

Replacement PCB (Printed Circuit Board) Procedure

Purpose: How to remove and replace the PCB on The Educational Aquaponics System

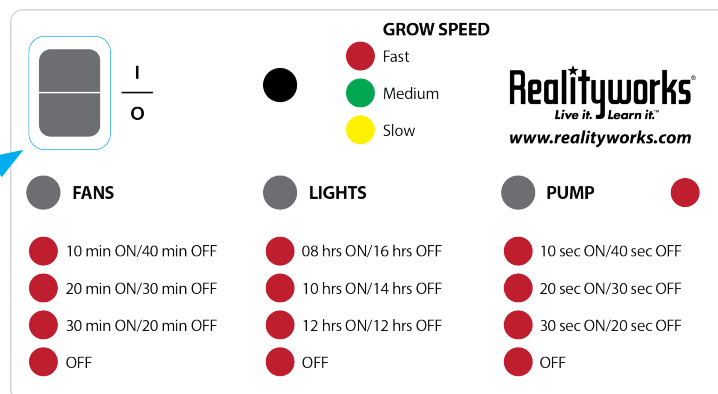
Prerequisites: A 2.5-mm or 3/32 hex key

Removing the old PCB:

1. Ensure the system is powered off by flipping the switch into the off position – “O”.

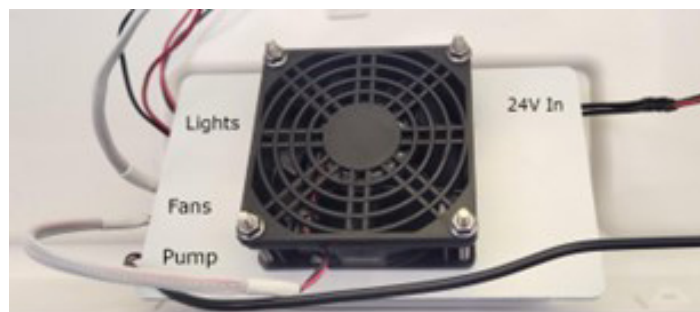
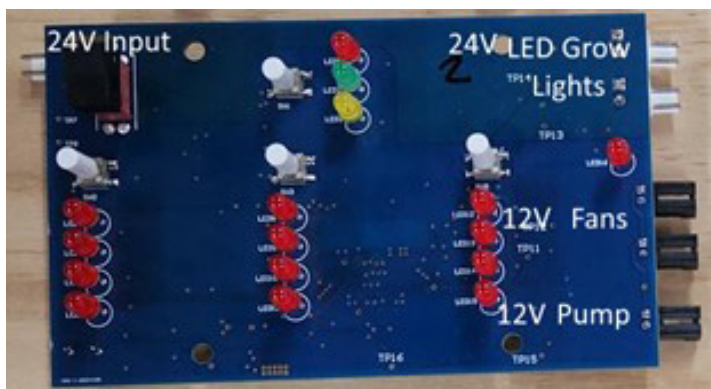
This switch is located on the upper left of the control board on the left side of the unit.

When the lights are off, the system is off.

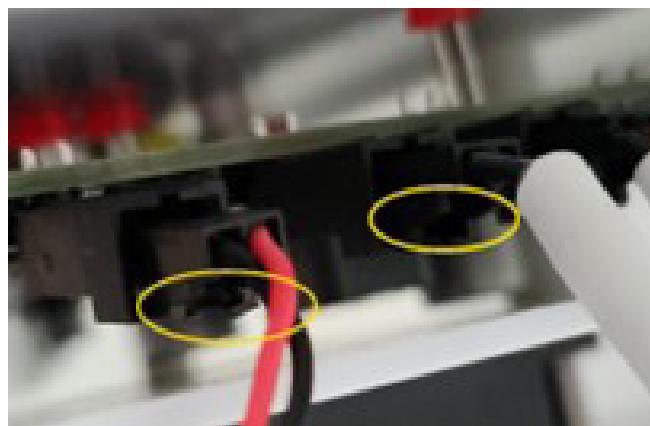
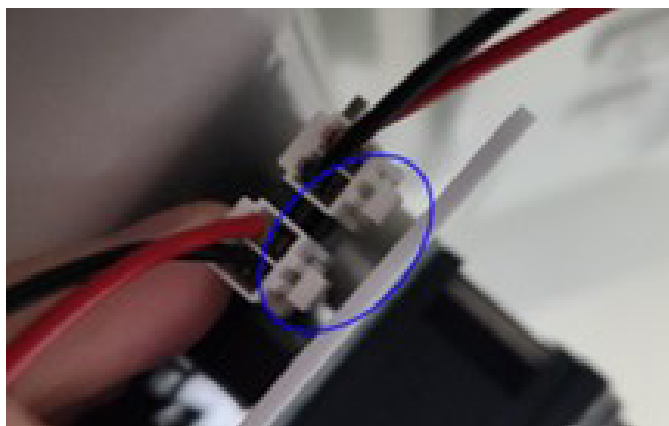


2. Identify and unplug the connectors that are attached to the main board, take note of which connectors go where, note that the lights and fans can go in either position.

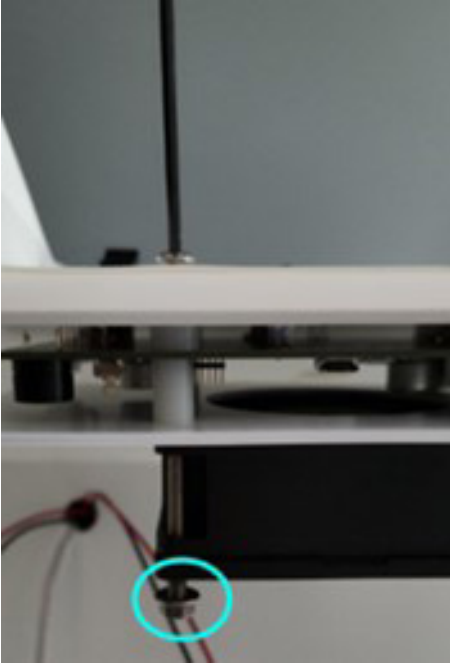
(Provided is the PCB outside of the system and an underside view.)



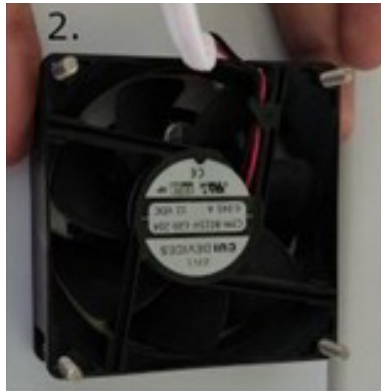
To disconnect the cables, hold onto the wire close to the connector and press the tab to release them; do this for all six cables. Pull them out gently, wiggling them back and forth as needed.



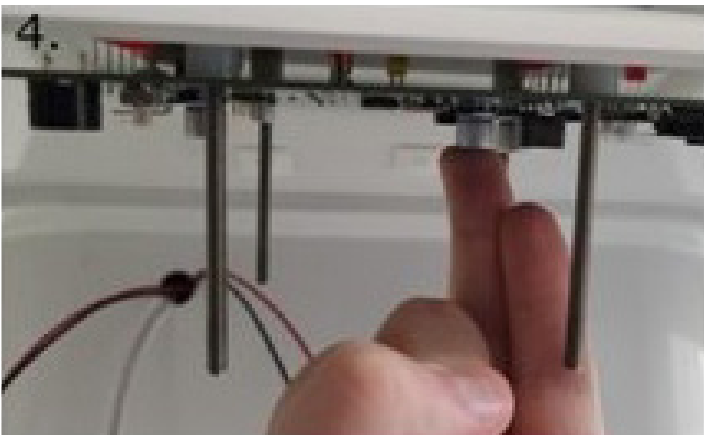
3. Unscrew the nuts off the bottom of the control board. Use a hex key to loosen the screw. Once it is loose enough, it can be twisted off by hand. Repeat this with each nut times.



4. Once the nuts are removed, pull off the fan grill, the fan, and the fan spacer. The bottom spacers for the PCB are above the fan spacer; do not lose the spacers.

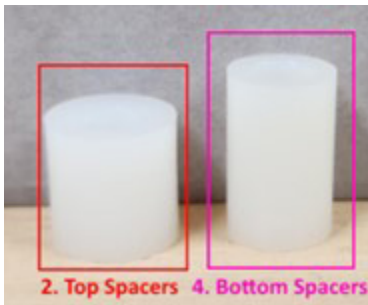
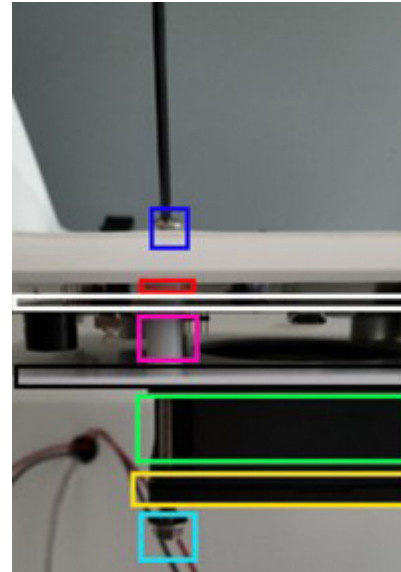
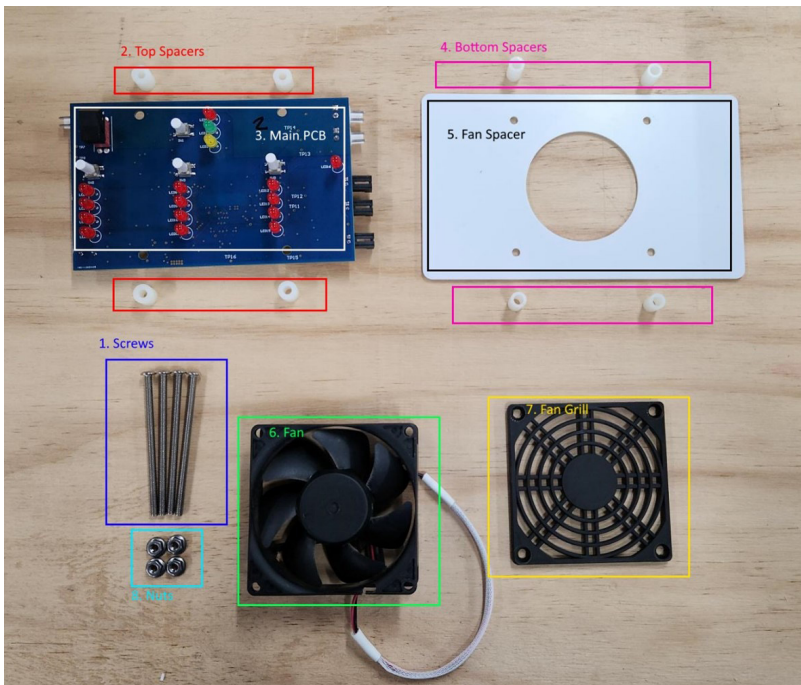


5. Once the spacers are removed, pull off the PCB. The remaining parts are the top spacers and screws; do not lose these items.



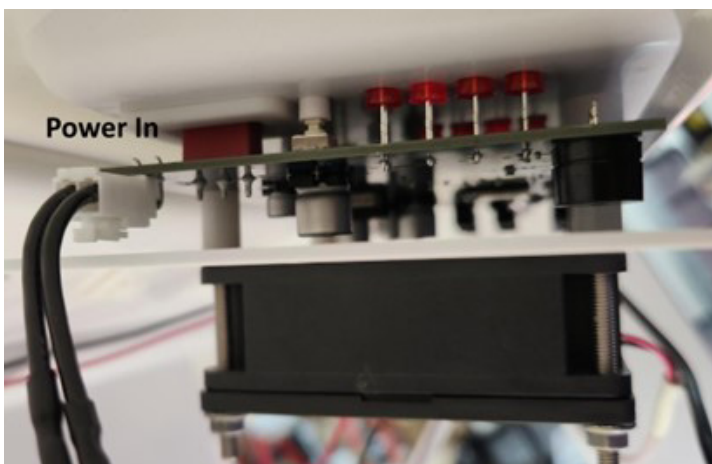
Install the replacement PCB:

1. To install the new PCB, slide the parts on in this order: Screws, top spacers, replacement PCB, bottom spacers, fan spacer, fan, fan grill, and nuts.

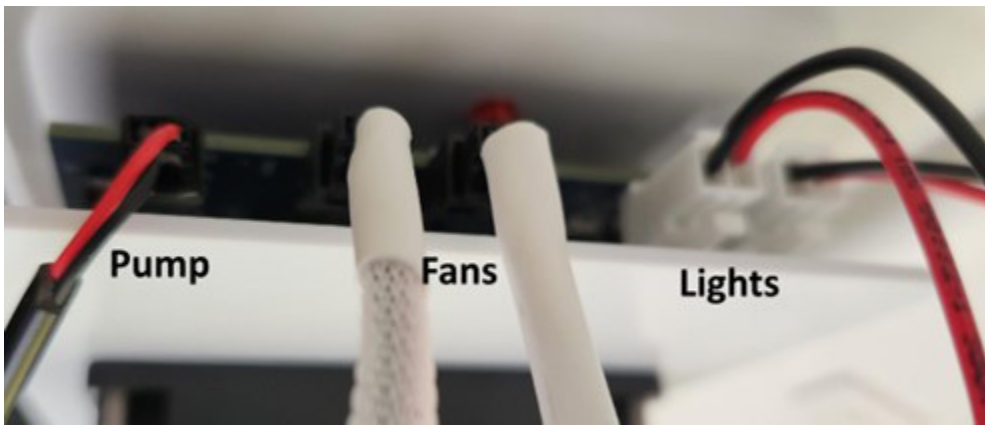


Aligning the parts may be difficult at first, using tape to hold a part in place, or having someone to help may be beneficial.

2. When the nuts are screwed on, use the hex key to tighten the board to the system.
3. With the board secured, connect the cables to the PCB (on the left side of the PCB).
4. Connect the power cable.



5. On the right side of the PCB, connect the pump, fans, and light cables.



Each fan can be placed in either fan connection. Both lights can be placed in either of the light connections. You will feel a click when the cables are plugged into the board.

6. Ensure the cables are in the correct locations and turn on the board by flipping the power switch.



By default, the pump, fans, and lights will turn on upon boot. If you hear the pump fault beep, check to see if the pump connection is correct and water is in the reservoir.

Note: Time of the system is relative to when the system was turned on.

Troubleshooting tips:

- If you struggle to press the buttons, check to see if they are rubbing against the plastic housing. If they are, unscrew the nuts slightly and readjust the position of the board to alleviate the friction. Then, screw them back tight.
- Roots can get sucked in the drain if they are long enough, trim them to prevent potential clogging of the siphon.
- Check nutrient levels of the system at least once each week to ensure that plants and fish are in balance.

For additional assistance and video tutorials visit our website:

www.realityworks.com/knowledge-base/