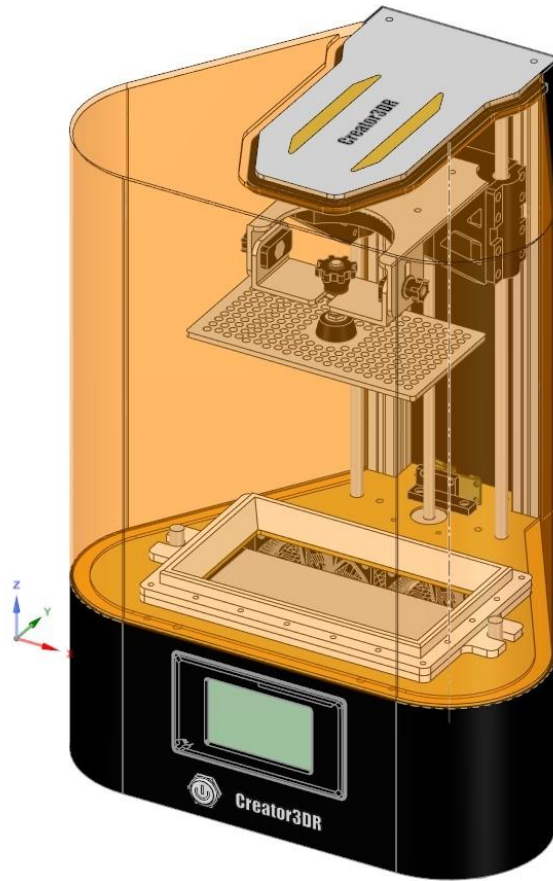
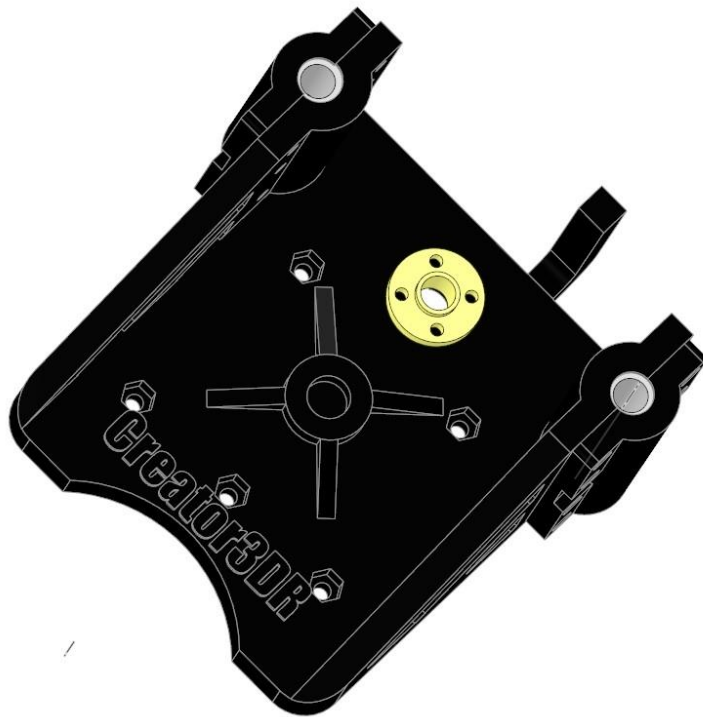
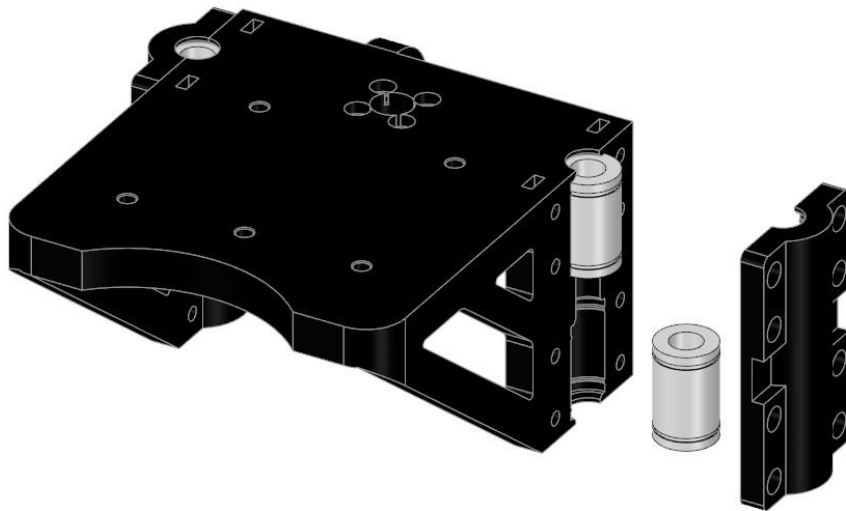


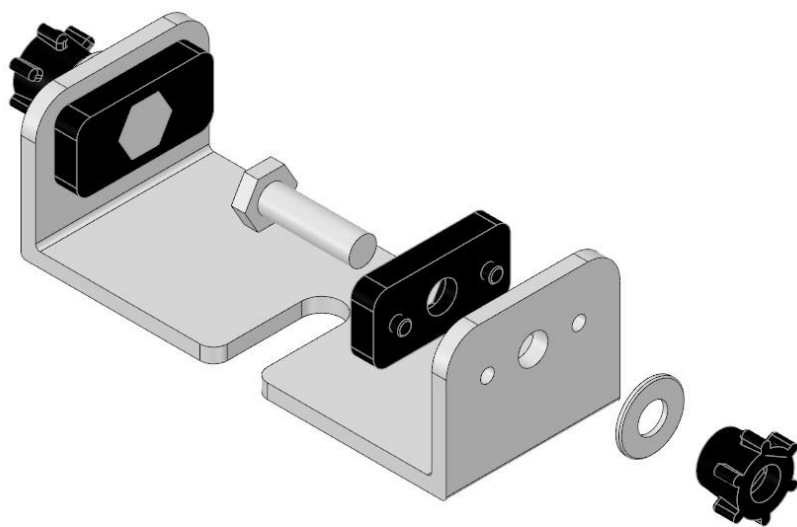
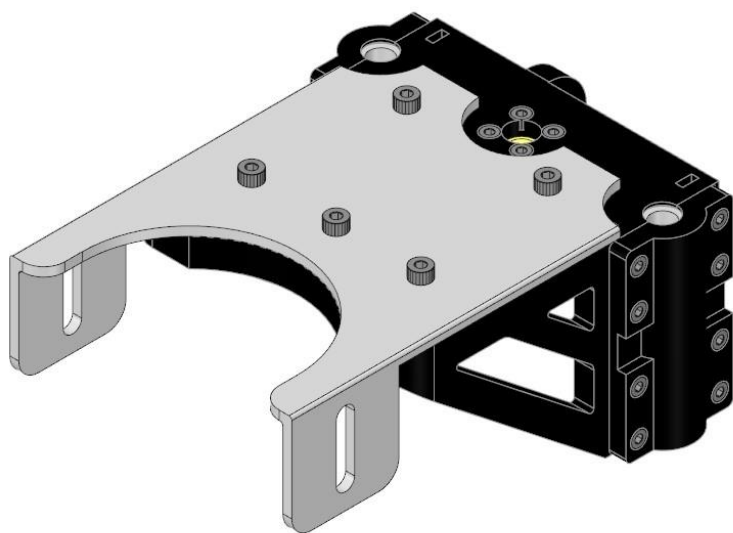
Creator3DR

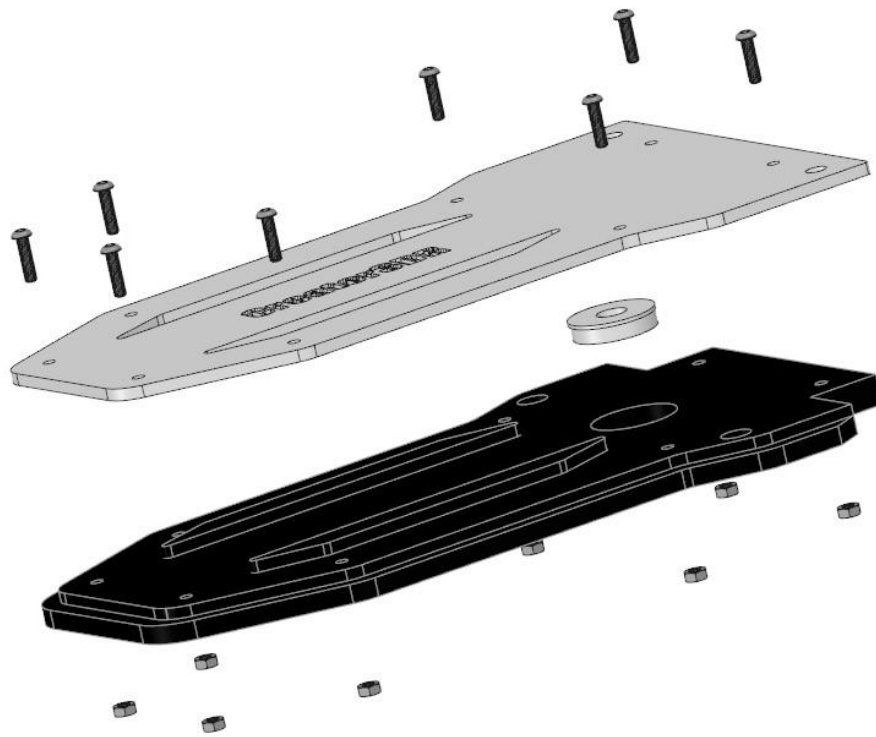


Assembly Instructions

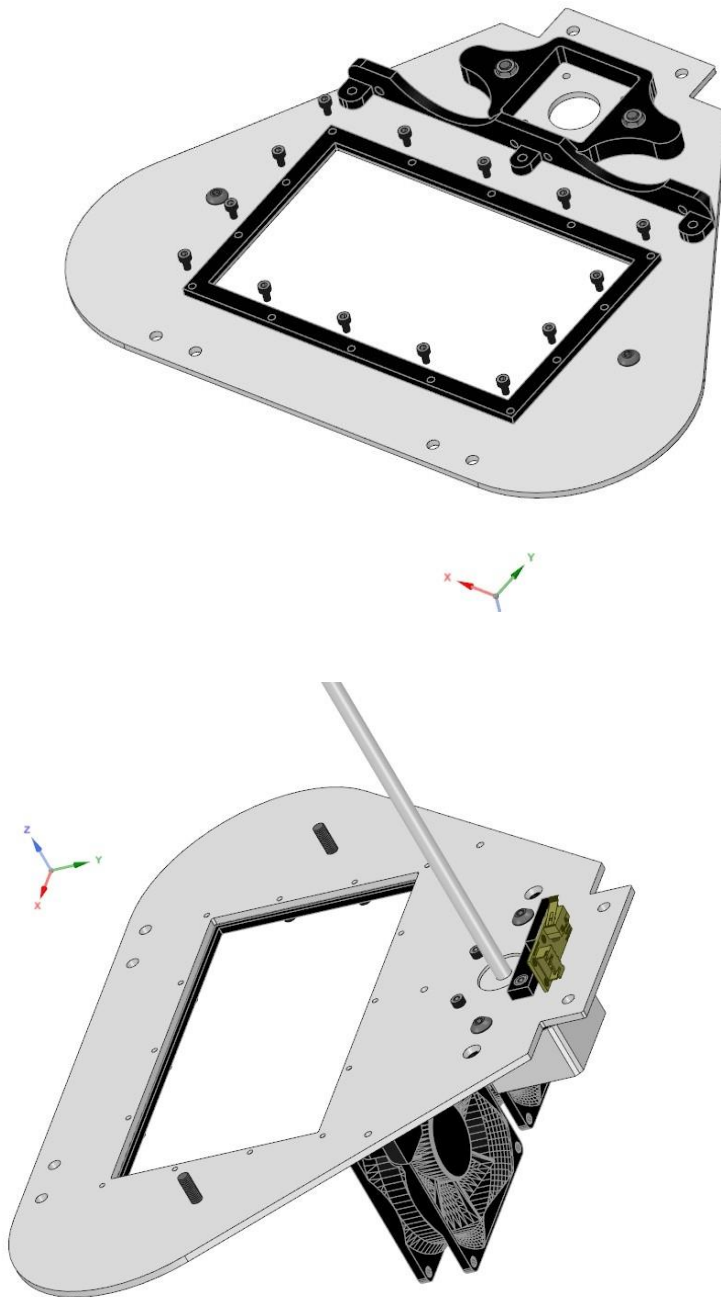
Head Assembly



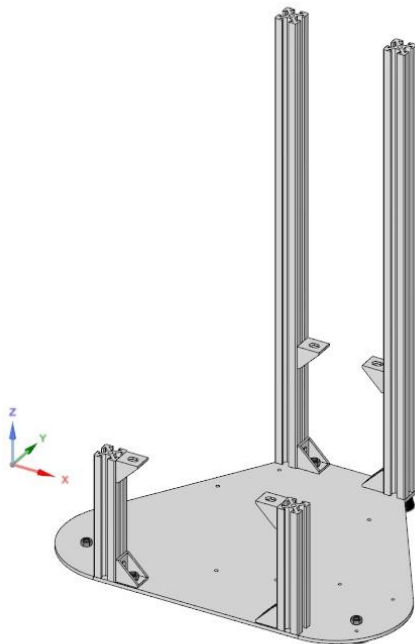
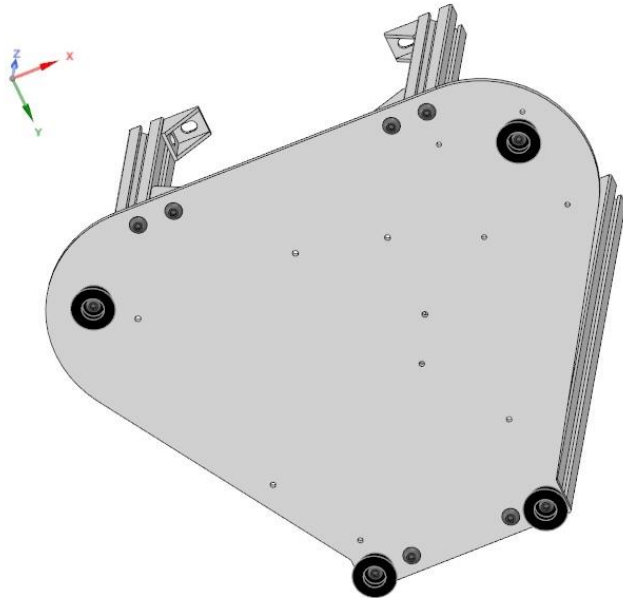


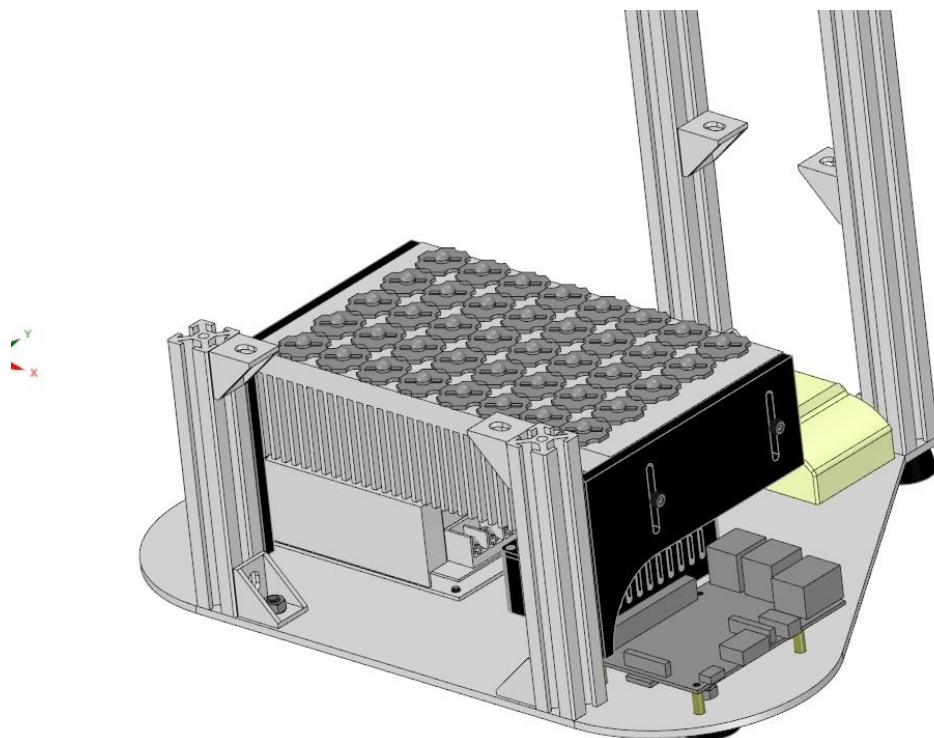
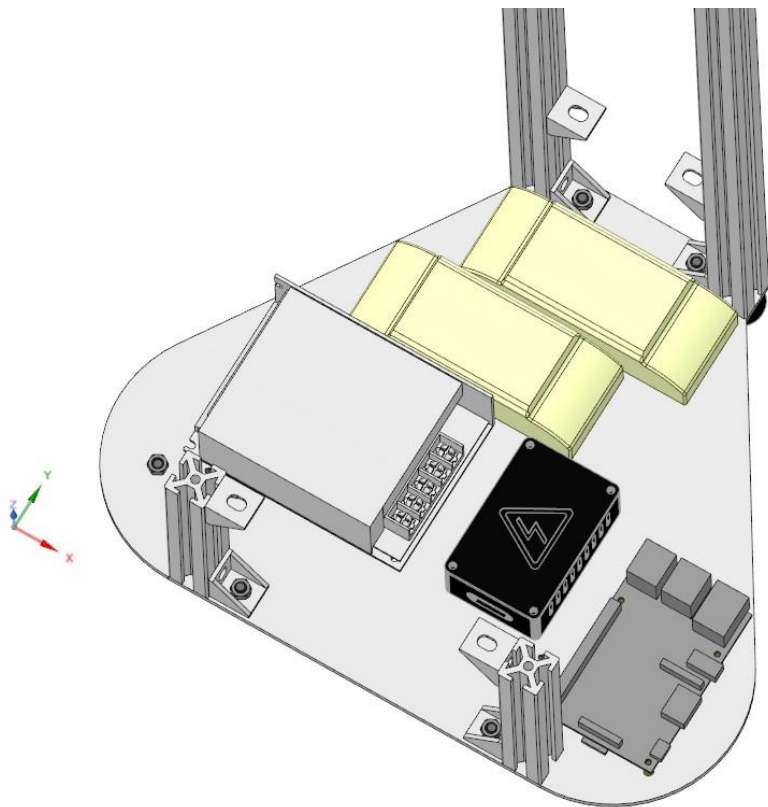


Top Plate Assembly

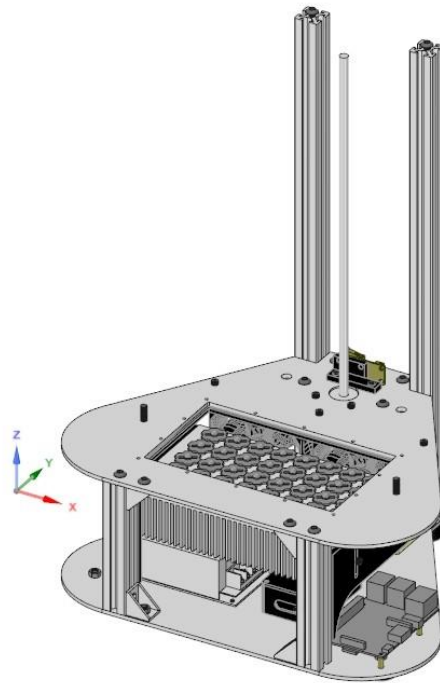


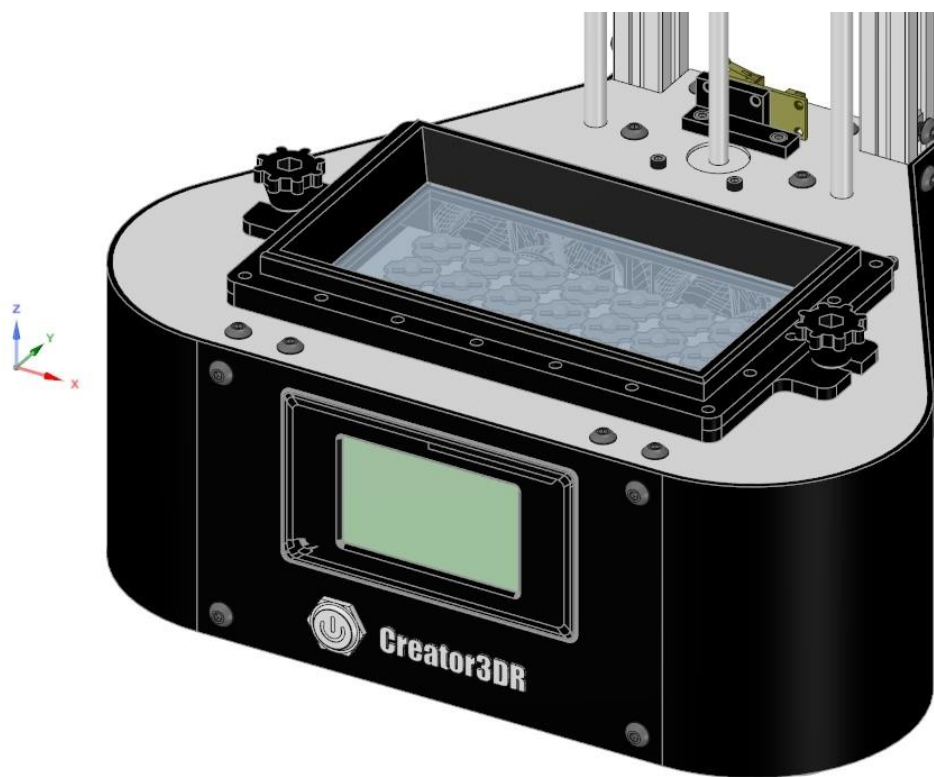
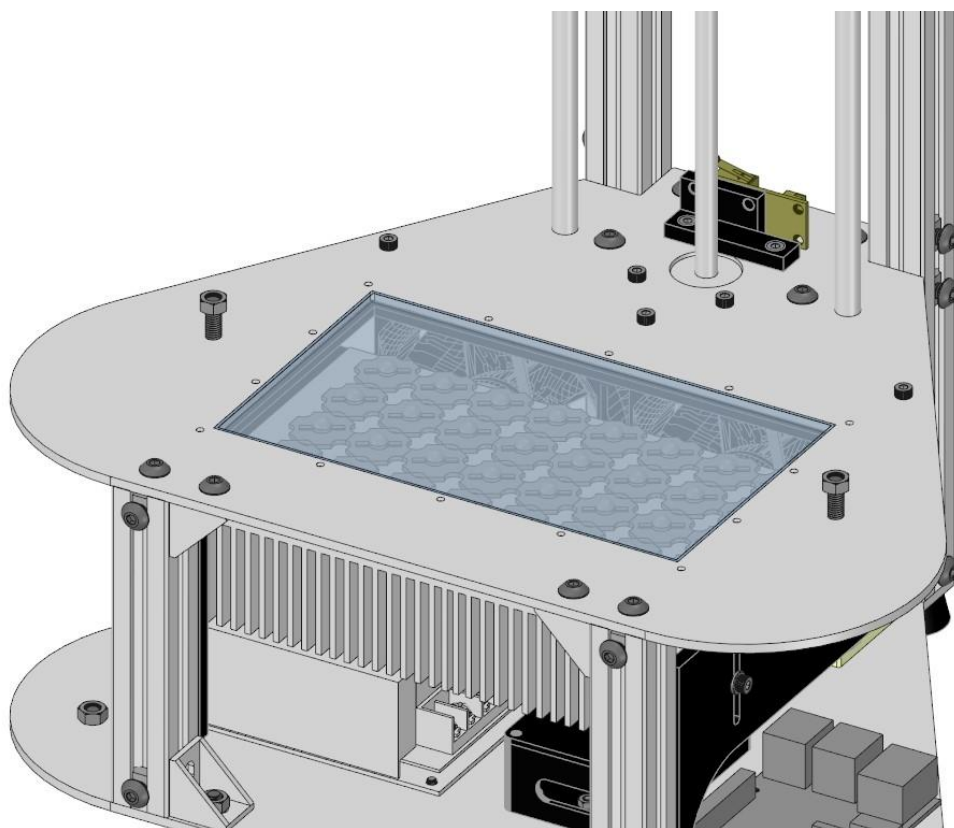
Main Body Assembly

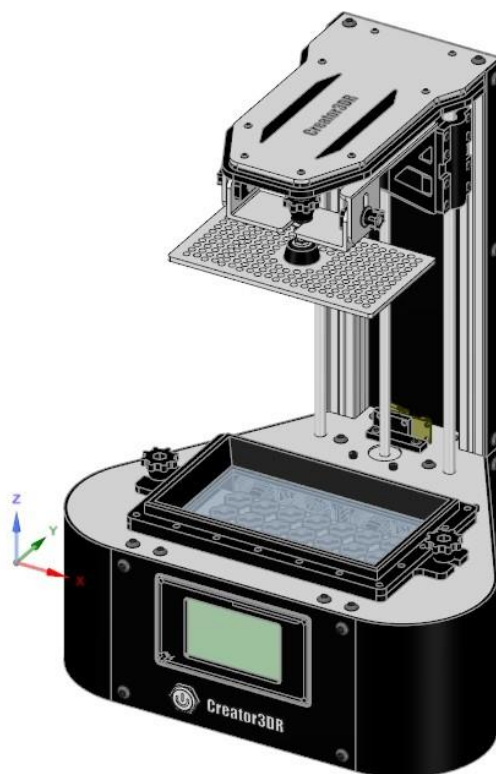




Completing Assembly

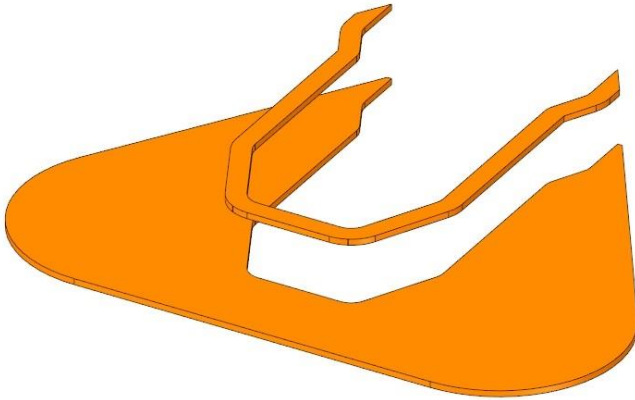




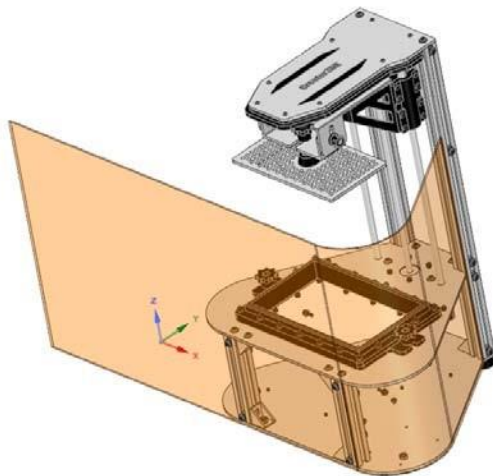


Cover Assembly & Construction

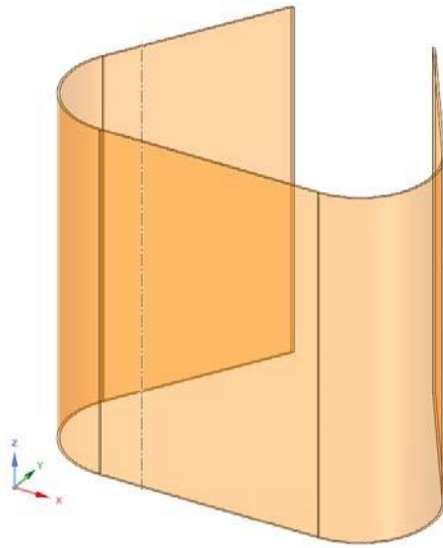
Glue the top flange to the cover top using clear Plexiglas/acrylic glue



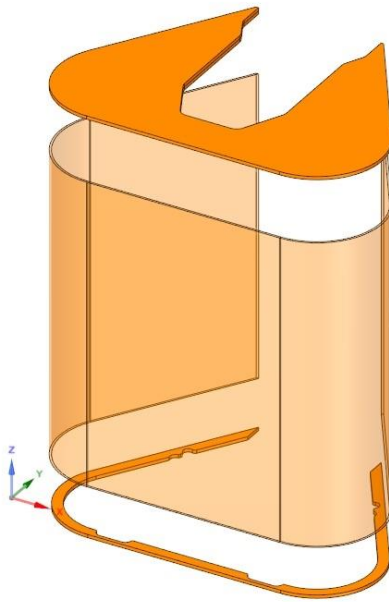
Using the assembled top & bottom plates of the printer as a template, mark where curves begin one at a time. Take a heat gun and using a back and forth motion, heat where the bend should be which will start to soften the plastic enough to shape it.

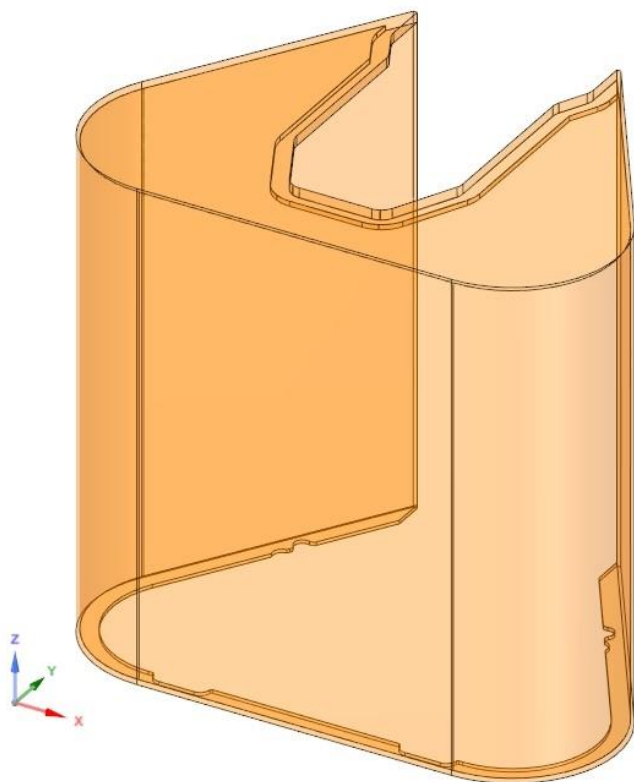


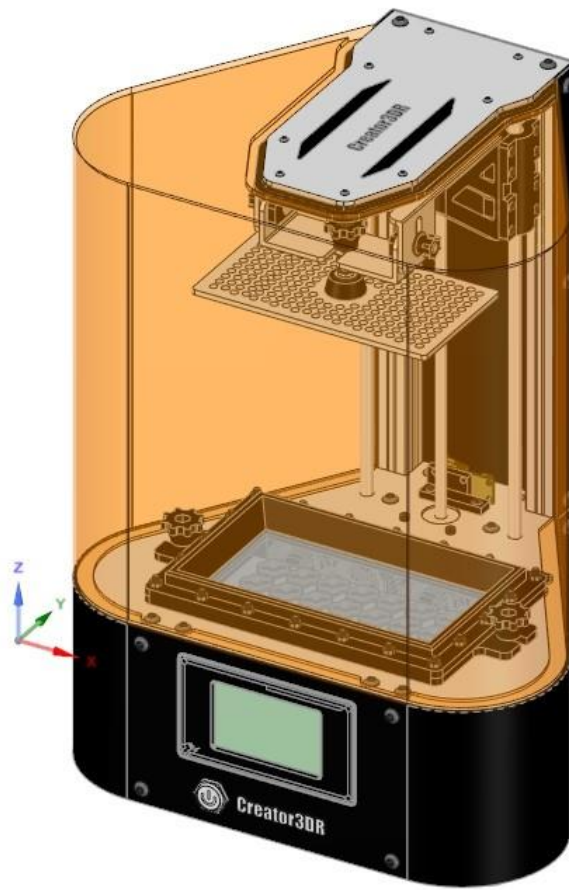
Once you finish the first bend, repeat the steps for the second bend.



Glue the top and bottom flange to the cover using clear Plexiglas/acrylic glue







Touch Screen Configuration

Requirements

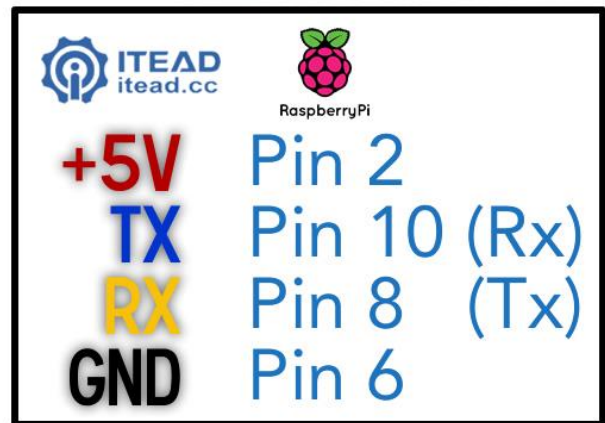
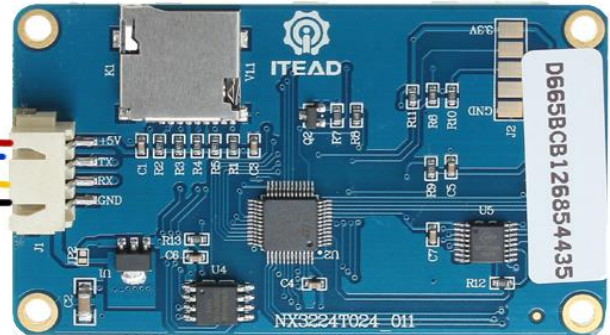
- NanoDLP installed on a raspberry pi (2, 3, zero,...)
- A Nextion screen (Enhanced or not, 2.4", 3.2", 3.5", 5" or another size, but you'll have to update the HMI file for now)
- Tibus Touchscreen for the display: <https://github.com/Tibus/TouchScreen-For-NanoDLP>.

The screen files are located at: <https://github.com/Tibus/TouchScreen-For-NanoDLP/tree/master/nextion/tft>. Download the 2.4 TFT file. Copy it to a FAT formatted SD card, and power up the screen. It will auto install the update from the TFT file to format the screen for NanoDLP

Hardware installation

- Connect the raspberry pi to the nextion screen through the Serial GPIO's :

Raspberry Pi 2 Model B (J8 Header)				
GPIO#	NAME		NAME	GPIO#
	3.3 VDC Power	1	5.0 VDC Power	2
8	GPIO 8 SDA1 (I2C)	3	5.0 VDC Power	4
9	GPIO 9 SCL1 (I2C)	5	Ground	6
7	GPIO 7 GPCLK0	7	GPIO 15 TxD (UART)	15
	Ground	9	GPIO 16 RxD (UART)	16
0	GPIO 0	11	GPIO 1 PCM_CLK/PWM0	1
2	GPIO 2	13	Ground	14
3	GPIO 3	15	GPIO 4	4
	3.3 VDC Power	17	GPIO 5	5
12	GPIO 12 MOSI (SPI)	19	Ground	20
13	GPIO 13 MISO (SPI)	21	GPIO 6	6
14	GPIO 14 SCLK (SPI)	23	GPIO 10 CE0 (SPI)	10
	Ground	25	GPIO 11 CE1 (SPI)	11
30	SDA0 (I2C ID EEPROM)	27	SCL0 (I2C ID EEPROM)	31
21	GPIO 21 GPCLK1	29	Ground	30
22	GPIO 22 GPCLK2	31	GPIO 26 PWM0	26
23	GPIO 23 PWM1	33	Ground	34
24	GPIO 24 PCM_FS/PWM1	35	GPIO 27	27
25	GPIO 25	37	GPIO 28 PCM_DIN	28
	Ground	39	GPIO 29 PCM_DOUT	29



- put the corresponding .tft file on a micro sd card, and plug it in the nextion screen. Power the raspberry pi and the Nextion screen'll automatically update its firmware with the good one (the screen'll go blank with status updating in red). You can then remove the micro sd card from the Nextion Screen (you can use the raspberry pi sd card!)

NANODLP Software

Simple Installing

1. [Download nanoDLP SD card image file](#) and extract it.
2. To copy nanodlp SD image file, you need a computer with card reader.
3. Based on your computer's operating system follow one of these guides for [Windows](#), [Mac OS](#), [Linux](#).
4. Put microSD card into Raspberry Pi and connect it to power source.
5. To find out your Raspberry Pi's IP address open your computer's network area.
6. Or visit [online dashboard](#) to see online nanoDLP printers in your network
7. (Optional) It will be easier if you make your Raspberry Pi IP address static through your router or through terminal.
8. (Optional) To use whole SD card disk space you need to connect to Raspberry Pi and run "sudo raspi-config" command.
9. (Optional) To install latest version or beta version you need to do expert installation below or use program's auto update function.

MANDATORY : Enable /dev/ttyAMA0 For Raspberry Pi Zero and Raspberry Pi 3

Note: Linux is case sensitive. Please enter text EXACTLY as shown. Using a terminal emulator login to the Raspberry Pi's terminal interface on port 22 of the Pi's network address.

```
sudo raspi-config  
=> Interfacing Option
```

```
=> Serial
```

The prompt will read: Would you like a login shell to be accessible over serial?

```
=> NO (Don't have console available over serial)
```

The prompt will read: Would you like the serial port hardware to be enabled?

```
=> YES (Enable Serial)
```

The prompt will read:

```
The serial login shell is disabled
```

The serial interface is enabled

Select "OK", and allow the Pi to reboot.

Login to the Pi terminal.

```
sudo nano /boot/config.txt  
=> add this line :
```

```
dtoverlay=pi3-disable-bt  
=> then
```

```
sudo reboot  
sudo nano /boot/cmdline.txt  
=> remove the word phase "console=serial0,115200" or "console=ttyAMA0,115200"
```

```
sudo reboot
```

Nextion Screen Software For NanoDLP: Simple installation

For Raspberry pi 2-3,3B,3B+ :

```
sudo mkdir /home/pi/nextion;(wget https://github.com/Tibus/TouchScreen-For-  
NanoDLP/releases/download/V0.2/pi2_3.tar.gz --no-check-certificate -O - | sudo tar -C /home/pi/nextion -  
xz);cd /home/pi/nextion; sudo ./setup.sh
```

For Raspberry pi zero:

```
sudo mkdir /home/pi/nextion;(wget https://github.com/Tibus/TouchScreen-For-  
NanoDLP/releases/download/V0.2/pizero.tar.gz --no-check-certificate -O - | sudo tar -C /home/pi/nextion -  
xz);cd /home/pi/nextion; sudo ./setup.sh
```

Raspberry Pi Display Configuration

The Raspberry Pi defaults its HDMI output to a “Safe” resolution in order to ensure a display. When using the HDMI in the way we are for NanoDLP, we must override the defaults. To do this edit `/boot/config.txt` to ensure the output display resolution is correct to the output display (One used below is 1024x600)

```
Sudo nano /boot/config.txt
```

Make the following changes:

```
# uncomment to force a console size. By default it will be display's size minus
# overscan.
#framebuffer_width=1024
#framebuffer_height=600

#hdmi_ignore_edid=0xa5000080
disable_overscan=1
hdmi_cvt=1024 600 60 3 0 0 0

# uncomment to force a specific HDMI mode (this will force VGA)
hdmi_group=2
hdmi_mode=87
```

Electronics

Raspberry Pi 3 GPIO Header

Pin#	NAME		NAME	Pin#
01	3.3v DC Power	•	DC Power 5v	02
03	GPIO02 (SDA1 , I ² C)	•	DC Power 5v	04
05	GPIO03 (SCL1 , I ² C)	•	Ground	06
07	GPIO04 (GPIO_GCLK)	•	(TXD0) GPIO14	08
09	Ground	•	(RXD0) GPIO15	10
11	GPIO17 (GPIO_GEN0)	•	(GPIO_GEN1) GPIO18	12
13	GPIO27 (GPIO_GEN2)	•	Ground	14
15	GPIO22 (GPIO_GEN3)	•	(GPIO_GEN4) GPIO23	16
17	3.3v DC Power	•	(GPIO_GEN5) GPIO24	18
19	GPIO10 (SPI_MOSI)	•	Ground	20
21	GPIO09 (SPI_MISO)	•	(GPIO_GEN6) GPIO25	22
23	GPIO11 (SPI_CLK)	•	(SPI_CE0_N) GPIO08	24
25	Ground	•	(SPI_CE1_N) GPIO07	26
27	ID_SD (I ² C ID EEPROM)	•	(I ² C ID EEPROM) ID_SC	28
29	GPIO05	•	Ground	30
31	GPIO06	•	GPIO12	32
33	GPIO13	•	Ground	34
35	GPIO19	•	GPIO16	36
37	GPIO26	•	GPIO20	38
39	Ground	•	GPIO21	40

The Raspberry Pi controller has plenty of IO for what we are wanting to do as shown in the diagram to the left.

Here's how we connect everything up:

Connections

Pin #8 (GPIO14 - Tx UART) Touch Screen Rx – Yellow wire

Pin #10 (GPIO15 - Rx UART) Touch Screen Tx – Blue wire

Pin #32 (GPIO12) - Steps

Pin #29 (GPIO05) - Step Direction

Pin #38 (GPIO20) - Enable

Pin #40 (GPIO21) - End Stop Detection

Pin #36 (GPIO16) - LED Array Shutter Control

Pin #37 (GPIO26) - Power Supply Control

