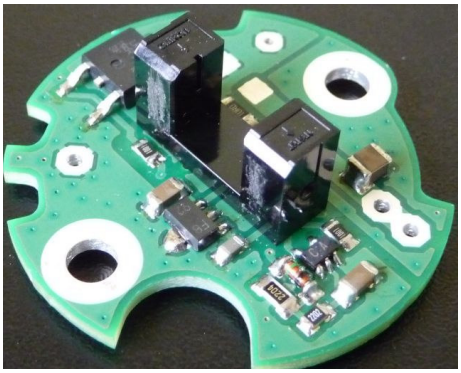
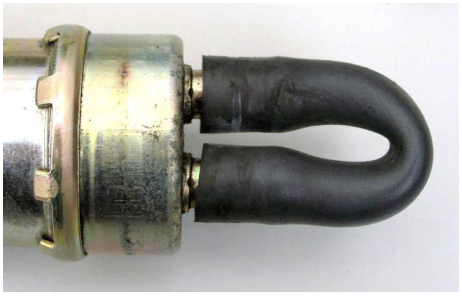
Manual for mounting DR_Bean fuelpump-modification-PCB



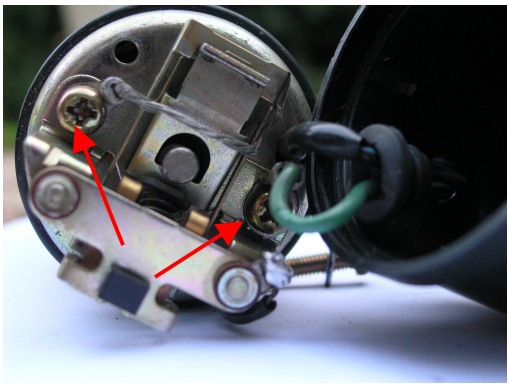
To mount the fuel pump modification printed circuit board (PCBou need:

- This manual, preferably printed!!
- Soldering iron (decent one, not a 100W soldering gun)
- Small soldering tin with flux in it (electronics-solder tin)
- wirecutter
- crosshead screwdriver
- allen key 2,5 (metric)
- wrench 7 (preferably a socket screwdriver 7)
- drip of loctite
- at least 1 right hand and 1 hour of time after removing the pump.

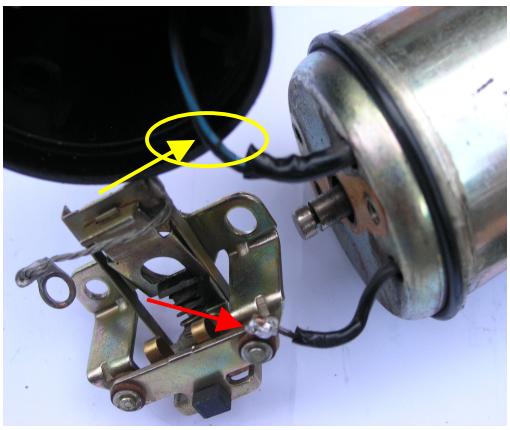


Please read the full manual first, then start the modification step by step: **This is really the best order!** If you don't understand something or don't have the right tools, don't start but consult the LC8 forum, and prepare first before you start.

1. Remove the fuelpump from the bike: See LC8- workshopmanual (forum). Bridge the fuel in/outlet with a short tube, or make sure the pump is really empty: The fuel could damage the new PCB during mounting and/or cause other dangers. In the picture the mounting rubber of the pump is removed, but that is not strictly neccesary.



2. Remove the black plastic lid:
   - Unscrew the black cover with a crosshead screwdriver.
   - Slide the cover over the wire (with the outertubing) up til the plug, so as to have enough workingspace.
   - Cut-down the blue outer-tube of the kabel roughly 4 cm: to create some working-space in the wires; take care not to damage the wires!!
   - Slide the small wire-rubber (grommet) as far as possible towards the plus side (use some WD40 if needed).

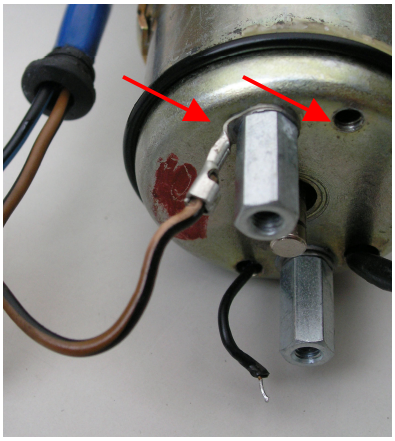


3. Unscrew the 2 small crosshead screws (red arrows) and remove the complete contactbreaker assembly (with the worn-out contacts). Also remove the paper bit below it.

4. Desolder the small black wire coming from the pump, and remove it from the contactbreaker (red arrow). You can now keep your old contactbreakerset with screws as spare.

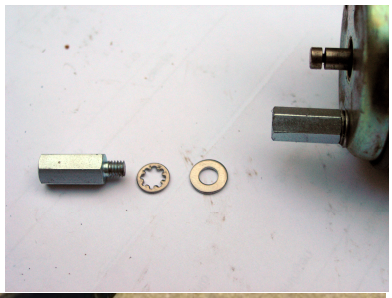
5. Cut (!!) the blue-black wire, about 6-10 mm outside of the black isolation tube (+/- 25 mm from the pump): See yellow arrow and circle.

Now start rebuilding it!:



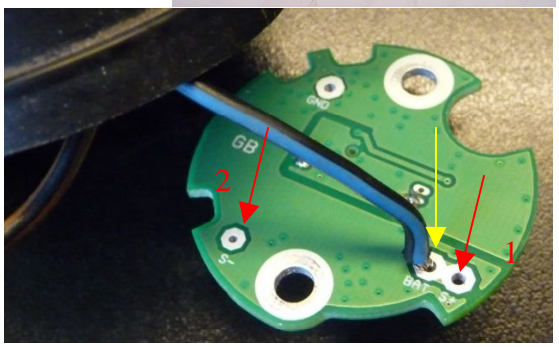
6. Mounting the studs for the PCB:

   - Take care: The stud should be mounted in the same holes used for the original crossheadscrews, that are in 1 line with the centre rod of the pump (the 3rd hole is for the screw of the pump cover).
   - Below one stud, we need a **shakeproof washer and the ground cable (brown-black)**.
   - Mount this stud with the ground cable at the side of the 3rd hole.
   - Below the other stud we need **one shakeproof washer and a plain washer**: See picture!!
   - Apply some loctite to the thread of the studs, and tighten them **HAND-**tight (5 Nm) e.g with a hand socket screwdriver –7: **Carefull**, the pump is only thin tinplate material, don't overtighten it!



7. Insert the blue-black wire (coming from the plug) into the PCB: wind-up the wire-end of the wire with your fingers to avoid frays and insert it into the hole marked '**BAT'.**

8. Solder the wire from the other side of the PCB with some electronics tin (small bit included in your mounting set)



9. Mounting the PBC on the studs:

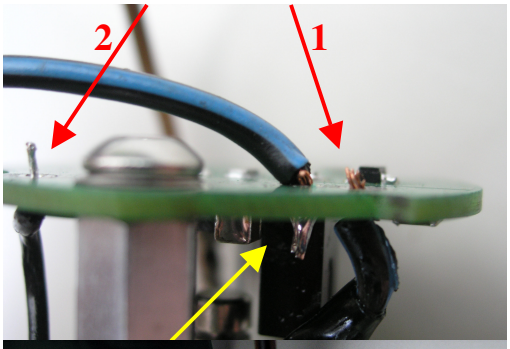
   - The large, half-round gap in the PCB should go to the side of the mounting hole for the pump-cap: The cap-screw will go through the gap in the PCB: (Check with the pump and the black pump-cap so you understand how it should fit!!).

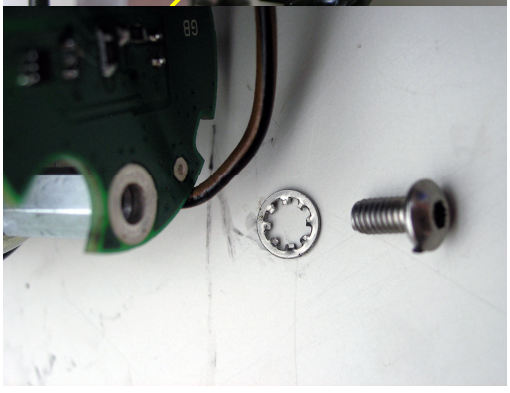
   - Insert the short blue-black wire coming from the pump into the PCB hole (S+) just next to the blue-black wire coming from the other side, which you just soldered (red arrow-1).

   - Insert the black wire coming from the pump into the smaller PCB hole (S-) (red arrow-2)

   - Now mount the PCB with the 2 hex socket-bolts : Allen key 2,5. Below each bolt a shakeproof washer (see photo).

   - Now take your time and solder the 2 wires coming from the pump into the PCB: Make sure to let the tin flow into the wire hole properly!

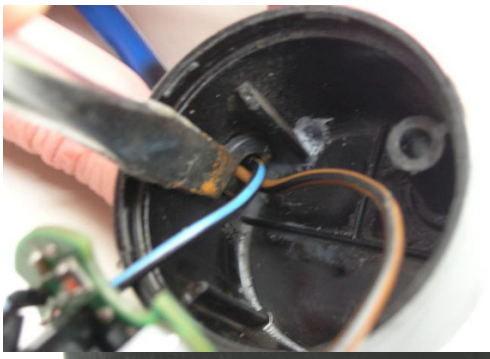




Test: Now all the connections are made. You can hook up the pump for a quick check (Ignition OFF!) by connecting it to the fuelpump connector coming from your bike. Make sure not to create any short with the pump and print!! (don't connect the fuelline)

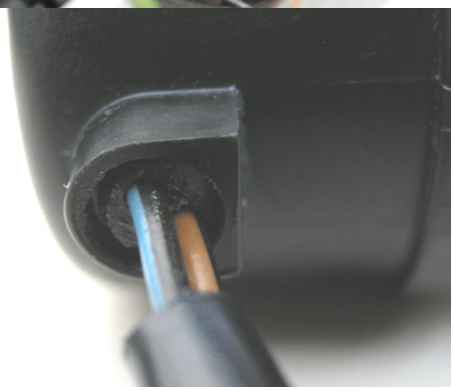
Switch on the ignition: The pump should now run for 5 seconds making a fast plopping sound: When not… you did something wrong!! Take care: If you did something wrong, it could be you now blew-up the fuse for the fuelpump in the fusebox. Disconnect the pump, replace the fuse and restart reading this manual from the beginning to see what went wrong.

Mounting: Test passed ok?:

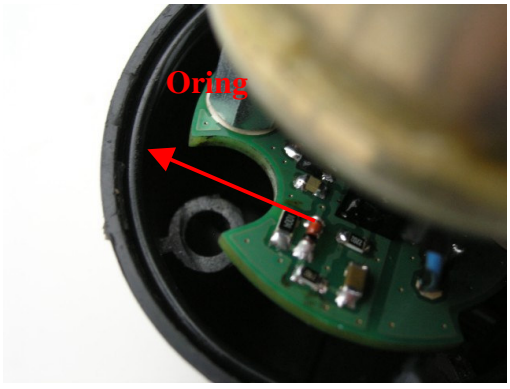


10. Remount the cap:

    The black plastic cap now has to go back over the PCB and the wires: This is all a bit thight fit, DO NOT use any force, when properly mounted it should all fit nicely (you can use some WD40 or similar to lube the wire and rubber to make it easier):



- Push the cap back over the cable, untill you reach the small wire rubber (grommet). Push the small rubber grommet into the opening in the cap (e.g. with a blunt screwdriver), see picture (Yeah... really that wasn't my design!). Make sure you get it in properly, because if it isn't , the PCB won't fit inside and water may leak into the cap! From the outside you can see whether the rubber grommet is correctly placed, as seen in the picture →
- Now put the pump with print into the cap, carefully pulling the wires back through the grommet. The half-round gap in the PCB should go where the cap-screw goes: see picture!
- The groundwire has to pass the PCB on the side: There is a small gap in the side of the PCB for this.
- Put the O-ring of the pump in the edge of the cap, if it isn't sticking on the outside of the pump
- Now push the cap completely over the pump and the O-ring. It should easily fit in place.
- Now insert the long screw of the cap and tighten it, hand-tight!



READY! Test the pump again, as described before. If all ok, remount the pump on the bike.
Finally: Although you could use sealing compound, I do not recommend this: It is not needed IF the O-ring and the rubber grommet are properly in place. In any case, do NOT use any acid-based silicone compound/cement (they smell like vinigar)!! This will damage the electronic components.