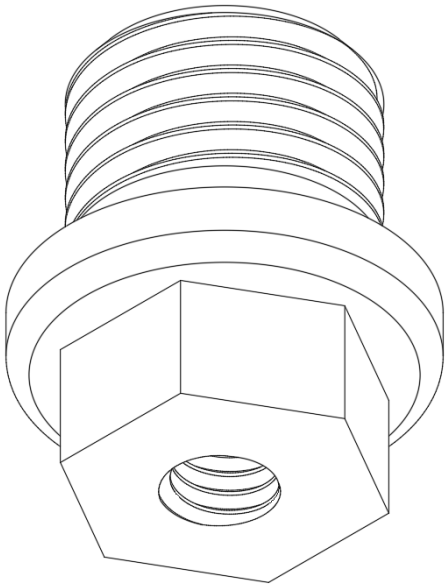
Assembly instructions
08 Nozzle with melt filter

Original Desktop Filament Extruder MK1 by ARTME 3D

Version 30.05.2022



Additional tools required for this assembly section:

Sturdy scissors or side cutters
Marking pen
Phillips screwdriver PH1
Hammer

Packages overview

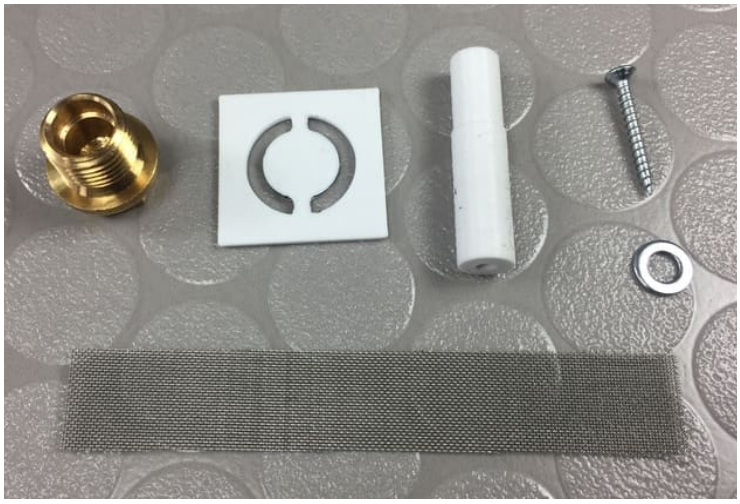
Package 0: Delivered carton
Package 1: Screws (SC)
Package 2: Spare Parts (SP)
Package 3: Custom Metal Parts (CM)
Package 4: Extruder Barrel (EB)
Package 5: Electronics (EL)
Package 6: Tools (TO)

Step 1:

3D printing: 1x melt filter punching tool (EB08), 1x melt filter drawing template (EB09),

Remove from package 1: 1x wood screw 3x25 (SC02), 1x washer M5 (SC13)

Remove from package 4: 1x nozzle with M6 thread (EB03.0), 1x melt filter (EB04)



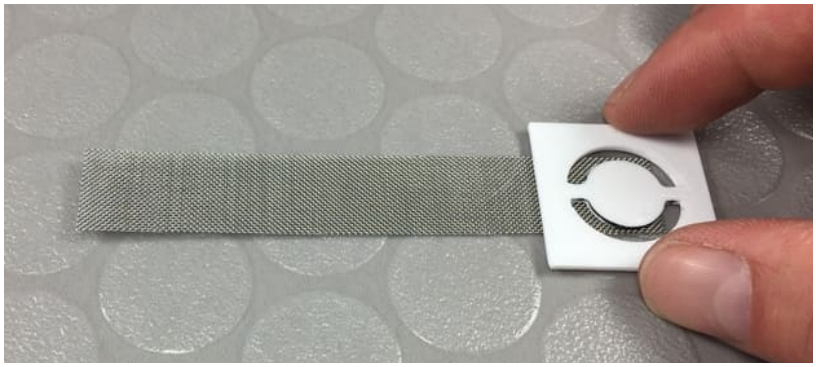
Step 2:

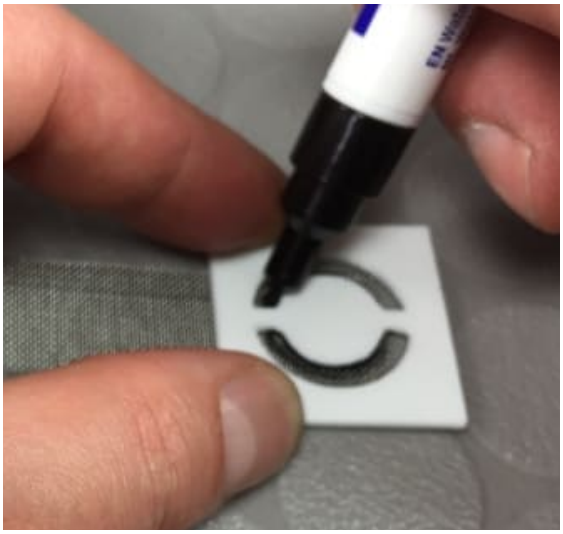
Tool: Phillips screwdriver PH1

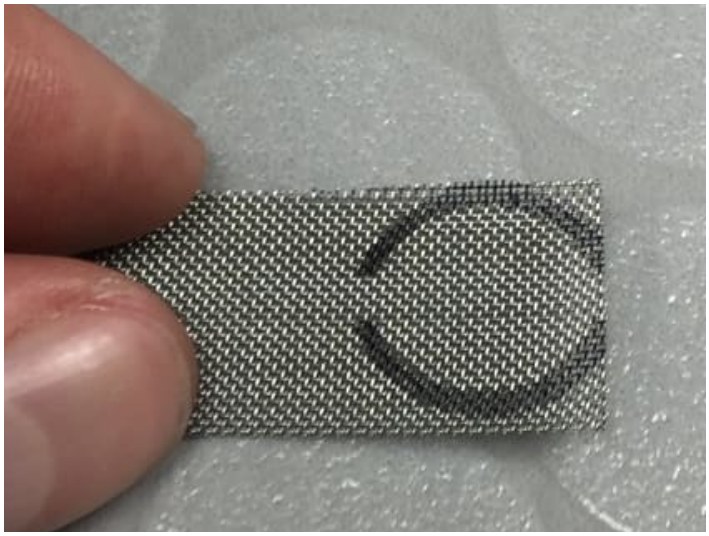
Place the washer on the face with the small hole of the punching tool (EB08). The washer has two sides. One side has rounded edges, the other side has sharp edges. Make sure that the sharp-edged side of the washer is facing up. Then screw the wood screw into the hole and fasten the washer.

Step 3:

Place the drawing template (EB09) on the wire mesh for the melt filter and outline the inner circle with a marking pen.



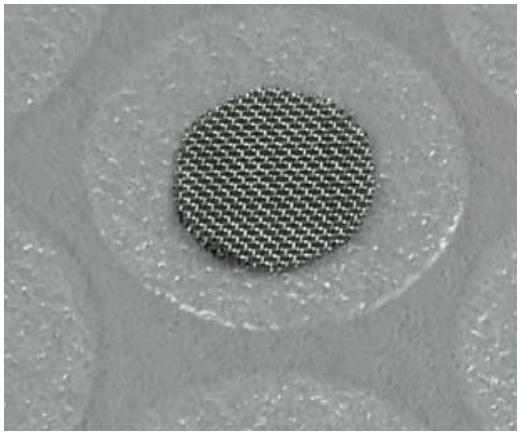




Step 4:

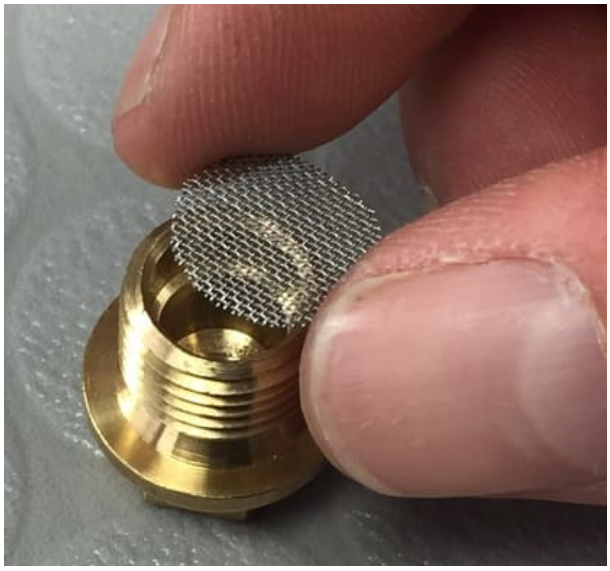
Tool: scissors or side cutter

Cut out the drawn circle. Side cutters or sturdy scissors can be used for this purpose. (Caution the scissors may wear out early in the process.) Cut out the circle so that the drawn mark is cut off as much as possible. This creates a circle with a diameter of 14mm.



Step 5:

Place the cut-out, round melt filter centered on the bore of the nozzle.

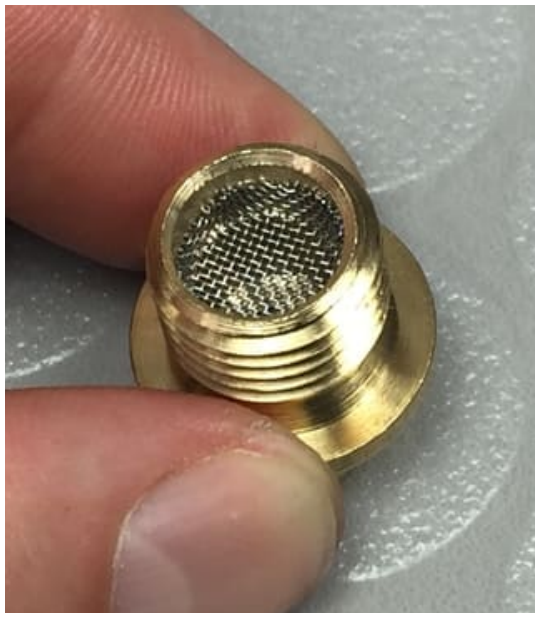



Step 6:

Tool: Hammer
Place the punching tool on the melt filter. Make sure that the punching tool is aligned and centered as shown. Then press the melt filter into the hole of the die. You can use light hammer blows to do this.

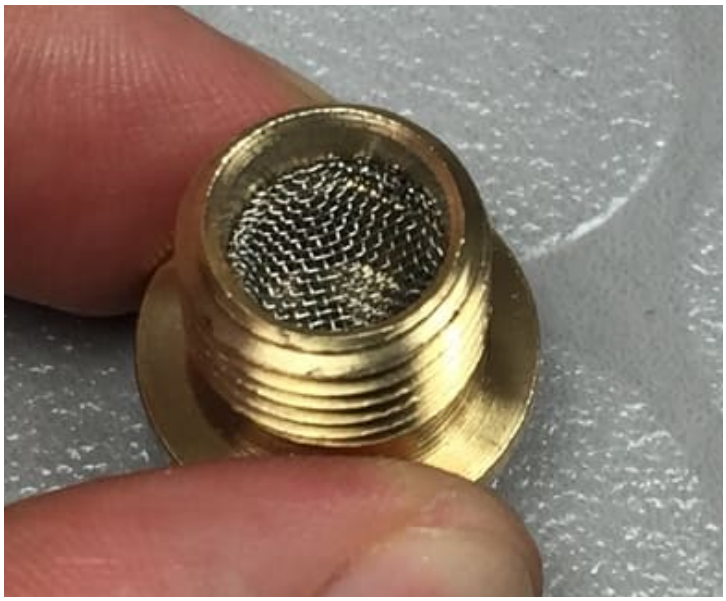

Step 7:

Then pull the punching tool out again. If the melt filter gets stuck on the punching tool, remove the filter and put it back into the hole of the nozzle. Check that the melt filter sits straight in the nozzle and has an even bent edge. See picture.

Step 8:

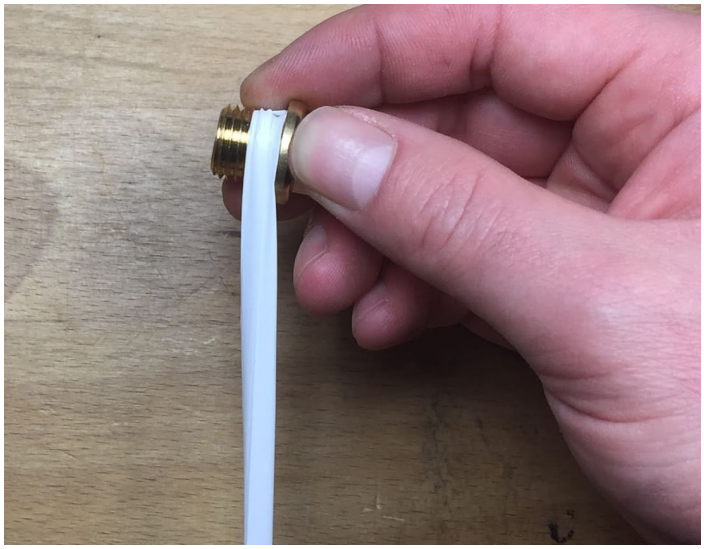
Then turn the punching tool around and insert it with the washer into the hole of the nozzle. If the washer does not fit in, it may have to be lightly sanded with sandpaper or a file until it is a perfect fit. Then, again with light hammer blows, press the punching tool into the nozzle. This will compress the edge of the melt filter. See picture next page. As a result, the melt filter can withstand more pressure without later being pressed into the tip of the nozzle by the plastic.

Step 9:

Remove from package 4: Teflon tape (EB05), 3D printer nozzle (EB03.1 or EB03.2).

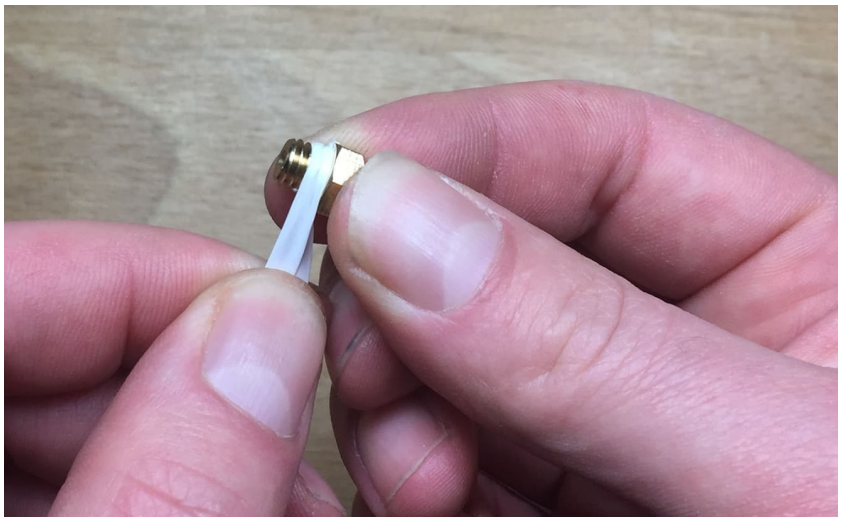
Align the nozzle as shown in the picture and place the Teflon tape on the thread. Hold it with a finger until you have made the first wraps, then the tape will hold itself. It is enough if you seal the lower part of the thread. If the Teflon tape seems too wide, just pull it a little bit in length or fold it, then it will be narrower. After 5 to 7 turns, you can tear off the Teflon tape and press it on.



Step 10:

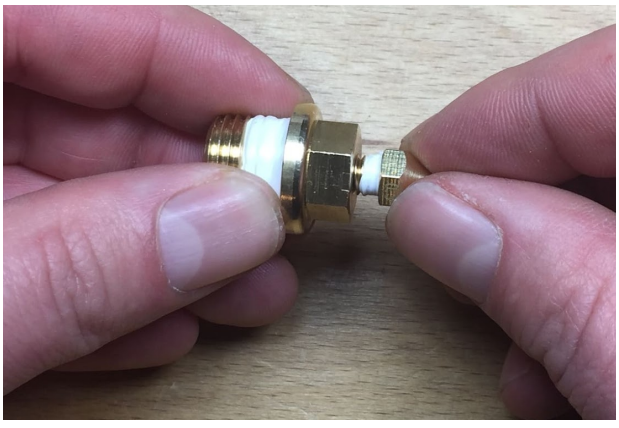
Remove from package 4: 3D printer nozzle (EB03.1 or EB03.2), Teflon tape (EB05),

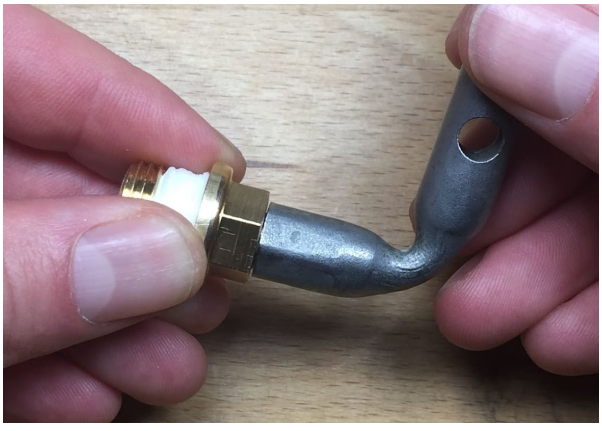
Select the appropriate nozzle (EB03.1 with 1.7mm hole for PLA and PETG. EB03.2 with 1.5mm hole for ABS).
The small nozzle can also be sealed in the same way as in step 9. The small nozzle is a standard V6 (E3D style) 3D printer nozzle, which can be purchased cheaply on the Internet and drilled out.



Step 11:

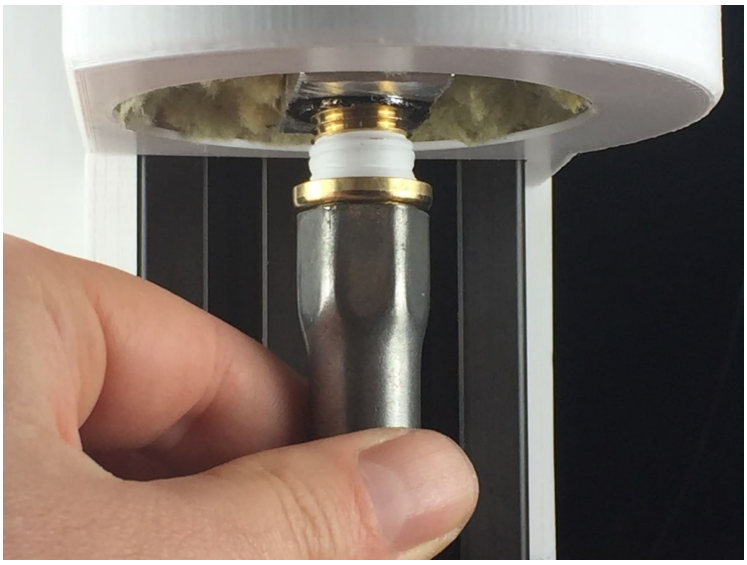
Now screw both nozzles into each other. do not tighten the small nozzle too much, otherwise it may break off.





Step 12:

The nozzle is now screwed into the extruder tube. The tube should be hot so that residual plastic in the thread of the tube is soft. The easiest way to screw in the nozzle is to use a 17mm socket wrench (TO03).



Done:

Congratulations! The assembly of the original desktop filament extruder MK1 is now complete. **Before you start up the extruder, please be sure to read the operating instructions!**