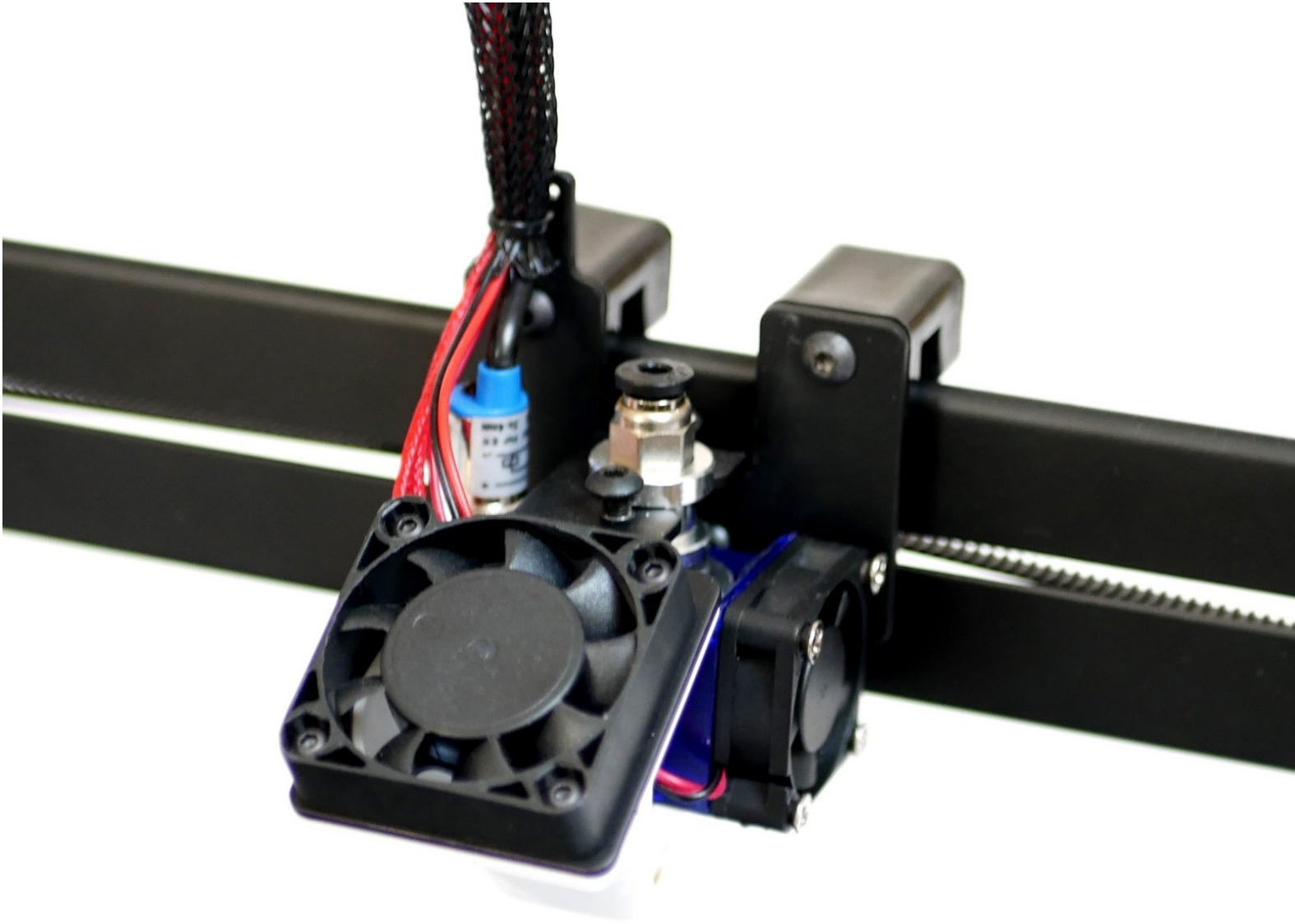


# Makertech

## Stage 05: Print Head

Steps for building the print head on the Axis.

Written By: Makertech






## TOOLS:

- [Allen Keys \(Included\)](#) (1)
- [Pliers](#) (1)
- [Scissors](#) (1)
- [Lighter](#) (1)

## Step 1 — Print Head Bolts

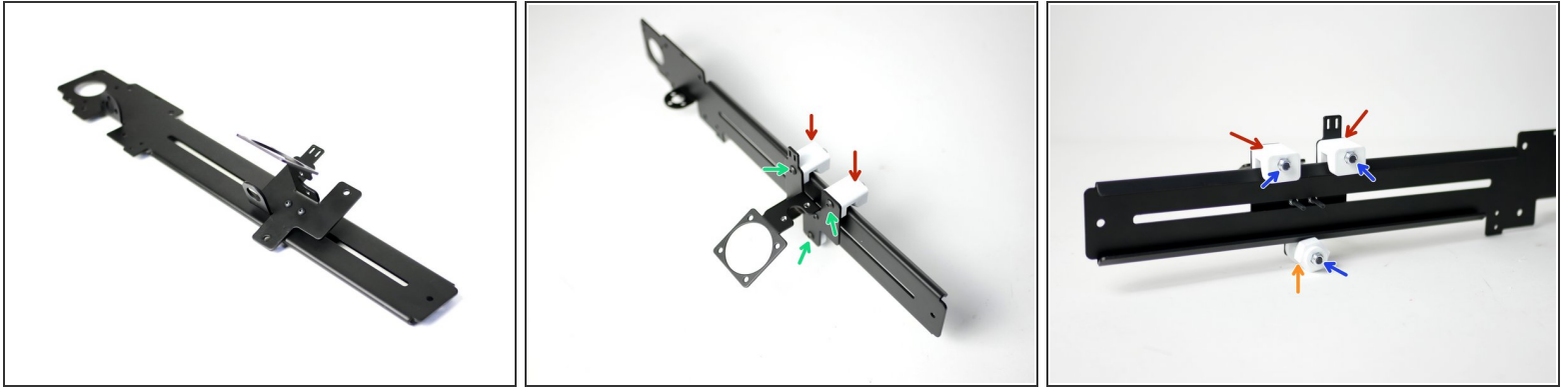



 Fasten onto the print head carriage two M3 x 20mm bolts.


- M3 x 20mm bolts

- M3 nyloc nut


## Step 2 — Carriage to Gantry




 Fix the carriage onto the gantry like shown.

 Slot the bolts of the carriage into the long slit on the gantry. Make sure to match the orientation as shown.

 Eccentric guide x1

 Fixed guide x2

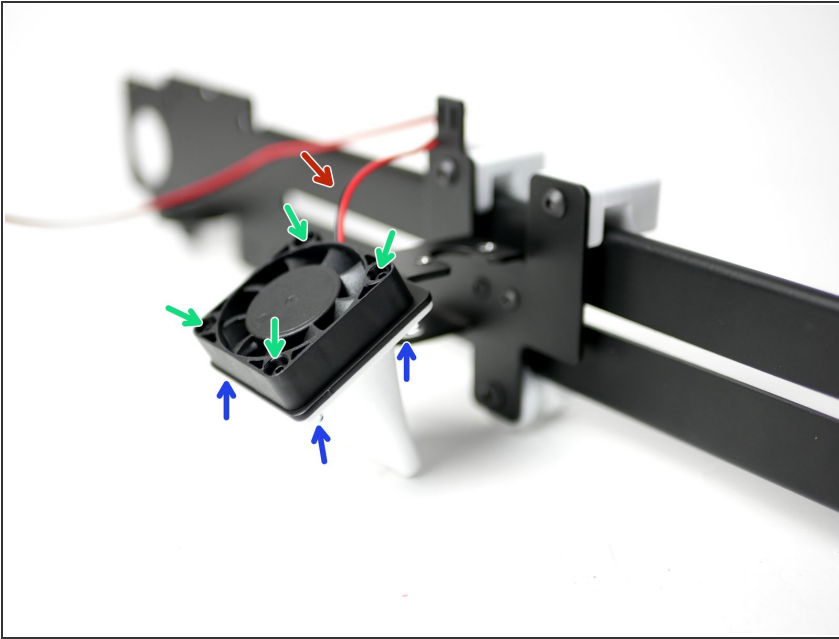
 M4 x 30mm bolt

 M4 nyloc nut

 Secure the fixed guides firmly.

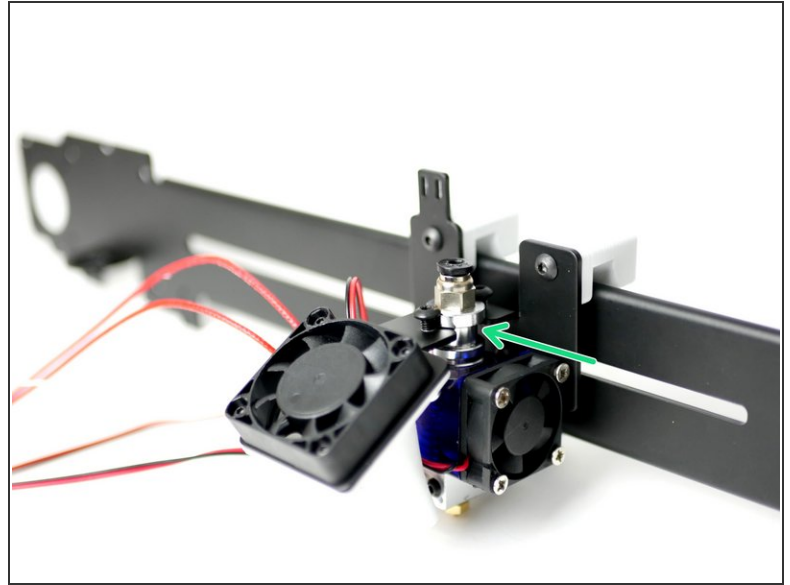
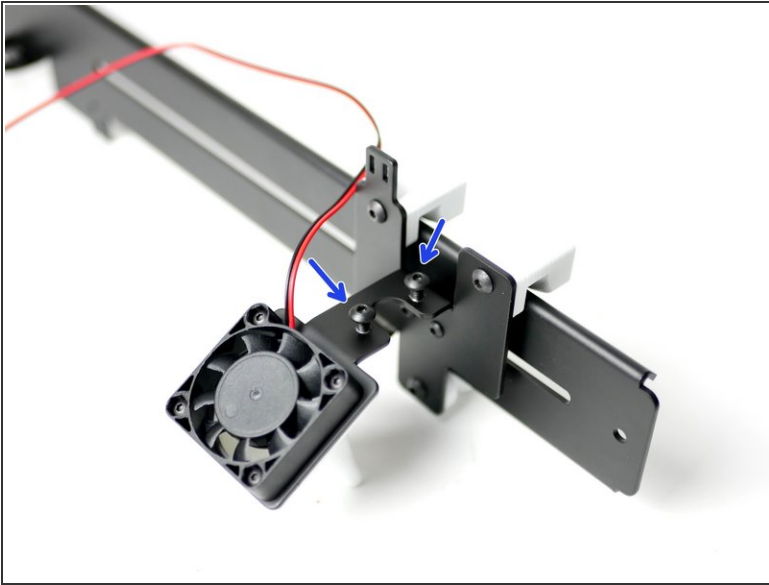
 You should still be able to turn the eccentric guide by hand.

## Step 3 — Print Fan



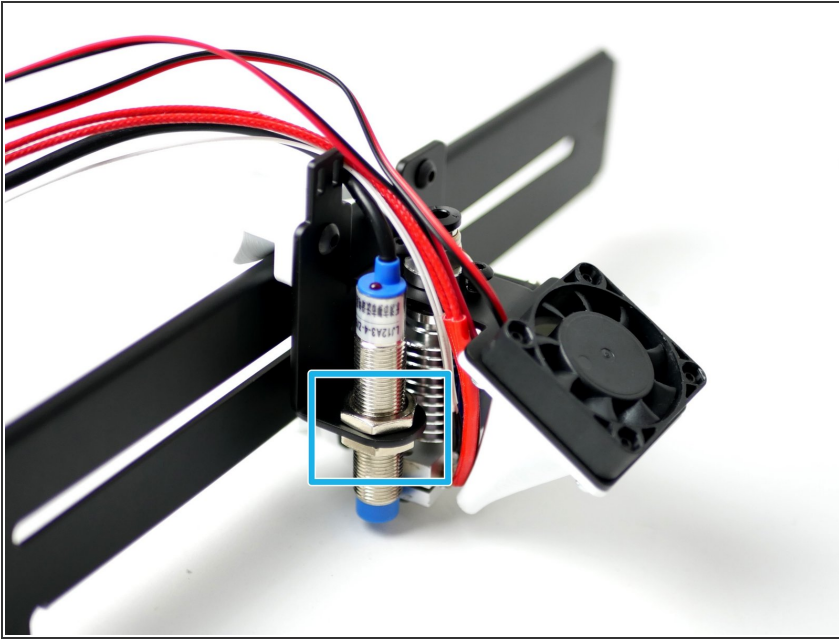
- ① Install onto the print carriage the 40mm fan (with 1m cable).
- Make sure the cable is off to the top left corner and that the fan is sticker side down.
- Four M3x16mm bolts
- Four M3 nyloc nuts
- ① The [fan shroud](#) is something that can be printed and installed later.

## Step 4 — Hotend



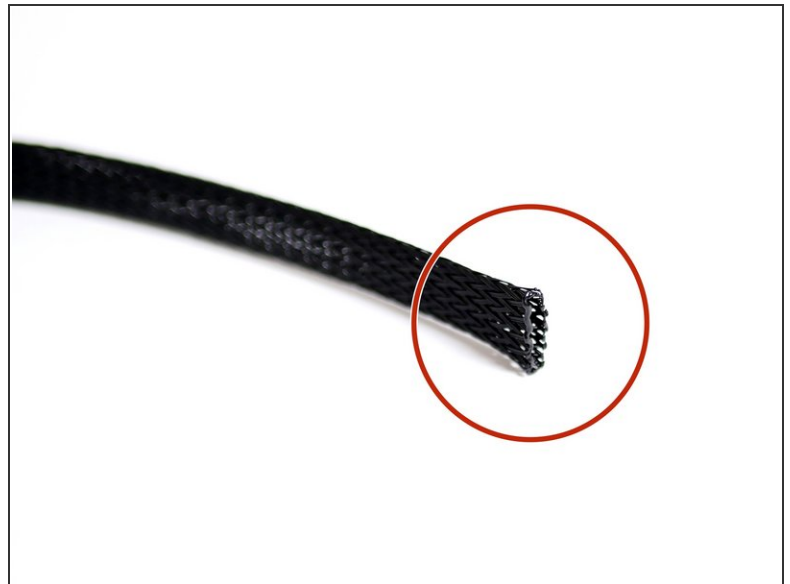
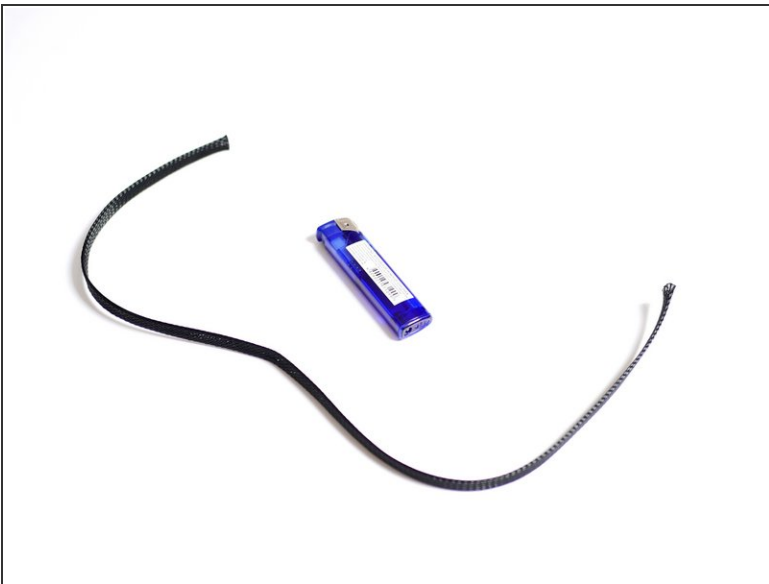
- ❗ Begin by threading on two M4 x 8mm bolts onto the top of the tool carriage.
  - Two M4 x 8mm bolts
  - Slide the Hotend onto the carriage like shown and tighten the M4 bolts down onto it, clamping it in place.
- ☑ As you tighten, the hotend may move, push the hotend into its slot to prevent as much of this as possible.
- ☑ Make sure that the hotend is orientated like shown, with the cables coming out in the direction of the 40mm fan.

## Step 5 — Levelling Probe



- Fix the levelling probe onto the back of the tool carriage to complete the print head.
- ☑ The bottom of the probe should be approx 1mm above the bottom of the hotend's nozzle.

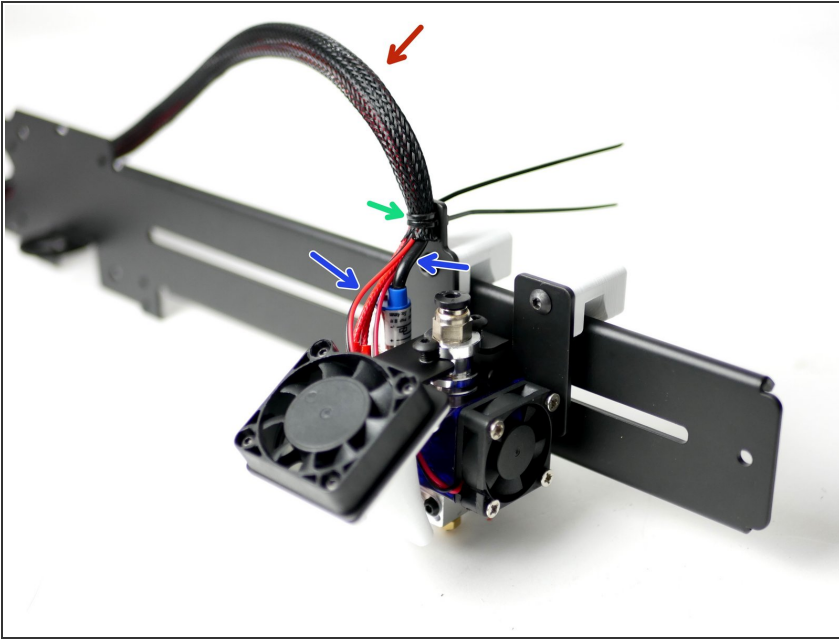
## Step 6 — Braided Cable Sleeving Prep.



- ① Cut 85CM of the braided cable sleeving.
- Melt the ends with a lighter to prevent fraying.

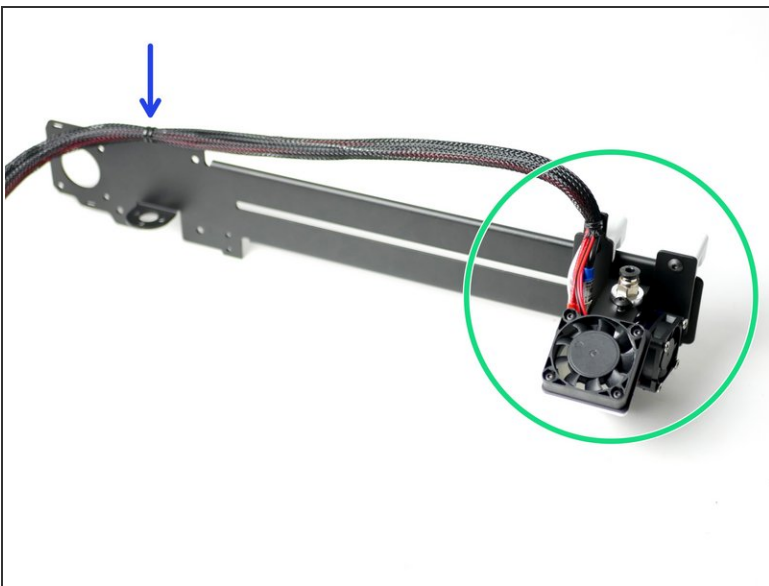


## Step 7 — Cable Tidying



- Slide the braided sleeving over the cables.
- Create some relief/slack in the cables.
- Tie the cables onto the carriage firmly with two cable ties.

## Step 8 — Cable Tidying cont.



- Push the print head out to the end of the gantry.
- Cable tie the cables to the gantry.