



## Wanhao D9



### Assembly and installation manual

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## Introduction

The Bondtech extruder for Wanhao D9 is developed by Bondtech, is the simplest way to increase the performance of your Wanhao D9 printer in a matter of minutes. This new revolution in design utilizes the proven **Bondtech Dual Drive Technology** with precision CNC-manufactured parts. This gives the market's best feeder performance and reliability. The upgrade allows you to prototype even faster and print with peace of mind.

## Compatibility

The upgrade is compatible with the following machines:

Wanhao D9

Monoprice D9

## What's in the box?

### Wanhao D9 Kit

1 x Bondtech Extruder complete with a lightweight and powerful Nema17 motor.

1 x Breakout board cover

## Mechanical Installation

### What you need

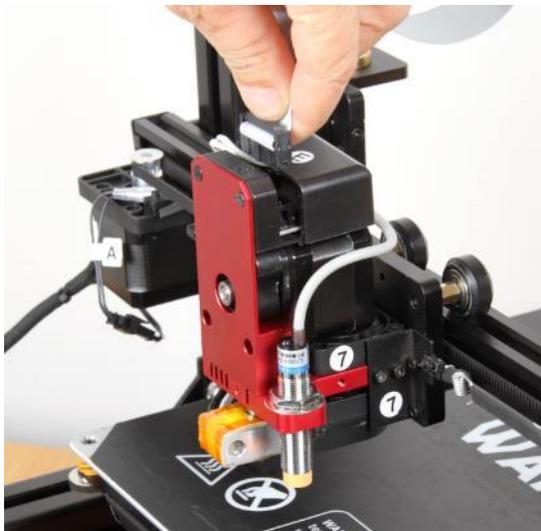
To install the upgrade, you are going to need:

-Hex wrench with size 2,5mm



- Start by unloading and remove the filament from your printer.

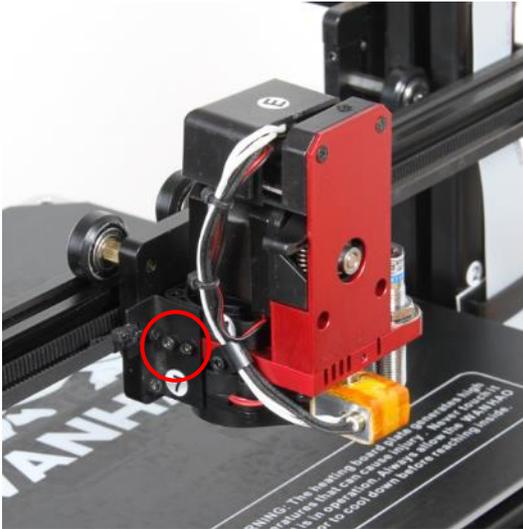
After the filament is removed, power off the printer.



- Start with disconnecting the flat cable to the printhead and put it out of the way



- Use a 3 mm hex wrench and loosen the two screws on the right side that hold the extruder assembly to the carriage.



- Use a 2,5 mm hex wrench and loosen the two screws on the left side that hold the extruder assembly to the carriage.



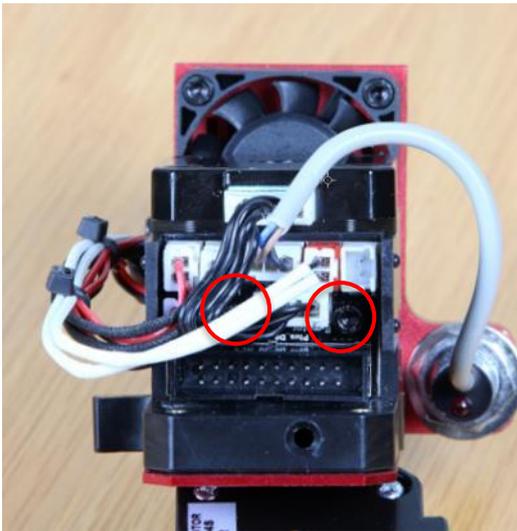
- Support the extruder when removing the screws so it will not fall to the printbed.



- Extruder assembly removed.



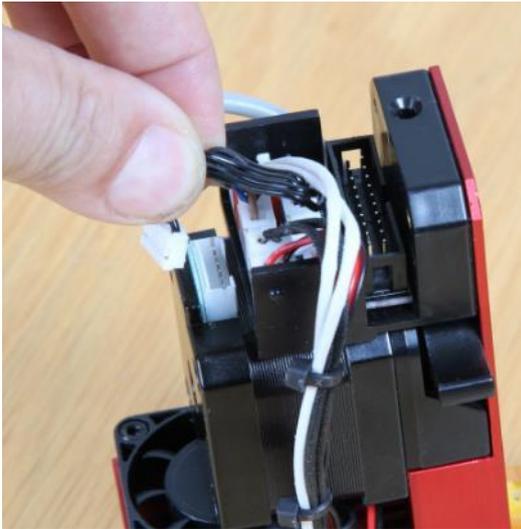
- Place the extruder assembly on a flat surface and remove the cover over the breakout board.



- Locate the two M3 screws that holds the board to the carrier.



- And remove the 2 screws using a 2,5mm hex wrench.



- Loosen the connector to the stepper motor carefully.



- Place the extruder assembly so you can reach the two M3 screws that holds the extruder to the bottom plate. Loosen the left screw using a 2,5mm hex wrench.



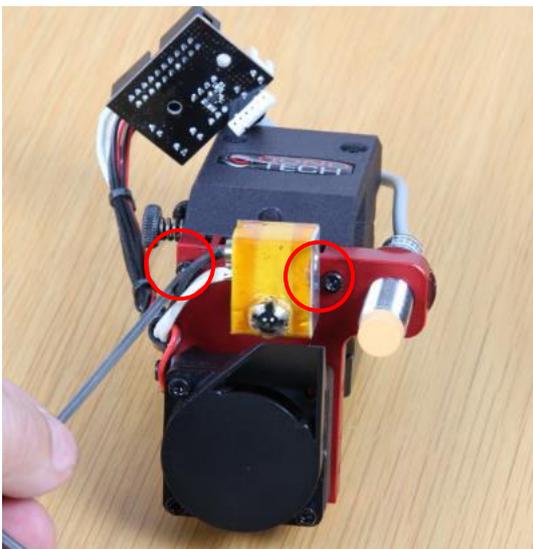
- Loosen the right screw using a 2,5mm hex wrench.



- Slide the extruder off the bottom plate and put it aside.



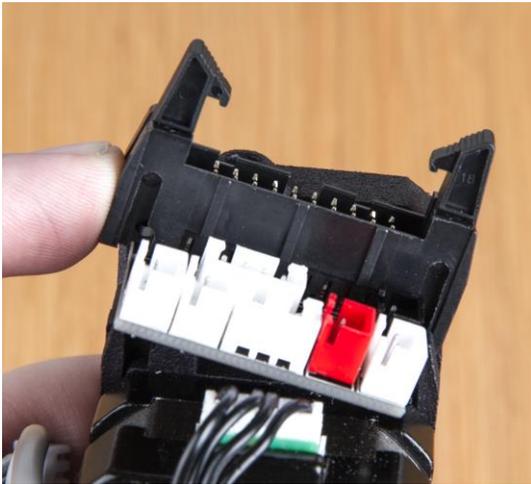
- Now it is time to assemble the Bondtech upgrade.



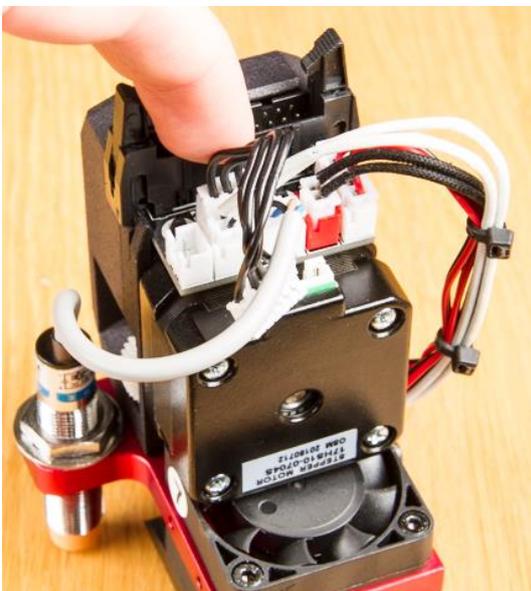
- Slide the extruder onto the bottom plate guiding the recess for the heat break so it fits over the heat break, align the two M3 bottom holes with the screws removed earlier and tighten them using a 2,5mm hex wrench.



- The breakout board is held into place by two protrusions that fits into the holes used for the screws and with two snap-fits that grabs the board, align the holes in the board with the protrusions.



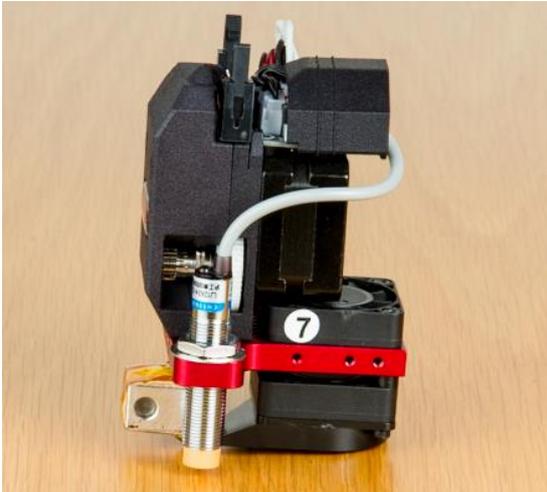
- Start by aligning the right side of the breakout board into the slot on the extruder body.



- And then press the board downwards until it clicks into place. Take it carefully and make sure it is in the correct position before it is pressed down.



- Connect the cable to the new stepper motor.



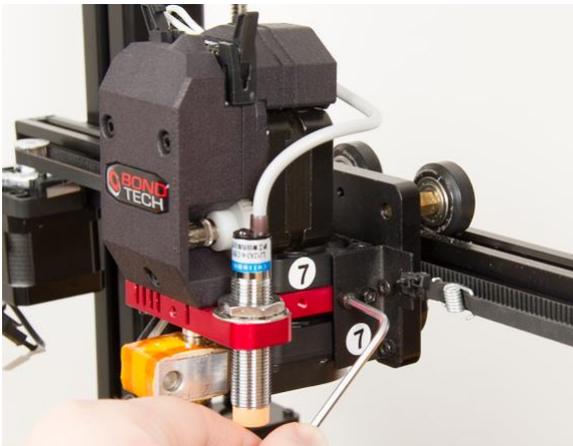
- Slide the cover over the board, make sure to arrange the cables so it fits into the cut-outs on the left side for the wires to the cooling fans and the hotend.



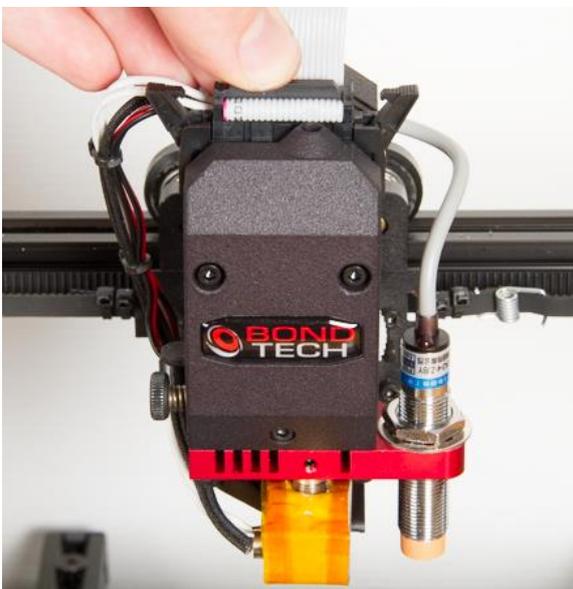
- And the cut-out for the inductive sensor on the rear side.



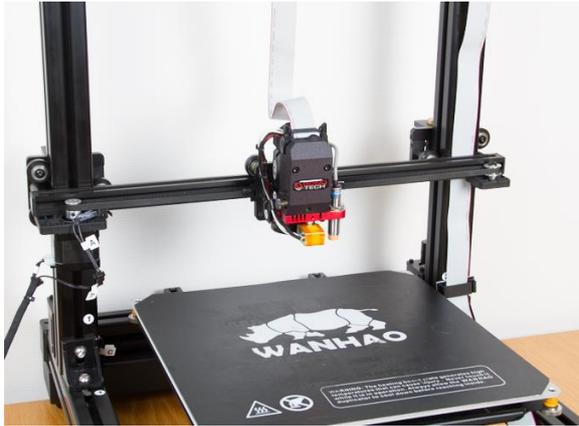
- (Optional) Secure the cover with a zip tie.



- Install the extruder assembly onto the print carriage using the screws removed earlier. Two screws on the right side and two screws on the left side, make sure to support the extruder so it is as parallel as possible to the print bed during tightening.



- Connect the flatcable to the
- breakout board.



- Congratulations! The mechanical installation is now complete.

## Software Configuration

### Updating the firmware

We recommend to use printer firmware v0.162 and the lcd firmware V0.161 as the factory firmware was not allowing setting the z-height after the bed probing was done. Also it uses a 16 point bedlevelling procedure for better results.

Download the firmware from this [link](#): (Wanhao page)

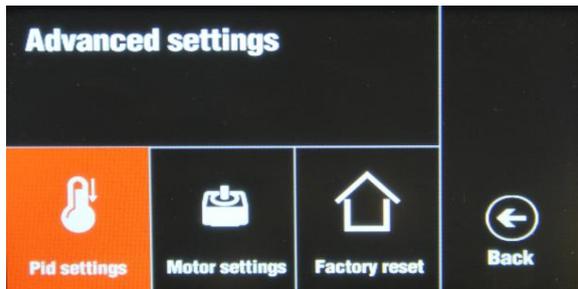
To update the firmware for the printer use Cura and transfer the new firmware, to update the firmware on the lcd you must place the files on an Micro SD card, open up the bottom side of the printer and insert the card into the lcd card reader. This [video](#) gives a good reference of how to do it, please not use the firmware mentioned above and not the one on the video as it don't work.

### Changing the E-step value

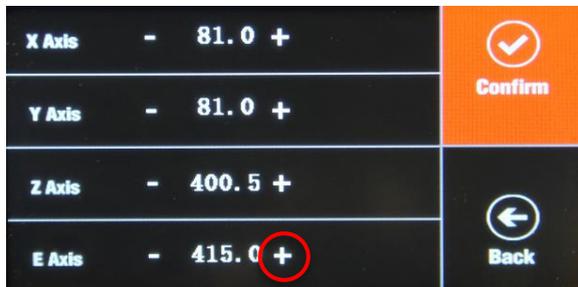
The E-step value tells the controller how many steps (micro steps) that needs to be sent to feed 1mm filament. The Wanhao D9 E-step value needs to be updated to achieve the correct extrusion volume. The reason for this is that the Bondtech extruder has a different drive gear diameter and a gearing ratio. The increased E step value means that the extruder will feed the material with higher precision and with a lot higher force. This guide will show how the E-step value can be adjusted directly on the printer.



- The E-step value can easily be changed on the touch panel home screen. Click on *Settings*.



- Click on *Motor settings*



- Press the + sign for E Axis until the value is changed to 415

Good luck with your Bondtech feeder!

If you have any questions, please first read the FAQ (<https://www.bondtech.se/en/customer-service/faq/>). If the question still hasn't been answered feel free to contact us by opening a ticket in our support system that you find [here](#)



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