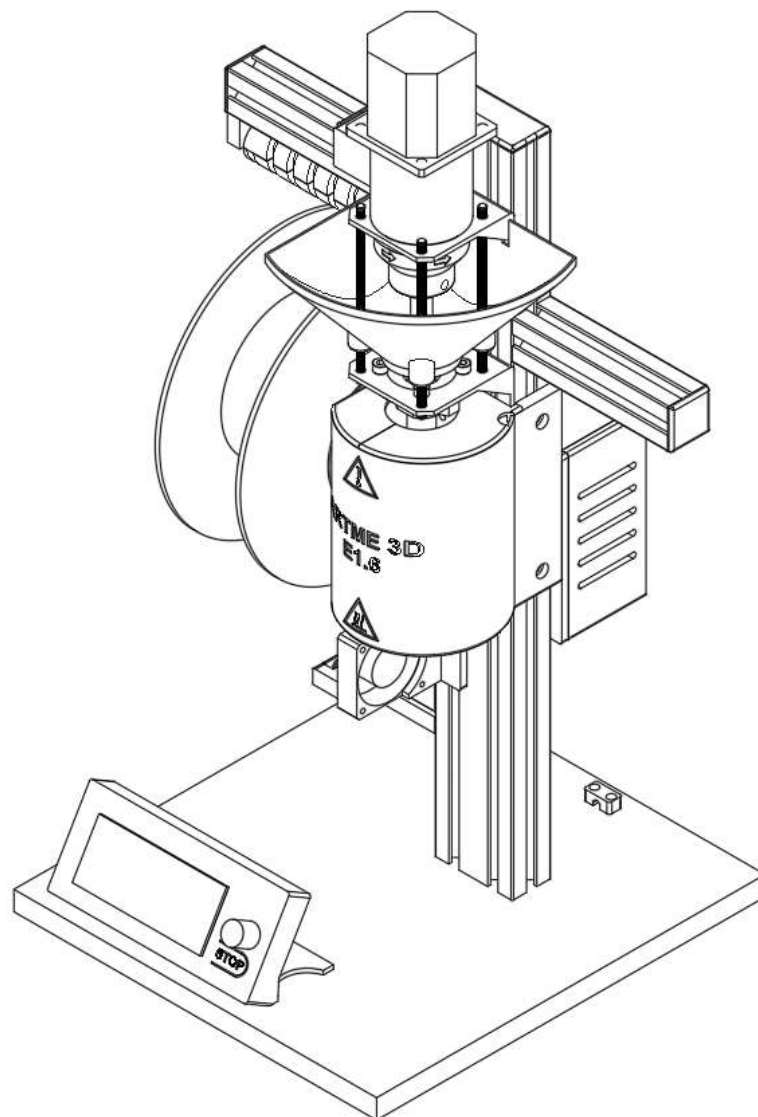# 07 Insulation assembly

Assembly instructions
Original Desktop Filament Extruder E1.7 by ARTME 3D
Version 28.02.2022

Required tools for this assembly section:
Rubber gloves
Dust mask

Overview packages
Package 0: Delivered carton
Package 1: Screws (SC)
Package 2: Spare Parts (SP)
Package 3: Custom Metal Parts (CM)
Package 4: Extruder Barrel (EB)
Package 5: Electronics (EL)
Package 6: Tools (TO)

The insulation protects you from burns on the hot parts. The insulation greatly reduces the energy consumption of the extruder and provides better heat distribution and better extrusion. Therefore, it is strongly recommended to install the insulation as described below.

It is recommended to make the print parts of the insulation in PETG. If you print the insulation parts in PLA and insert the rockwool properly, operation up to 190°C is possible. Beyond that, the cover may soften and possibly deform after prolonged operation.

Caution: The fibers of the rock wool may irritate the skin and cause itching. Use gloves or rubber gloves when handling. Avoid dust generation by working slowly. Use a dust mask.

Step 1:

3D print: 1x cover (IN01), 1x cover left (IN03), 1x cover right (IN04)

Remove from package 1: 2x hammer nut M4 (SC10), 2x cap head screw M4x12 (SC04)

Remove from package 0: 1x rock wool 135x230x40mm (IN02)

Step 2:

Tool: Torx key TX20

Remove the fan and set it aside (if already present). To do this, loosen the cap screw. Remove the sensor from the bracket and put it aside. (If already present)

Step 3:

Tool: Torx key TX20

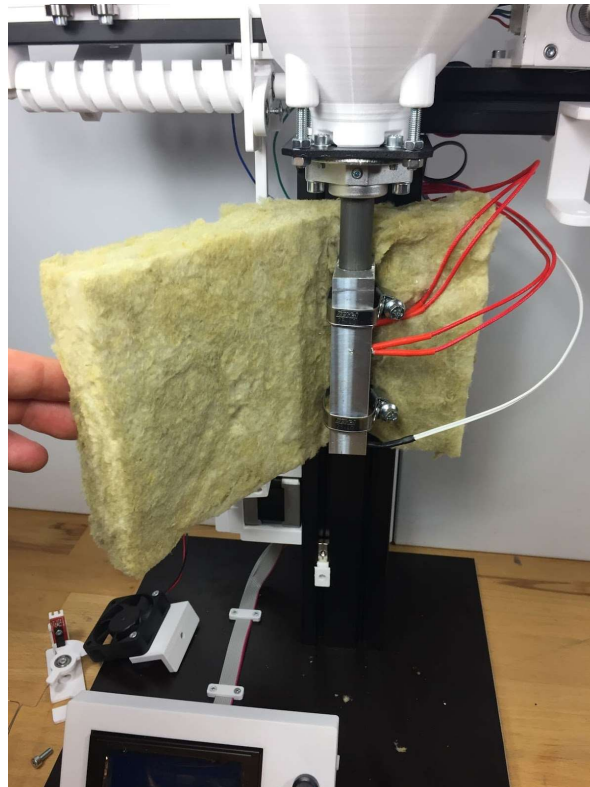Insert the cap screws through the mounting holes and turn the hammer nuts onto the screws.

Step 4:

Flatten the rock wool over the entire surface several times by hand. This makes it more pliable.
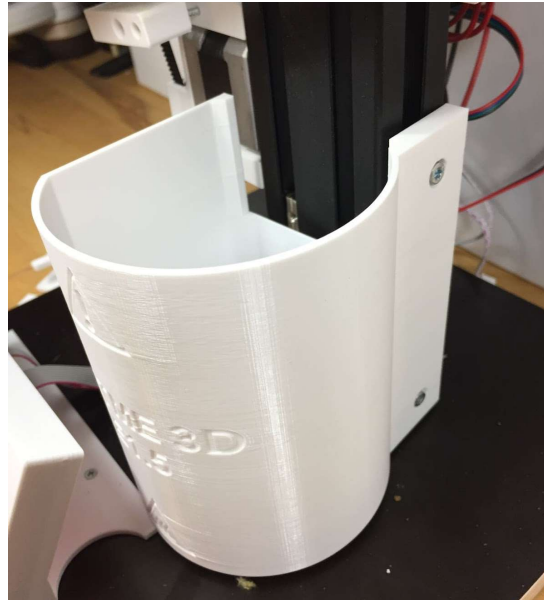

Step 5:

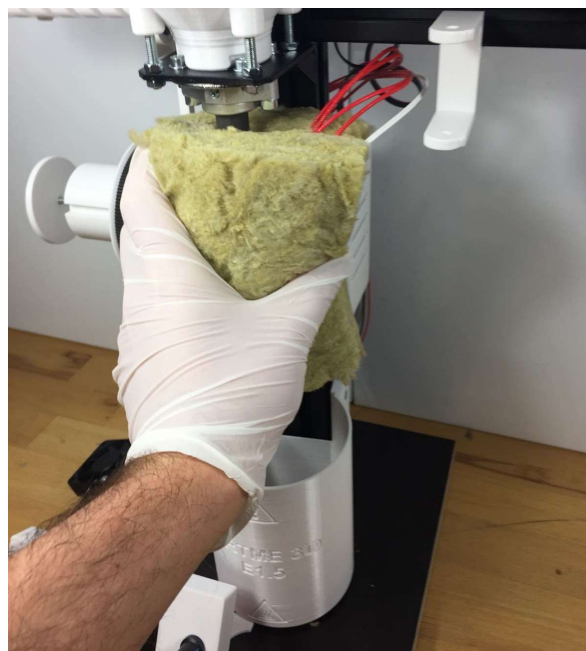Clamp rock wool behind the heating element. The long side is transverse.

Step 6:

Align the cover to the aluminum profile. Insert the hammer nuts into the side groove of the profile. (do not tighten yet

Step 7:

Carefully bend the rock wool around the heating element. Be careful not to break through the wool. The wires stick out to the side.

Step 8:

Push the cover over the rock wool from below. Press the wool together again and again with your hand.

Step 9:

Push the cover further up. Guide the lines between the rock wool and the cover upwards.

Step 10:

Make sure that the side of the mounting bracket fits into the groove provided for this purpose in the 3D printed part.

Step 11:

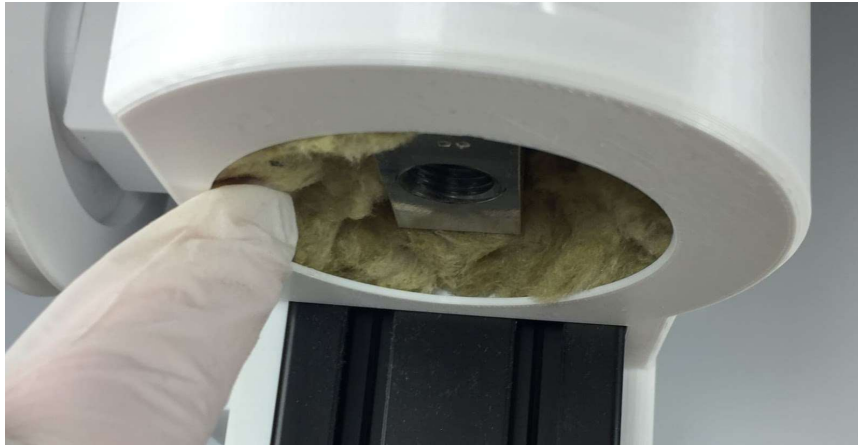Press the remaining rock wool into the cover. Push the lines to the rear.

Step 12:

The correct height is reached when the extruder tube is still a few millimeters from the lower edge of the cover. Distribute the wool around the heating element from below and push it into place.

Step 13:

Tool from package 6: Allen key size 3

Tighten the cap screws. (not too tight, otherwise the print part may break).

Step 14:

Place the two cover parts on the cover from the left and right. If the cover touches the shaft holder, loosen the screws on the side of the housing again if necessary and briefly push it a little deeper. Then push up again and fasten.
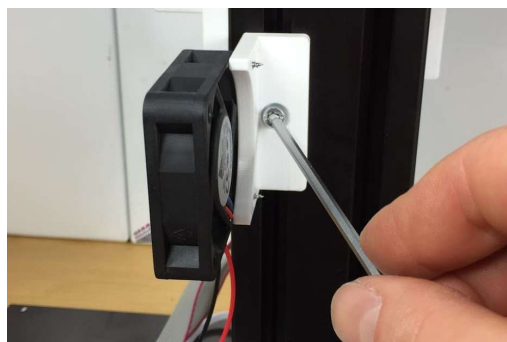

Step 15:

Tool from package 6: Allen key size 3

Reassemble the fan.

Done:

Now continue with assembly instructions "08-Sensor assembly".