



## 3D Printer

### What is a 3D Printer? What do we use it for?

A 3D printer is a machine that allows us to “print” plastic structures by spitting out thin layers of melted plastic that stack. The LigerBots use a 3D printer to create prototypes or specific pieces with weird shapes we can’t find on the market. We can code the shape we want using the program Delta 3D. Because it’s taller than usual, this custom built 3D printer allows us to easily create large, complex pieces.

#### *Translation Stage*

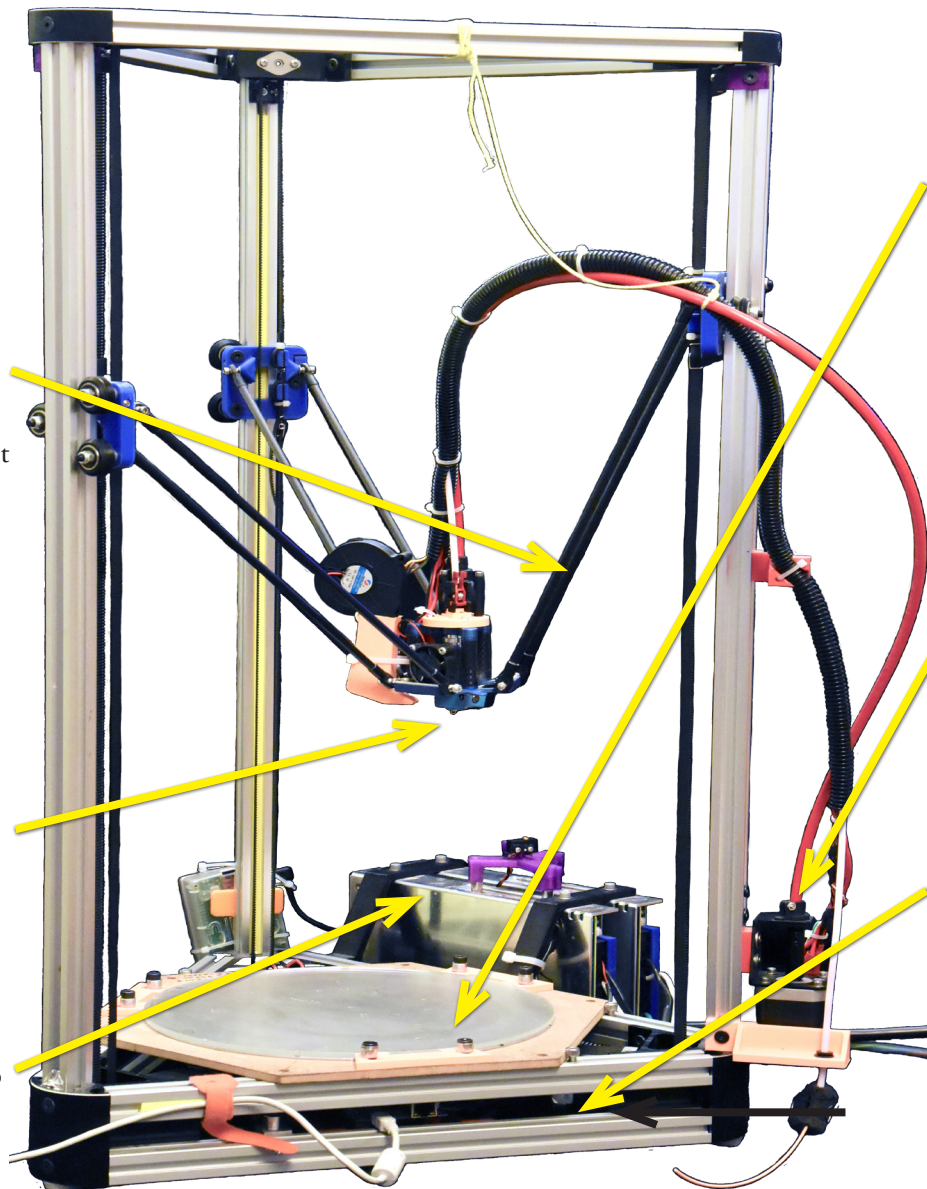
A platform that moves, controlled by a computer, depositing plastic to the right location. The stage can move in any direction (not just up and down or side to side) because it is programmed using polar coordinates.

#### *Hot End*

Melts the plastic at between 215 and 260 degrees Celsius in order to deposit it. This piece is very light, which allows it to move quickly with little force.

#### *Power Supplies*

Two separate parts that supply voltage to the printer.



#### *Heated Bed*

The platform that the printer prints on. It is heated between 70 and 100 degrees Celsius to prevent warping the hot plastic by having it cool too fast.

#### *Extruder*

A motor/gearbox combination that forces plastic through the hot end.

#### *Control Board*

The small computer underneath the heated bed that controls the 3D printer.

