
Repair a bike light

A Trelock LS720 reloaded

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Opening the case is the hardest part of such repairs. There's often a subtle trick. Finding it leaves a trace of little notches or holders which broke off. If you push the light's sides a bit they give way. Seams get visible. So it consists of two parts. One is pushed into the other. Without visible screws I expected to find one under the sticker opposite of the light. It came off and there was no screw.

Instead you need to slide a thin piece of metal underneath the outer part of the case. I have a variety of such hard but thin metal strips. A spatula would work, too or a small screwdriver. I didn't have either. Instead I took a strip salvaged from a car's wipers. They work as a spring and are coated with the rubber part. It is a bit of work to get them out and clean but it's worth the work. You can also open doors that fell into the lock. Computer cases have thin metal sheets, too. If you see a laptop with some of the drive carriers still available save one for you. A plate hand shear gives you many tools from a hard disk carrier. But they are so thin they only create sharp edges.

By pushing the two strips under the case two noses are removed from their lock. The case can be slid open easily. With the case open it is clear that you break it with brute force before it comes apart. Both parts of the case interlock with a very broad notch.

Inside from left to right or towards the LED there's the battery. It is plugged into the board with a small JST plug. The plug can easily be pushed out with any small tool. A short measurement reveals a dead battery. Voltage drops after being charged. Getting a replacement is not that easy. I found one of nearly the same size in a DIY shop but the plug had to be replaced. So I cut off the plug with the longer wires at the plug. This part needs to be soldered to the replacement battery. In addition I cut them to different lengths. Solder joints of the two wires will not overlap so the diameter is smaller.

I use the recommended space-proven way of joining wires. First of all put some shrink tubing over both wires. It'll seal the connection later. Then longer ends about 8mm wrapped around each other, a bit of solder for only the half of the wrap and folded backwards. This way the wire stays flexible and won't break right after the rigid soldered part. Shrink tubing put into position and a bit of heat gives a good connection and vibration resistant joint.

Now the lamp can be charged again, lights up, get another charge and switched on again. The problem persists. So I dug deeper and found the circuit broken. It draws a significant amount of power and drains the battery. After doing so it doesn't switch off but continues to draw power. I dumped the light and kept the battery for another project.