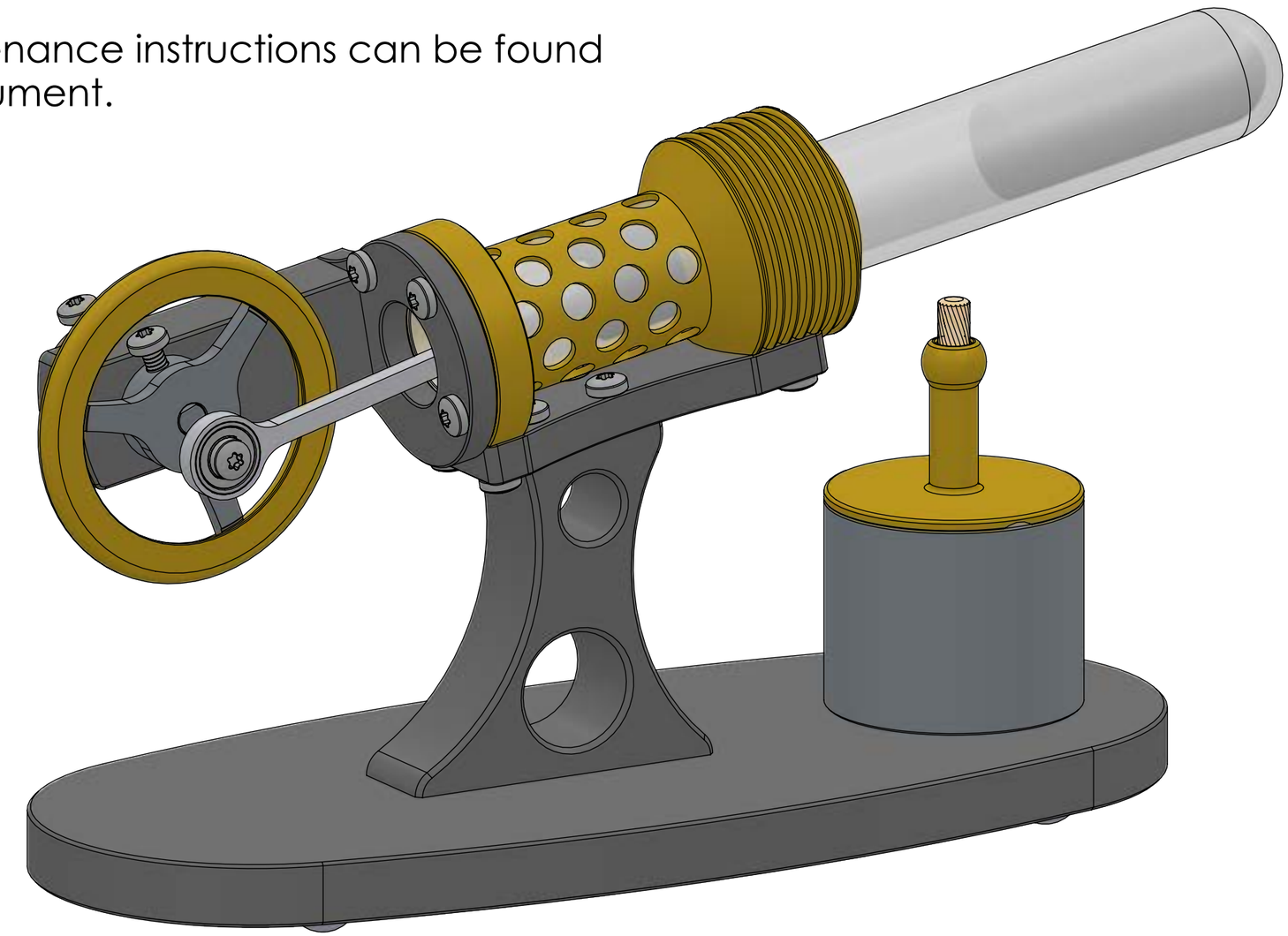
Nano Flux assembly instructions

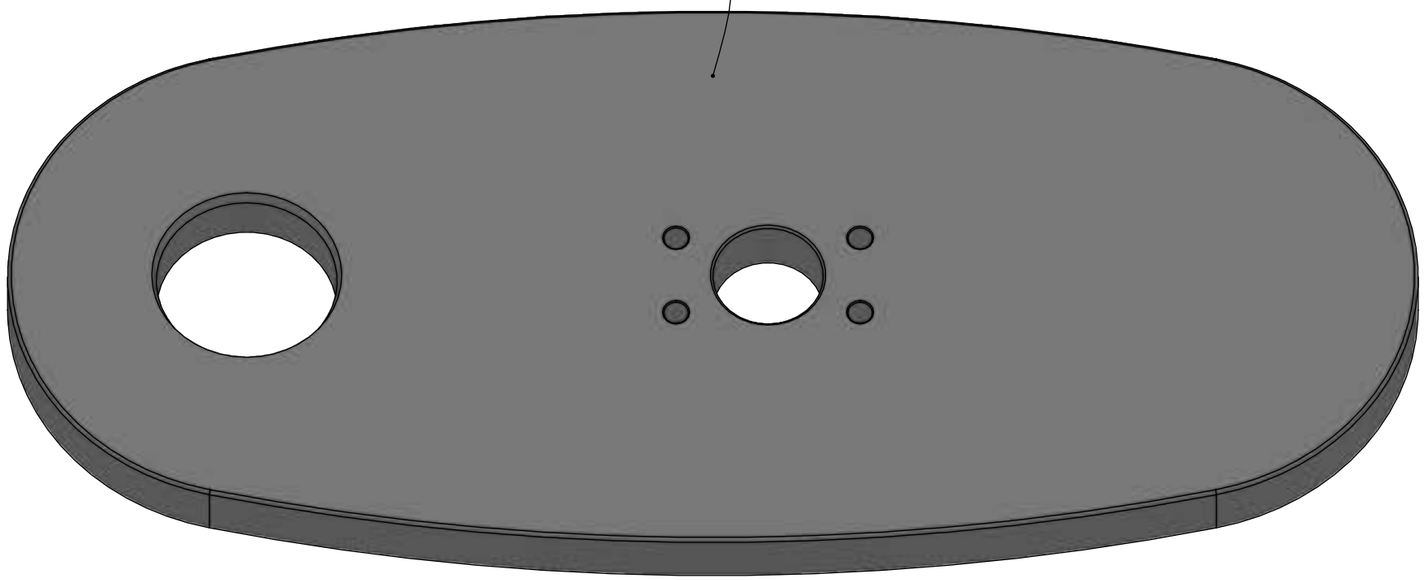
Please read all the way through the assembly instructions to familiarise yourself with the process before you start and pay close attention to the alignment of all the parts in the diagrams.

Assembly time should be approximately 25-30 minutes.

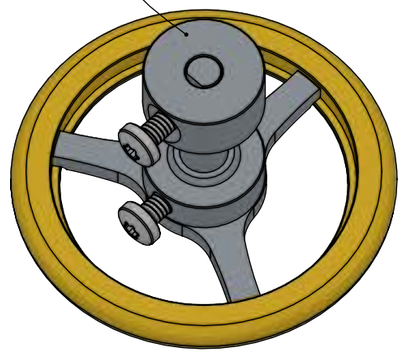
Operation and maintenance instructions can be found at the end of this document.



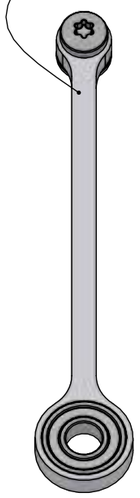
1x
Base

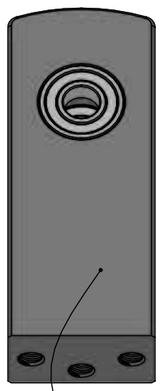


1x
Flywheel



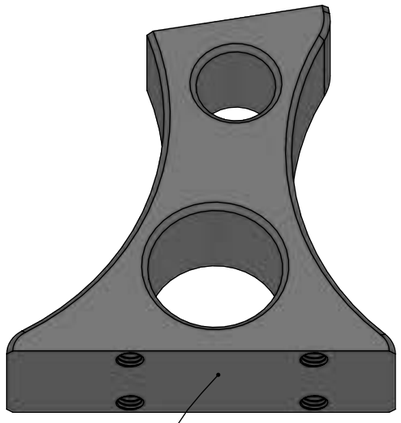
1x
Connecting rod



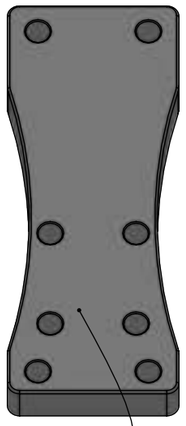


Bearing bracket
1x

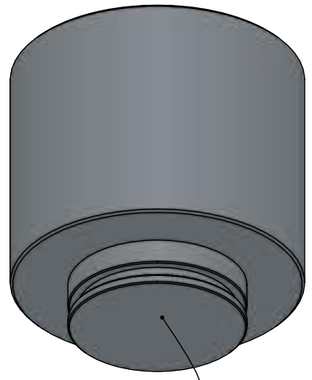
Front plate
1x



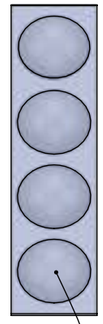
Foot
1x



Foot bracket
1x

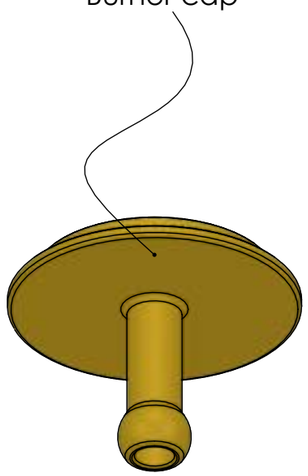


Burner body
1x



Rubber feet
4x

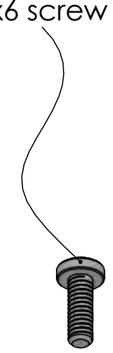
1x
Burner cap



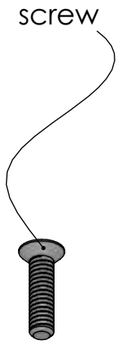
2x
M2x10 screw

9x
M2x8 screw

5x
M2x6 screw



2x
M2x8 countersunk screw

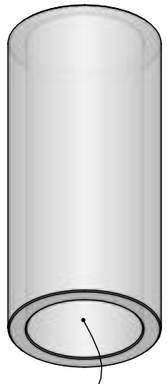


1x
Crank bush

Wick
1x

Fin block
1x

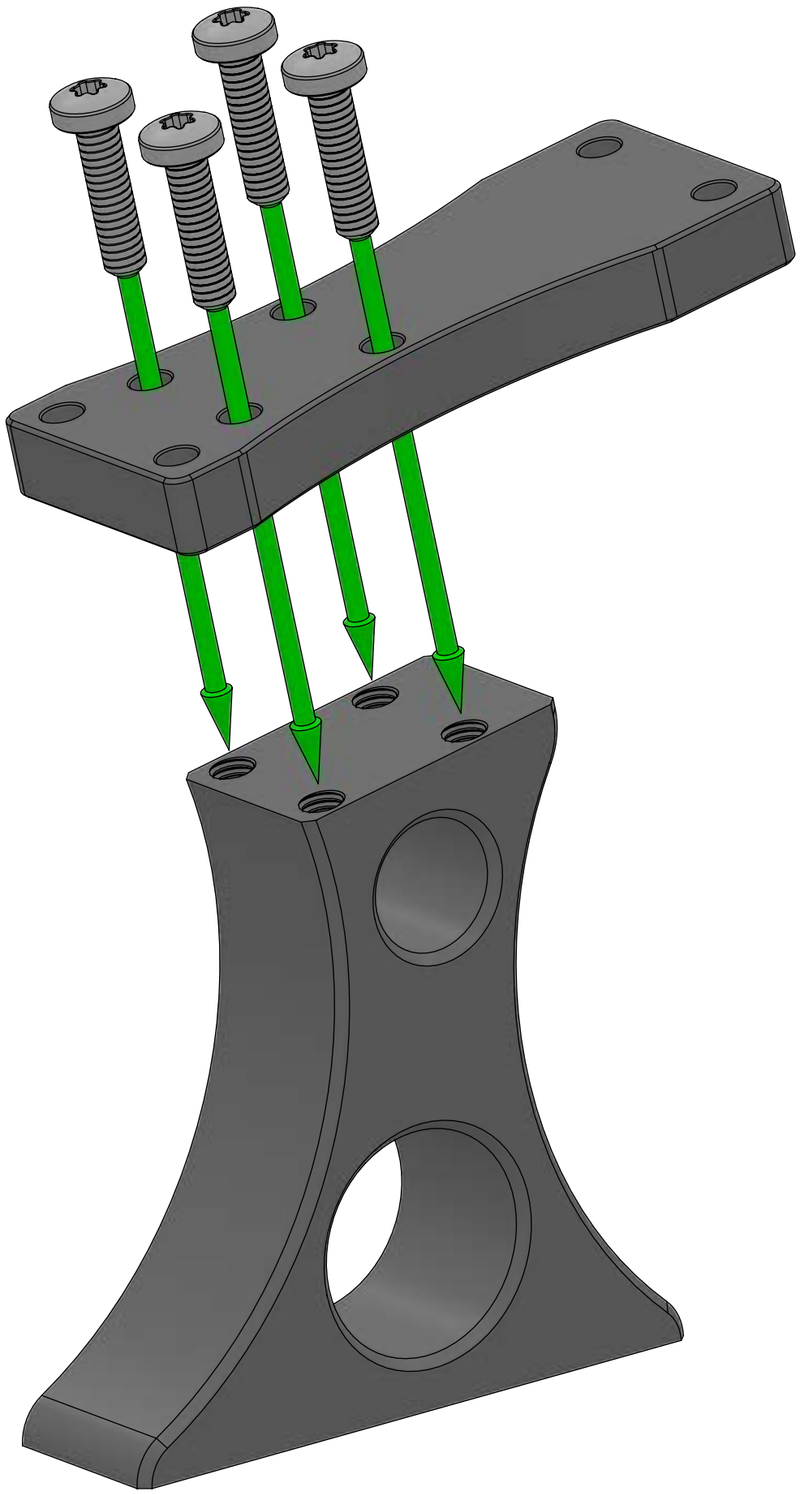
Tube
1x



Cylinder
1x

13mm O ring
3x

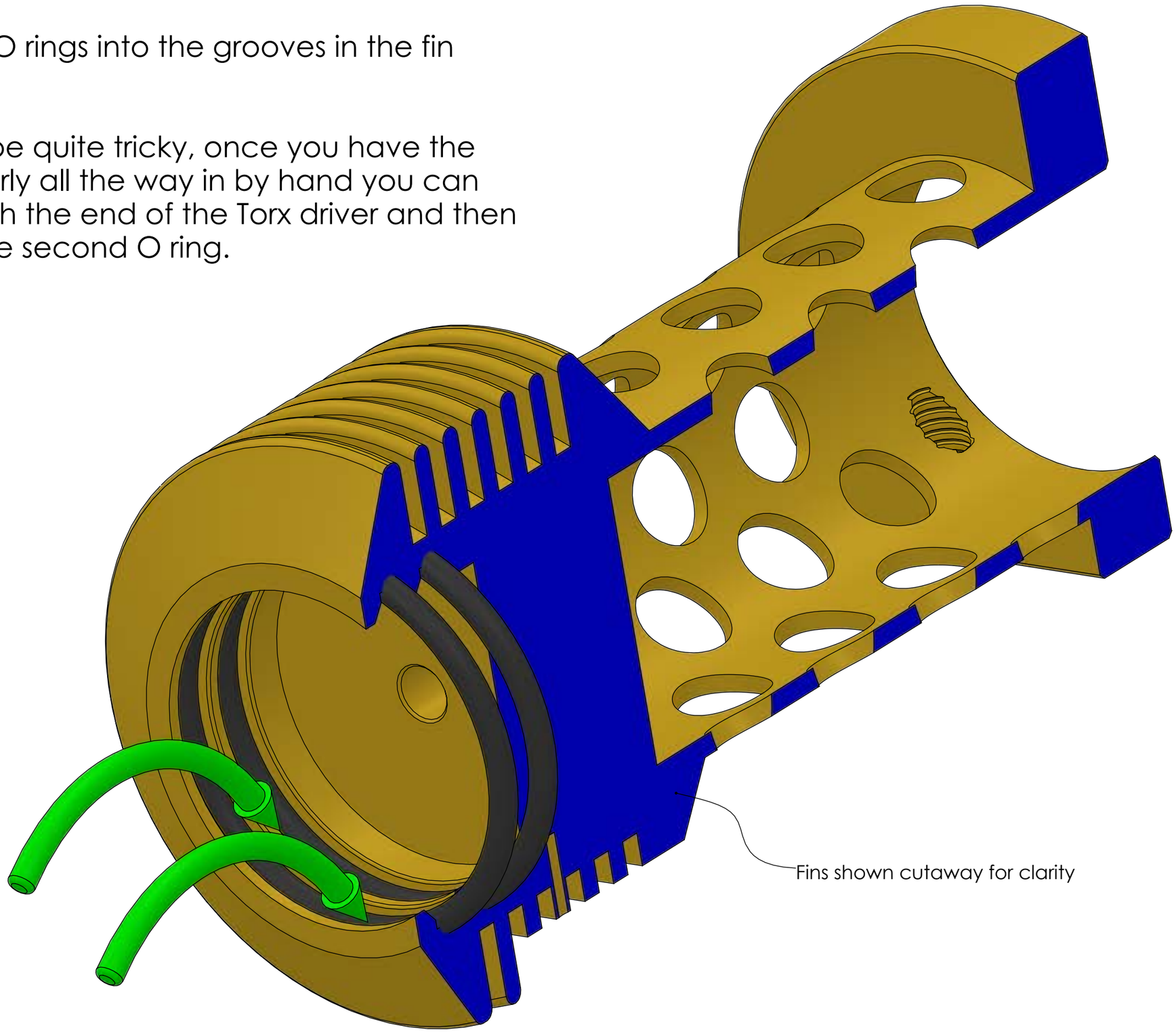
10mm O ring
1x

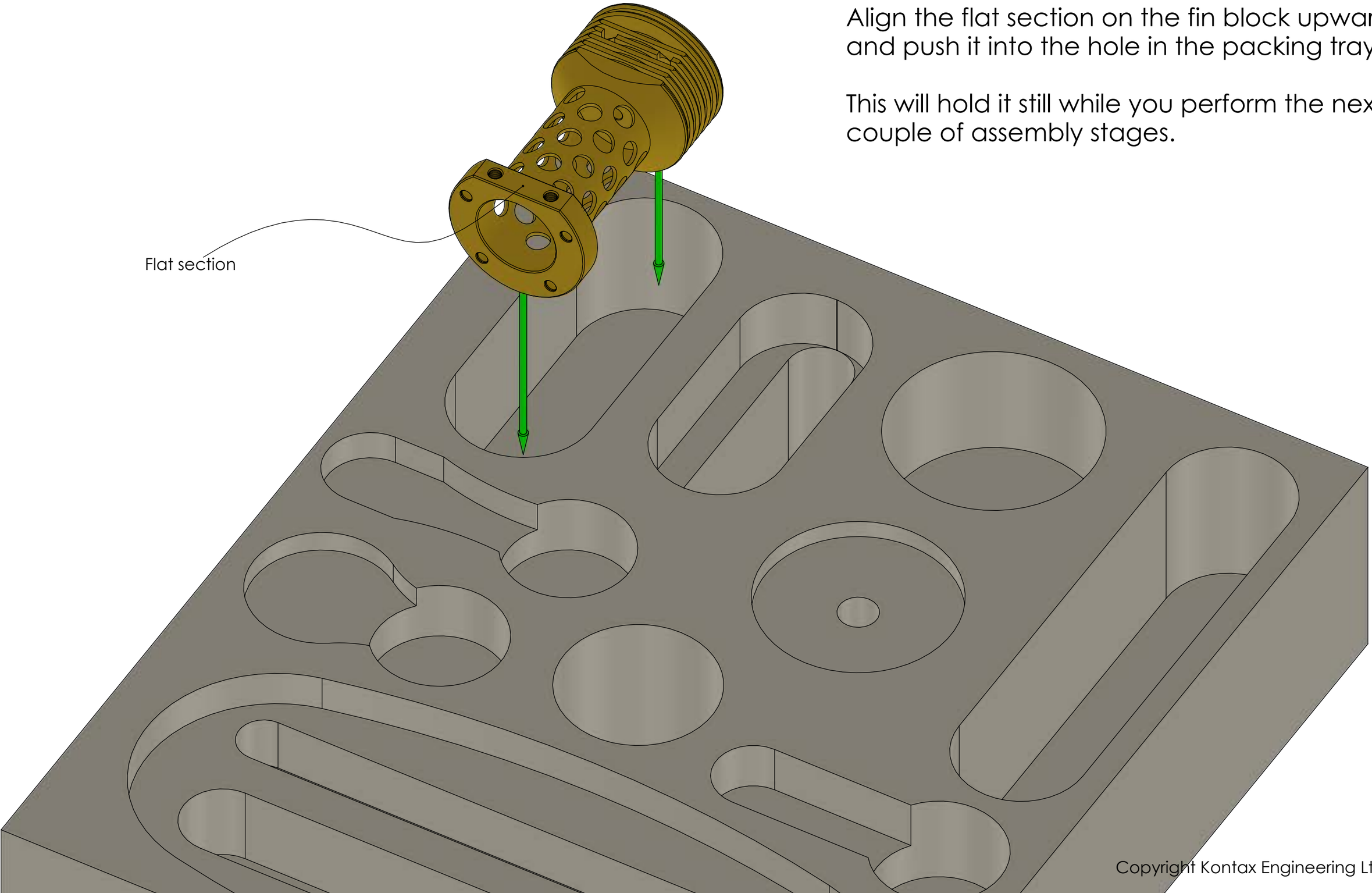


Screw four M2x8 screws through the foot bracket into the foot and tighten.

Fit two 13mm O rings into the grooves in the fin block.

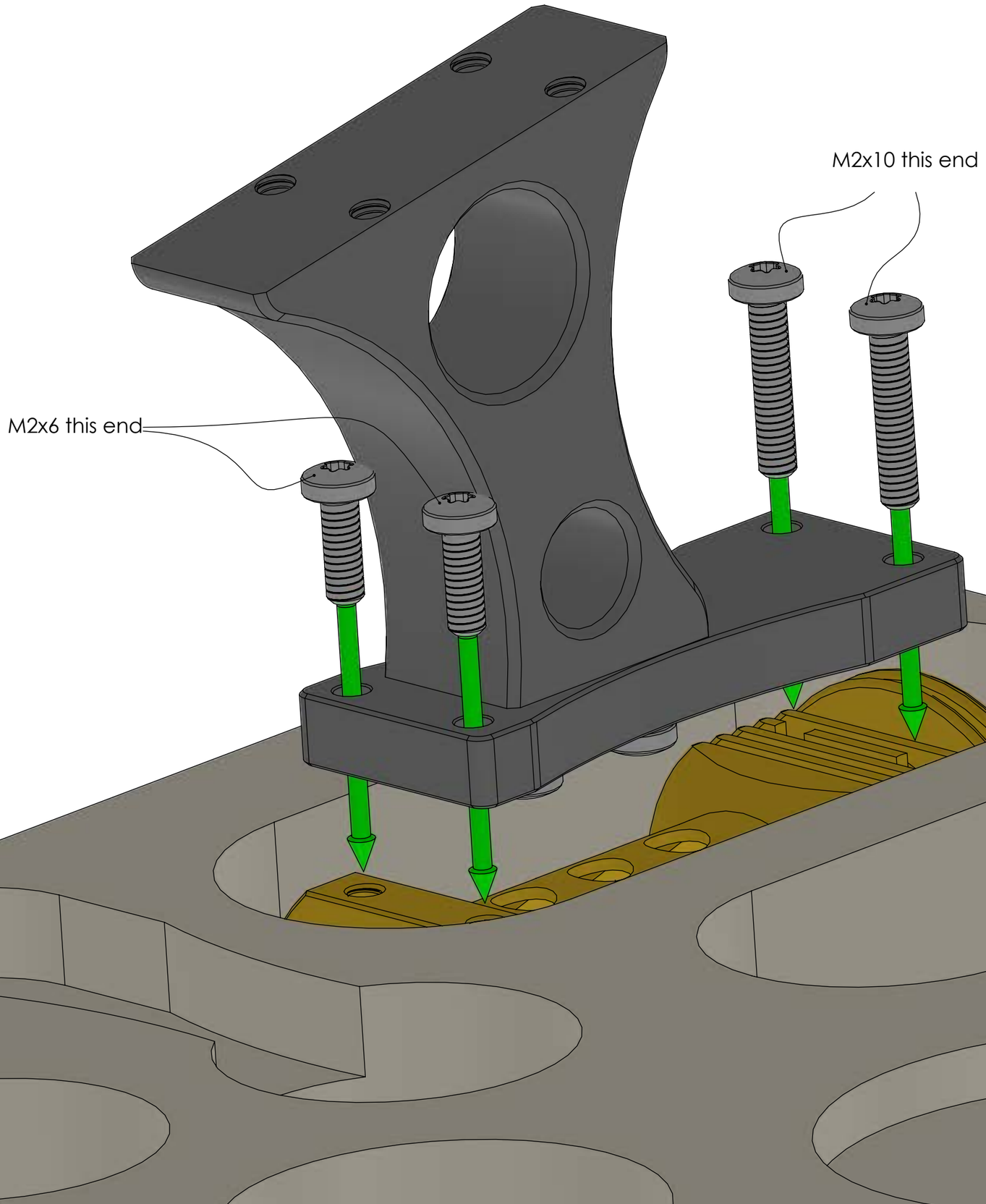
This step can be quite tricky, once you have the first O ring nearly all the way in by hand you can finish fitting with the end of the Torx driver and then proceed to the second O ring.



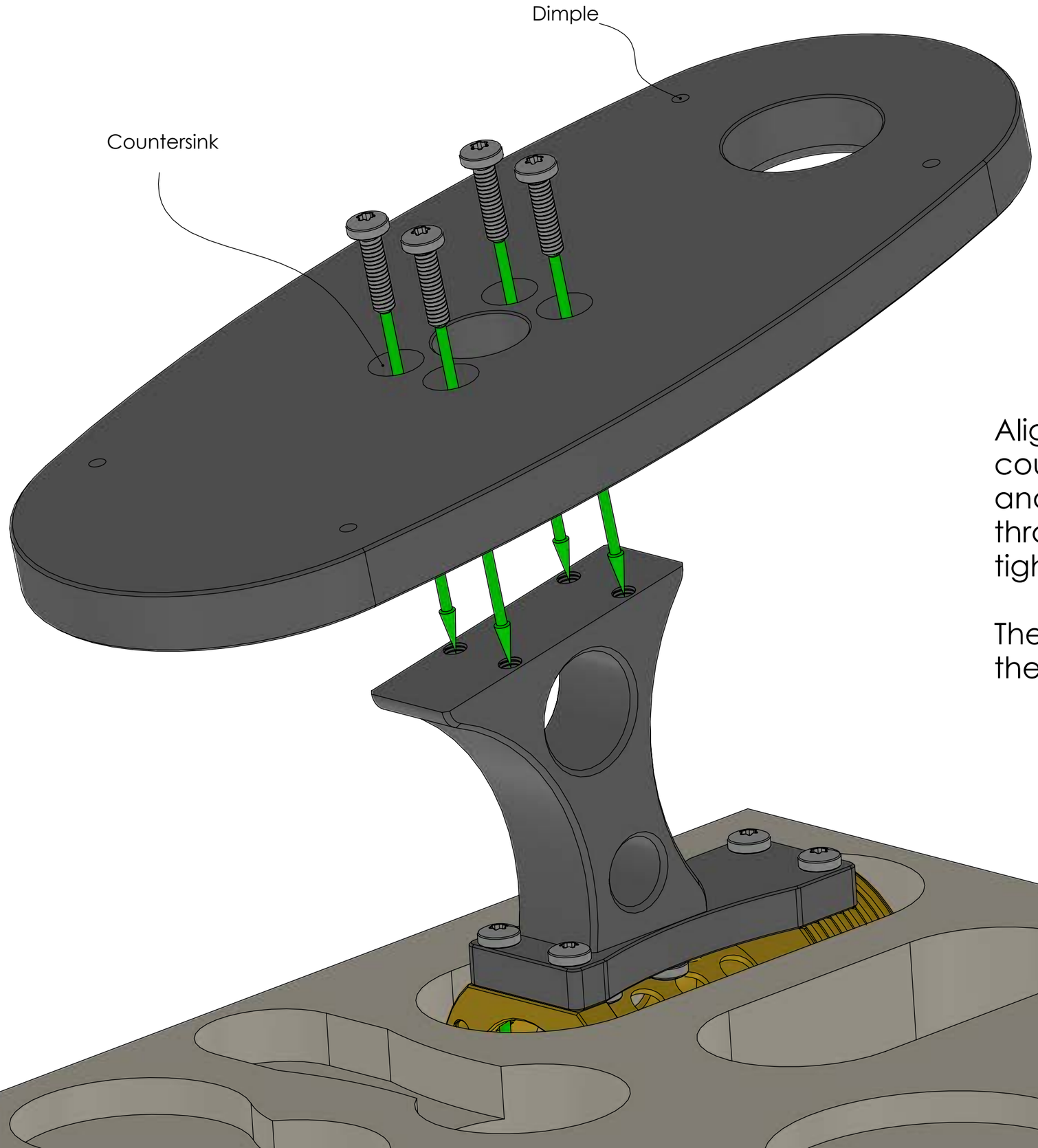


Align the flat section on the fin block upwards and push it into the hole in the packing tray.

This will hold it still while you perform the next couple of assembly stages.



Screw two M2x10 screws and wo M2x6 screws through the foot bracket into the fin block and tighten.

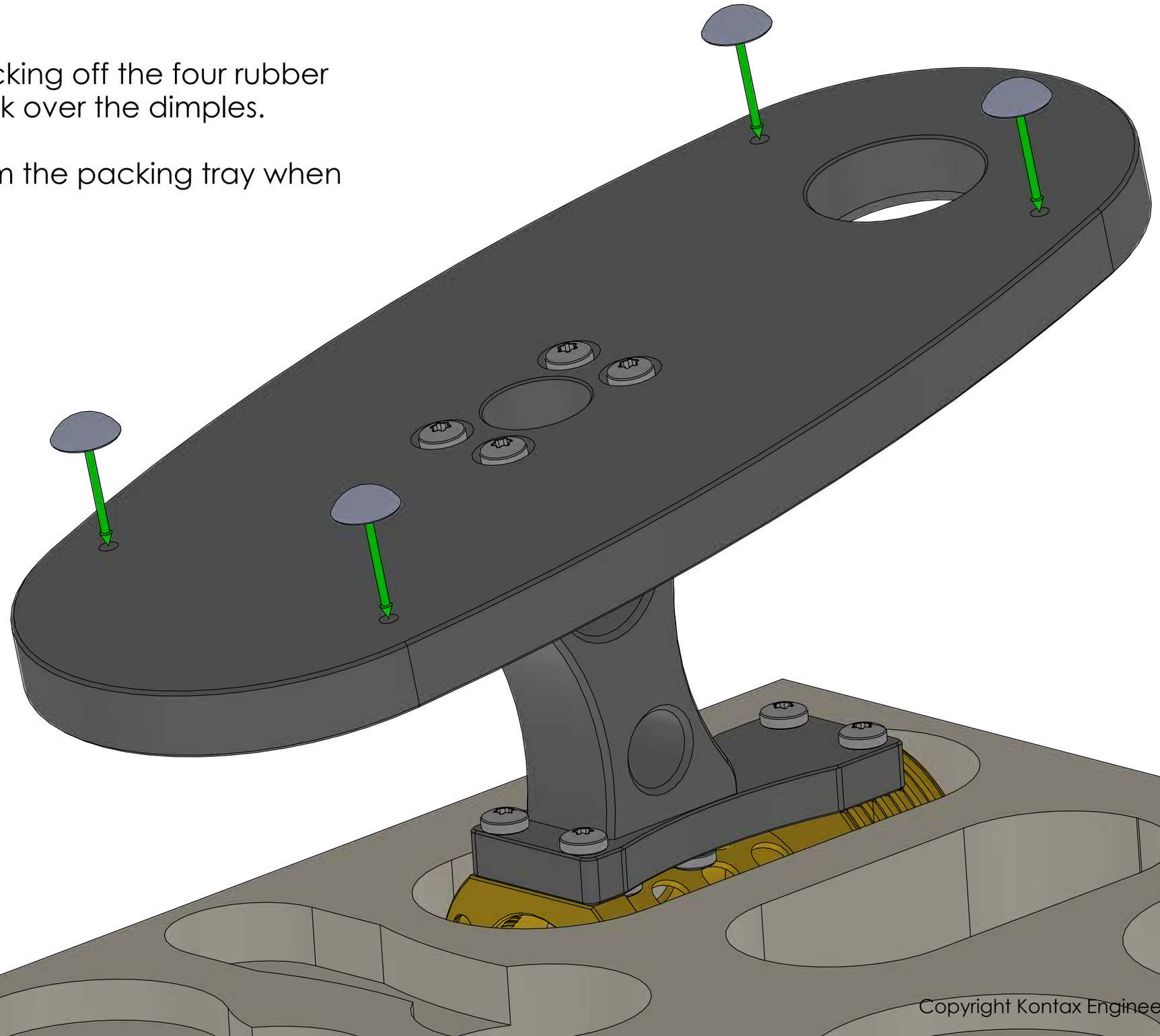


Align the base with the countersinks and dimples upwards and screw four M2x8 screws through the base into the foot and tighten.

The screws will tighten halfway into the countersinks.

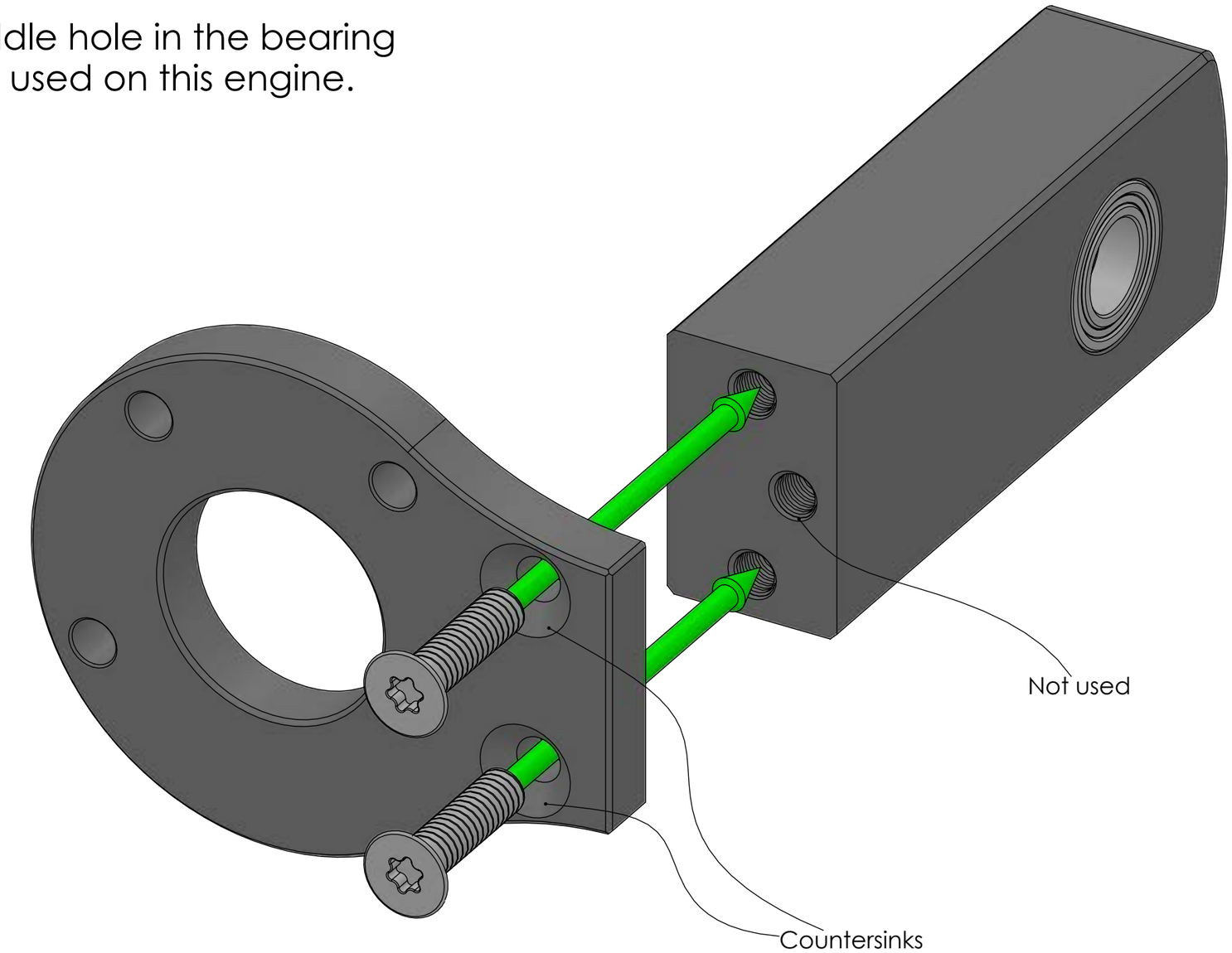
Peel the backing off the four rubber feet and stick over the dimples.

Remove from the packing tray when completed.



Align the front plate with the countersinks outwards and screw two M2x8 countersunk screws through the front plate into the bearing bracket and tighten.

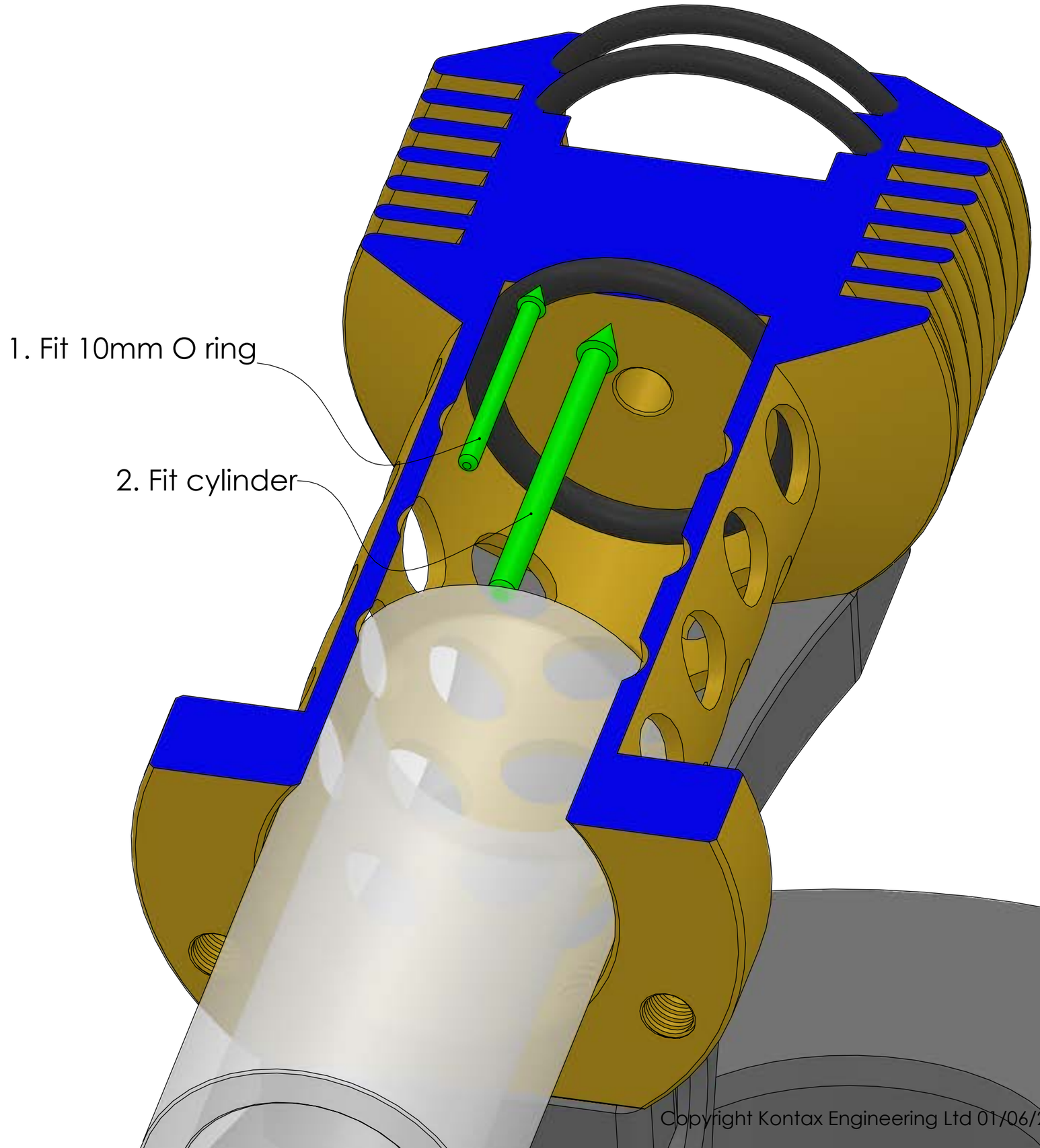
Note: the middle hole in the bearing bracket is not used on this engine.



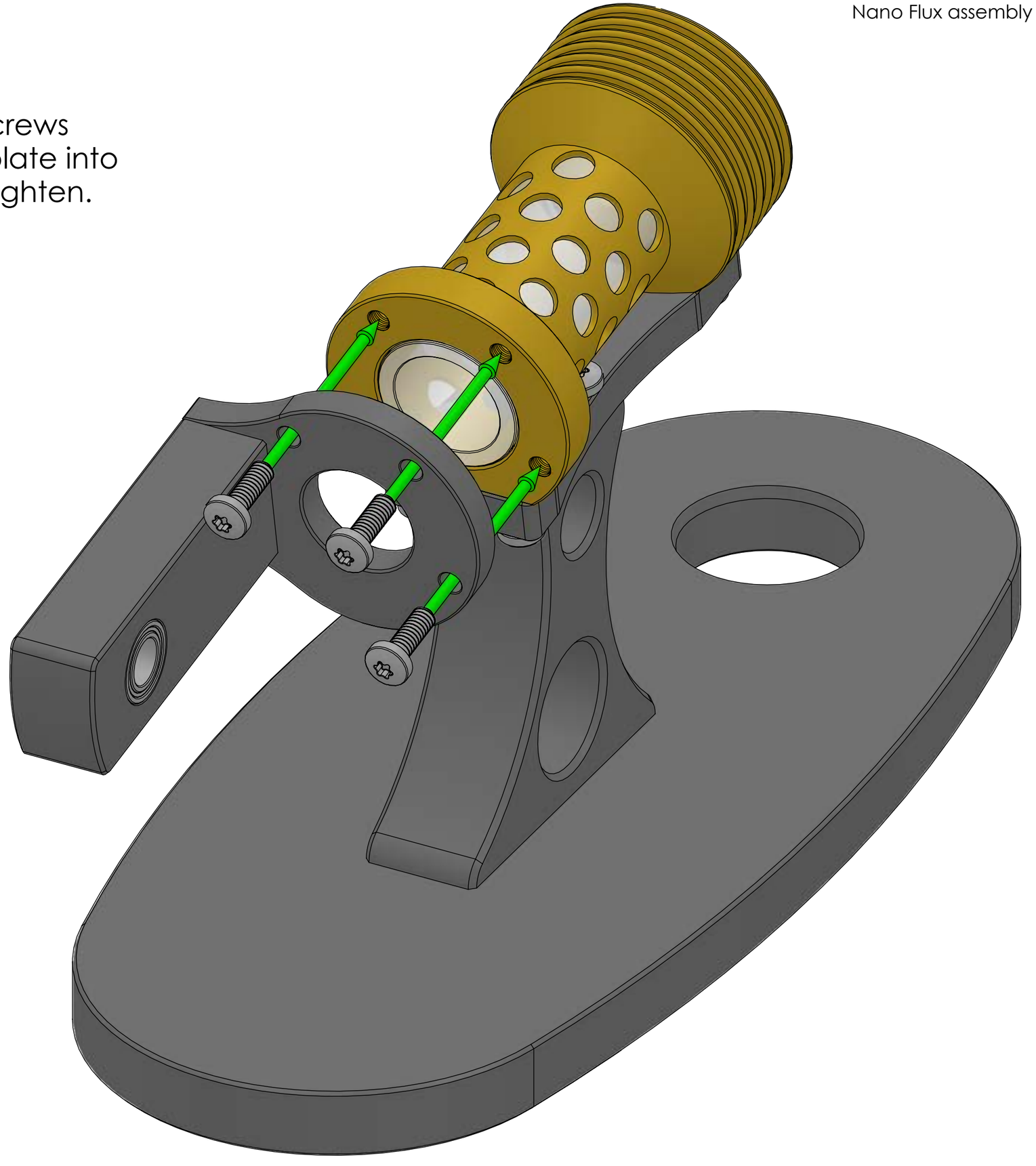
1. Fit one 10mm O ring into the step in the bottom of the fin block.

2. Fit the cylinder in the fin block and slide it all the way up to the O ring.

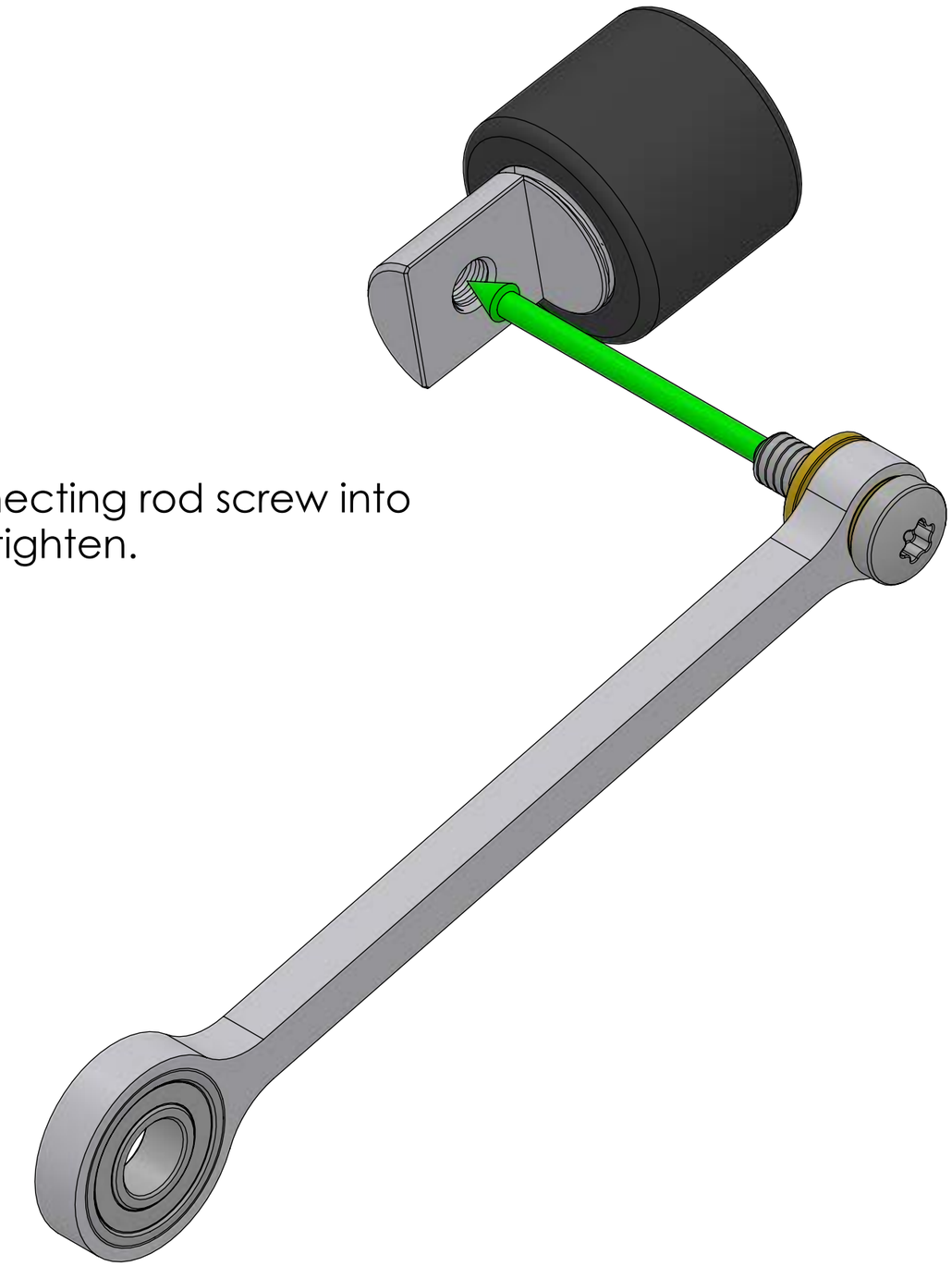
Take care that the O ring stays seated in the bottom of the fin block and does not become pinched or bunched as you slide the cylinder in.



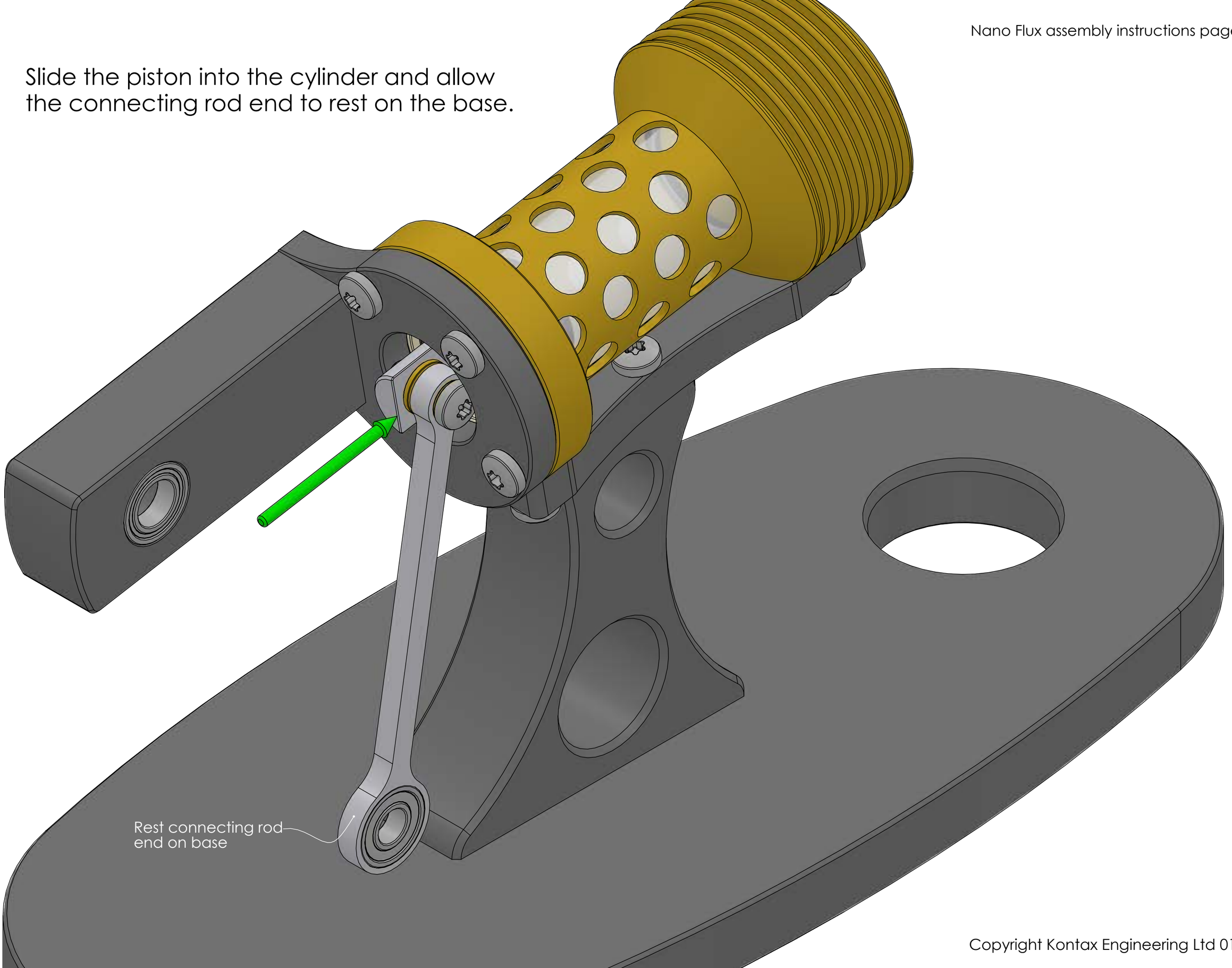
Screw one M2x6 screws through the front plate into the fin block and tighten.



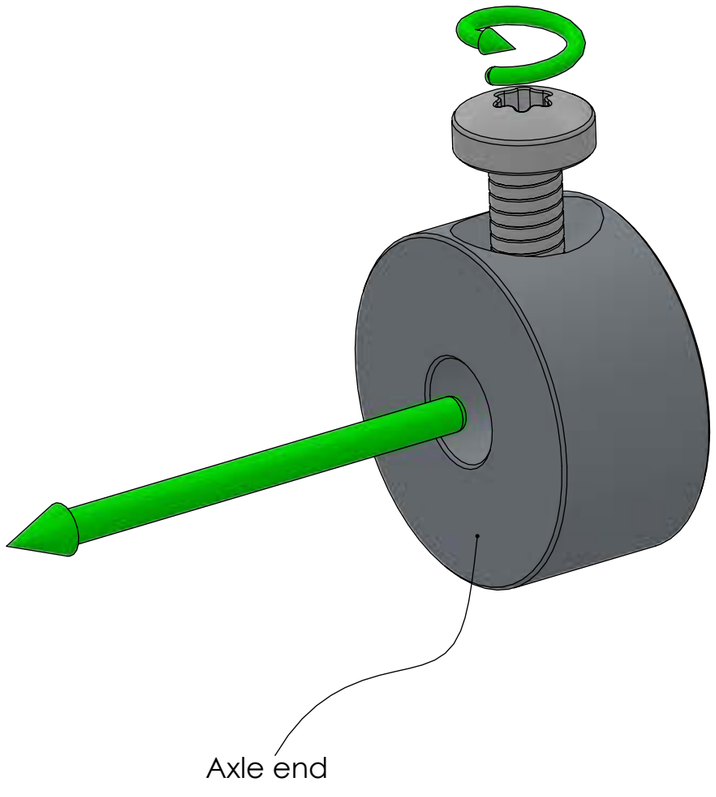
Screw the connecting rod screw into the piston and tighten.

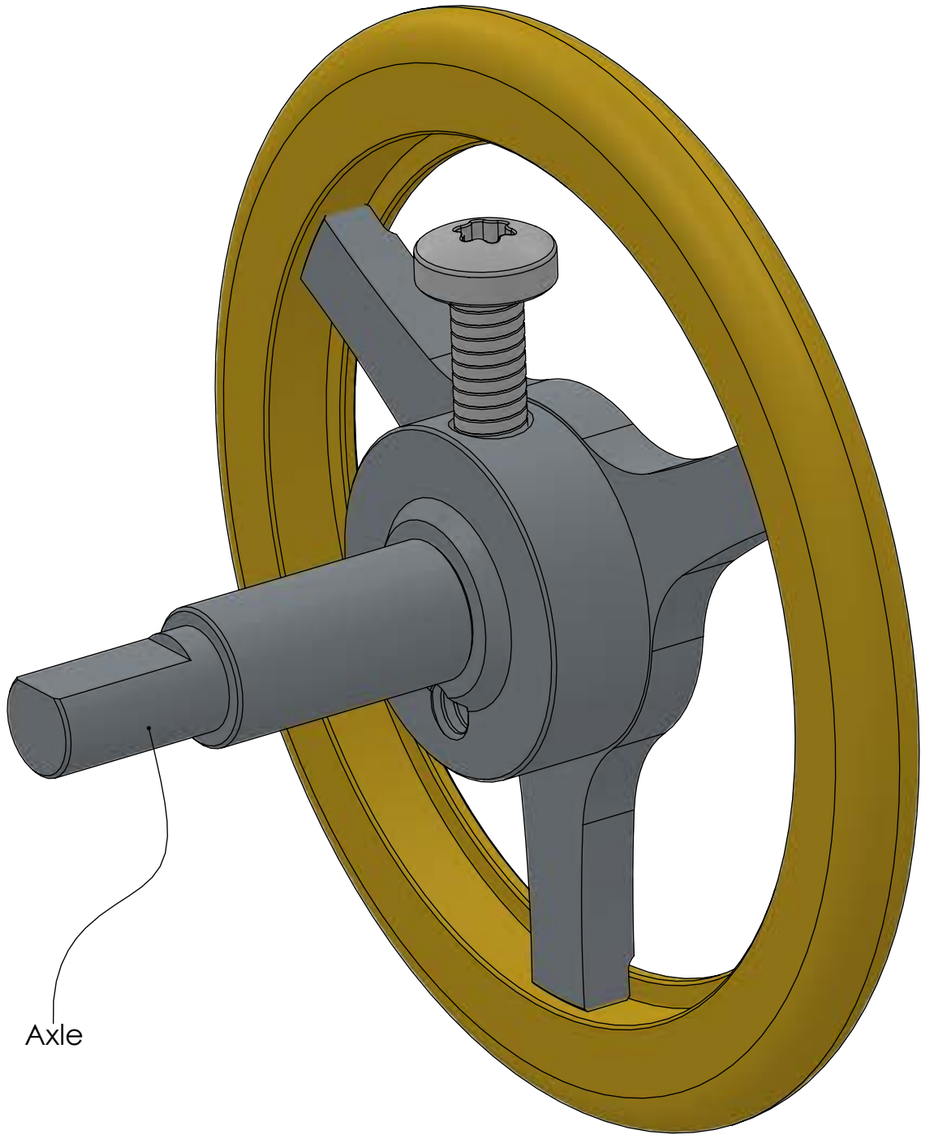


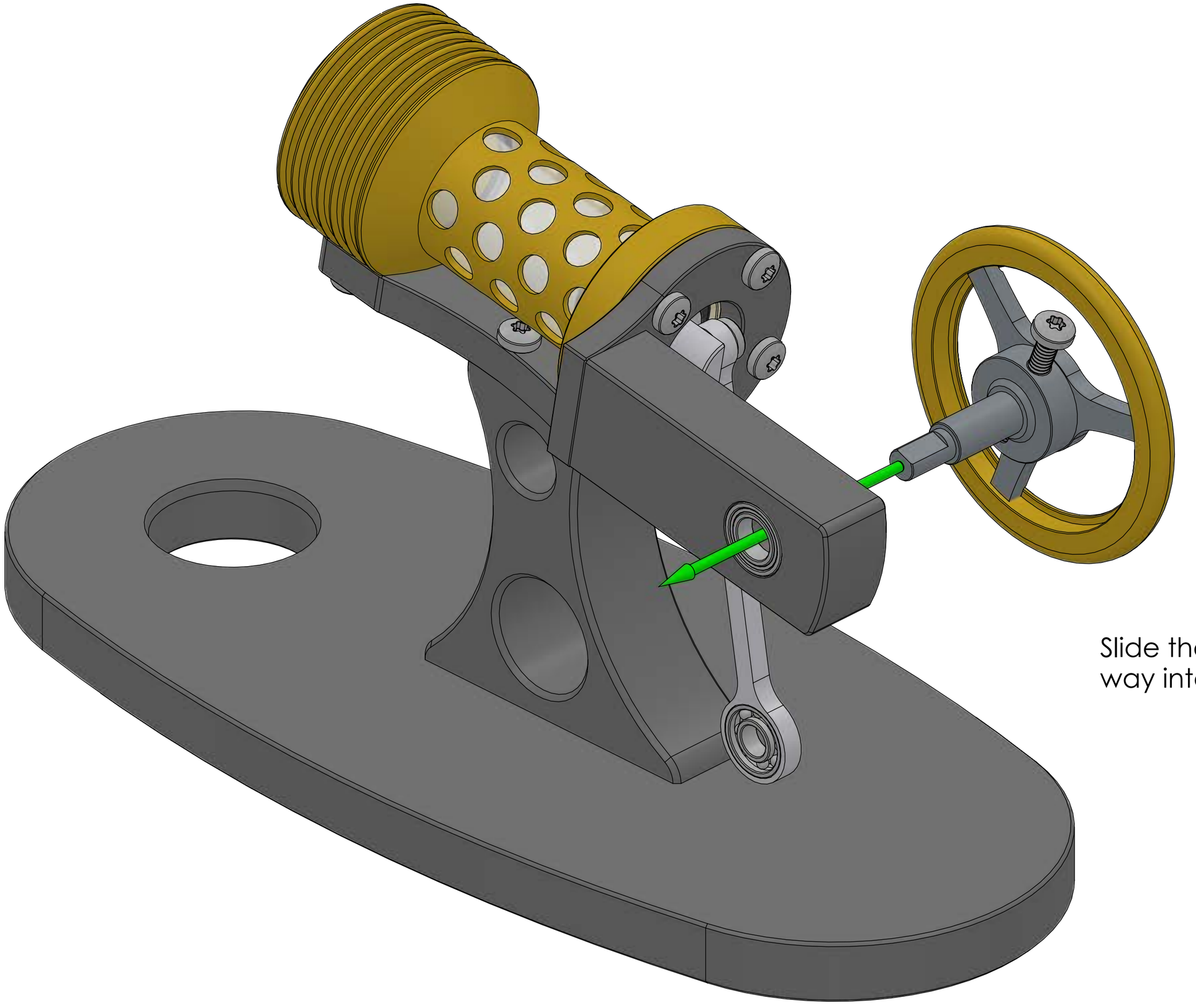
Slide the piston into the cylinder and allow the connecting rod end to rest on the base.



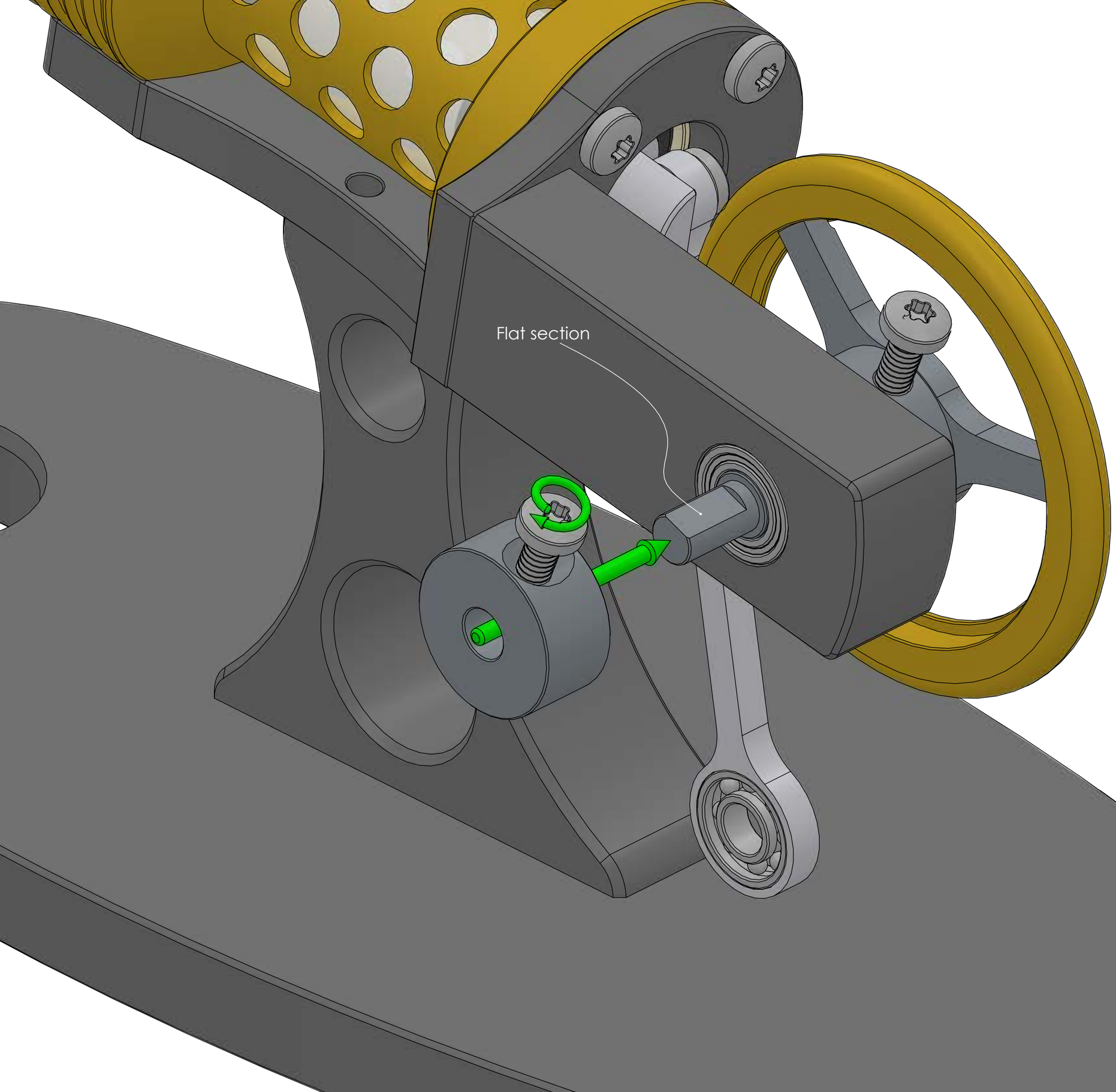
Loosen the screw in the axle end and remove it from the axle.







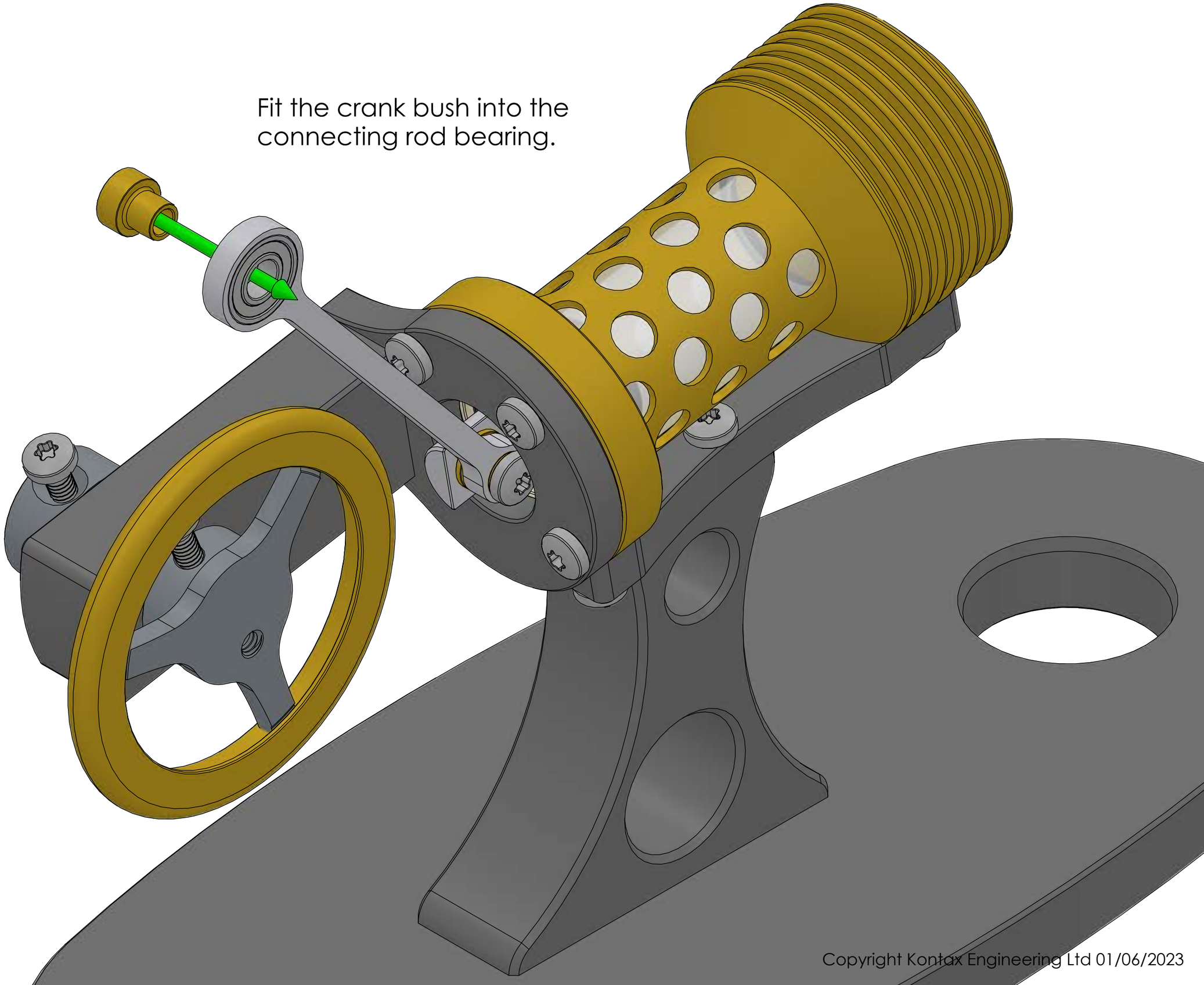
Slide the axle all the way into the bearings.



Fit the axle end onto the axle.

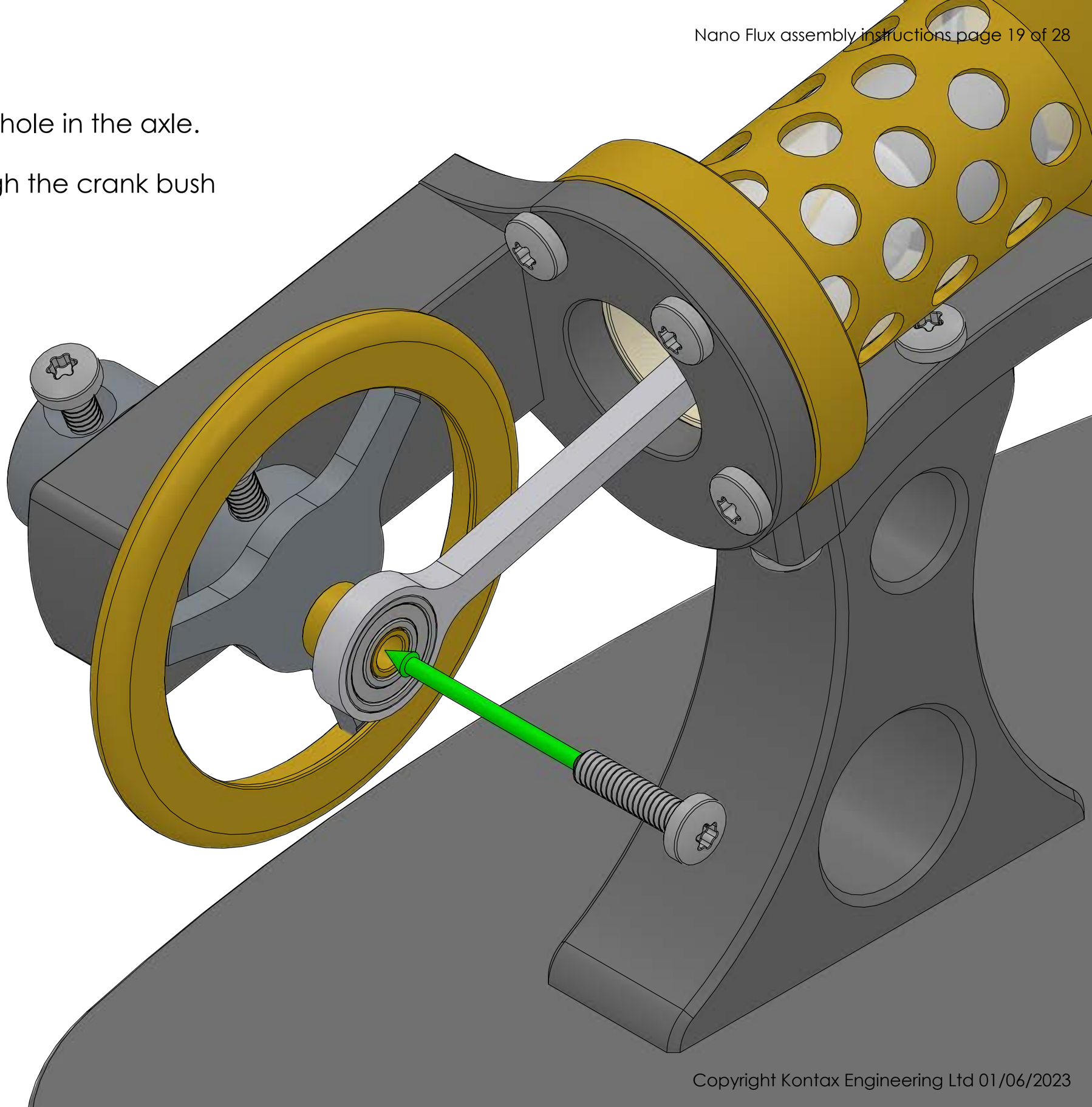
Align the screw in the axle end with the flat section on the axle and tighten.

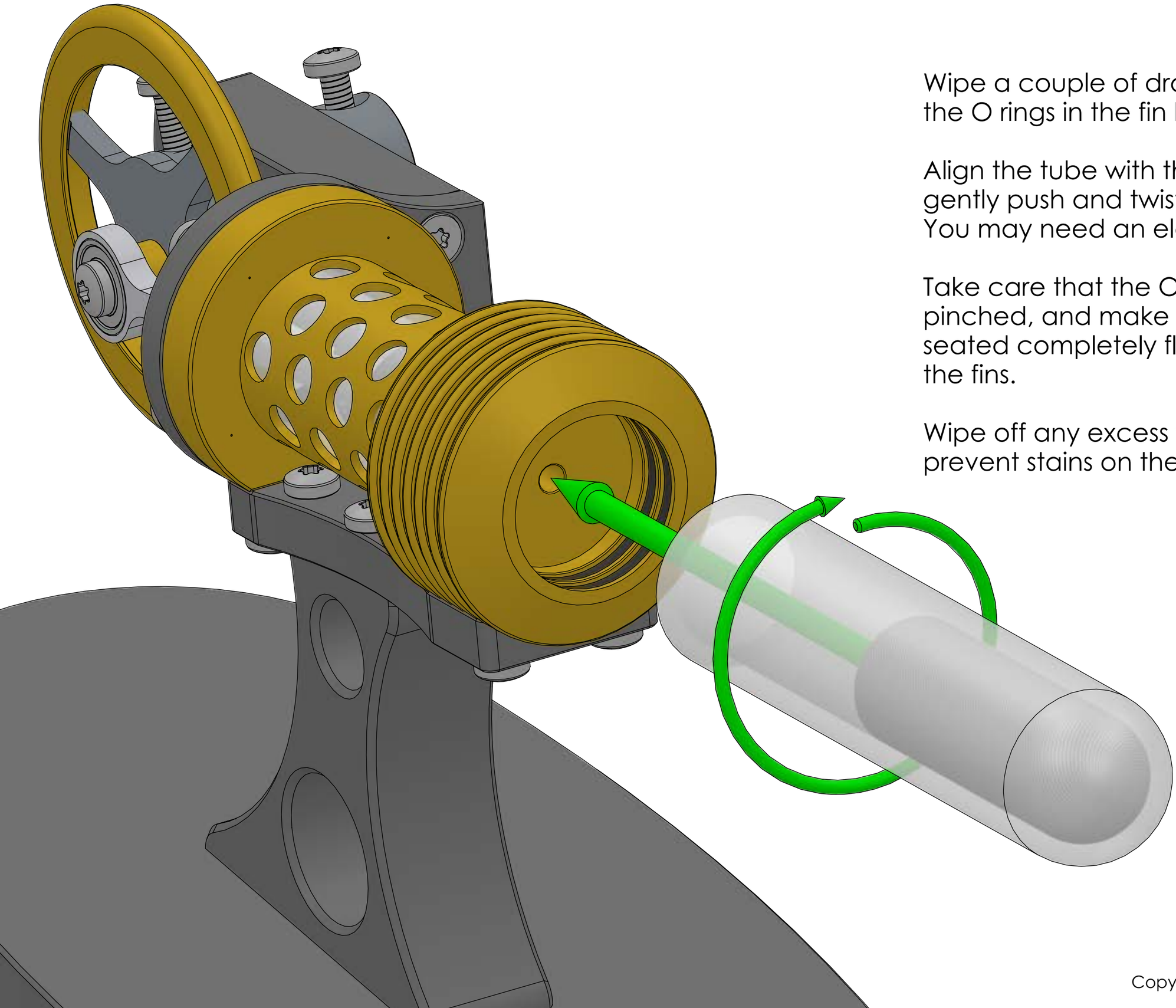
Fit the crank bush into the connecting rod bearing.



Align the crank bush with the hole in the axle.

Screw one M2x8 screw through the crank bush into the axle and tighten.





Wipe a couple of drops of soapy water on the O rings in the fin block for lubrication.

Align the tube with the fin block and gently push and twist it into the fin block. You may need an elastic band for grip.

Take care that the O rings do not become pinched, and make sure the tube is seated completely flat on the step inside the fins.

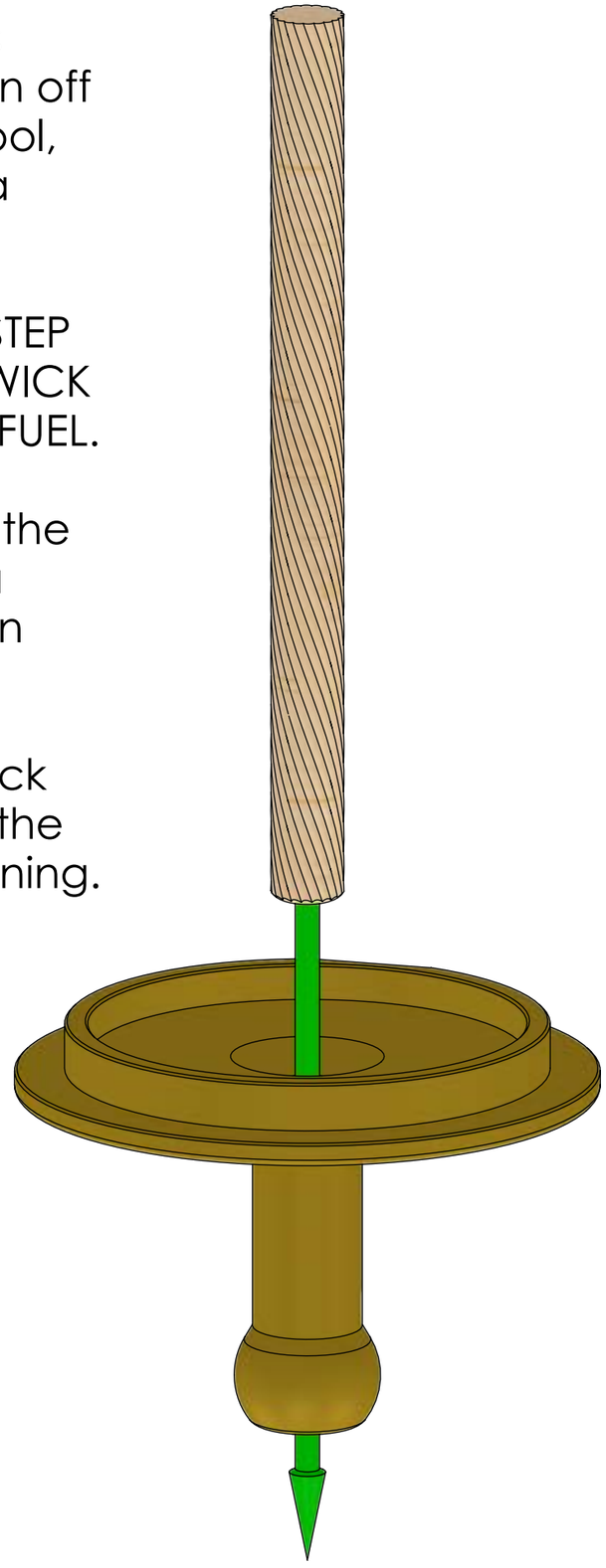
Wipe off any excess water afterwards to prevent stains on the fin block.

If the top end of the wick is frayed you will need to burn off the loose fibres, allow to cool, and then roll the end into a blunt point.

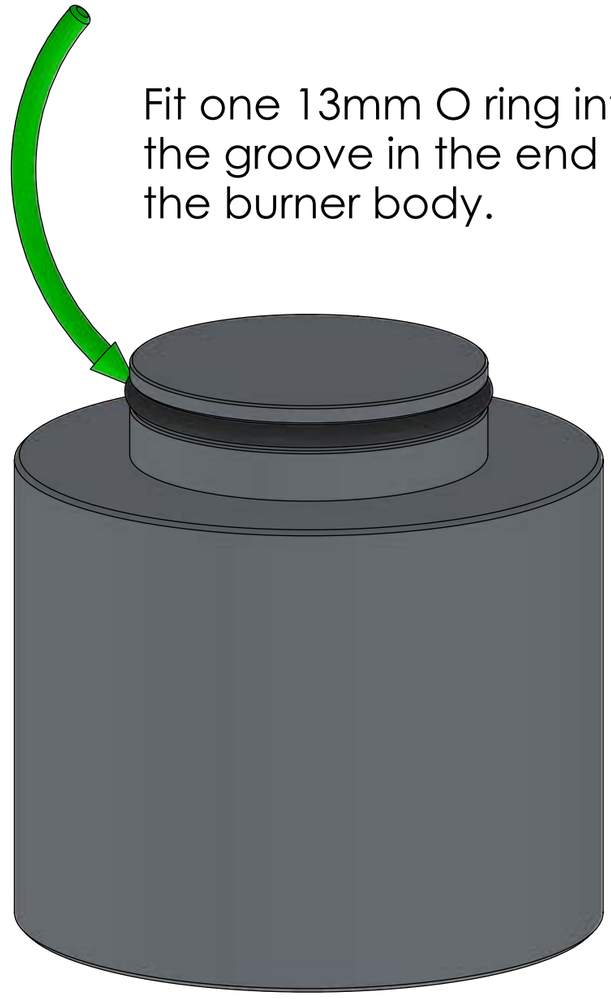
ONLY EVER PERFORM THIS STEP ON DRY WICK, NEVER ON WICK THAT HAS BEEN SOAKED IN FUEL.

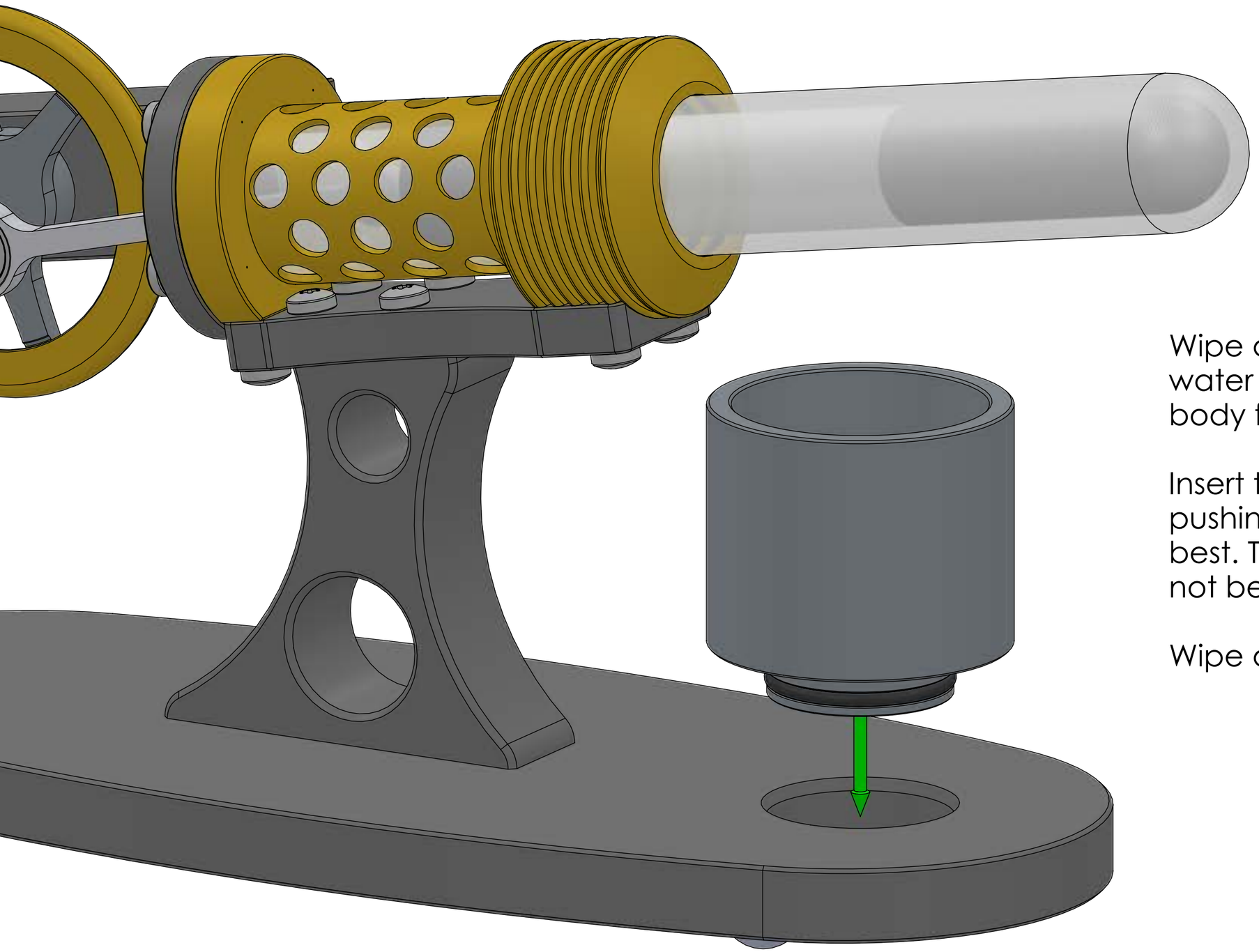
Insert the prepared end of the wick into the burner cap, a pushing and twisting motion works best.

There must be 3-4mm of wick protruding from the top of the burner cap for efficient running.



Fit one 13mm O ring into the groove in the end of the burner body.

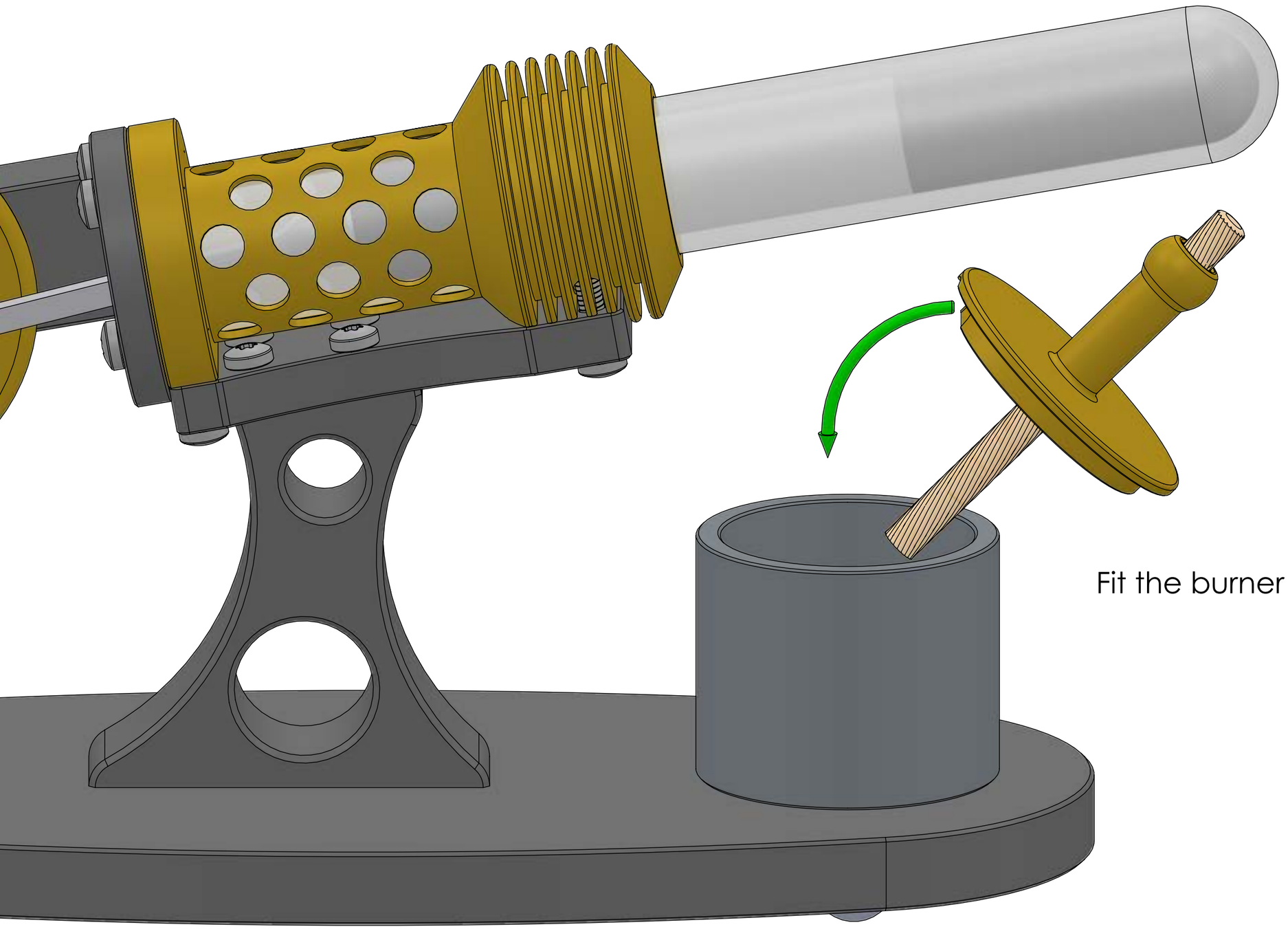




Wipe a couple of drops of soapy water on the O ring in the burner body for lubrication.

Insert the burner body into the base, a pushing and twisting motion works best. Take care that the O ring does not become pinched.

Wipe off any excess water afterwards.



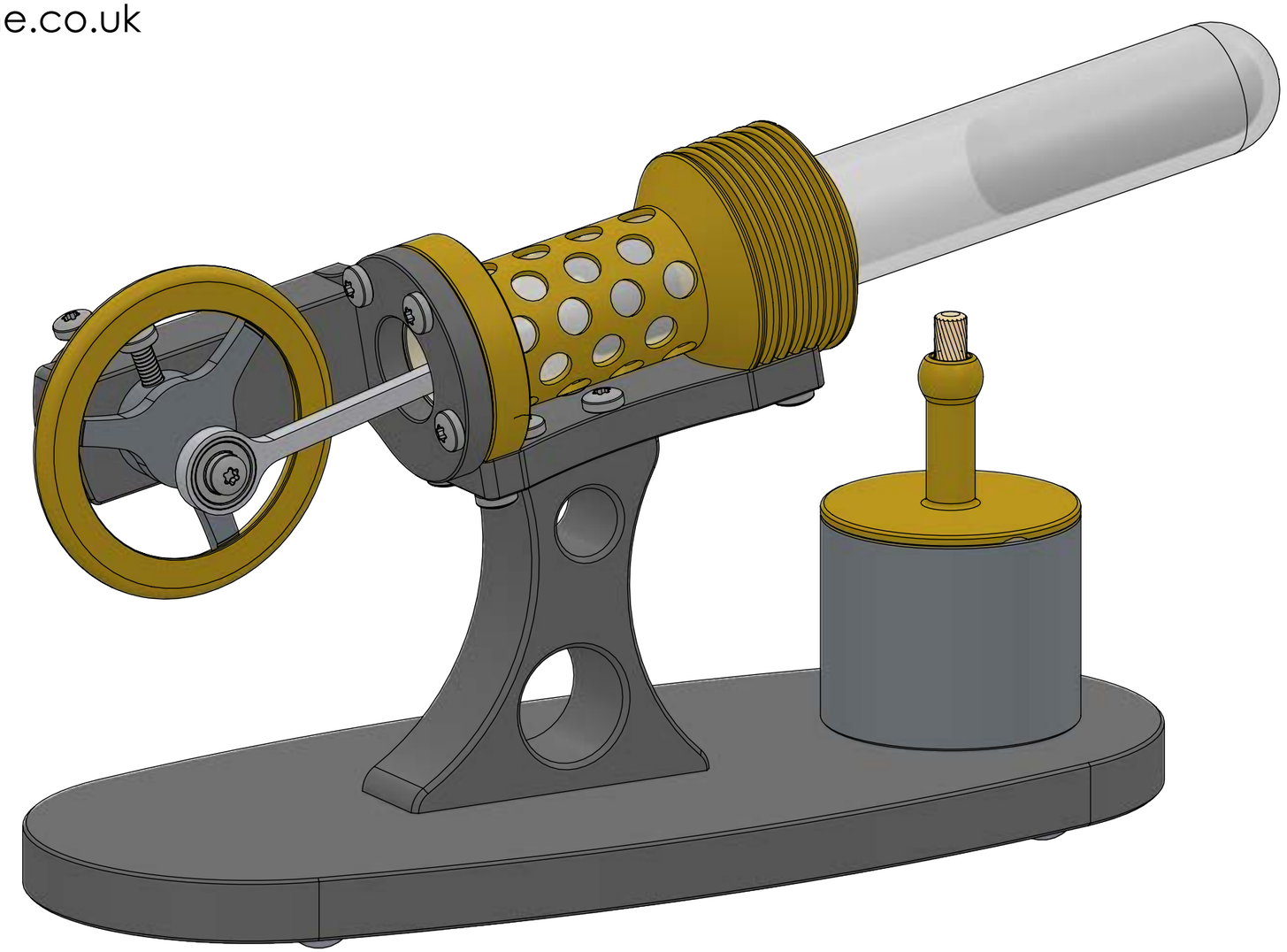
Fit the burner cap into the burner body.

Your Nano Flux engine is now fully assembled.

Operation and maintenance instructions can be found on the next couple of pages.

If you need further help with your engine that is not covered in the operation and maintenance instructions you can email us at:

support@stirlingengine.co.uk



The engine uses Methylated Spirits or Denatured Alcohol as fuel.

Remove the burner cap from the burner body and trim the wick to 4mm protruding from the top and 15mm-30mm from the bottom. Any more than 4mm from the top could cause the engine to run too fast.

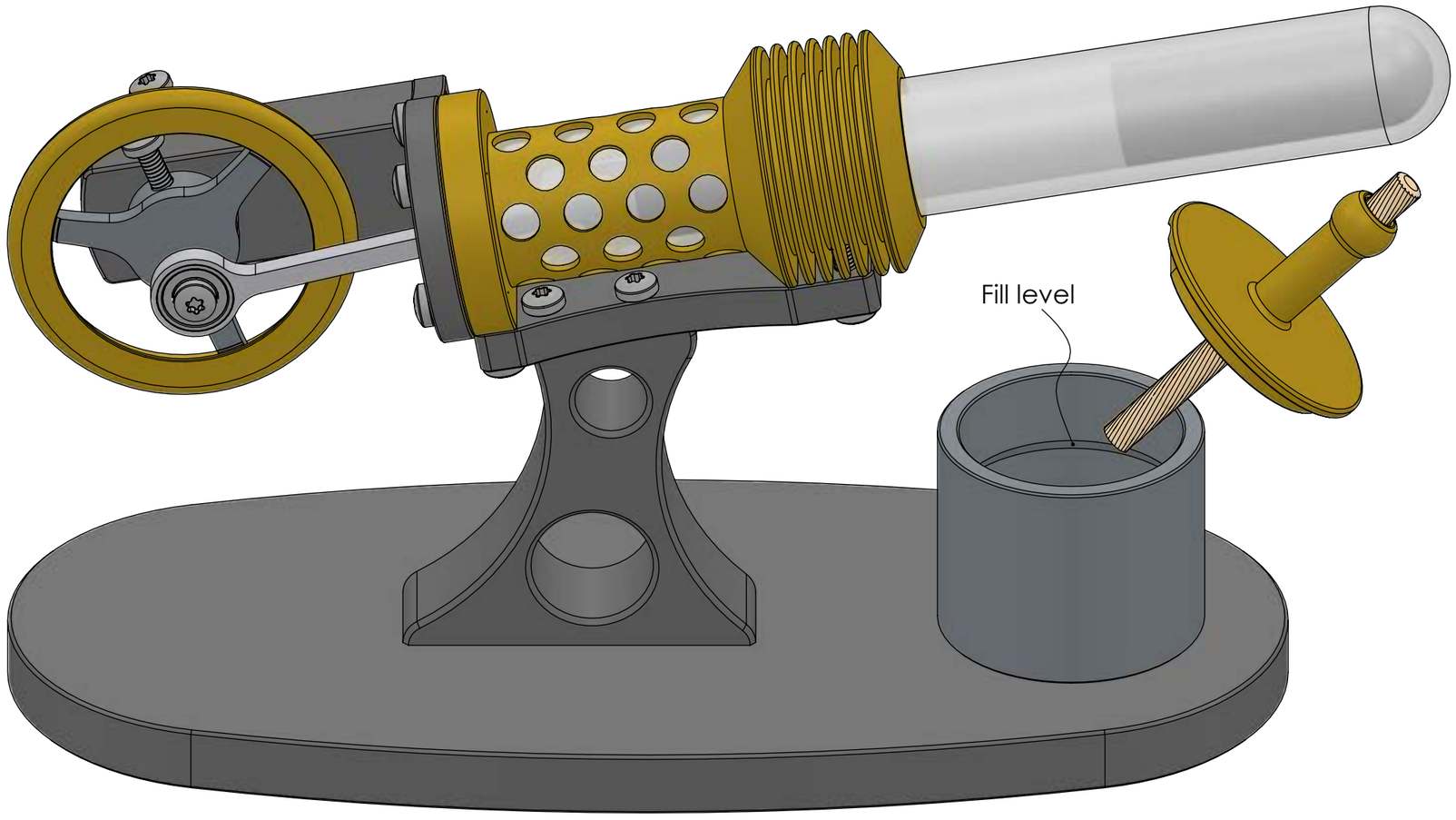
Fill the burner body with fuel to the fill level AND NO MORE.

Fit the burner cap back in the burner body and wait 1 minute for the wick to soak up the fuel.

Light the wick and allow 3-4 minutes for the engine to warm up. Hold the base firmly down and give the flywheel a sharp spin in either direction. It may take several sharp spins to get the engine going. The engine should start up and run for about 10-15 minutes before the fuel runs out.

It is best to extinguish the flame before the fuel runs out completely to save the wick from smouldering down to the top of the burner cap.

Make sure you have a suitable fire extinguisher to hand in case of emergencies. Never leave a running engine or naked flame unattended. Parts of the engine will be very hot while in operation and will take time to cool down. Make sure children are fully supervised. Ensure burner is extinguished after use.



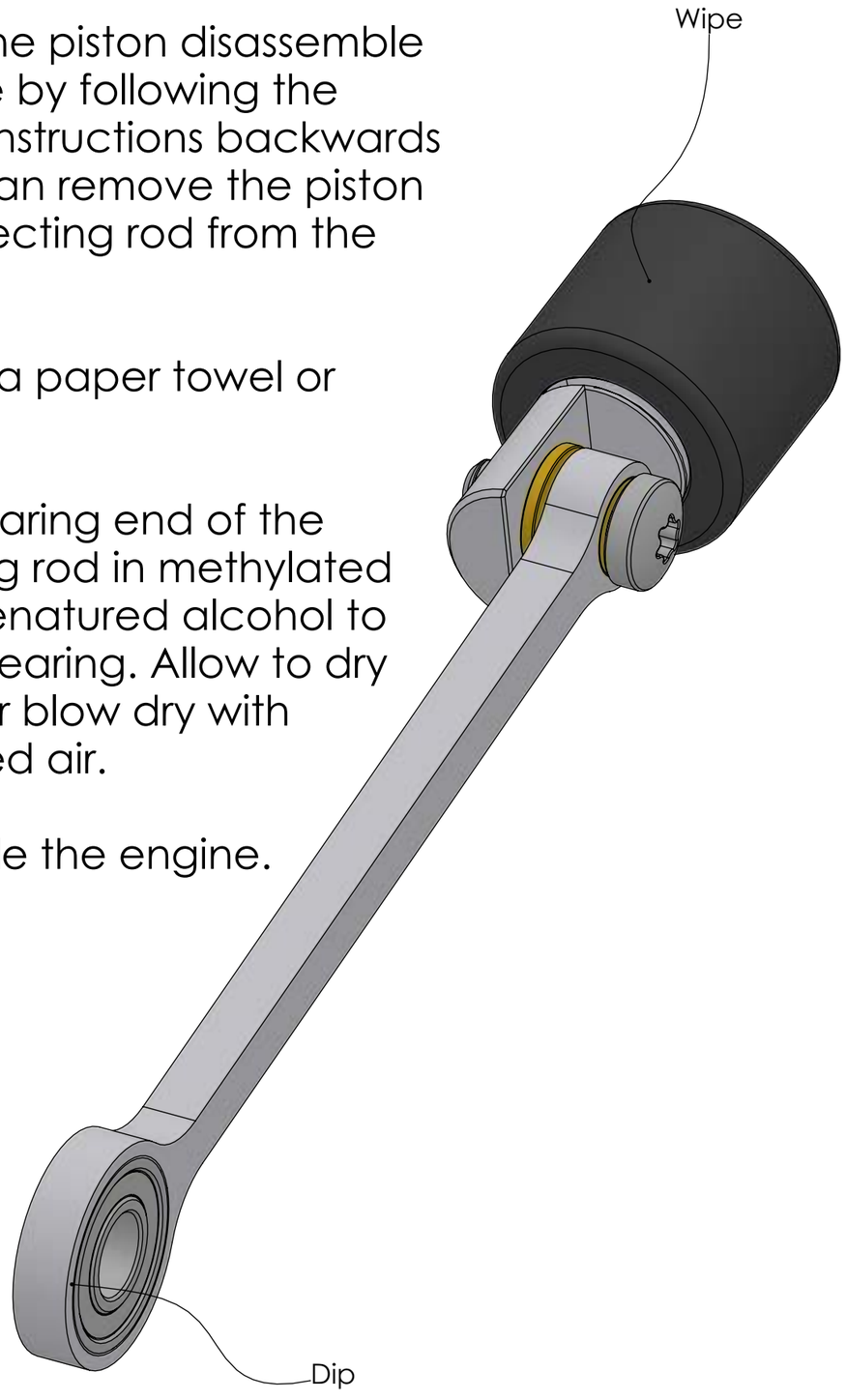
If the engine runs slowly the piston or bearings might need cleaning.

To clean the piston disassemble the engine by following the assembly instructions backwards until you can remove the piston and connecting rod from the engine.

Wipe with a paper towel or tissue.

Dip the bearing end of the connecting rod in methylated spirits or denatured alcohol to soak the bearing. Allow to dry naturally or blow dry with compressed air.

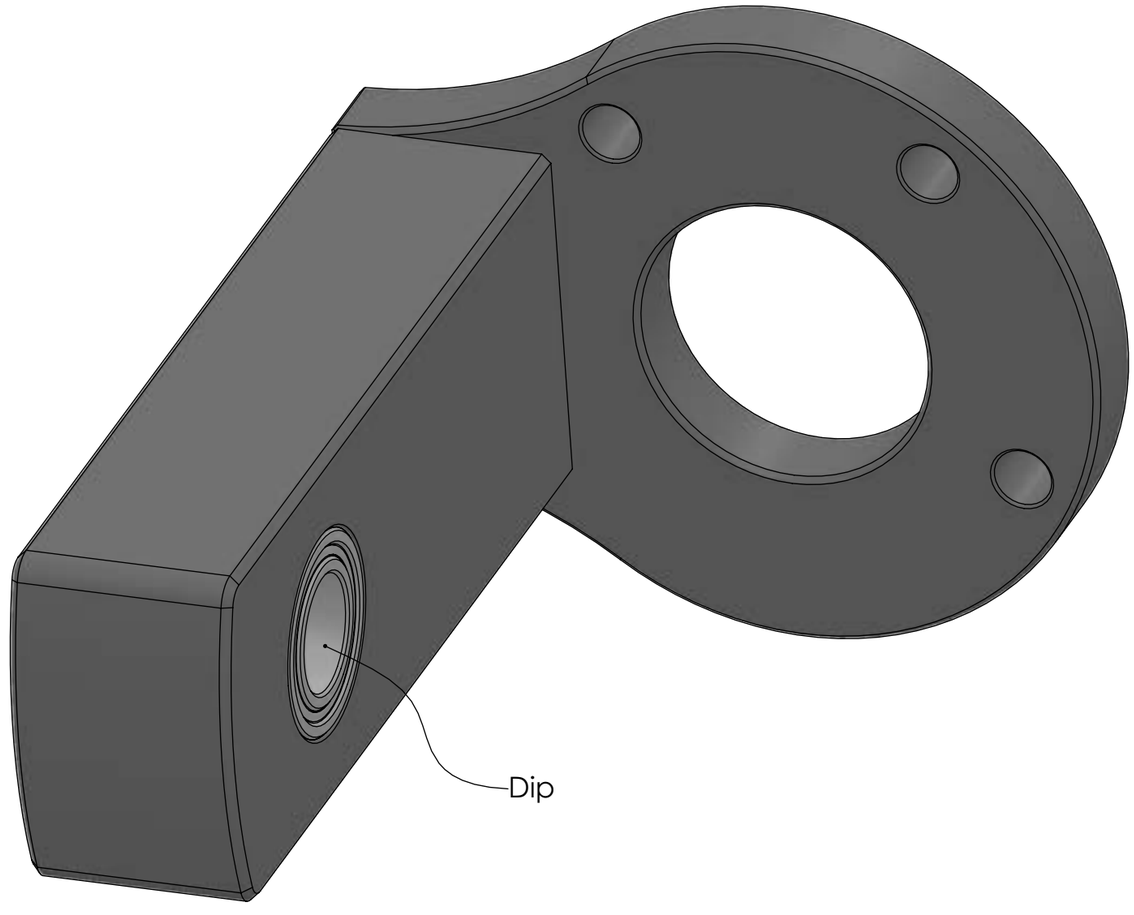
Reassemble the engine.



To clean the bearings disassemble the engine by following the assembly instructions backwards until you can remove the bearing bracket and front plate from the engine.

Dip the end of the bearing bracket in methylated spirits or denatured alcohol to soak the bearings. Allow to dry naturally or blow dry with compressed air.

Reassemble the engine.



After several hours of running the wire wool regenerator might need replacing.

Make sure the engine is **completely cooled down** and remove the tube from the engine.

Remove the old regenerator from the tube using long tweezers.

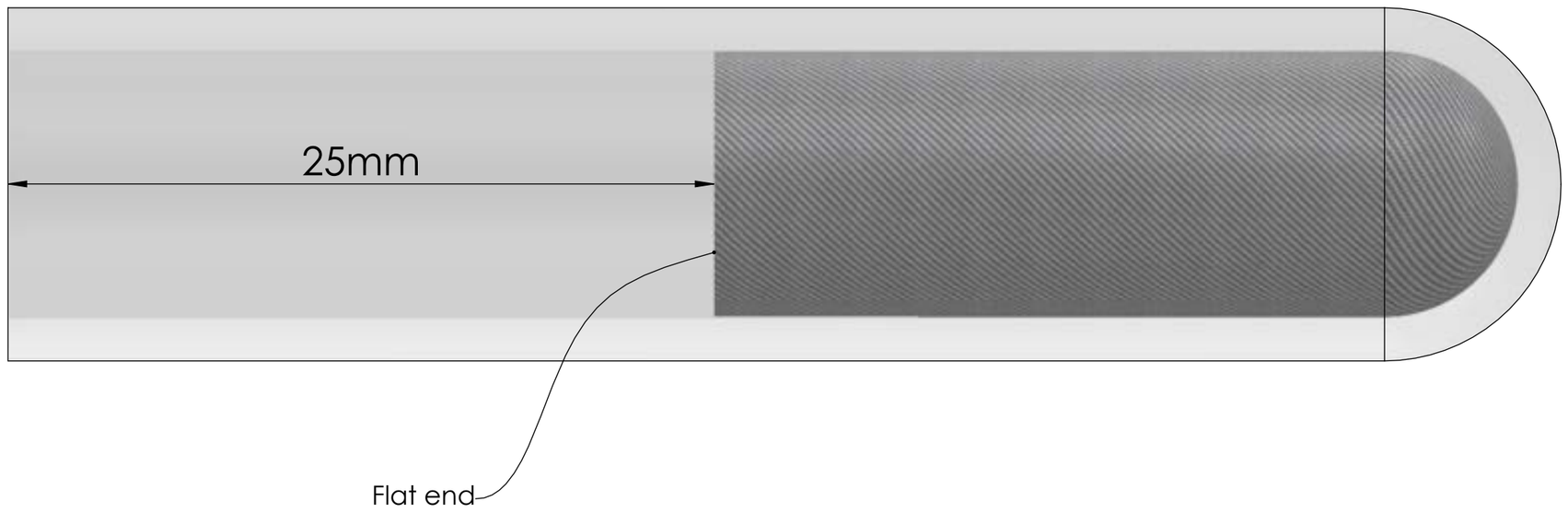
The inside of the tube can be cleaned with a small brush if it is dirty.

The regenerator material is "very fine 000" grade steel wool.

Form the new regenerator into a cylinder with a flat end and insert into the tube. Push it in with the flat end of a pencil until it is 25mm inside the tube.

It is important that the end of the regenerator is flat and 25mm from the end of the tube. Tamp the end with the pencil if needed.

Refit the tube to the engine.



Our workshop is located in the Thames Valley, United Kingdom and is staffed by a skilled team of 9 designers, machinists and assemblers. We have 4 CNC mills, 3 CNC lathes and 3 CNC mill-turn centres.