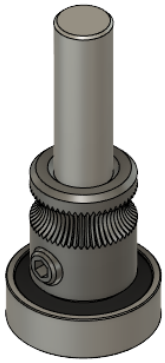
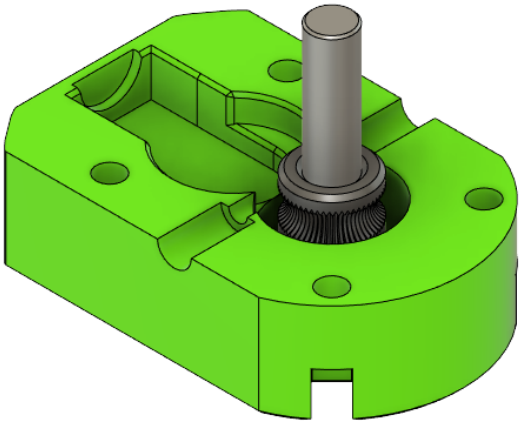
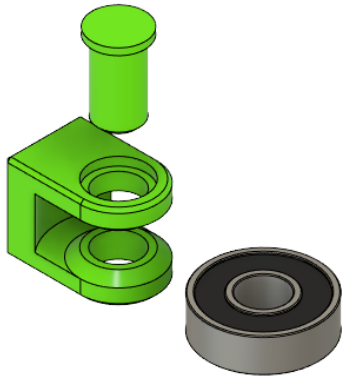
nxEncoder Filament encoder assembly instructions
V1.0 by Simon Davie
https://github.com/nexx/nxencoder-util

Step one:
Take the M5x30 dowel and install one of the 695 bearings onto one end. Slip the MK8 hobbed extruder gear down the shaft so that it rests upon the bearing. Tighten the grub screws to secure the extrude gear to the M5 dowel.

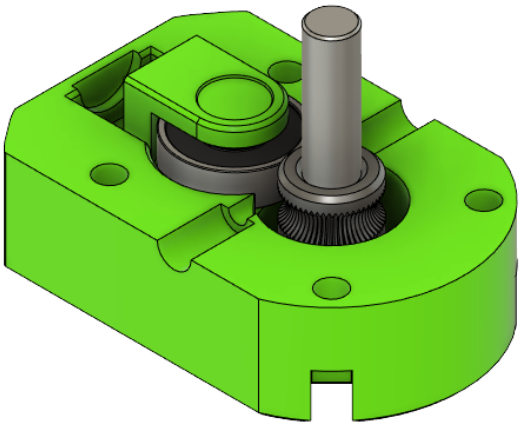


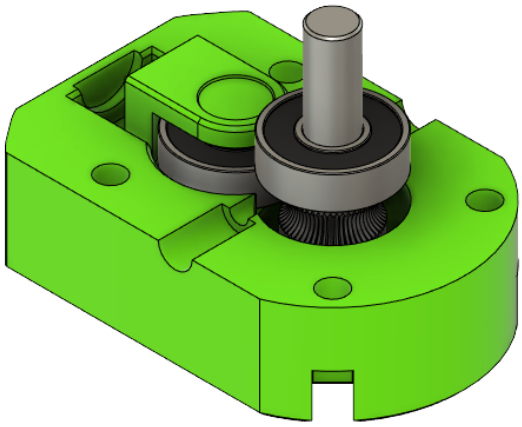
Step two:
Insert the assembly from step one into the lower housing as shown below. Next, take another 695 bearing and assemble the idler by placing the bearing inside the carrier and securing it with the printed idler pin.



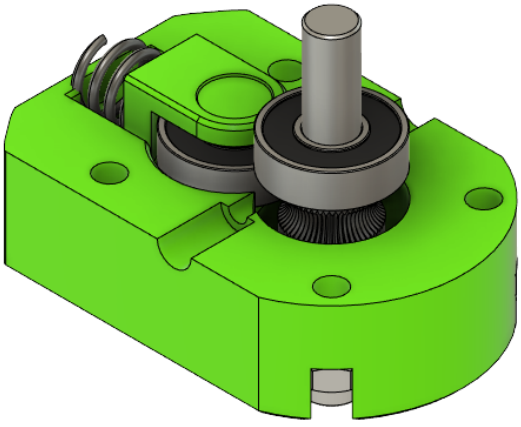


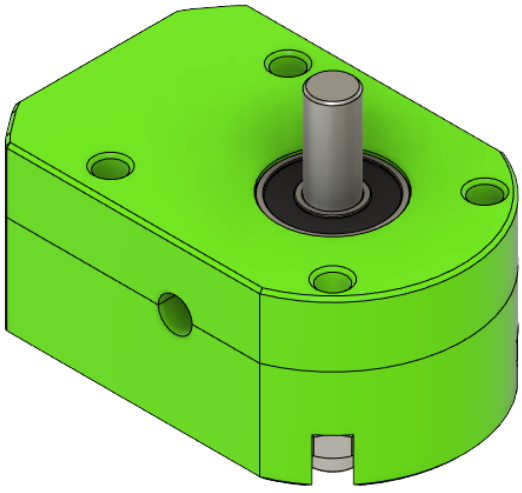
Step three:
Place the idler assembly into the lower housing as shown, this will be secured with a spring shortly. Take a second 695 bearing and carefully slide it down the M5x30 dowel so that it rests atop the MK8 extruder gear.



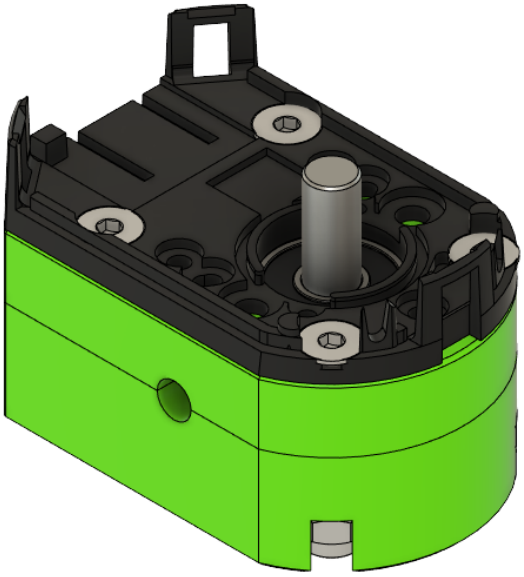


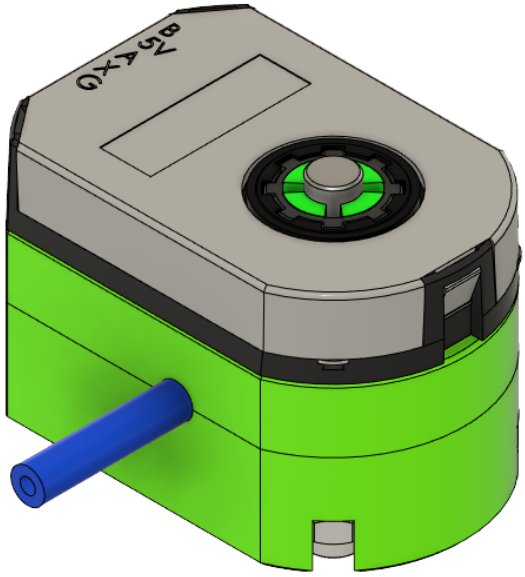
Step four:
Clear the M3 holes in the lower body using one of the M3 screws, then install the four M3 nyloc nuts into the underside of the bottom housing. Compress and insert the spring into the gap between the housing and the idler and then carefully install the upper housing.





Step five:
Follow the instructions provided with the AMT102V encoder to install it atop the completed encoder housing. Use the four countersunk M3x16 machine screws to secure the AMT102V base plate to the encoder housing. You will require the green shaft adapter to fit onto the M5x30 dowel pin. Lastly insert a small length of PTFE tubing into the right side of the housing.





Step six:
To connect the encoder to the Arduino Nano, you will either need to create your own wiring, or purchase a pre-wired connector (part numbers CUI-3132-1FT or CUI-3131-6FT). If you wish to create your own, you will require the appropriate tools, crimps (Molex part 0016020086) and housing (Molex part 0050579405).

Once you have either solution, the encoder needs to be wired to the Arduino Nano as follows:

AMT102V Pin	Ardunio Nano Pin
B	D3
5V	5V
A	D2
G	GND