

mini*E*

mini*Engine* - an open-source motion control
system for timelapse photography

Documentation of the acrylic
glass enclosure for the
mini*Engine* v1

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Photo Authors

Photos / Graphics on cover page as well as pages 1 to 3 by Airic Lenz.

Photos on pages 4 to 6 by Sascha Henke.

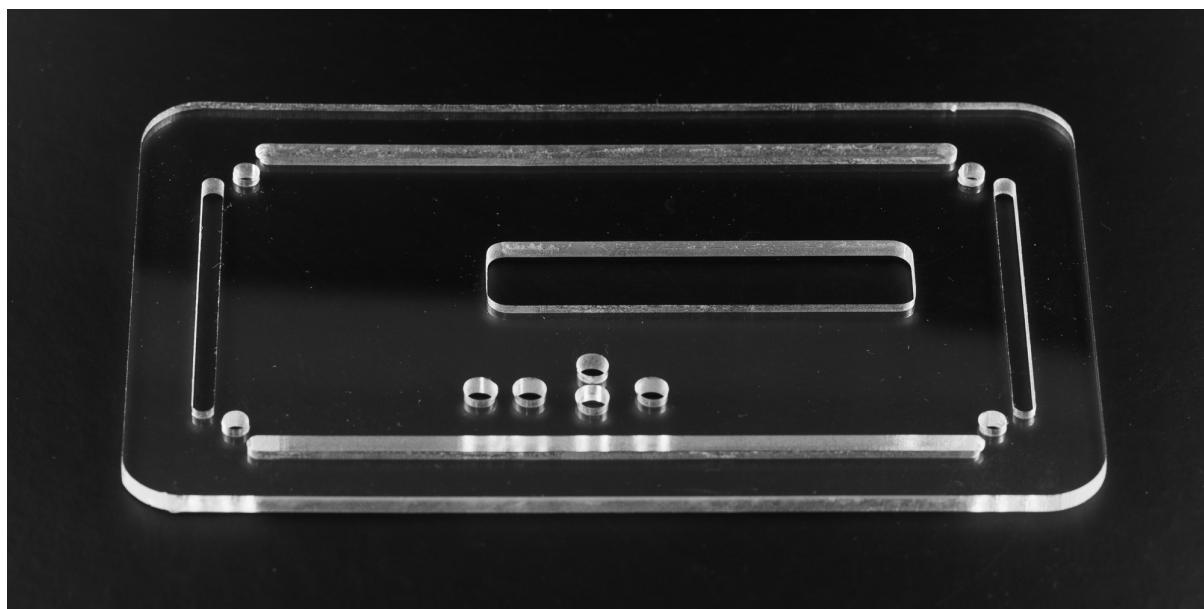
| 1 | Introduction

The following document describes briefly how to assemble the acrylic glass enclosure for the miniEngine v1. The enclosure was designed by Sascha Henke.

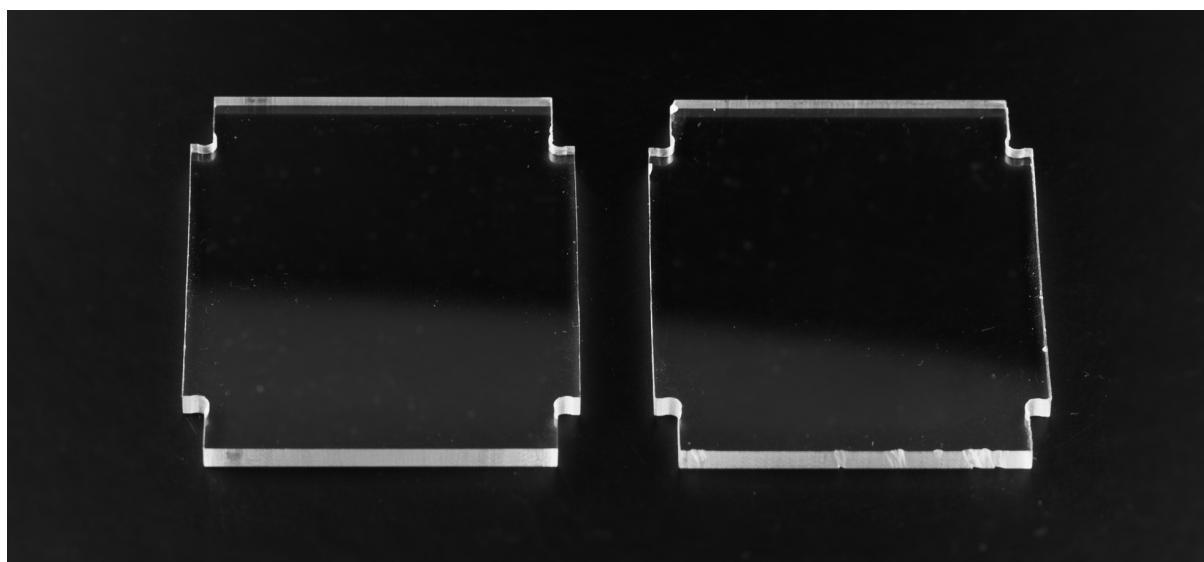
Please leave the protective coating on the acrylic glass / Lexan parts as long as possible, in order to prevent any annoying scratches during the assembly process.

Parts overview

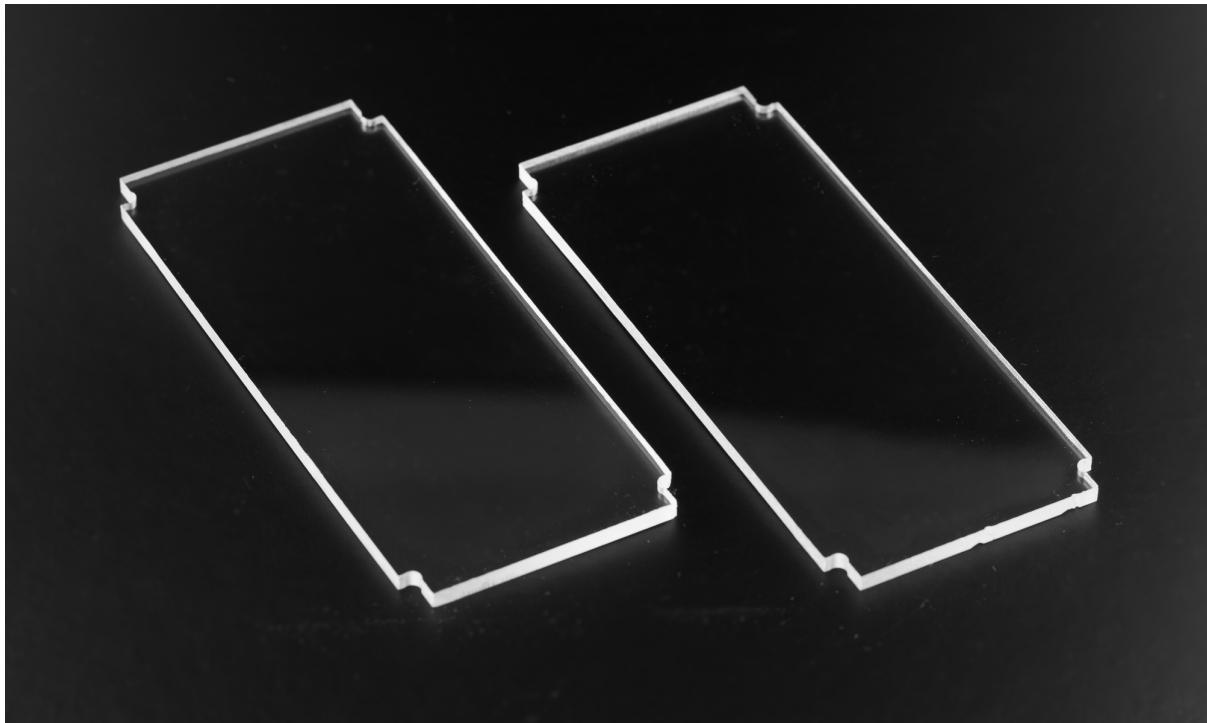
Front Plate:



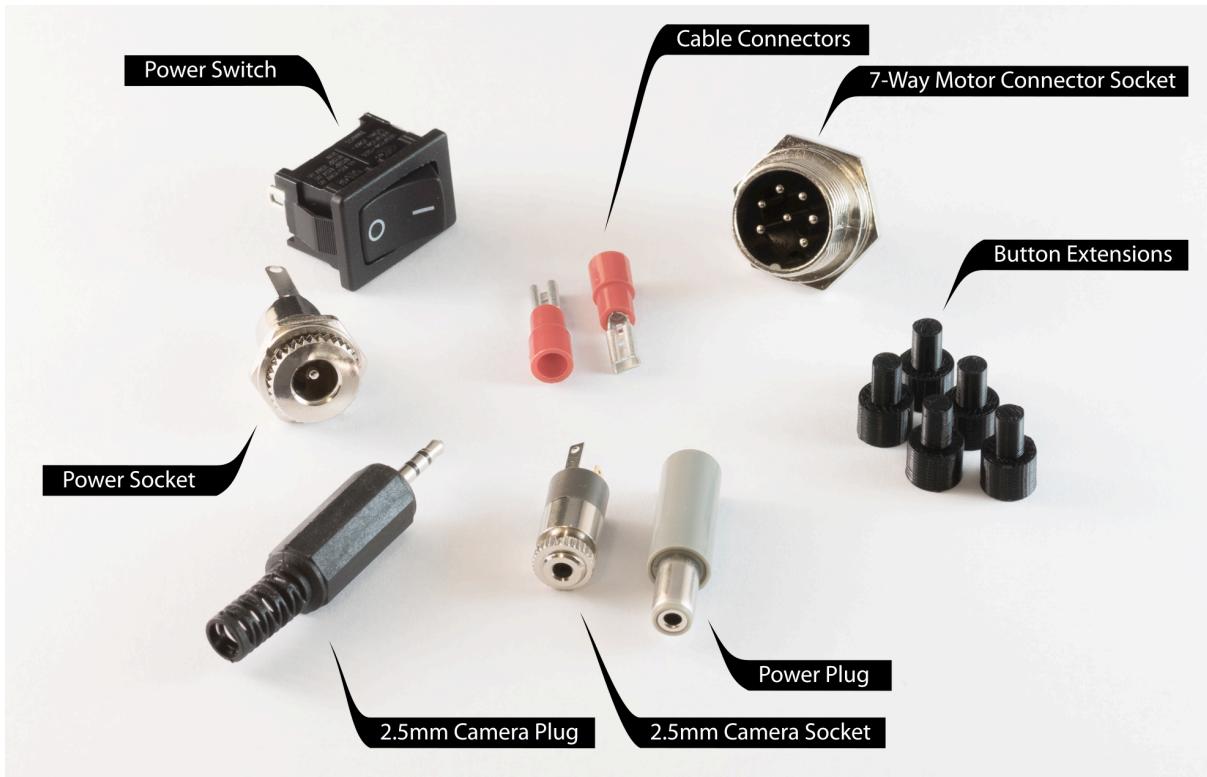
Side panels (short sides):



Side panels (long sides):



Additional parts:



Screws, nuts and washers for the enclosure assembly:

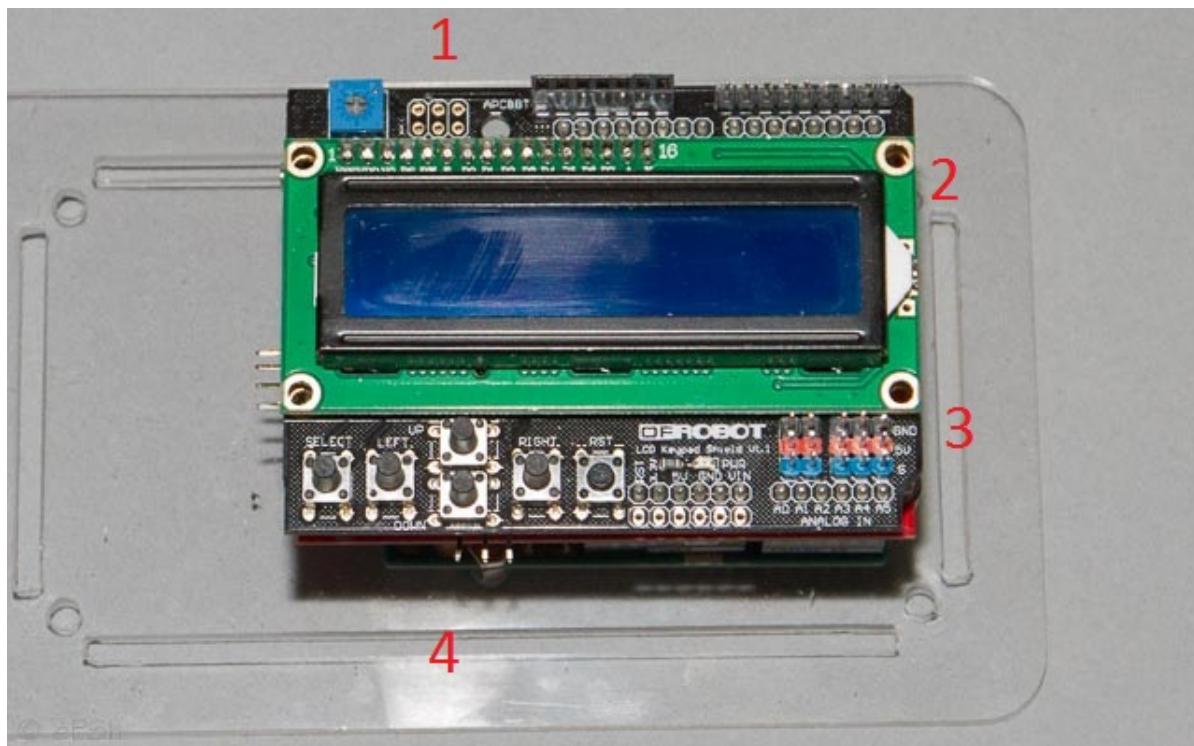


Screws, nuts, washers and stand-offs for fixing the Arduino in the enclosure:



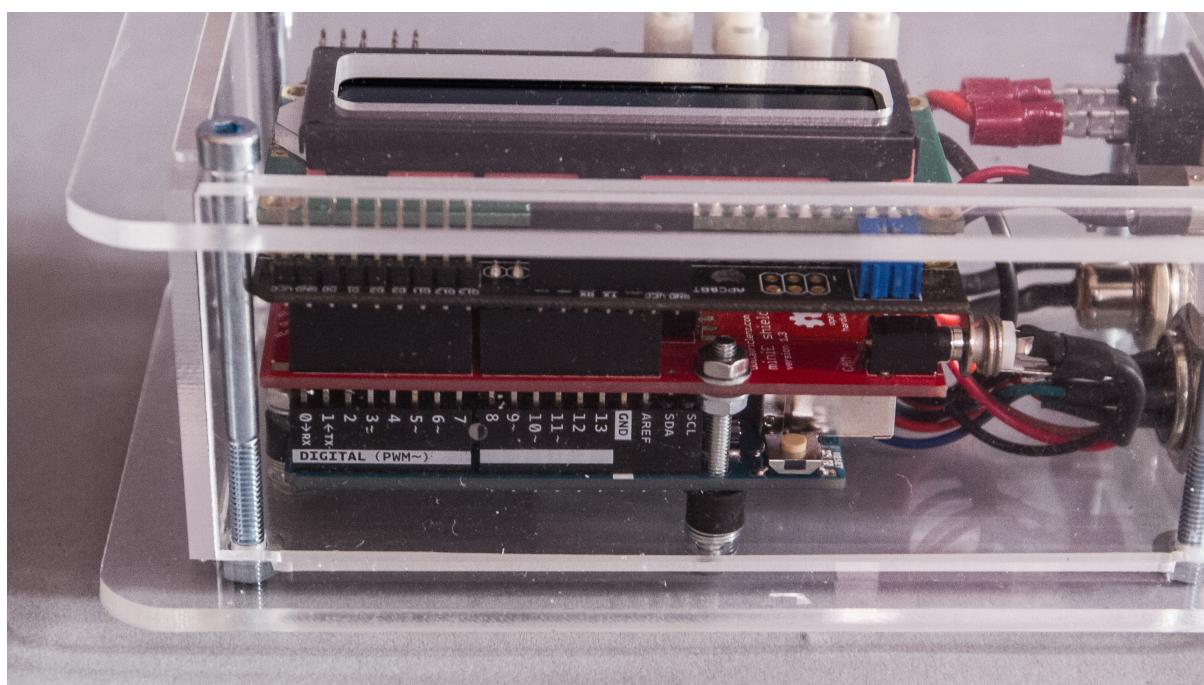
| 2 | Assembly

View from above with the different assembly steps:



Assembly step 1

M3x30mm Screw – Washer – Case – 3 Washers – 5mm Spacer – Arduino – Nut – Washer – PCB – Washer – Nut



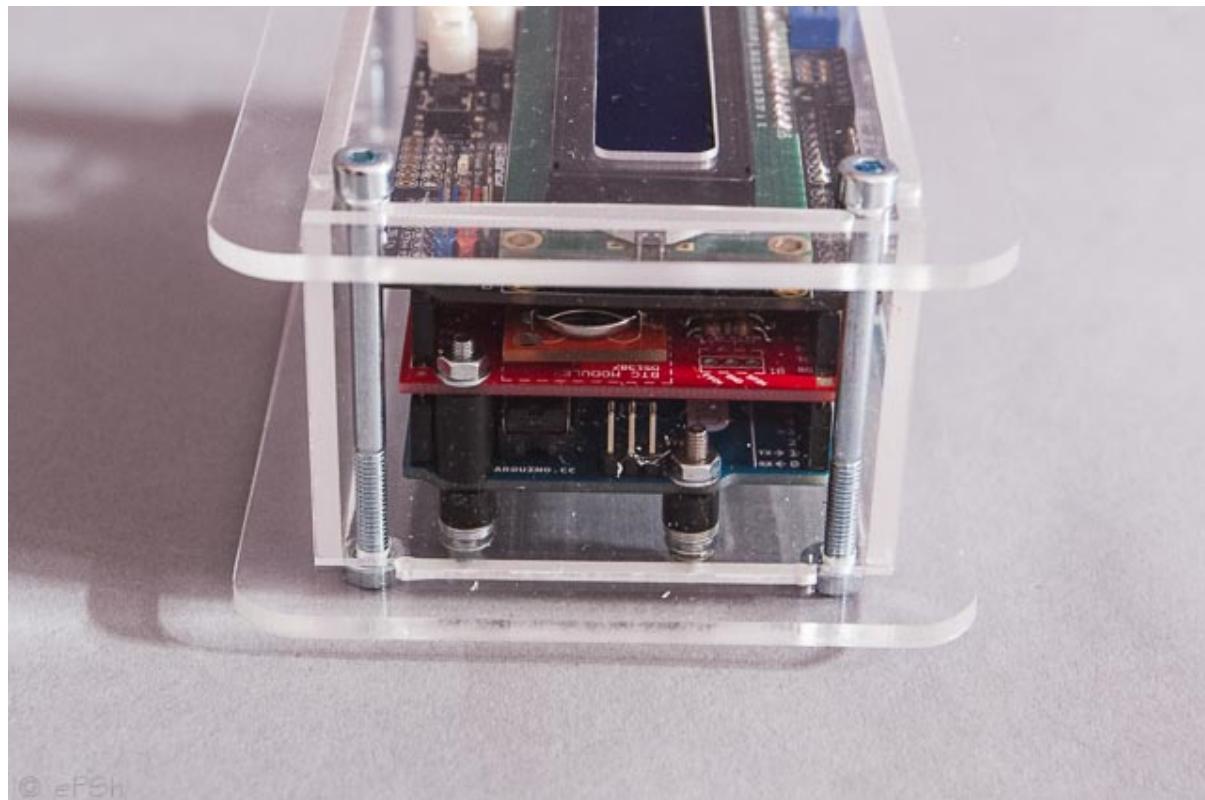
Assembly step 2 & 3

Left screw:

M3x20mm Screw – Washer – Case – 3 Washers – 5mm Spacer – Arduino – Washer – Nut

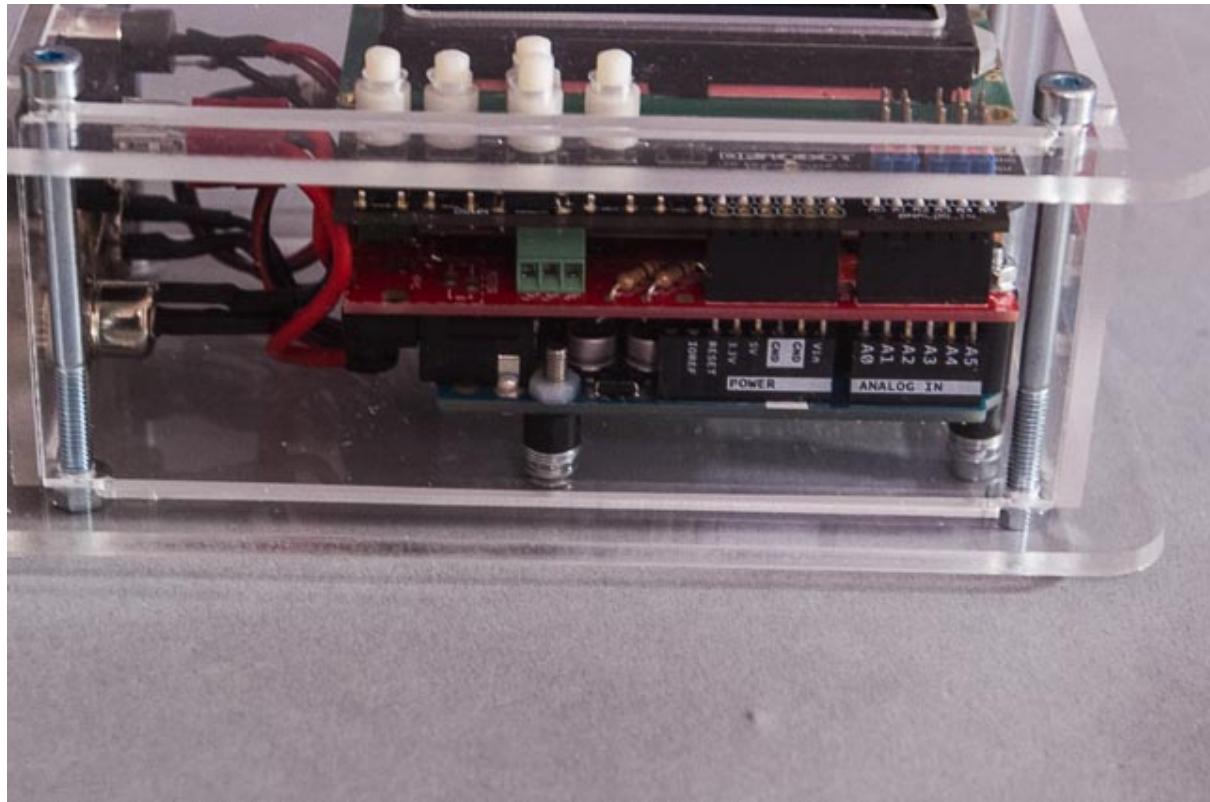
Right screw:

M3x30mm Screw – Washer – Case – 3 Washers – 5mm Spacer – Arduino – 12mm Spacer – PCB – Washer – Nut



Assembly step 4

M3 x 20mm Screw – Washer – Case – 3 Washers – 5mm Spacer – Arduino – M3 Plastic Nut



| 2 | Construction of Connector Panel

2.5mm Jack Plug Connector: This is labelled on the back with the numbers 1– 3. Plug the 2.5mm jack plug into the socket, matching the contacts of the plug and the socket in a 1:1 wiring. Solder the wire.

Motor Connector Socket: The socket is labelled on the back with the numbers 1–7. I recommend using contacts 1–4 for the motor and 5–7 for the limit switch.

Power Supply 2,1 mm Pin (5,5 mm outside diameter): The longer flag is usually the negative terminal. Just to be sure, confirm this using a Multimeter. Solder a wire to the positive terminal and connect it to the inner contact of the power plug. Solder a short wire to the negative terminal of the socket, and connect the other end using a plug contact. Solder a wire to the negative terminal of the power switch, and connect the other end using a plug contact. Now you can connect the plug contacts to the power switch. Of course, it is possible to solder the wires directly to the switch, but this is not recommended, because then you will not be able to take the unit apart without cutting the wires.