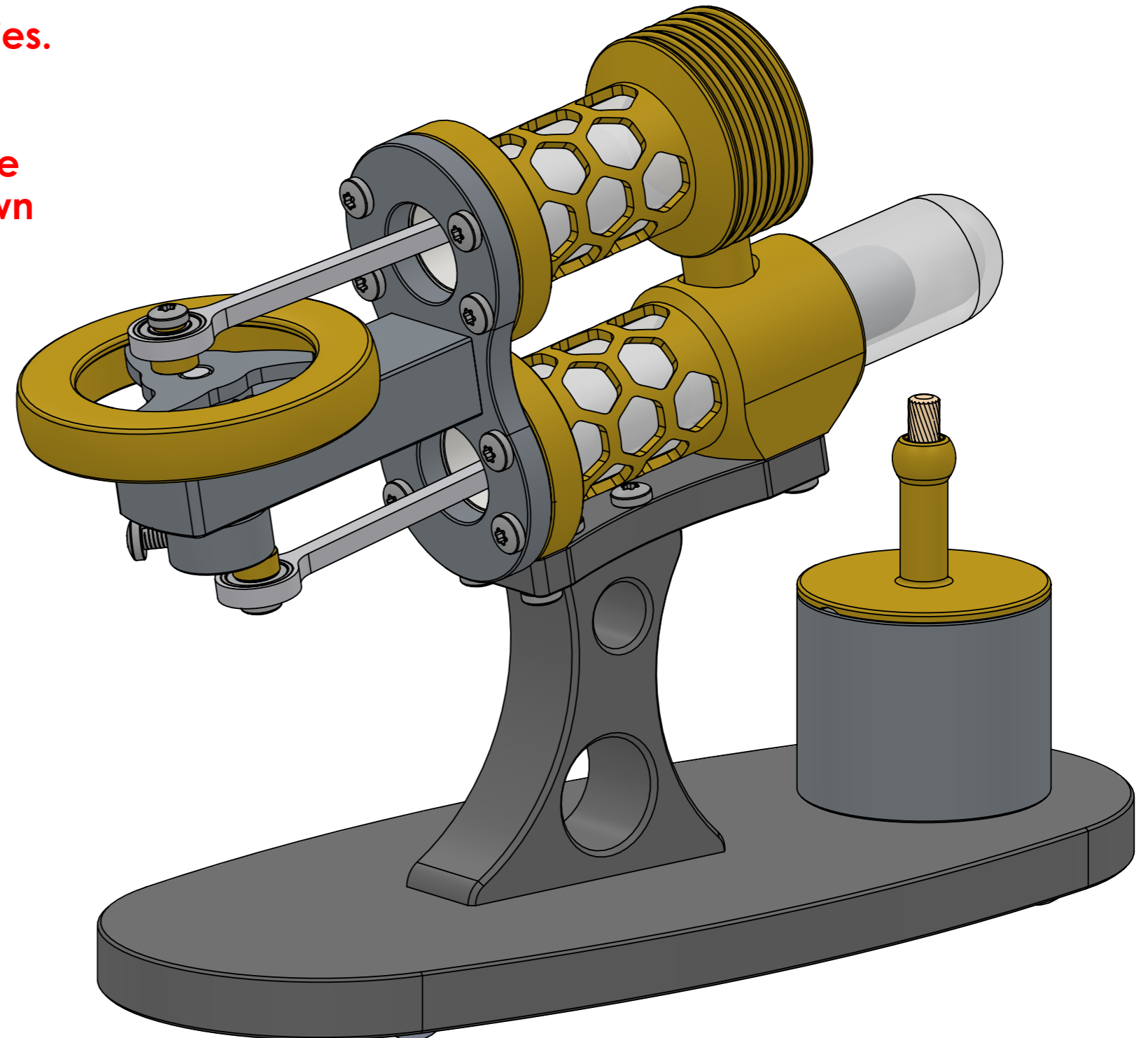


# Nano Hive Operation And Maintenance Instructions

## SAFETY NOTICE:

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

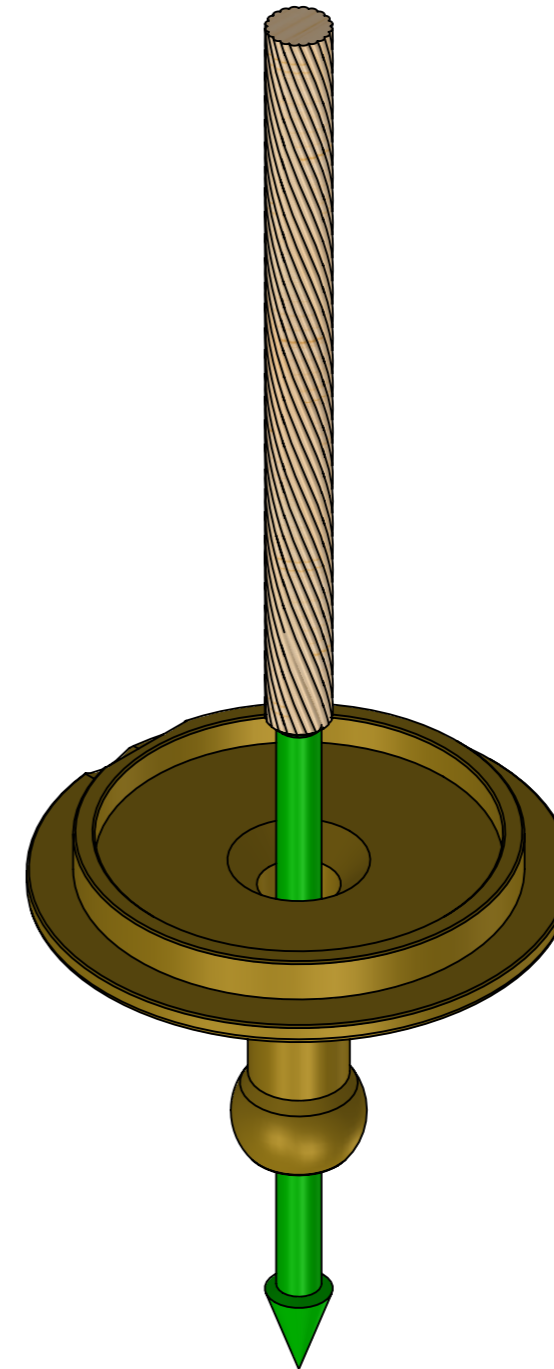


If the top end of the wick is frayed you will need to burn off the loose fibres, allow to cool, and then roll the end into a blunt point.

**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.



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.

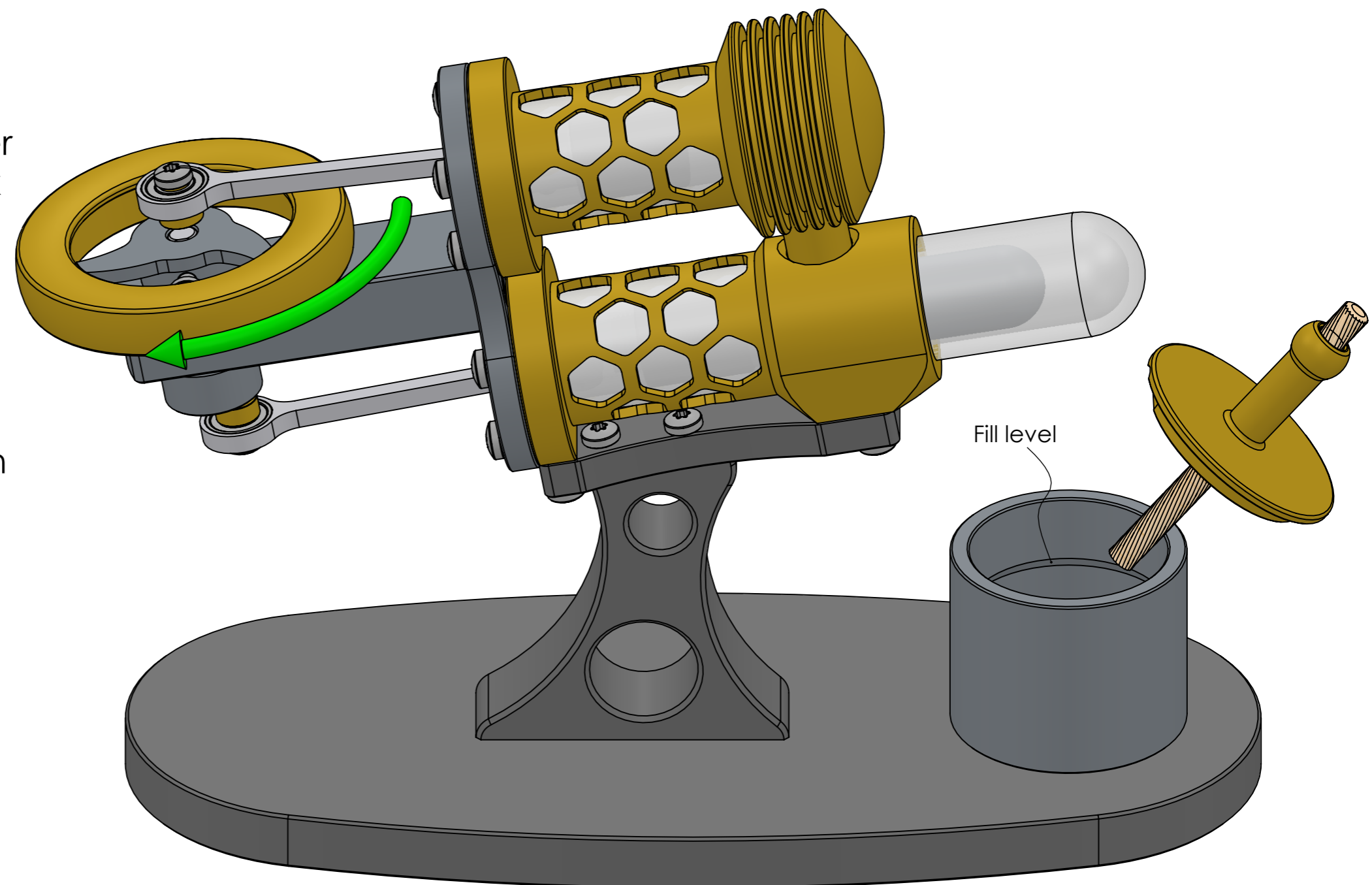
Fill the burner body with fuel to the fill level AND NO MORE.

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 a clockwise direction looking down on the engine. 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.**



## MAINTENANCE AND OILING

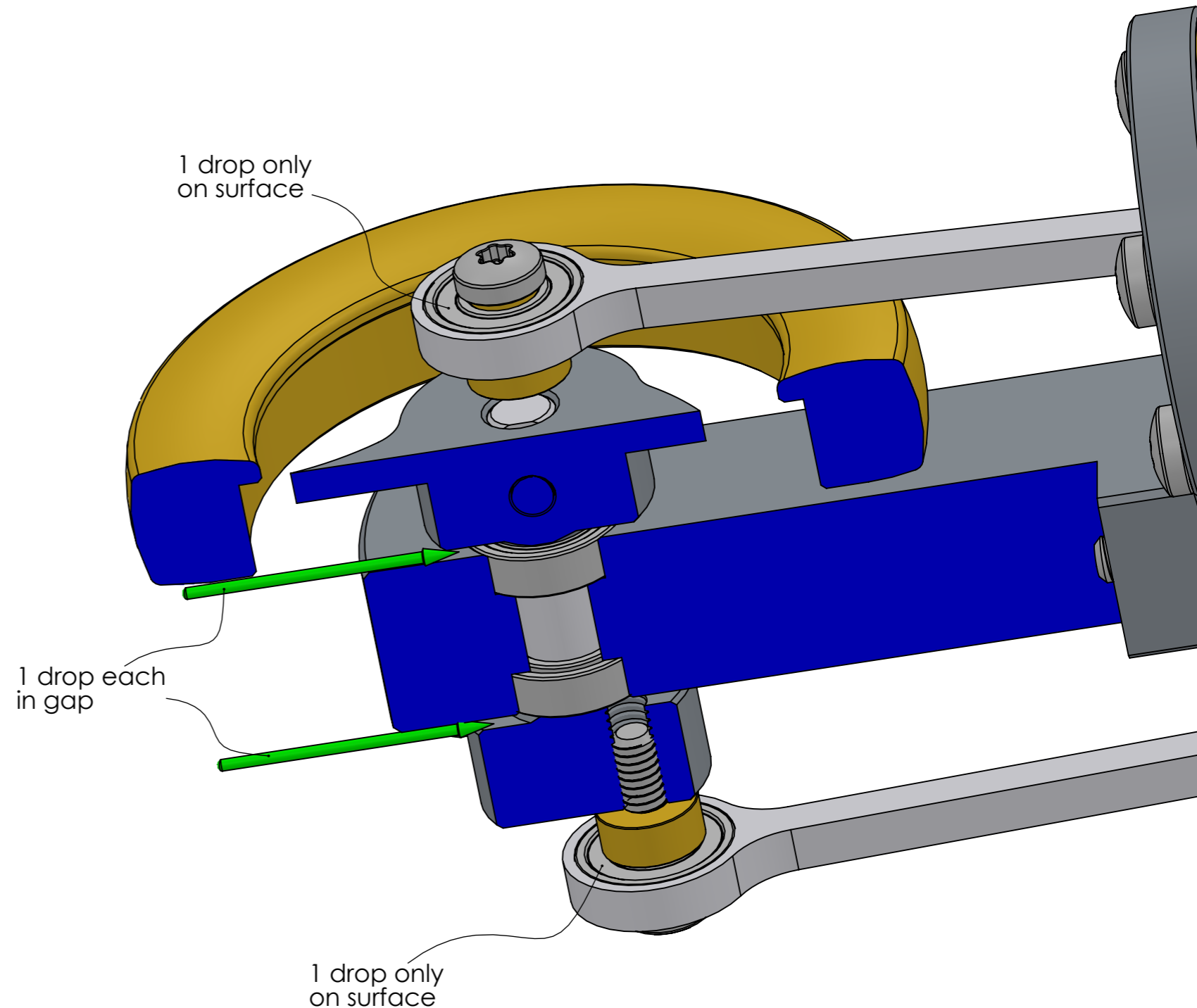
The Nano Hive engine is a relatively simple design with few moving parts and should not need oiling under normal circumstances.

But if after several hours of running the engine starts to run slower than normal the bearings might need a single drop of very light oil.

Sewing machine or 3-in-1 oil is recommended. Never use WD40, motor oil or any other general oil.

Apply a single drop of oil to each of the four bearings. The top and bottom ones are easy, just a drop on the surface is sufficient. The other two bearings are a little trickier, it is recommended to dip a pin in the oil and insert the pin into the gaps as shown. A few rotations of the engine will allow the oil to penetrate the inside of the bearings.

If you are struggling to start the engine check the wick size BEFORE oiling as this is likely to be the cause of the problem.





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.