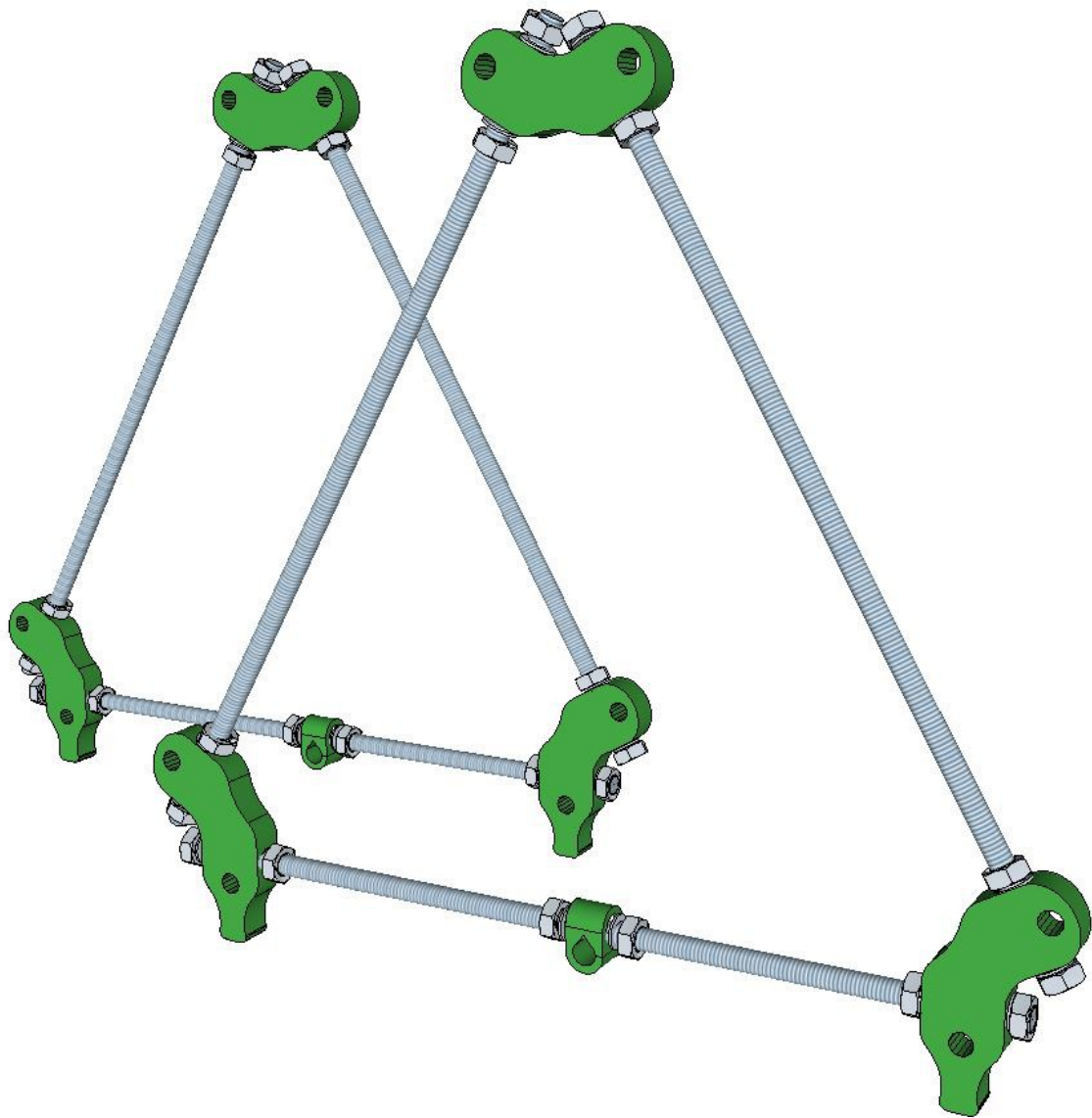


Part 1

Assembling the Frame vertex triangles

In this section you will construct two end vertex triangles shown below;



Parts

You will need the following parts;

- 2 x printed triangle apex pieces
- 4 x printed triangle apexes with feet
- 2 x printed bar clamps
- 6 x 307mm threaded rod
- 28 x M8 nuts
- 28 x M8 washers

Preparation

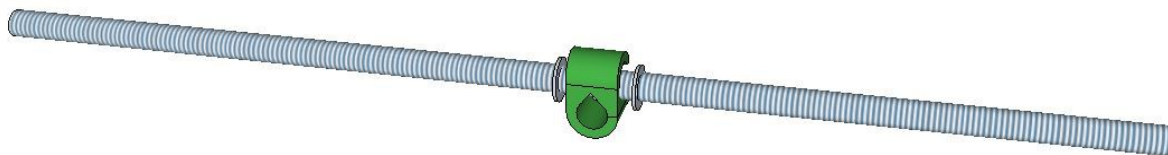
Make sure the threaded rods are de-burred by screwing a bolt on to each end. If the fit is a problem work a nut down to and off the troublesome end to ease the burr.

There are four holes in each apex piece which need to allow an M8 threaded rod to pass through and be secured. Ease each hole using a file or M8 drill bit so that a threaded rod fits through snugly. You do not want to loose a fit otherwise the frame could become loose during operation.

Particular care needs to be taken easing the bar clamps with a file, do not take off too much material and make sure an M8 threaded rod can fit in both the hook and the tear drop hole snugly.

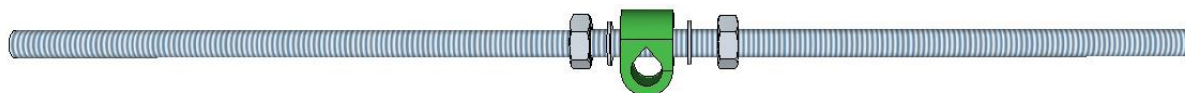
1

Take the bar clamp (the hook shaped bit with a tear drop shaped hole holes) and slide the hooked section over the middle of a 307mm threaded rod. Slide two washers on to the rod, one either side of the clamp.



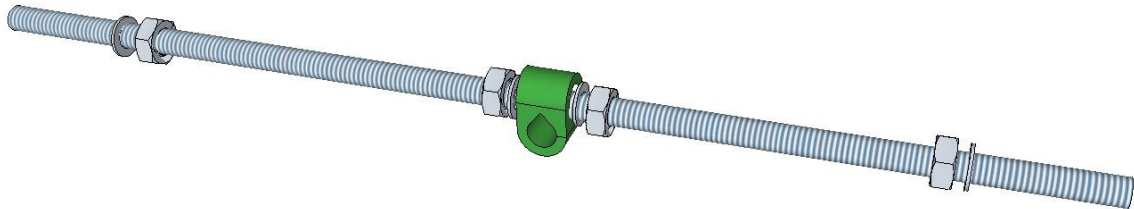
2

Thread two M8 nuts onto either side of the clamp, until they are next to the washer, but do not tighten them yet.



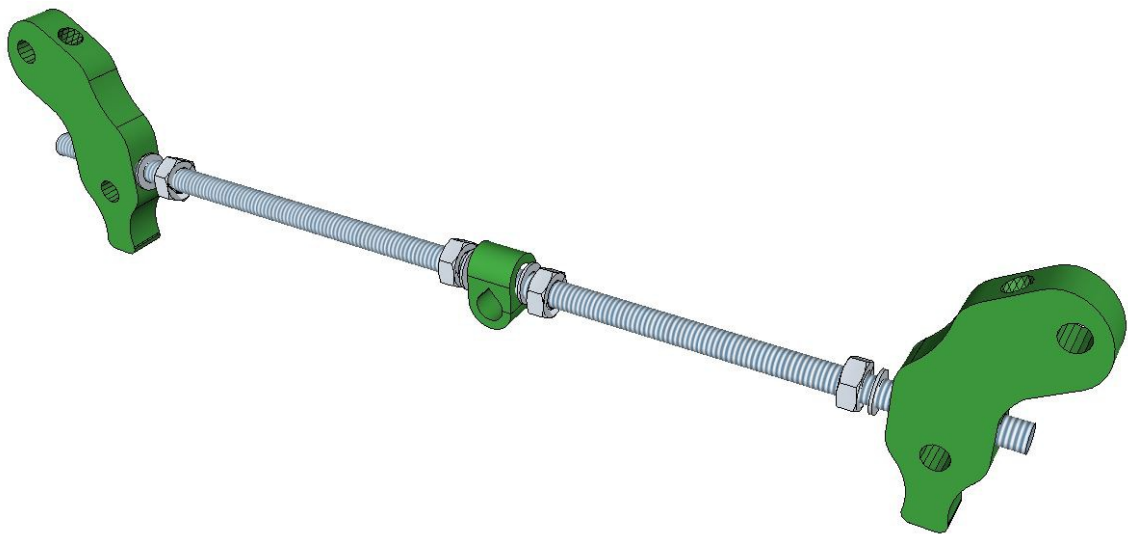
3

Thread another two nuts on each side of the rod, followed by washers. See the picture for what it should look like.



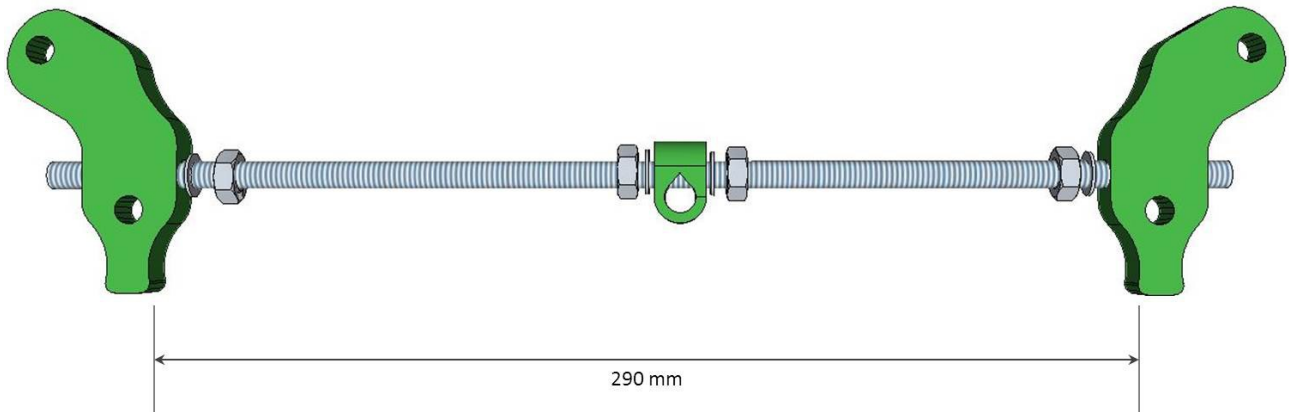
4

Slide the rod through the long bottom (footed) end of two vertices. Make sure the apexes are arranged as shown below.



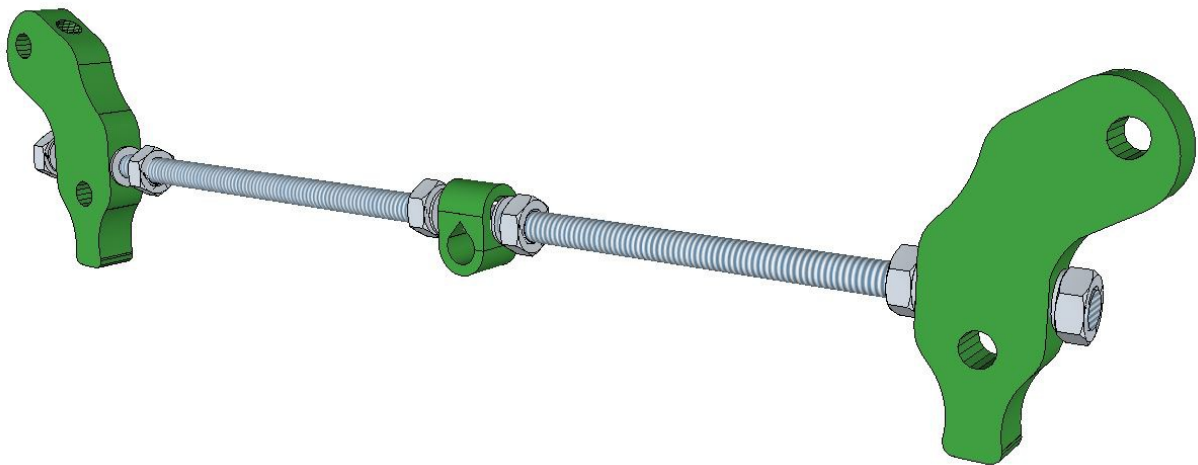
5

Verify and adjust the distance between the two vertices, plastic to plastic, to be 290mm. Get it approximately right now, we will check this again later. If you have a frame jig, place it between the two vertices and adjust the nuts until you can just barely fit the jig between them. If you don't have a jig you could make one now from wooden dowel rod which will make later construction and maintenance a lot easier.



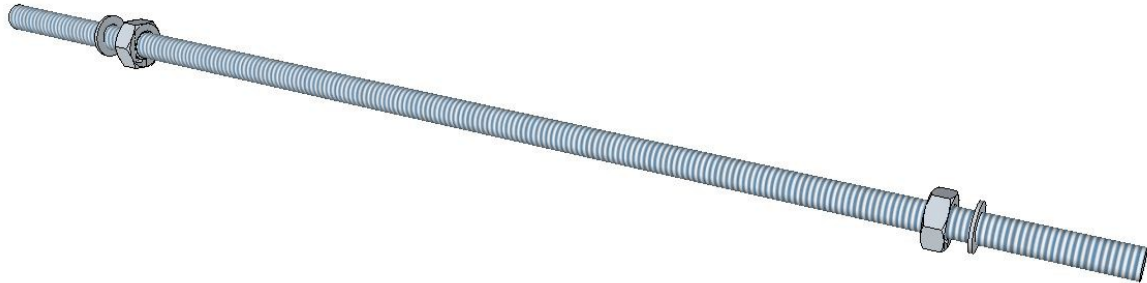
6

Place another washer and nut on the other side of the vertex. Finger tighten, but not too much. We'll need a bit of flexibility here still



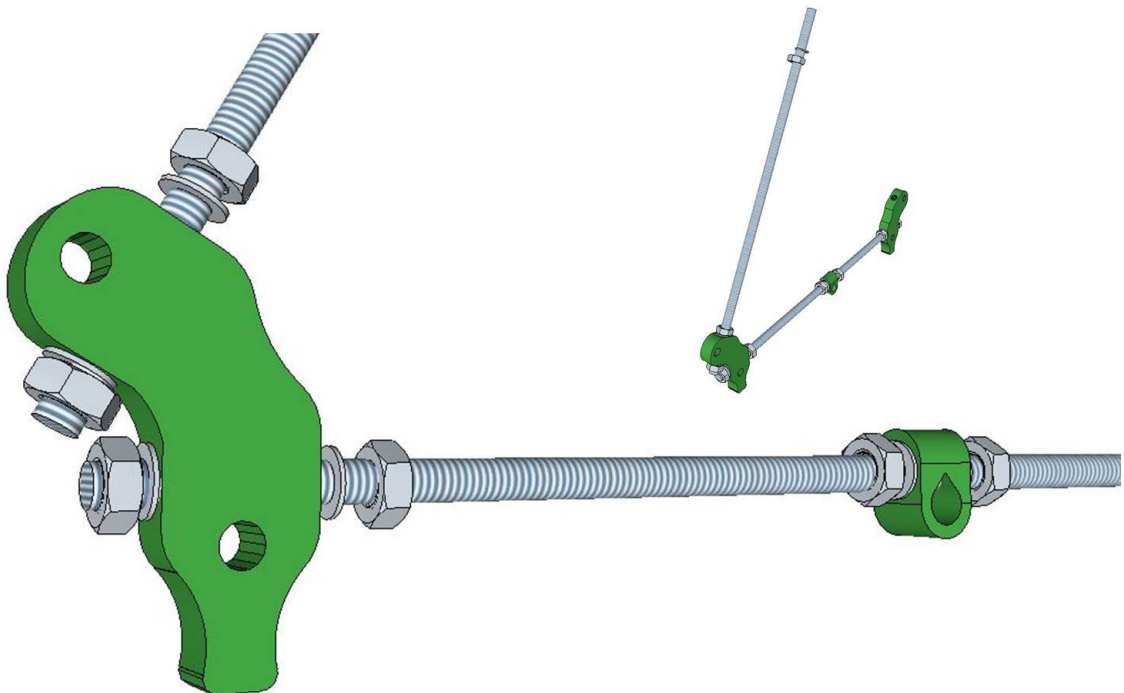
7

Take another 370mm M8 threaded rod and place a nut followed by a washer at each end.



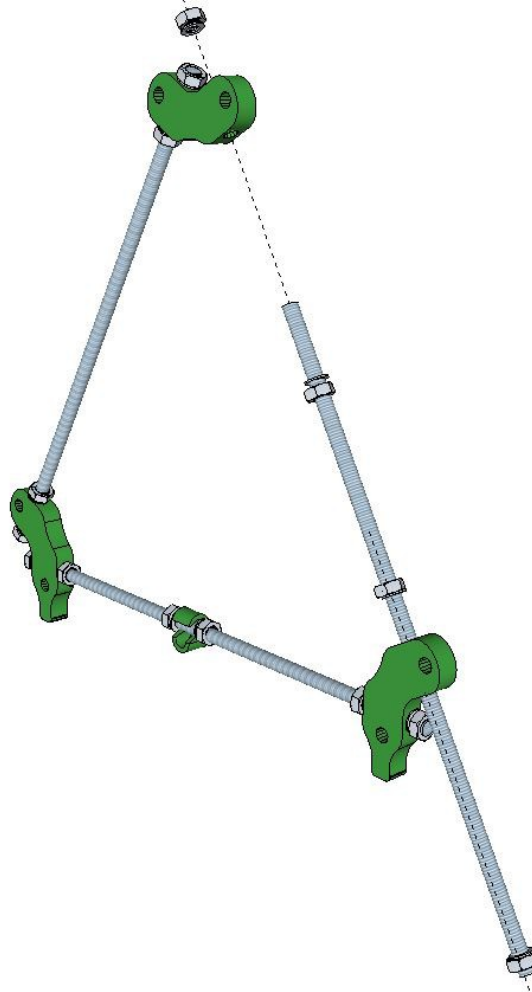
8

Place one end of the threaded rod into the one of the two footed frame vertices. It should be in the same plane as the first threaded rod. Fix it in place with a washer and nut. You should now have two sides of the equilateral triangle



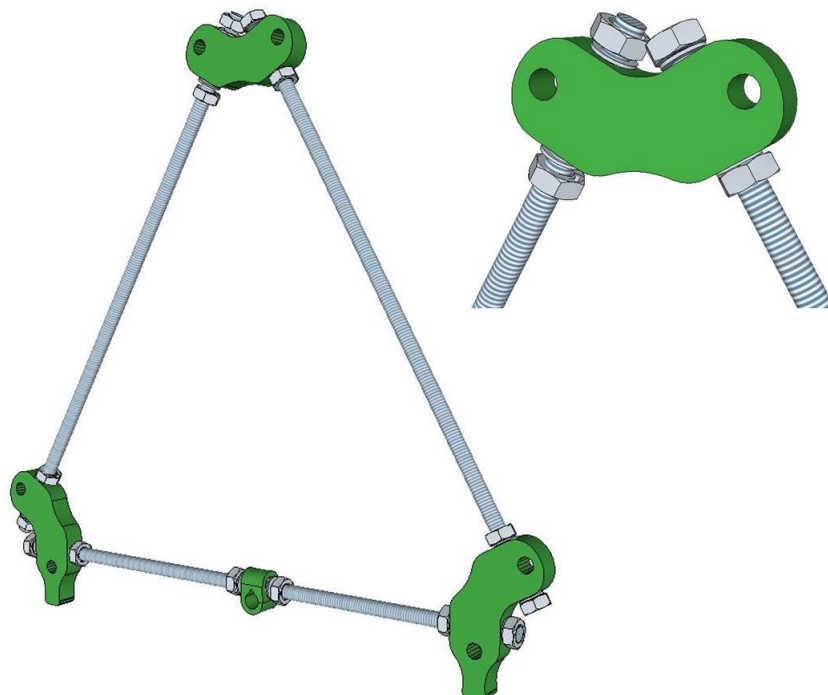
9

Take the third piece of threaded rod and put a nut and washer on one end. Thread the free end of the rod through the other foot and place a washer, 2 nuts and a washer on the other end as shown. Now thread that end through the top vertex and fix it in place with a washer and nut.



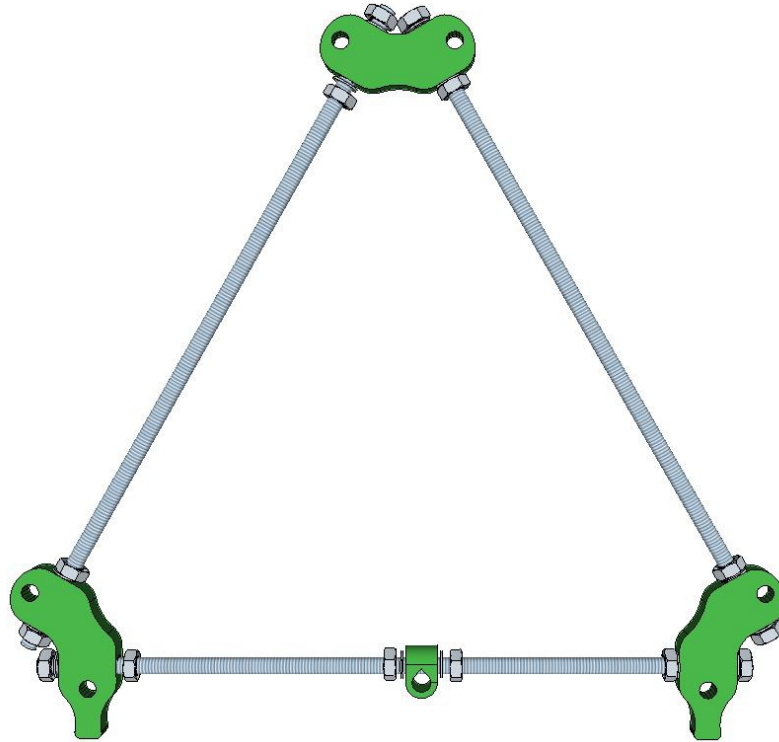
10

You should now have a triangle of threaded rods, measure the lengths of the three sides to make sure they are all 290mm long (along the rod from plastic part to plastic part). Adjust the nuts to make sure this is so. Use a frame jig if you have one then tighten all the outer nuts.



11

You should now have a sturdy triangle with equal-length sides, two feet on the bottom, and a bar clamp between the feet. Adjust the nuts around the bar clamp (but do not tighten against the bar clamp yet) until it's approximately in the middle of the rod. Leave the nuts there loose.



12

That's one of the triangles done. Repeat the entire procedure for the second triangle. It is exactly identical to the first.

