
Technical Bulletin 57

Spikie tilt motor replacement

Version 1.0.0



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Abstract

This bulletin describes replacement procedure for tilt motor on Robin Spikie.

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1. Tools Needed

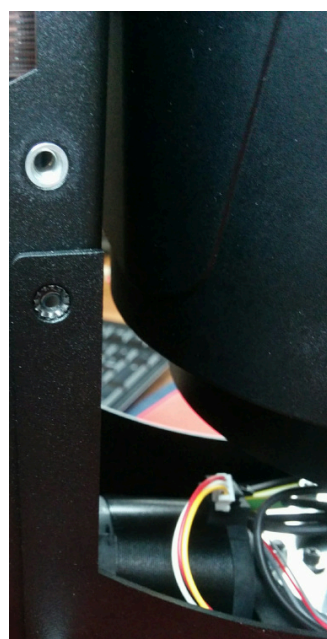
- 2mm Hex screwdriver (good quality, stripping a screw in this case is not easy to fix)
- 2.5mm Hex screwdriver
- Crosshead screwdriver
- Crosshead screwdriver (short)

2. Disassembly Procedure

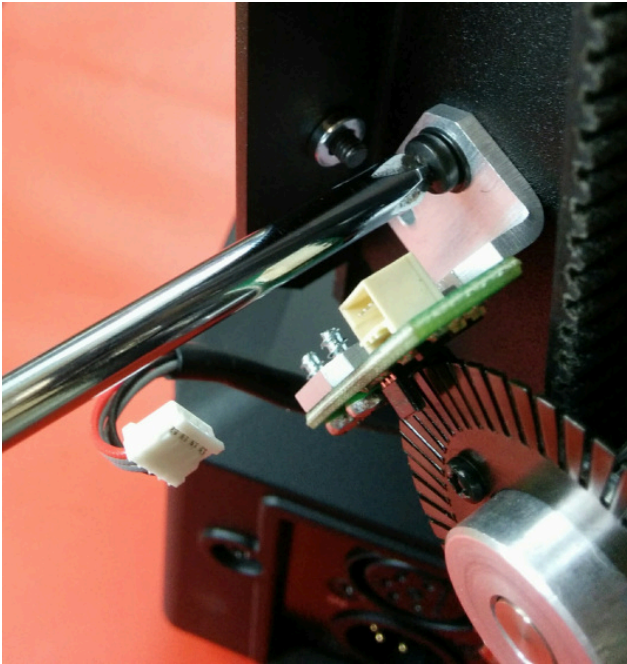
2.1. Removing the covers



First, you have to remove the cover that is inside the yoke, held by two screws. It's better to use a short screwdriver for those because there is very little space in between the two arms. You will then have to remove the cover of the arm where the tilt motor is, to access the tilt mechanism.



2.2. Removing the optical sensor



Once the fixture is exposed, you will need to remove the optical sensor from the thumbwheel. The sensor itself, mounted on the PCB is fragile, you need to avoid blocking it with the wheel when pulling it off the unit. Start off by unplugging the sensor cable from the board. Take care of not pulling too hard on the wires, try to pull from the plastic part of the connector instead. Then you can unscrew the two screws holding the sensor assembly in place.

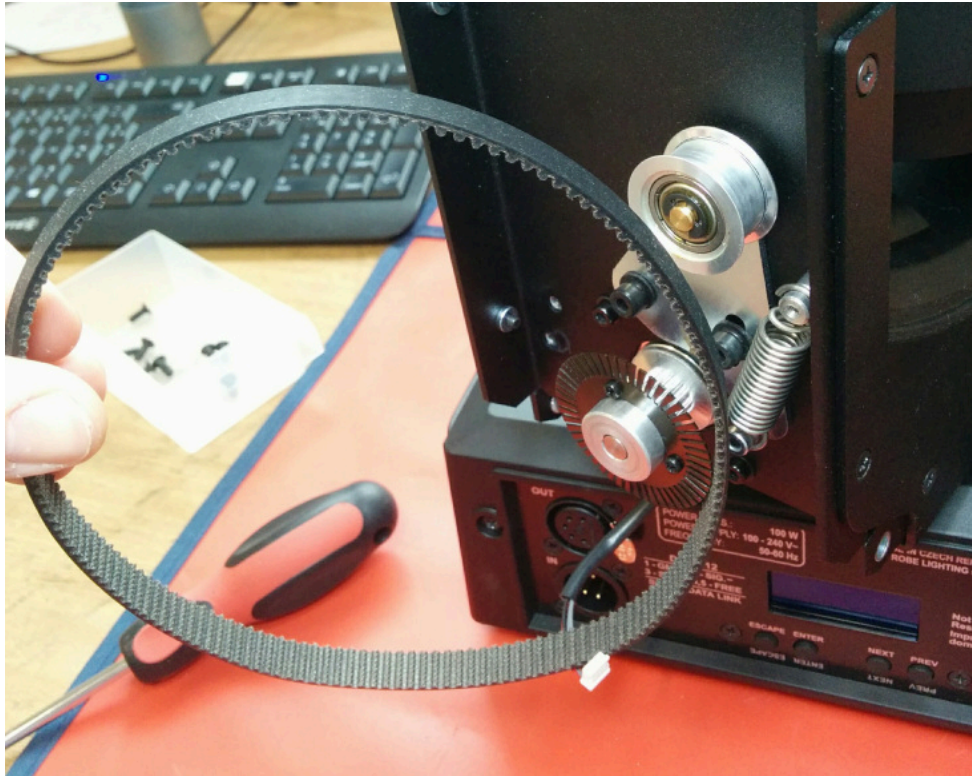
2.3. Removing of the belt



First, loosen the belt tension pulley. A 2.5mm hex screw need to be unscrewed just a bit to let the pulley assembly release freely.

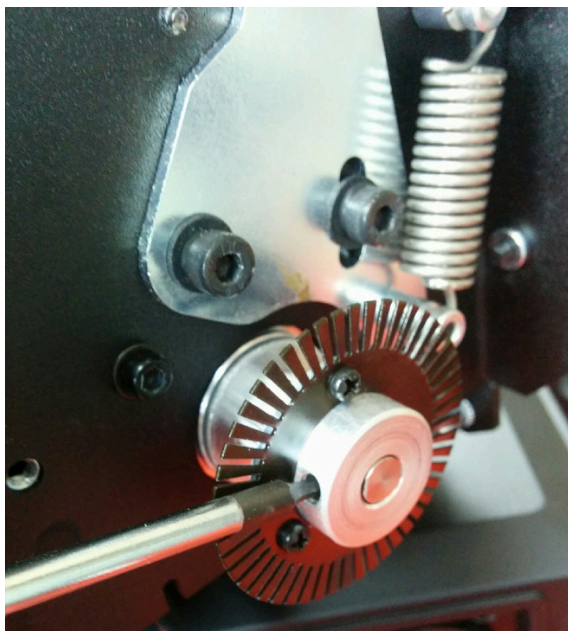


Then, simply pull the belt off its gear.



2.4. Removing the motor gear

You need to unscrew half a turn on both 2mm insert screws on the motor gear. Please use very solid tools for this step, stripping the screw would make the removal process really long.



When done, the gear can slide out of the motor axis easily. Just pay attention to not bend any part of the thumbwheel.

2.5. Loosen the arm



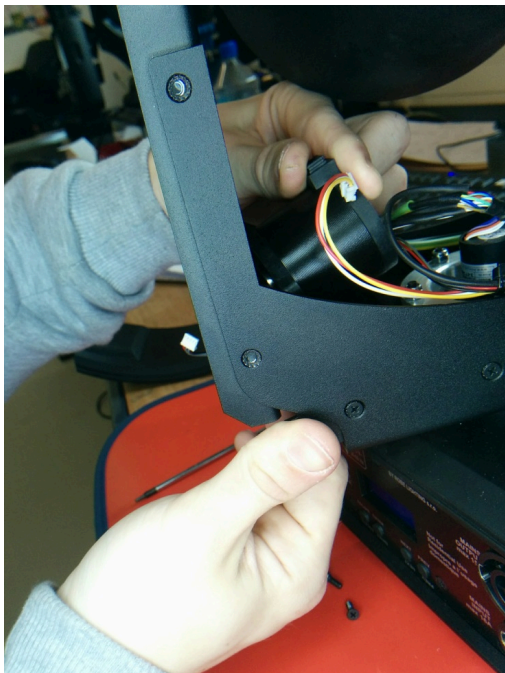
To remove the motor, there is not that much space behind it to slide it out. You have to remove 4 screws on the arm of the unit to be able to push it apart of 5mm or 6mm.

2.6. Removing of the motor



To get the motor out, first unplug it's 3-wire connector on top of it. You can then remove the two 2.5mm hex screws that holds it in place.

You can then pull out the motor from the top. Use one hand to pull a bit on the arm of the unit, and the other to slide the motor out.



3. Reassembly Procedure

- The reassembly procedure is exactly the same as the disassembly but reversed.
- First slide and secure the new motor in place. Connect it's three wires straight away so you can close the cover between the two arms.
- Re-attach the arm in place, place the gear and thumbwheel assembly back on the shaft. You need to align the two inserts with the two indentations on the shaft of the motor. The end of the arm should stay flush with the assembly.
- Place the belt back in place and adjust its tension with the pulley. You can now secure at its place the optical sensor. The thumbwheel should be in the middle of the two parts of the sensor. Adjust the gear and belt depth if that's not the case. Connect the sensor and place the wire back in the little indentation on the bottom of the arm to keep it in place.
- Place and secure back in place the plastic cover on the arm and the procedure is done.



Note

When placing back the belt tension pulley, push it back against the belt to make sure the belt is applying enough force to the top gear, but not too much. Try to keep it at around the same level as before.

Don't pull too much on the arm of the fixture when the screws are removed, 5 or 6mm is enough

A. Revision History

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Initial release

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docbook draft

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