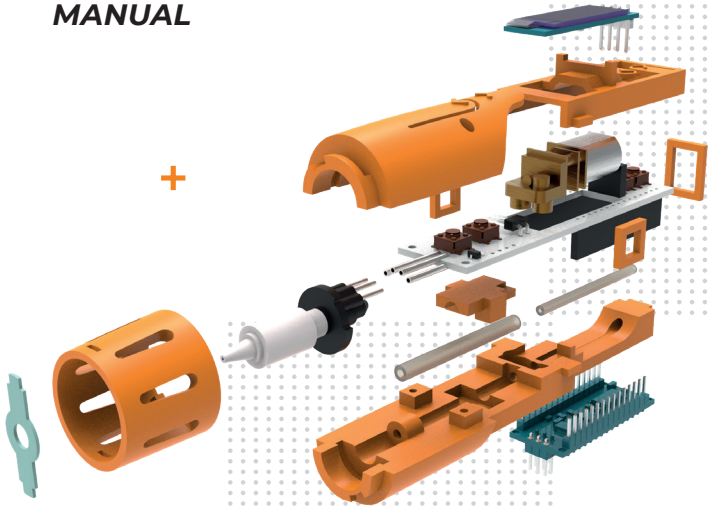
# 3D SIMO KIT

***MANUAL***



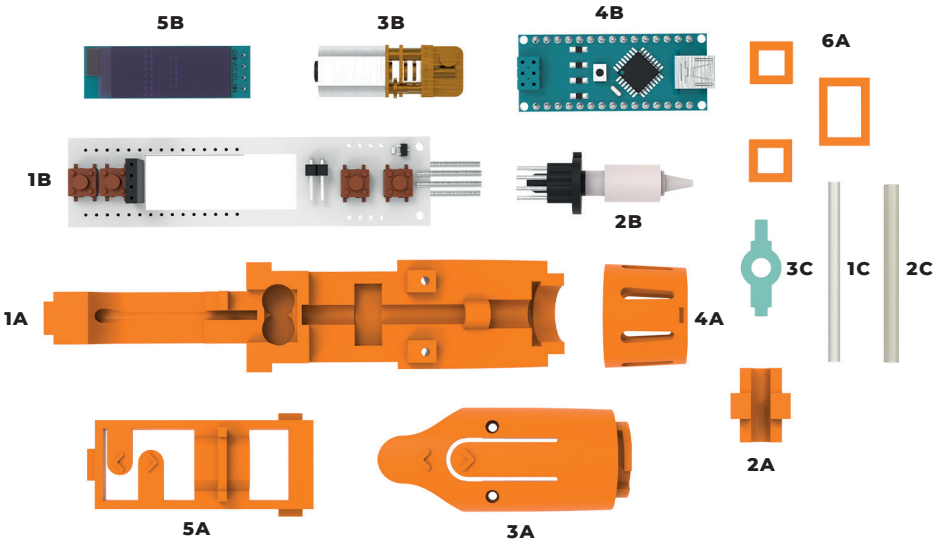
# 3D SIMO KIT

## CONTENT

# USER MANUAL

- You have obtained multimaterial building kit, the 3Dsimo KIT.
- This kit is fully open source and uses fully programable Arduino Nano.
- Time needed for the build: 15 – 30 min.
- Before you begin with completing the 3Dsimo KIT, lay out all the parts on your work desk and make sure you have all the parts from the list.
- At the bottom of the package you can find small parts (screws, nuts, Teflon tubes), as well as 5 m of ABS printing filament.
- Filament compatible with 3Dsimo KIT is standard 3D printer filament, 1,75 mm in diameter.

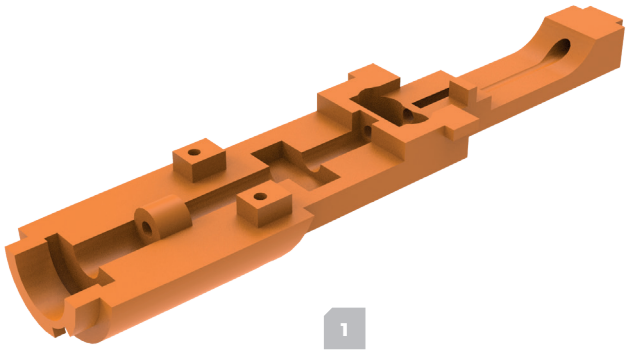
3Dsimo KIT consists of those parts:



# BUILDING THE 3DSIMO KIT

## 01

Find this part [Pic. 1.].

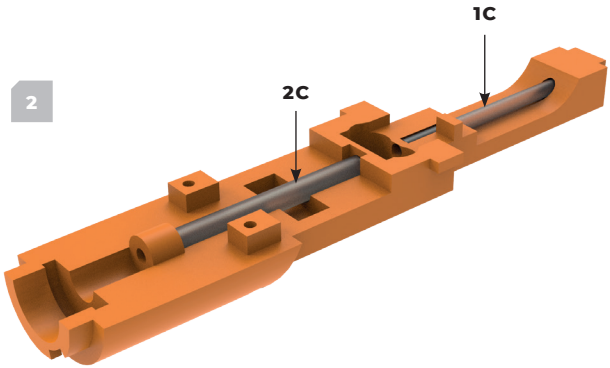


1

# 02

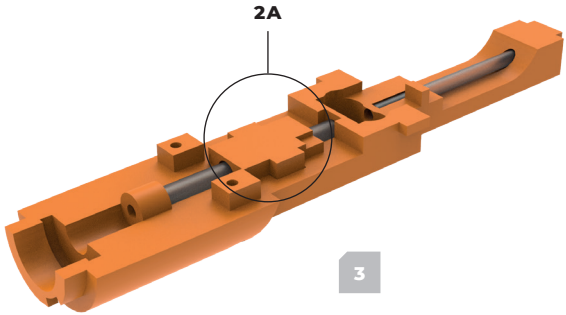
Insert Teflon tubes. First, tube with diameter 3 mm (1C) insert into the back of the part [Pic. 1]. This tube guides the filament to the extruder (motor with gear). Insert tube (2C, 4 mm diameter) into the frontal part.

2



# 03

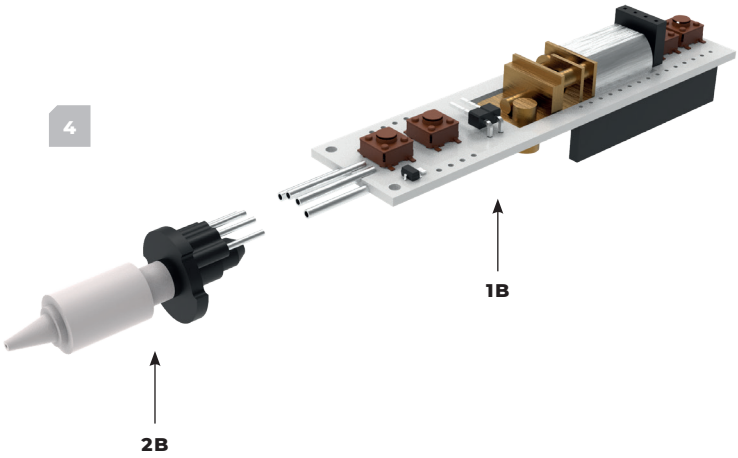
Find part (2A). Insert part (2A) [Pic. 3]. This part holds the Teflon tube in place. Test the placement of the tubes by pushing filament through both tubes. Make sure the filament goes through freely. If not, the filament needs to be straightened and tubes adjusted.




3

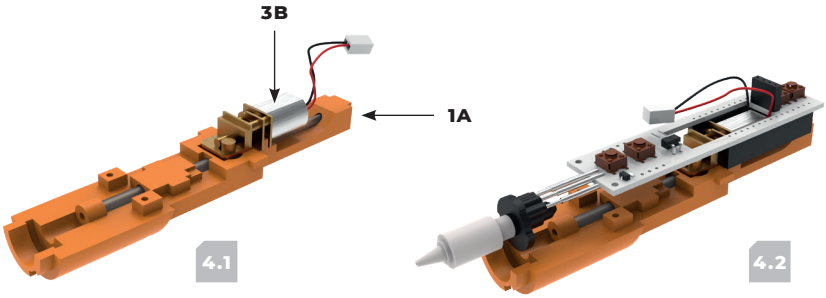
# 04

Find the main circuit board (1B) and the nozzle (2B). Insert the 4 metal tubes (nozzle) inside the 4 metal tubes (circuit board) [Pic. 4]. Find the motor (3B) and connect it to connector (P1).



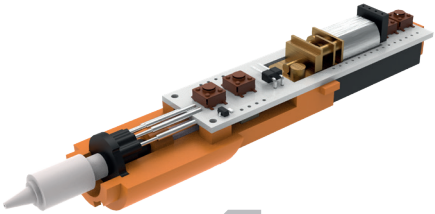
# 05

Insert the motor (3B) to the chassis (part from first step), [Pic. 4.1], it is necessary to place the motor into the chassis properly. Lead the motor cables through the big opening in the circuit board [Pic. 4.2] and place the circuit board onto the chassis [Pic. 5]. Connect the motor to the circuit board (P1).



# 06

Attach the front cover (3A) to the bottom part (1A) using 2 bolts and 2 nuts. First insert nuts, secondly insert bolts. Tighten the bolts while holding the device upside down, so the nut doesn't fall out. Tighten the bolts carefully, finger tight is enough.



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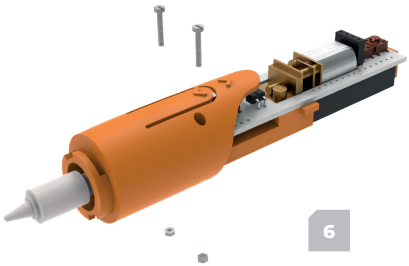
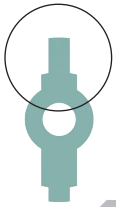


6

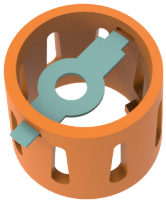
# 07

Insert fiberglass part (3C) into nozzle cover (4A). Fiberglass part has one side narrower [Pic. 7.1].

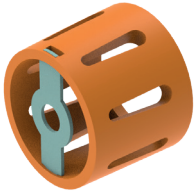
Insert the narrow part into the nozzle cover's slit first, all the way possible [Pic. 7.2], after that push the fiberglass part to the other slit. Make sure the fiberglass part is centred [Pic. 7].



7.1



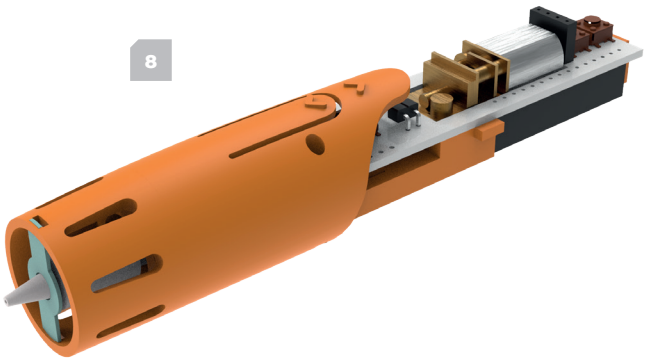
7.2



7

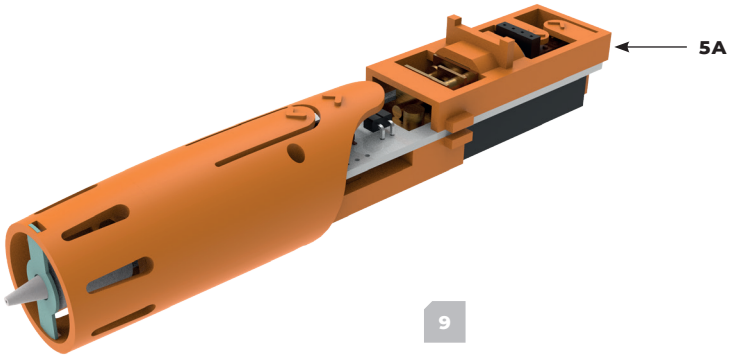
# 08

Mount the nozzle cover onto the assembly and turn (about 30°).
The nozzle cover is locked by bayonet lock.



# 09

Mount the part (5A), [Pic. 9]. Make sure the motor is held firmly in place. It is necessary to position the wires, so they do not obstruct the kit building.

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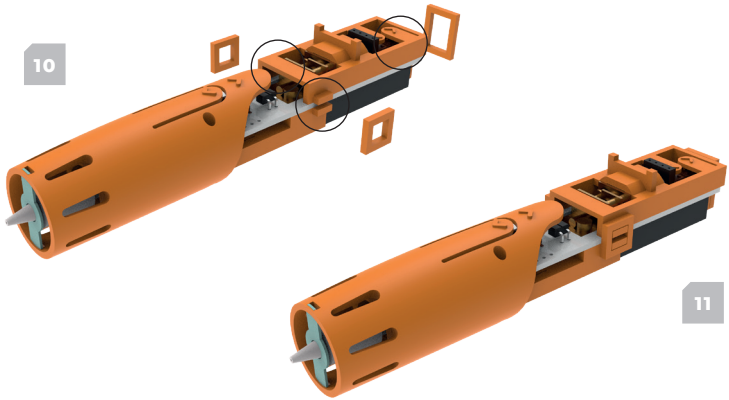
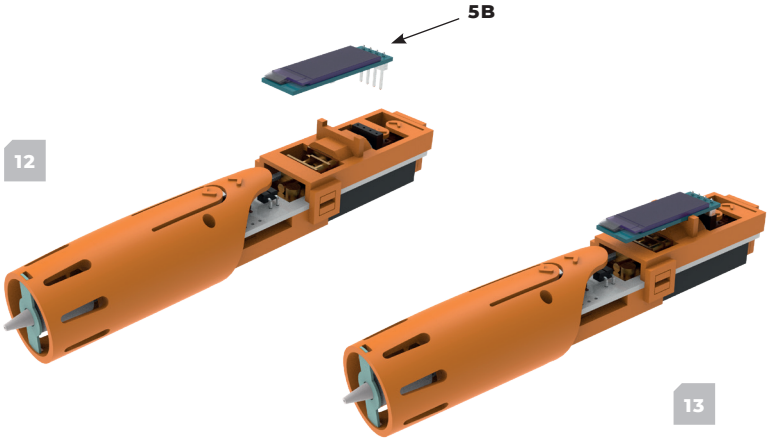
# 10

Using parts (6A) connect the top and bottom parts by simply pushing on [Pic. 10] and [Pic. 11].



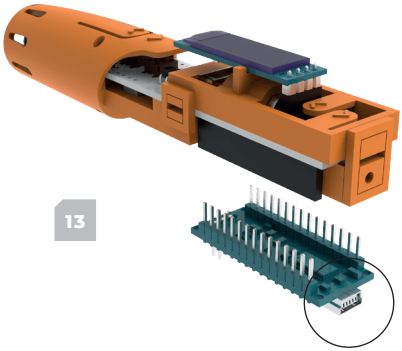
# 11

Insert the LCD display's (5B) 4 pin connectors into the circuit board and click the display in position [Pic. 12 and 13].



# 12

Connect the Arduino Nano. Be careful with positioning the Arduino Nano, notice the position of the USB connector [Pic. 13]. Arduino Nano has pre-installed basic configurations for correct function.



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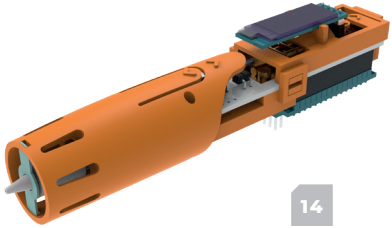

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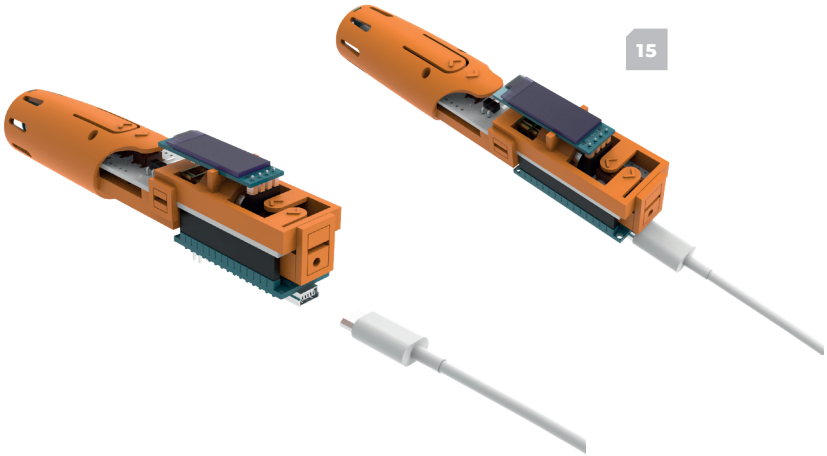
# FIRST START

## 01

Connect the cable (included in the package) to electricity (USB port on PC, power bank with 5V output or phone charger with 1.5A output minimum) and connect the cable to the 3Dsimo KIT. LCD display will turn on after few seconds, showing gradual heating of the nozzle, depending on chosen material heat profile. Material heat profiles can be changed using the buttons on the back of the 3Dsimo KIT [Pic. 15].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# 02

When the nozzle is heated up to a temperature, filament feeding motor will be activated. The motor is operated via front two buttons [Pic. 16]. Button closer to the nozzle feeds the filament forward, the other button pulls out the filament after one click. If the buttons work the other way, the motor is plugged the wrong way and you have to unplug the motor, turn around the connector and plug again.

# FILAMENT USAGE AND FILAMENT CHANGE

## 01

*Using the filament:*

Always use straightened filament without any deformations and with straight cut end. Push the filament into the opening on the back of 3Dsimo KIT, keep pushing as far as possible.

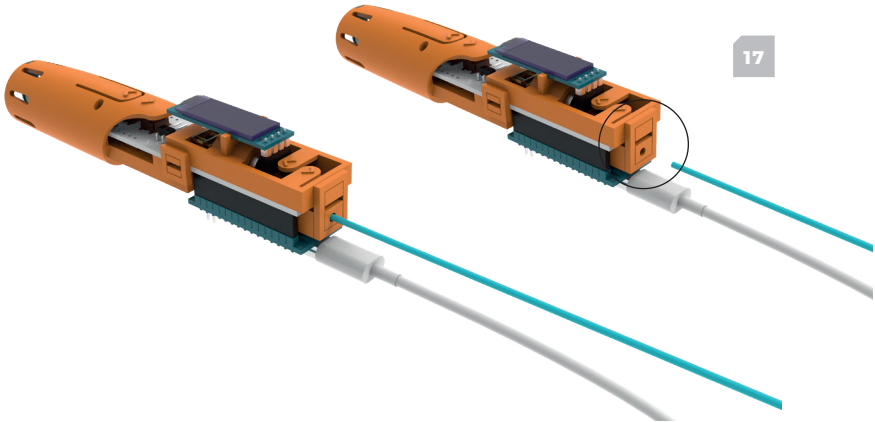
Push the front button and gently push the filament in, the feeding mechanism will do the rest. In about 10 seconds, the filament will start to come out of the 3Dsimo KIT.

# 02

*Changing/removing filament:*

Push the return button and lightly pull the filament out [Pic. 17].

**ALWAYS pull out filament after heating up the nozzle to working temperature!**



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## WARNING

1. Danger of burns. The nozzle heats up to 250 °C. Never touch the nozzle or plastic parts near it.

2. Avoid contact of the nozzle and flammable substances.

3. This product is NOT a toy, children must be supervised when using 3Dsimo KIT.

4. Never use this product without the fiberglass part, danger of damage to the nozzle.

5. 3Dsimo KIT must be stored in dry environment, any contact with fluids can damage 3Dsimo KIT.

6. Never use damaged power cable, danger of fire or/and electrocution.

7. Some parts of 3Dsimo KIT have exposed electric components, avoid contact with conductive surfaces.

## WARRANTY

Warranty applies only to individual components for duration of 12 months after purchase.

In case of warranty claim, contact our customer support:

**support@3dsimo.com**

For more information visit:

**www.3dsimo.com/kit**

Assemble

Program

Upgrade

Have Fun