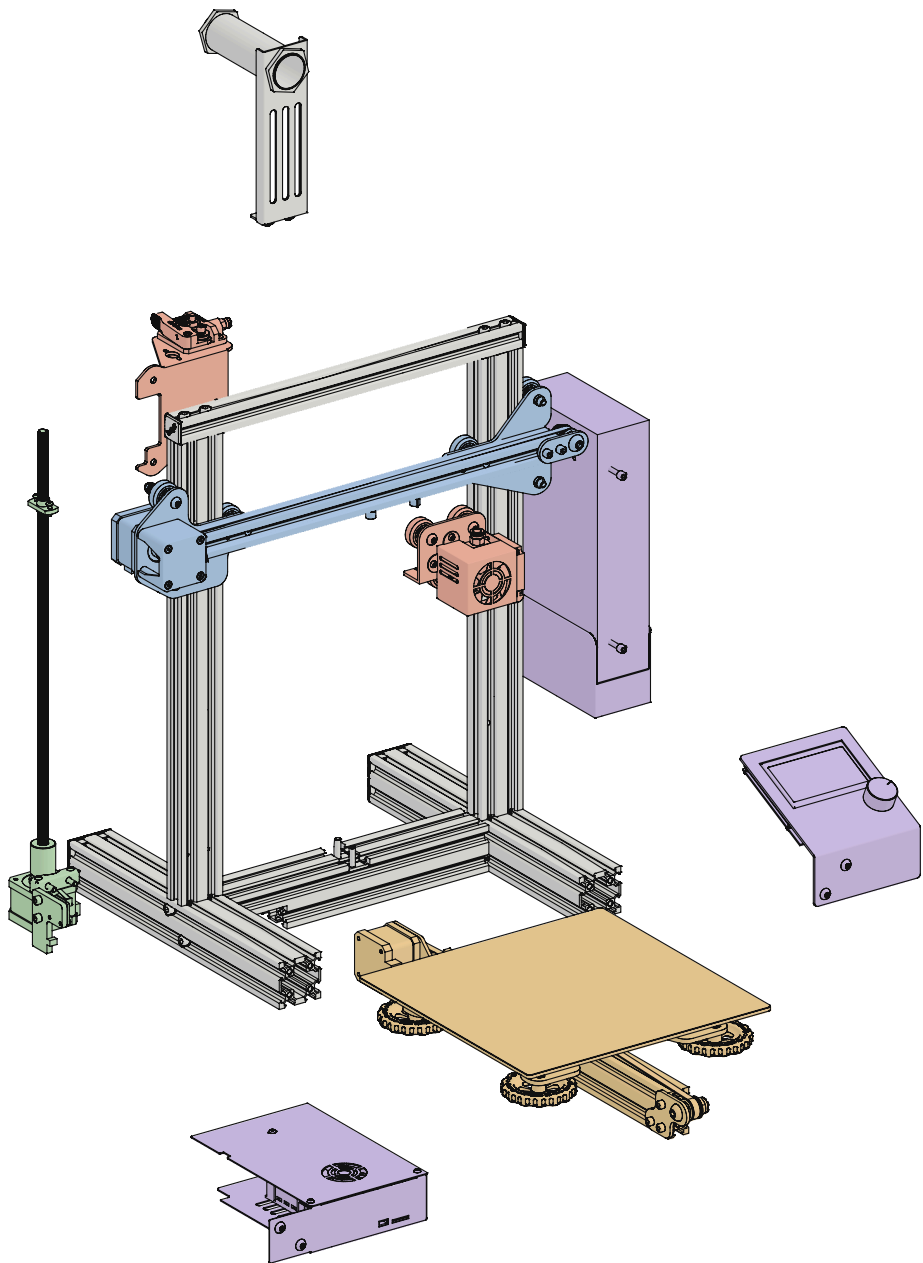


Illustrated spare parts catalogue

Creality Ender-3 desktop 3D printer (FFF)

Exploded views of all assembly groups with part numbers, quantities, specifications and recommended spare parts.



DOCUMENT
FA-E3-SPC-EN

REVISION
A · 2026-10-28

PRODUCT
Ender-3 (2018 design)

ISSUER
First Angle

Independent example prepared by First Angle from the open-source Ender-3 design published by Creality under GPL-3.0. Part numbers follow an example numbering scheme. Not issued by, affiliated with or endorsed by Creality.

Document identification

Field	Entry
Title	Illustrated spare parts catalogue, Creality Ender-3
Document number	FA-E3-SPC-EN
Revision and date	A, 2026-10-28
Language	English
Product	Creality Ender-3, desktop 3D printer, original 2018 design (CAD assembly exported 2018-08-17)
Product manufacturer	Shenzhen Creality 3D Technology Co., Ltd., Shenzhen, Guangdong, China ^{ASM}
Issuer of this document	First Angle, www.firstangle.ai , rihard@firstangle.ai
Status	Released as a public example of generated technical documentation. Not issued by the product manufacturer.
Related document	User and maintenance manual FA-E3-UMM-EN, revision A

Revision history

Rev.	Date	Description of change	Prepared by
A	2026-10-28	First issue. Exploded views generated from the Creality CAD assembly; part data from the Creality bill of materials and part drawings.	First Angle

Attribution and licence

Source design. The Ender-3 3D CAD model, bill of materials and part drawings used for this catalogue are published by Shenzhen Creality 3D Technology Co., Ltd. in the repository github.com/Creality3DPrinting/Ender-3 (commit 88c7758) under the GNU General Public License, version 3 (GPL-3.0). All exploded views are generated from that CAD model.

Independent example. First Angle prepared this catalogue as an independent example. It is not affiliated with, issued by or endorsed by Creality. Creality and Ender are names of their owner and are used only to identify the product.

Example part numbers. The part numbers E3-GG-NNN are an example numbering scheme defined by First Angle for this document. They are not Creality part numbers and cannot be used to order from Creality. The Creality BOM code is shown under each description for reference.

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1 How to use this catalogue

1.1 Structure

The printer is divided into six assembly groups (chapter 2). Each group has one or more sheets. A sheet consists of an exploded view and a parts table. The balloon numbers in the exploded view are the item numbers in the table of the same sheet. Items are numbered clockwise around each view.

Parts that the CAD model does not contain (cables, the PTFE tube, the bed thermistor and similar) are listed at the end of the last table of their group and marked *not illustrated*.

1.2 Part numbers (example scheme)

The part numbers in this catalogue are an example numbering scheme defined by First Angle. They are not part numbers of Creality.

Table 1-1 Structure of the example part numbers

Part number	Meaning
E3-GG-NNN	E3: product Ender-3. GG: assembly group in which the part first appears (10 to 60).
E3-GG-NNN	Sequence number in steps of 10 (010, 020, ...), leaving room for later parts.
E3-90-NNN	Standard parts used across groups: screws, nuts, washers, T-slot nuts, ball bearings.

A part that occurs in several groups (for example the V-wheel) has one part number. The part number index in chapter 10 lists every sheet in which a part is used.

1.3 Columns of the parts tables

Table 1-2 Columns

Column	Content
Item	Balloon number in the exploded view of the same sheet
Part number	Example part number (see above)
Description	Name of the part. Under it in grey: the code of the part in the Creality bill of materials (BOM). The few standard parts without a line of their own in the BOM show the Creality document that specifies them instead
Qty	Quantity on this sheet, counted in the CAD model
Specification / material	Size, rating or type, and material with surface treatment from the Creality part drawings
Spare	Spare part class: W wear part, R recommended spare, O other part (see below)

1.4 Recommended spare parts

Table 1-3 Spare part classes

Class	Meaning	Recommendation
W	Wear part. Wears in normal use and is replaced at intervals (nozzle, PTFE tube, belts, V-wheels, bed springs, thermistors, heater cartridge, drive gear, print surface)	Keep in stock

Class	Meaning	Recommendation
R	Recommended spare. Fails occasionally or is damaged easily; its failure stops the printer (motors, fans, limit switches, bearings, idler lever, push-in fittings)	Keep one set per printer or per site
O	Other part. Rarely needed	Order when needed

1.5 Ordering spare parts

When ordering, state:

- part number and description from this catalogue;
- quantity;
- model and serial number from the labels of the printer;
- document number and revision of this catalogue (FA-E3-SPC-EN, revision A).

1.6 Sources and notes

Exploded views and quantities come from the Creality CAD assembly^{CAD}; descriptions, specifications and codes from the Creality bill of materials^{BOM}; materials and surface treatments from the Creality part drawings^{DWG}. Positions and quantities follow the CAD model. Where the CAD model and the BOM or the Creality assembly instructions^{ASM} give a different size, the catalogue gives the size of the BOM or the instructions:

- The four screws of the top cross member are modelled as M5 × 45. Step 10 of the assembly instructions and the BOM give M5 × 25 with washer; the catalogue lists them as M5 × 25 (sheet 10).
- The idler axles are named "M8 × 25" in the CAD model; the modelled screw is 39 mm long overall, which matches the M8 × 35 of the BOM. The catalogue gives M8 × 35.
- The bed screws are modelled 30 mm long; the BOM gives M4 × 35. The catalogue gives M4 × 35.
- The BOM lines for the M4 × 18, M3 × 18 and M3 × 10 screws are named pan head screws but carry the same size code suffix (-P) as the countersunk bed screws. The CAD model shows countersunk screws, and the catalogue gives countersunk screws with these BOM codes.
- The CAD model represents each 40 × 40 end cap by four 20 × 20 caps; the catalogue lists one 40 × 40 end cap per rail end, as in the BOM.
- The CAD names of the two print head fans are swapped relative to their function. The catalogue describes each fan by its position and function.

2 Assembly groups

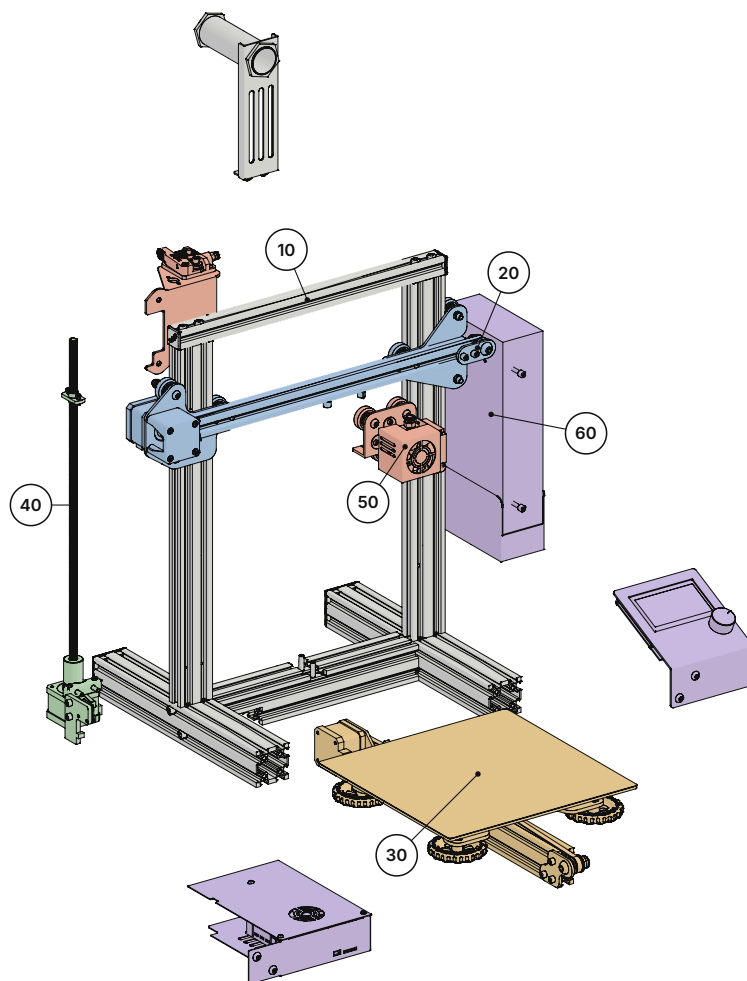


Figure 2-1 Assembly groups of the printer, shown separated. Group numbers as in the part numbers.

Table 2-1 Assembly groups and sheets

Group	Title	Sheets
10	Frame and spool holder	10 Frame and spool holder
20	X axis	20A X axis, left end, 20B X axis, right end, 20C X beam and belt
30	Y axis and heated bed	30A Heated bed and bed carriage, 30B Y motor and limit switch, 30C Y belt tensioner, 30D Y rail and belt
40	Z axis	40 Z axis drive
50	Extruder and hot end	50A Extruder, 50B Print head and hot end
60	Electronics and power supply	60A Electronics enclosure and display, 60B Power supply

3 Group 10: Frame and spool holder

Sheet 10 Frame and spool holder

Group 10 · 15 items illustrated

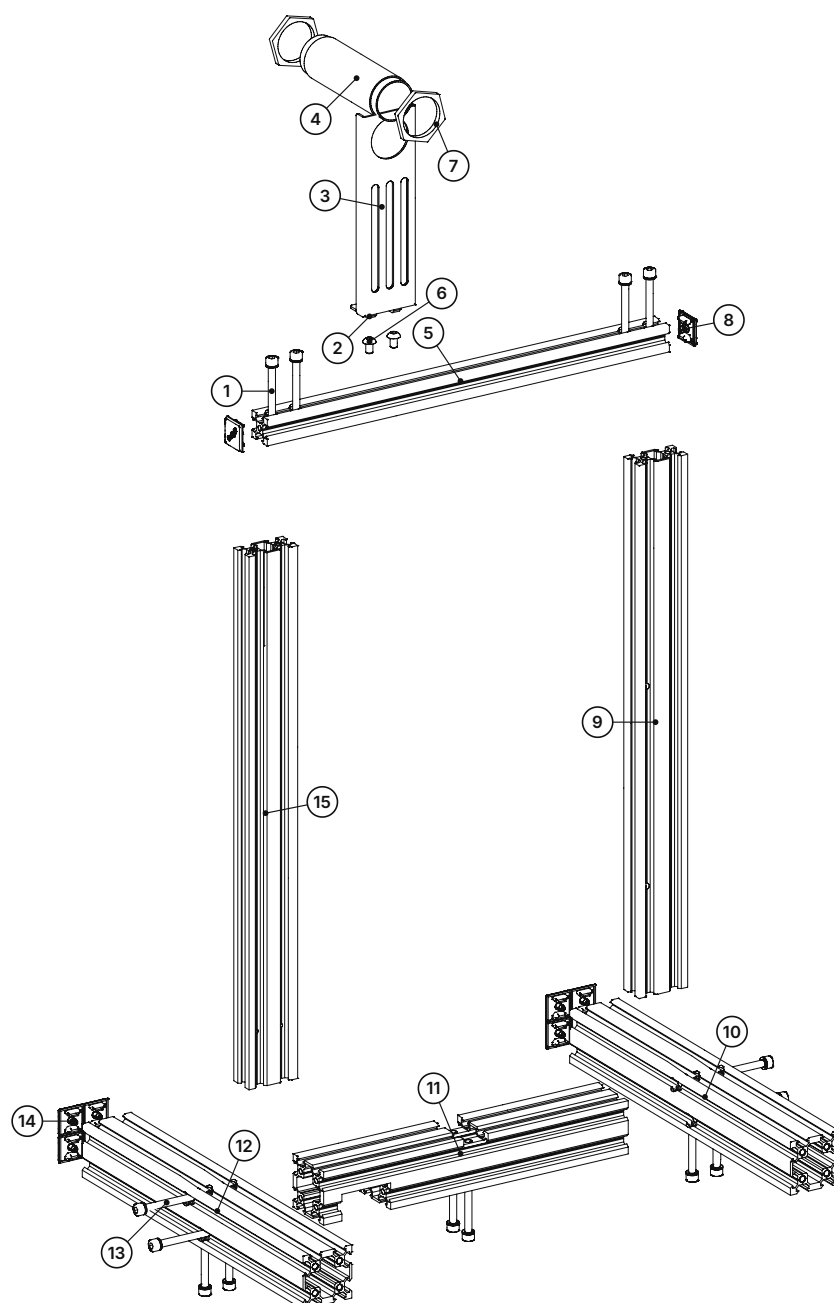


Figure 3-1 Sheet 10, Frame and spool holder. Exploded view generated from the Creality CAD assembly.

Table 3-1 Parts of sheet 10, Frame and spool holder

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-90-007	Socket head cap screw Creality BOM 400205163	4	M5 × 25, with washer	O
2	E3-90-027	T-slot nut Creality BOM 400205101	2	M4	O
3	E3-10-010	Spool holder bracket Creality BOM 400101081	1	Sheet 1.5 mm Steel SPCC, black powder coated	O
4	E3-10-020	Spool holder tube Creality BOM 400403004	1	Thread M30 × 1.5 ABS	O
5	E3-10-030	Top cross member Creality BOM 400102065	1	Aluminium profile 20 × 20, L 330 mm Aluminium, black anodised	O
6	E3-90-015	Button head screw, hexagon socket Creality BOM 400205044	2	M5 × 8	O
7	E3-10-040	Spool holder nut Creality BOM 400403005	2	M30 × 1.5 ABS	O
8	E3-10-050	End cap, profile 20 × 20 Creality BOM 400402020	2	For top cross member ABS	O
9	E3-10-060	Upright, right Creality BOM 400102068	1	Aluminium profile 20 × 40, L 400 mm Aluminium, black anodised	O
10	E3-10-070	Base rail, right Creality BOM 400102072	1	Aluminium profile 40 × 40, L 290 mm Aluminium, black anodised	O
11	E3-10-080	Base cross member Creality BOM 400102070	1	Aluminium profile 40 × 40, L 250 mm Aluminium, black anodised	O
12	E3-10-090	Base rail, left Creality BOM 400102071	1	Aluminium profile 40 × 40, L 290 mm Aluminium, black anodised	O
13	E3-90-008	Socket head cap screw Creality BOM 400205166	10	M5 × 45, with washer	O
14	E3-10-100	End cap, profile 40 × 40 Creality BOM 400404041	2	For base rail, rear end ABS	O
15	E3-10-110	Upright, left Creality BOM 400102069	1	Aluminium profile 20 × 40, L 400 mm Aluminium, black anodised	O
16	E3-10-120	Foot pad (<i>not illustrated</i>) Creality BOM 400406006	4	20 × 40 × 3 mm	O

4 Group 20: X axis

Sheet 20A X axis, left end

Group 20 · 15 items illustrated

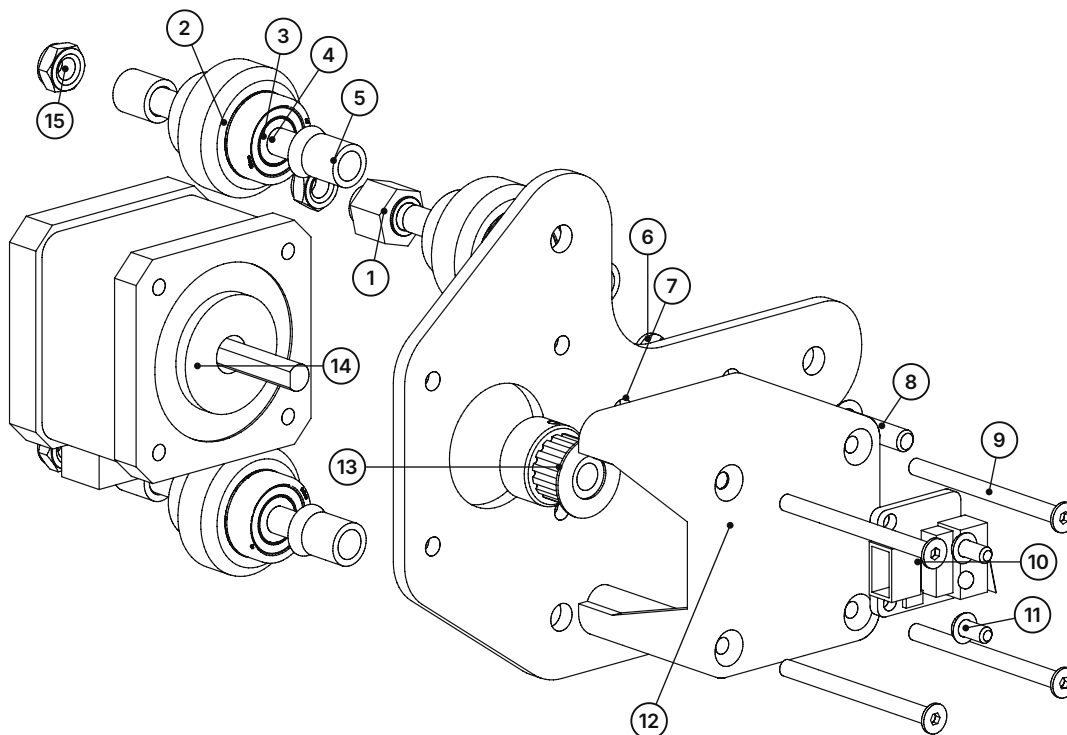


Figure 4-1 Sheet 20A, X axis, left end. Exploded view generated from the Creality CAD assembly.

Table 4-1 Parts of sheet 20A, X axis, left end

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-010	Eccentric nut, V-wheel Creality BOM 400108002	1	ø 7.2 / ø 5 × 8.35 mm Stainless steel	R
2	E3-20-020	V-wheel Creality BOM 400403003	3	ø 24.1 mm, for 2 × 625ZZ POM	W
3	E3-90-033	Ball bearing Creality BOM 400202004	6	625ZZ	R
4	E3-90-017	Button head screw, hexagon socket Creality BOM 400205055	3	M5 × 40	O
5	E3-20-030	Spacer, V-wheel Creality BOM 400108001	5	ø 8 / ø 5 × 8.35 mm Aluminium 6061	O
6	E3-90-031	Spring lock washer Creality BOM 400205106	2	M4	O
7	E3-20-040	Gantry plate, left (X motor side) Creality BOM 400101104	1	Plate 3 mm Aluminium 6061, black powder coated	O

Item	Part number	Description	Qty	Specification / material	Spare
8	E3-90-014	Button head screw, hexagon socket Creality assembly instructions, steps 5 and 6	2	M4 × 16	O
9	E3-90-013	Button head screw, hexagon socket Creality BOM 400205141	4	M3 × 40	O
10	E3-20-050	Limit switch Creality BOM 400304001	1	Microswitch, 3-pin connector	R
11	E3-90-009	Button head screw, hexagon socket Creality BOM 400205029	2	M3 × 6	O
12	E3-20-060	Limit switch bracket, X Creality BOM 400404038	1	ABS	O
13	E3-20-070	Timing pulley GT2, 20 teeth Creality BOM 400211009	1	GT2, 20 teeth, bore 5 mm, belt width 6 mm	R
14	E3-20-080	Stepper motor, NEMA 17, 42 × 34 mm Creality BOM 400201001	1	JK42HS34-0844YA-03F	R
15	E3-90-024	Hexagon nut with nylon insert Creality BOM 400205097	3	M5	O

Sheet 20B X axis, right end

Group 20 · 17 items illustrated

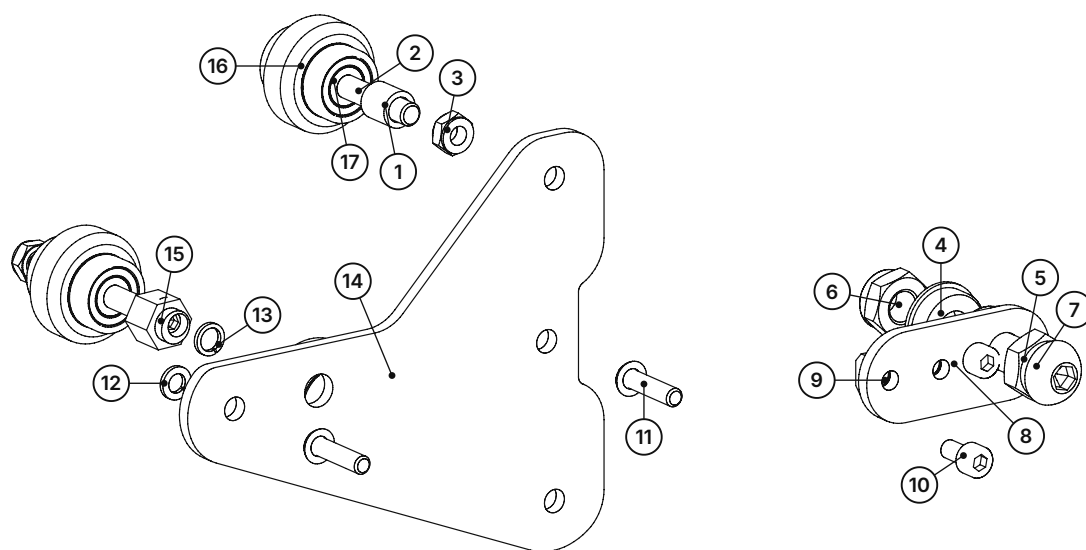


Figure 4-2 Sheet 20B, X axis, right end. Exploded view generated from the Creality CAD assembly.

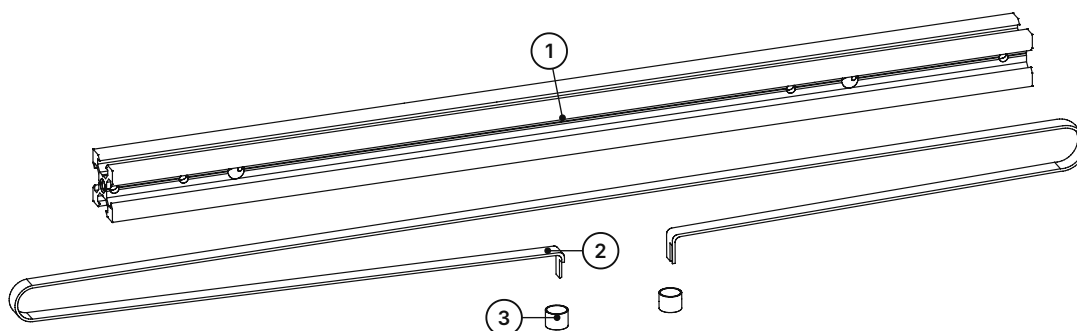
Table 4-2 Parts of sheet 20B, X axis, right end

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-030	Spacer, V-wheel Creality BOM 400108001	2	∅ 8 / ∅ 5 × 8.35 mm Aluminium 6061	O
2	E3-90-016	Button head screw, hexagon socket Creality BOM 400205053	3	M5 × 30	O
3	E3-90-024	Hexagon nut with nylon insert Creality BOM 400205097	3	M5	O
4	E3-20-090	Flanged ball bearing, idler Creality BOM 400202003	2	F688ZZ	R
5	E3-90-026	Hexagon nut Creality CAD model, belt tensioners	1	M8	O
6	E3-90-025	Hexagon nut with nylon insert Creality BOM 400205098	1	M8	O
7	E3-90-018	Button head screw, hexagon socket Creality BOM 400205176	1	M8 × 35	O
8	E3-20-100	Belt tensioner bracket, X Creality BOM 400101006	1	Aluminium 6061, black powder coated	O
9	E3-90-028	T-slot nut Creality BOM 400205102	2	M5	O
10	E3-90-003	Socket head cap screw Creality BOM 400205013	2	M4 × 8	O
11	E3-90-014	Button head screw, hexagon socket Creality assembly instructions, steps 5 and 6	2	M4 × 16	O

Item	Part number	Description	Qty	Specification / material	Spare
12	E3-90-031	Spring lock washer Creality BOM 400205106	2	M4	O
13	E3-90-032	Spring lock washer Creality BOM 400205107	1	M5	O
14	E3-20-110	Gantry plate, right Creality BOM 400101027	1	Plate 3 mm Aluminium 6061, black powder coated	O
15	E3-20-010	Eccentric nut, V-wheel Creality BOM 400108002	1	ø 7.2 / ø 5 × 8.35 mm Stainless steel	R
16	E3-20-020	V-wheel Creality BOM 400403003	3	ø 24.1 mm, for 2 × 625ZZ POM	W
17	E3-90-033	Ball bearing Creality BOM 400202004	6	625ZZ	R

Sheet 20C X beam and belt

Group 20 · 3 items illustrated

**Figure 4-3** Sheet 20C, X beam and belt. Exploded view generated from the Creality CAD assembly.**Table 4-3** Parts of sheet 20C, X beam and belt

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-120	X beam Creality BOM 400102066	1	Aluminium profile 20 × 20, L 345 mm Aluminium, black anodised	O
2	E3-20-130	Timing belt GT2, X axis Creality BOM 400212037	1	Width 6 mm, L 786 mm	W
3	E3-20-140	Belt end ferrule Creality BOM 400214001	2	ø 8 mm, wall 0.8 mm Copper	O

5 Group 30: Y axis and heated bed

Sheet 30A Heated bed and bed carriage

Group 30 · 13 items illustrated

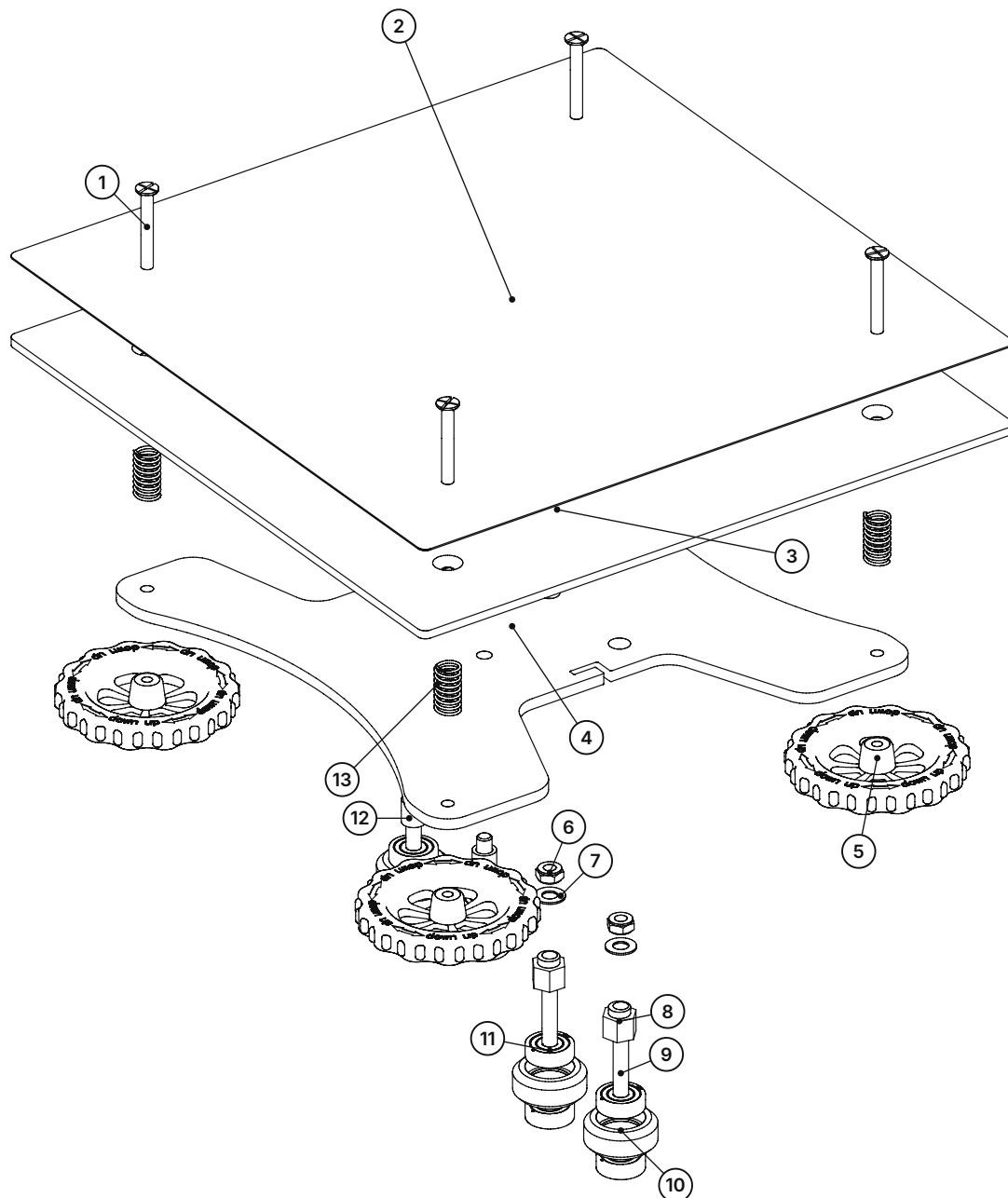


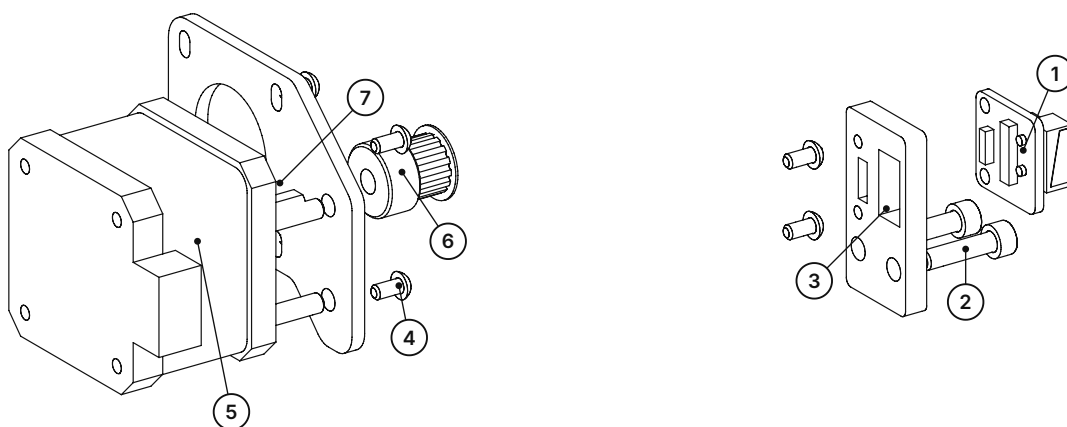
Figure 5-1 Sheet 30A, Heated bed and bed carriage. Exploded view generated from the Creality CAD assembly.

Table 5-1 Parts of sheet 30A, Heated bed and bed carriage

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-90-022	Countersunk screw, hexagon socket Creality BOM 400205074	4	M4 × 35	O
2	E3-30-010	Print surface sheet Creality BOM 400505021	1	235 × 235 × 1.0 mm	W
3	E3-30-020	Heated bed Creality BOM 400302026	1	24 V, 220 W, 235 × 235 mm	R
4	E3-30-030	Bed carriage plate Creality BOM 400101129	1	Plate 4 mm Aluminium 6061, black powder coated	O
5	E3-30-040	Bed levelling knob Creality BOM 400404040	4	ø 60 mm, thread M4 ABS	O
6	E3-90-024	Hexagon nut with nylon insert Creality BOM 400205097	4	M5	O
7	E3-90-029	Flat washer Creality BOM 400205109	2	M5	O
8	E3-20-010	Eccentric nut, V-wheel Creality BOM 400108002	2	ø 7.2 / ø 5 × 8.35 mm Stainless steel	R
9	E3-90-016	Button head screw, hexagon socket Creality BOM 400205053	4	M5 × 30	O
10	E3-20-020	V-wheel Creality BOM 400403003	4	ø 24.1 mm, for 2 × 625ZZ POM	W
11	E3-90-033	Ball bearing Creality BOM 400202004	8	625ZZ	R
12	E3-20-030	Spacer, V-wheel Creality BOM 400108001	2	ø 8 / ø 5 × 8.35 mm Aluminium 6061	O
13	E3-30-050	Bed levelling spring Creality BOM 400204002	4	1.1 × 8 × 22 mm (wire × OD × free length)	W

Sheet 30B Y motor and limit switch

Group 30 · 7 items illustrated

**Figure 5-2** Sheet 30B, Y motor and limit switch. Exploded view generated from the Creality CAD assembly.**Table 5-2** Parts of sheet 30B, Y motor and limit switch

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-050	Limit switch Creality BOM 400304001	1	Microswitch, 3-pin connector	R
2	E3-90-005	Socket head cap screw Creality BOM 400205148	4	M4 × 16	O
3	E3-30-060	Limit switch bracket, Y Creality BOM 400402032	1	ABS	O
4	E3-90-009	Button head screw, hexagon socket Creality BOM 400205029	6	M3 × 6	O
5	E3-20-080	Stepper motor, NEMA 17, 42 × 34 mm Creality BOM 400201001	1	JK42HS34-0844YA-03F	R
6	E3-20-070	Timing pulley GT2, 20 teeth Creality BOM 400211009	1	GT2, 20 teeth, bore 5 mm, belt width 6 mm	R
7	E3-30-070	Y motor bracket Creality BOM 400101005	1	Plate 3 mm Aluminium 6061, black powder coated	O

Sheet 30C Y belt tensioner

Group 30 · 7 items illustrated

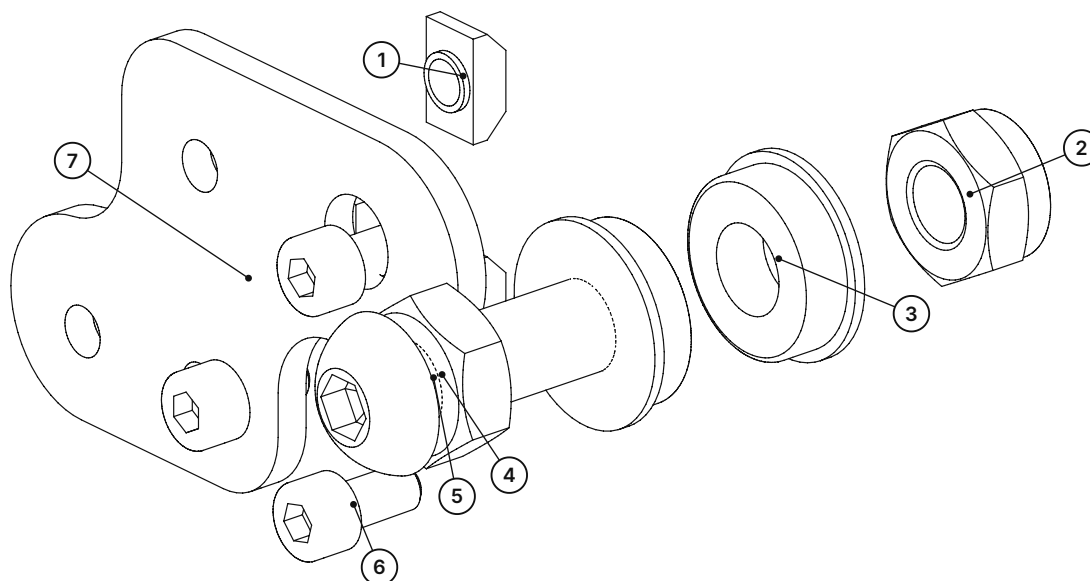


Figure 5-3 Sheet 30C, Y belt tensioner. Exploded view generated from the Creality CAD assembly.

Table 5-3 Parts of sheet 30C, Y belt tensioner

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-90-027	T-slot nut Creality BOM 400205101	3	M4	O
2	E3-90-025	Hexagon nut with nylon insert Creality BOM 400205098	1	M8	O
3	E3-20-090	Flanged ball bearing, idler Creality BOM 400202003	2	F688ZZ	R
4	E3-90-026	Hexagon nut Creality CAD model, belt tensioners	1	M8	O
5	E3-90-018	Button head screw, hexagon socket Creality BOM 400205176	1	M8 × 35	O
6	E3-90-003	Socket head cap screw Creality BOM 400205013	3	M4 × 8	O
7	E3-30-080	Belt tensioner bracket, Y Creality BOM 400101007	1	Plate 3 mm Aluminium 6061, black powder coated	O

Sheet 30D Y rail and belt

Group 30 · 3 items illustrated

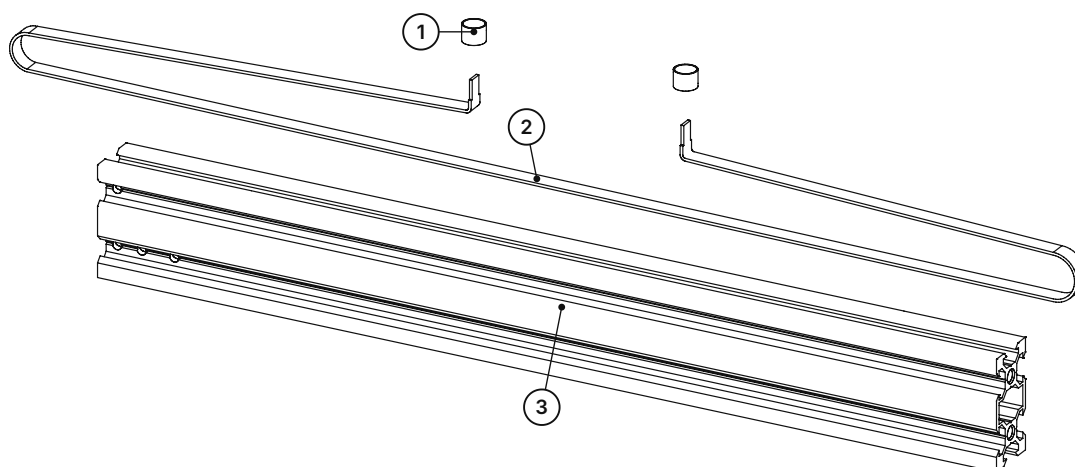


Figure 5-4 Sheet 30D, Y rail and belt. Exploded view generated from the Creality CAD assembly.

Table 5-4 Parts of sheet 30D, Y rail and belt

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-140	Belt end ferrule Creality BOM 400214001	2	ø 8 mm, wall 0.8 mm Copper	O
2	E3-30-090	Timing belt GT2, Y axis Creality BOM 400212038	1	Width 6 mm, L 743 mm	W
3	E3-30-100	Y rail Creality BOM 400102067	1	Aluminium profile 20 × 40, L 330 mm Aluminium, black anodised	O
4	E3-30-110	Thermistor, heated bed (<i>not illustrated</i>) Creality BOM 400303022	1	NTC 100 kΩ, ø 1.8 mm, lead 700 mm	W
5	E3-30-120	Clip, print surface sheet (<i>not illustrated</i>) Creality BOM 400506044	4	15 mm	R
6	E3-30-130	Heated bed cable bracket (<i>not illustrated</i>) Creality BOM 400404030	1	Strain relief for the heated bed cable	O
7	E3-30-140	Heated bed cable support cover (<i>not illustrated</i>) Creality BOM 400404031	1	Cover for the heated bed cable bracket	O
8	E3-30-150	Heated bed cable (<i>not illustrated</i>) Creality BOM 400306217	1	L 500 mm	R

6 Group 40: Z axis

Sheet 40 Z axis drive

Group 40 · 14 items illustrated

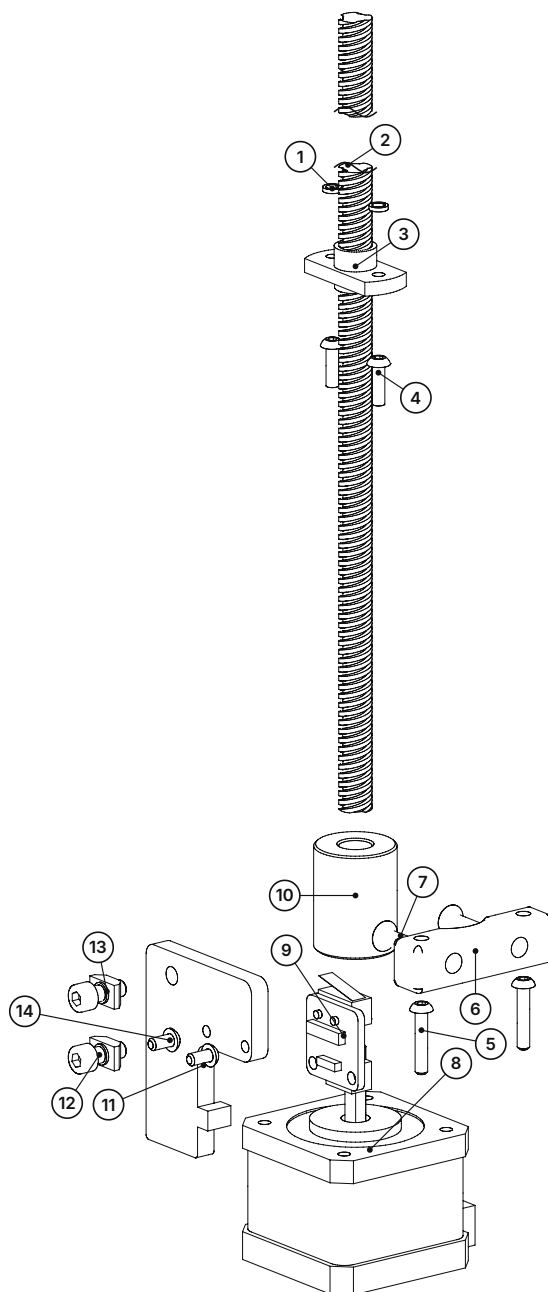


Figure 6-1 Sheet 40, Z axis drive. Exploded view generated from the Creality CAD assembly.

Table 6-1 Parts of sheet 40, Z axis drive

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-90-030	Spring lock washer Creality BOM 400205105	2	M3	O
2	E3-40-010	Lead screw Creality BOM 400206017	1	T8, lead 8 mm, L 370 mm Stainless steel	O
3	E3-40-020	Lead screw nut Creality BOM 400205111	1	T8, lead 8 mm Brass	R
4	E3-90-011	Button head screw, hexagon socket Creality BOM 400205031	2	M3 × 10	O
5	E3-90-012	Button head screw, hexagon socket Creality BOM 400205032	2	M3 × 16	O
6	E3-40-030	Z motor bracket Creality BOM 400402010	1	ABS	O
7	E3-90-021	Countersunk screw, hexagon socket Creality BOM 400205140	2	M4 × 18	O
8	E3-20-080	Stepper motor, NEMA 17, 42 × 34 mm Creality BOM 400201001	1	JK42HS34-0844YA-03F	R
9	E3-20-050	Limit switch Creality BOM 400304001	1	Microswitch, 3-pin connector	R
10	E3-40-040	Shaft coupling Creality BOM 400208004	1	Bore 5 mm / 8 mm	R
11	E3-40-050	Limit switch bracket, Z Creality BOM 400402033	1	ABS	O
12	E3-90-004	Socket head cap screw Creality BOM 400205014	2	M4 × 10	O
13	E3-90-027	T-slot nut Creality BOM 400205101	2	M4	O
14	E3-90-009	Button head screw, hexagon socket Creality BOM 400205029	2	M3 × 6	O
15	E3-40-060	Lead screw cover <i>(not illustrated)</i> Creality BOM 400409003	1	For T8 lead screw	O

7 Group 50: Extruder and hot end

Sheet 50A Extruder

Group 50 · 13 items illustrated

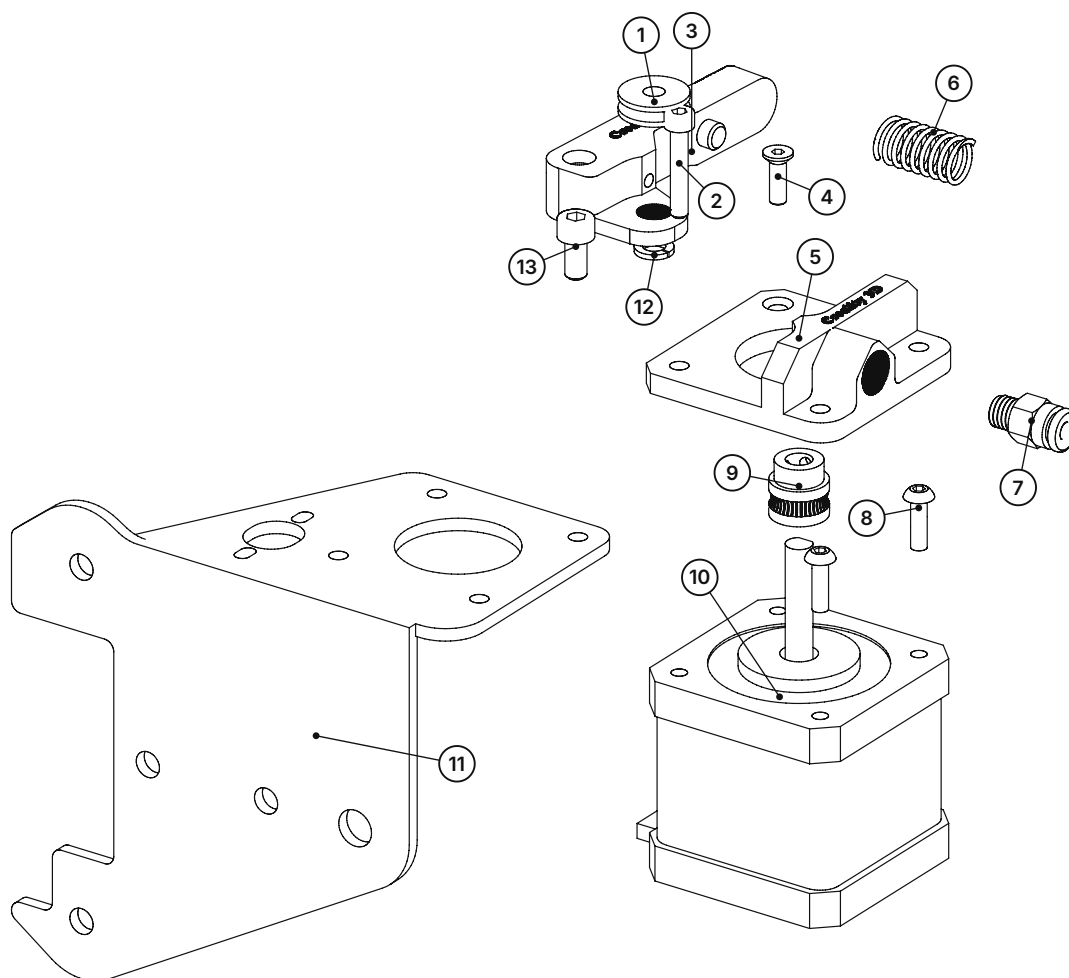


Figure 7-1 Sheet 50A, Extruder. Exploded view generated from the Creality CAD assembly.

Table 7-1 Parts of sheet 50A, Extruder

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-50-010	Idler bearing, grooved Creality BOM 400202002	1	624U	R
2	E3-90-002	Socket head cap screw Creality BOM 400205007	1	M3 × 18	O
3	E3-50-020	Extruder idler arm Creality BOM 400404032	1	ABS	R
4	E3-90-019	Countersunk screw, hexagon socket Creality BOM 400205060	1	M3 × 10	O
5	E3-50-030	Extruder housing Creality BOM 400404033	1	ABS	O
6	E3-50-040	Extruder idler spring Creality BOM 400204002	1	1.1 × 8 × 22 mm (wire × OD × free length)	R
7	E3-50-050	Push-in fitting, extruder Creality BOM 400210002	1	For tube OD 4 mm (BOM: KJH04-06)	R
8	E3-90-011	Button head screw, hexagon socket Creality BOM 400205031	2	M3 × 10	O
9	E3-50-060	Extruder drive gear Creality BOM 400103001	1	ø 11 mm (BOM: D11-40)	W
10	E3-50-070	Stepper motor, NEMA 17, 42 × 40 mm (extruder) Creality BOM 400201004	1	JK42HS40-1004AC-01F	R
11	E3-50-080	Extruder motor bracket Creality BOM 400101103	1	Sheet 2.5 mm Aluminium 6061, black powder coated	O
12	E3-90-031	Spring lock washer Creality BOM 400205106	1	M4	O
13	E3-90-003	Socket head cap screw Creality BOM 400205013	1	M4 × 8	O

Sheet 50B Print head and hot end

Group 50 · 25 items illustrated

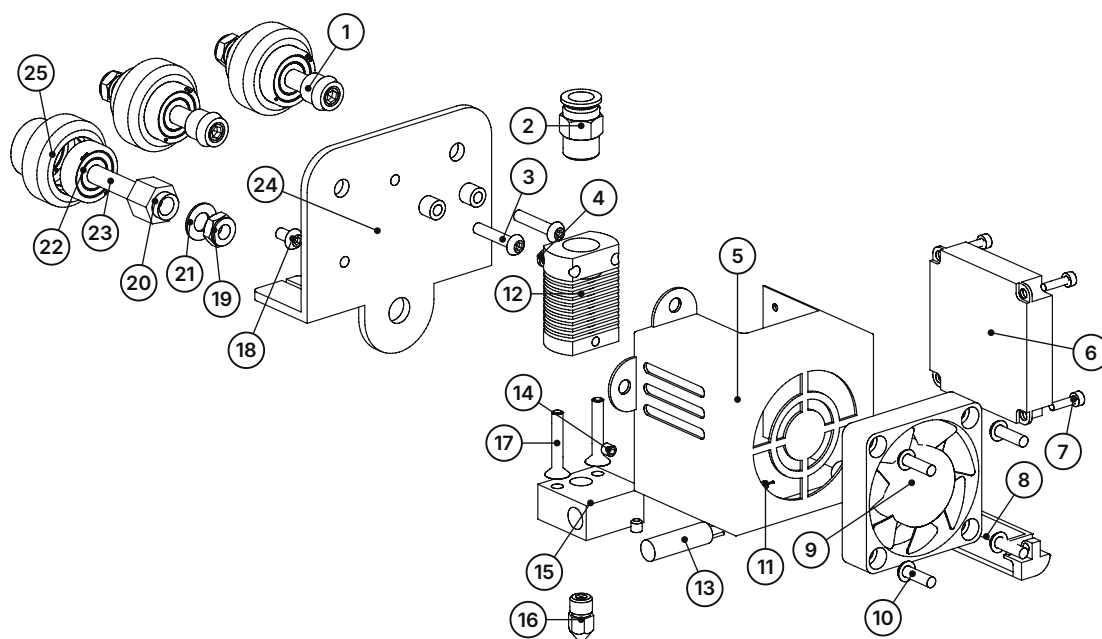


Figure 7-2 Sheet 50B, Print head and hot end. Exploded view generated from the Creality CAD assembly.

Table 7-2 Parts of sheet 50B, Print head and hot end

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-20-030	Spacer, V-wheel Creality BOM 400108001	2	ø 8 / ø 5 × 8.35 mm Aluminium 6061	O
2	E3-50-090	Push-in fitting, hot end Creality BOM 400210001	1	For tube OD 4 mm (BOM: D4M8)	R
3	E3-90-012	Button head screw, hexagon socket Creality BOM 400205032	2	M3 × 16	O
4	E3-90-030	Spring lock washer Creality BOM 400205105	2	M3	O
5	E3-50-100	Hot end fan shroud Creality BOM 400101029	1	Sheet 0.8 mm Steel SPCC, black powder coated	O
6	E3-50-110	Part cooling fan Creality BOM 400309044	1	24 V DC, 40 × 40 × 10 mm	R
7	E3-90-001	Socket head cap screw Creality BOM 400205002	4	M2 × 8	O
8	E3-50-120	Part cooling duct Creality BOM 400402023	1	ABS	O
9	E3-50-130	Hot end cooling fan (heat sink) Creality BOM 400309032	1	24 V DC, 40 × 40 × 10 mm	R
10	E3-90-011	Button head screw, hexagon socket Creality BOM 400205031	4	M3 × 10	O

Item	Part number	Description	Qty	Specification / material	Spare
11	E3-50-140	Thermistor, hot end Creality BOM 400303006	1	NTC 100 kΩ, ø 1.8 mm, lead 1000 mm	W
12	E3-50-150	Heat sink Creality BOM 400105008	1	12 × 20 × 27.8 mm, 2 × M3 Aluminium 6061, black anodised	O
13	E3-50-160	Heater cartridge Creality BOM 400308002	1	24 V, 40 W, ø 6 × 20 mm	W
14	E3-90-023	Set screw, hexagon socket Creality BOM 400205018	2	M3 × 3	O
15	E3-50-170	Heater block Creality BOM 400104004	1	20 × 20 × 10 mm Aluminium 6061, anodised	R
16	E3-50-180	Nozzle Creality BOM 400106003	1	ø 0.4 mm, thread M6 Brass	W
17	E3-90-020	Countersunk screw, hexagon socket Creality BOM 400205144	2	M3 × 18	O
18	E3-90-009	Button head screw, hexagon socket Creality BOM 400205029	2	M3 × 6	O
19	E3-90-024	Hexagon nut with nylon insert Creality BOM 400205097	3	M5	O
20	E3-20-010	Eccentric nut, V-wheel Creality BOM 400108002	1	ø 7.2 / ø 5 × 8.35 mm Stainless steel	R
21	E3-90-029	Flat washer Creality BOM 400205109	1	M5	O
22	E3-90-033	Ball bearing Creality BOM 400202004	6	625ZZ	R
23	E3-90-016	Button head screw, hexagon socket Creality BOM 400205053	3	M5 × 30	O
24	E3-50-190	Print head carriage plate Creality BOM 400101002	1	Plate 2.5 mm Aluminium 6061, black powder coated	O
25	E3-20-020	V-wheel Creality BOM 400403003	3	ø 24.1 mm, for 2 × 625ZZ POM	W
26	E3-50-200	Heat break (throat) <i>(not illustrated)</i> Creality BOM 400107006	1	M6, ø 7 × 28 mm Stainless steel	R
27	E3-50-210	PTFE tube (Bowden tube) <i>(not illustrated)</i> Creality BOM 400407013	1	OD 4 mm, ID 2 mm, L 400 mm PTFE	W

8 Group 60: Electronics and power supply

Sheet 60A Electronics enclosure and display

Group 60 · 12 items illustrated

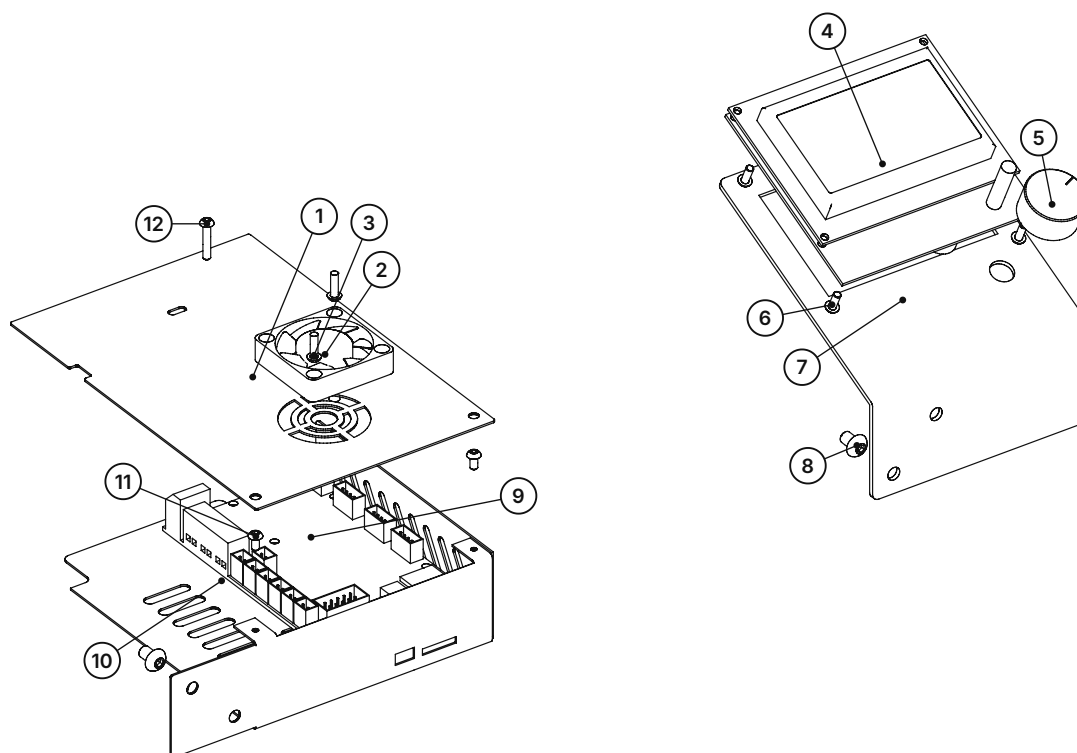


Figure 8-1 Sheet 60A, Electronics enclosure and display. Exploded view generated from the Creality CAD assembly.

Table 8-1 Parts of sheet 60A, Electronics enclosure and display

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-60-010	Electronics enclosure, cover Creality BOM 400101131	1	Sheet 0.8 mm Steel SPCC, black powder coated	O
2	E3-60-020	Mainboard cooling fan Creality BOM 400309045	1	24 V DC, 40 × 40 × 10 mm	R
3	E3-90-011	Button head screw, hexagon socket Creality BOM 400205031	2	M3 × 10	O
4	E3-60-030	Display module Creality BOM 200102010	1	128 × 64 graphic LCD with rotary encoder	O
5	E3-60-040	Control knob Creality BOM 400307001	1	ø 25 mm ABS	O
6	E3-90-010	Button head screw, hexagon socket Creality CAD model, display assembly	4	M3 × 8	O
7	E3-60-050	Display bracket Creality BOM 400101133	1	Sheet 2 mm Steel SPCC, black powder coated	O

Item	Part number	Description	Qty	Specification / material	Spare
8	E3-90-015	Button head screw, hexagon socket Creality BOM 400205044	4	M5 × 8	O
9	E3-60-060	Mainboard Creality BOM 200101027	1	ATmega1284P controller	R
10	E3-60-070	Electronics enclosure, base Creality BOM 400101130	1	Sheet 0.8 mm Steel SPCC, black powder coated	O
11	E3-90-009	Button head screw, hexagon socket Creality BOM 400205029	6	M3 × 6	O
12	E3-90-012	Button head screw, hexagon socket Creality BOM 400205032	1	M3 × 16	O

Sheet 60B Power supply

Group 60 · 6 items illustrated

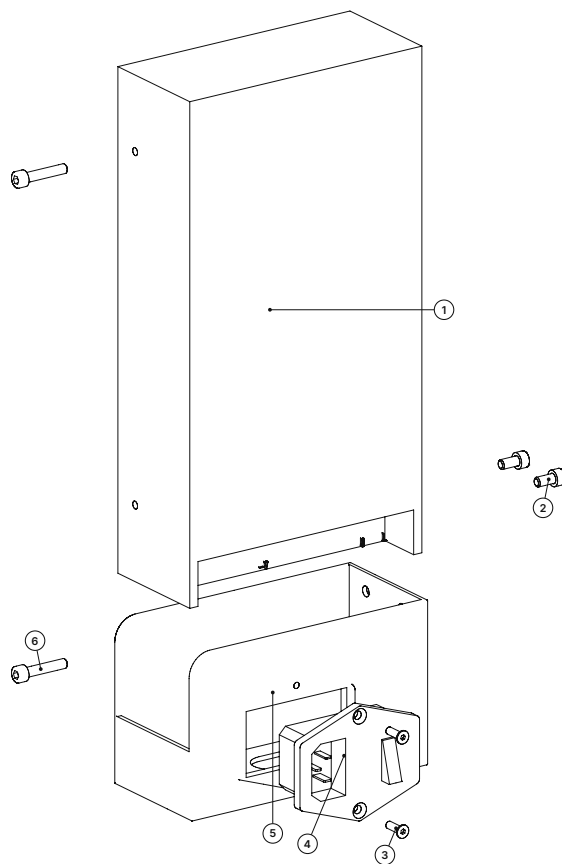


Figure 8-2 Sheet 60B, Power supply. Exploded view generated from the Creality CAD assembly.

Table 8-2 Parts of sheet 60B, Power supply

Item	Part number	Description	Qty	Specification / material	Spare
1	E3-60-080	Power supply unit Creality BOM 400301008	1	Output 24 V DC, 15 A; input selector 115 / 230 V	0
2	E3-90-003	Socket head cap screw Creality BOM 400205013	2	M4 × 8	0
3	E3-90-019	Countersunk screw, hexagon socket Creality BOM 400205060	2	M3 × 10	0
4	E3-60-090	Mains inlet with rocker switch Creality BOM 400305007	1	10 A	0
5	E3-60-100	Power supply cover and inlet holder Creality BOM 400402028	1	ABS	0
6	E3-90-006	Socket head cap screw Creality BOM 400205122	2	M4 × 20	0
7	E3-60-110	Cable, PSU to mainboard (<i>not illustrated</i>) Creality BOM 400306222	1	XT60, L 310 mm	0
8	E3-60-120	Cable set, X and extruder motors (<i>not illustrated</i>) Creality BOM 400306224	1	Motor L 670 mm, limit switch L 750 mm	0

Item	Part number	Description	Qty	Specification / material	Spare
9	E3-60-130	Cable, Y motor <i>(not illustrated)</i> Creality BOM 400306225	1	L 420 mm	O
10	E3-60-140	Cable set, Z motor <i>(not illustrated)</i> Creality BOM 400306226	1	Motor L 280 mm, limit switch L 180 mm	O
11	E3-60-150	Cable, display <i>(not illustrated)</i> Creality BOM 400306228	1	10-pin, L 470 mm	O
12	E3-60-160	Cable sleeve <i>(not illustrated)</i> Creality BOM 400501034	2	W 8 mm, L 450 mm and L 950 mm	O

9 Recommended spare parts

Wear parts (W) and recommended spares (R) for one printer. Quantities are the quantities fitted to one printer; the stock to hold depends on the use.

Table 9-1 Wear parts

Part number	Description	Specification / material	Qty fitted	Sheet / item
E3-20-020	V-wheel	ø 24.1 mm, for 2 × 625ZZ, POM	13	20A/2, 20B/16, 30A/10, 50B/25
E3-20-130	Timing belt GT2, X axis	Width 6 mm, L 786 mm	1	20C/2
E3-30-010	Print surface sheet	235 × 235 × 1.0 mm	1	30A/2
E3-30-050	Bed levelling spring	1.1 × 8 × 22 mm (wire × OD × free length)	4	30A/13
E3-30-090	Timing belt GT2, Y axis	Width 6 mm, L 743 mm	1	30D/2
E3-30-110	Thermistor, heated bed	NTC 100 kΩ, ø 1.8 mm, lead 700 mm	1	30D/4
E3-50-060	Extruder drive gear	ø 11 mm (BOM: D11-40)	1	50A/9
E3-50-140	Thermistor, hot end	NTC 100 kΩ, ø 1.8 mm, lead 1000 mm	1	50B/11
E3-50-160	Heater cartridge	24 V, 40 W, ø 6 × 20 mm	1	50B/13
E3-50-180	Nozzle	ø 0.4 mm, thread M6, brass	1	50B/16
E3-50-210	PTFE tube (Bowden tube)	OD 4 mm, ID 2 mm, L 400 mm, PTFE	1	50B/27

Table 9-2 Recommended spares

Part number	Description	Specification / material	Qty fitted	Sheet / item
E3-20-010	Eccentric nut, V-wheel	ø 7.2 / ø 5 × 8.35 mm, stainless steel	5	20A/1, 20B/15, 30A/8, 50B/20
E3-20-050	Limit switch	Microswitch, 3-pin connector	3	20A/10, 30B/1, 40/9
E3-20-070	Timing pulley GT2, 20 teeth	GT2, 20 teeth, bore 5 mm, belt width 6 mm	2	20A/13, 30B/6
E3-20-080	Stepper motor, NEMA 17, 42 × 34 mm	JK42HS34-0844YA-03F	3	20A/14, 30B/5, 40/8
E3-20-090	Flanged ball bearing, idler	F688ZZ	4	20B/4, 30C/3
E3-30-020	Heated bed	24 V, 220 W, 235 × 235 mm	1	30A/3
E3-30-120	Clip, print surface sheet	15 mm	4	30D/5
E3-30-150	Heated bed cable	L 500 mm	1	30D/8
E3-40-020	Lead screw nut	T8, lead 8 mm, brass	1	40/3
E3-40-040	Shaft coupling	Bore 5 mm / 8 mm	1	40/10

Part number	Description	Specification / material	Qty fitted	Sheet / item
E3-50-010	Idler bearing, grooved	624U	1	50A/1
E3-50-020	Extruder idler arm	ABS	1	50A/3
E3-50-040	Extruder idler spring	1.1 × 8 × 22 mm (wire × OD × free length)	1	50A/6
E3-50-050	Push-in fitting, extruder	For tube OD 4 mm (BOM: KJH04-06)	1	50A/7
E3-50-070	Stepper motor, NEMA 17, 42 × 40 mm (extruder)	JK42HS40-1004AC-01F	1	50A/10
E3-50-090	Push-in fitting, hot end	For tube OD 4 mm (BOM: D4M8)	1	50B/2
E3-50-110	Part cooling fan	24 V DC, 40 × 40 × 10 mm	1	50B/6
E3-50-130	Hot end cooling fan (heat sink)	24 V DC, 40 × 40 × 10 mm	1	50B/9
E3-50-170	Heater block	20 × 20 × 10 mm, aluminium 6061, anodised	1	50B/15
E3-50-200	Heat break (throat)	M6, ø 7 × 28 mm, stainless steel	1	50B/26
E3-60-020	Mainboard cooling fan	24 V DC, 40 × 40 × 10 mm	1	60A/2
E3-60-060	Mainboard	ATmega1284P controller	1	60A/9
E3-90-033	Ball bearing	625ZZ	26	20A/3, 20B/17, 30A/11, 50B/22

10 Part number index

Table 10-1 Part numbers in numerical order

Part number	Description	Qty	Sheet / item
E3-10-010	Spool holder bracket Sheet 1.5 mm	1	10/3
E3-10-020	Spool holder tube Thread M30 × 1.5	1	10/4
E3-10-030	Top cross member Aluminium profile 20 × 20, L 330 mm	1	10/5
E3-10-040	Spool holder nut M30 × 1.5	2	10/7
E3-10-050	End cap, profile 20 × 20 For top cross member	2	10/8
E3-10-060	Upright, right Aluminium profile 20 × 40, L 400 mm	1	10/9
E3-10-070	Base rail, right Aluminium profile 40 × 40, L 290 mm	1	10/10
E3-10-080	Base cross member Aluminium profile 40 × 40, L 250 mm	1	10/11
E3-10-090	Base rail, left Aluminium profile 40 × 40, L 290 mm	1	10/12
E3-10-100	End cap, profile 40 × 40 For base rail, rear end	2	10/14
E3-10-110	Upright, left Aluminium profile 20 × 40, L 400 mm	1	10/15
E3-10-120	Foot pad 20 × 40 × 3 mm	4	10/16
E3-20-010	Eccentric nut, V-wheel $\varnothing$ 7.2 / $\varnothing$ 5 × 8.35 mm	5	20A/1, 20B/15, 30A/8, 50B/20
E3-20-020	V-wheel $\varnothing$ 24.1 mm, for 2 × 625ZZ	13	20A/2, 20B/16, 30A/10, 50B/25
E3-20-030	Spacer, V-wheel $\varnothing$ 8 / $\varnothing$ 5 × 8.35 mm	11	20A/5, 20B/1, 30A/12, 50B/1
E3-20-040	Gantry plate, left (X motor side) Plate 3 mm	1	20A/7
E3-20-050	Limit switch Microswitch, 3-pin connector	3	20A/10, 30B/1, 40/9
E3-20-060	Limit switch bracket, X	1	20A/12
E3-20-070	Timing pulley GT2, 20 teeth GT2, 20 teeth, bore 5 mm, belt width 6 mm	2	20A/13, 30B/6
E3-20-080	Stepper motor, NEMA 17, 42 × 34 mm JK42HS34-0844YA-03F	3	20A/14, 30B/5, 40/8
E3-20-090	Flanged ball bearing, idler F688ZZ	4	20B/4, 30C/3
E3-20-100	Belt tensioner bracket, X	1	20B/8
E3-20-110	Gantry plate, right Plate 3 mm	1	20B/14
E3-20-120	X beam Aluminium profile 20 × 20, L 345 mm	1	20C/1
E3-20-130	Timing belt GT2, X axis Width 6 mm, L 786 mm	1	20C/2
E3-20-140	Belt end ferrule $\varnothing$ 8 mm, wall 0.8 mm	4	20C/3, 30D/1
E3-30-010	Print surface sheet 235 × 235 × 1.0 mm	1	30A/2
E3-30-020	Heated bed 24 V, 220 W, 235 × 235 mm	1	30A/3
E3-30-030	Bed carriage plate Plate 4 mm	1	30A/4
E3-30-040	Bed levelling knob $\varnothing$ 60 mm, thread M4	4	30A/5
E3-30-050	Bed levelling spring 1.1 × 8 × 22 mm (wire × OD × free length)	4	30A/13
E3-30-060	Limit switch bracket, Y	1	30B/3
E3-30-070	Y motor bracket Plate 3 mm	1	30B/7

Part number	Description	Qty	Sheet / item
E3-30-080	Belt tensioner bracket, Y Plate 3 mm	1	30C/7
E3-30-090	Timing belt GT2, Y axis Width 6 mm, L 743 mm	1	30D/2
E3-30-100	Y rail Aluminium profile 20 × 40, L 330 mm	1	30D/3
E3-30-110	Thermistor, heated bed NTC 100 kΩ, ø 1.8 mm, lead 700 mm	1	30D/4
E3-30-120	Clip, print surface sheet 15 mm	4	30D/5
E3-30-130	Heated bed cable bracket Strain relief for the heated bed cable	1	30D/6
E3-30-140	Heated bed cable support cover Cover for the heated bed cable bracket	1	30D/7
E3-30-150	Heated bed cable L 500 mm	1	30D/8
E3-40-010	Lead screw T8, lead 8 mm, L 370 mm	1	40/2
E3-40-020	Lead screw nut T8, lead 8 mm	1	40/3
E3-40-030	Z motor bracket	1	40/6
E3-40-040	Shaft coupling Bore 5 mm / 8 mm	1	40/10
E3-40-050	Limit switch bracket, Z	1	40/11
E3-40-060	Lead screw cover For T8 lead screw	1	40/15
E3-50-010	Idler bearing, grooved 624U	1	50A/1
E3-50-020	Extruder idler arm	1	50A/3
E3-50-030	Extruder housing	1	50A/5
E3-50-040	Extruder idler spring 1.1 × 8 × 22 mm (wire × OD × free length)	1	50A/6
E3-50-050	Push-in fitting, extruder For tube OD 4 mm (BOM: KJH04-06)	1	50A/7
E3-50-060	Extruder drive gear ø 11 mm (BOM: D11-40)	1	50A/9
E3-50-070	Stepper motor, NEMA 17, 42 × 40 mm (extruder) JK42HS40-1004AC-01F	1	50A/10
E3-50-080	Extruder motor bracket Sheet 2.5 mm	1	50A/11
E3-50-090	Push-in fitting, hot end For tube OD 4 mm (BOM: D4M8)	1	50B/2
E3-50-100	Hot end fan shroud Sheet 0.8 mm	1	50B/5
E3-50-110	Part cooling fan 24 V DC, 40 × 40 × 10 mm	1	50B/6
E3-50-120	Part cooling duct	1	50B/8
E3-50-130	Hot end cooling fan (heat sink) 24 V DC, 40 × 40 × 10 mm	1	50B/9
E3-50-140	Thermistor, hot end NTC 100 kΩ, ø 1.8 mm, lead 1000 mm	1	50B/11
E3-50-150	Heat sink 12 × 20 × 27.8 mm, 2 × M3	1	50B/12
E3-50-160	Heater cartridge 24 V, 40 W, ø 6 × 20 mm	1	50B/13
E3-50-170	Heater block 20 × 20 × 10 mm	1	50B/15
E3-50-180	Nozzle ø 0.4 mm, thread M6	1	50B/16
E3-50-190	Print head carriage plate Plate 2.5 mm	1	50B/24
E3-50-200	Heat break (throat) M6, ø 7 × 28 mm	1	50B/26
E3-50-210	PTFE tube (Bowden tube) OD 4 mm, ID 2 mm, L 400 mm	1	50B/27
E3-60-010	Electronics enclosure, cover Sheet 0.8 mm	1	60A/1
E3-60-020	Mainboard cooling fan 24 V DC, 40 × 40 × 10 mm	1	60A/2
E3-60-030	Display module 128 × 64 graphic LCD with rotary encoder	1	60A/4

Part number	Description	Qty	Sheet / item
E3-60-040	Control knob $\varnothing$ 25 mm	1	60A/5
E3-60-050	Display bracket Sheet 2 mm	1	60A/7
E3-60-060	Mainboard ATmega1284P controller	1	60A/9
E3-60-070	Electronics enclosure, base Sheet 0.8 mm	1	60A/10
E3-60-080	Power supply unit Output 24 V DC, 15 A; input selector 115 / 230 V	1	60B/1
E3-60-090	Mains inlet with rocker switch 10 A	1	60B/4
E3-60-100	Power supply cover and inlet holder	1	60B/5
E3-60-110	Cable, PSU to mainboard XT60, L 310 mm	1	60B/7
E3-60-120	Cable set, X and extruder motors Motor L 670 mm, limit switch L 750 mm	1	60B/8
E3-60-130	Cable, Y motor L 420 mm	1	60B/9
E3-60-140	Cable set, Z motor Motor L 280 mm, limit switch L 180 mm	1	60B/10
E3-60-150	Cable, display 10-pin, L 470 mm	1	60B/11
E3-60-160	Cable sleeve W 8 mm, L 450 mm and L 950 mm	2	60B/12
E3-90-001	Socket head cap screw M2 $\times$ 8	4	50B/7
E3-90-002	Socket head cap screw M3 $\times$ 18	1	50A/2
E3-90-003	Socket head cap screw M4 $\times$ 8	8	20B/10, 30C/6, 50A/13, 60B/2
E3-90-004	Socket head cap screw M4 $\times$ 10	2	40/12
E3-90-005	Socket head cap screw M4 $\times$ 16	4	30B/2
E3-90-006	Socket head cap screw M4 $\times$ 20	2	60B/6
E3-90-007	Socket head cap screw M5 $\times$ 25, with washer	4	10/1
E3-90-008	Socket head cap screw M5 $\times$ 45, with washer	10	10/13
E3-90-009	Button head screw, hexagon socket M3 $\times$ 6	18	20A/11, 30B/4, 40/14, 50B/18, 60A/11
E3-90-010	Button head screw, hexagon socket M3 $\times$ 8	4	60A/6
E3-90-011	Button head screw, hexagon socket M3 $\times$ 10	10	40/4, 50A/8, 50B/10, 60A/3
E3-90-012	Button head screw, hexagon socket M3 $\times$ 16	5	40/5, 50B/3, 60A/12
E3-90-013	Button head screw, hexagon socket M3 $\times$ 40	4	20A/9
E3-90-014	Button head screw, hexagon socket M4 $\times$ 16	4	20A/8, 20B/11
E3-90-015	Button head screw, hexagon socket M5 $\times$ 8	6	10/6, 60A/8
E3-90-016	Button head screw, hexagon socket M5 $\times$ 30	10	20B/2, 30A/9, 50B/23
E3-90-017	Button head screw, hexagon socket M5 $\times$ 40	3	20A/4
E3-90-018	Button head screw, hexagon socket M8 $\times$ 35	2	20B/7, 30C/5
E3-90-019	Countersunk screw, hexagon socket M3 $\times$ 10	3	50A/4, 60B/3
E3-90-020	Countersunk screw, hexagon socket M3 $\times$ 18	2	50B/17
E3-90-021	Countersunk screw, hexagon socket M4 $\times$ 18	2	40/7
E3-90-022	Countersunk screw, hexagon socket M4 $\times$ 35	4	30A/1
E3-90-023	Set screw, hexagon socket M3 $\times$ 3	2	50B/14

Part number	Description	Qty	Sheet / item
E3-90-024	Hexagon nut with nylon insert M5	13	20A/15, 20B/3, 30A/6, 50B/19
E3-90-025	Hexagon nut with nylon insert M8	2	20B/6, 30C/2
E3-90-026	Hexagon nut M8	2	20B/5, 30C/4
E3-90-027	T-slot nut M4	7	10/2, 30C/1, 40/13
E3-90-028	T-slot nut M5	2	20B/9
E3-90-029	Flat washer M5	3	30A/7, 50B/21
E3-90-030	Spring lock washer M3	4	40/1, 50B/4
E3-90-031	Spring lock washer M4	5	20A/6, 20B/12, 50A/12
E3-90-032	Spring lock washer M5	1	20B/13
E3-90-033	Ball bearing 625ZZ	26	20A/3, 20B/17, 30A/11, 50B/22

11 Sources

Table 11-1 Source register

Ref.	Source
CAD	Creality, Ender-3 3D CAD assembly "Ender-3 Mechanical/STP/01 MAIN ASM Ender_3.STEP" (STEP AP214, exported from SolidWorks 2018 on 2018-08-17), repository https://github.com/Creality3DPrinting/Ender-3 , commit 88c7758, GPL-3.0.
BOM	Creality, "Ender-3 Mechanical/Ender-3 BOM.XLS" (bill of materials, 162 lines), same repository.
DWG	Creality, part drawings "Ender-3 Mechanical/PDF/*.pdf" (title blocks: material, surface treatment, general tolerance GB/T 1804-m), same repository.
ASM	Creality, "Ender 3 3D Printer Instructions for assembly" (Ender-3 SD/1.Installing/Ender 3 instructions.pdf), same repository.
D	Derived by First Angle from the CAD model (measured or counted in the STEP assembly).