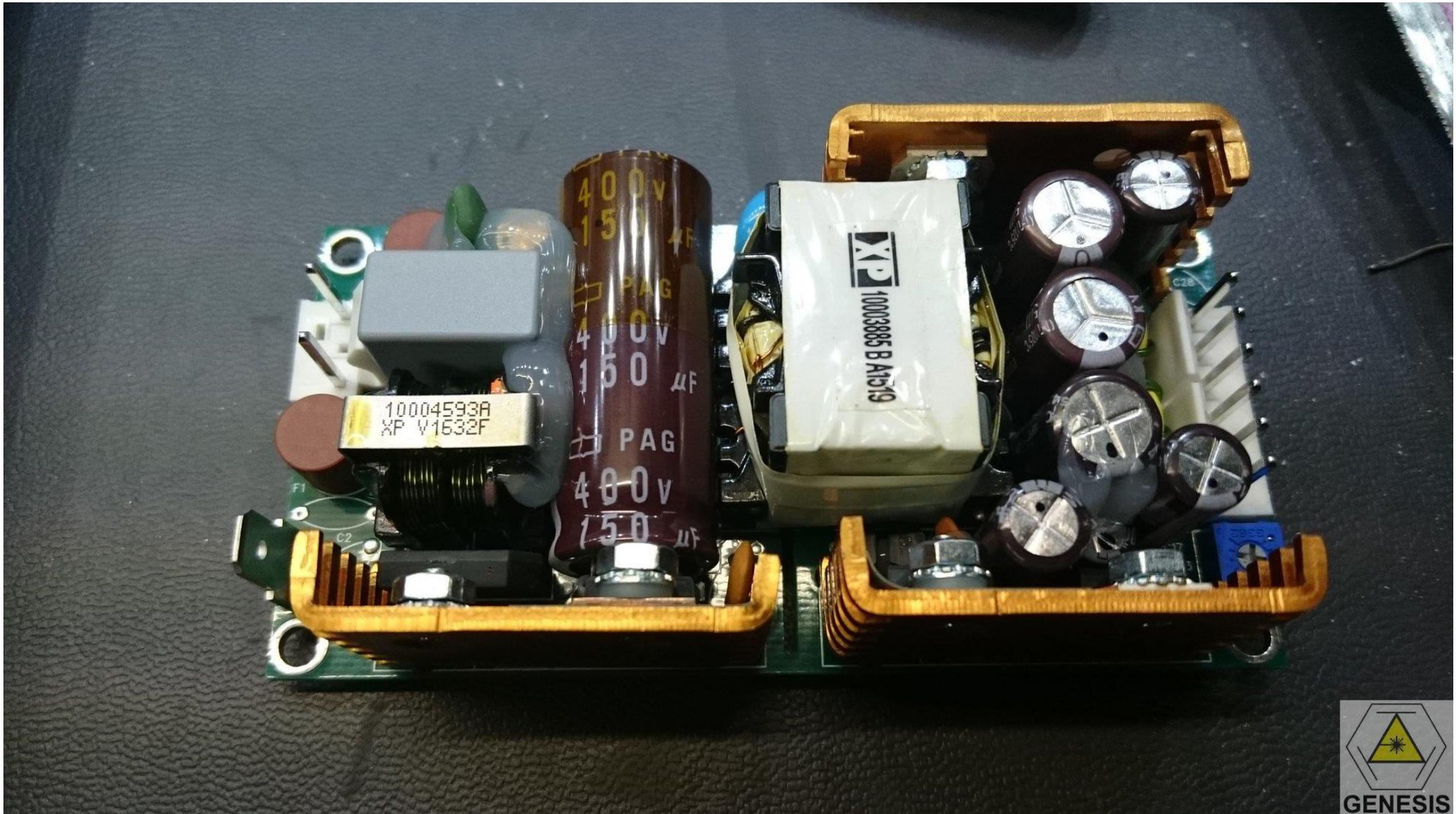
here is the original faulty PSU



disconnect the cables



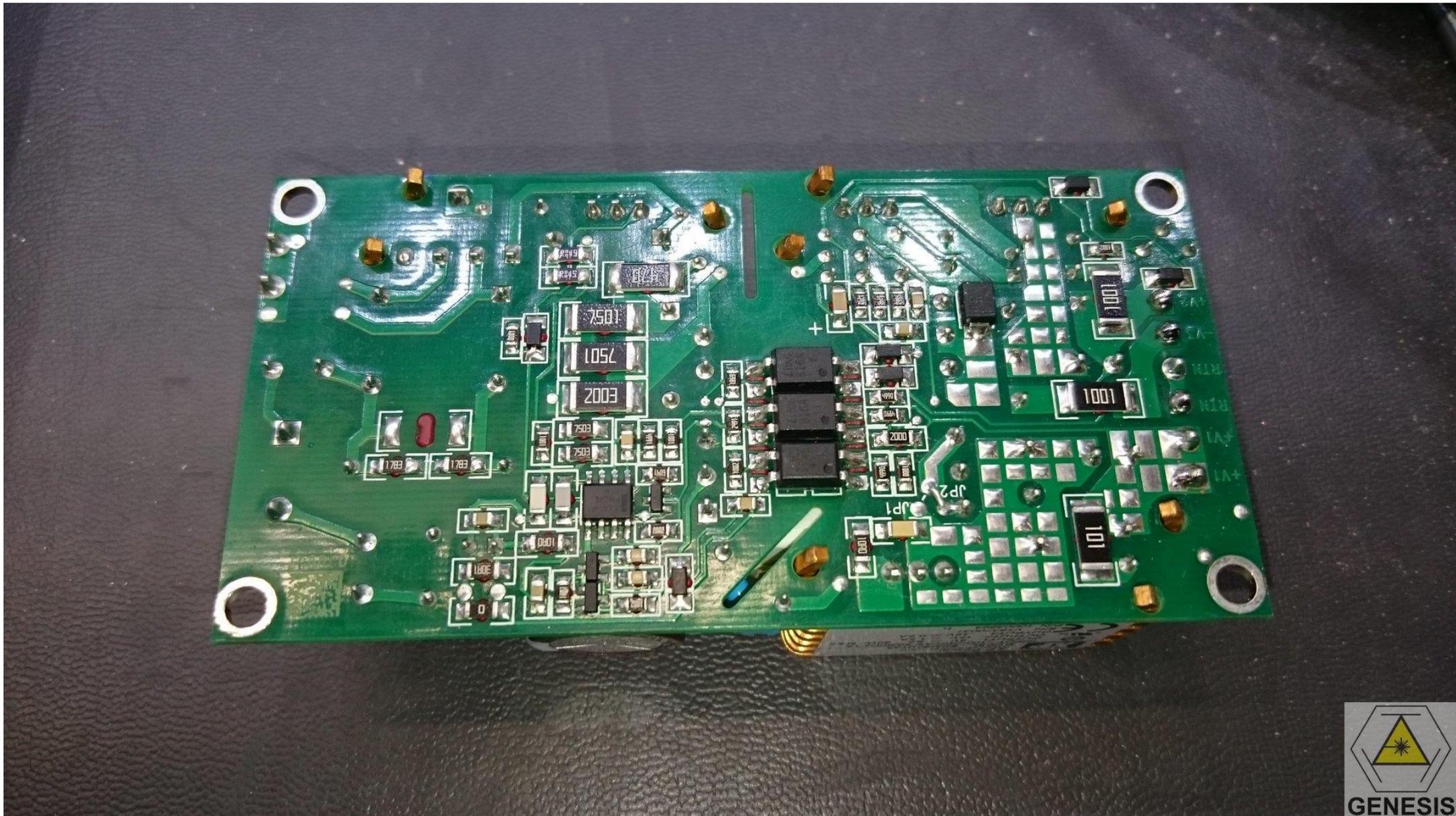
and remove the board



here is the new PSU from XP Power



Another view



Another view – the reverse

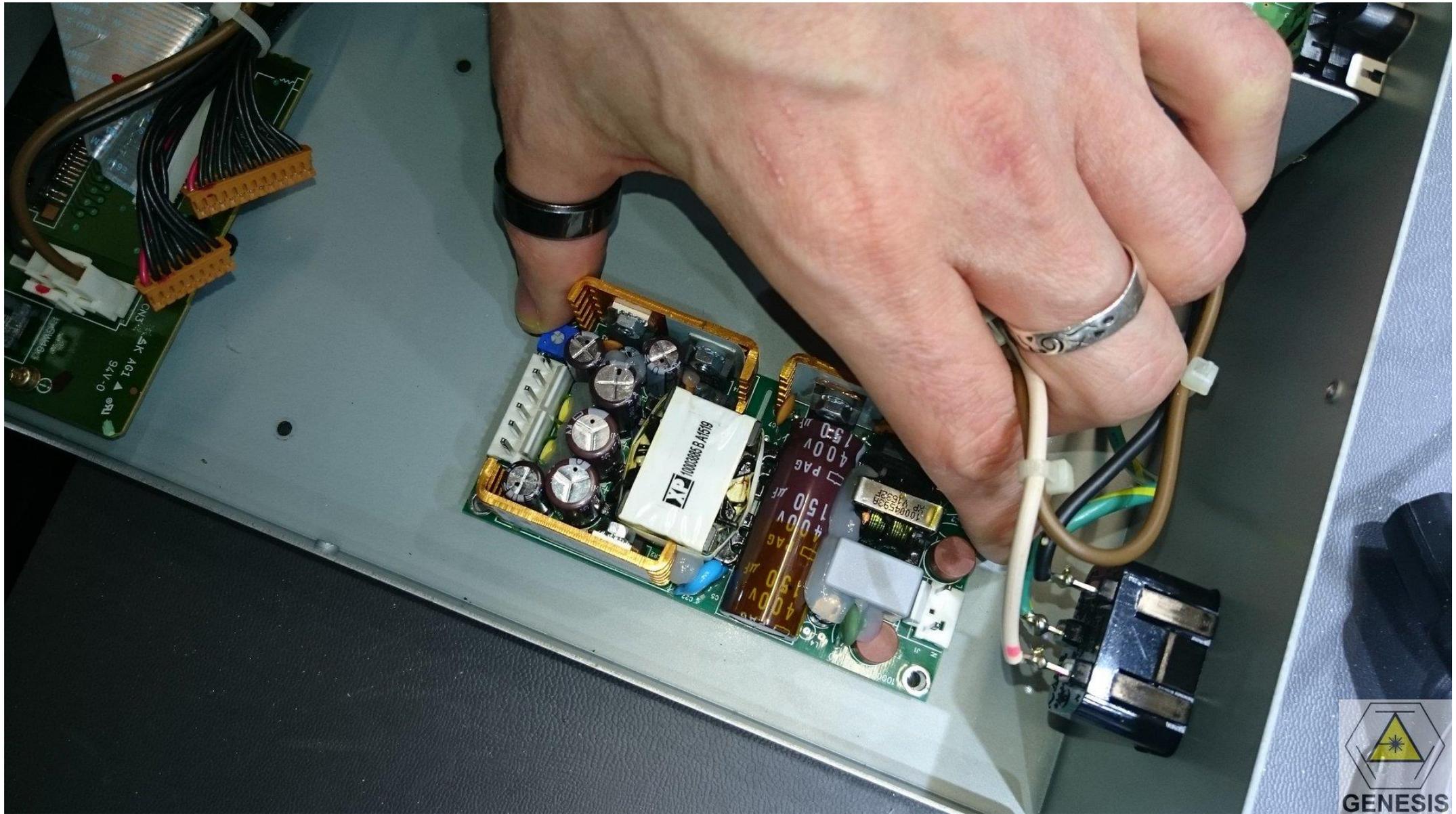


remove the plastic foot

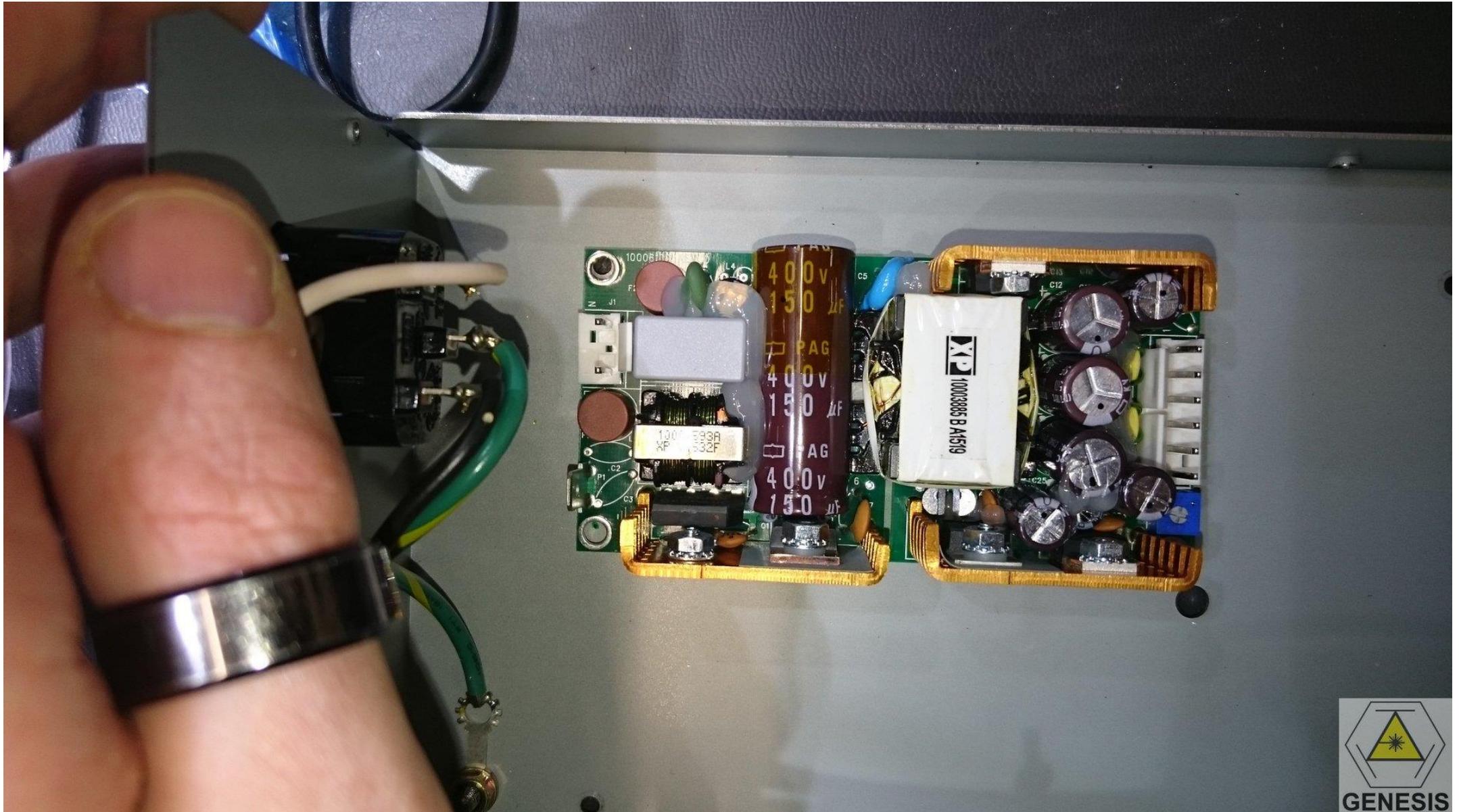




remove the spacers



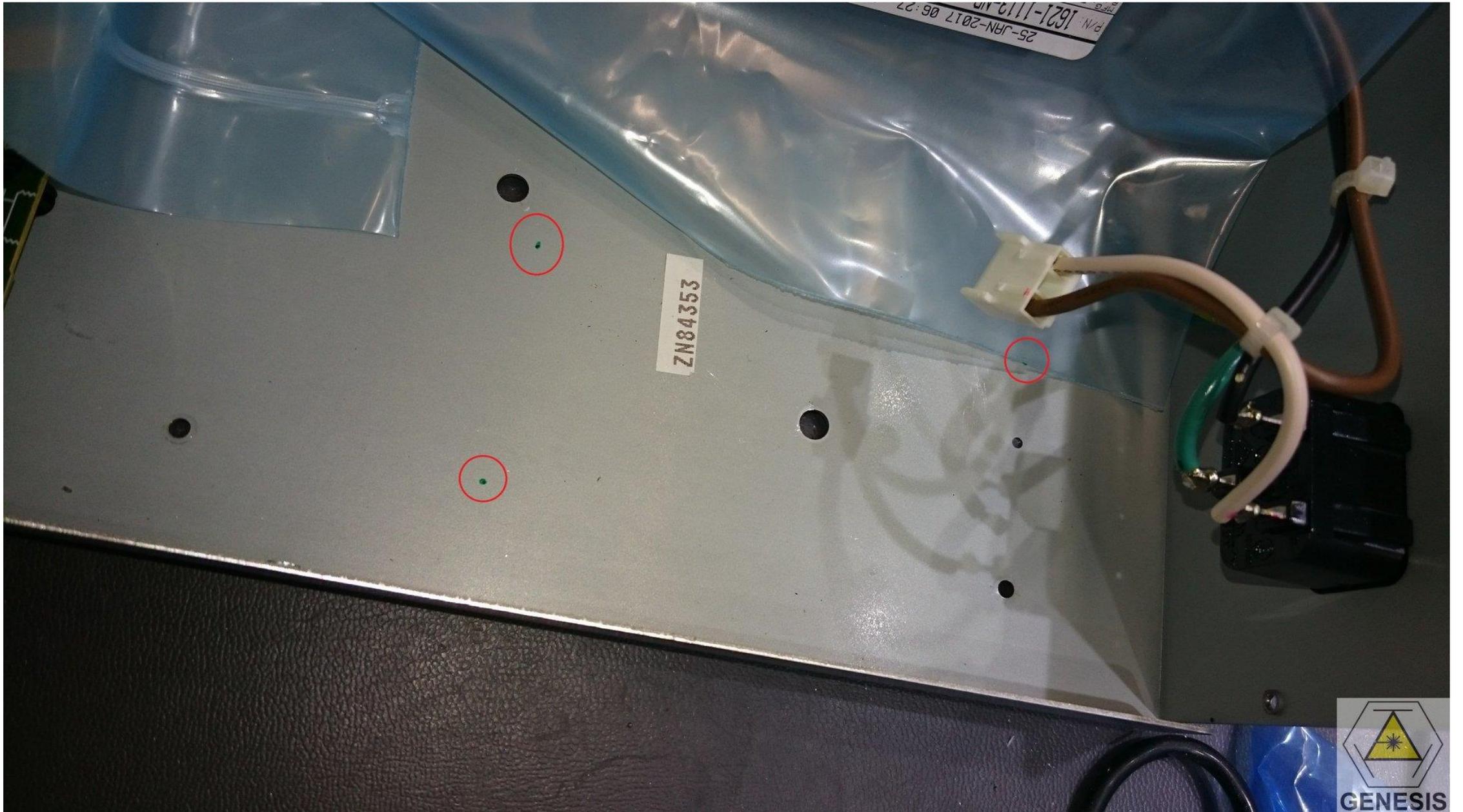
check the new PSU position



locate the hole at the top left and align it to the PSU



point the 3 others holes with a permanent marker



protect the XV5080 mainboard with plastic to avoid shavings short circuits

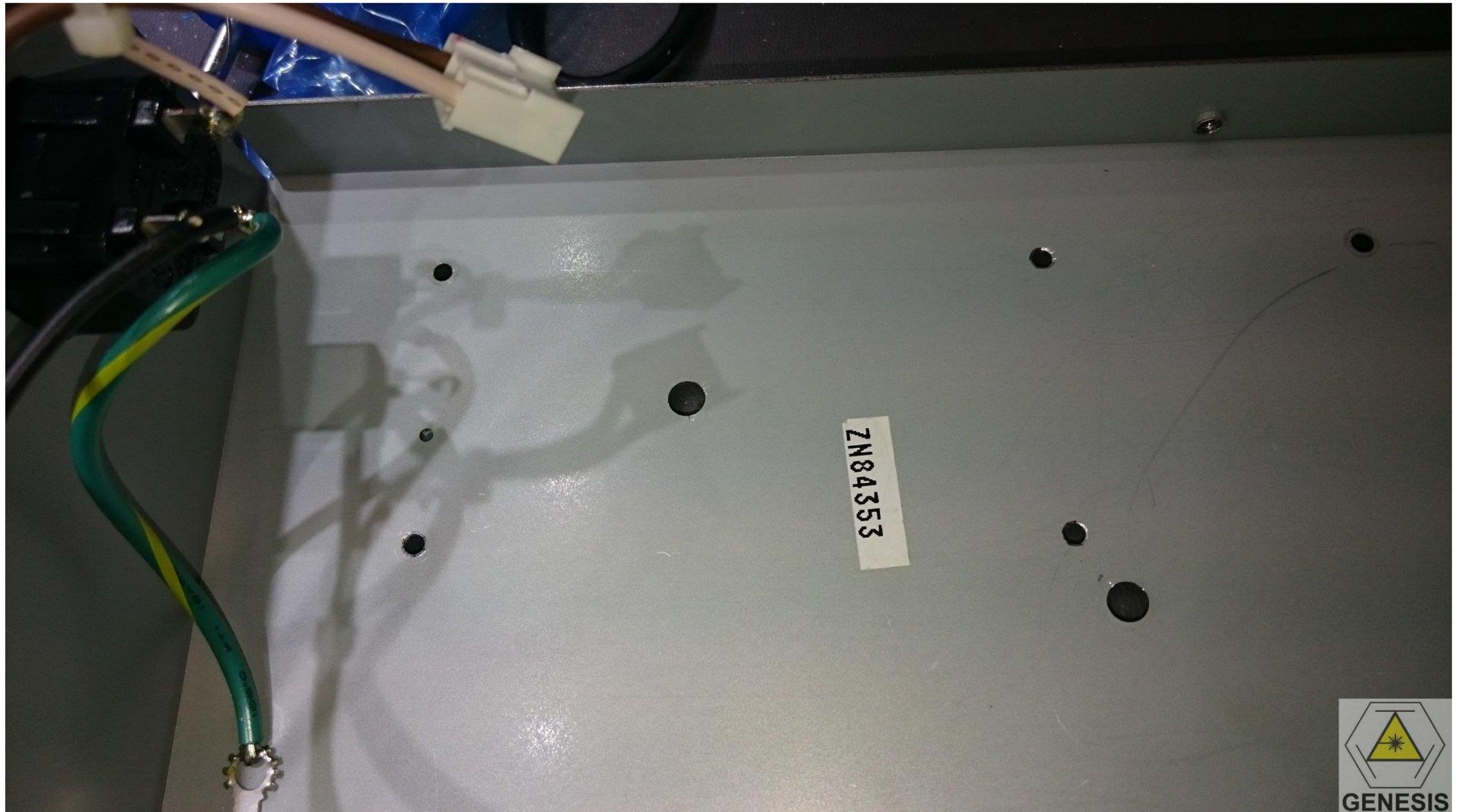


drill carefully each of the holes





and remove shavings with vacuum cleaner



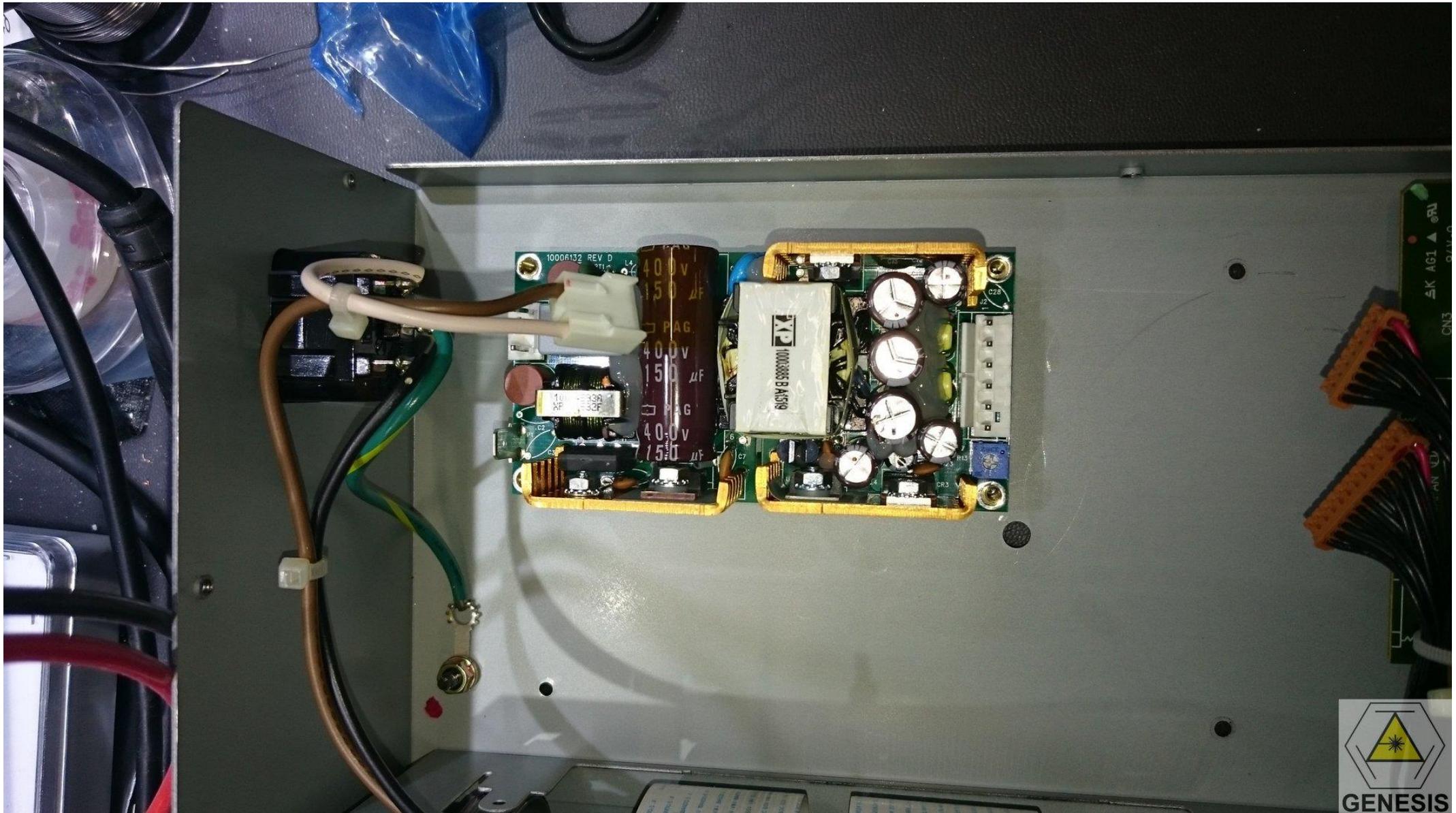
check the holes and remove shavings



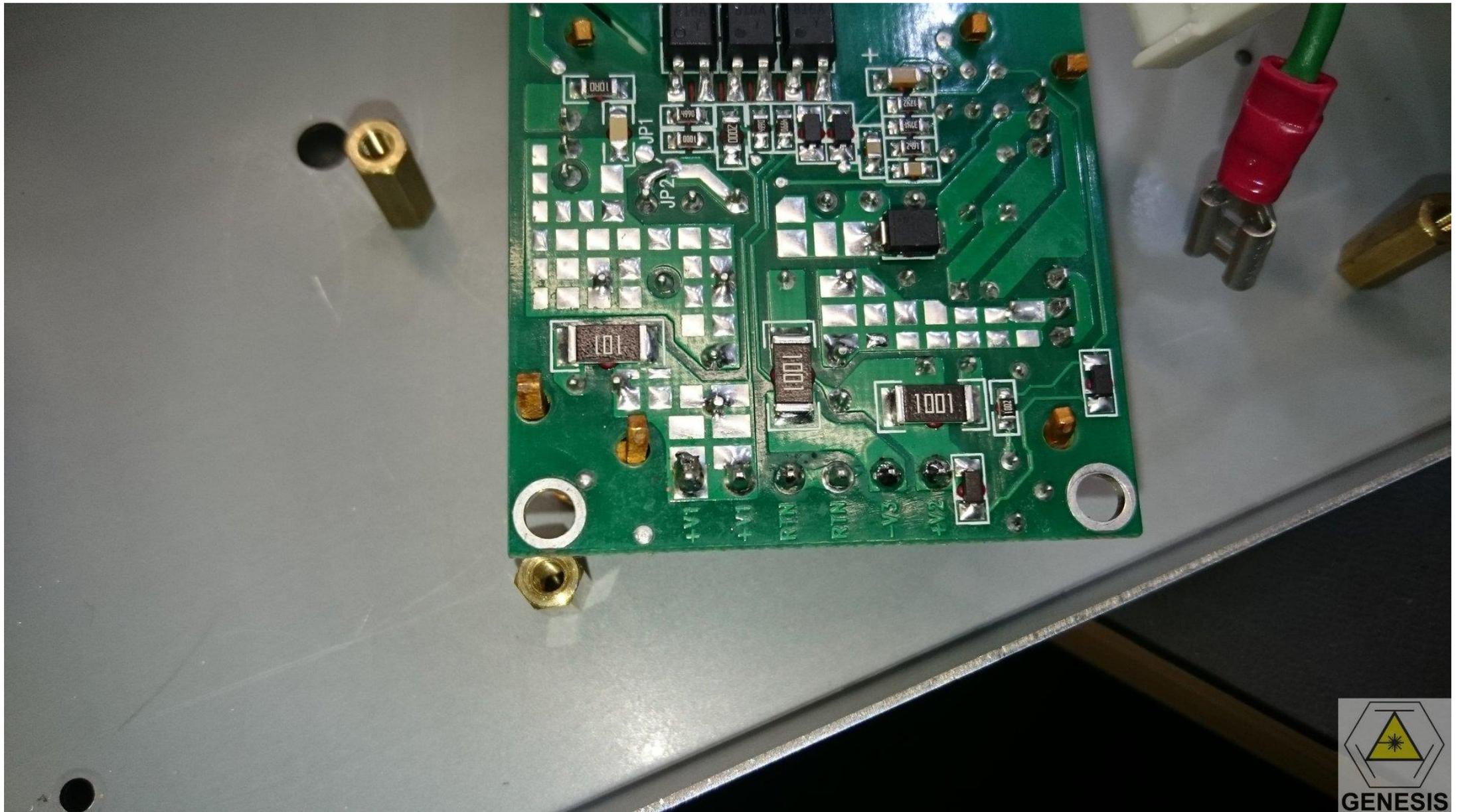
do the same thing under the unit



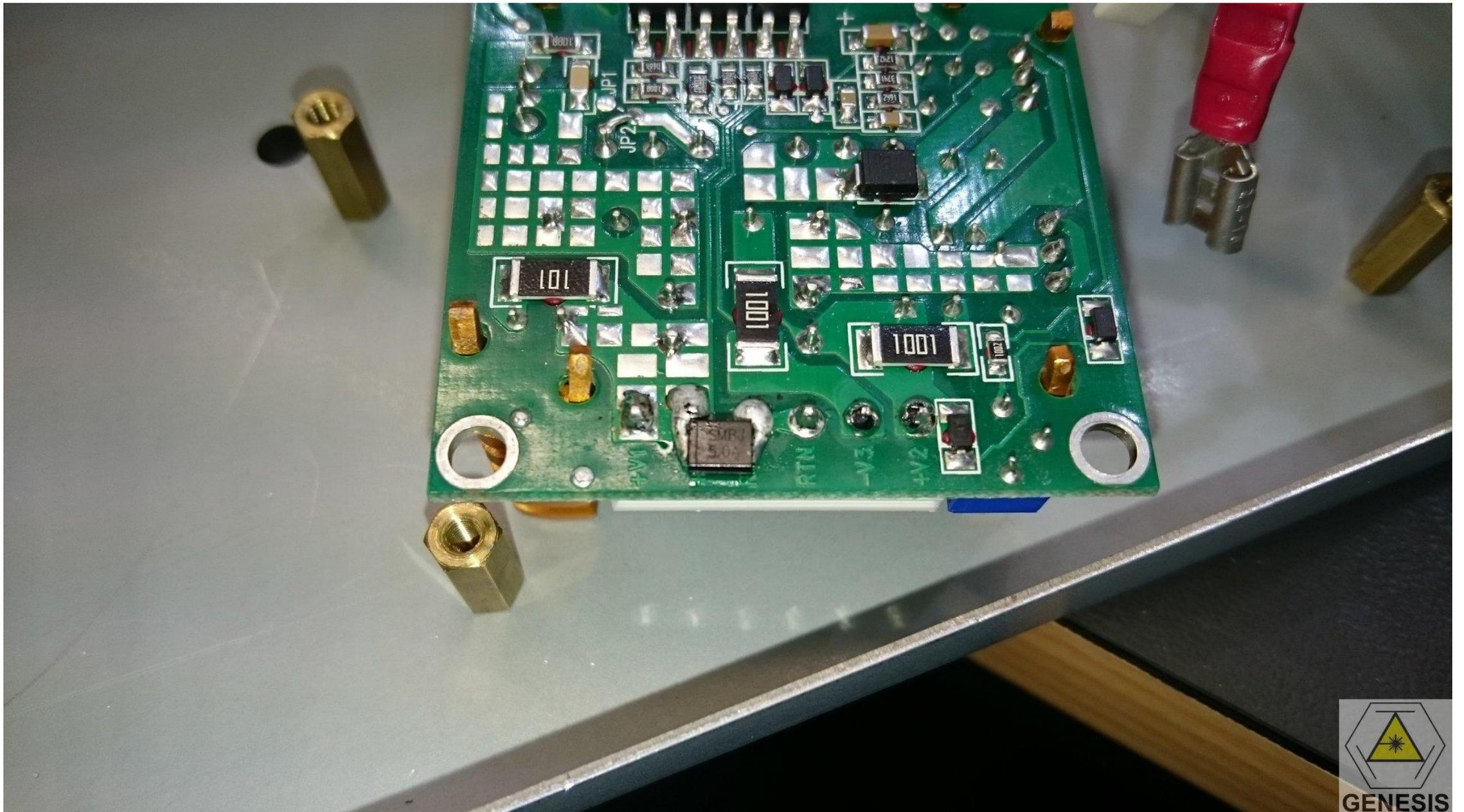
place the screws with the spacers



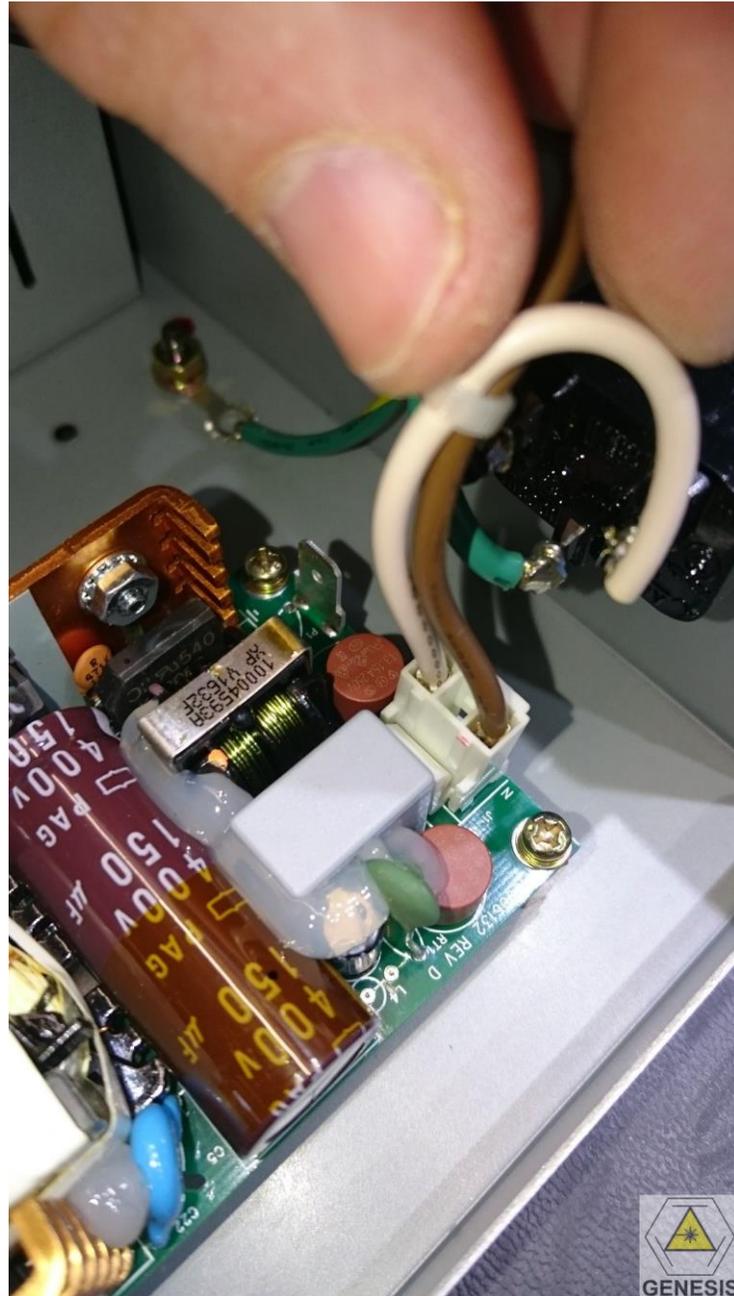
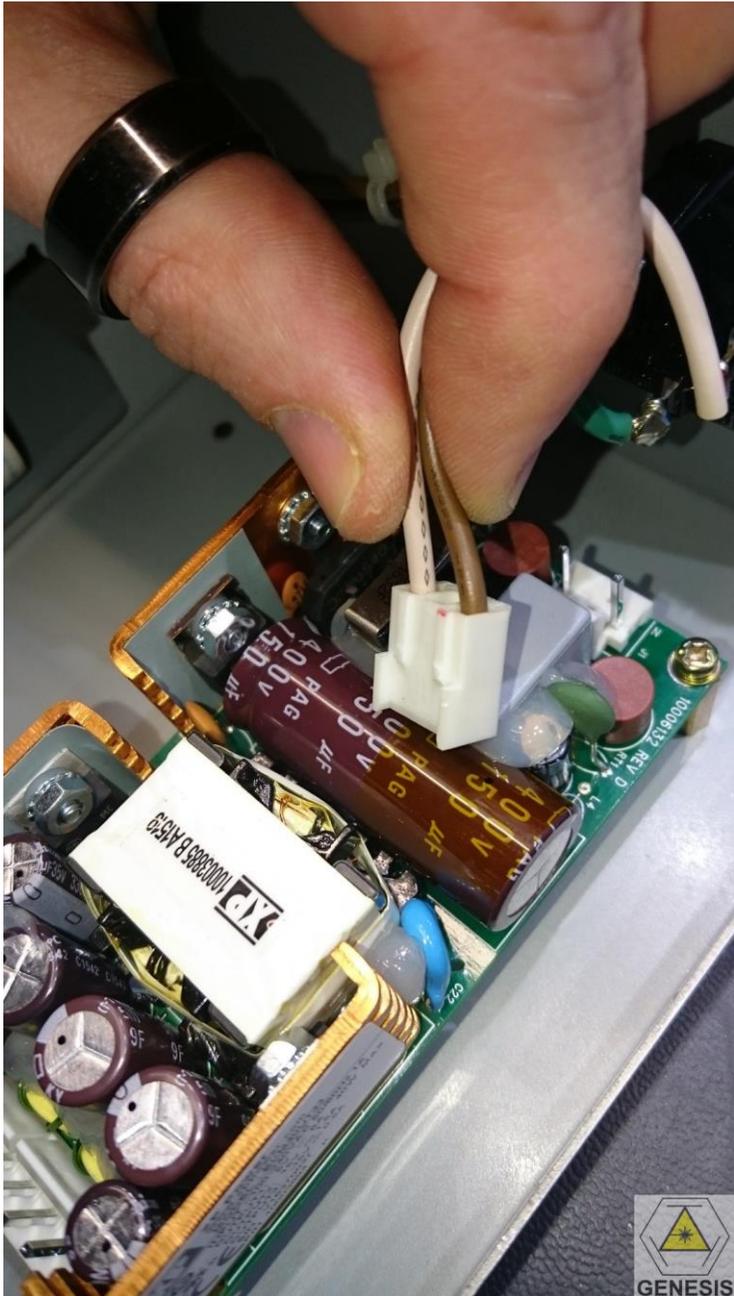
check the alignment



if you have enough skill you can add a transil diode under the PSU to protect the unit against overvoltage

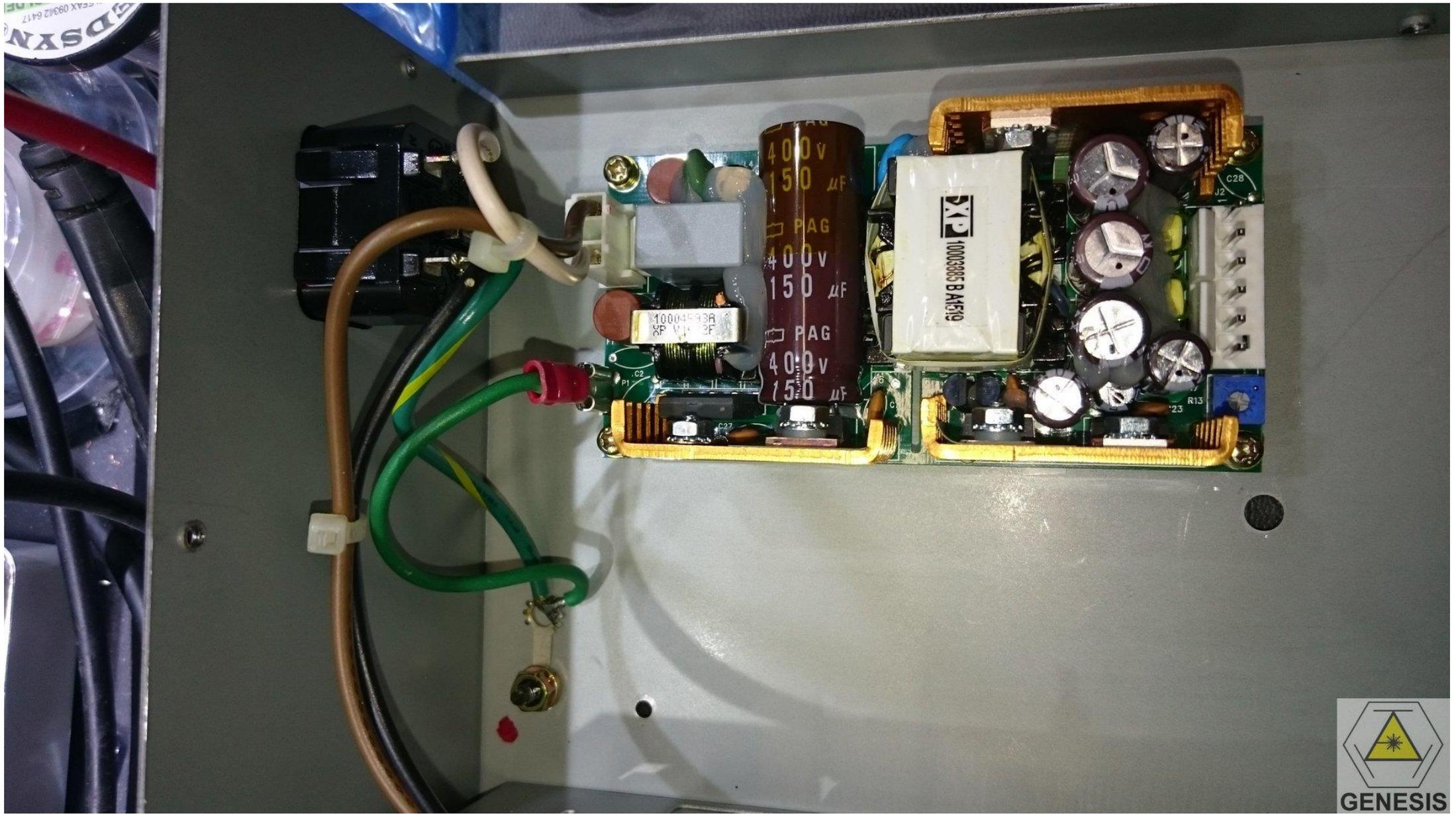


the transil diode is an SMBJ5.0



connect the AC IN wires





and screw the new PSU in place



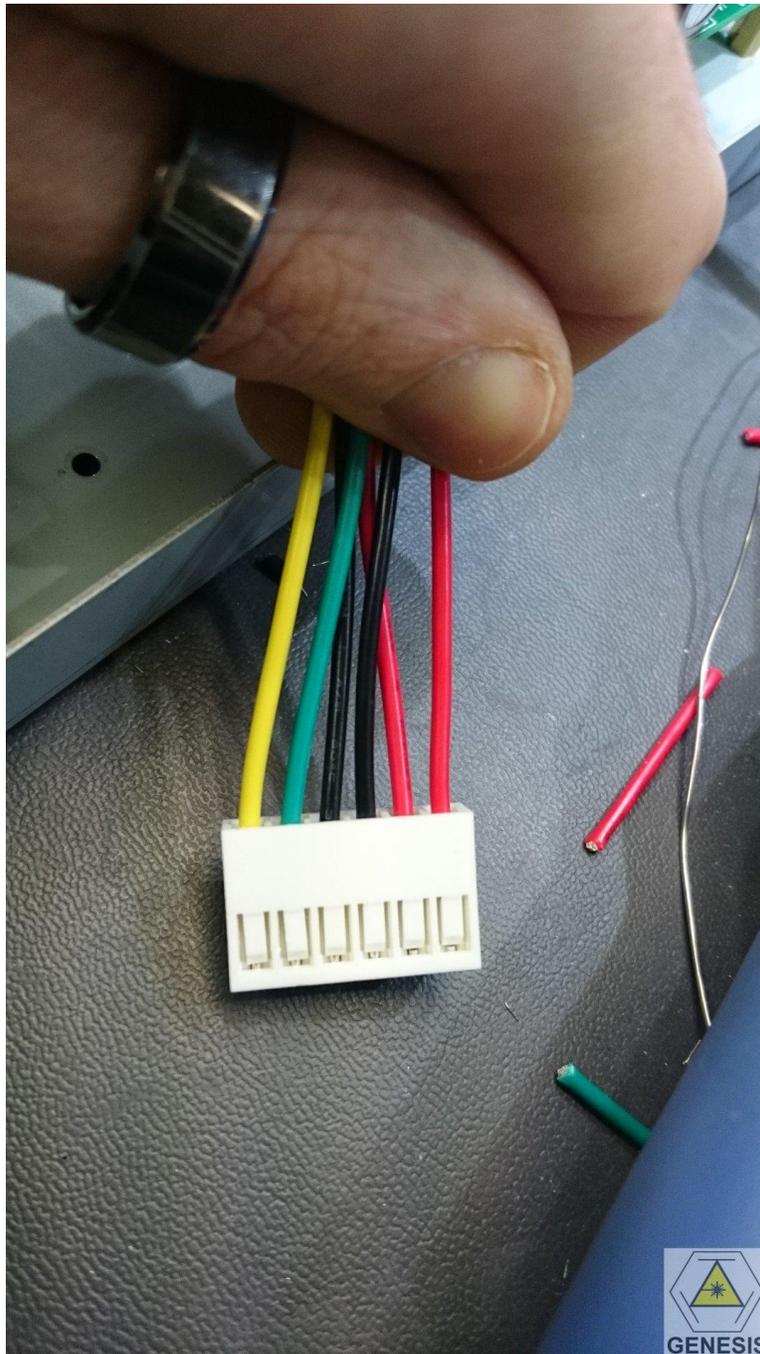
add a green earth wire with crimp tab connector



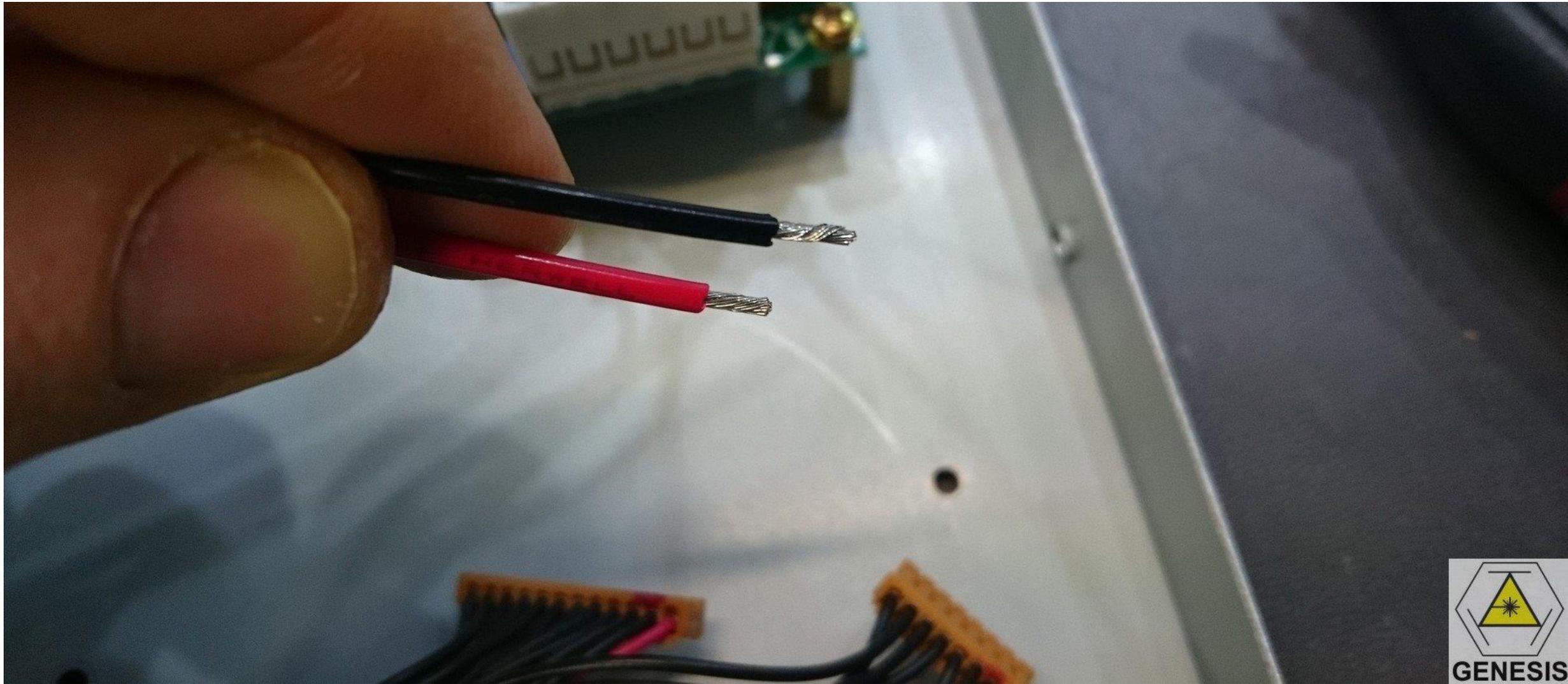
the PSU output connector is a 6 pin MOLEX available at farnell but you can also directly solder the wires on the PSU connector pins (the crimp tool is expensive)



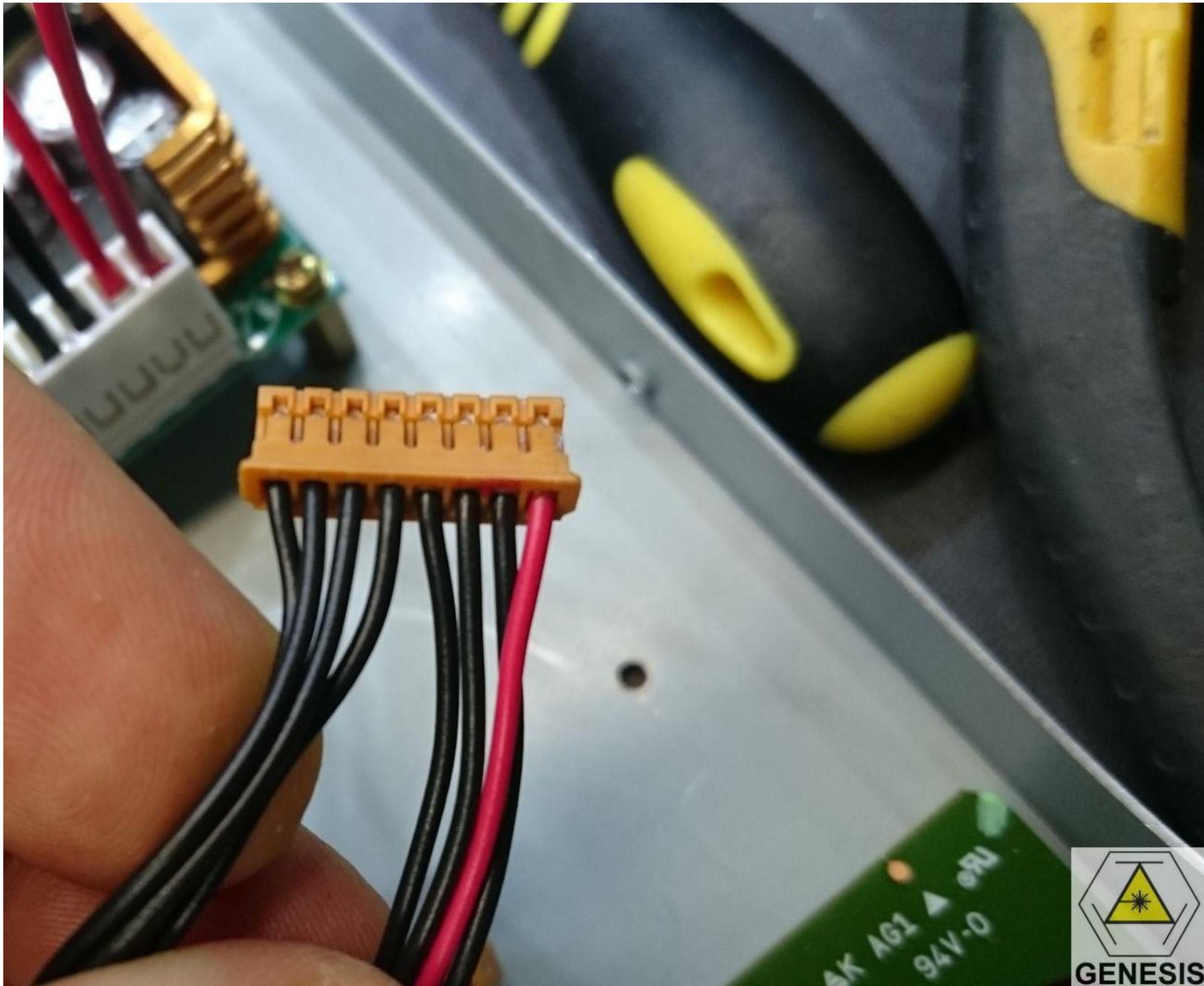
strip 1mm² wires and crimp the contacts



check the wire positions

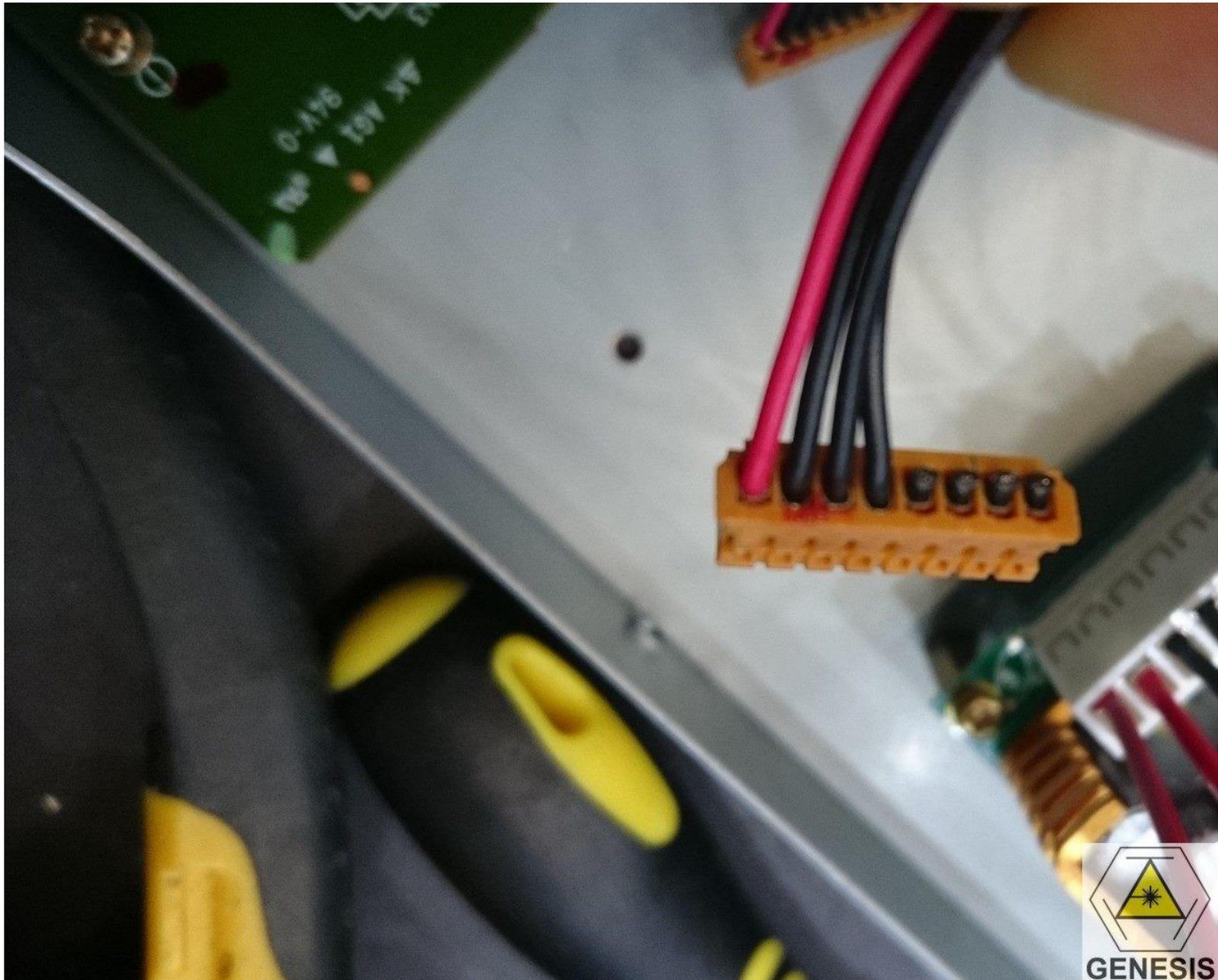


strip the first red and first black wires

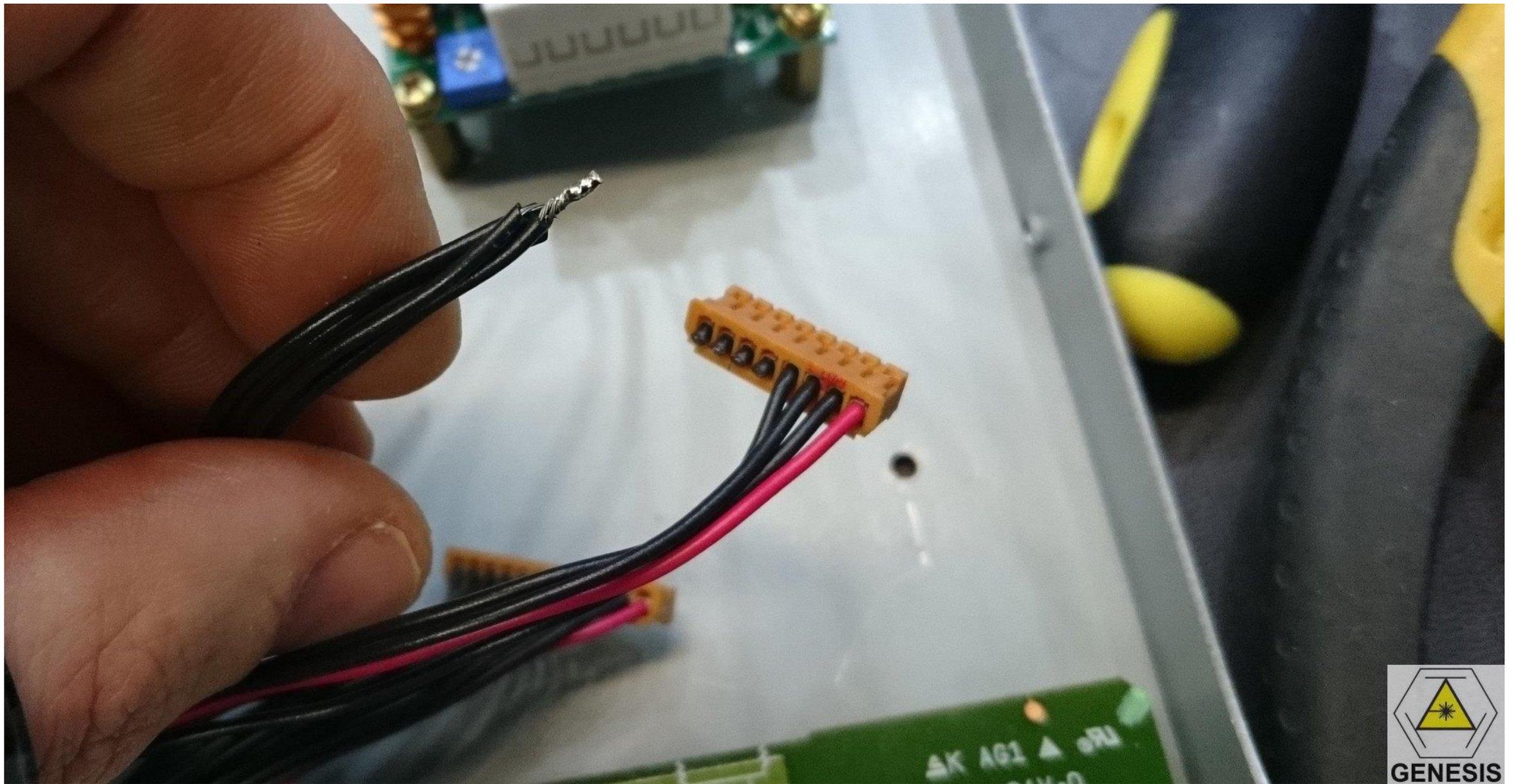


take the 8pin power
connector from the XV5080

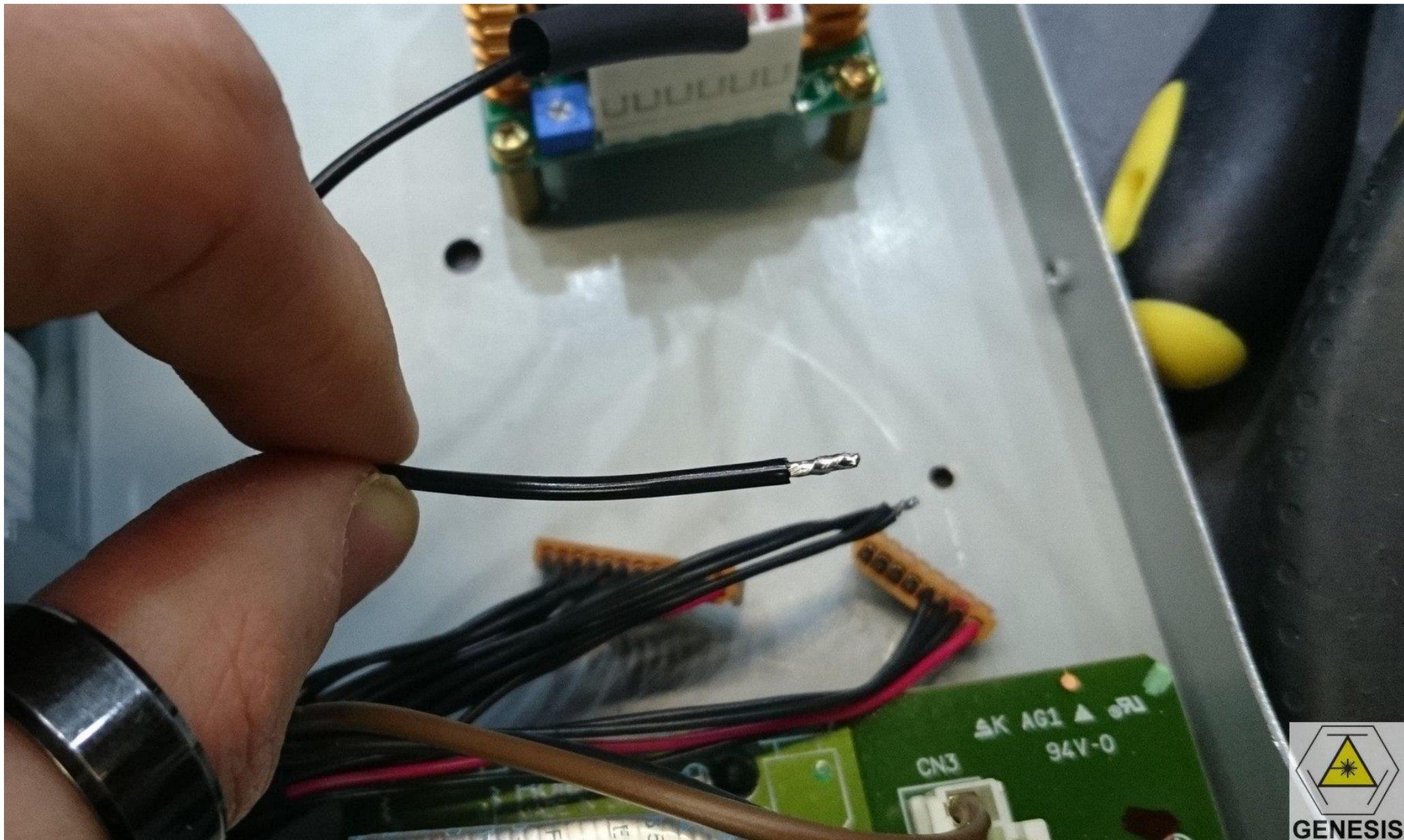




and cut the 4 last wires (5->8)



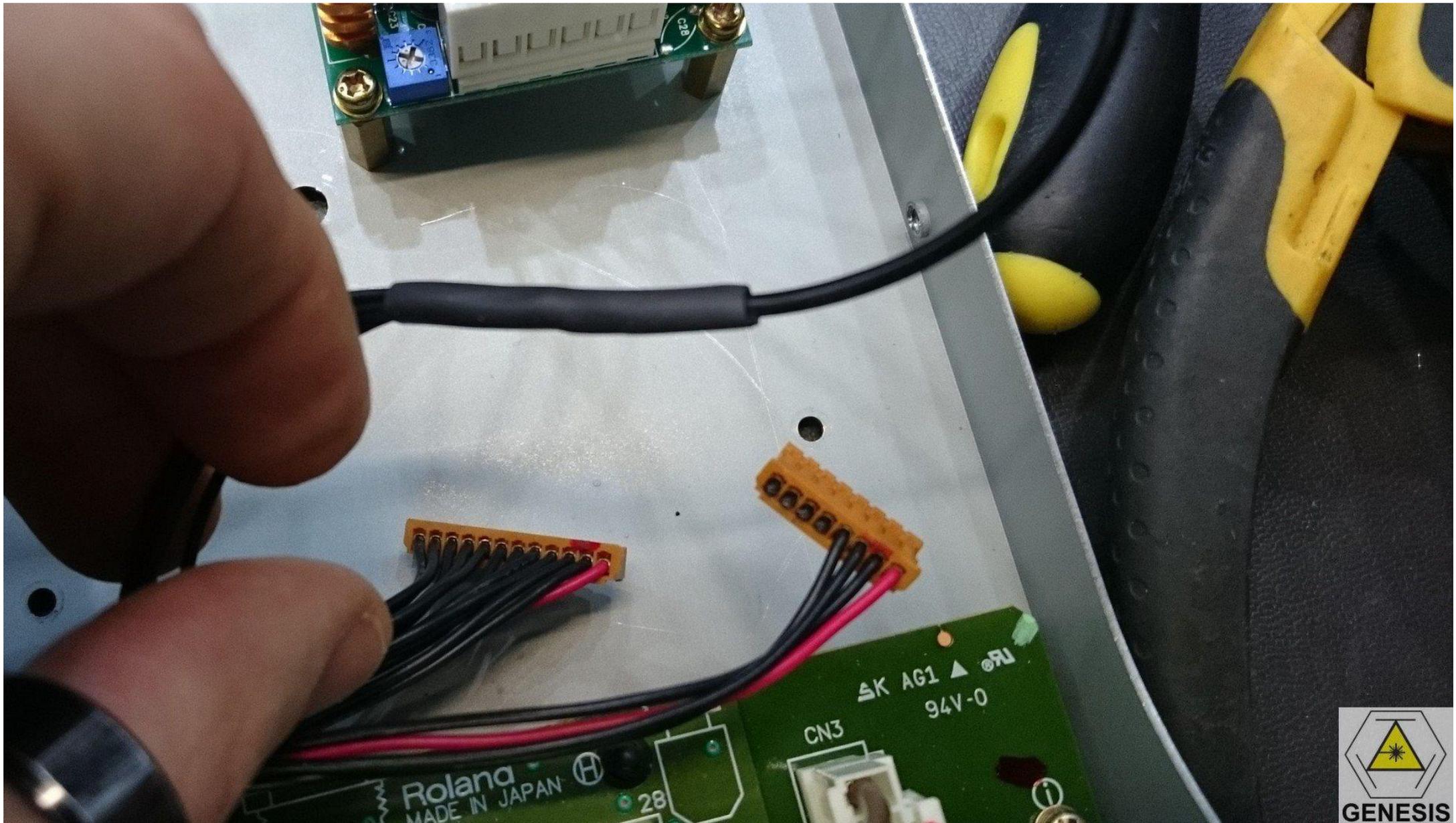
strip them and twist them.
now add some tin with the solder iron



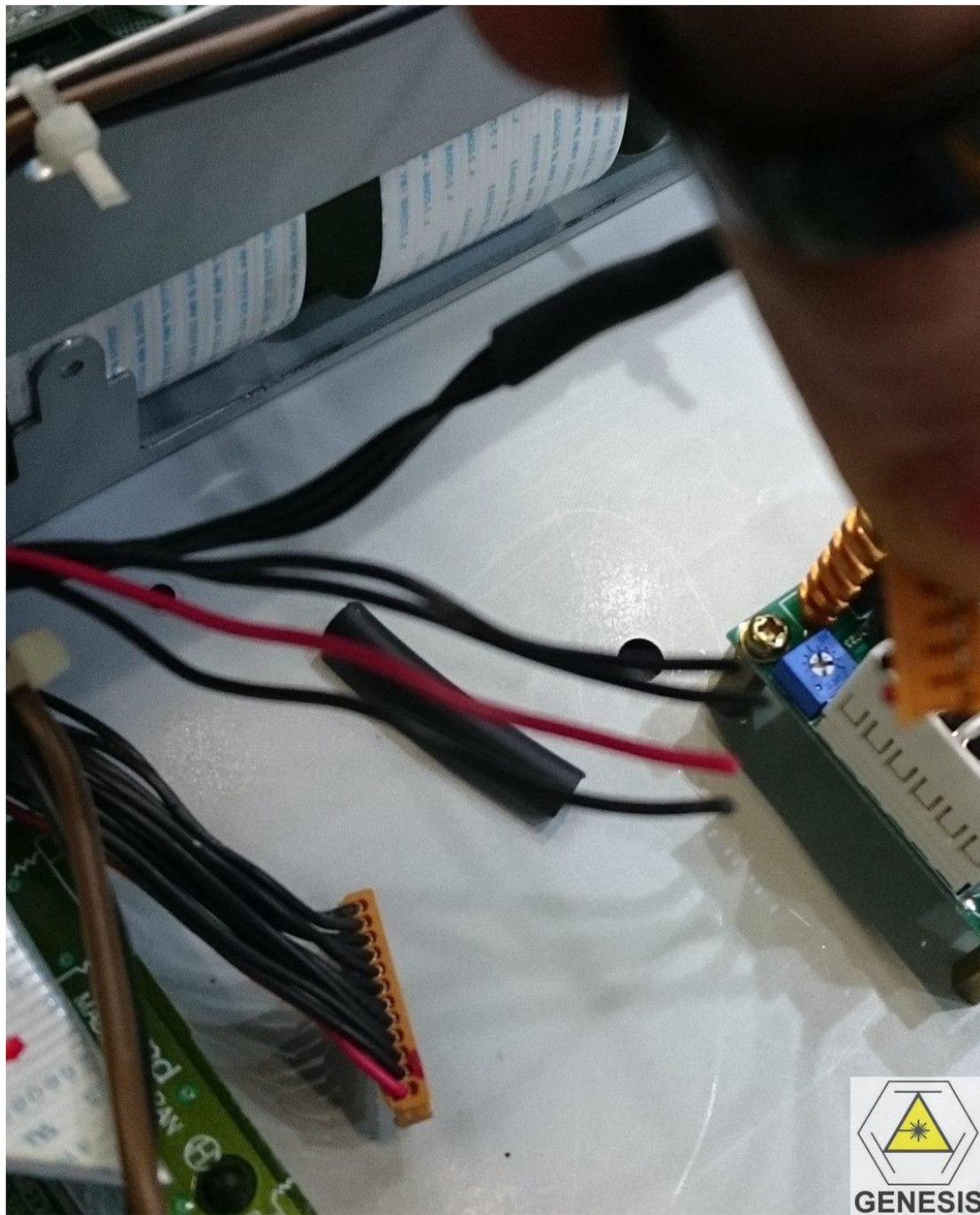
tin the first thick black wire and add a 3cm bit of 4mm heat shrink tubing



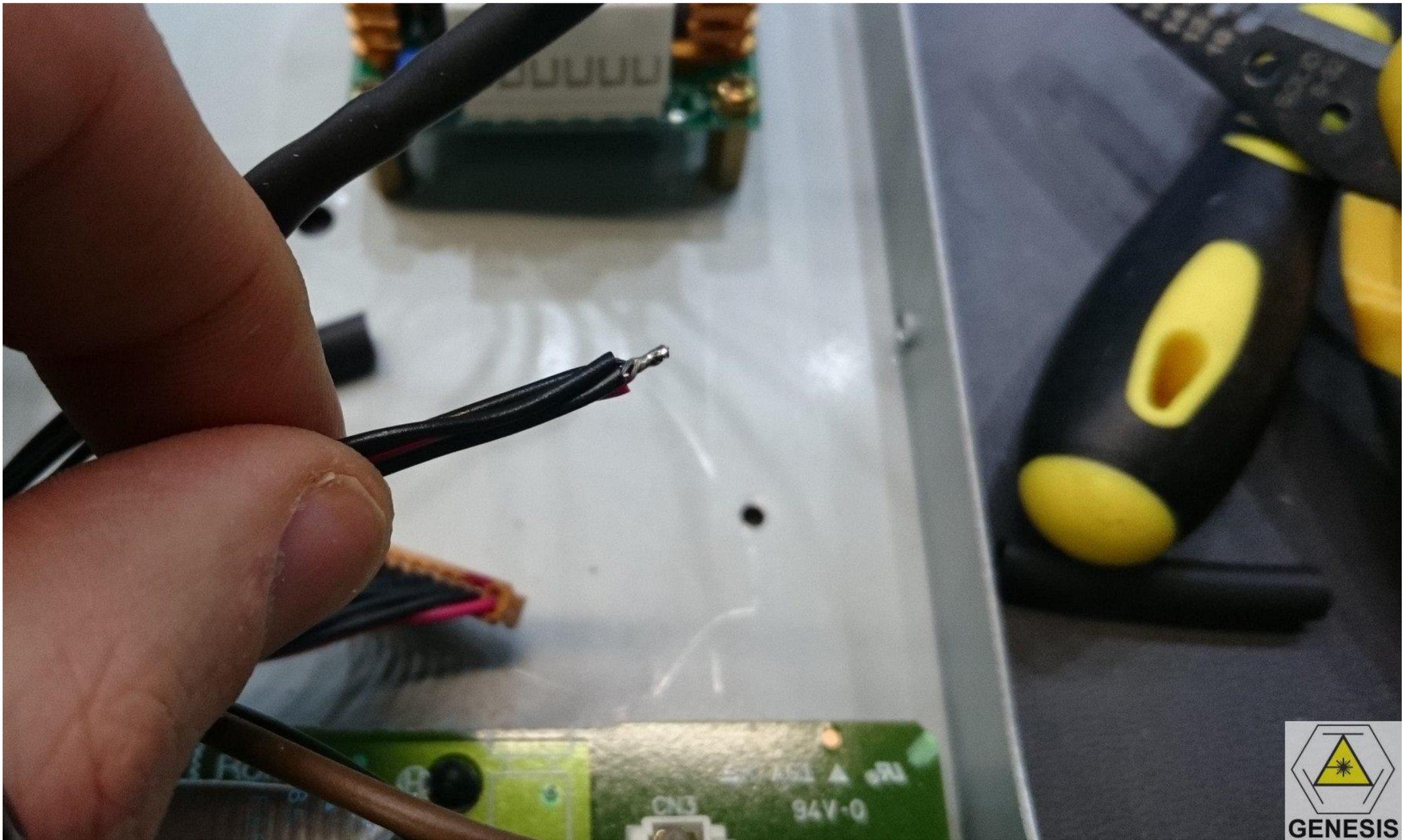
solder the 0V thick black wire with the 4 twisted wires



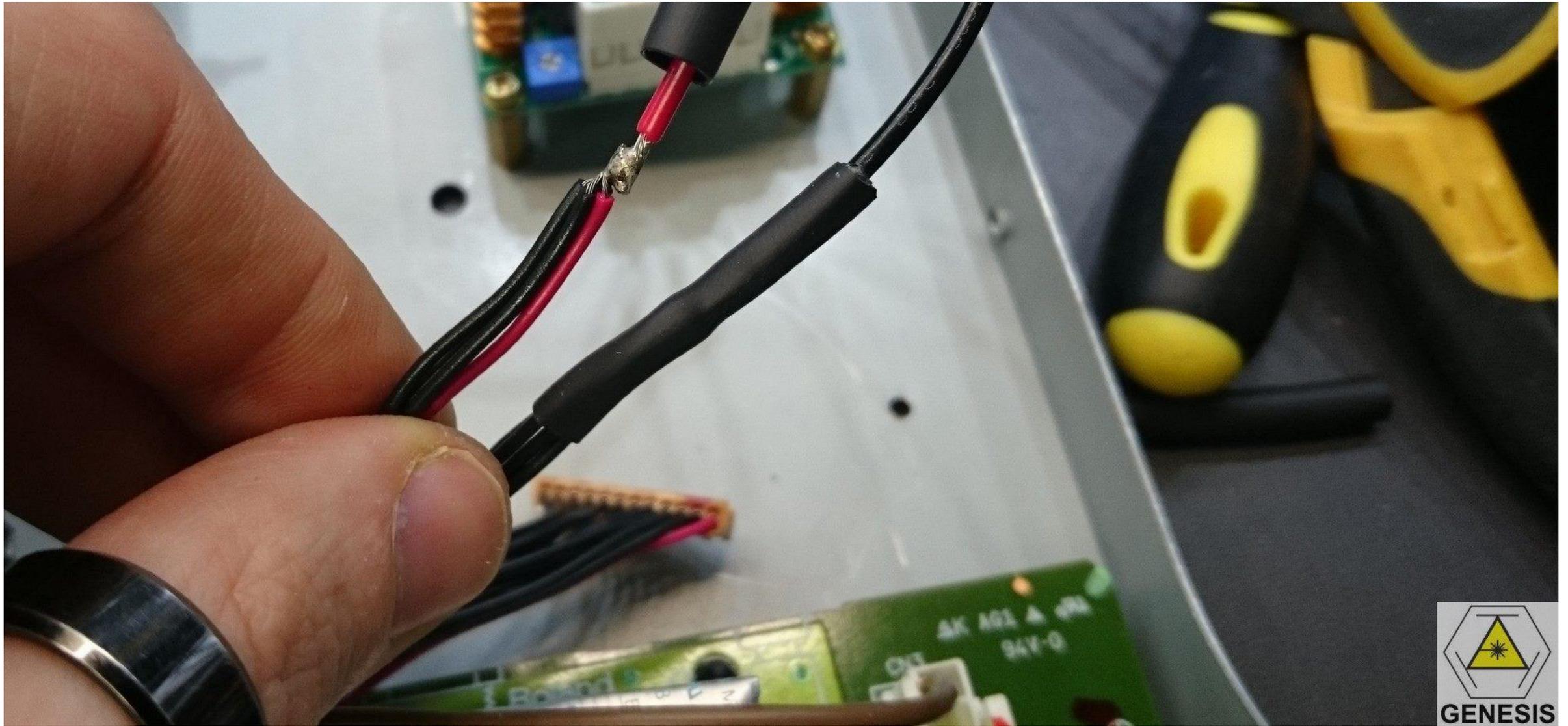
move the heat shrink tube over the solder and shrink it with heat



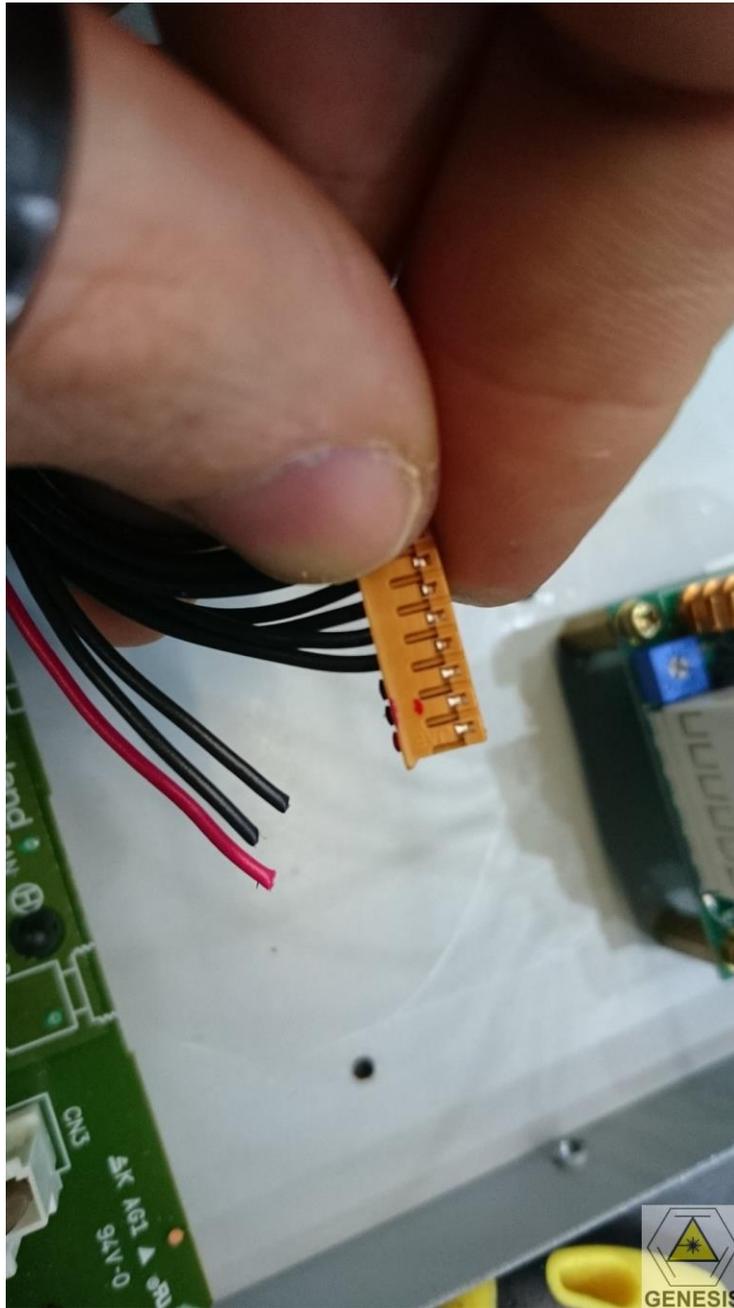
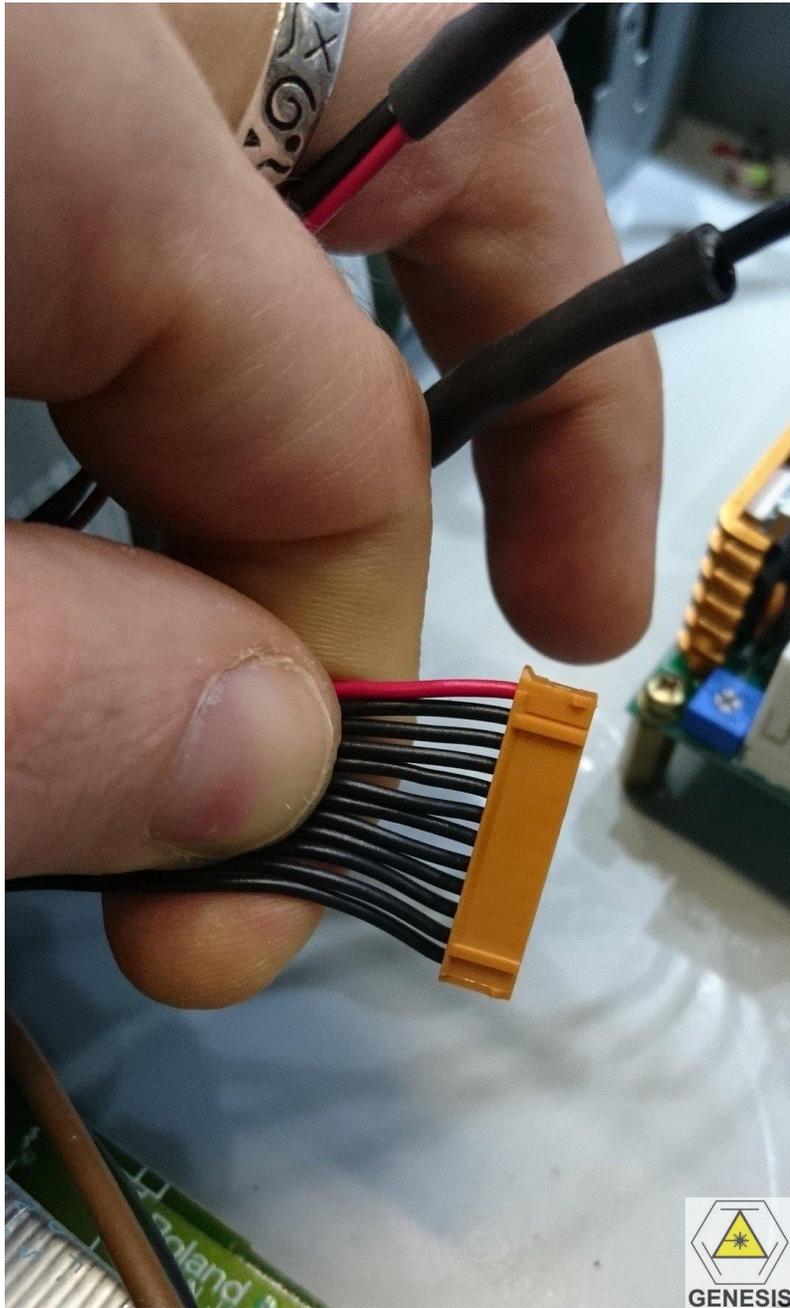
cut the 4 wires from the power connector (1(red wire) ->4)



strip them and twist them and tin them



do the same thing with the red wire (+5V)

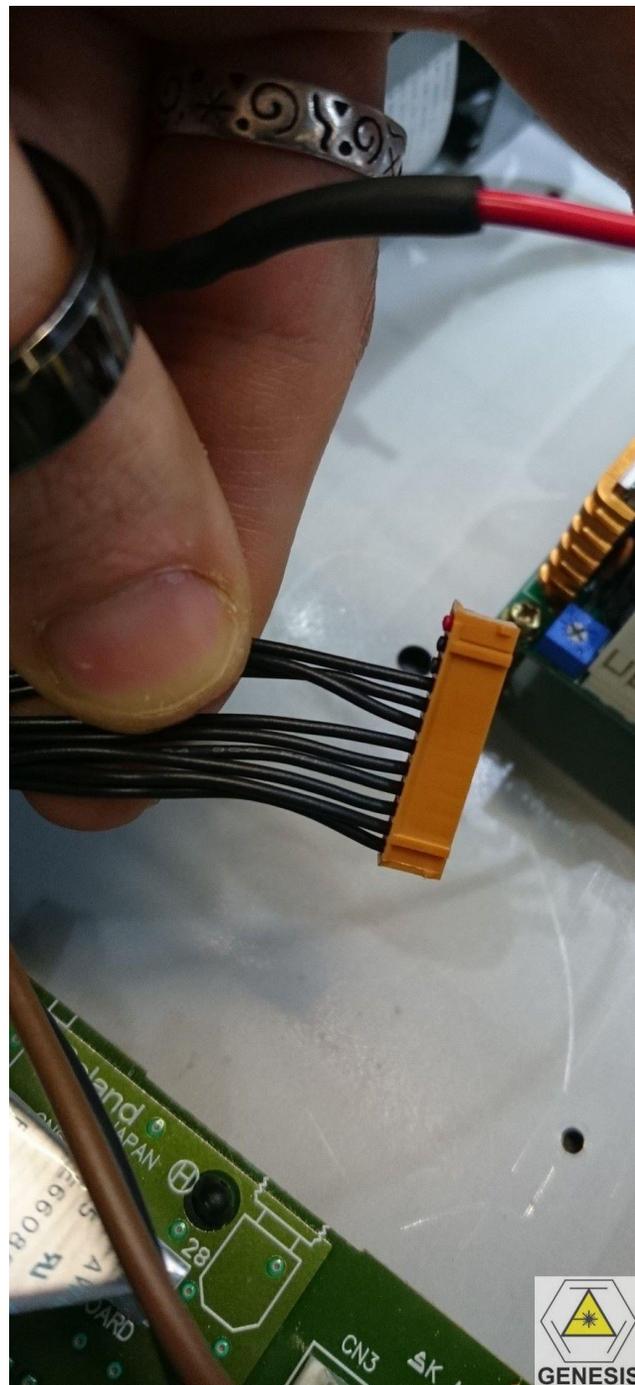


now take the 12 pin power connector

cut the 3 first wires (1->3)
(+5V)

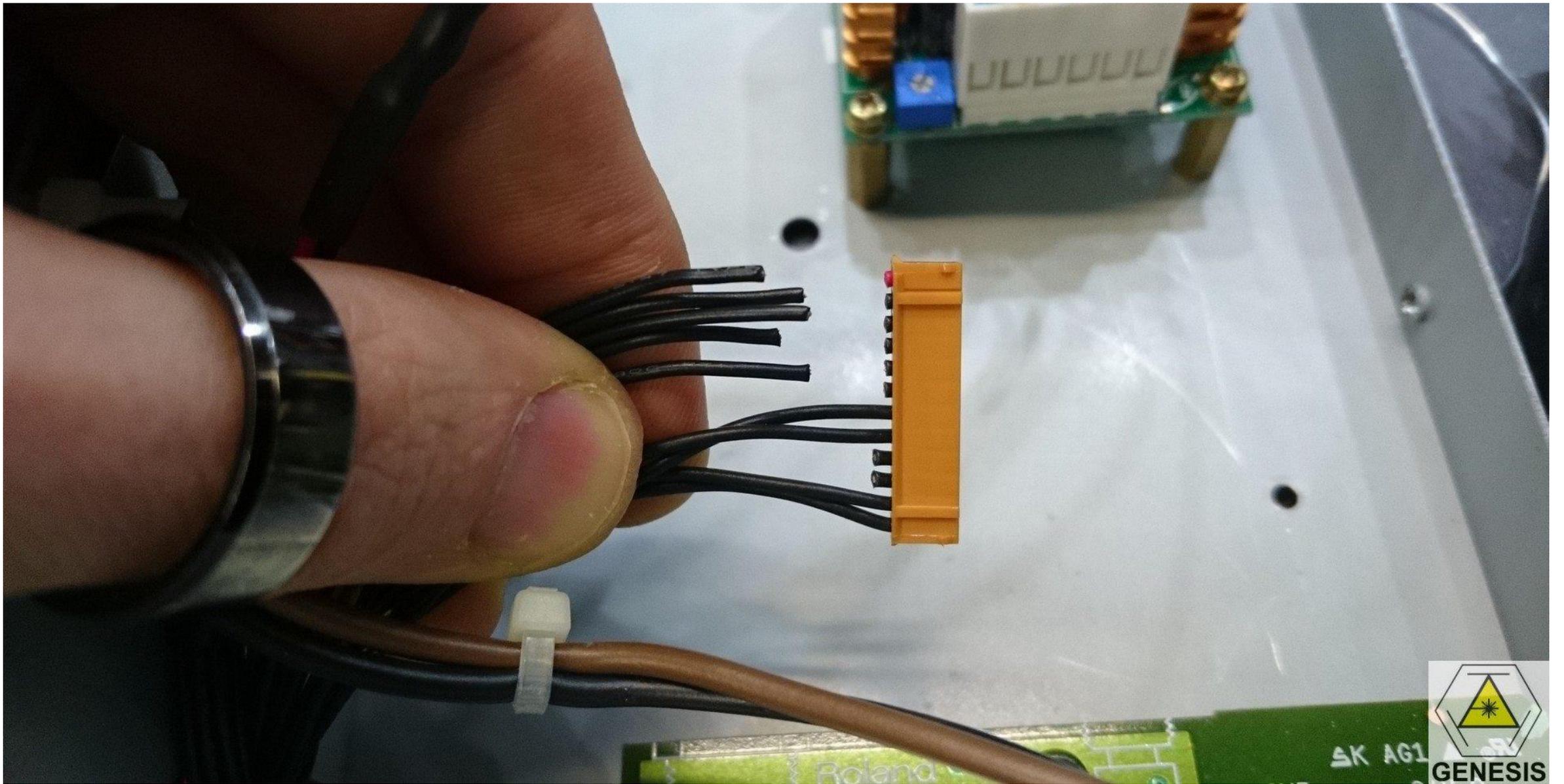


strip and twist them, make a solder to the other red wire and add a shrink tube over it

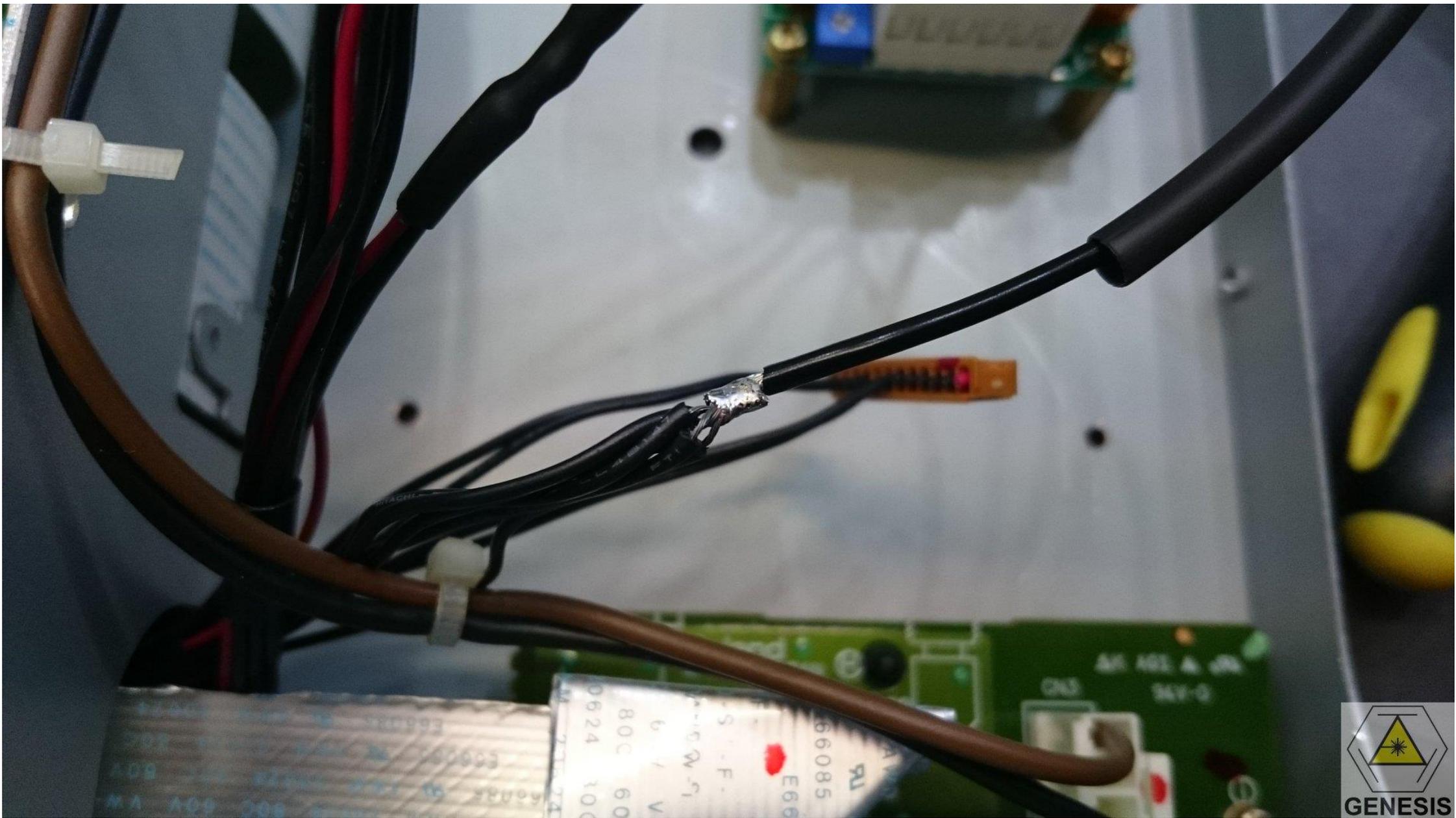


check the power connector

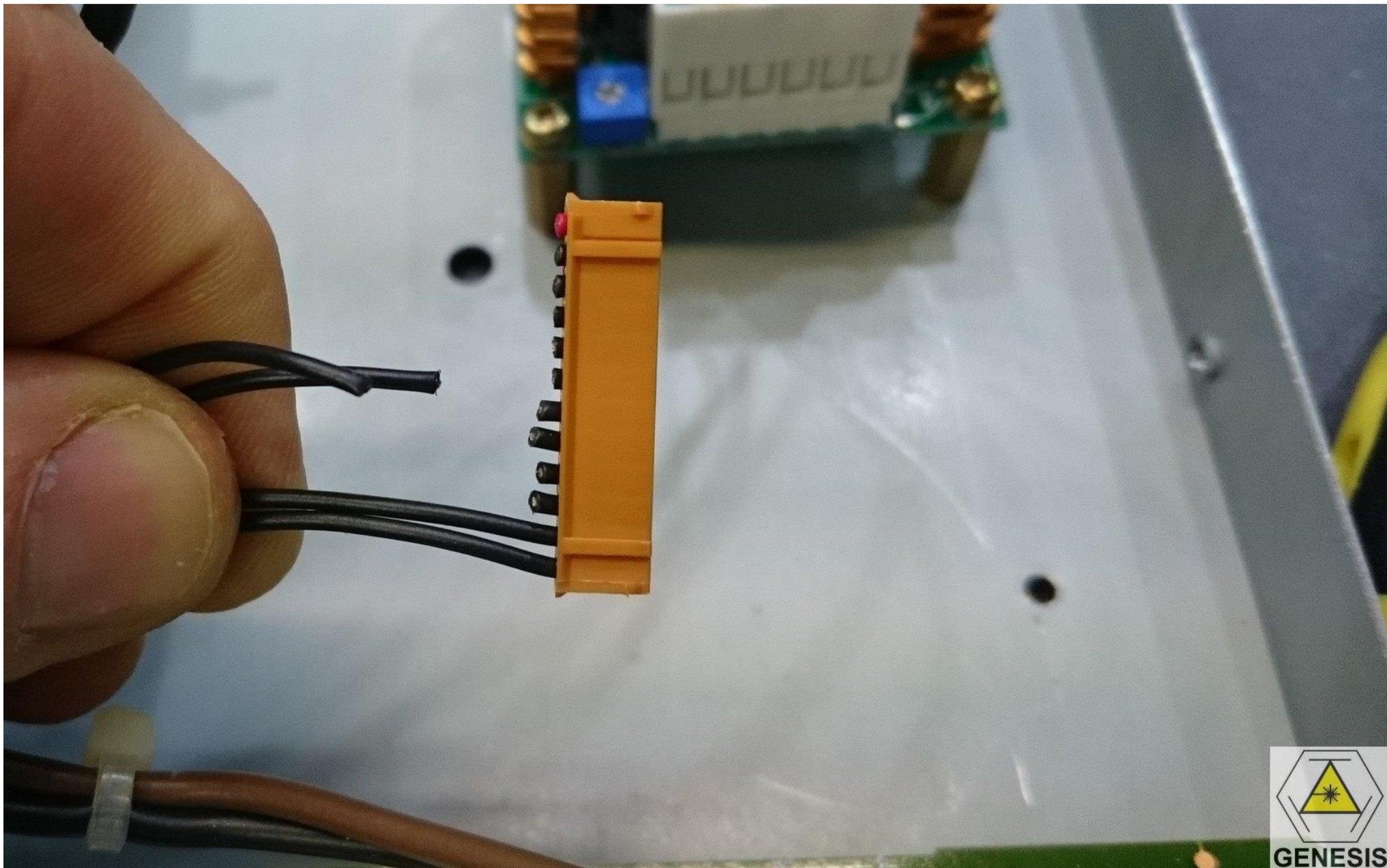




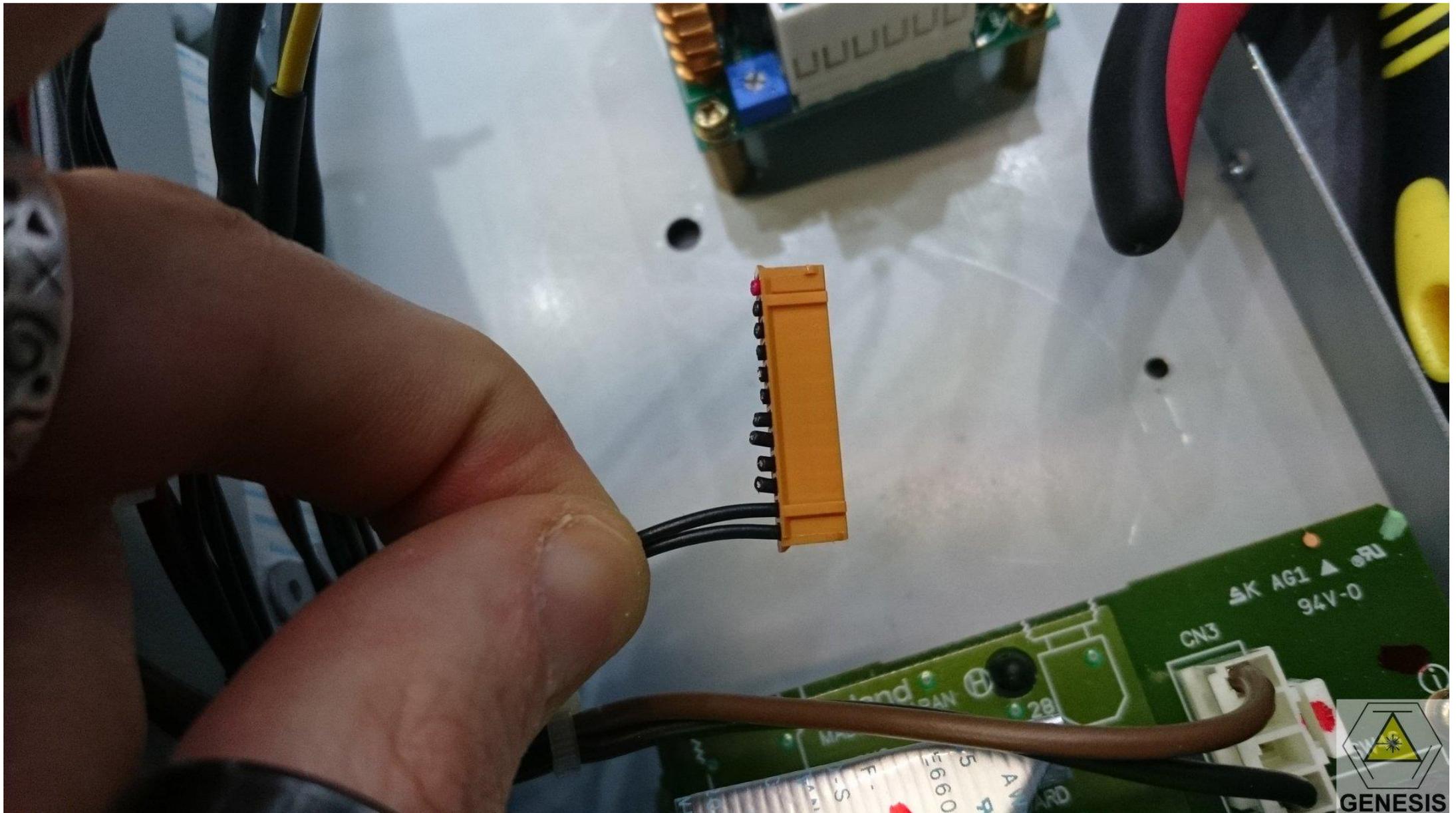
now cut the wires 4+5+6 and 9+10



strip and twist them add a bit of shrink tube and make a solder with the second thick black wire from the new PSU (0V)



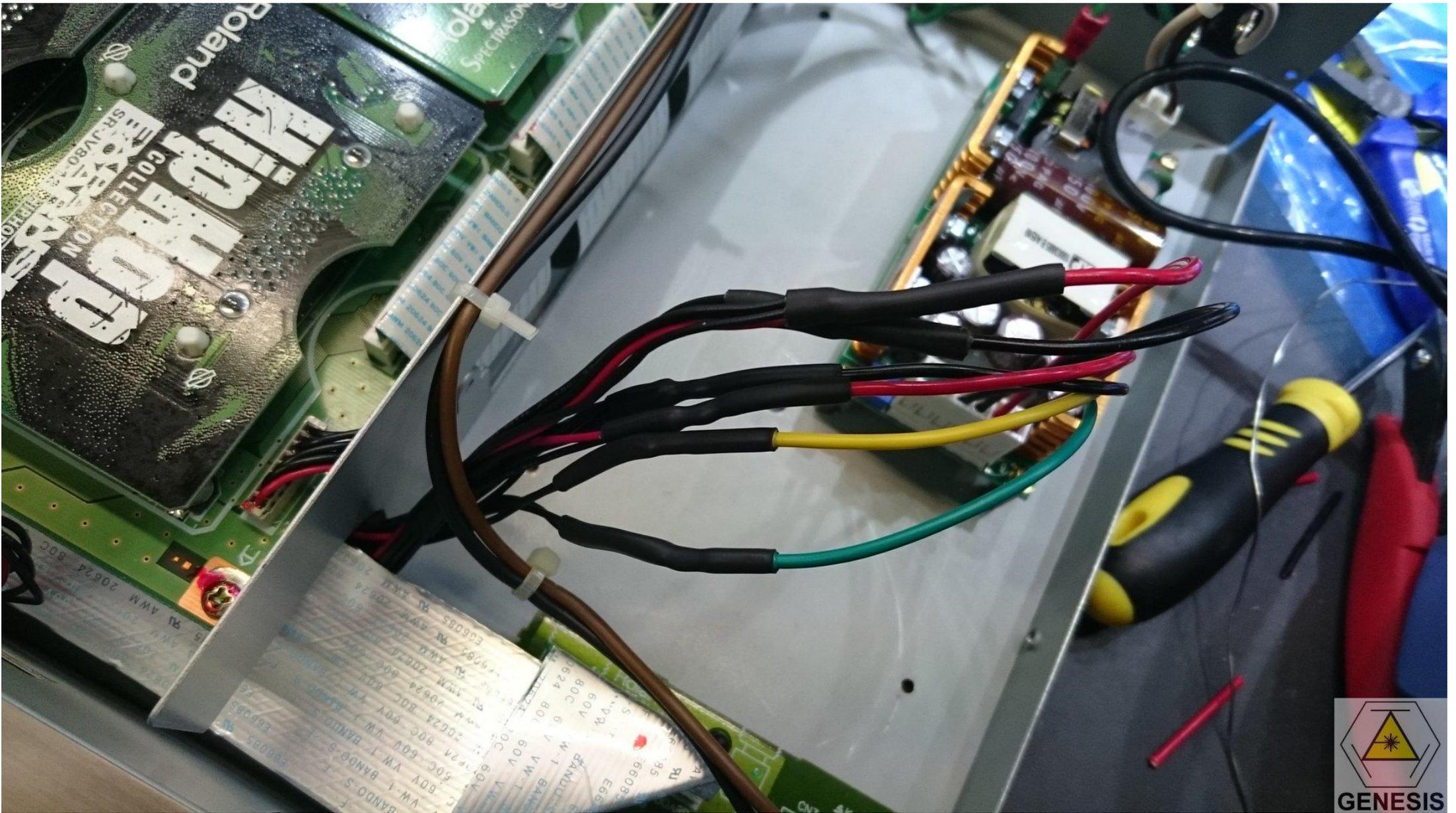
cut the 7+8 and connect them to the thick yellow wire (+15V)



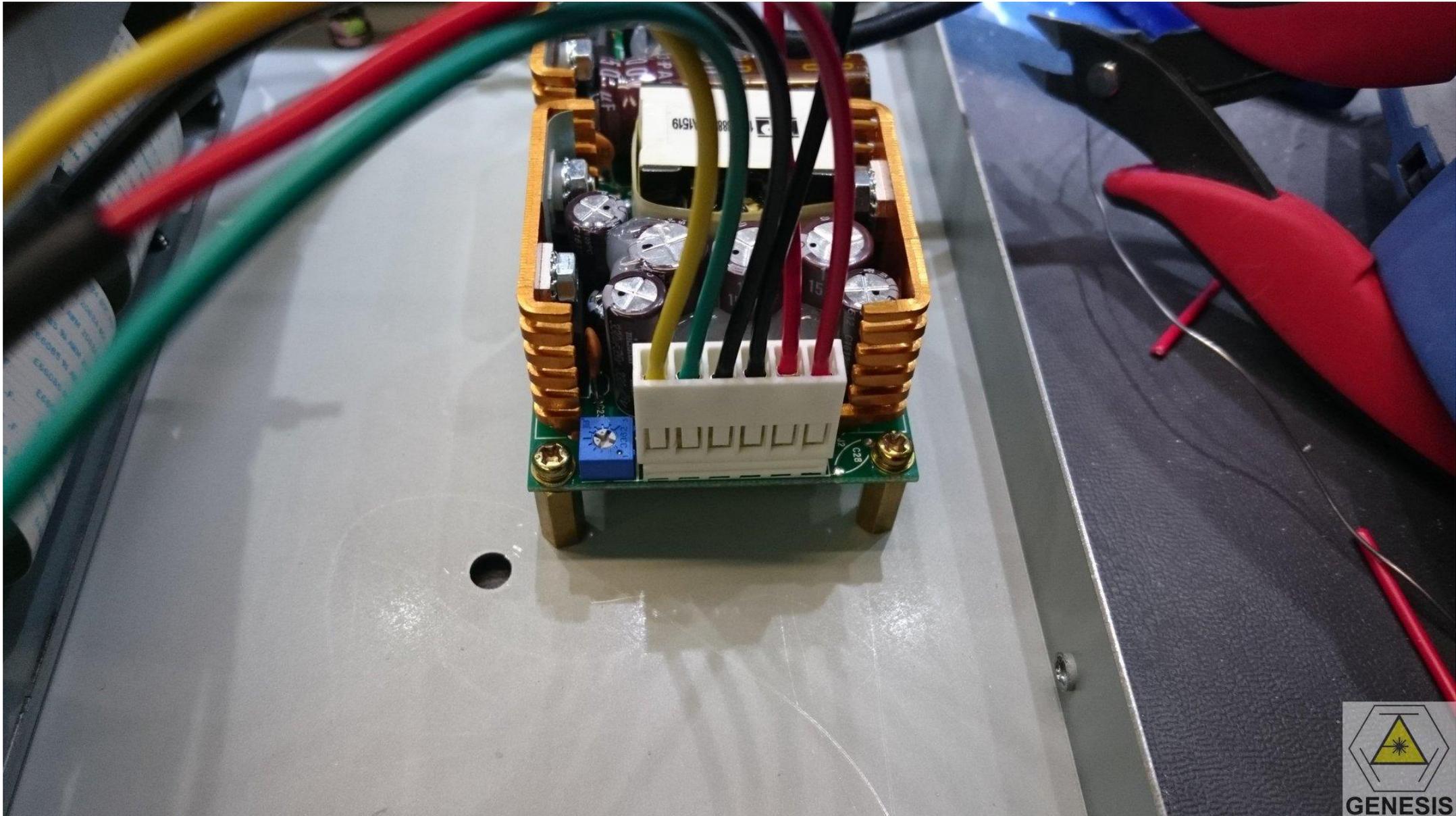
now cut the 2 last wires (11+12) for the -15V



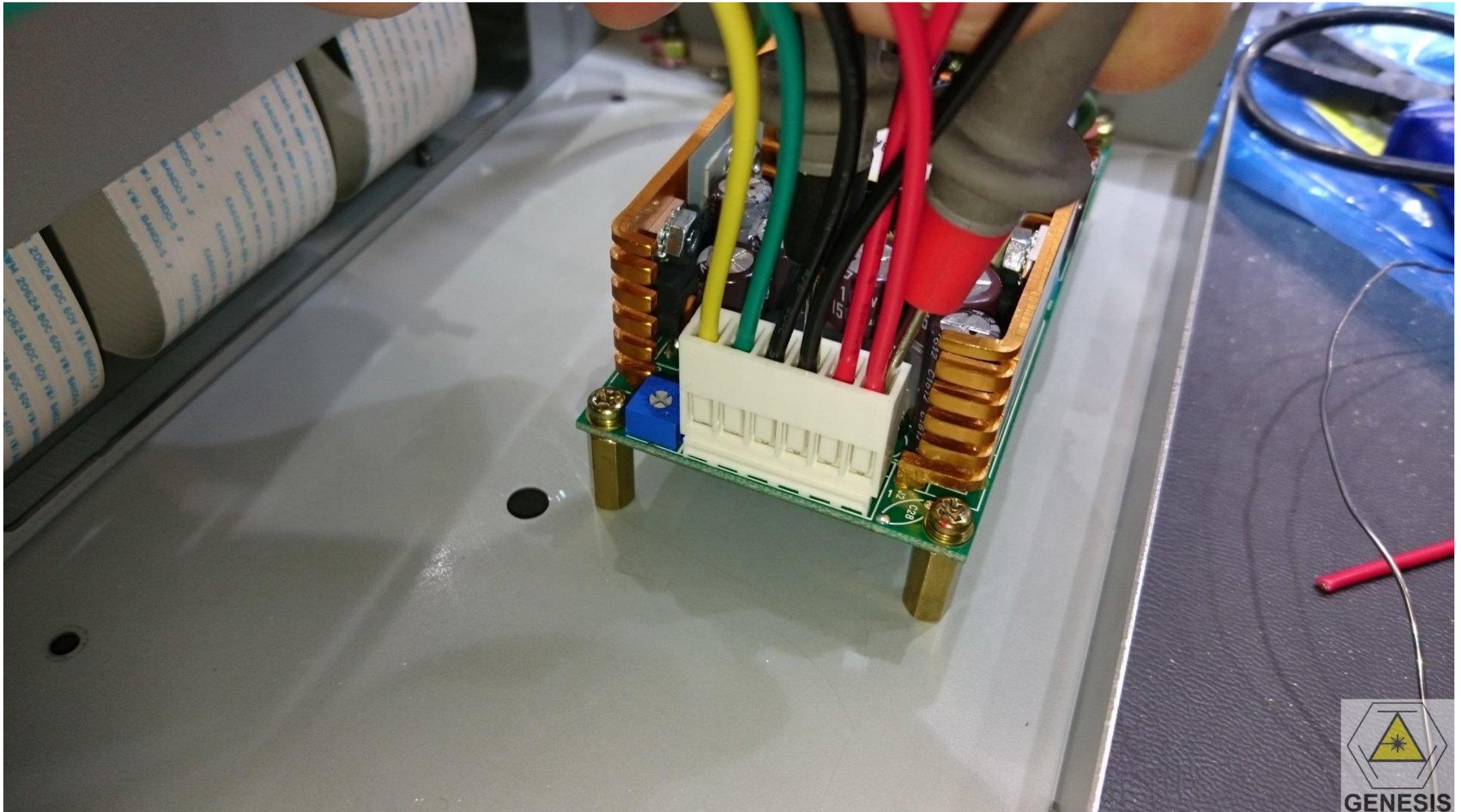
and connect them to the thick green wire



it's done! Double check everything



connect the molex connector to the PSU



plug the XV5080 and turn it on. check the +5V output with a multimeter

FLUKE 8846A 6-1/2 DIGIT PRECISION MULTIMETER

+ 5.10452 V_{DC}

RATIO

0.00000

A FLTR

2ND

MEAS

BACK

F1

F2

F3

F4

F5

MEMORY



DCV

ACV

DCI

ACI

Ω

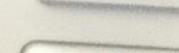
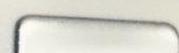
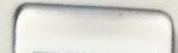
TRIG

INSTR
SETUP

RANGE

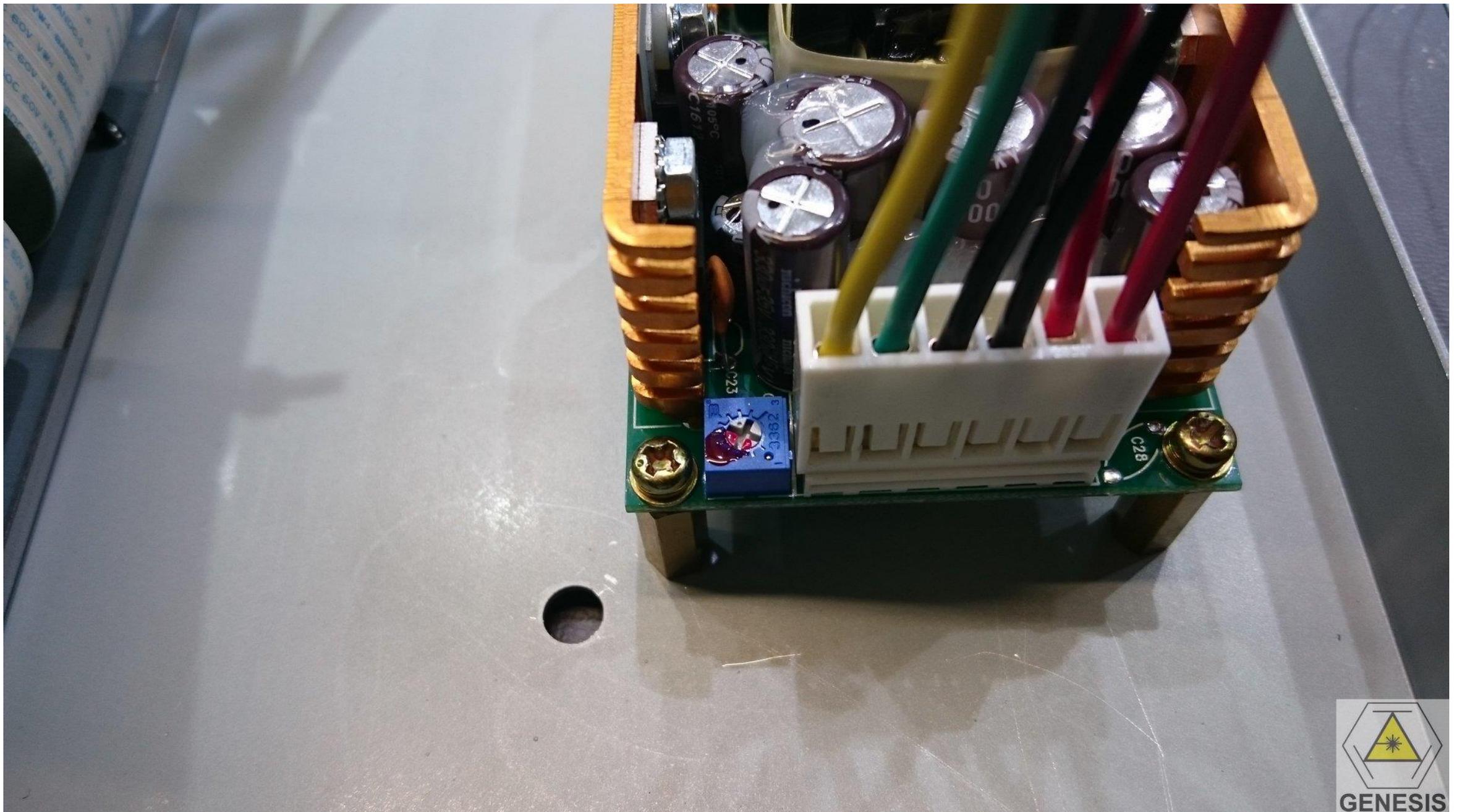


FREQ

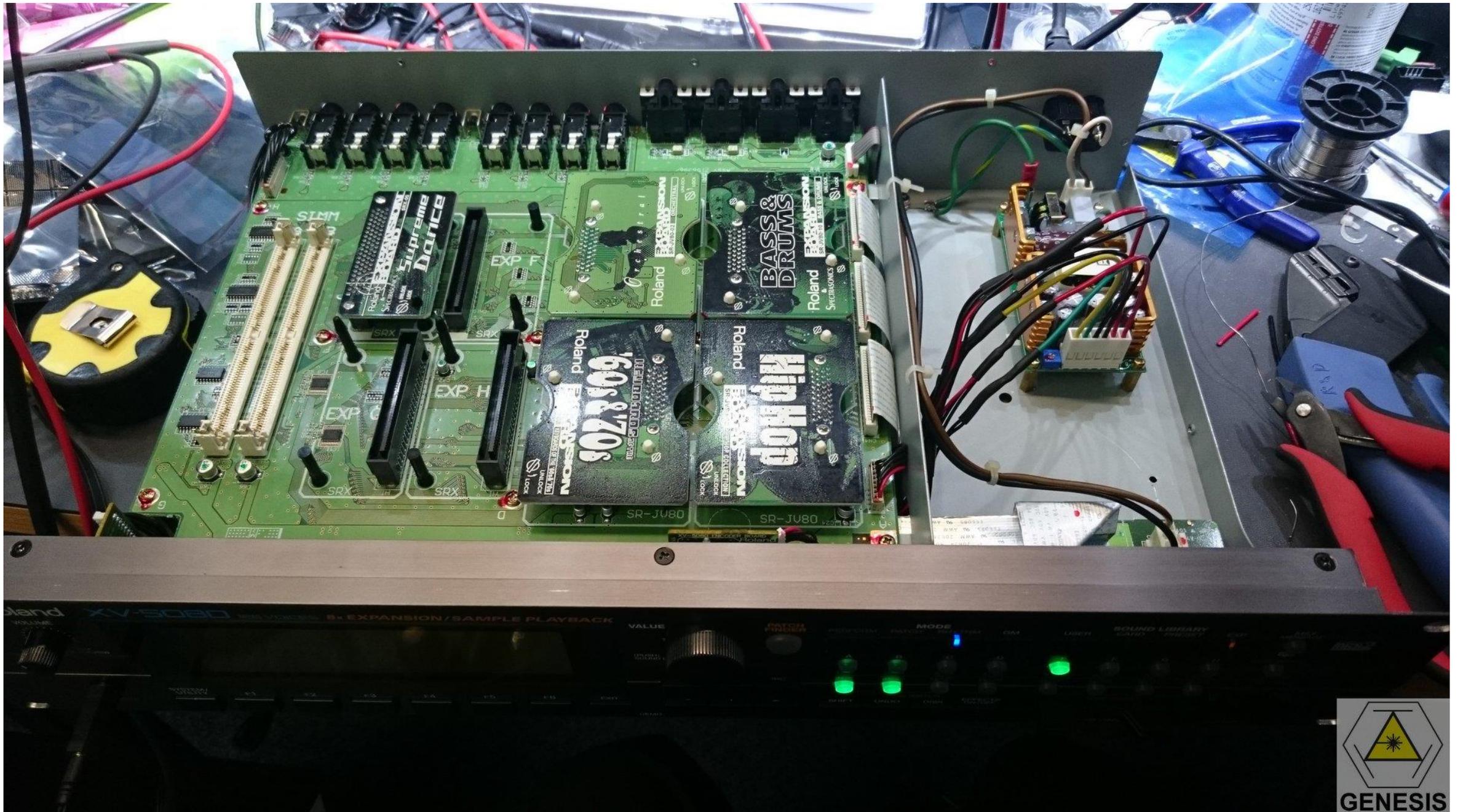


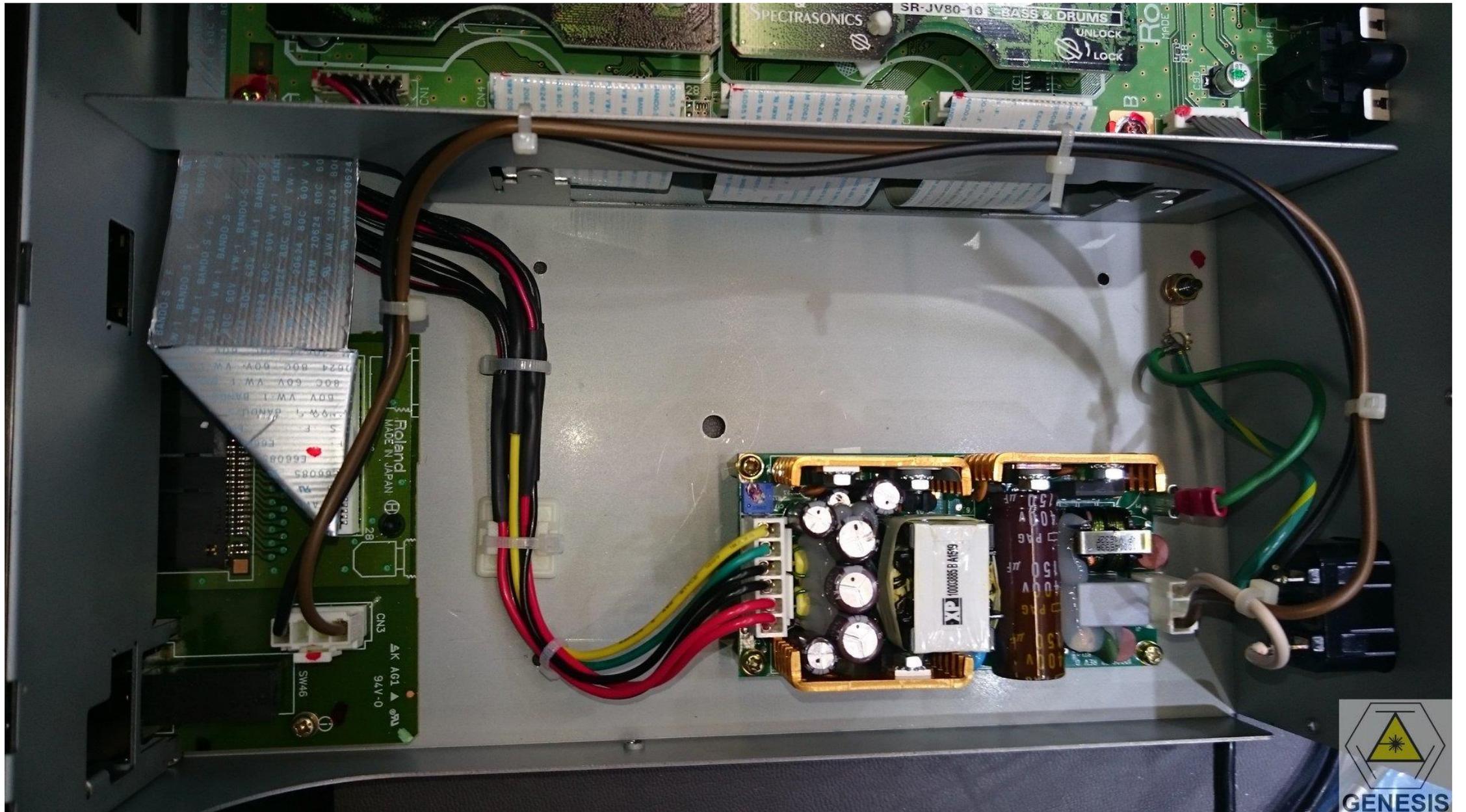
GENESIS

and trim the blue pot to get 5.1V at the output

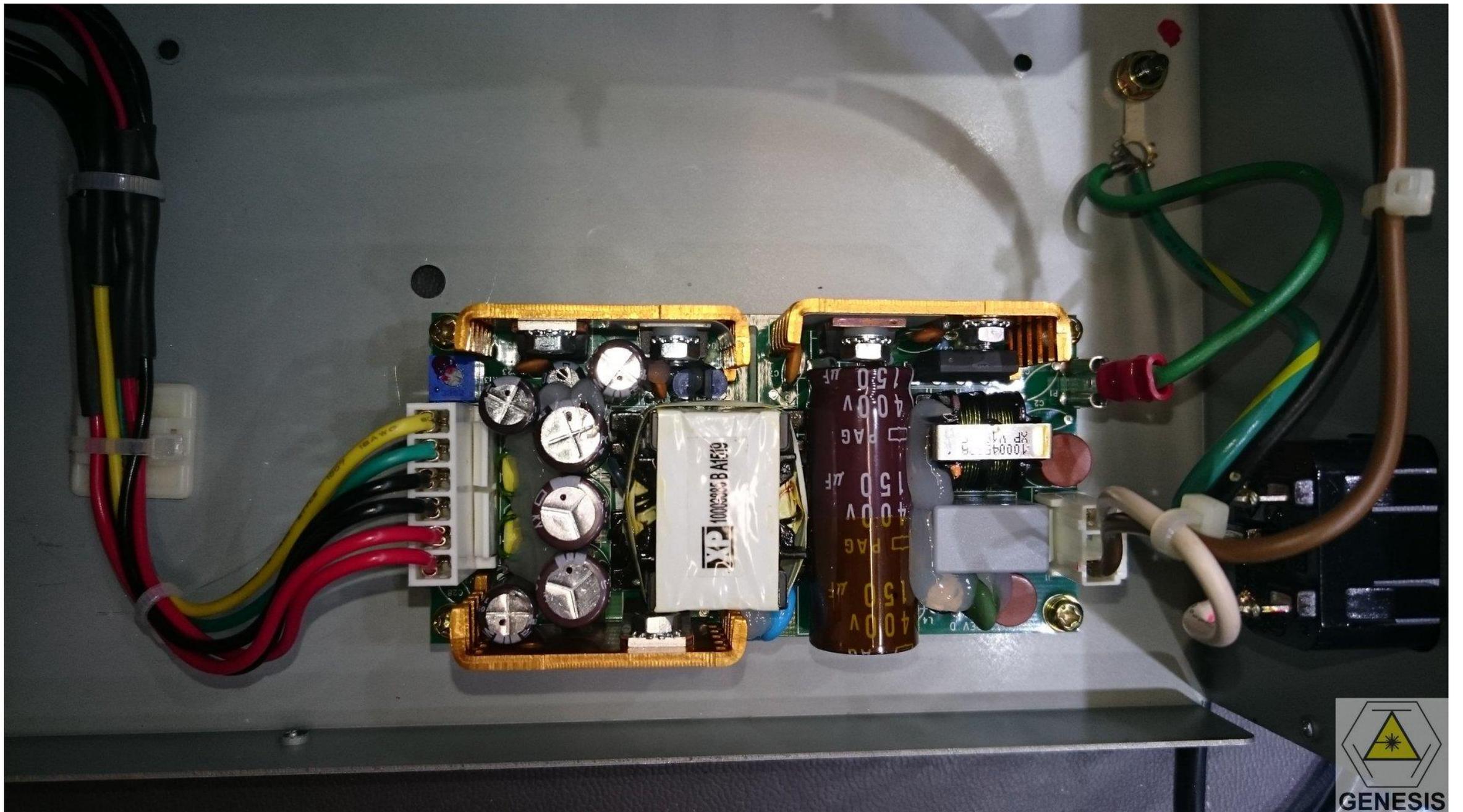


use blocking varnish to lock the setting

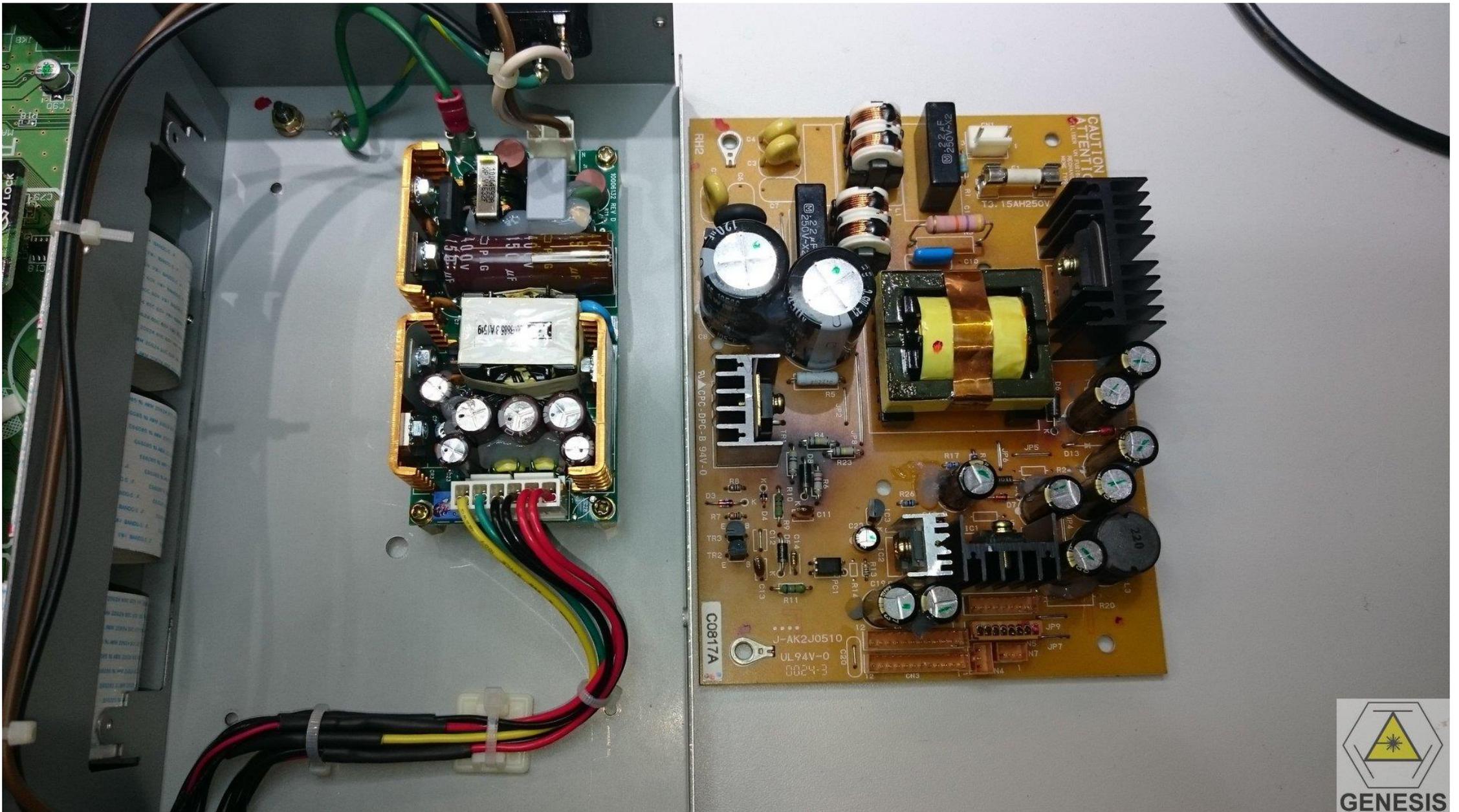




use a self adhesive nylon foot and ties to lock the wires in position



and voila! the modification is done 😊



the size comparison between the two PSUs



The End