



Ultimaker S5

Repair manual: Lift switch spring

Required

Tools

- ESD prevention supplies
- Torque screwdriver (*adjustable*)
 - 0.15 Nm
- 2.0 mm hex bit
- 2.0 mm hex screwdriver
- Flat sided screwdriver (*recommended*)

Consumables

- Grease
- Oil


Parts


- 1x 2130 - Lifting spring


Time

- 10 minutes

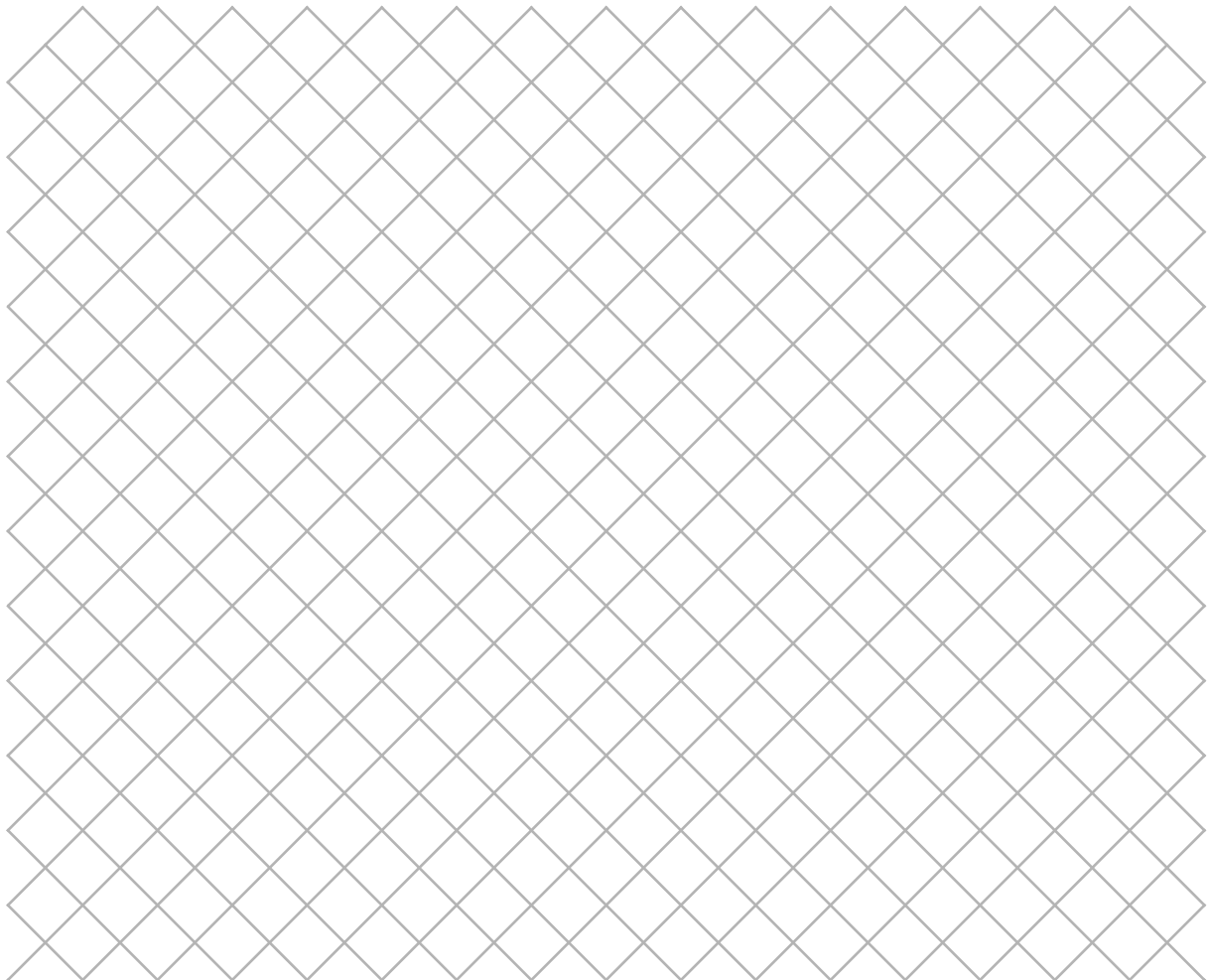
Notes

 **Note:** First remove the material(s) and the print cores from the Ultimaker S5.

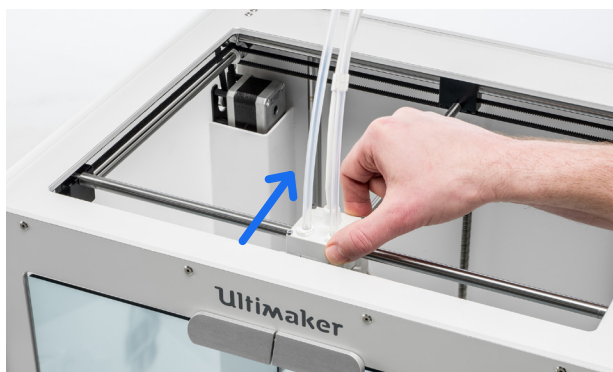
 **Caution:** Make sure the Ultimaker S5 is turned off and the power cable is disconnected before you start the replacement.

 **Caution:** This repair involves working with or exposing sensitive electronic components. Take ESD precautions before starting this procedure.

Tip: All orientations are as seen from the front in the upright orientation, unless specified otherwise.



Take the print head out of the printer



1. Place the print head in the center of the printer

Tip: This makes it easier to loosen the shafts from the sliding blocks on all four sides



2. Click the X print head shaft out of the sliding blocks

Tip: Firmly pull the end of each shaft upwards and tilt the sliding blocks away from the shaft on each side



3. Click the Y print head shaft out of the sliding blocks

Tip: Tilt the sliding blocks away from the shaft on each side to release the ends



4. Rotate 45° and take the print head out of the printer

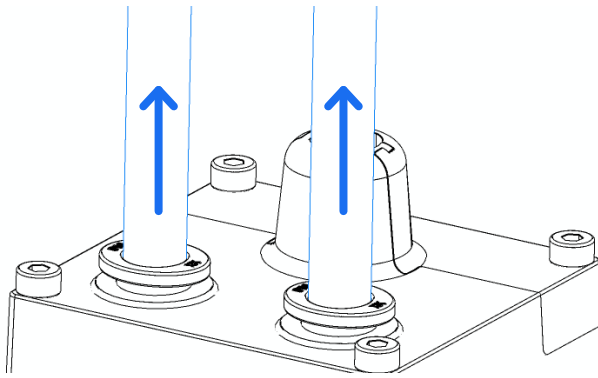
Tools: 2.0 hex screwdriver



5. Slide the axes out of the bearings and place them aside

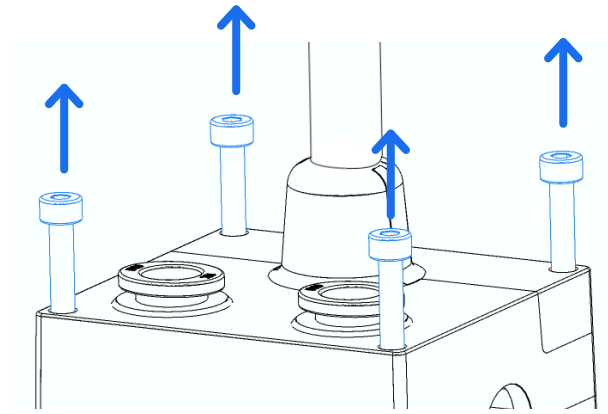
Tip: Ensure they can't roll off the workspace, as falling will damage the shafts

Disassembly



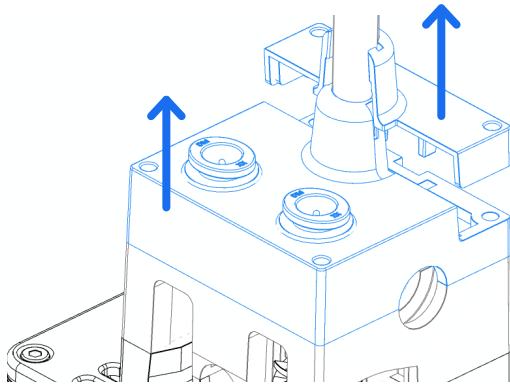
1. Remove the clamp clips and take out the Bowden tubes

Tip: Push down on the tube coupling collet while pulling the Bowden tube out of the print head



2. Remove the four long M2.5x75 thumb screws

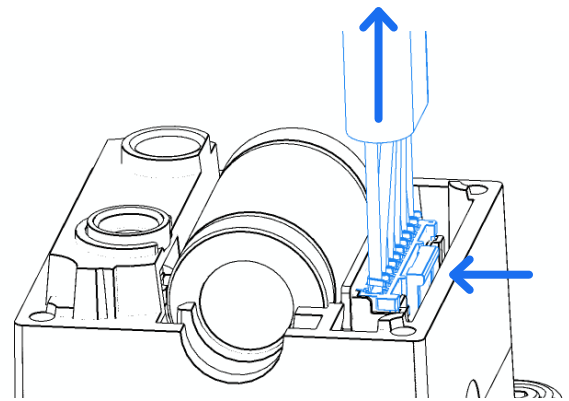
Tools: 2.0 hex screwdriver



3. Remove the top two parts of the print head housing

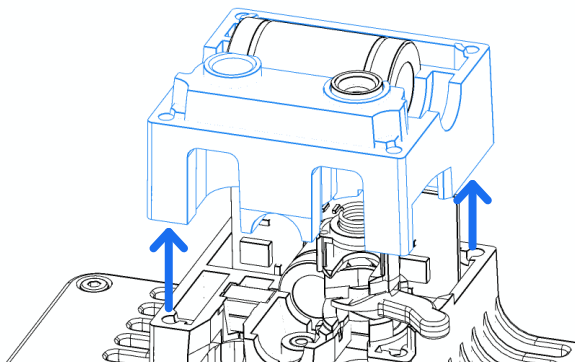
Tip: First slide the back part (print head cable cover) upwards, this creates more room around the print head cable

Tip: You can leave the tube coupling collets in the housing part



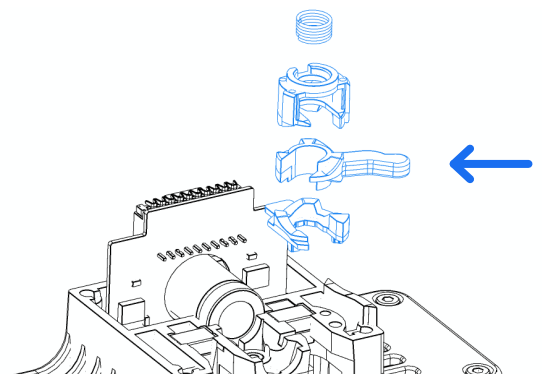
4. Press the clip on the print head cable and pull the cable out of the connector

Tip: Use your fingernail or a (flat-sided) screwdriver to firmly, but carefully, press the clip against the connector



5. Lift up the bearing housing middle with the LMK10L bearing and Bowden tube exit

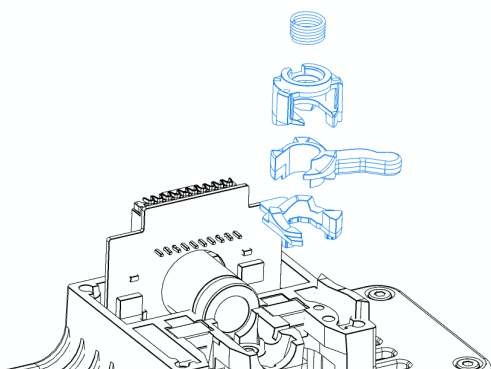
Tip: It is not necessary to take the LMK10L bearing and Bowden tube exit out of the housing part



6. Remove the four parts of the lift switch mechanism (bottom ring, switch, ring, spring)

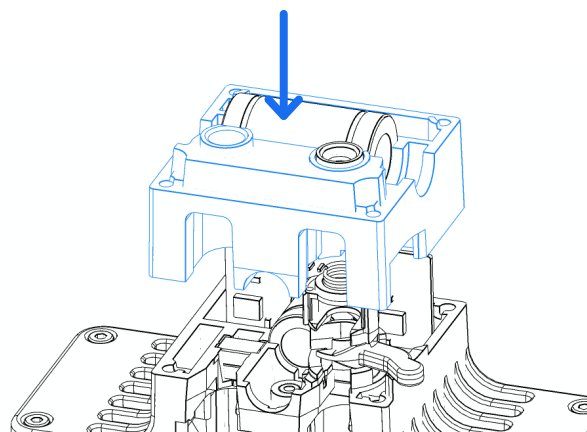
Tip: Clean the lift switch parts with a dry cloth or tissue. Then reapply the grease (Magnalube) on the ridges on both sides of the lifting switch. The lifting switch is indicated with the arrow

Reassembly



1. Place the lift switch parts and spring in the right order

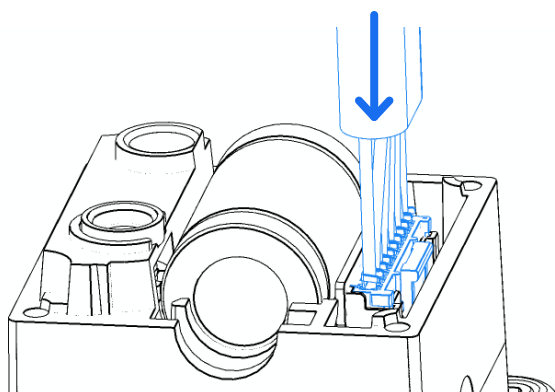
Tip: Ensure the ridges are all aligned, and the opening of the parts is facing towards the front of the print head



2. Carefully lift the bearing housing middle over the parts

Note: Make sure that the Bowden tube entry (metal part above '2') fits into the spring

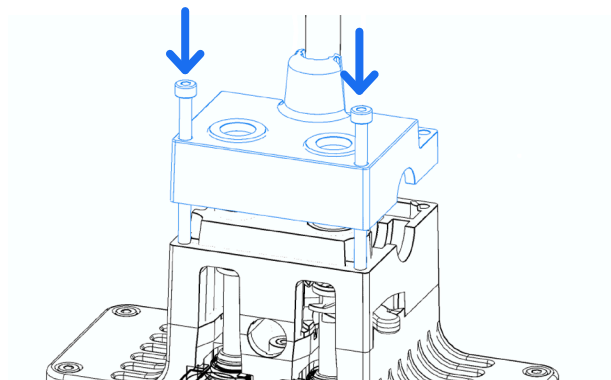
Tip: While keeping pressure on the bearing housing, manually flick the lift switch to ensure it works correctly before proceeding



3. Reconnect the print head cable to the PCB

Tip: Check that the cable securely clicks into the connector

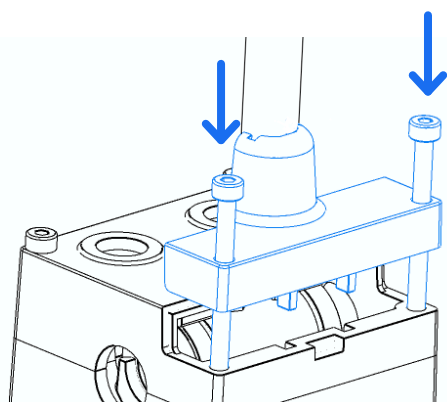
Tip: Ensure the bearing housing top is already around the print head cable before clicking this into place



4. Slide the front part of the print head housing top in place and secure with two bolts

Tools: Screwdriver with 2.0 hex bit, 0.15 Nm

Caution: Do not overtighten these bolts. The added pressure on the linear bearings can cause excessive wear of these parts

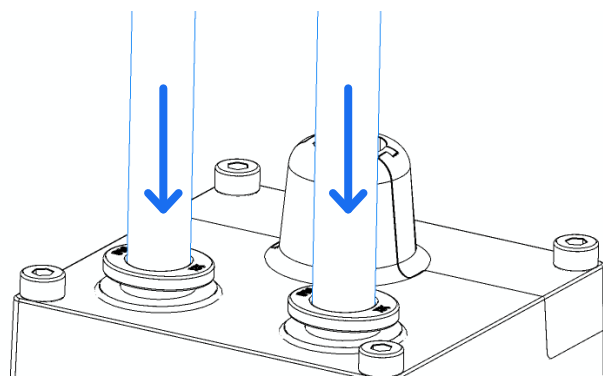


9. Slide the print head cable cover back onto the print head and secure with the two long bolts

Tip: Ensure the end of the cable does not stick out of the cover

Tools: Screwdriver with 2.0 hex bit, 0.15 Nm

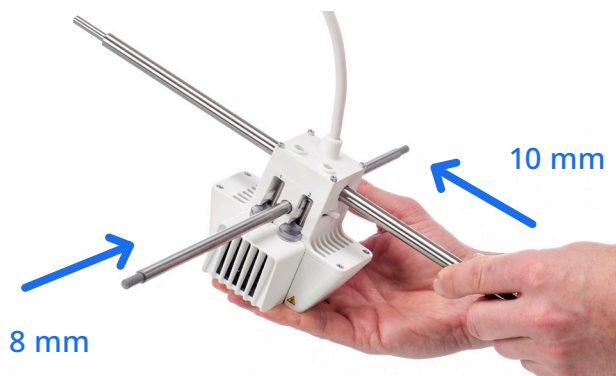
Caution: Do not overtighten these bolts. The added pressure on the linear bearings can cause excessive wear of these parts



6. Insert the Bowden tubes and secure with the clamp clips

Tip: Ensure that the Bowden tubes are fully inserted

Place the print head into the printer



1. Push the print head shafts through the bearings

Tip: The X shaft is 10 mm, the Y shaft is 8 mm in diameter



2. Lower the print head into the printer and align the shafts with the sliding blocks

Tip: Place the print head into the gantry system at a 45° angle, then rotate counterclockwise to align



3. Click the ends of the X shaft into the sliding blocks

Tip: Firmly push each end of the shaft down while supporting the sliding block.

Tip: Check that both sliding blocks are fully in the upright position



4. Click the ends of the Y shaft into the sliding blocks

Tip: Firmly push each end of the shaft upwards

Tip: Check that both sliding blocks are fully in the upright position



5. Apply a small drop of oil to each shaft and move the print head around to distribute evenly

Tip: Applying oil ensures smooth movement of the print head

Tip: Use the Unilube that was supplied with the printer. Ensure the oil does not drip onto the build plate; this will impact adhesion

Finished!

Turn on the printer. Navigate to the Maintenance menu and perform the lift switch calibration.

Carefully observe the functioning of the lift switch mechanism and that the second print core is lifted and lowered correctly.