

# Bear X axis and Extruder

## Bill of Materials

### Hardware BOM For Prusa Printers

Check the spare parts bags from your Prusa, you might already have most of this list.

| Parts   | Quantity | Details   | Example Links                 |
|---|----------|---|-------------------------------|
| Original Prusa i3 MK2.5S or MK3s printer                      | 1        |   | <a href="#">Prusa</a>         |
| Dow el pin<br>diameter: 2.90-2.95mm<br>length: 15mm to 15.8mm | 1        |  Cut a M3 screw if you can't find one  |                               |
| M3x10mm socket head screw (ISO 4762)                          | 14       |   | <a href="#">McMaster-Carr</a> |
| M3x14mm socket head screw (ISO 4762)                          | 4        |  Use M3x16 button head (ISO 7380) for Sunon or Delta hotend fan  | <a href="#">McMaster-Carr</a> |
| M3x18mm socket head screw (ISO 4762)                          | 14       |   | <a href="#">McMaster-Carr</a> |
| M3x25mm socket head screw (ISO 4762)                          | 2        |   | <a href="#">McMaster-Carr</a> |
| M3x40mm socket head screw (ISO 4762)                          | 6        |   | <a href="#">McMaster-Carr</a> |
| M2x12mm socket head screw (ISO 4762)                          | 2        |  MK2.5 only  | <a href="#">McMaster-Carr</a> |
| M3 Hex nuts (DIN 934)   | 14       |   | <a href="#">McMaster-Carr</a> |
| M3 Hex nylock nuts (DIN 985)                                  | 4        |   | <a href="#">McMaster-Carr</a> |
| M3 Square nuts (DIN 562)                                      | 7        | 1.8mm thick and 5.5mm w ide   |                               |
| M3 Steel w asher (DIN 125), 0.5mm thick                       | 5        |   |                               |
| 50mm PTFE Tube <sup>1</sup>                                   | 1        | Same PTFE tube than in MK2S,<br>MK2.5 (non-S) and MK3 (non-S).<br><br> Check our guide: <a href="#">Trim PTFE Tube</a> |                               |
| Zip ties 2.5x100mm  | 6        |   |                               |

Note<sup>1</sup> : The printed parts include a PTFE cutter and the assembly w ill guide you on how to properly trim the PTFE tube. You can check our [Trim PTFE Tube](#) guide to ensure you have all the hardw are to do it.

### Additional BOM for scratch build

| Parts                                    | Quantity | Specifications                       | Example Links            |
|--|----------|--------------------------------------|--------------------------|
| Bondtech gears                           | 1        | 1.75mm/5.0mm<br>w ith its 20mm shaft | <a href="#">Bondtech</a> |
| X axis stepper LDO<br>42STH38-1004A100CM | 1        | <a href="#">Datasheet</a>            | <a href="#">Prusa</a>    |
|  |          |                                      |                          |

|  |   |  |                       |
|--|---|--|-----------------------|
| Extruder stepper LDO Cool Power 42STH40-1004ASR        | 1 | <a href="#">Datasheet</a>  |                       |
| Tr8x8 (P2x4) Nuts                                      | 1 | <a href="#">Datasheet</a>  | <a href="#">Prusa</a> |
| Hotend Fan   | 1 | 40x40x10 mm<br>5V with Tachometer (3 wires)<br>Check <a href="#">recommend fans</a>                              |                       |
| Filament sensor<br>with magnets, steel ball and cables | 1 | 1x IR Sensor: <a href="#">GitHub Prusa</a><br>1x Steel ball 7mm diameter<br>1x Magnet 20x6x2<br>1x Magnet 10x6x2 | <a href="#">Prusa</a> |
| 2GT 20T idler  | 1 | 3mm bore<br>smooth or toothed<br>Check this <a href="#">optional part for E3D idler</a>                          |                       |
| Spring   | 1 | 15mm length (relaxed)<br>inside diameter: 3.2mm<br>wire diameter: 0.8mm  | <a href="#">Prusa</a> |
| Smooth rods  | 2 | 8mm diameter H6<br>370mm long  | <a href="#">Prusa</a> |
| Gates LL-2GT RF belt                                   | 1 | 6mm width<br>880mm long  | <a href="#">Prusa</a> |

🔗 : You need to have ordered a Prusa printer and need to login on Prusa store to see the articles. You can probably find this hardware from our [official distributors](#)

## Printed Parts BOM

| Parts                   | Quantity |
|-------------------------|----------|
| cable_guide_back_a      | 1        |
| cable_guide_back_b      | 1        |
| extruder_body           | 1        |
| extruder_cover          | 1        |
| extruder_idler_bondtech | 1        |
| filament_sensor_cover   | 1        |
| hotend_collet_clip      | 1        |
| x_carriage              | 1        |
| x_carriage_back         | 1        |
| x_end_idler             | 1        |
| x_end_idler_idler_mount | 1        |
| x_end_motor             | 1        |