

## **Rules and Settings, printing for MaxLab models.**

Here is a general guideline that applies to all MaxLab models.

**Always follow the suggestions on the orientation of the pieces on the print bed, which you find in the purchased files.**

**In fact, all the moving parts or joints must be printed horizontally to obtain maximum resistance, while the aesthetic parts that do not undergo excessive efforts must be printed vertically to obtain the best appearance.**

**The choice of material is related to the final use of the model.**

**You can always use PLA, but the moving parts will give out after a few uses.**

**My suggestion, if you want to have a "playable" model is to use PETG or ABS at least for all the small moving parts and joints of any kind.**

**In larger models, I usually use PETG for the joints and moving parts, and PLA for the aesthetic parts.**

**You can also use a resin printer, the result is guaranteed but remember that the parts that rub together will cause the resin to crumble, quickly wearing out the joint.**

**In some cases I managed to use Resin for all the aesthetic parts, and ABS or PETG for joints and moving parts.**

**Perhaps the best result.**

## **We now come to the printer settings**

**The standard settings on your slicer are fine for larger, more aesthetic parts.**

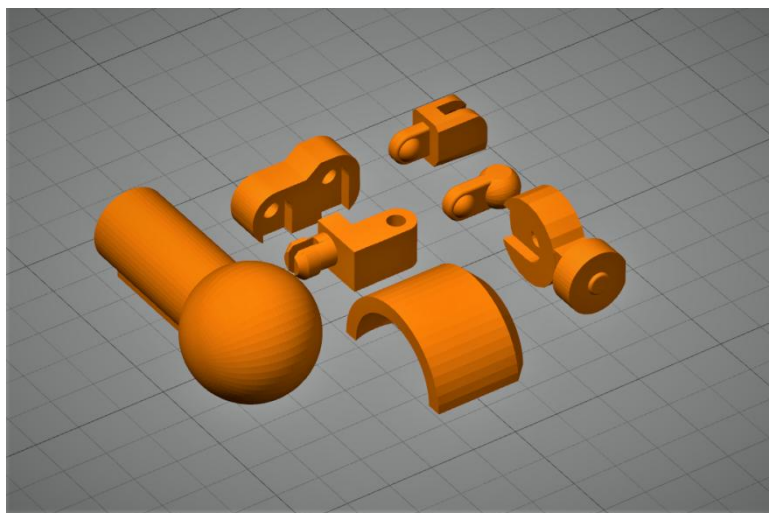
**When making an articulated humanoid figure, I suggest you print the large parts at the bottom, (feet and legs) with maximum fill, and decrease the fill as you go up through the torso and arms.**

**In this way the model will have a lower center of gravity and will be more stable and balanced.**

**The situation changes when we have to print all the small parts that make the model move:**

**Levers, joints, ball joints, socket pins, etc.**

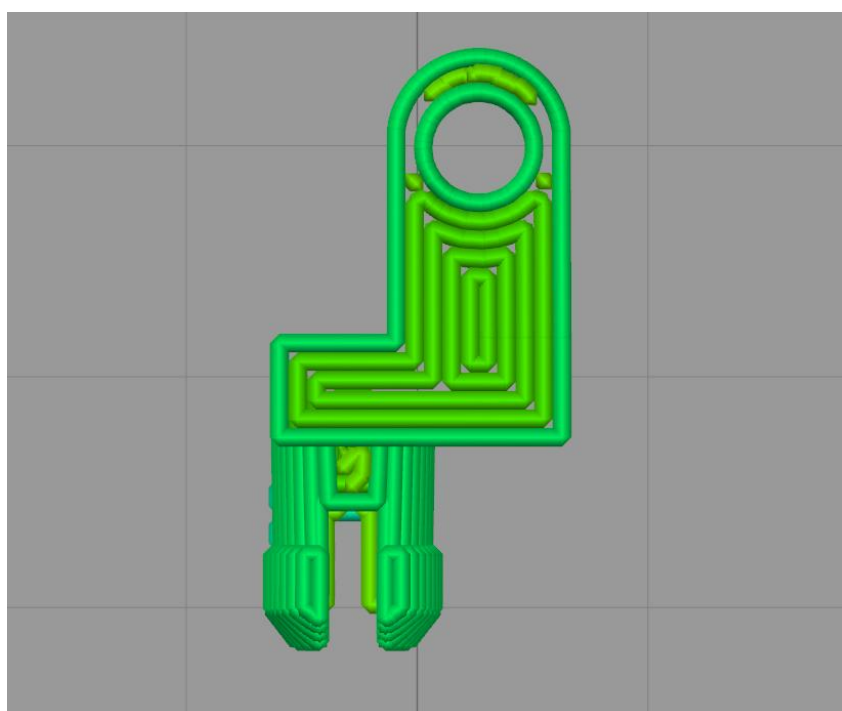
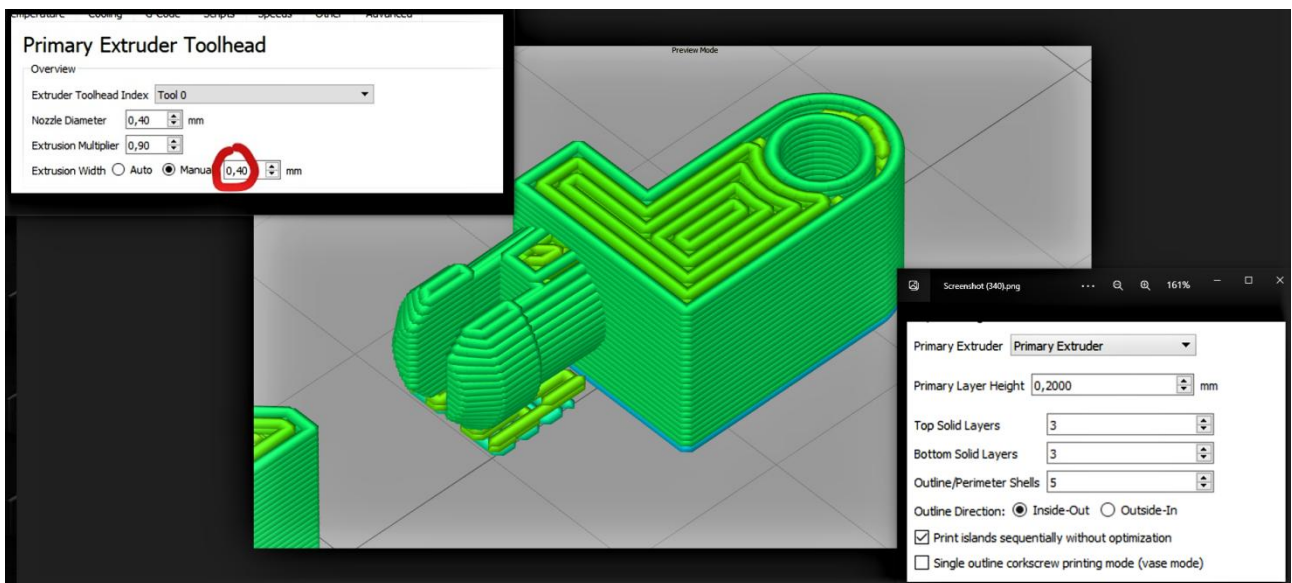
**For these parts you should always use the maximum infill and always add at least 5 boundary walls, 3 bottom layers, 3 top layers.**



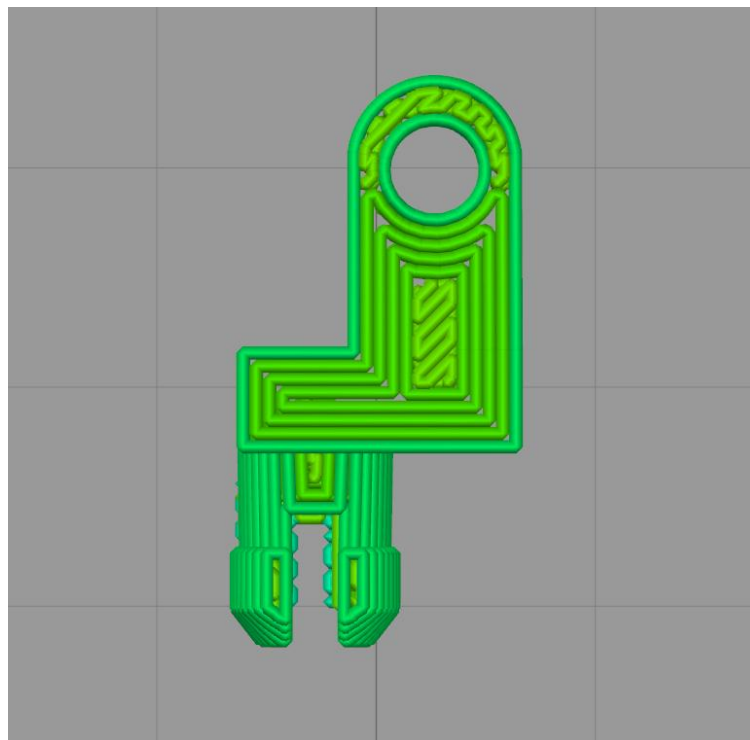
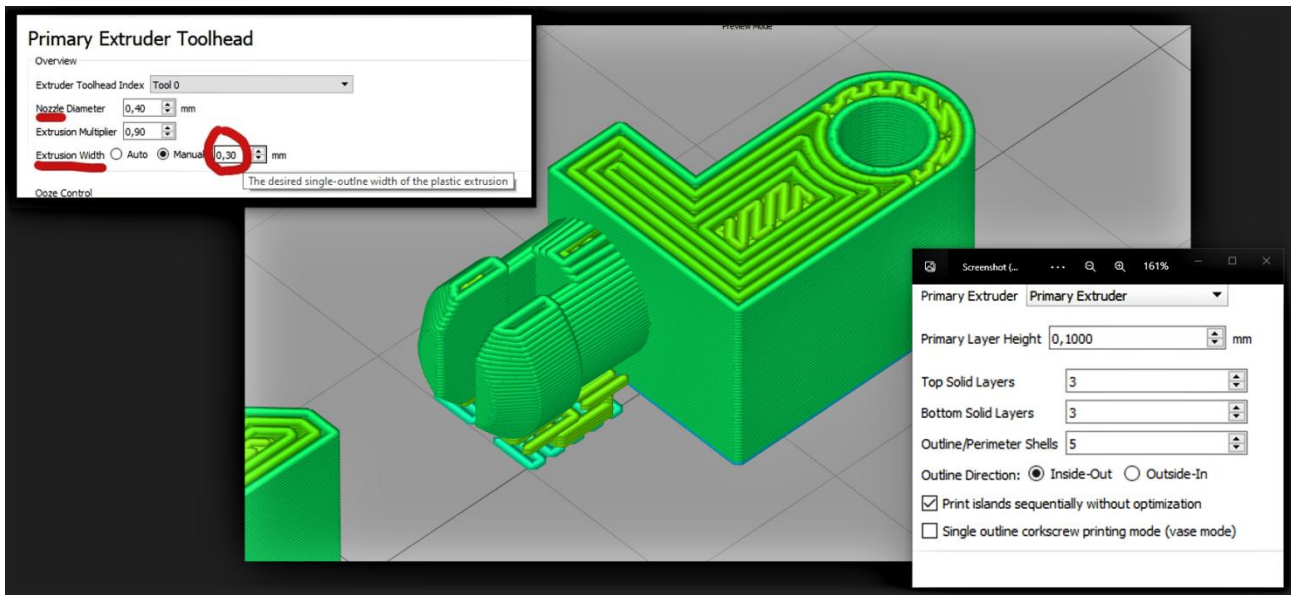
it is also very important to reduce the height of the layer to 0.1 or at least 0.15, and it is also very important to reduce the thickness of the single wall from 0.4 (standard referring to the diameter of the nozzle) and bring it to 0.3.

See the difference in the images below.

Standard settings:



# Custom settings:



**In addition, remember NOT to print the small parts individually.**

**The heat from the extruder would deform the piece.**

**Always print at least 3 or 4 small pieces, in this way they will have time to cool down.**

**Set the supports to automatic, they will only be needed in the totally cantilevered areas, so remove them from the small ledges, they will be built just fine.**

**NEVER add supports inside the small 2mm holes, it will be a problem to remove them.**

### **Cleaning and Assembly**

**For post production you will need small tools:**

**A fine file, sandpaper, small drill bit with a diameter of 1.8mm, a modeling scalpel blade.**

**Before assembling the model it is good to sand and clean all the areas that will fit together.**

**I usually keep very close tolerances and given the precision of the mechanisms, it is preferable to sand too large a piece rather than having too much play between the parts.**

If for example you find that a ball joint is too tight even after sanding, you can scale the size of the ball alone by 1%, and you will be fine.

Rule that applies to all joints, if they are too tight, reduce the size of the "males" by 1% from your slicer.

If, on the contrary, you find too much play between the parts, you can reduce the size of the "female" part by 1%.

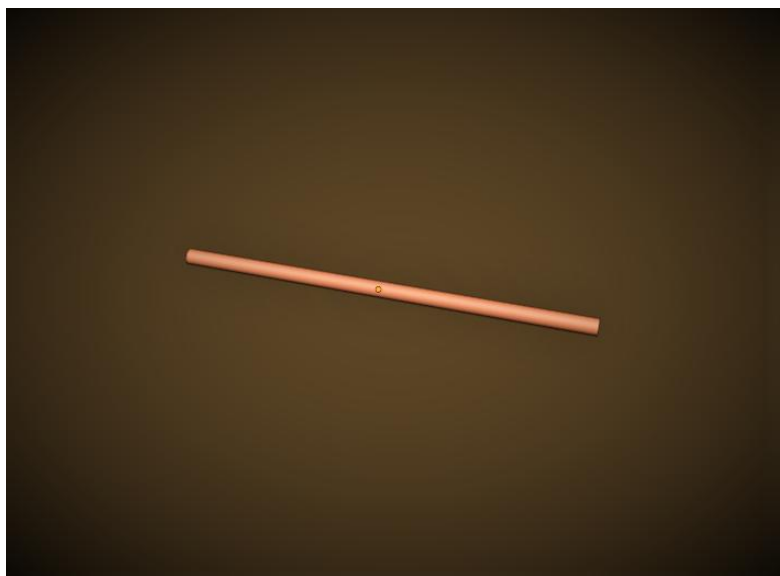
Or use nail polish and add layers until you get the resistance you prefer.



**As many know by now, the peculiarity of the MaxLab models is the assembly without screws and without glue, only interlocking parts and pins.**

**each model in fact uses a pin system with 2mm holes.**

**This way you can use a piece of filament from your spool of material, and you won't have to buy anything to assemble the model.**



**For this reason, if you need to clean up the pin holes after printing, use the small 1.8mm drill bit.**

**If you use a larger tip, the filament (pin) will have too much play.**

**That's all you need to print and assemble all MaxLab models!**

**Finally, have a lot of patience and you will be very satisfied.**

**Good job and have fun!**

**... Your MaxLab**