

Plastic Extrusion Machine

Extrusion is a continuous process where plastic flakes are inserted in the hopper and extruded into a line of plastic. These lines can be used to make new raw material (3d printing filament), granulate, spinned around a mold or up to you to find new creative ways.

 Difficulté **Difficile**

 Durée **5 jour(s)**

 Catégories **Robotique, Énergie, Science & Biologie**

 Coût **192 EUR (€)**

Sommaire

Introduction

Étape 1 - Hopper: cutting metal plates

Étape 2 - Hopper: drilling metal plates

Étape 3 - Hopper: welding metal plates

Étape 4 - Hopper finishes

Étape 5 - Barrel

Étape 6 - Barrel

Étape 7 -

Étape 8 -

Étape 9 -

Étape 10 -

Étape 11 -

Étape 12 - Nozzle

Étape 13 -

Étape 14 -

Étape 15 -

Étape 16 -

Étape 17 -

Étape 18 - Barrel holder

Étape 19 -

Étape 20 -

Étape 21 -

Étape 22 -

Étape 23 - Framework

Étape 24 -

Étape 25 -

Étape 26 -

Étape 27 -

Étape 28 -

Étape 29 -

Étape 30 -

Étape 31 -

Étape 32 -

Étape 33 - Attach it to the frame

Étape 34 -

Étape 35 -

Étape 36 - Engine

Étape 37 - Improvements and learn

Commentaires

Introduction

The extrusion machine has quite a specific output, a line. This is well suited to make new granulate and 3D printer filament. However use your creativity and you will find other applications for it as well. Change the nozzle for different shapes and sizes, turn it around a mold to make lamps or a handle for a knife.

The extrusion machine consists in 6 different elements: the hopper, the barrel, the nozzle, the barrel holder, the framework and the electronics.

Matériaux

- Metal sheet plates
- Metal tubes

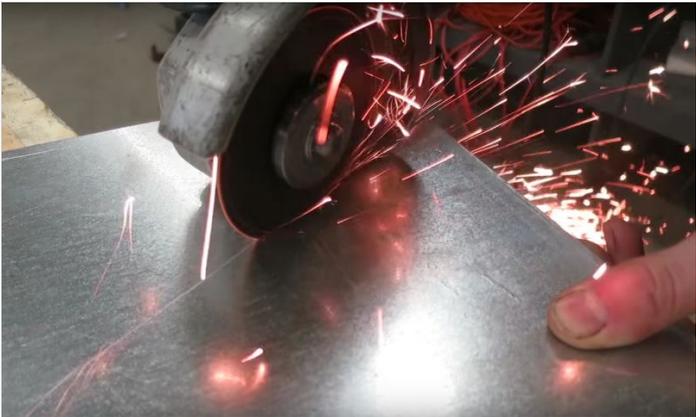
Outils

- Angle grinder
- Protective glasses
- Milling machine
- Arc welding machine

<http://preciousplastic.com/videos/download/>

Étape 1 - Hopper: cutting metal plates

Get the metal sheet plates. Take measurements following the blue prints and cut the sheets with a grinding machine and sand metal edges.



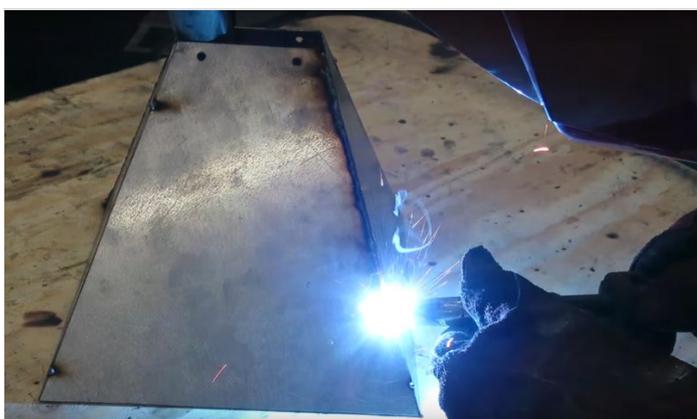
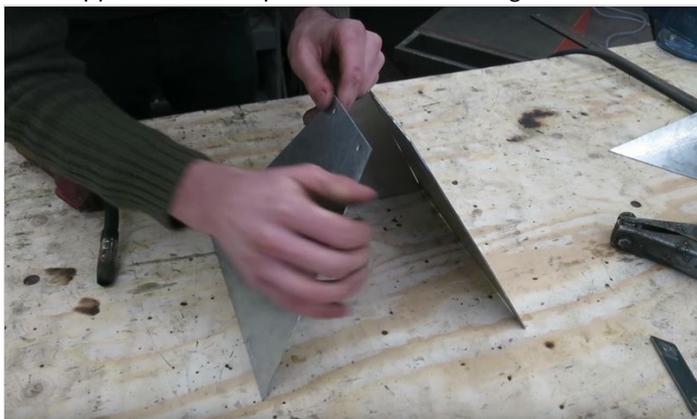
Étape 2 - Hopper: drilling metal plates

Prick the plate with a hammer and drill the metal plates on the milling machine

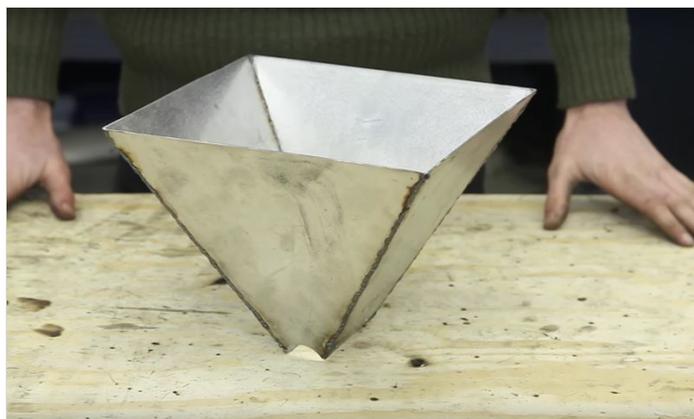


Étape 3 - Hopper: welding metal plates

Make a pyramid with the plates and weld them together



Étape 4 - Hopper finishes



Étape 5 - Barrel



Étape 6 - Barrel



Étape 7 -



Étape 8 -



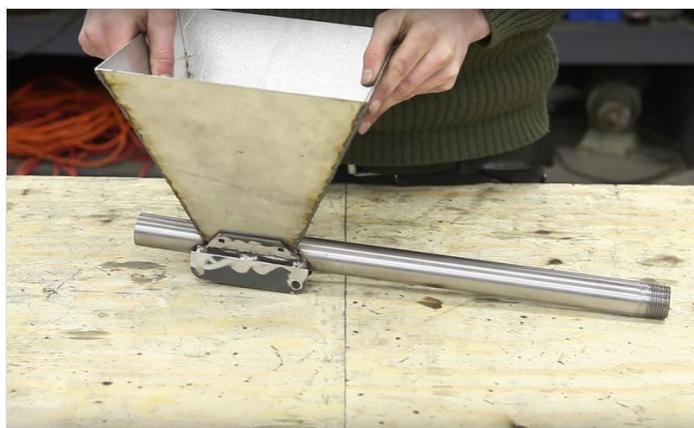
Étape 9 -



Étape 10 -



Étape 11 -



Étape 12 - Nozzle



Étape 13 -



Étape 14 -



Étape 15 -



Étape 16 -



Étape 17 -



Étape 18 - Barrel holder



Étape 19 -



Étape 20 -



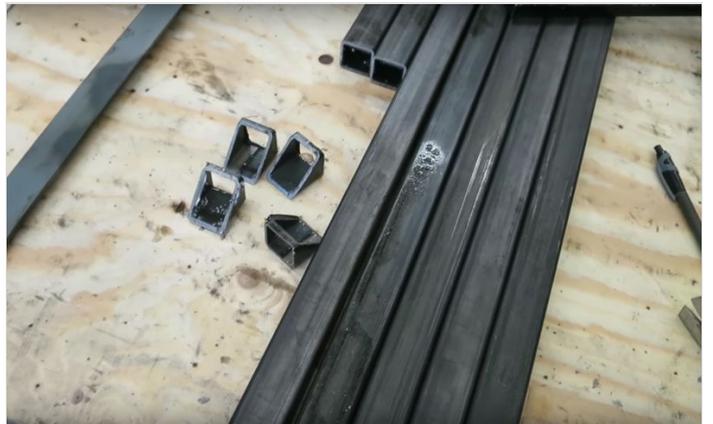
Étape 21 -



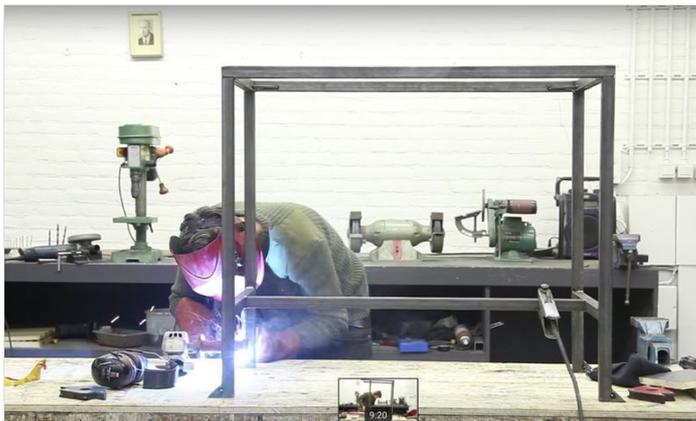
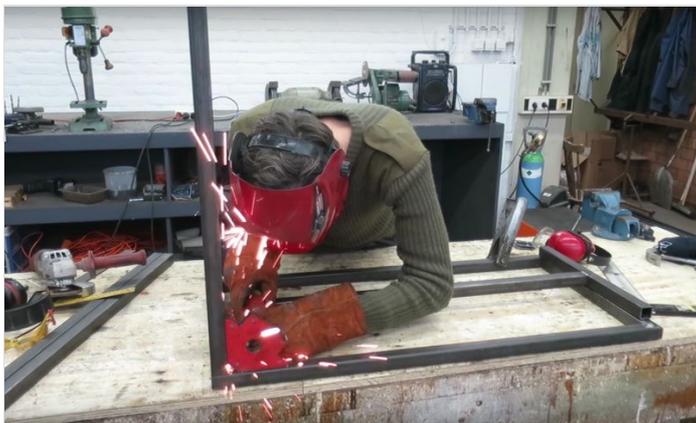
Étape 22 -



Étape 23 - Framework



Étape 24 -



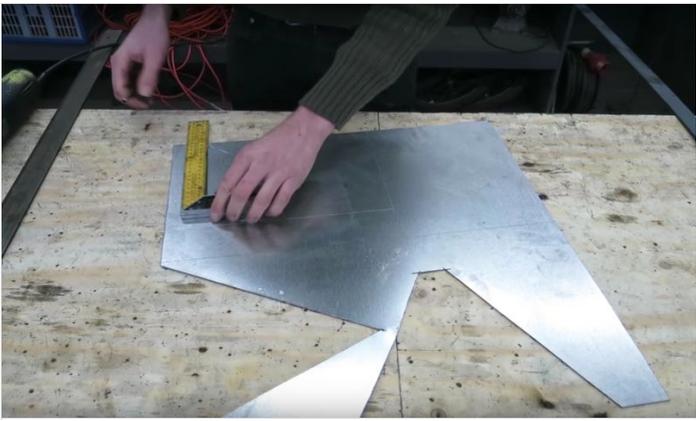
Étape 25 -



Étape 26 -



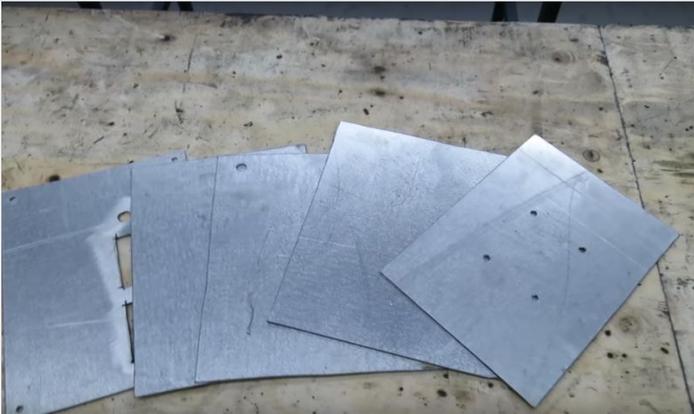
Étape 27 -



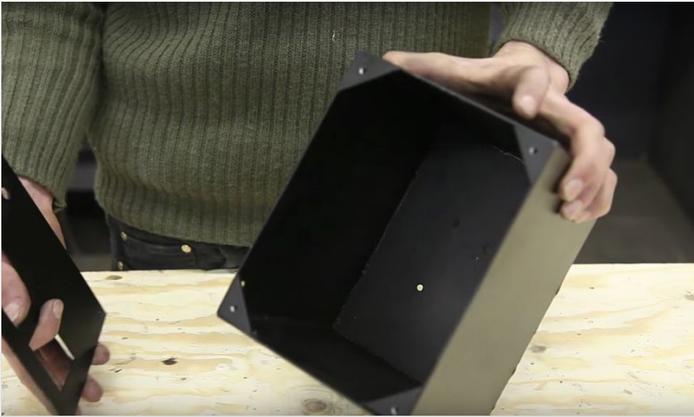
Étape 28 -



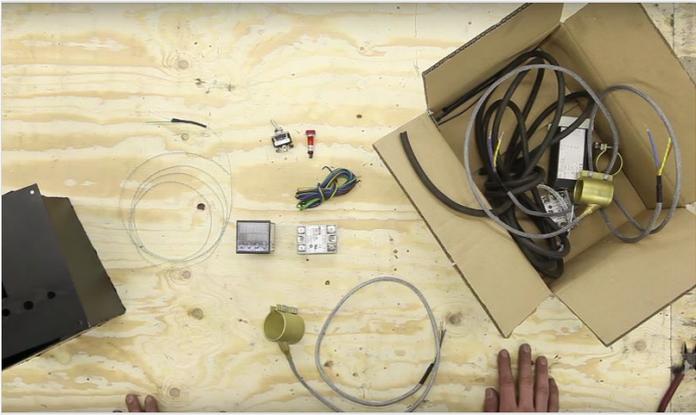
Étape 29 -



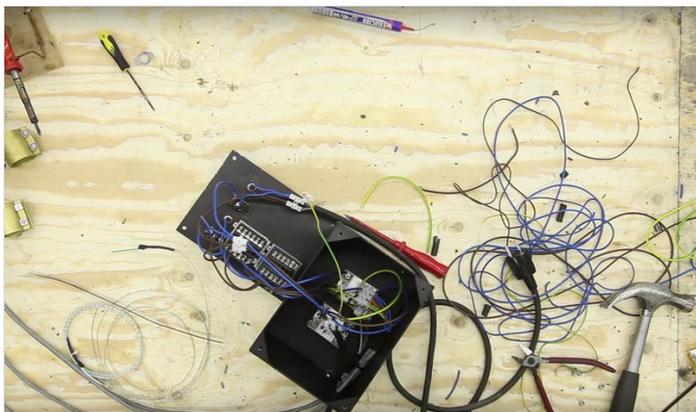
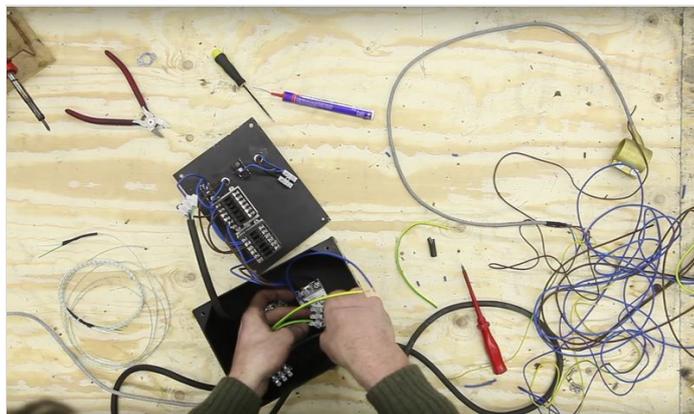
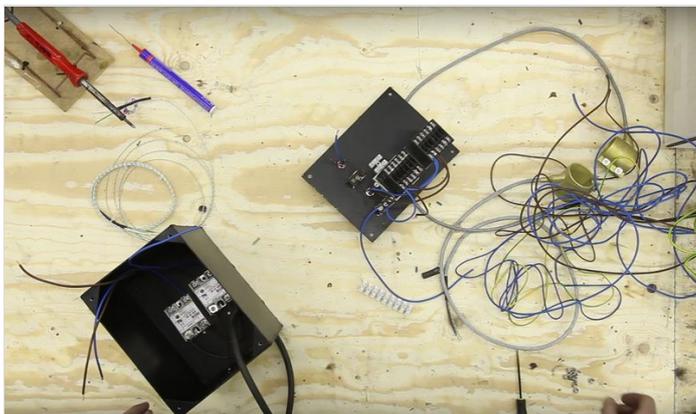
Étape 30 -



Étape 31 -



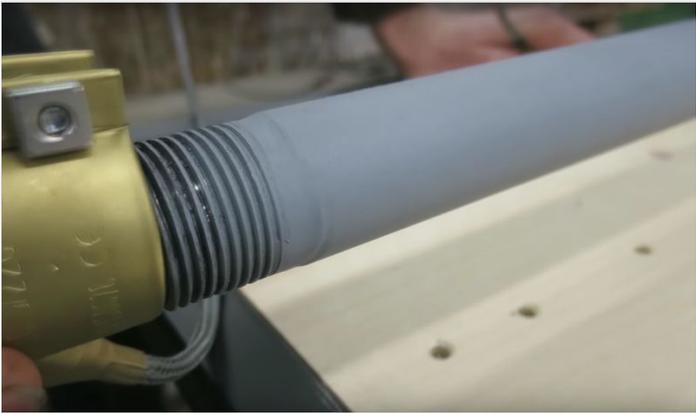
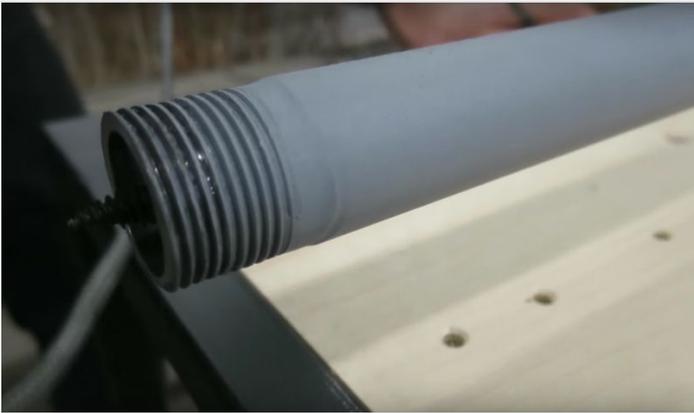
Étape 32 -



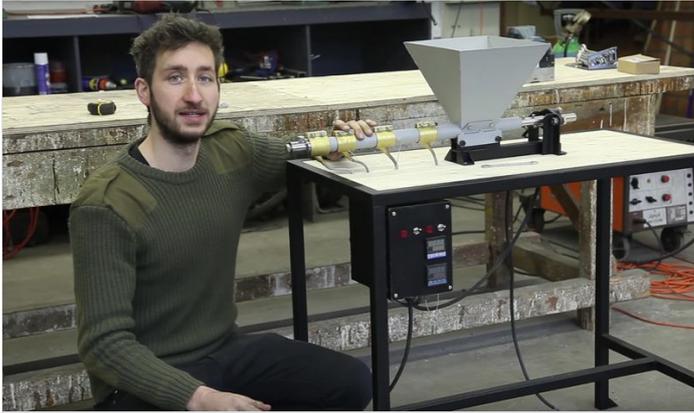
Étape 33 - Attach it to the frame



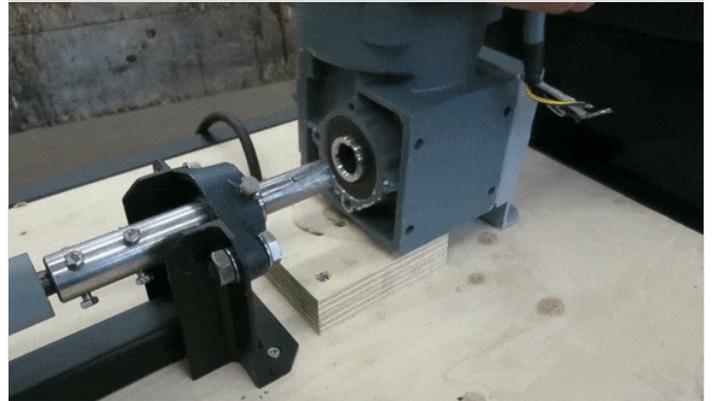
Étape 34 -



Étape 35 -



Étape 36 - Engine



Étape 37 - Improvements and learn

Suggestion: Currently, the nose decided the amount of plastic that comes out.

However, a better way to do this is by adding a controllable engine. There are different ways to control the speed of an engine by using different controllers or regulators.

How to use the machine

[Clic here](#) to watch our online video (starting from 15:09) to learn how to use the machine.

Thanks!

