

MICHELL SYNCRO

Installation of the
ORIGIN LIVE
DC Motor Kit



CHALLENGE ONE: FIXING THE NEW MOTOR IN THE MOTOR HOUSING AT THE CORRECT VERTICAL POSITION.

Platter and tonearmbase are spring suspended whereas the motor housing is decoupled and mounted on the non suspended plinth. Thus, the motor housing always remains at same vertical position whereas the platters position depends of the weight of the vinyl record and the clamp (in case you are using one).

The belt is round and embedded in a narrow channel milled around the outer side of the platter. This channel is only slightly larger than the belts diameter. That leaves no flexibility in positioning the belt a little higher or lower on the outer platter as many other turntables would allow.

Similar situation at the OL motors pulley. The round belt can only run in a narrow channel above the curved section of the pulley.

Finally, both belt leading channels must be horizontally at the same height. Getting this result is a little challenging, requires finetuning and patience.

Photo right:
The motor should be fixed
a little more to the top



CHALLENGE TWO:

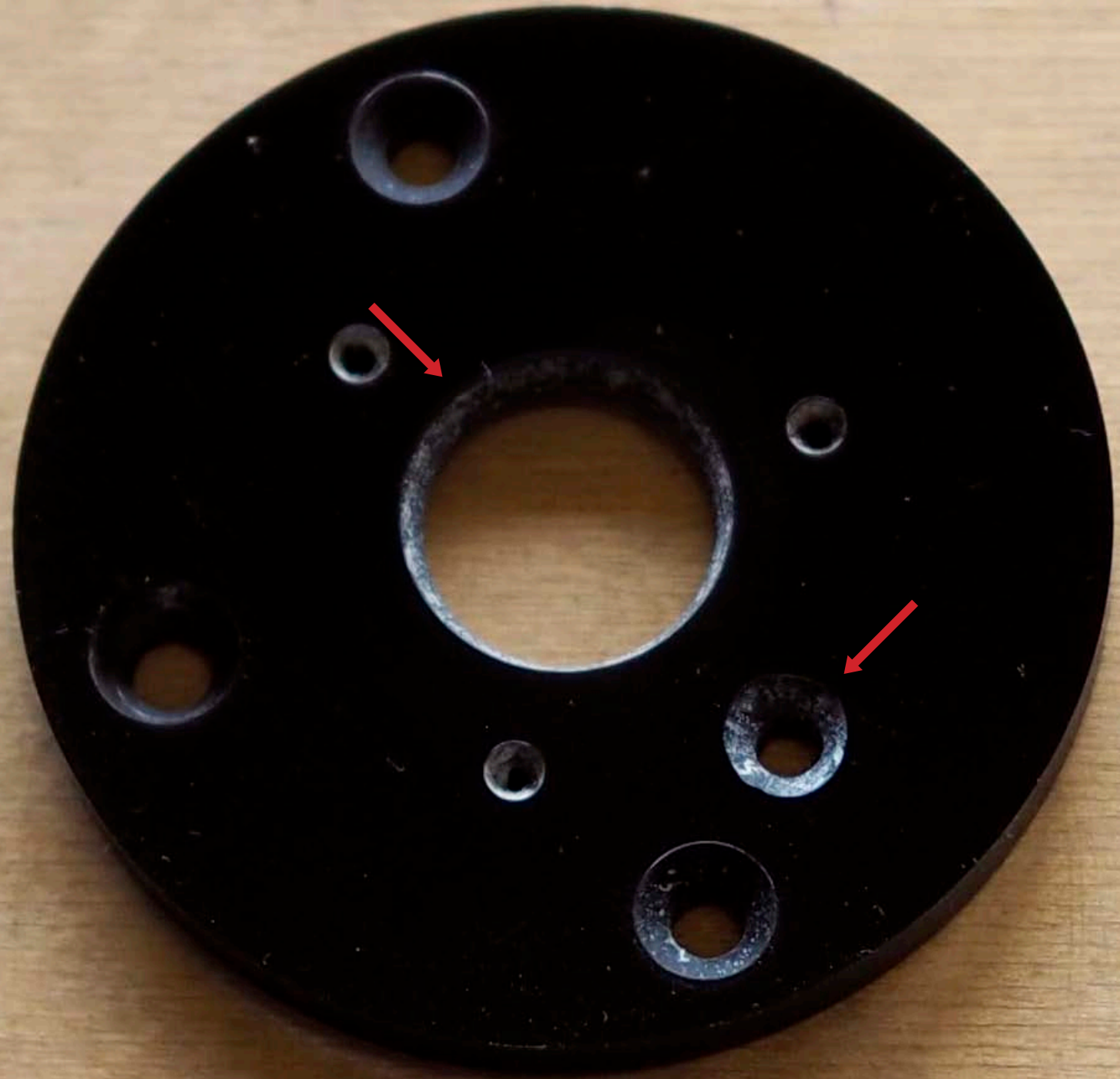
EXPANDING THE CENTRAL HOLE OF THE MOTOR HOUSINGS TOP PLATE AND DRILLING AN ADDITIONAL HOLE TO FIX THE NEW MOTOR.

The black top plate of the motor housing is made of thick acrylic. **Therefore, chose the motor with the long pulley.**

The center hole of the housings top plate is too small to get the new motors pulley through and must be expanded. An additional hole must be drilled for the screw which fixes the motor.

Consider when expanding and drilling that the acrylic is old. This material may get fragile and brittle over the years. Drill carefully and with very low pressure. Make breaks of several minutes to allow the acrylic to cool down which avoids melting and sticking to the drill bit.

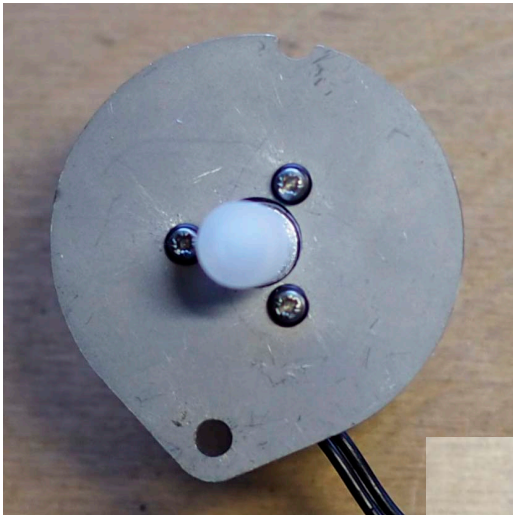
Photo right:
Top plate after expanding the
center whole and drilling
the additional hole



REQUIRED MATERIAL

MOTOR KIT

- Origin Live DC Motor Kit
- Long Pulley
- Round plate Ø 50 mm



TOOLS AND ADDITIONAL MATERIAL

- Drilling machine
- Drill bit for the additional hole (Ø 5 mm)
- Countersink cutter to
 - expand the center hole (min. Ø 15 mm to get the pulley through but I recommend 25 mm)
 - cut the sink for the additional screw
- One screw to fix the motor to the top plate of the motor housing (M4 - length: 25 mm, with 3 thin washers and matching nuts)
- One shorter screw to adjust the horizontal orientation of the motor with washers and matching nuts
- One cable tie to fix the OL-motors power cable.



Countersink cutter



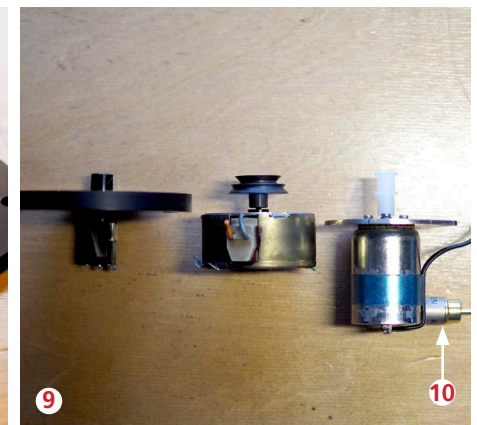
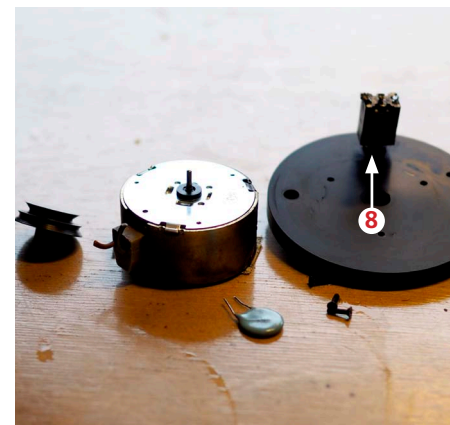
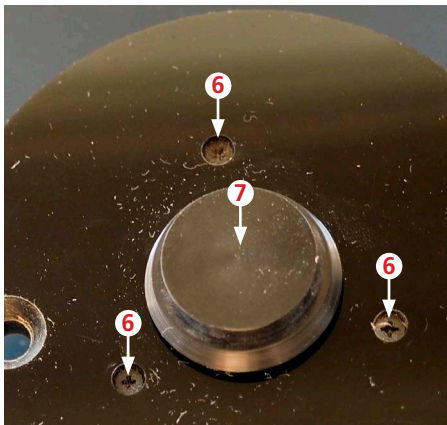
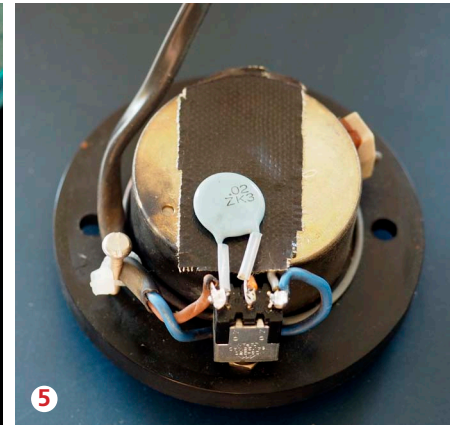
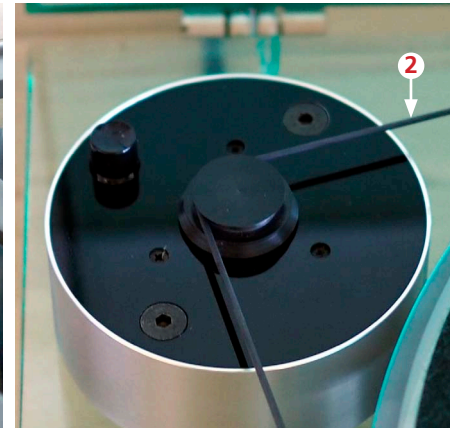
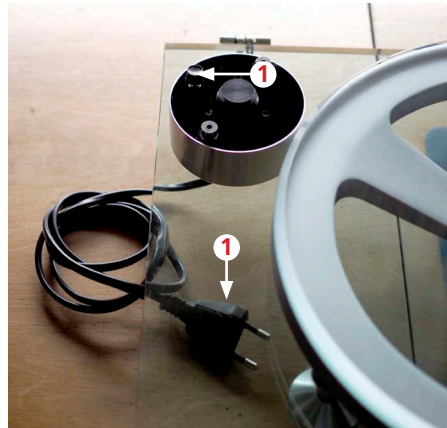
Cable tie

STEP ONE: DISMANTLE THE MOTOR HOUSING.

1. Plug out electrical cord and switch-off
2. Remove belt
3. Unscrew main screws of the top plate (alllen wrench)
4. Plinth after removal of motor housing
5. Top plate with still mounted old motor
6. Unscrew the small three screws to release motor from top plate
7. Remove old pulley (lift-off with your fingers)
8. Remove power-switch and keep the switch-button
9. From left to right: Top plate, old and OL-motor side-by-side.
10. RCA plug, only underlayed for taking the photo but of course not part of the OL-motor :-)

The OL-motor is a little longer than the original. However, due to the large hole in the plinth (see picture 4) this is not causing any trouble.

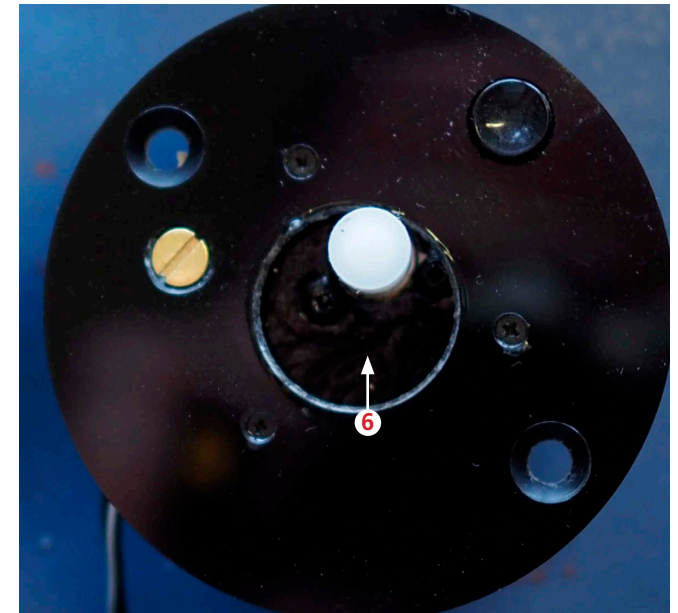
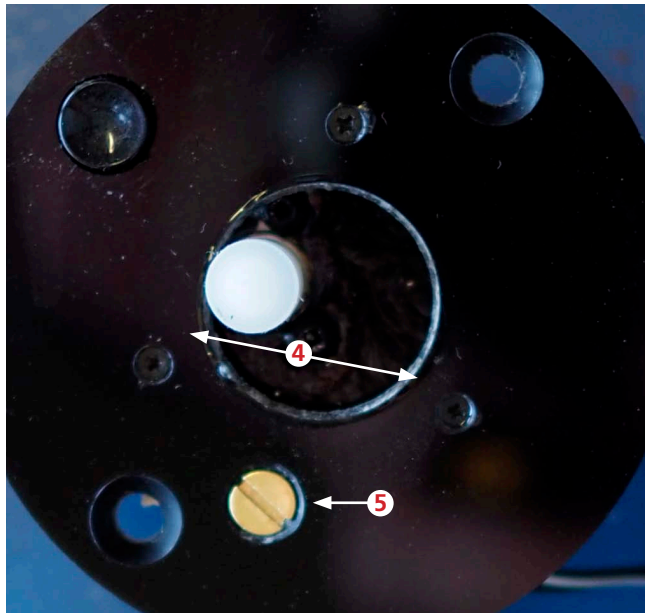
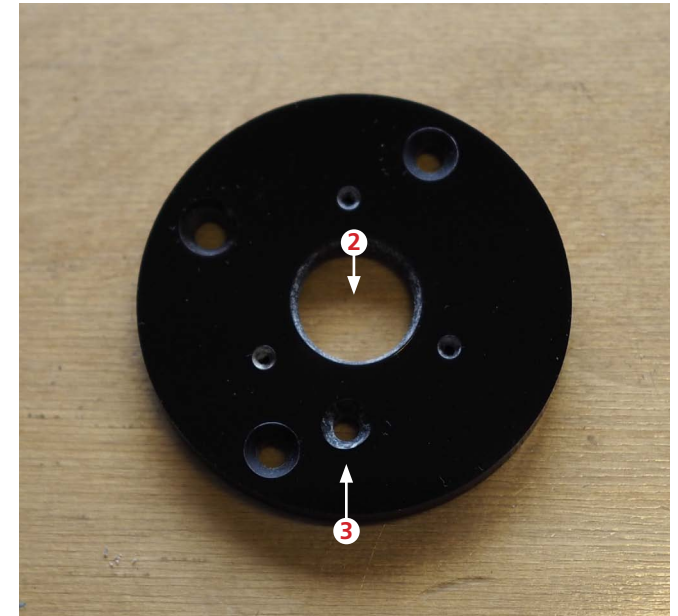
Photo 9 shows strength of the motor housings top plates and proves why the long pulley version of the OL motor is a must.



STEP TWO:

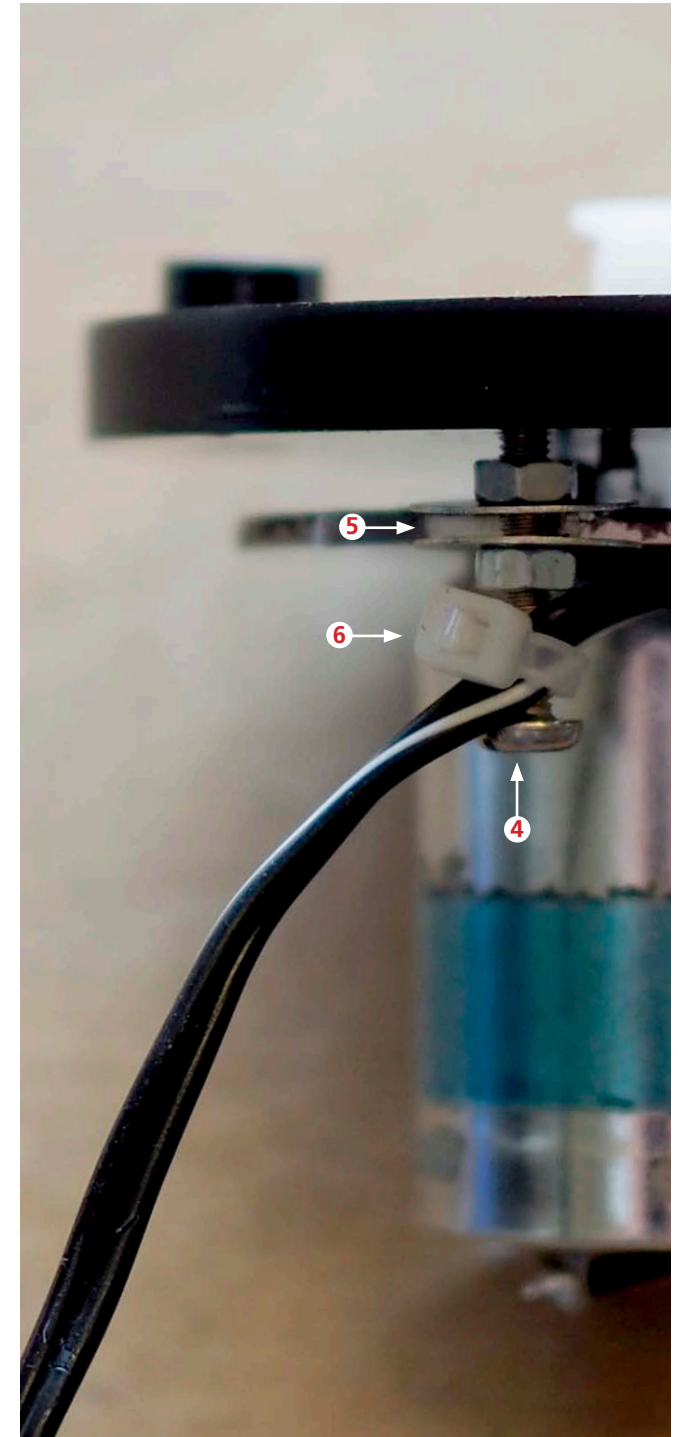
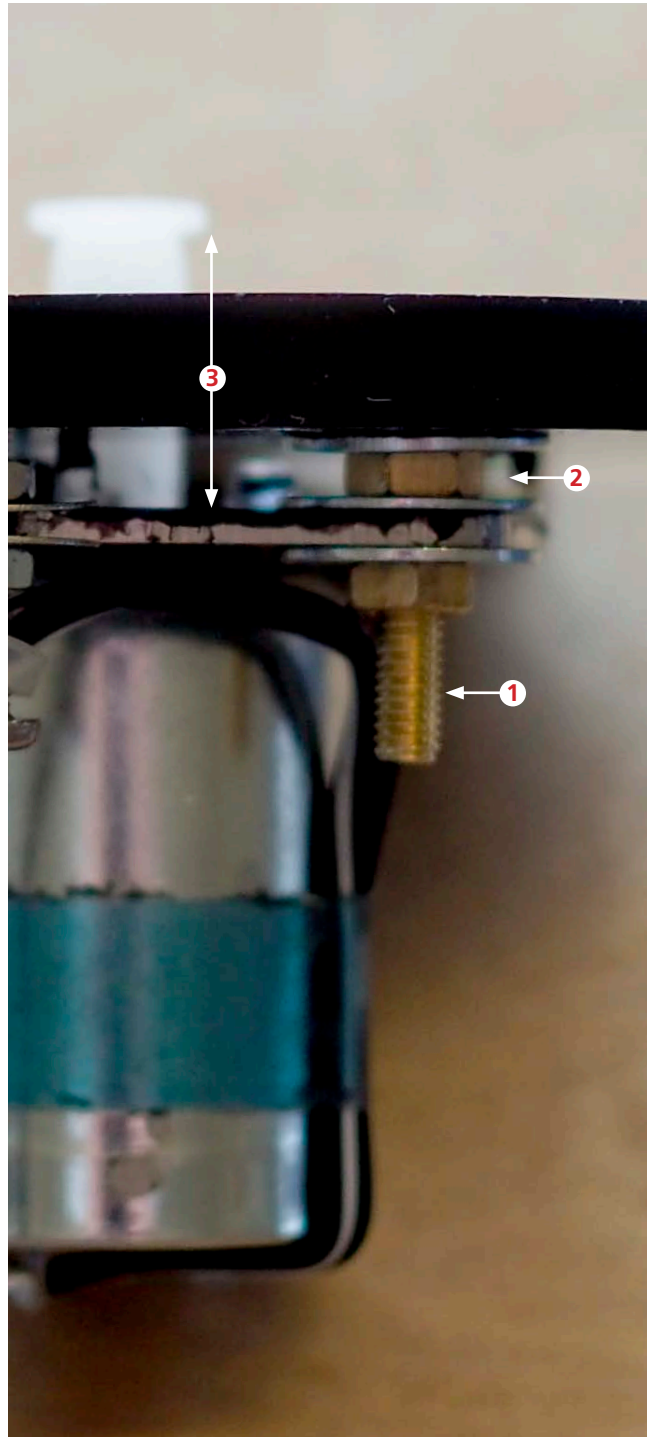
EXPAND CENTER HOLE AND DRILL HOLE TO MOUNT THE MOTOR.

1. Top view OL-motor and top plate motor housing clearly visualized that the OL-motors pulley is wider than the original center hole of the top plate.
2. Carefully expand the center hole with the counter sink cutter. Cut from the one side of the hole up to the middle and afterwards do the same from the other side. Work slowly and with low pressure. Make longer breaks to allow the acrylic to cool down. I chose a diameter of 25 mm for the center hole. That allows more flexibility on where to fix the motor horizontally.
3. Drill an additional hole with a \varnothing of 5 mm (for the screw that holds the motor). Use the counter sink tool to cut out space for the screws head.
4. Range in between the new motor can be fixed
5. Screw that fixes the motor.
6. Top plate of the OL-motor painted black too (originally blank metal).



STEP THREE: INSTALLATION OF THE OL-MOTOR.

1. Mount the motor by using the long screw, bolts and washers.
2. Create space in between motor and motor housing plates by putting washers and bolts in between. Picture shows intermediate result. The bolt was later replaced by two washers to get the correct height/distance.
3. Finetuning to get the finally required height (see chapter: challenge one)
4. Second screw which helps to get the motors plate horizontally adjusted to the housings top plate.
5. Motors top plate is gently squeezed between two washers and bolts. By turning the screw the height can be adjusted.
6. Screw can also serve as holder for the cable tie which is attaching the motors power cable.



STEP FOUR:

RE-ASSEMBLING THE MOTOR HOUSING, FIXING TO THE PLINTH AND FINAL COSMETICS.

1. Put together motor housing, top plate and motor. Mount it to the plinth with the long original black screws (allen wrench).
2. Take the old power switch button and mount it to the top plate (glue or blu tack). Simply looks better than a hole.
3. Cover the head of the screw holding the motor with a black plastic lid (picture was taken before). Looks a littel fancier.

Mount the belt and check if hight is correct. Then follow the OL-manual to connect power supply, set motor speed etc.



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Now ready for a second
life, thanks to the Origin
Live DC Motor Kit

