

# Thread cutting & placing spacers



Thread cutting (M3) was done by me for the first sets of kits.

Screw in spacers

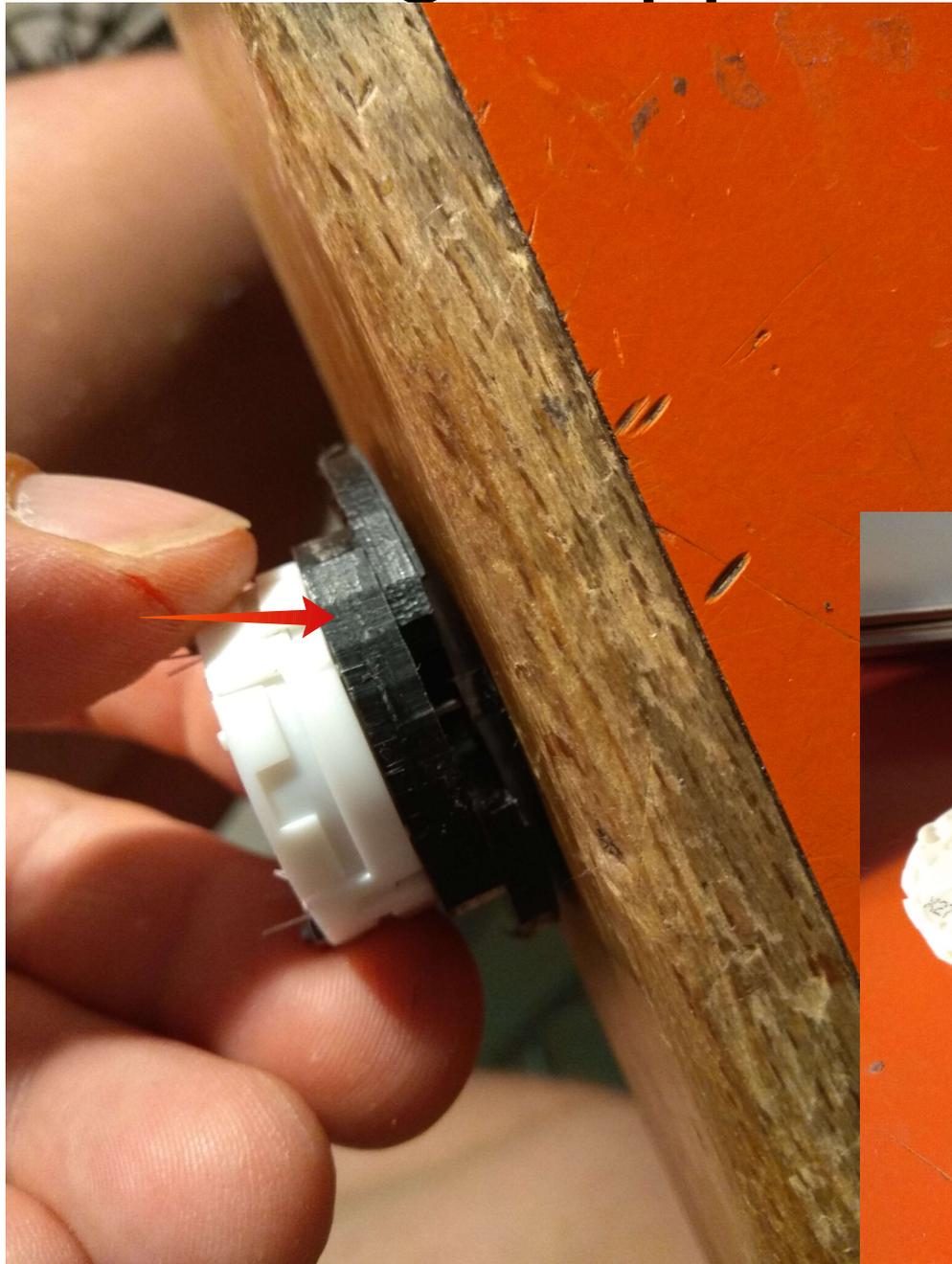
Cut screw with a sharp knife.

# Countersink



Was done by  
me on your  
first set of  
gauges.

# Attaching stepper motor and spacer



Use the stepper motor spacer (see red arrow) and attach the motor to the plastic with the M2 screws and nuts



# Glue dual and drill whole

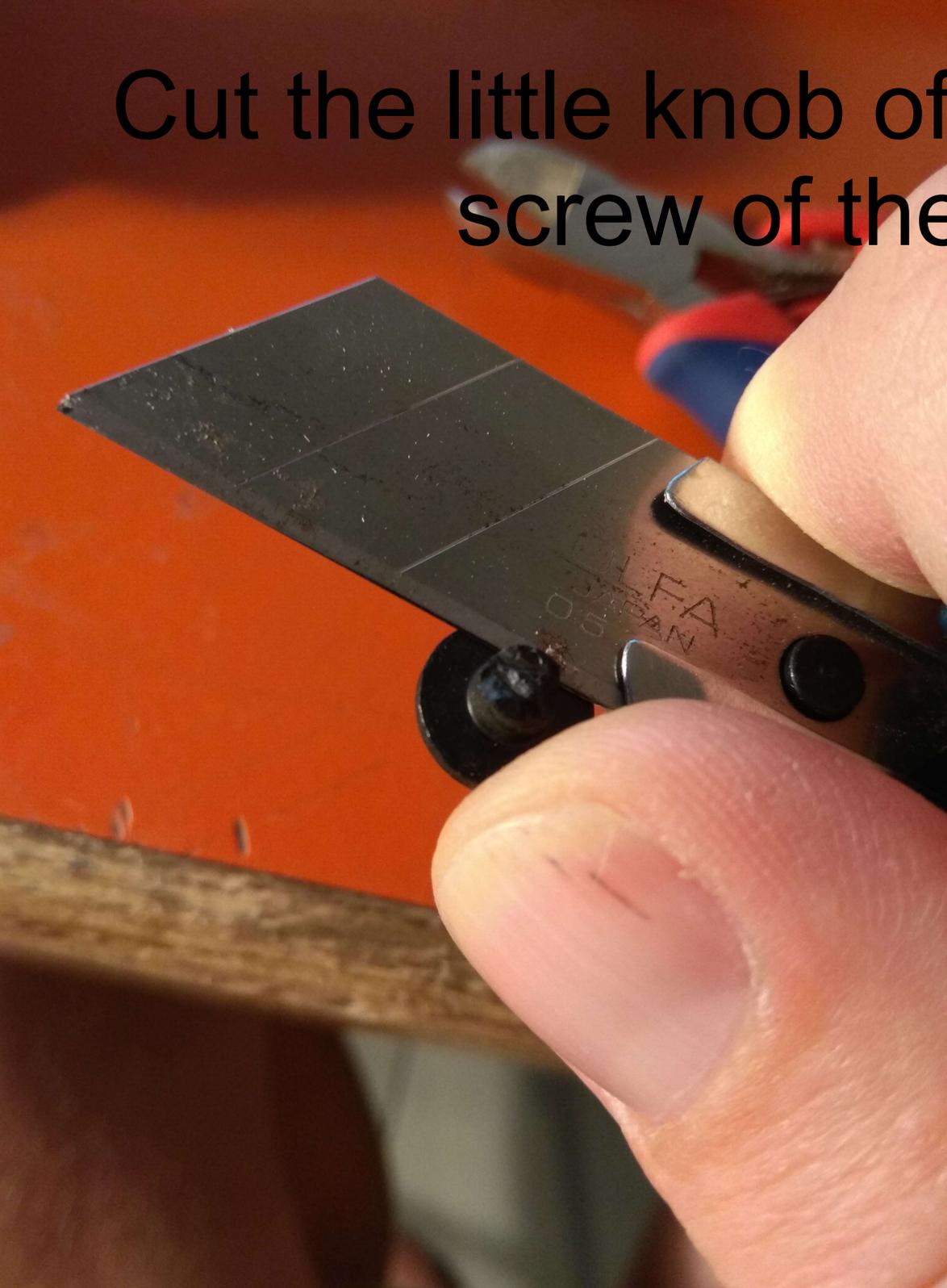


Use very little glue (2 drops both sides) to glue the dial to the plastic.

Drill a whole about 0,5mm smaller than the size of the screw.

While screwing in the original screw into the plastic it will cut the thread. It is a non std thread hence I do not have a tool for it.

Cut the little knob of the adjustment screw of the gauge



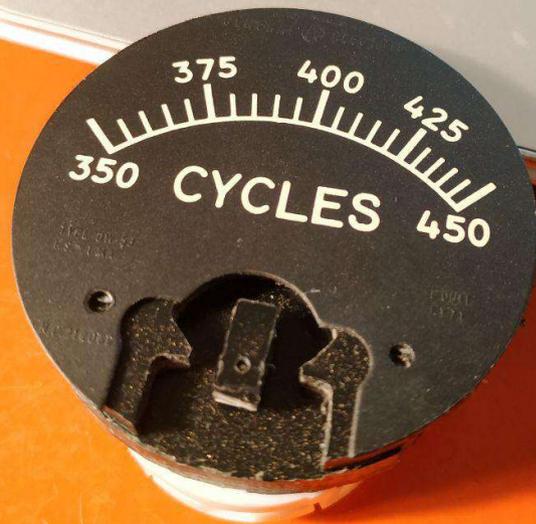
# Most important step!!!!



Turn the motor  
to the LEFT to  
its internal  
stop!

# Attach needle holder

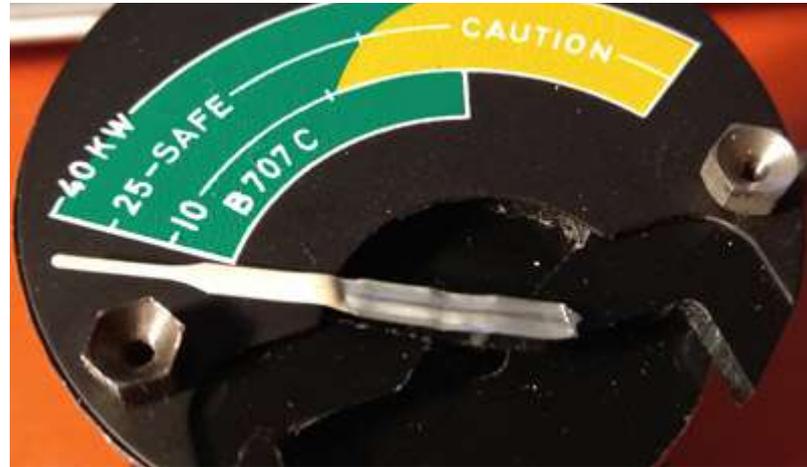
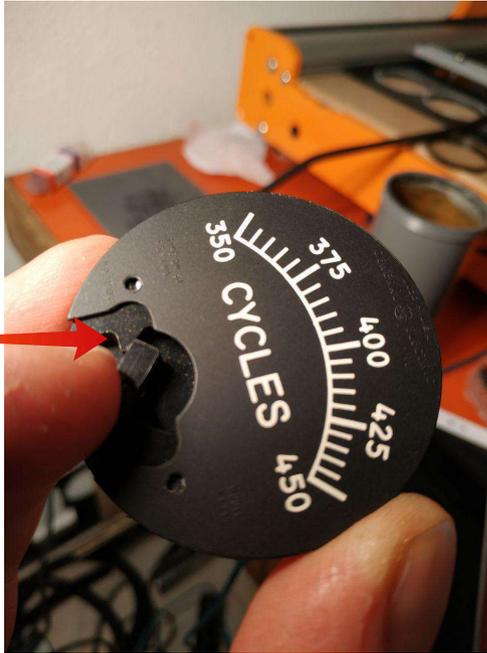
This is what it should look like



Put the needle holder on the motor axis and then press it against a flat surface to get the needle holder on the motor axis straight and perfect.

After that you have to lift it up about 0,3mm to glue the needle on it. This allows for some spacing between the needle and the dial.

# Before glueing needle!

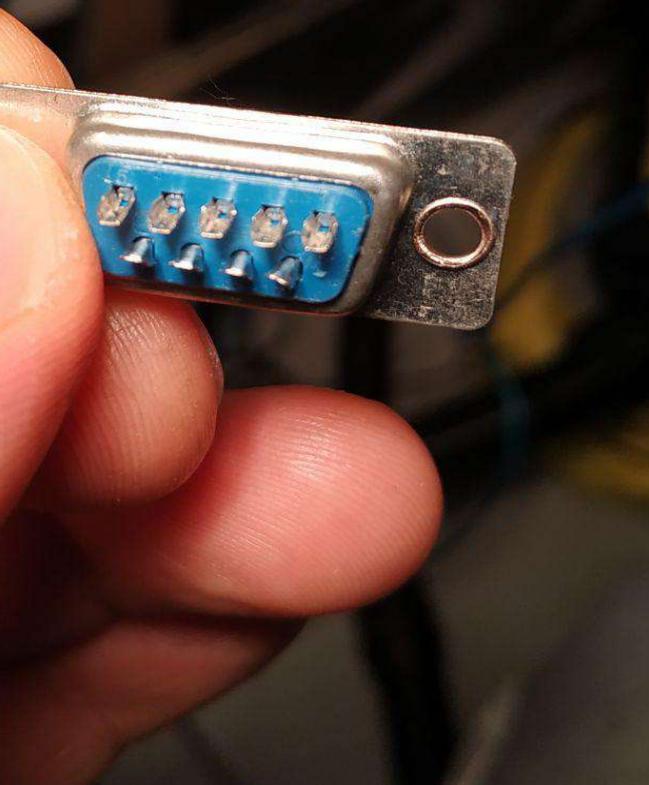


Turn the needle holder fully to the left so that eventually the motor's internal stop and the external plastic stop are the same.

Then you can put some glue on the needle holder and the stepper motor axis and glue the needle on the needle holder. Make sure you have the correct height on the dial:

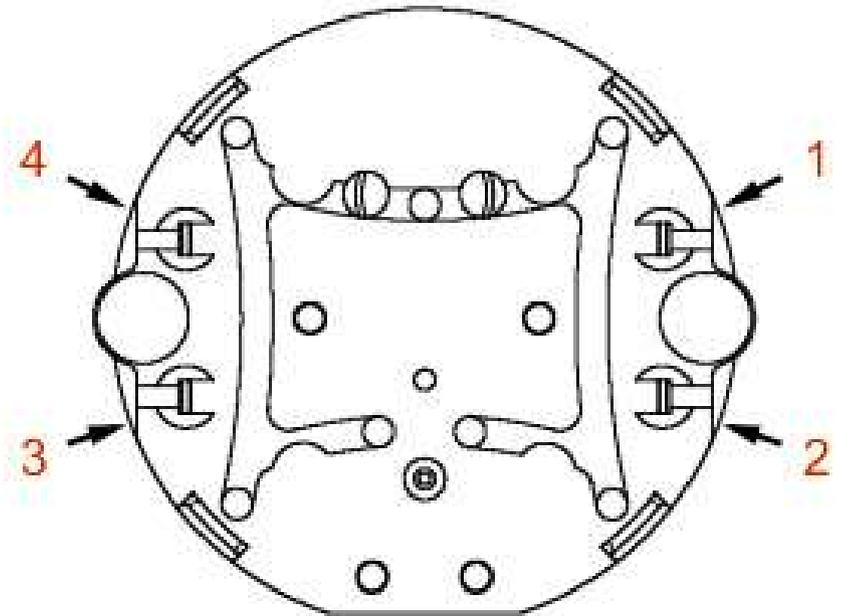


# Soldering to pins



Solder wires to the correct pin. Check the gauge I have built for you in case of doubt. Sorry forgot to take photos.

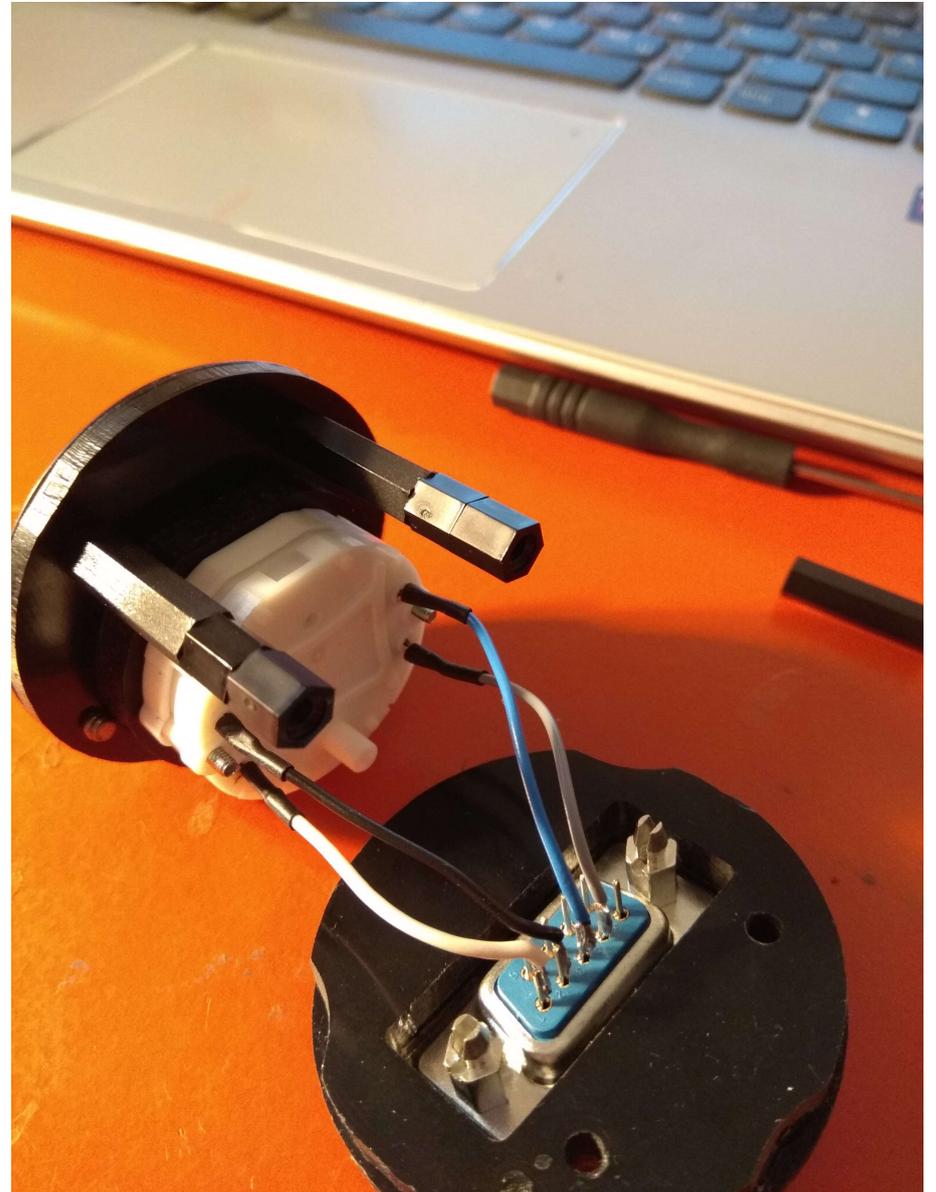
*If contacts are on back side*



**1: White**      **4: Grey**  
**2: Black**     **3: Blue**

# Soldering and wiring

Watch closely where PIN1 is (marked on the blue DSUB plug where you solder the wire to the pins sticking out of the blue plastic. PINOUT MUST BE CORRECT!!!! You cannot damage the motor with wrong wiring but it is a hassle to troubleshoot later on



# Finishing



Drill a hole slightly smaller than the original screw to make sure you can screw it into the plastic and it holds.