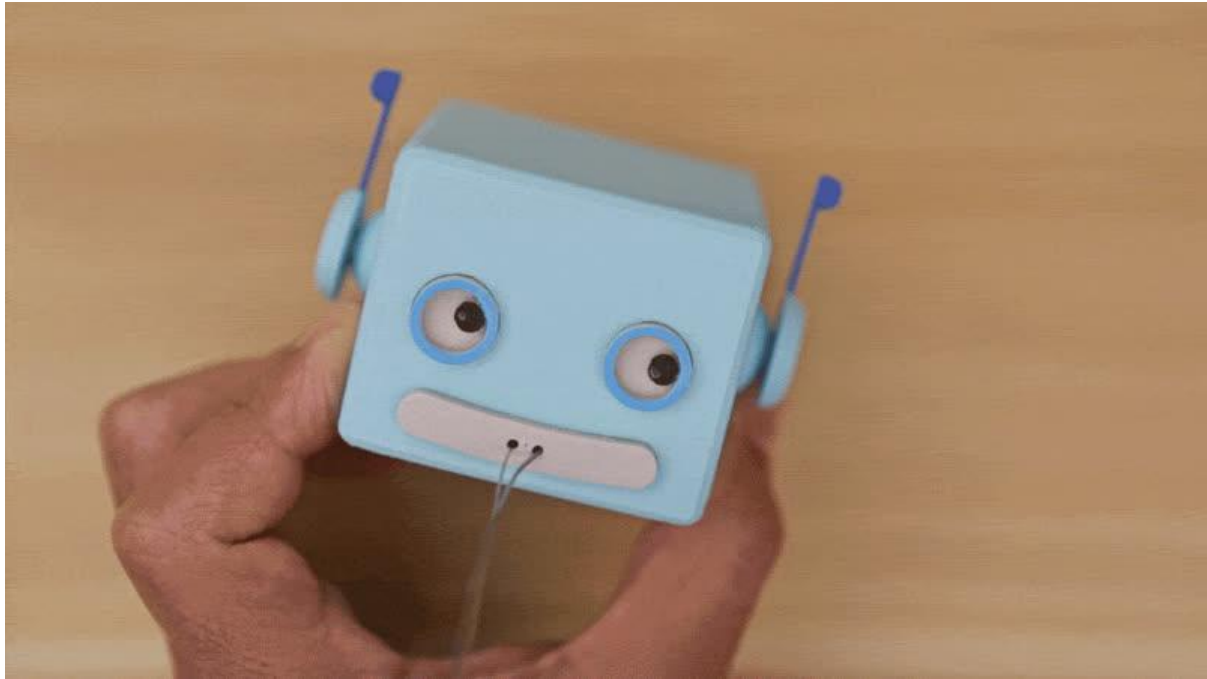




Solder Dispenser Adabot Head

Created by Ruiz Brothers



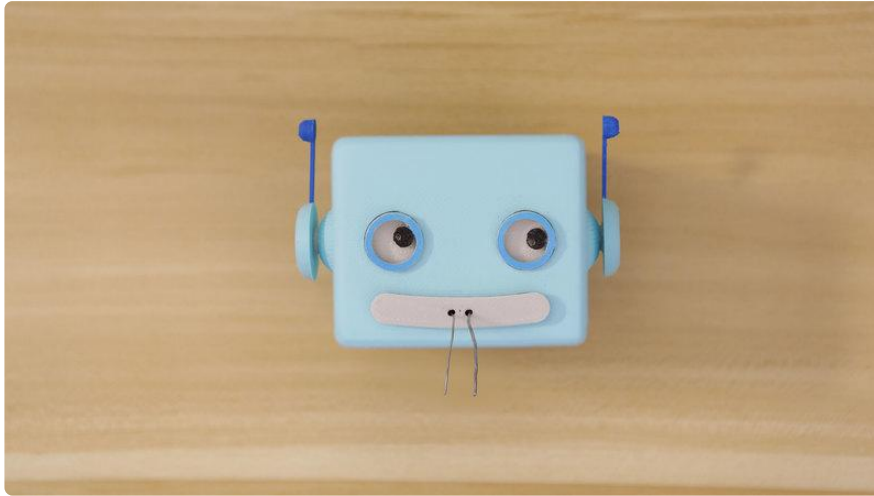
<https://learn.adafruit.com/solder-dispenser-adabot-head>

Last updated on 2021-11-15 06:51:11 PM EST

Table of Contents

Overview	3
• Solder Dispenser	3
• Parts	3
3D Printing	5
• Slice Settings	6
• 3D Printing Enclosures	6
• Supports	7
• Edit Design	7
Assemble	8
• Adding Face Features	8
• Assemble Ears	9
• Paint Details	9
• Inserting Spools	10

Overview



Solder Dispenser

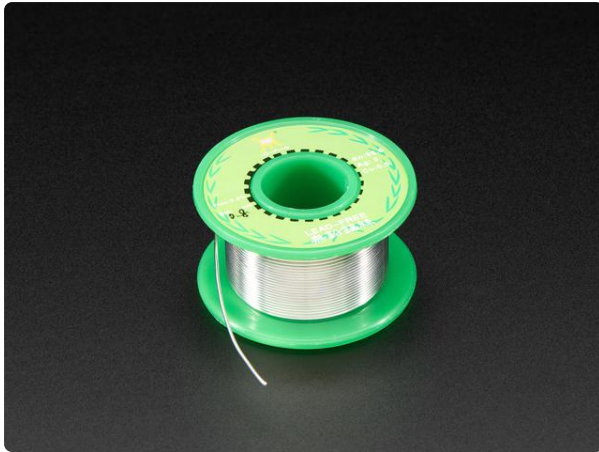
In this project, we'll design and 3D print a custom enclosure for storing and dispensing solder. This cute little enclosure looks like Adabot and can be used as a solder dispenser or tape dispenser. There's plenty of room in the enclosure to store two spools of solder or several rolls of small tape.

The spools can rotate independently, allowing you to have different solder spool sizes to quickly swap between different diameters.



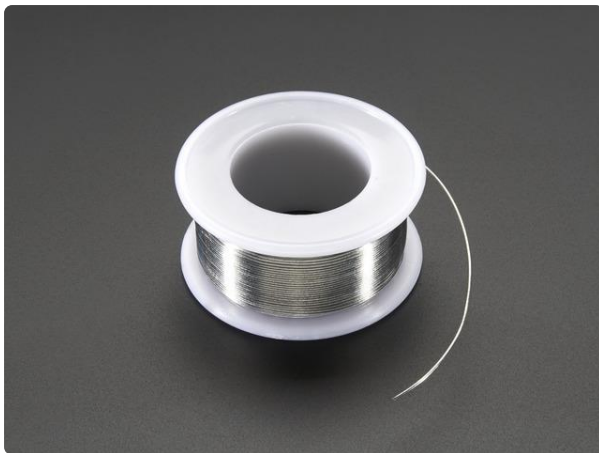
Parts

You only need a couple parts to complete this build:



Solder Spool - 1/4 lb SAC305 RoHS lead-free / 0.031" rosin-core

If you want to make a kit you'll need some solder. This 1/4 lb (about 110 gram) spool is just the right amount, not too much (like 1 lb spools) and not too little (like those...
<https://www.adafruit.com/product/734>



Solder Wire - SAC305 RoHS Lead Free - 0.5mm/.02" diameter

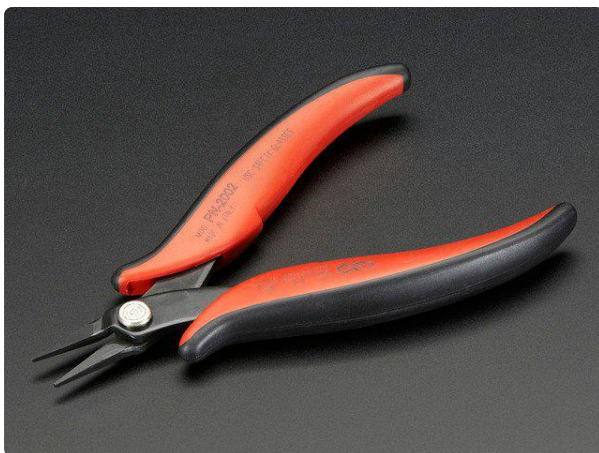
If you want to make a kit you'll need some solder. This 0.1lb / 50g spool is a good amount, not too much (like 1 lb spools) and not too little (like those little 'pocket...
<https://www.adafruit.com/product/1930>



Blue Masking Tape for 3D Printing Plates

OK yes, it's just masking tape. A big honkin' roll of I'm blue da-ba-dee-da-ba-die masking tape. Removing 3D printed parts can be tough. Sometimes pieces get stuck to...

<https://www.adafruit.com/product/2416>



Hakko Precision Flat Pliers

These Italian-made Hakko pliers are excellent for any precision work. The nose is flattened and fairly short to provide excellent control. The inside of the jaws is also flattened so...

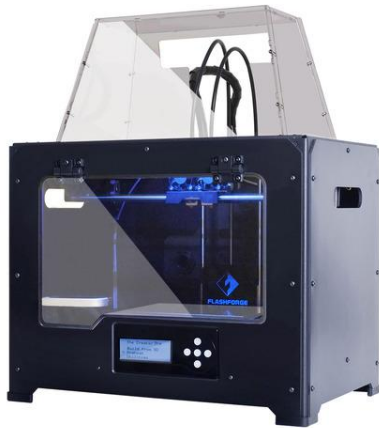
<https://www.adafruit.com/product/1368>



Filament for 3D Printers in Various Colors and Types

Having a 3D printer without filament is sort of like having a regular printer without paper or ink. And while a lot of printers come with some filament there's a good chance...

<https://www.adafruit.com/product/2080>

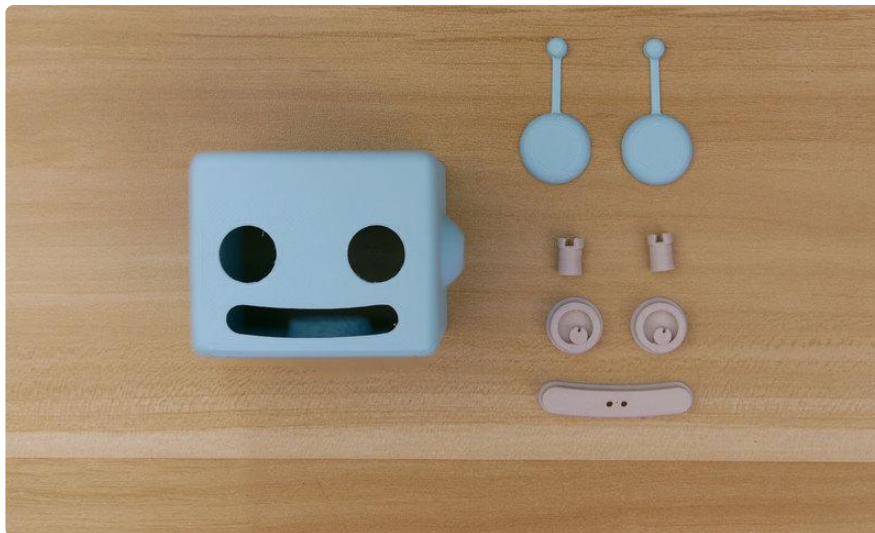


Flashforge Creator PRO

The Flashforge Creator Pro is the latest addition to FlashForge's Creator family, built upon an open source platform. Based on proven design of the Creator...

<https://www.adafruit.com/product/2742>

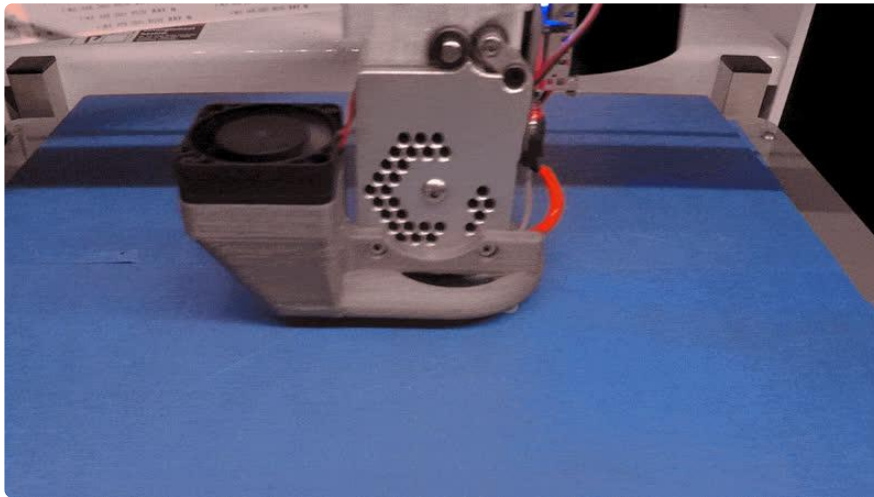
3D Printing



Slice Settings

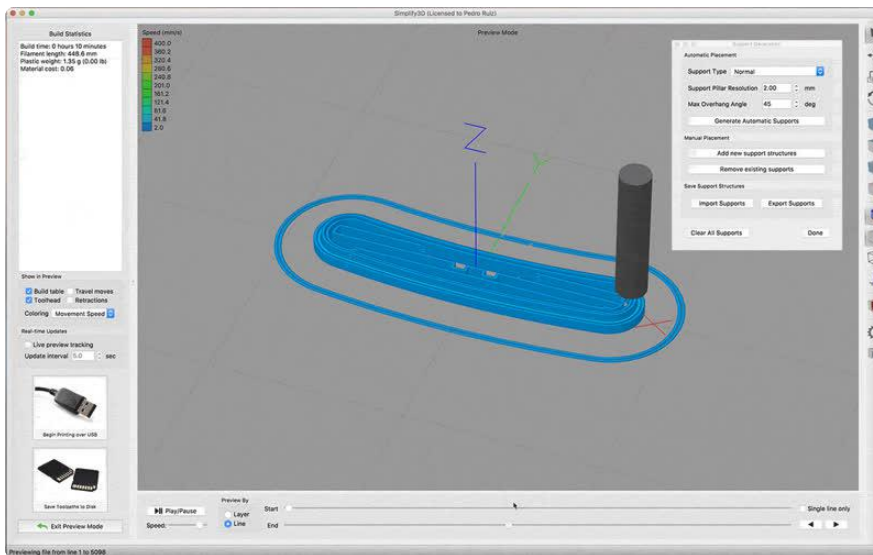
Depending on your 3D printer, you may need to adjust the slice settings. We tested the enclosure on a Type A Machines and a DeltaPrinter GO. The mouth part will require support materials. The parts are oriented to print "as is".

- Nozzle: 0.4mm
- Extrusion Multiplier: 1.0
- Extrusion Width: 0.48mm
- Layer Height: 0.2mm
- Nozzle Temperature: 240c
- Print Speed: 60mm/s



3D Printing Enclosures

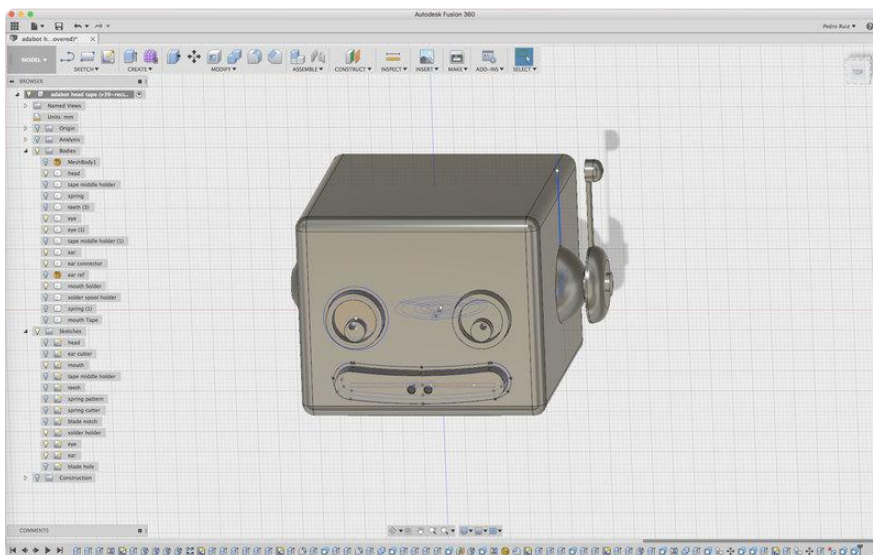
I drew up an enclosure in Autodesk Fusion 360 and designed to print in PLA. I 3D printed the enclosure using the Type A Machines Series 1 Pro. If you don't have access to a 3D printer, you could use a service like [3D Hubs \(https://adafru.it/jNb\)](https://adafru.it/jNb) to make it for you. I used teal PLA/PHA material to 3D print the parts, the mouth part will require support materials for the ports.



Supports

The bridging for the ports around the mouth will need supports. We used Simplify3D to create 2mm pillars under the top side of the port opening.

We also slowed the support structure underspeed to 30% and lowered the dense infill percentage to 30%



Edit Design

You can easily update the design for any additional features by editing the Fusion360

designs. The sketches are all listed in the timeline, so it's easy to adjust the size to each component.

Download STLs

<https://adafru.it/tAb>

Edit Design

<https://adafru.it/tAc>

Assemble



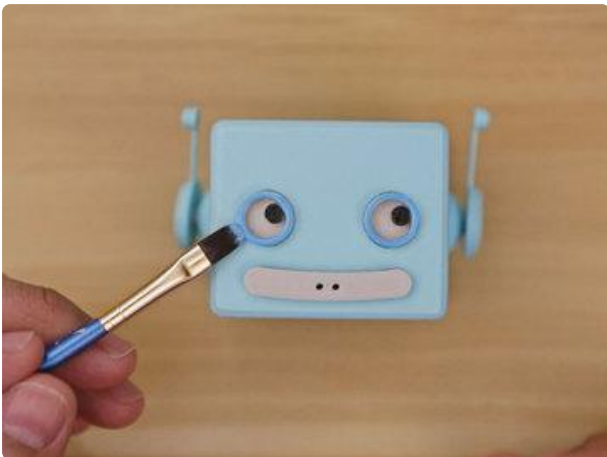
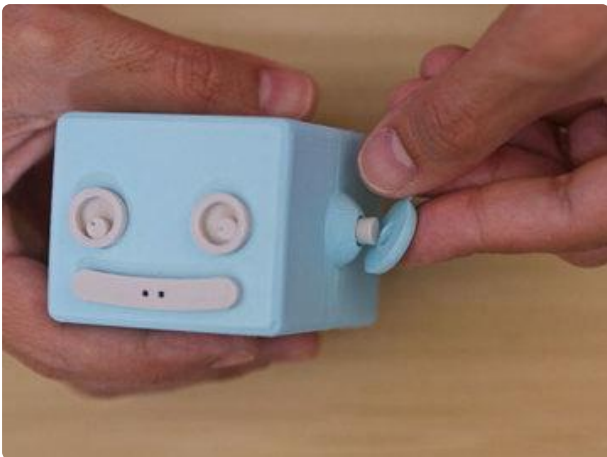
Adding Face Features

Align the eyes and mouth parts and then push the from the inside of the head. The tolerances will be tight, so you may need a bit of force to push them through.



Assemble Ears

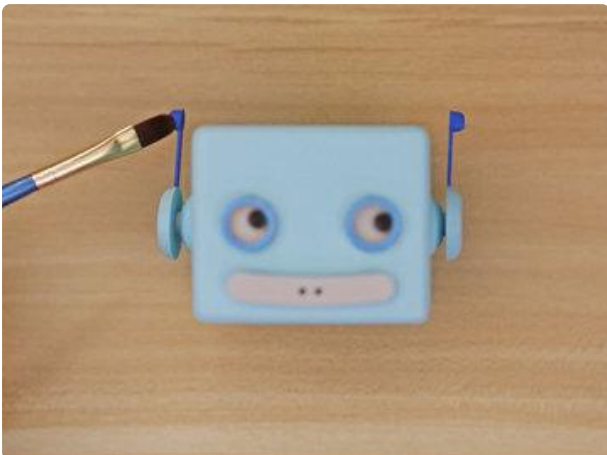
The ears are connected with the small pins. Insert the pins at an angle and then push the ear parts into the grooves for each ear.



Paint Details

You can optionally paint in the colors for the outlines around the eyes and ear tips.

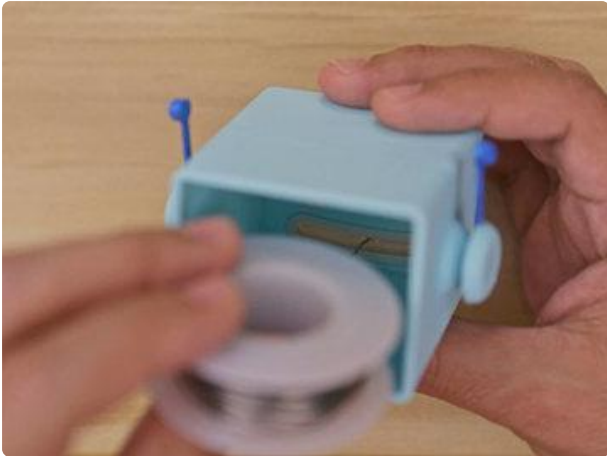
We used blue acrylic paint and let it dry for about half an hour.





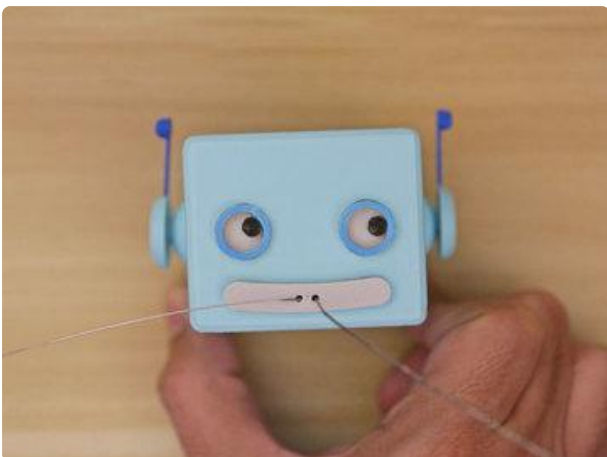
Inserting Spools

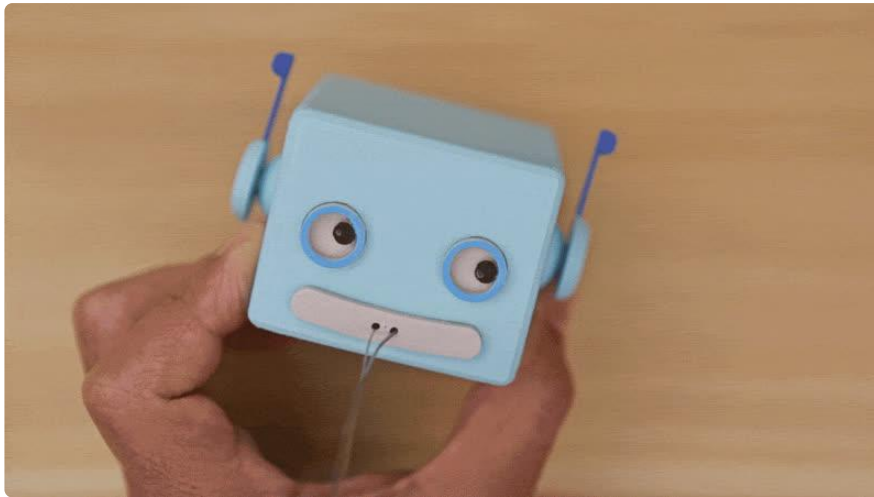
There are two built in spool holders on the top and bottom and two holes on both sides of the model. Use the top and bottom holders to mount spools of solder.



The two holes on the sides can be used to mount a roll of sticky tape.

To install spools, first thread solder through the holes on the mouth. Pull solder through the front side of the mouth and hold the ends while inserting the spool in place.





The spools can rotate independently, allowing you to have different solder spool sizes, allowing you to quickly swap between diameters.