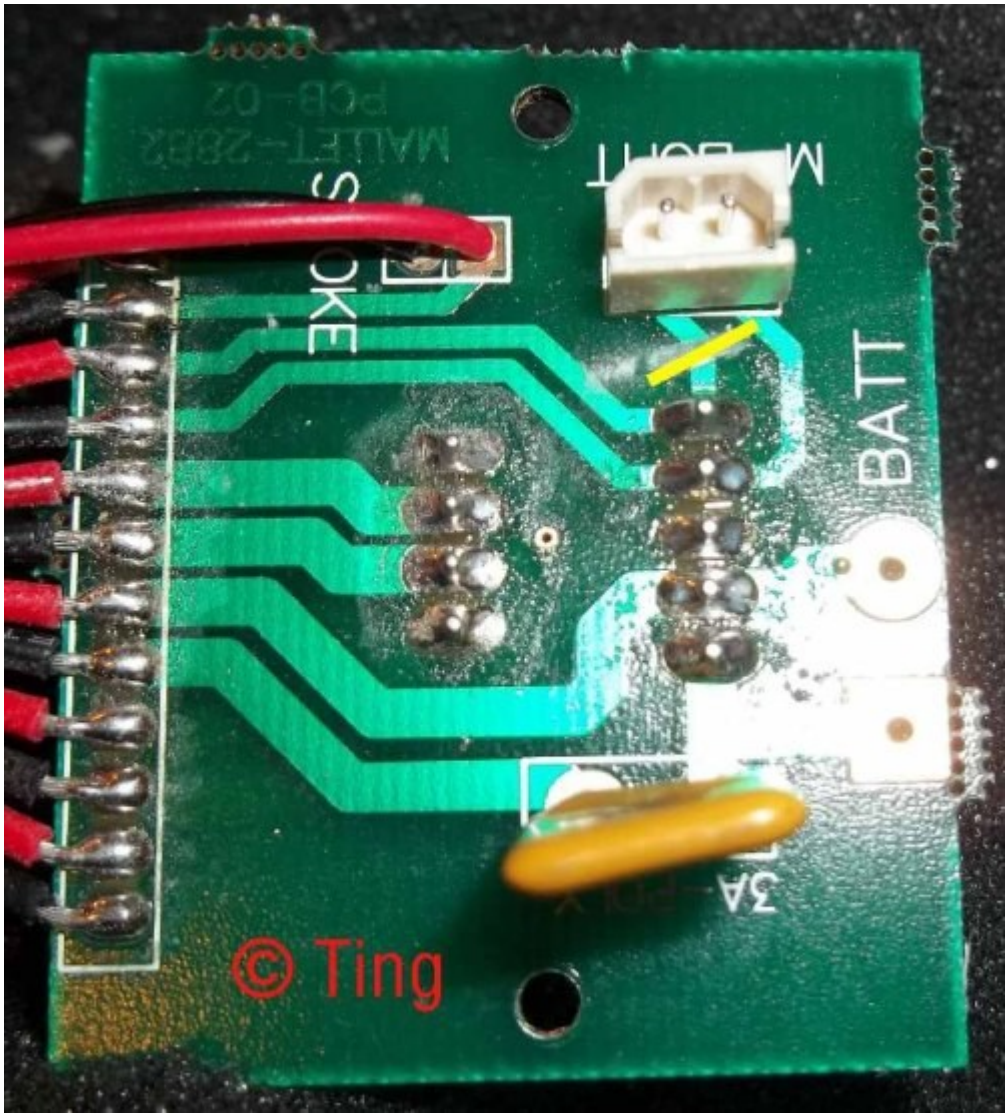
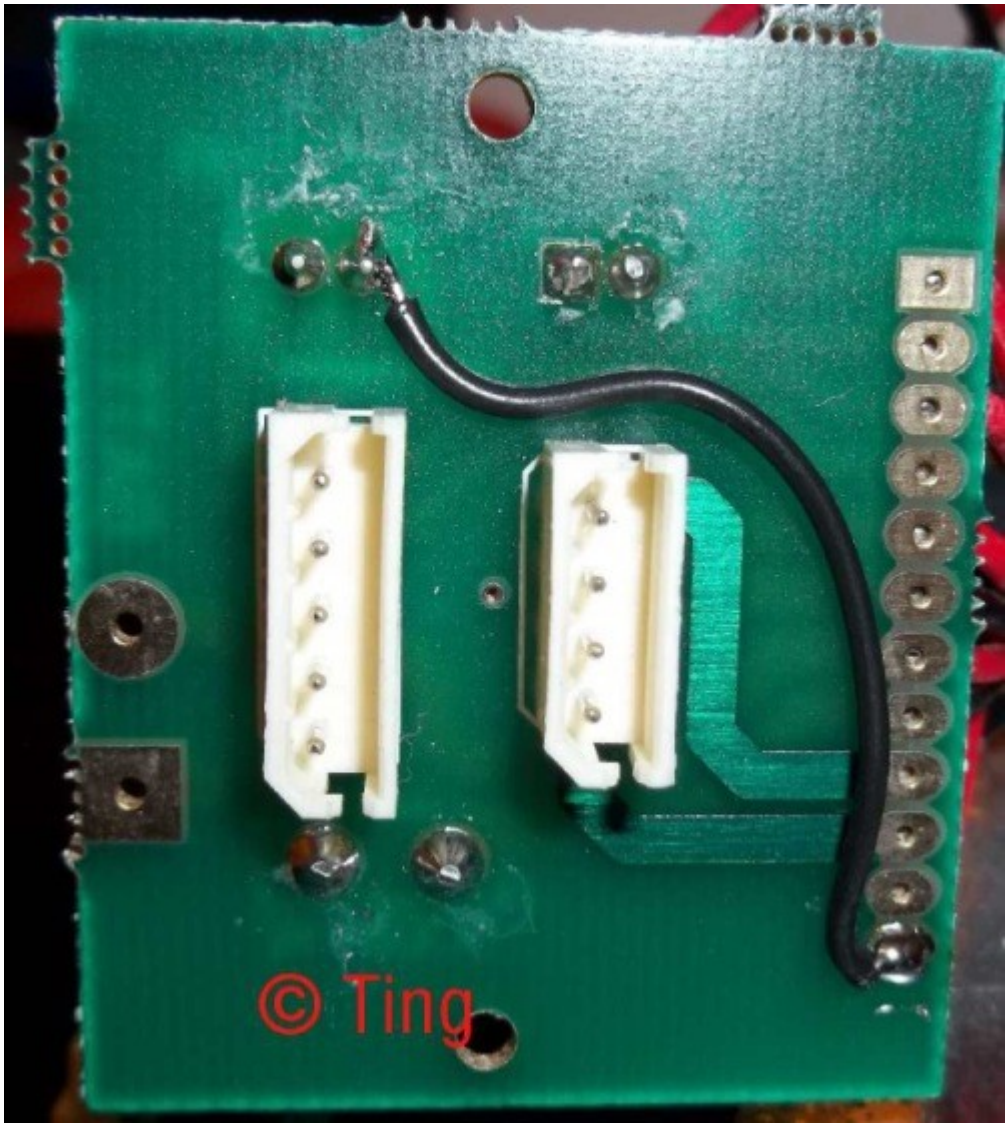
Aristocraft 2882 Mallet with XXL/S and Fire box

Description of installation of a XXL and S Electronic in a Aristocraft 2882 Mallet.

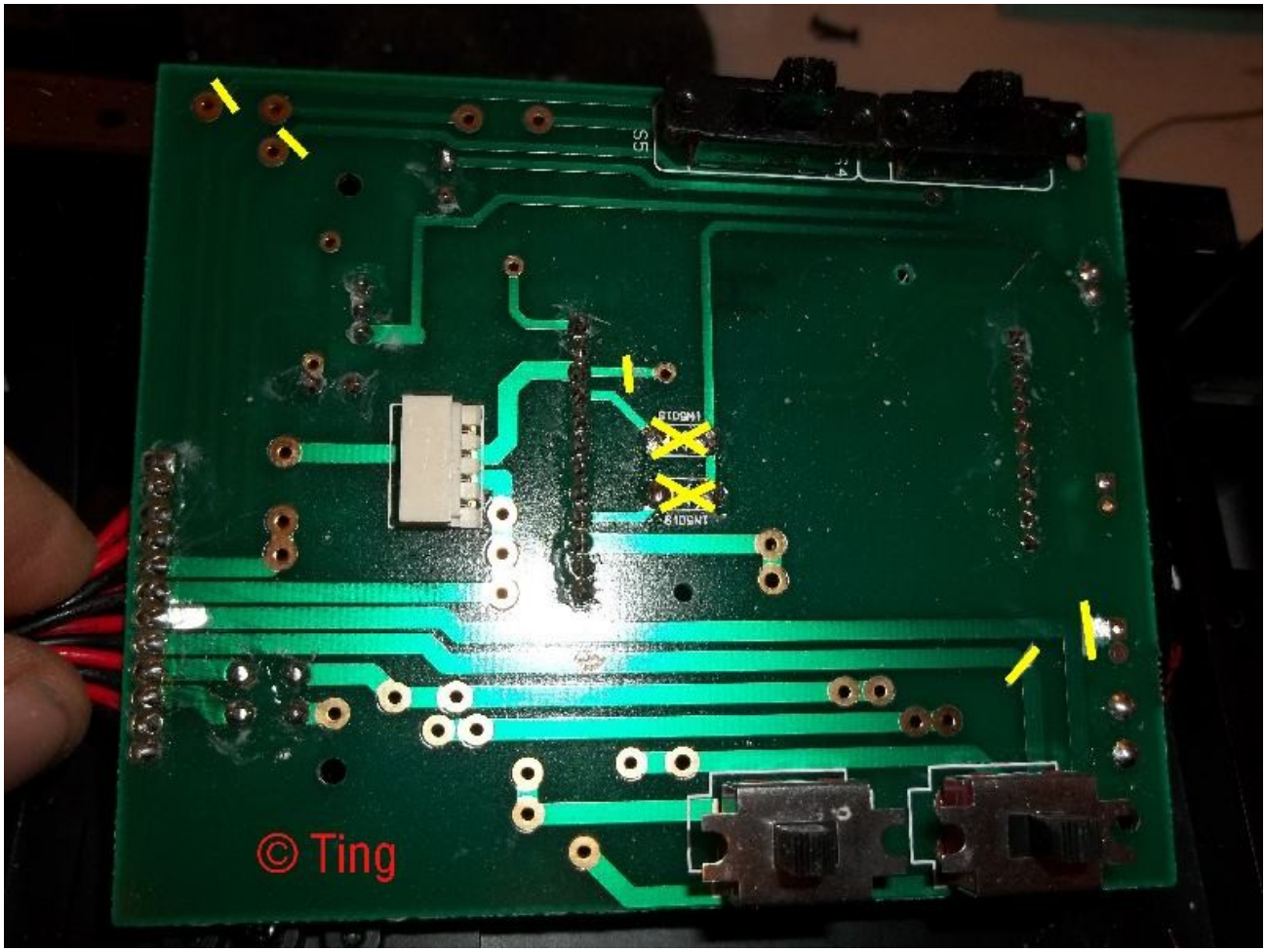
You need following parts:
1 x XXL Decoder
1 x S Decoder with sound of Uintah
1 x Fire box Light module
1 x High level of craftsmanship

The locomotive will be put on the boiler (Take foam on the desk!). The boiler is fixed with 6 screws, open them first.
Open the cabin with 4 screws.
Now turn the loco over again.
Remove the 2 handrails on the back of the cabin!
Then remove the plastic part for the fire door with 2 screws from bottom.
Now unscrew both PCBs.
Modify the front PCB as shown:

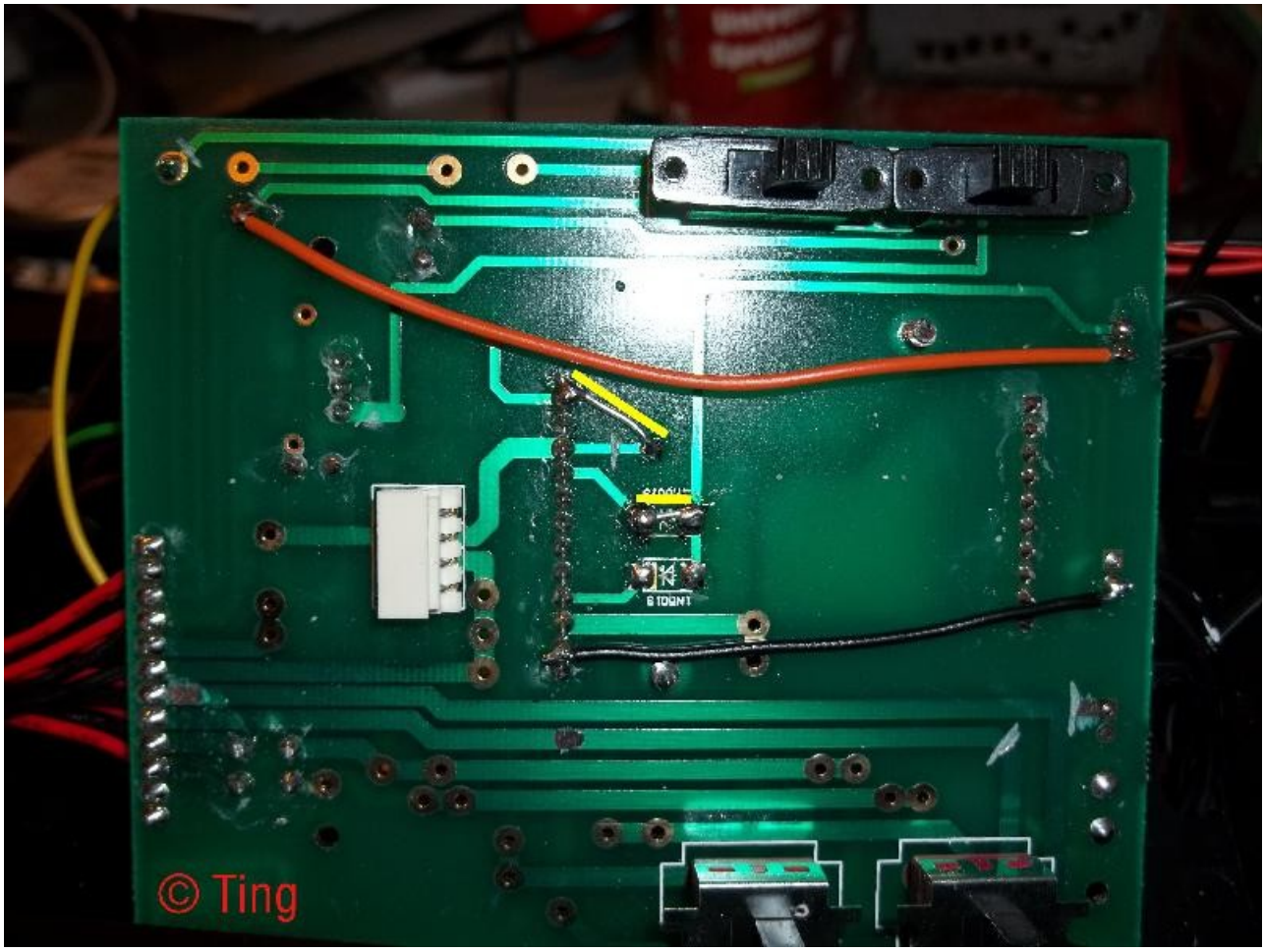

BATT
3A
© Ting



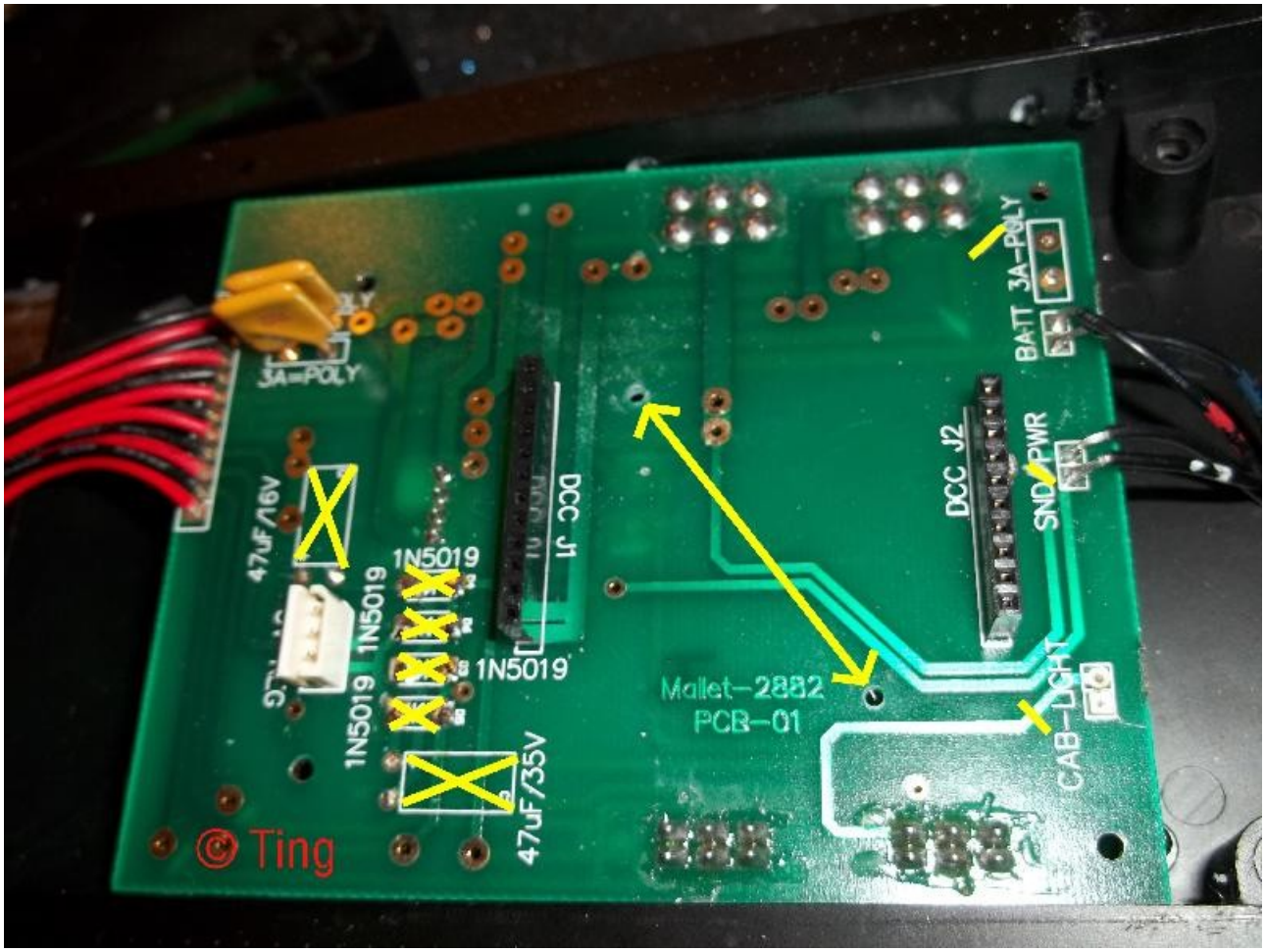
Screw on the PCB now.
We removed the cable in front of the cowcatcher (cut off direct behind the lamp)
Remove the voltage regulator on the lead weight, but you need the cable and plug later.
On the big PCB you have to cut off following conductor tracks and remove 2 SMD parts:



Now do following wiring on the bottom side:



On the top side remove parts marked with X and cut off 3 conductor tracks.
Approximately at the position marked with arrows put the XXL decoder as drilling jig and draw the holes on the PCB. Make sure that you drill no conductor track!

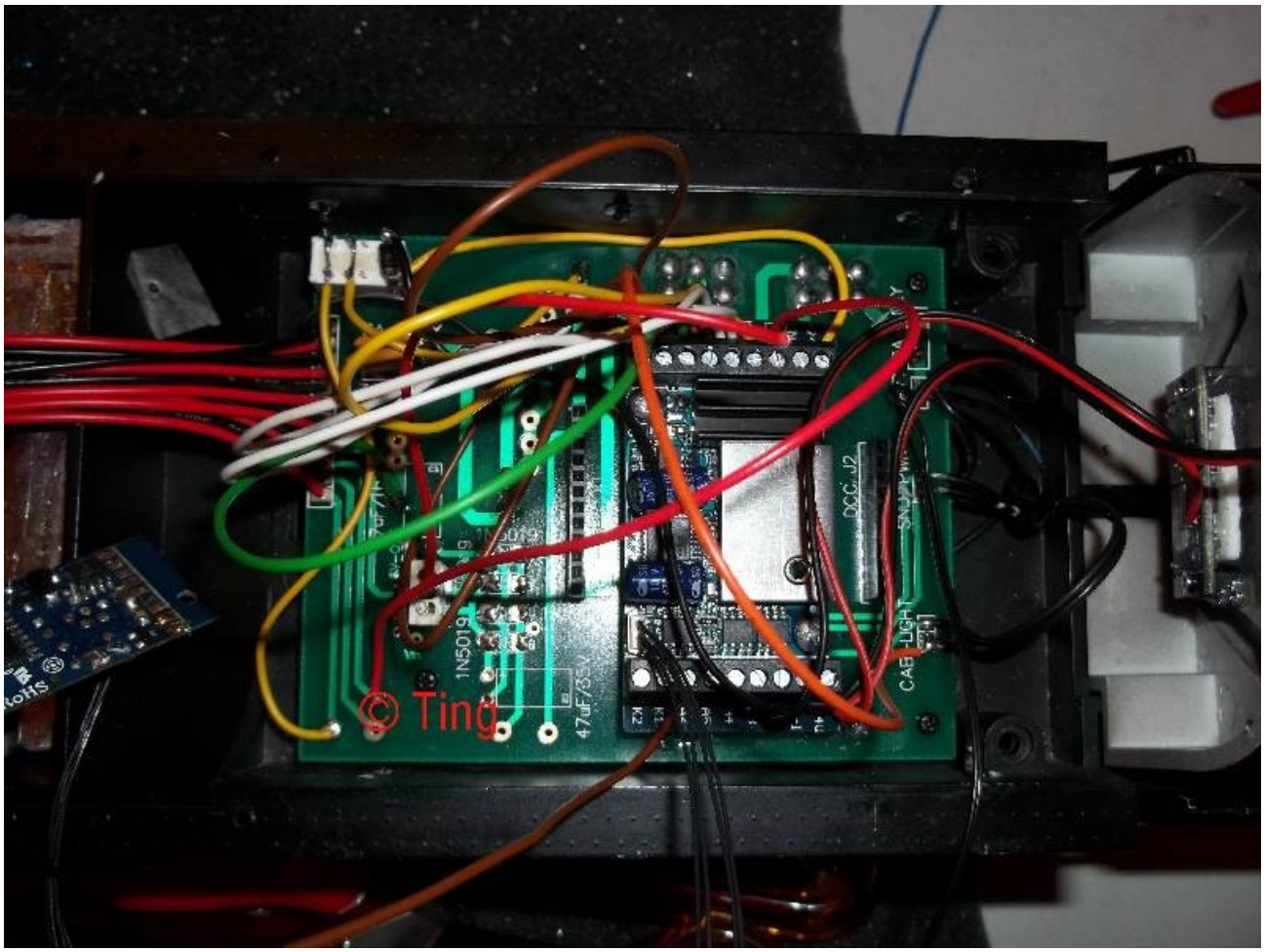


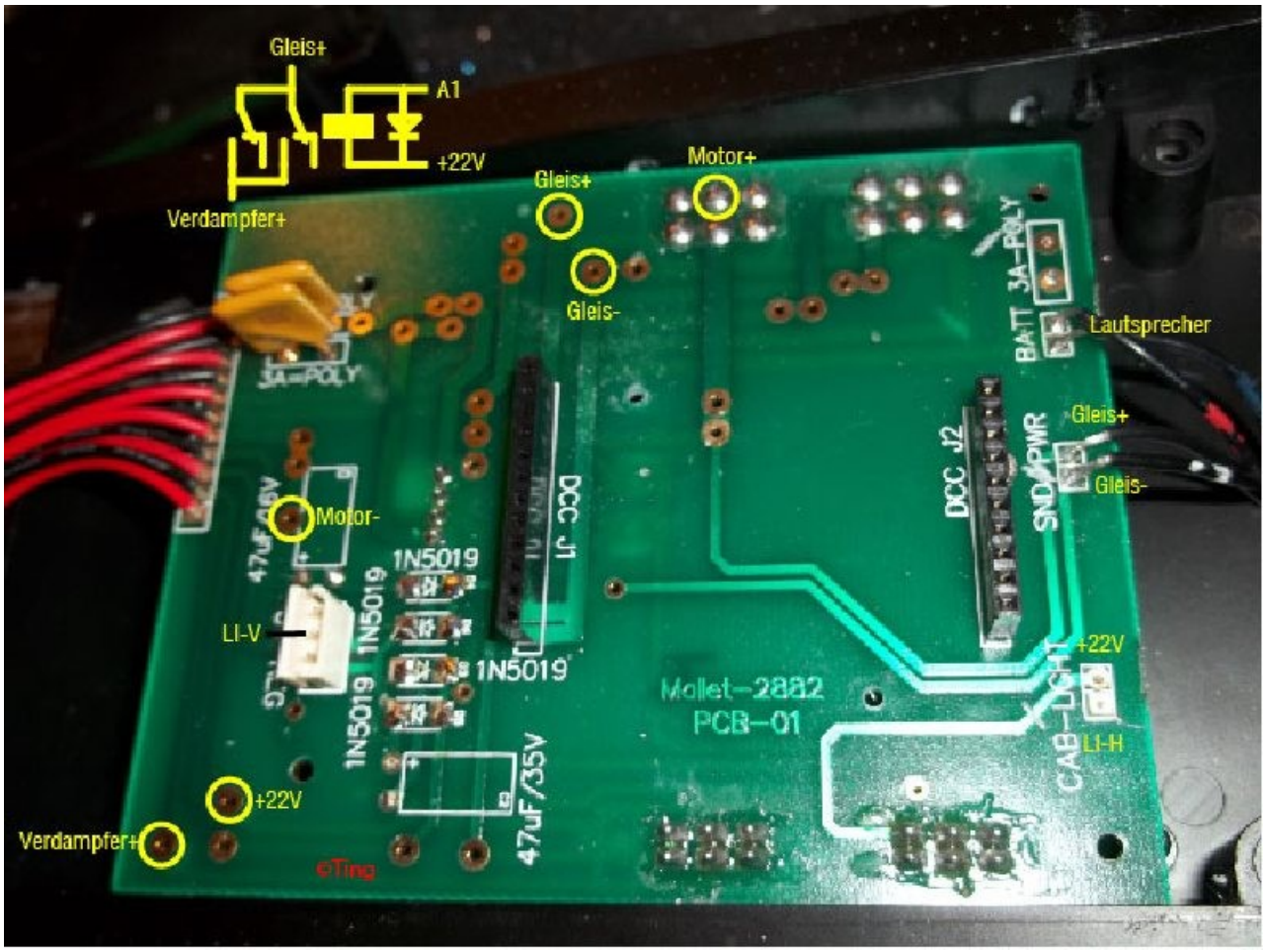
Now you have to mount the Fire Box and Light interior.
For the Fire Box make a hole with 19 mm width and 8mm height.
Remove the original bulb of light interior, enlarge the hole to 5,5 mm und stick a lamp socket.
You need 2 standoffs with a distance of 5,5mm. Then I stick double sided tape on the PCB.
The LEDs turn up as shown and fix the aluminium foil as shown.
Make sure that the contacts of the LEDs are not short-circuited by the aluminum foil!


© Ting

Fix all with glue from the back side.

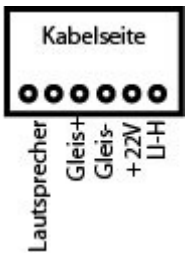
Now you have make some new wiring, here the photo of the finished wiring, only a overview. Exactly description follows.





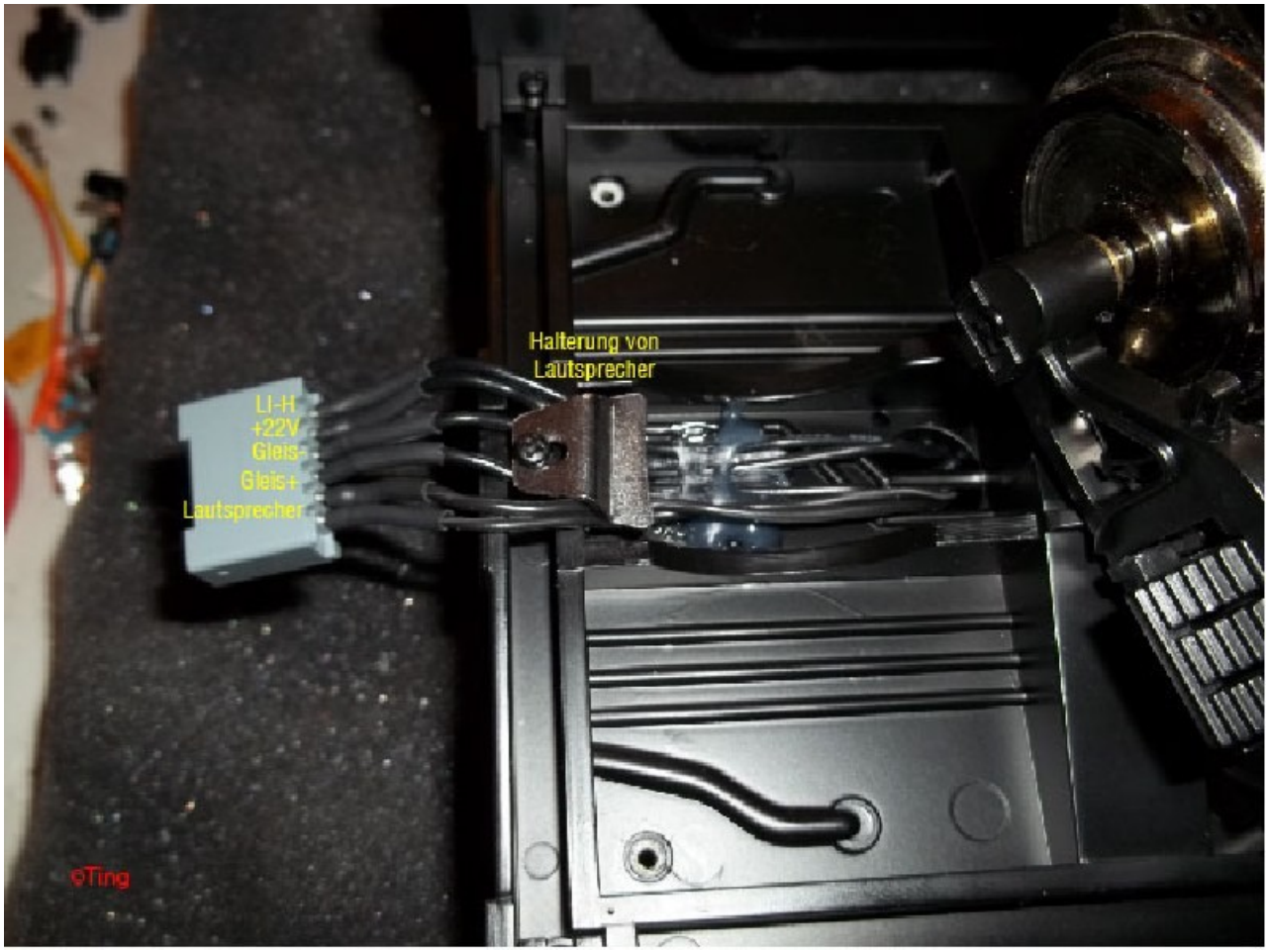
Wire the XXL like shown above.
Connect LI-V with the middle connector of the belonging plug.
The relay is a NA24WK (you can buy it at Conrad) and will be headfirst glued on the PCB.
Attention, you have to connect the coil in the right way for proper function.
You can also use our relay PCB.
Make a 2 pole wire from CAB-Light to rear.
Remove the plugs there.
Additional connect the light interior at +22V and LI-I and the Fire box at +22V and A3.
Program your S Decoder before you connect them! Program only with connected speaker!
CV 49=18 (SUSI)
CV 156=16 (Coal shuffeling constant loop)
CV 195=2 (Number of magnet poles pear each steam chuff)
Later i build in a switch for programming. You have to switch the track voltage from XXL to S decoder.
For programming you have to turn off the motor, while the XXL decoder get his supply via SUSI.
Connect the pulse generator of the S decoder with A6 of XXL decoder.

Now programm the XXL:
CV 120=1 (Pulse generator simulation)
CV 113=10 (Fire box with coal shuffeling)
Connect the S decoder via SUSI and fix it with double sided tape.
Connect the speaker with the 2 contacts of the big Aristocraft PCB.
Press a 6 pole Stocko plug at the 6 cables rear with following assignment:

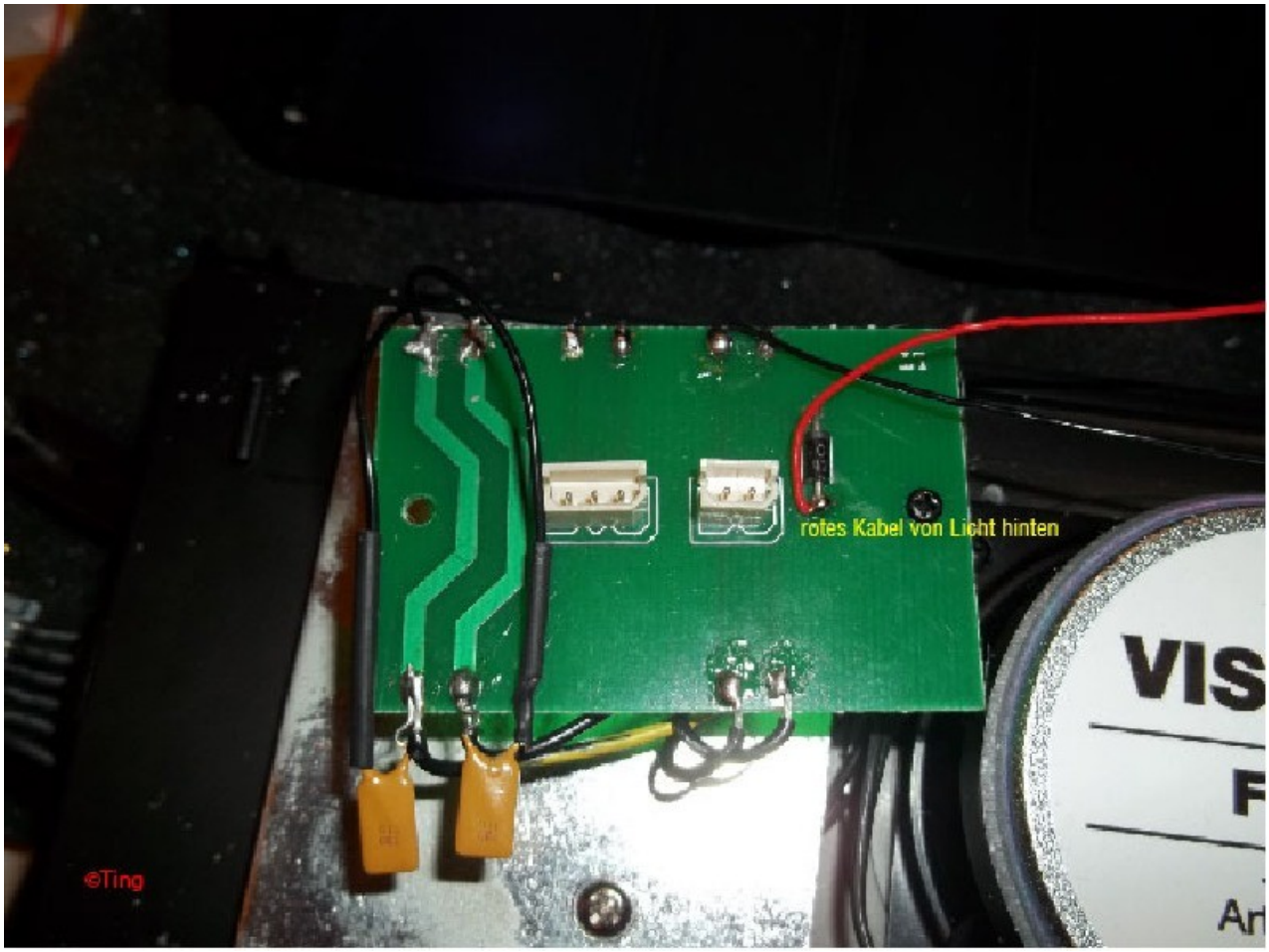


The loco is ready. Now we make the tender.
Open it with 6 srews from bottom side.
Remove the speaker and mount a Visaton speaker, fix it with minimum 3 screws.

Remove the cable at the rear.
Remove the PCB. Remove the front weights.
Add 2 pole cable additionaly to the 4 others to the front.
Solder the cables as shown.
To do this remove the bogie.
With an original bracket of the speaker you can fix the cables.
Solder the speaker cable from speaker to Stocko pin connector socket.



Mount the weights and PCB as shown.
Remove the red cable from light rear and solder it as shown to the diode.



Before you screw on the loco, test all functions!
Put the loco and tender on the track, connect the 6 pole stocko plug.