

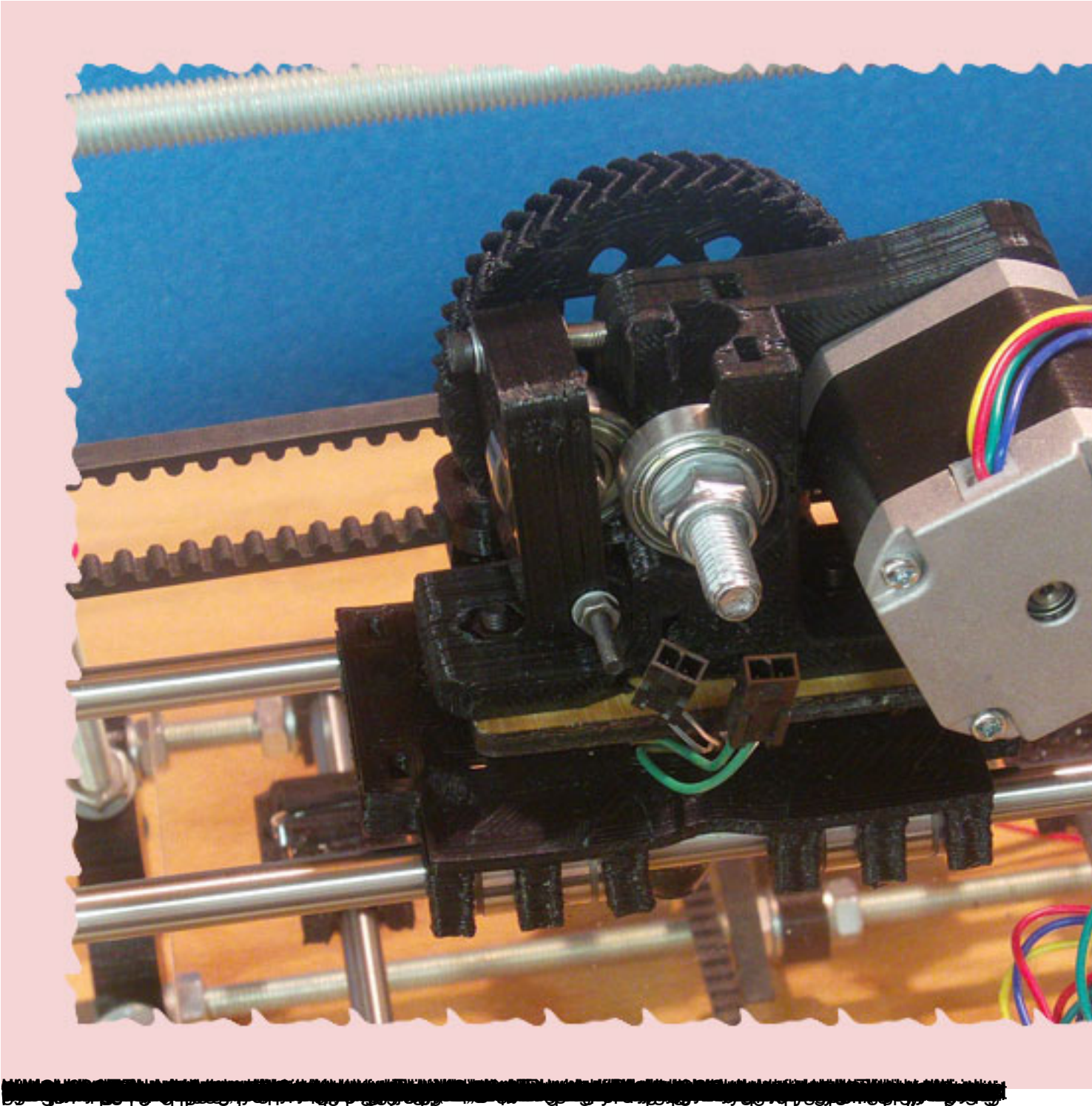
If you need to assemble the cold end of the extruder, you will need :

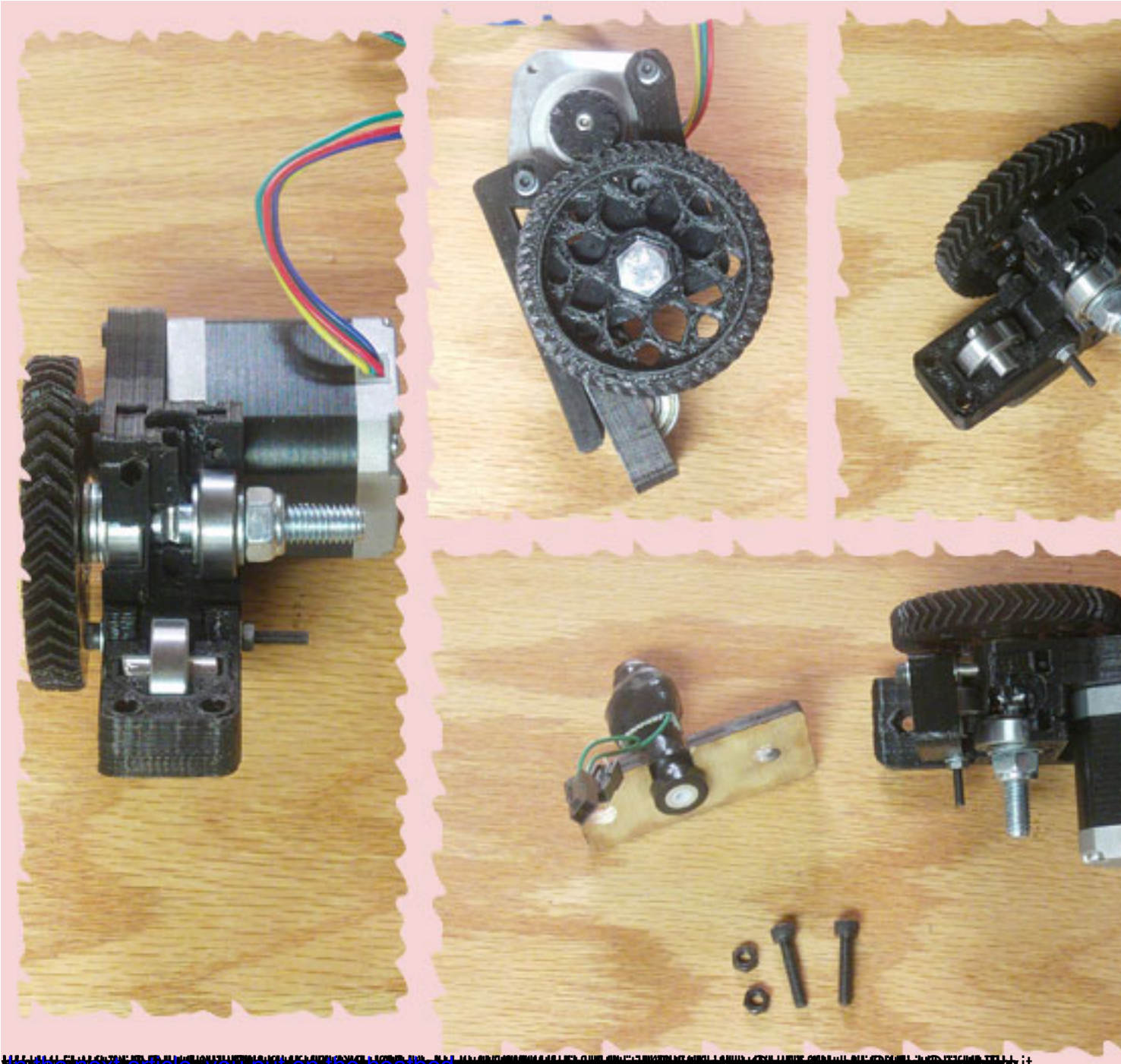
- 3x M3 Nuts
- 2x M4 Nuts
- 1x M8 Lock Nut with Nylon Insert
- 6x M3 Washers
- 2x M8 Washers
- 3x M3x10mm Cap Screws
- 2x M3x40mm Cap Screws
- 1x M3x8mm Grub Screw
- 2x M4x20mm Cap Screws
- 1x M8 Hobbed Bolt
- 1x 8mm Smooth Rod, 18mm Length
- 1x Small Spring
- 3x 608ZZ Skate Bearings
- 1x NEMA 17 Stepper Motor
- 1x Assembled MakerGear Hot End
- 1x Hot End Mounting Plate, Wood
- 1x Hot End Mounting Plate Circle, Wood
- 1x wades-small printed piece
- 1x wades-large printed piece
- 1x wades printed piece with idler

If your cold end of the extruder is already assembled, you will need:

- 2x M4 Nuts
- 2x M4x20mm Cap Screws
- 1x Assembled Cold End of the extruder
- 1x Assembled MakerGear Hot End
- 1x Hot End Mounting Plate, Wood
- 1x Hot End Mounting Plate Circle, Wood

In this part you will be assembling the extruder if you need to and putting it onto the x-carriage. You will need a 2.5mm allen wrench to tighten the M3 cap screws into the motor, a 1.5mm allen wrench to tighten the grub screw, a 3mm allen wrench to tighten the M4 cap screws, and a 13mm wrench to tighten the M8 lock nut. If your cold end is already assembled, you will only need a 3mm allen wrench for the M4 cap screws. This is what the x-carriage will look like with the extruder on:





[in the next article you'll get out on the road](#)