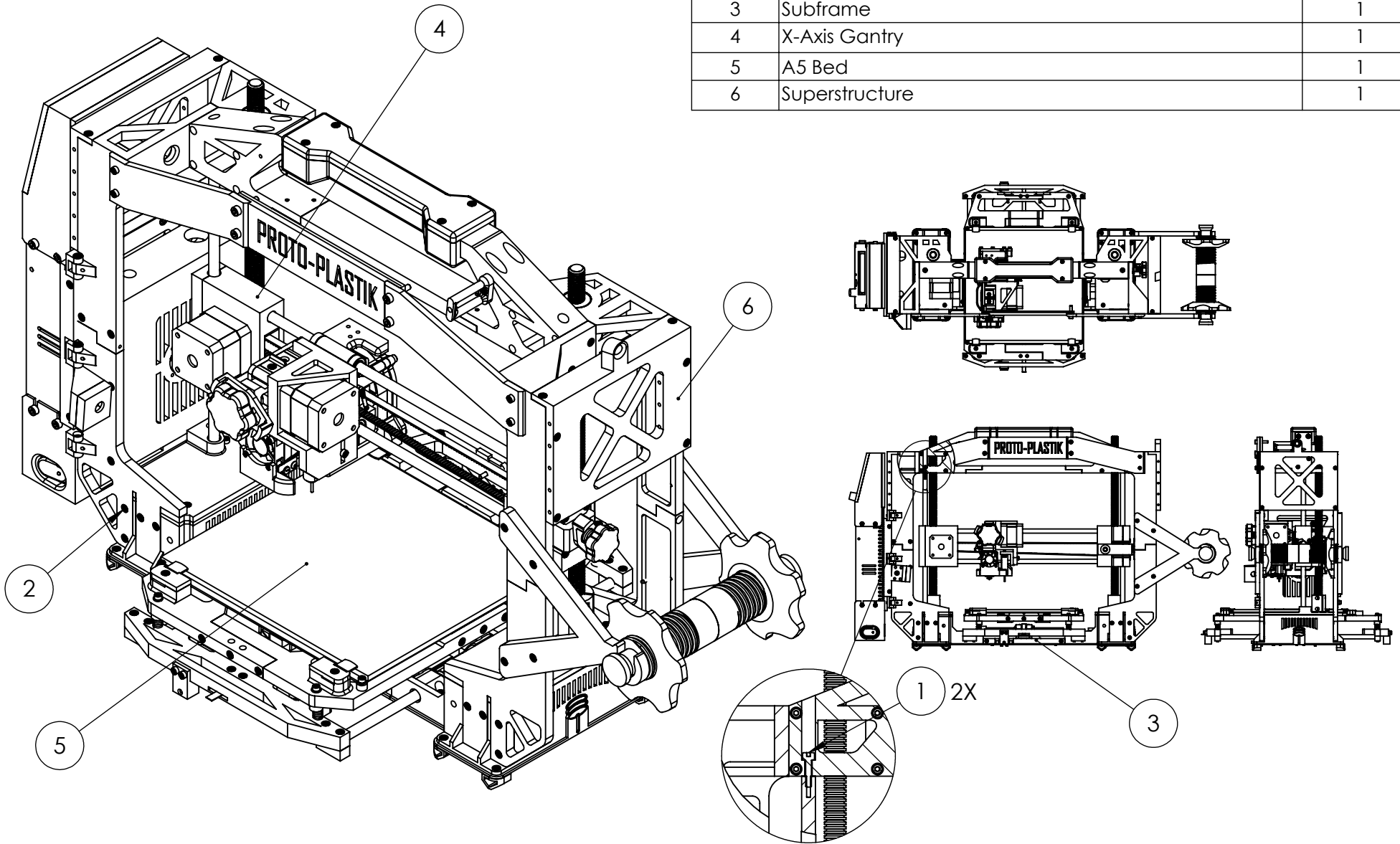


ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 4 x 0.7 x 15 Hex SHCS -- 15NHX	2
2	B18.3.1M - 3 x 0.5 x 25 Hex SHCS -- 18NHX	16
3	Subframe	1
4	X-Axis Gantry	1
5	A5 Bed	1
6	Superstructure	1



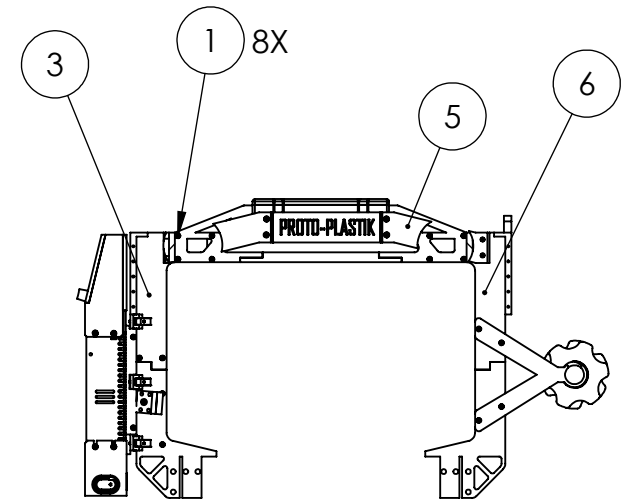
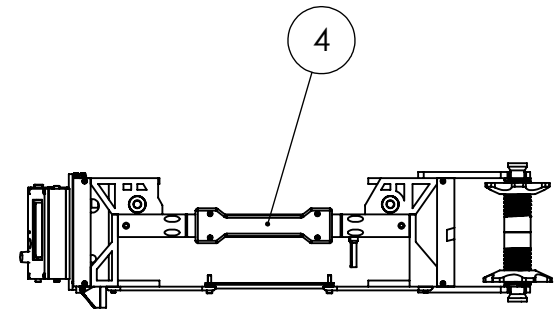
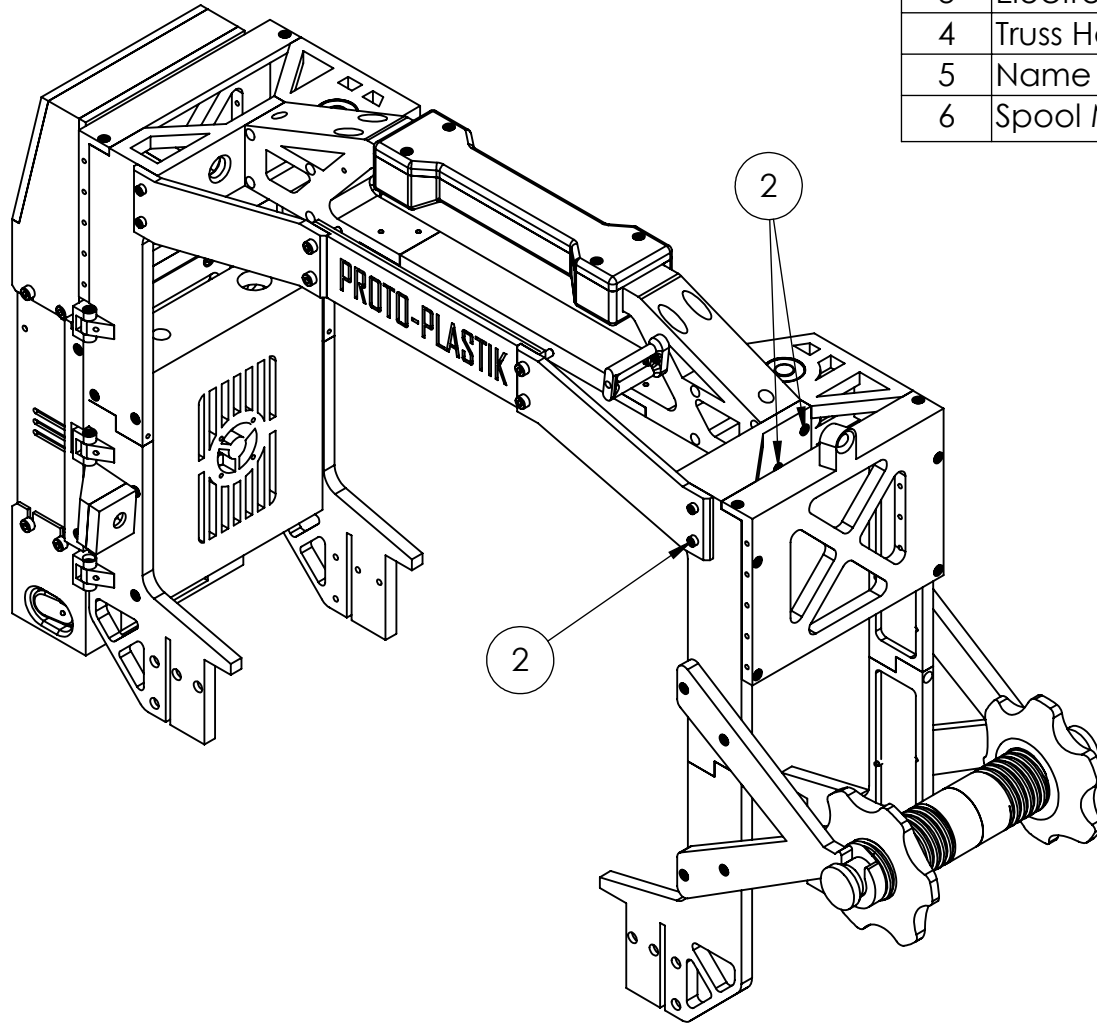
SCALE: 1:10

SHEET 1 OF 24

Top Level Assembly

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 20 Hex SHCS -- 20NHX	8
2	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	8
3	Electronics Truss	1
4	Truss Handle	1
5	Name Bar	1
6	Spool Mount Truss	1



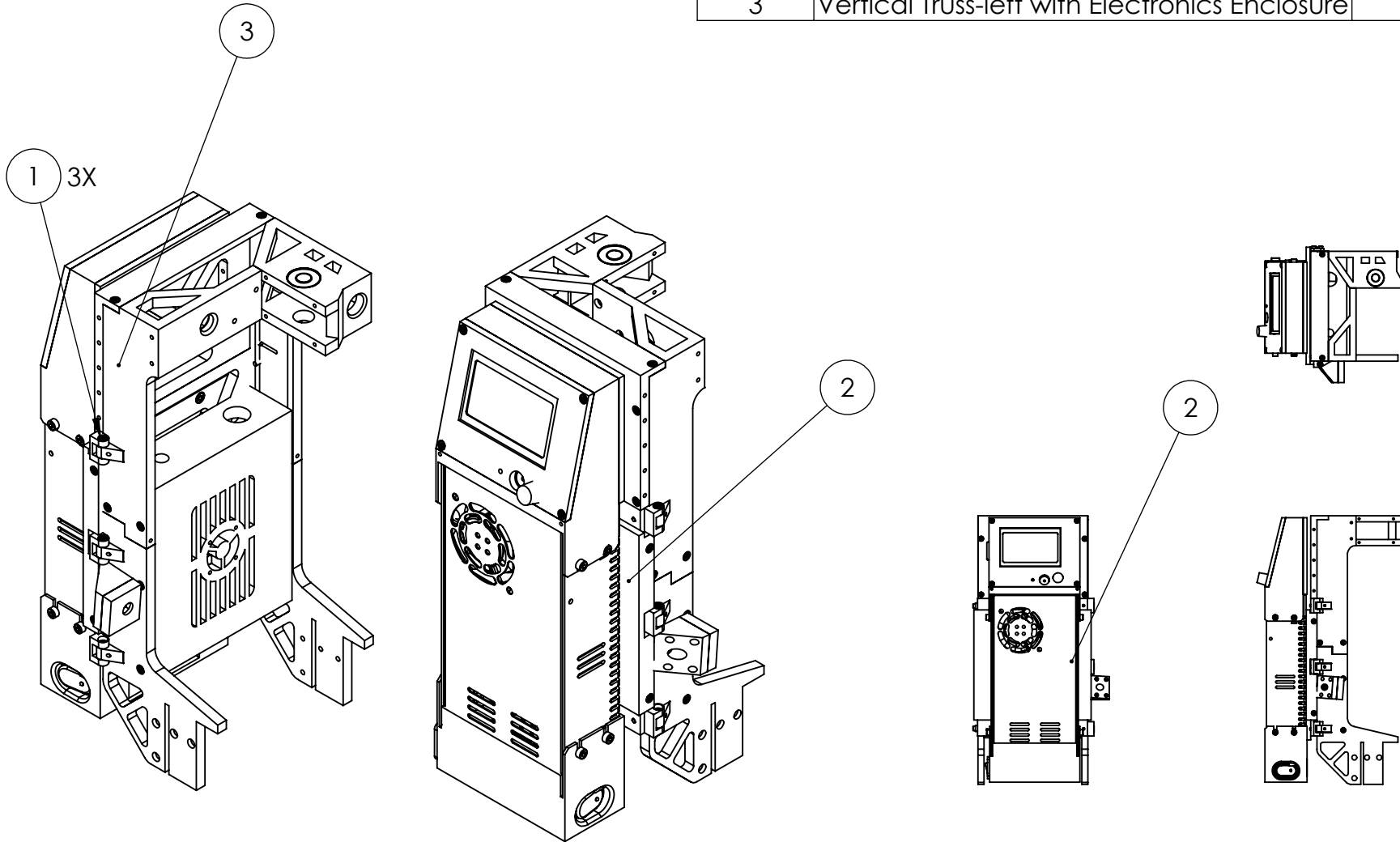
SCALE: 1:10

SHEET 2 OF 24

Superstructure

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B18.3.1M - 3 x 0.5 x 8 Hex SHCS -- 8NHX	SHCS M3x8	3
2	Power Supply Mount		1
3	Vertical Truss-left with Electronics Enclosure		1



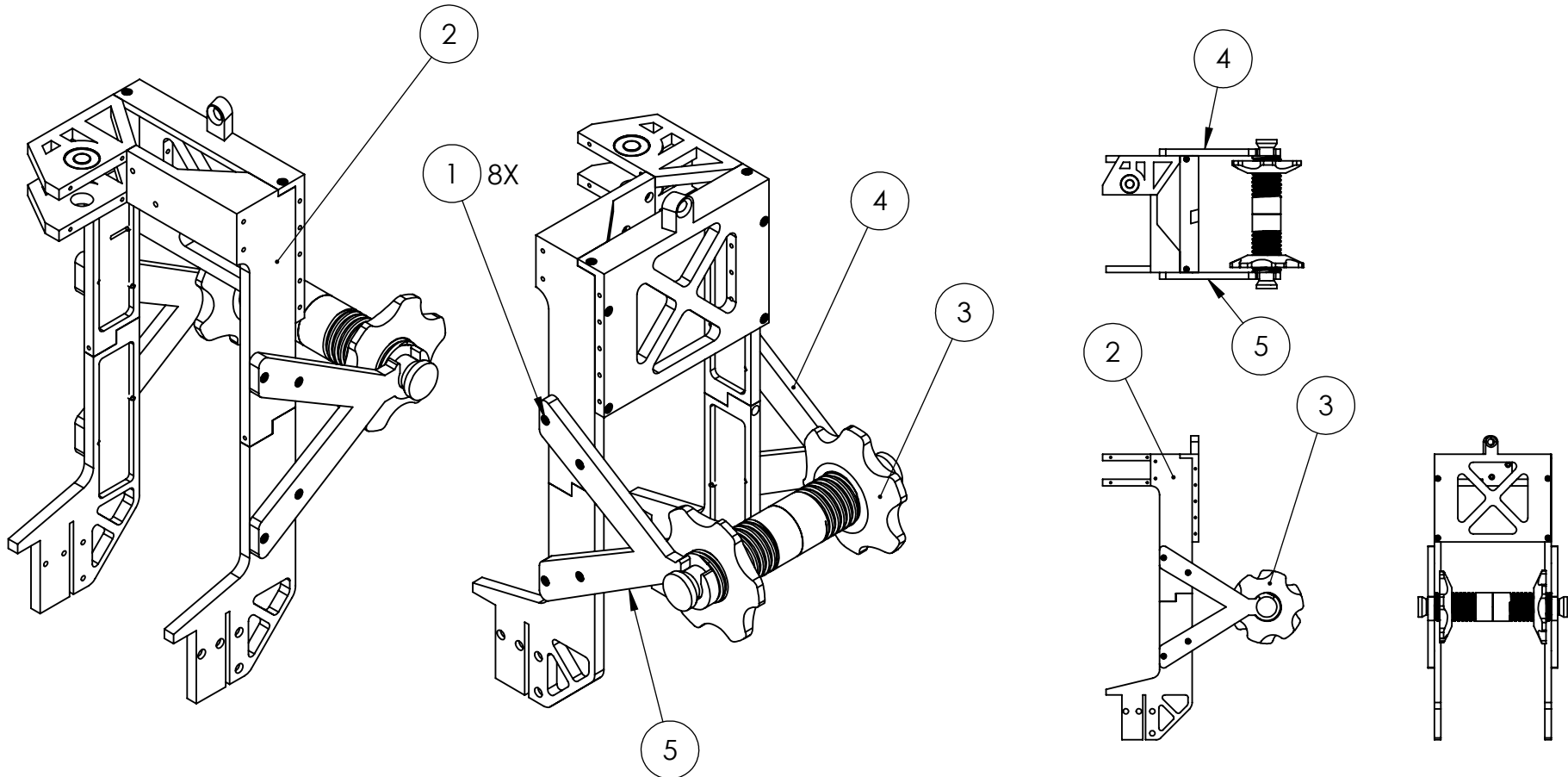
SCALE: 1:8

SHEET 3 OF 24

Electronics Truss

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	8
2	Vertical Truss-right with Spool Mount	1
3	Filament Spool Holder	1
4	spool holder bracket - rear	1
5	spool holder bracket - front	1



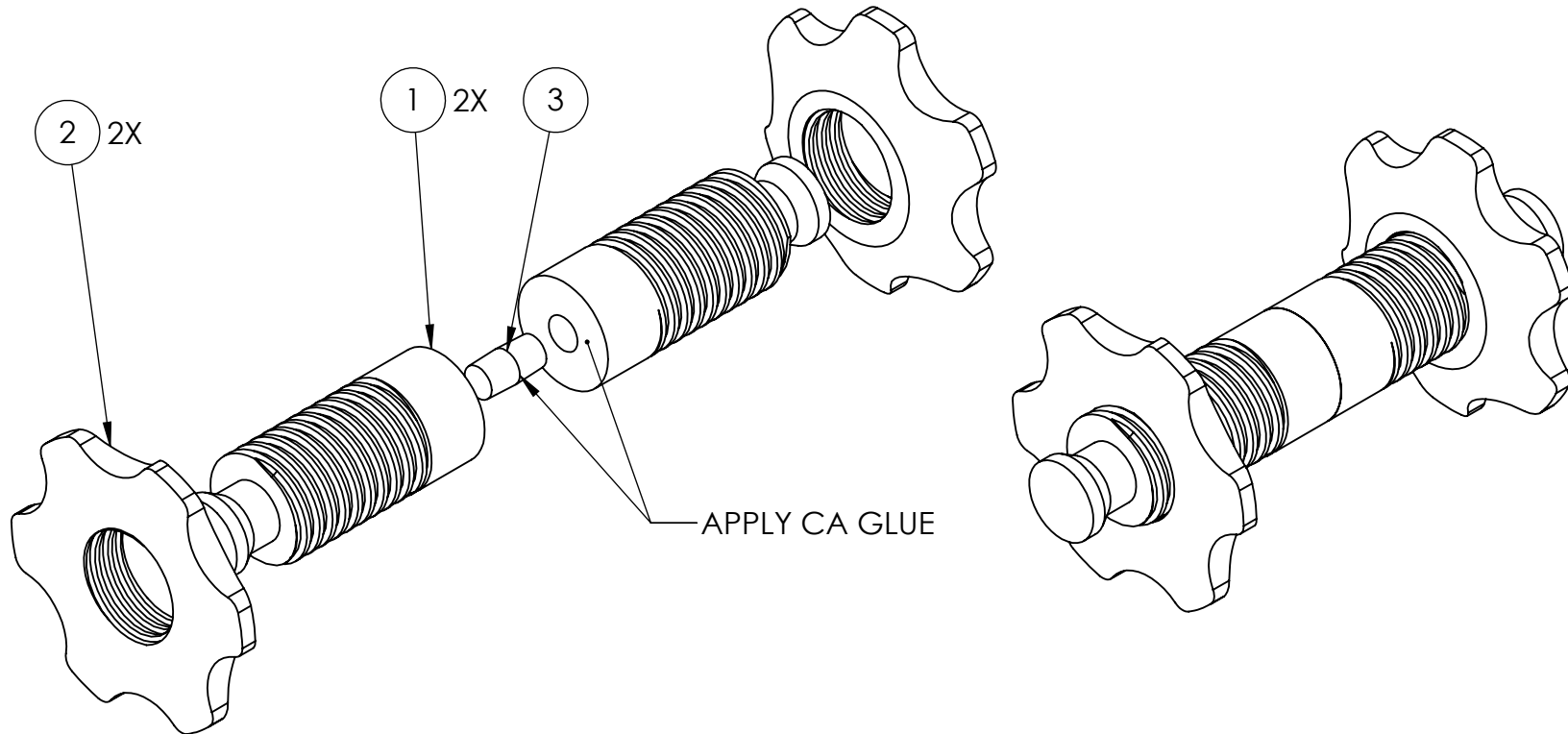
SCALE: 1:8

SHEET 4 OF 24

Spool Mount Truss

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	ULTIMATE/QTY.
1	filament spool holder spindle-shaft 1Z	2
2	filament spool holder spindle-hub	2
3	Proto-Plastik filament spool holder spindle pin	1

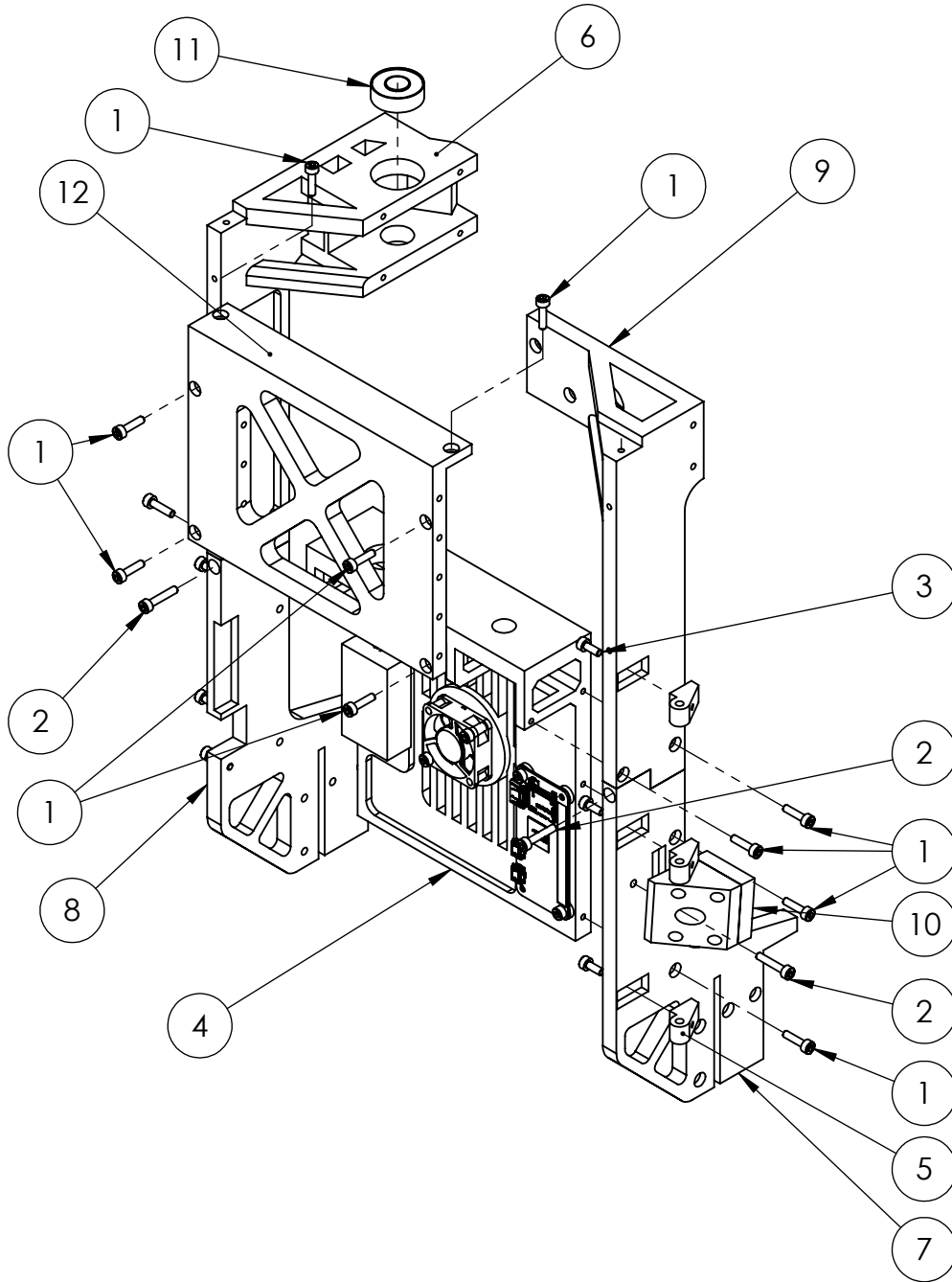


SCALE: 1:2

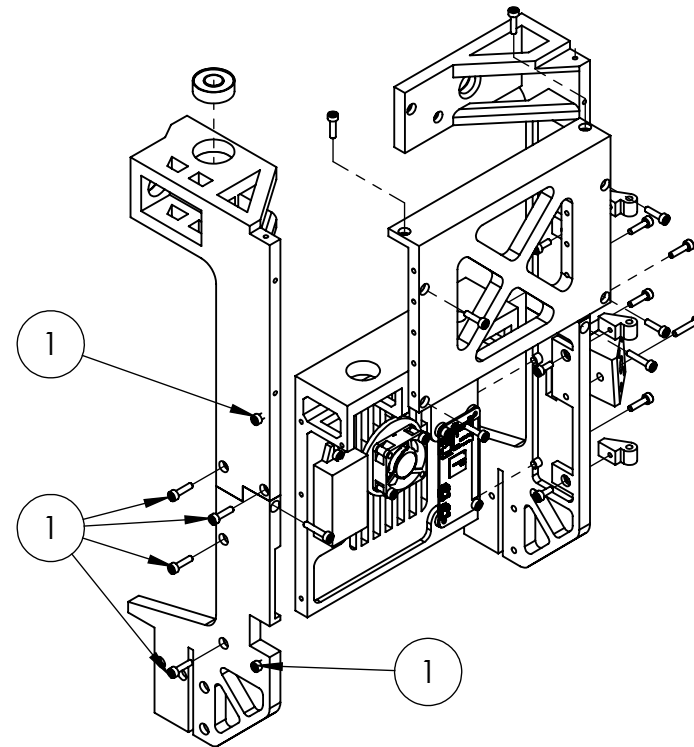
SHEET 5 OF 24

Filament Spool Holder

Proto-Plastik A52Z Ultimate



ITEM NO.	PART NUMBER	QTY.
FASTENERS		
1	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	16
2	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	3
3	B18.3.1M - 3 x 0.5 x 8 Hex SHCS -- 8NHX	3
4	Electronics Base	1
5	lower front-hinge	3
6	vertical truss -left rear upper	1
7	vertical truss-left front lower	1
8	vertical truss-left rear lower	1
9	vertical truss-left front upper	1
10	PI_CAMERA	1
11	R6RS bearing	1
12	top cross brace	1



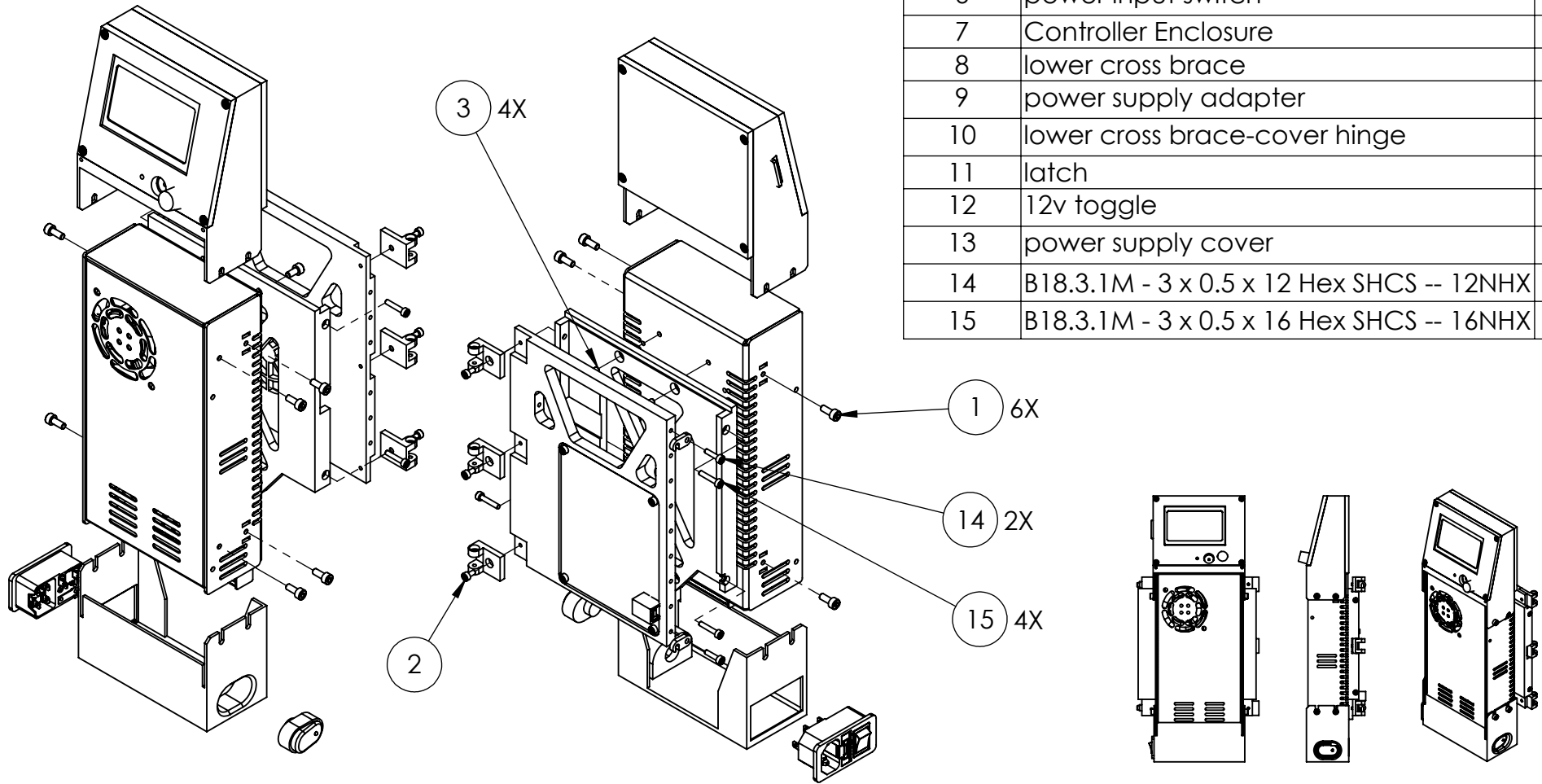
SCALE: 1:8

SHEET 6 OF 24

Vertical Truss Left

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 4 x 0.7 x 10 Hex SHCS -- 10NHX	6
2	B18.3.1M - 3 x 0.5 x 6 Hex SHCS -- 6NHX	7
3	NYLON - 4 x 0.7 x 8 Hex SHCS -- 8NHX	4
4	Power Supply	1
5	BASE V1.5	1
6	power input switch	1
7	Controller Enclosure	1
8	lower cross brace	1
9	power supply adapter	1
10	lower cross brace-cover hinge	3
11	latch	2
12	12v toggle	1
13	power supply cover	1
14	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	2
15	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	4



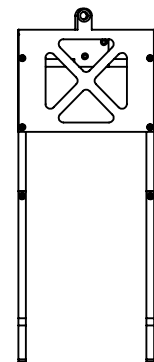
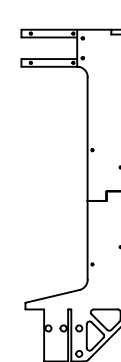
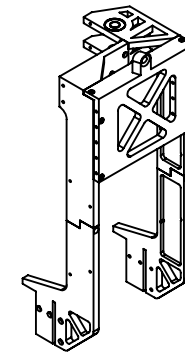
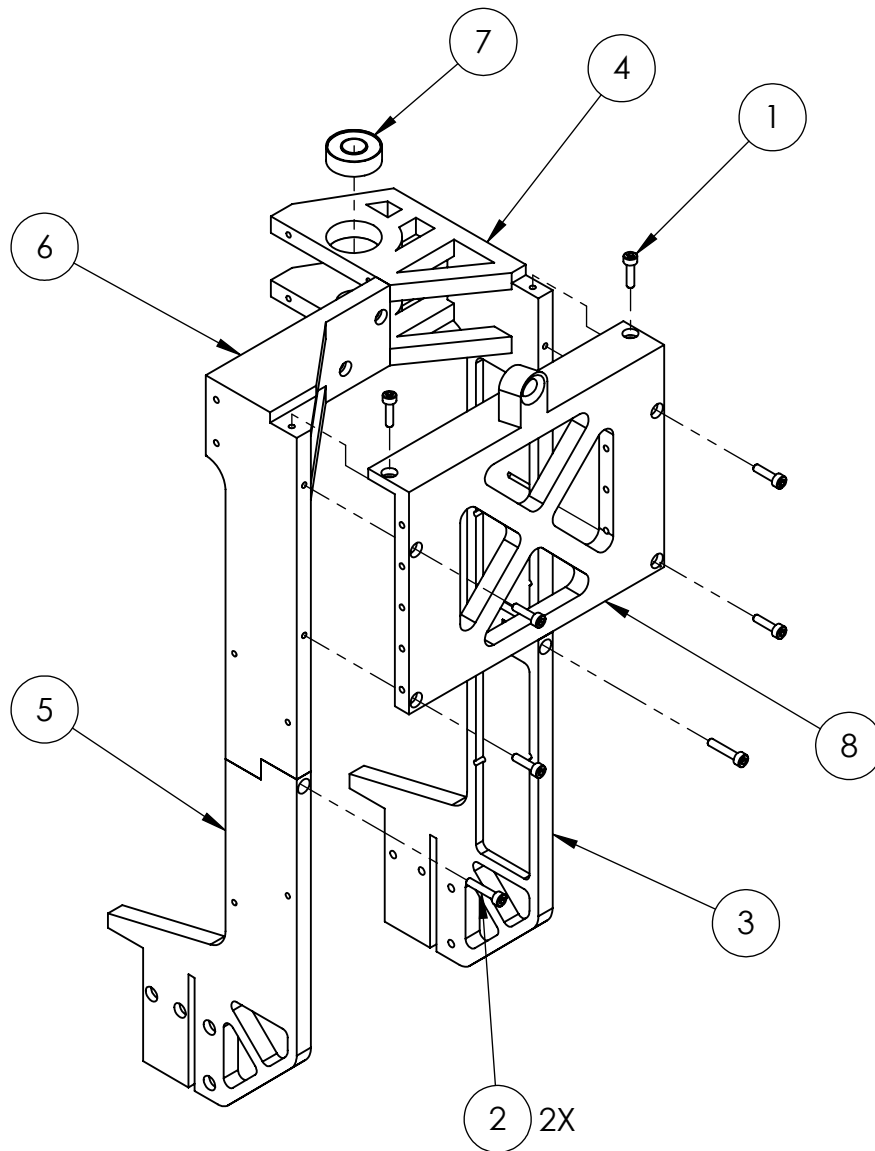
SCALE: 1:8

SHEET 7 OF 24

Power Supply Mount

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	6
2	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	2
3	vertical truss -right rear lower	1
4	vertical truss-right rear upper	1
5	vertical truss-right front lower	1
6	vertical truss-right front upper	1
7	R6RS bearing	1
8	top cross brace	1



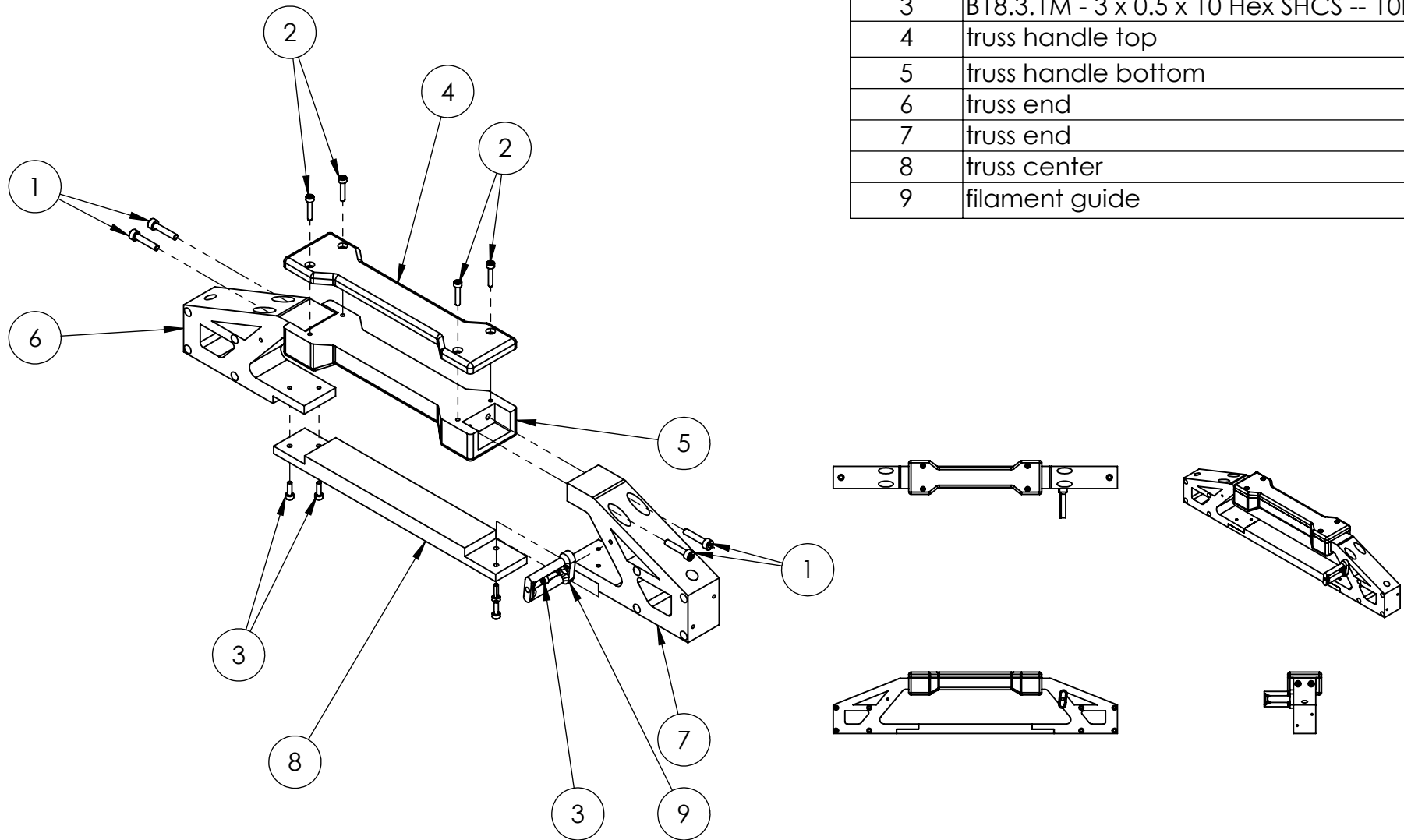
SCALE: 1:8

SHEET 8 OF 24

Vertical Truss Right

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 4 x 0.7 x 20 Hex SHCS -- 20NHX	4
2	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	4
3	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	5
4	truss handle top	1
5	truss handle bottom	1
6	truss end	1
7	truss end	1
8	truss center	1
9	filament guide	1



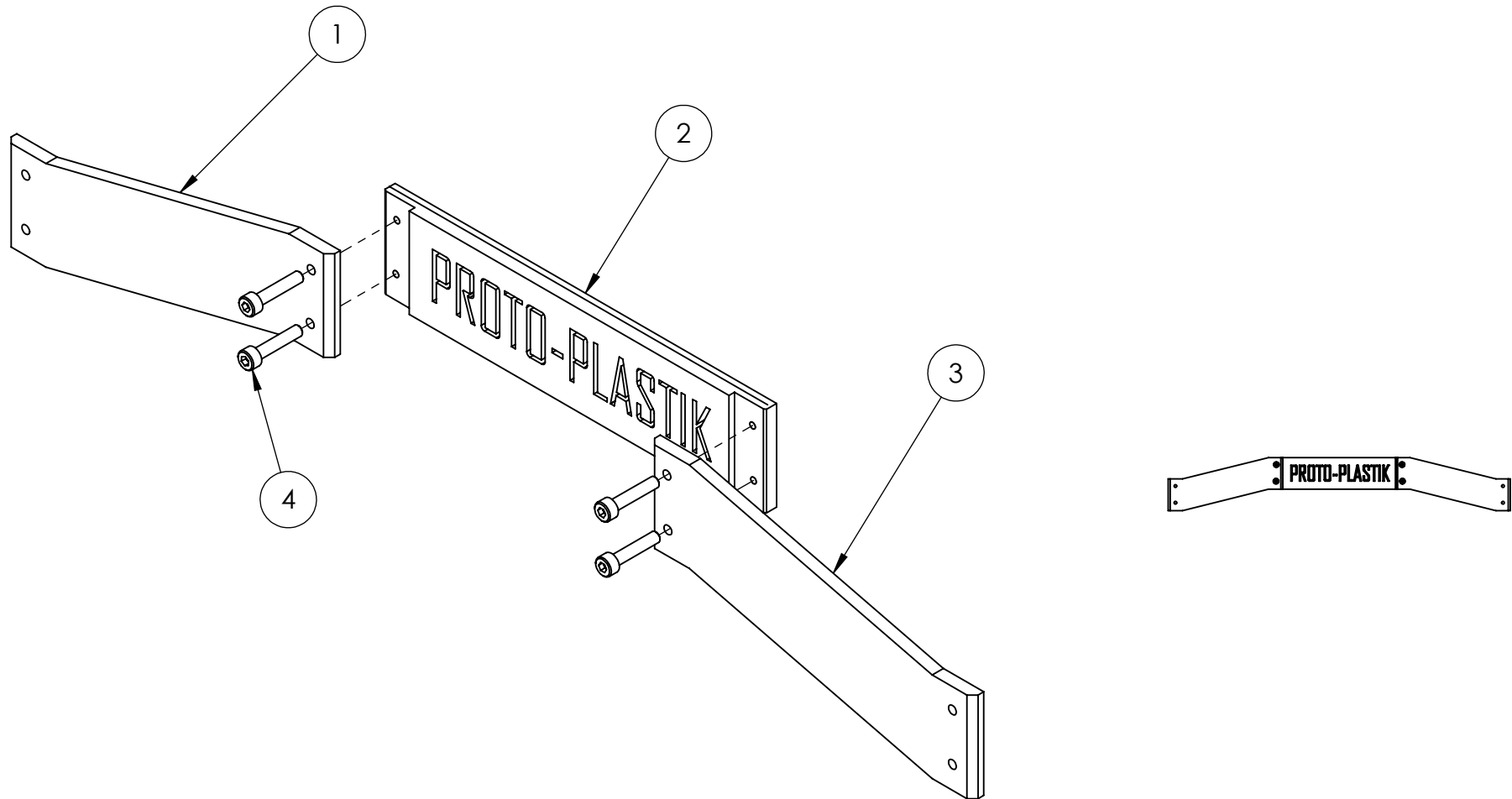
SCALE: 1:8

SHEET 9 OF 24

Truss Handle

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	Name Bar-end	1
2	Name Bar-banner	1
3	Name Bar-end-OH	1
4	B18.3.1M - 4 x 0.7 x 20 Hex SHCS -- 20NHX	4



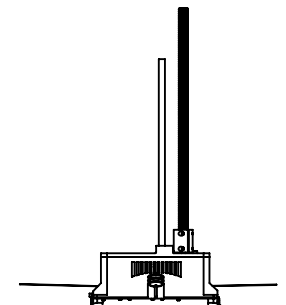
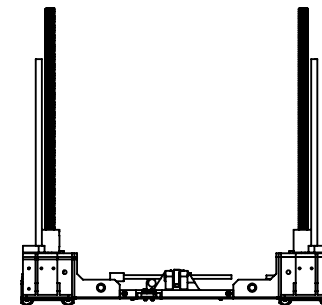
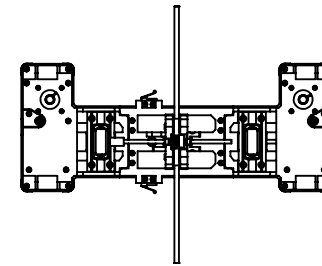
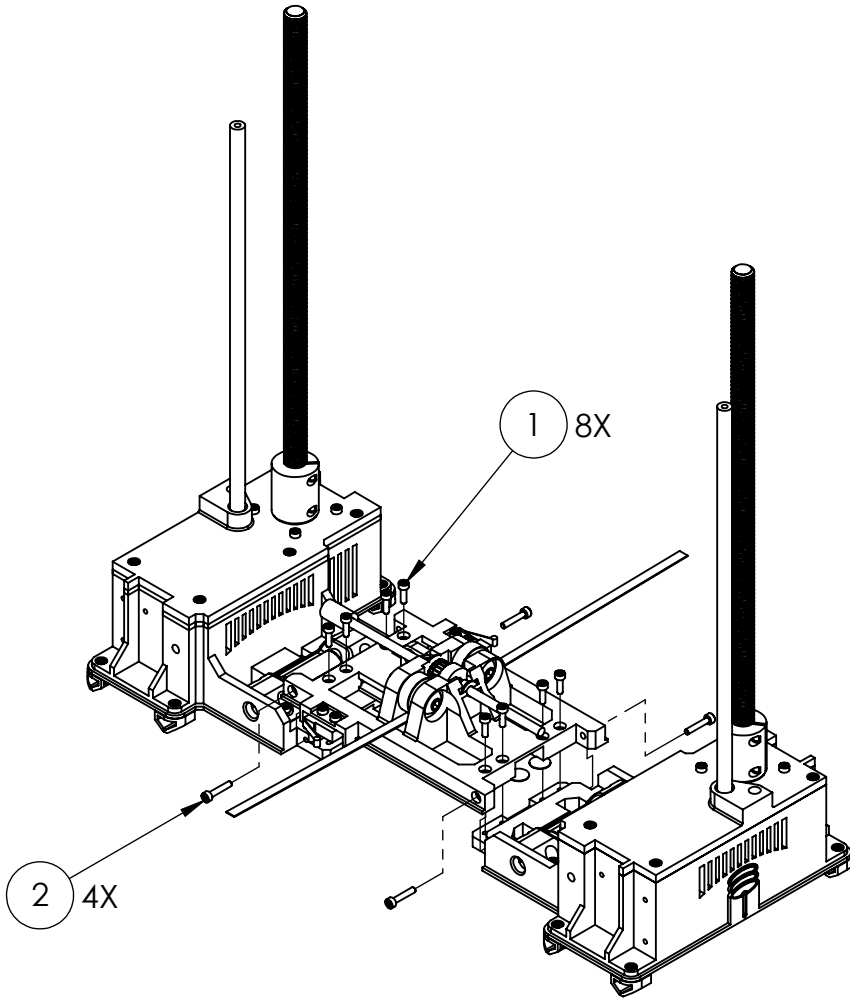
SCALE: 1:8

SHEET 10 OF 24

Name Bar

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	8
2	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	4
3	Motor Housing YZ-Axis	1
4	Motor Housing Z-Axis	1
5	A5 Frame Chassis Center	1

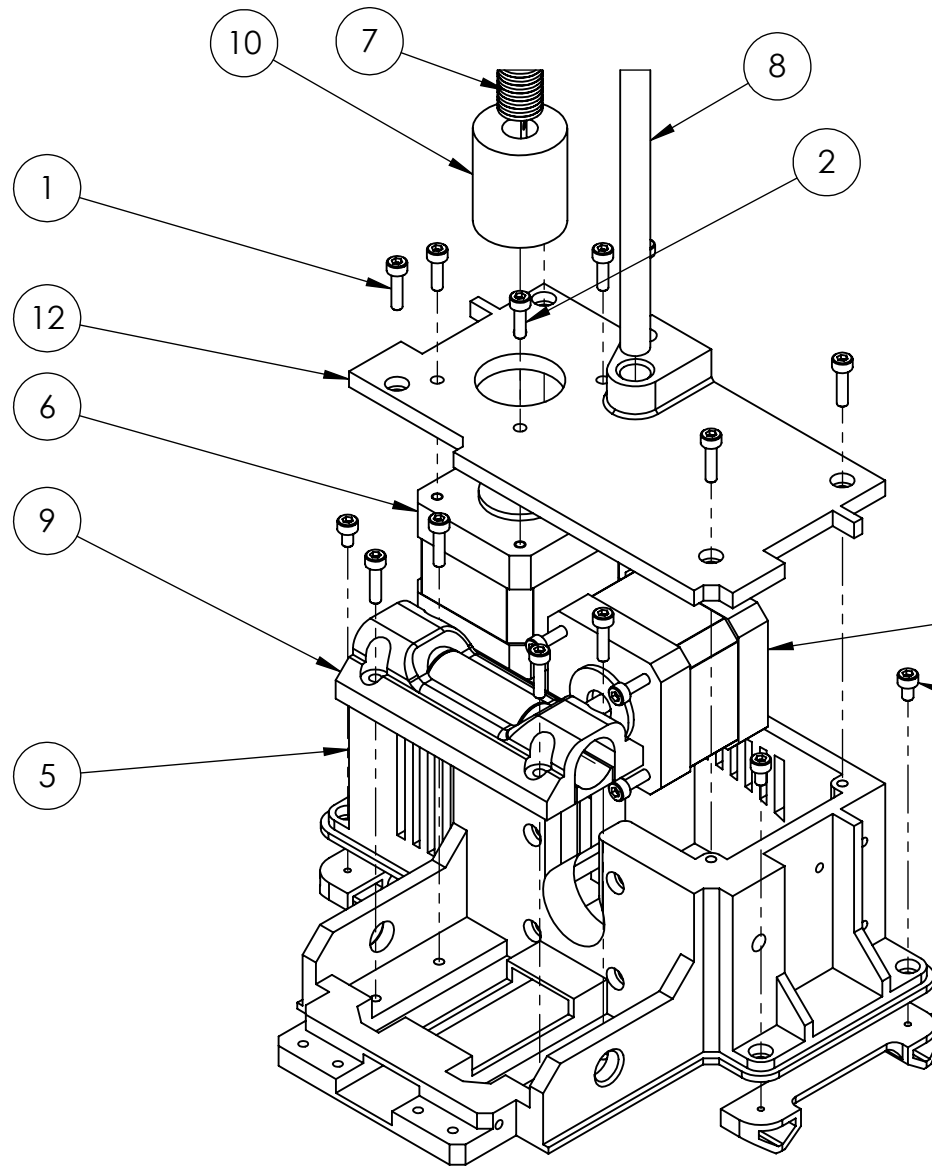


SCALE: 1:10

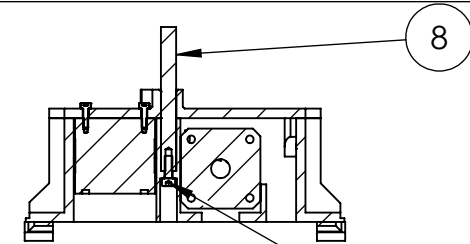
SHEET 11 OF 24

Subframe

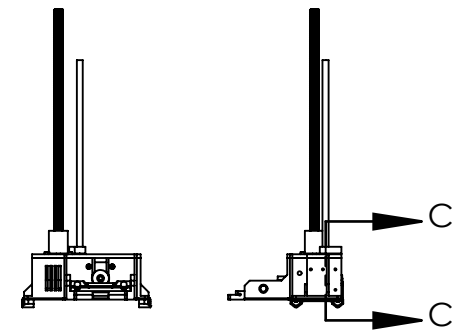
Proto-Plastik A52Z Ultimate



ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	13
2	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	4
3	B18.3.1M - 4 x 0.7 x 12 Hex SHCS -- 12NHX	1
4	B18.3.1M - 3 x 0.5 x 5 Hex SHCS -- 5NHX	4
5	motor housing RIGHT-body	1
6	OpenBuilds Nema 17 SKU775	2
7	.375-12 x 12 Leadscrew	1
8	RDOM8 8mm rod	1
9	Y-Axis Bearing Cover and Tray	1
10	rigid coupler	1
11	mounting foot TPE	2
12	motor housing RIGHT-cover	1



SECTION C-C
SCALE 1 : 4



NOTES:
ITEM 7 290mm with 4mm threaded ends
ITEM 9 can be replaced with 5mm x 3/8" flexible coupler

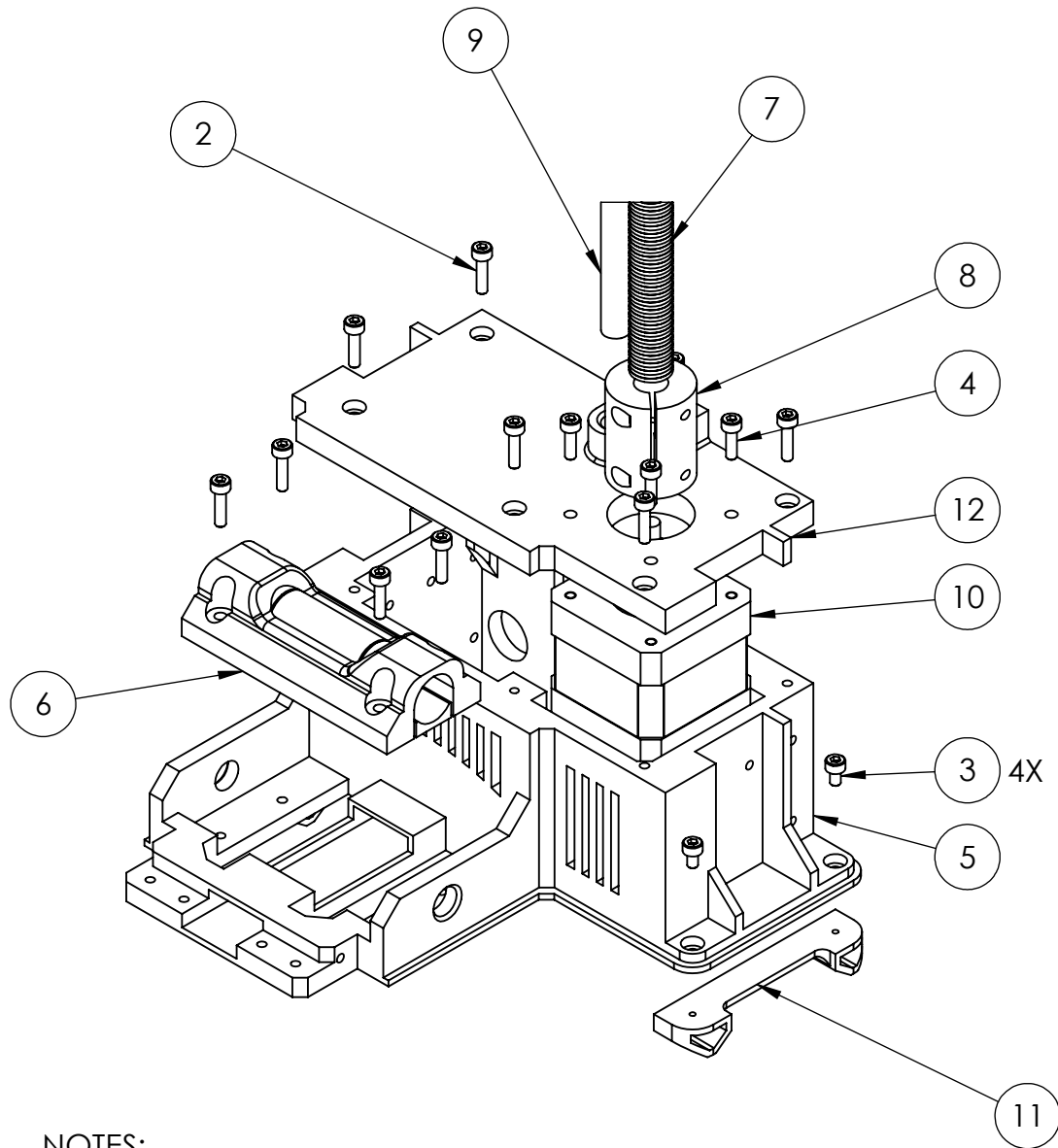


SCALE: 1:10

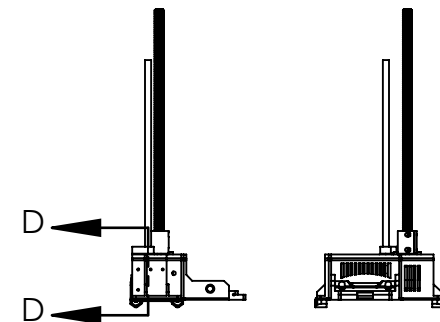
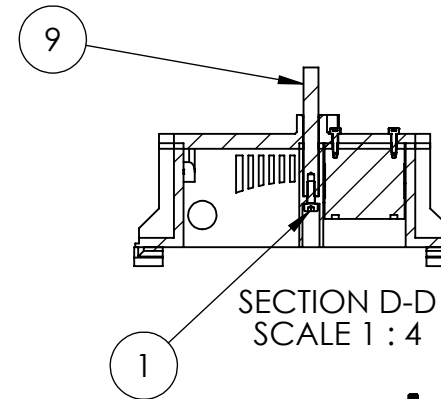
SHEET 12 OF 24

Motor Housing YZ Axis

Proto-Plastik A52Z Ultimate



ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 4 x 0.7 x 12 Hex SHCS -- 12NHX	1
2	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	10
3	B18.3.1M - 3 x 0.5 x 5 Hex SHCS -- 5NHX	4
4	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	4
5	motor housing LEFT-Body	1
6	Y-Axis Bearing Cover and Tray	1
7	.375-12 x 12 Leadscrew	1
8	rigid coupler	1
9	RDOM8 8mm rod	1
10	OpenBuilds Nema 17 SKU775	1
11	mounting foot TPE	2
12	motor housing LEFT-Cover	1



NOTES:
 ITEM 8 290mm with 4mm threaded ends
 ITEM 7 can be replaced with 5mm x 3/8" flexible coupler



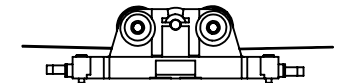
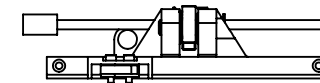
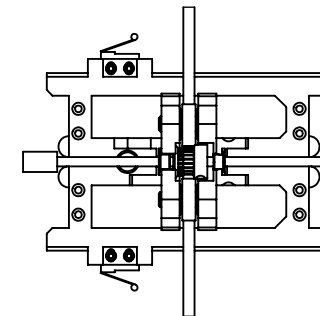
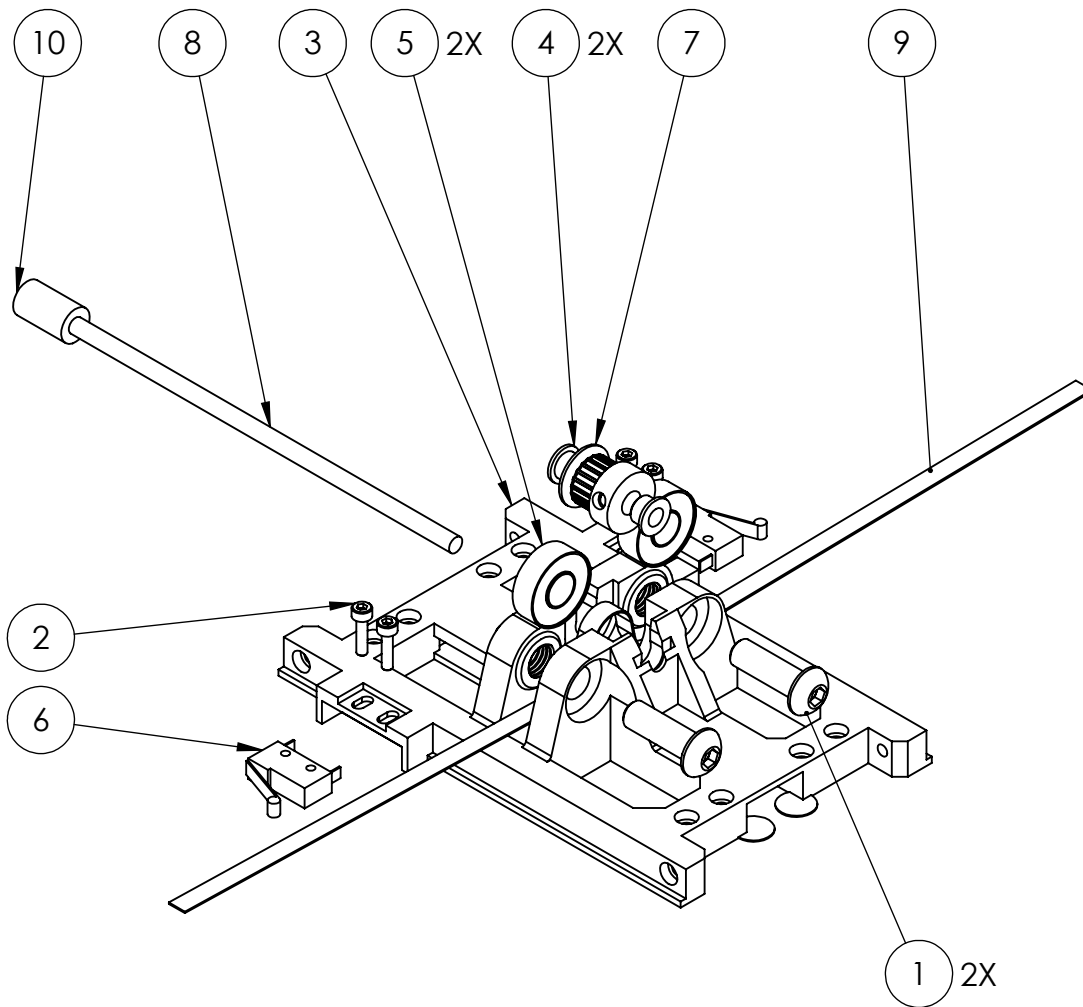
SCALE: 1:10

SHEET 13 OF 24

Motor Housing Z Axis

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	SBHCSCREW 0.3125-18x1-HX-N	2
2	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	4
3	chassis	1
4	5mm ID x 8mm OD x 6mm Flanged	2
5	R6RS bearing	2
6	endstop	2
7	GT2 Drive Pulley	1
8	driveshaft	1
9	belt^A5 Frame Chassis Center	1
10	5mm Rigid Coupler	1



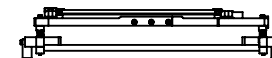
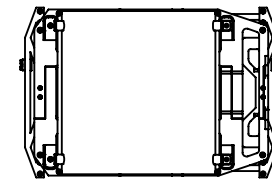
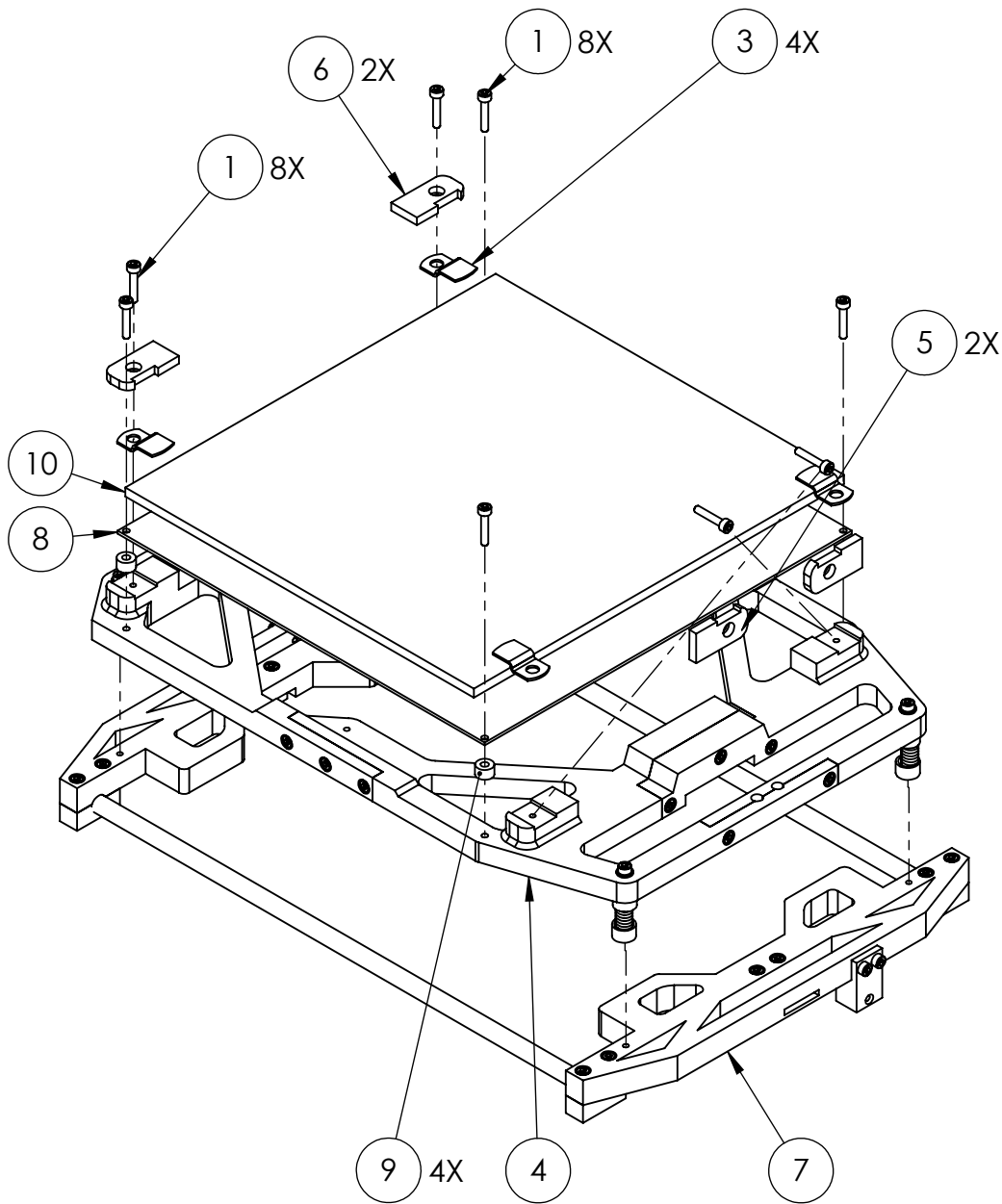
SCALE: 1:4

SHEET 14 OF 24

Frame Chassis Center

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	8
2	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	2
3	glass clip	4
4	A5 Bed Build Platform	1
5	build platform-clip retainer-OH	2
6	build platform-clip retainer	2
7	A5 Bed Chassis	1
8	heated-bed	1
9	silicon standoff	4
10	heated-bed-glass	1



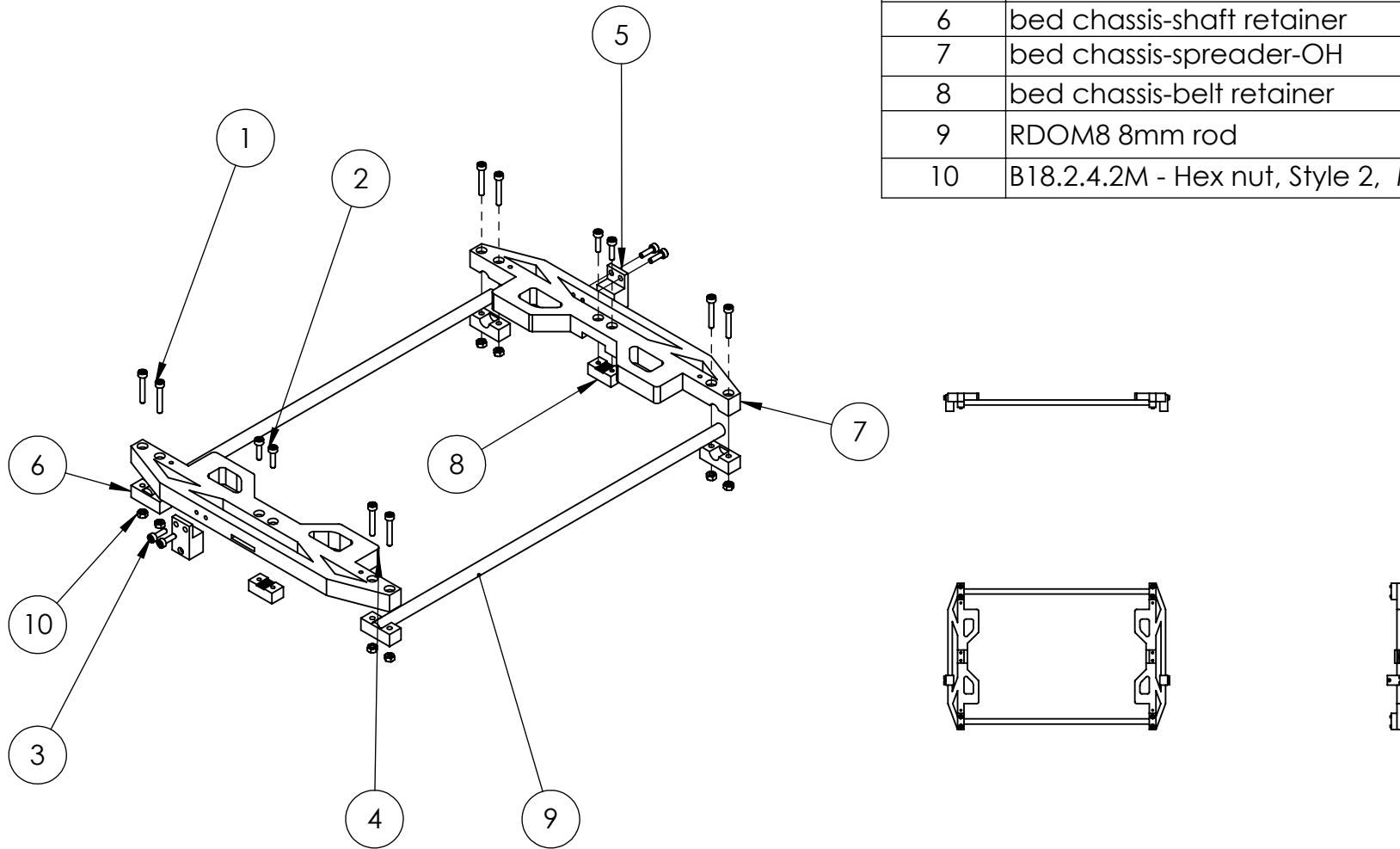
SCALE: 1:10

SHEET 15 OF 24

A5 Bed

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 20 Hex SHCS -- 20NHX	8
2	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	4
3	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	4
4	bed chassis-spreader	1
5	bed chassis-end stop	2
6	bed chassis-shaft retainer	4
7	bed chassis-spreader-OH	1
8	bed chassis-belt retainer	2
9	RDOM8 8mm rod	2
10	B18.2.4.2M - Hex nut, Style 2, M3 x 0.5 --D-N	8



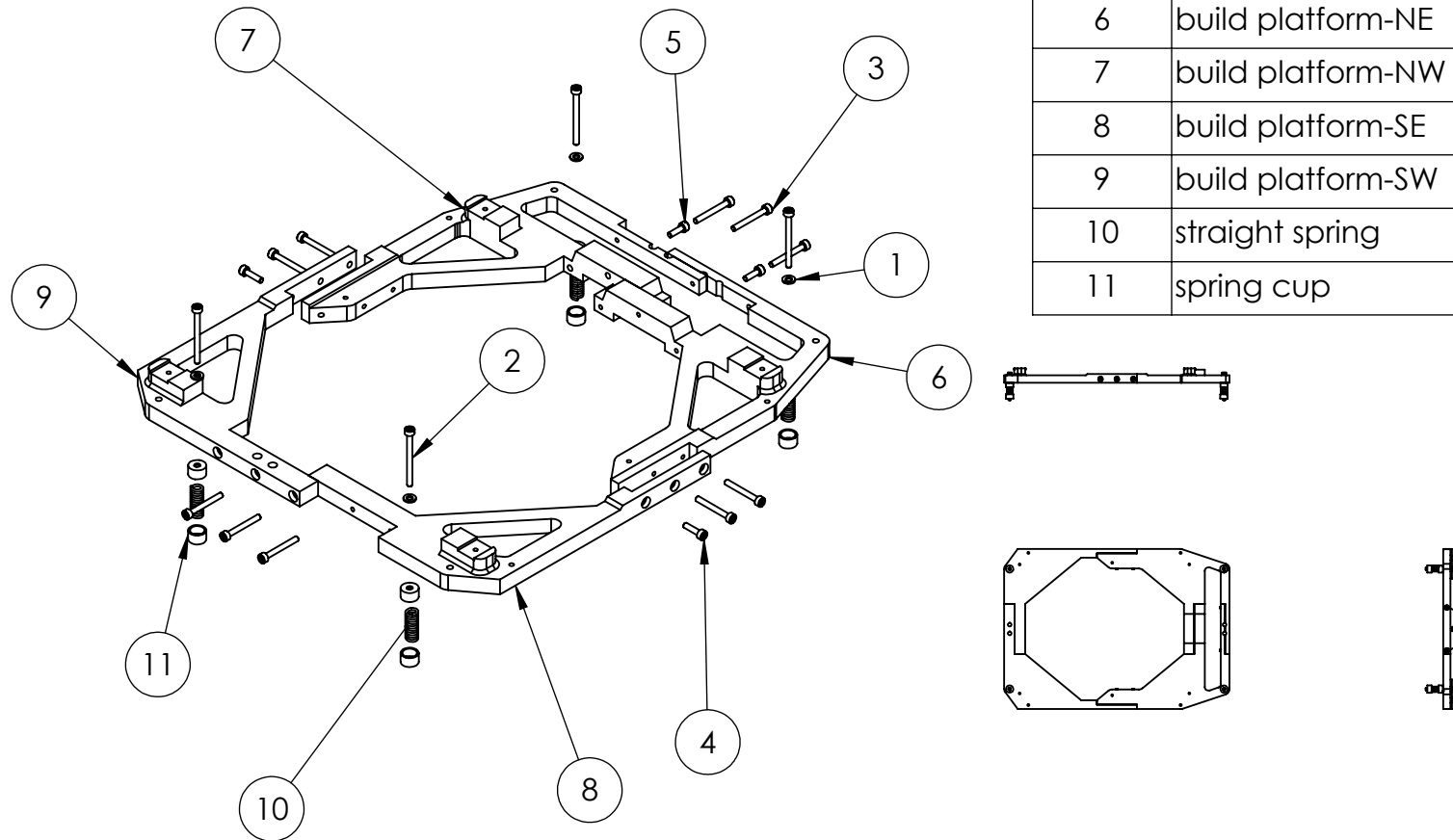
SCALE: 1:10

SHEET 16 OF 24

A5 Bed Chassis

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.22M - Plain washer, 3 mm, narrow	4
2	B18.3.1M - 3 x 0.5 x 35 Hex SHCS -- 18NHX	4
3	B18.3.1M - 3 x 0.5 x 25 Hex SHCS -- 18NHX	10
4	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	2
5	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	2
6	build platform-NE	1
7	build platform-NW	1
8	build platform-SE	1
9	build platform-SW	1
10	straight spring	4
11	spring cup	8



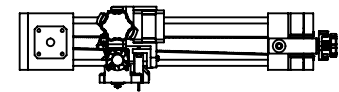
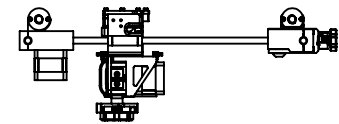
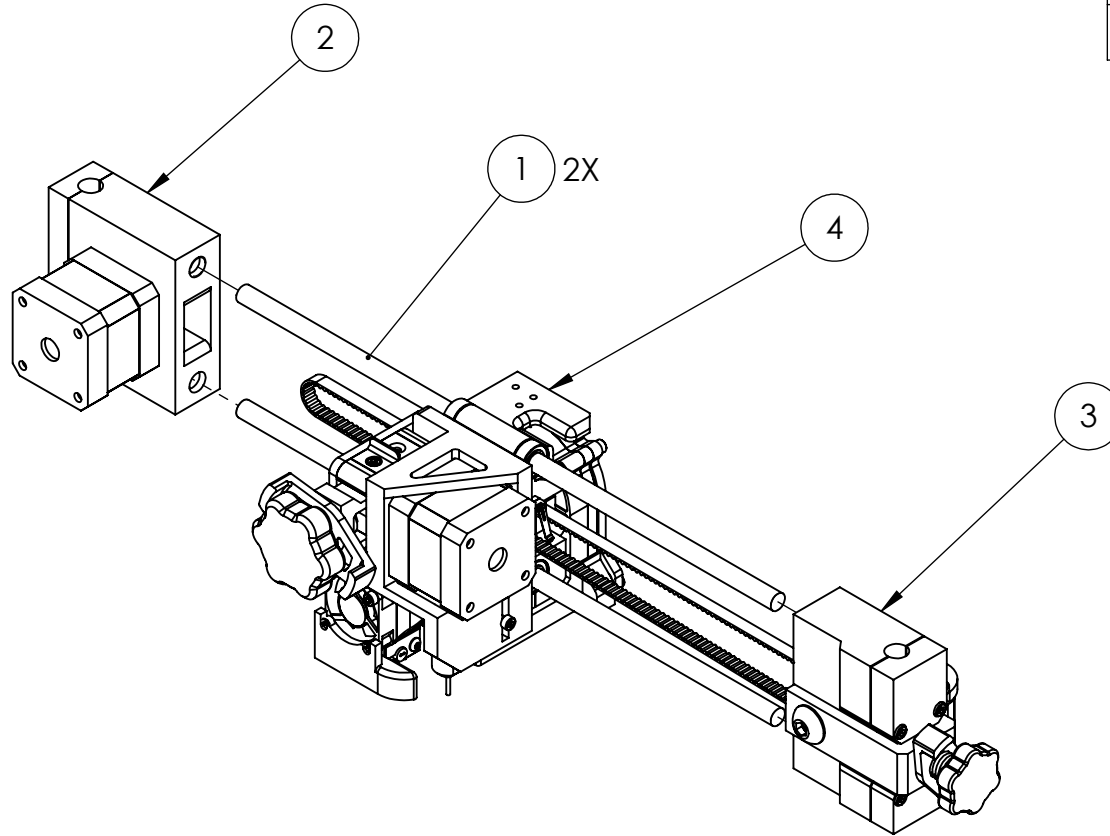
SCALE: 1:10

SHEET 17 OF 24

A5 Build Platform

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	RDOM8 8mm rod	2
2	2Z X-Axis Bearing Holder - LEFT	1
3	2Z X-Axis Bearing Holder - RIGHT	1
4	Filament Drive	1

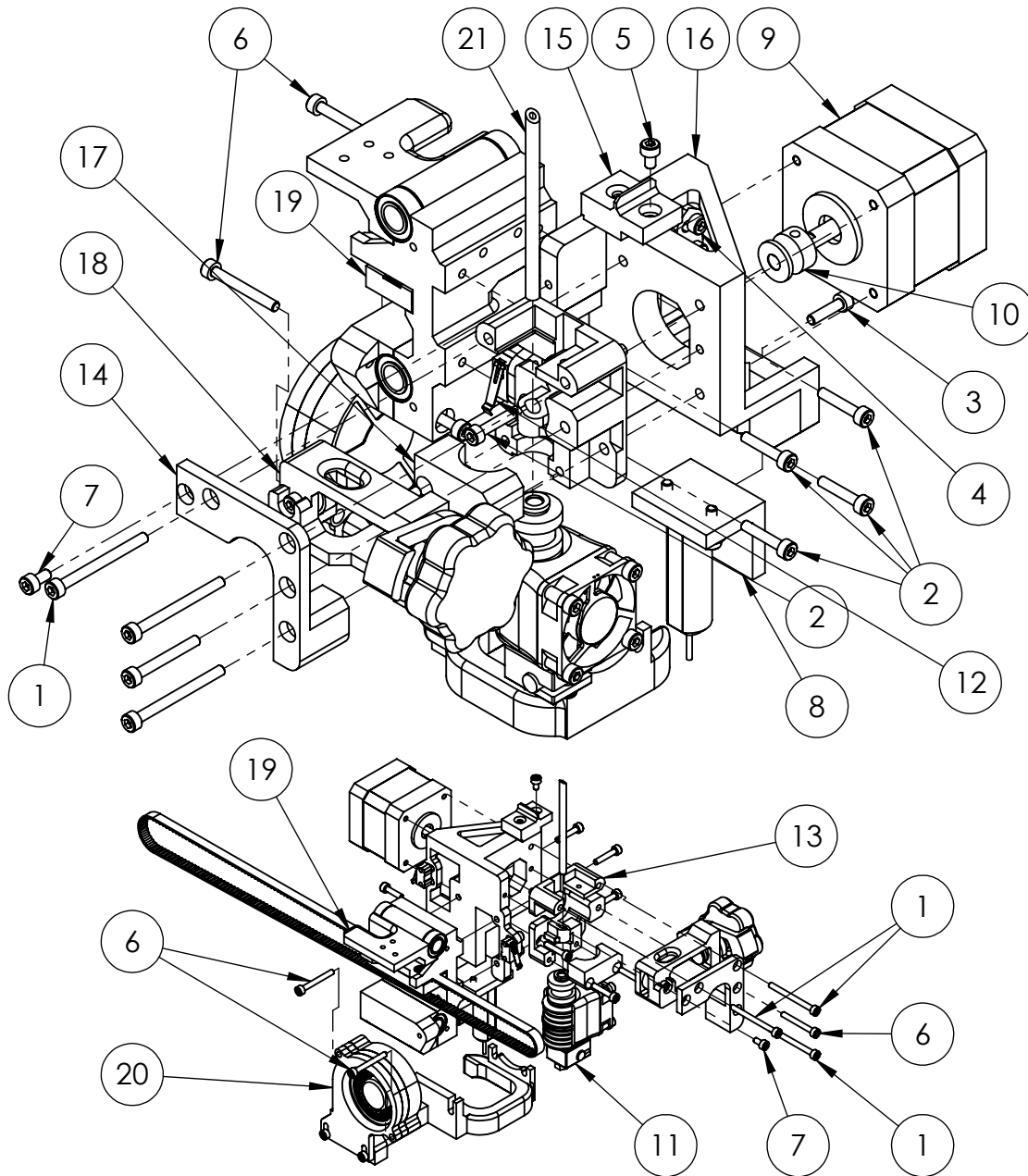


SCALE: 1:10

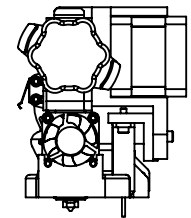
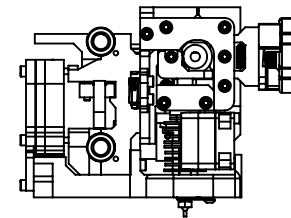
SHEET 18 OF 24

X-Axis Gantry

Proto-Plastik A52Z Ultimate



ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 35 Hex SHCS -- 18NHX	3
2	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	7
3	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	1
4	B18.3.1M - 3 x 0.5 x 10 Hex SHCS -- 10NHX	4
5	B18.3.1M - 3 x 0.5 x 5 Hex SHCS -- 5NHX	1
6	B18.3.1M - 3 x 0.5 x 25 Hex SHCS -- 18NHX	3
7	B18.3.1M - 3 x 0.5 x 6 Hex SHCS -- 6NHX	1
8	Filament Drive Bed Leveling	1
9	OpenBuilds Nema 17 SKU775	1
10	MK7	1
11	e3D Lite6	1
12	Endstop	2
13	hot end mount-body	1
14	hot end cover	1
15	filament guide access	1
16	motor mount	1
17	hot end retainer	1
18	Filament Drive Tightener	1
19	Filament Drive Bearing Holder	1
20	Filament Drive Cooling Fan	1
21	ptfe tube	1



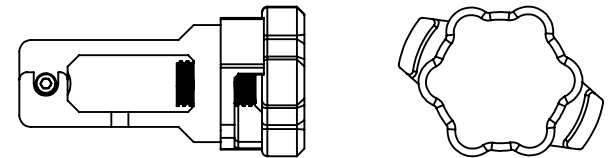
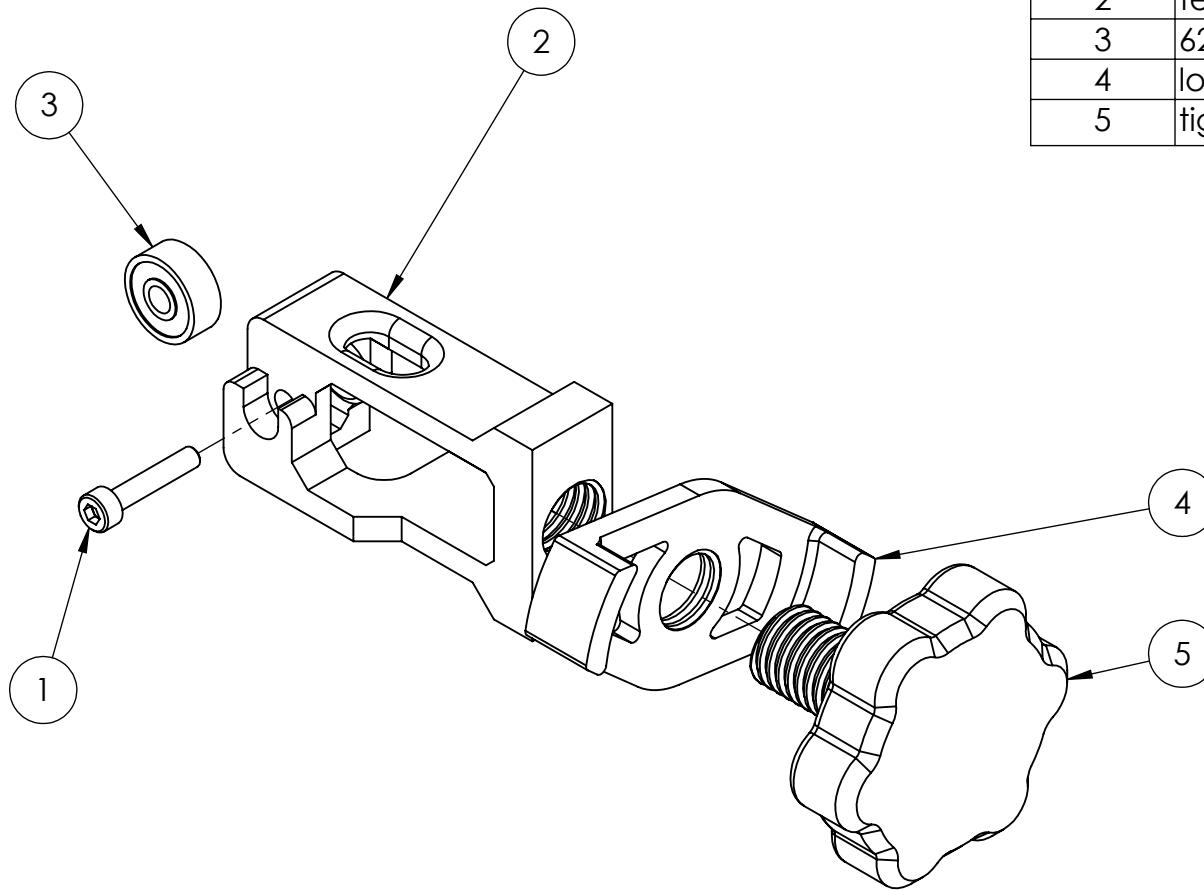
SCALE: 1:4

SHEET 19 OF 24

Filament Drive

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	1
2	tensioner	1
3	624zz	1
4	lock nut	1
5	tightening knob	1



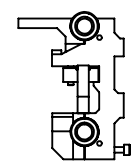
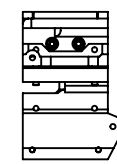
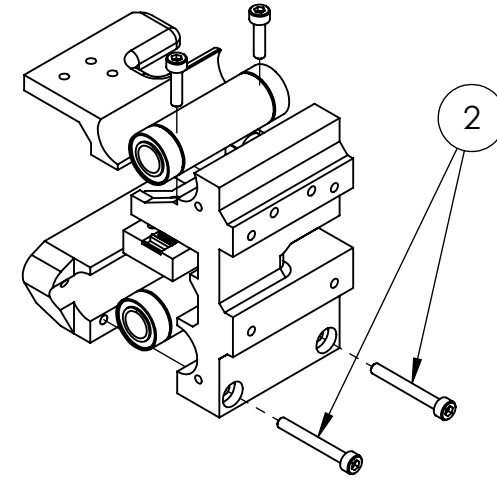
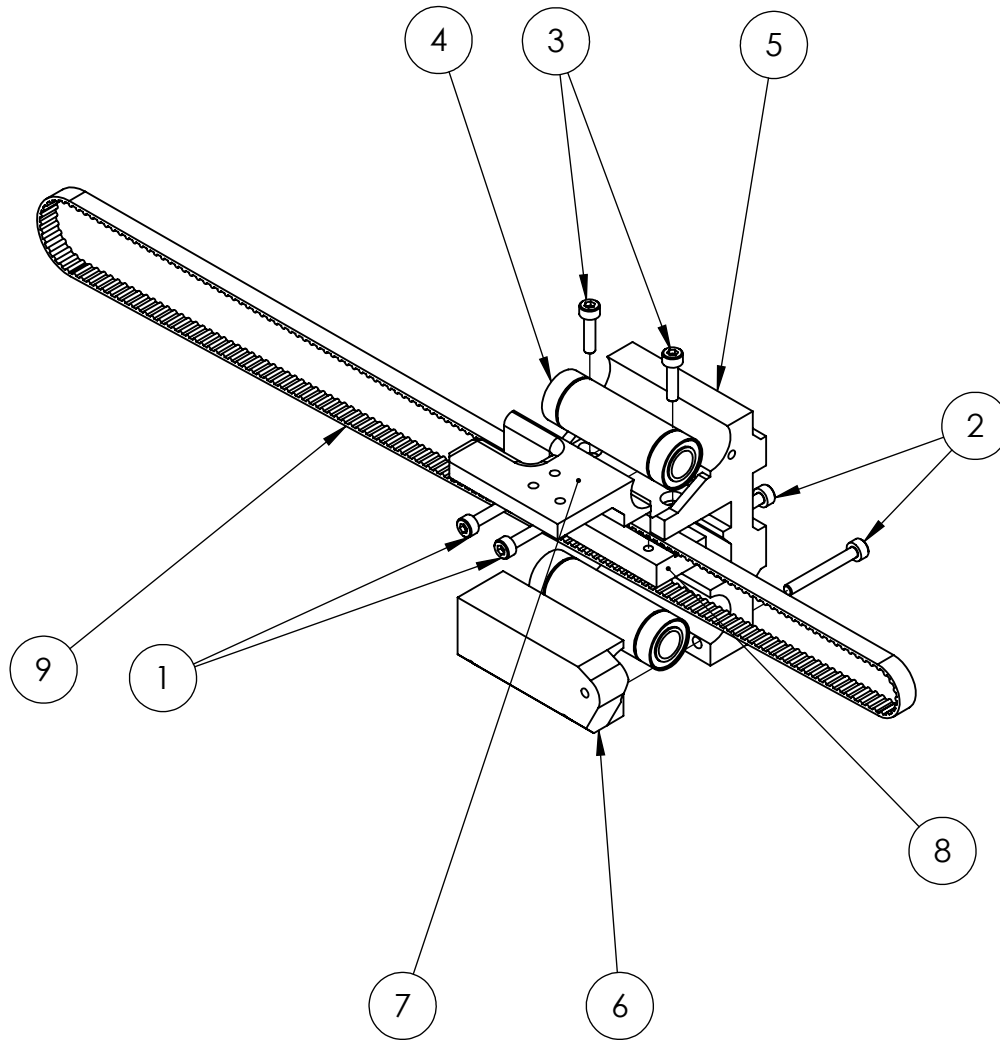
SCALE: 1:2

SHEET 20 OF 24

Filament Drive Tightener

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	2
2	B18.3.1M - 3 x 0.5 x 25 Hex SHCS -- 18NHX	2
3	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	2
4	LM8LUU Bearing	2
5	bearing holder body	1
6	bearing lower retainer	1
7	bearing upper retainer	1
8	belt retainer	1
9	670mm drive belt	1



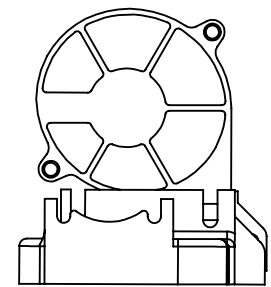
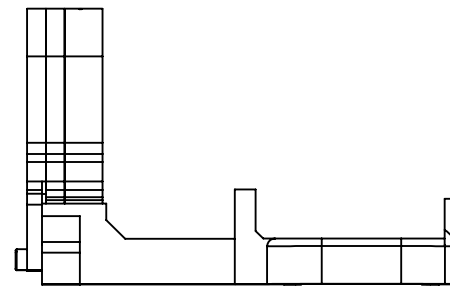
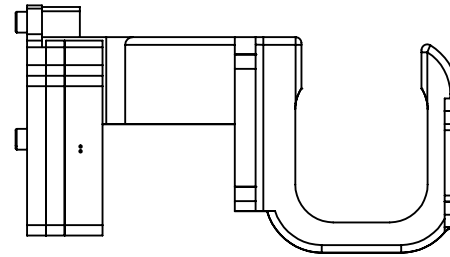
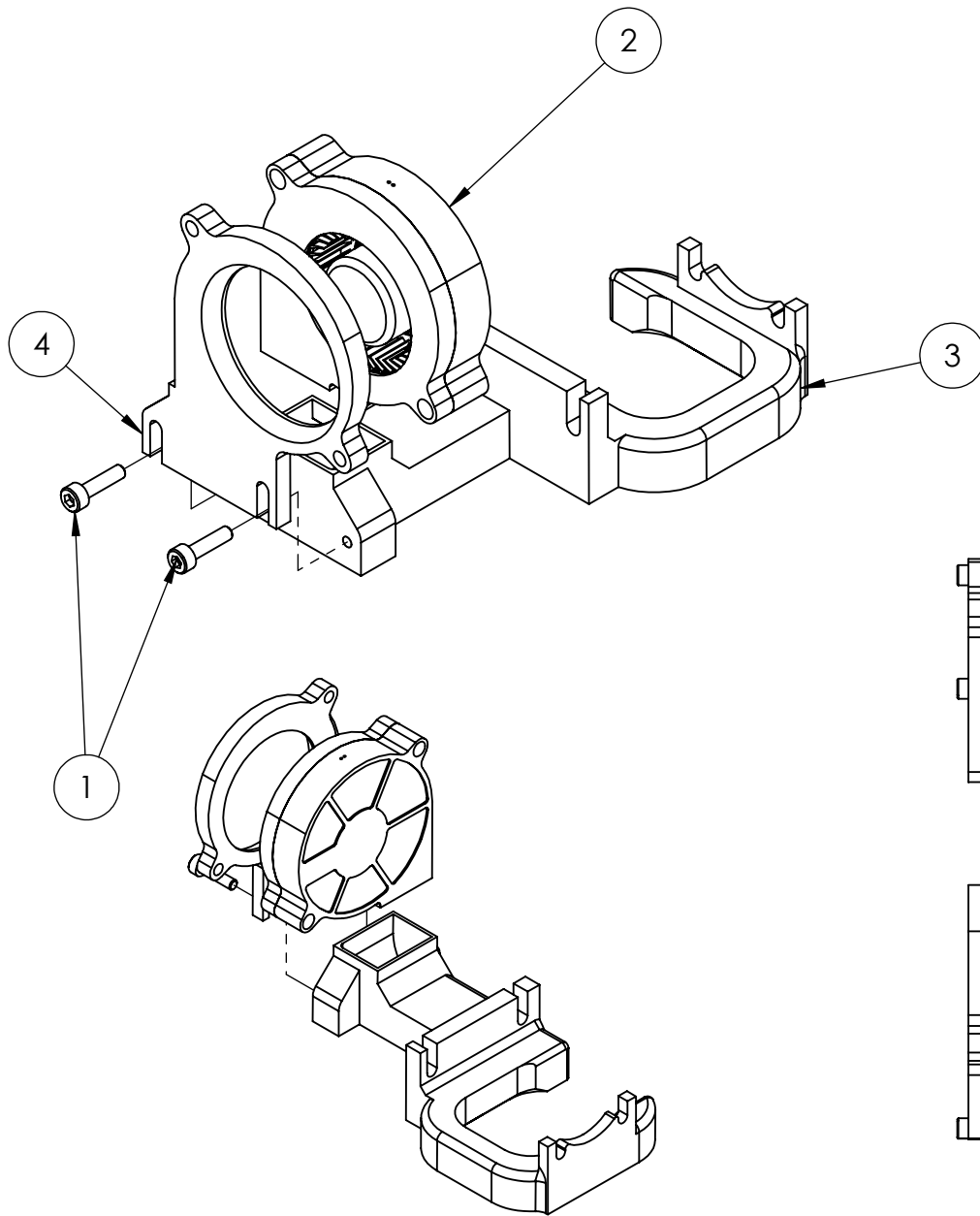
SCALE: 1:4

SHEET 21 OF 24

Filament Drive Bearing Holder

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 12 Hex SHCS -- 12NHX	2
2	MC32897_1	1
3	fan nozzle	1
4	nozzle bracket	1



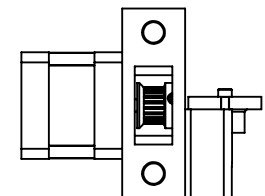
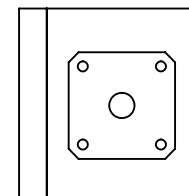
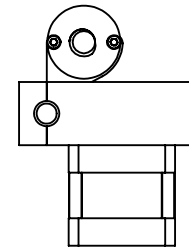
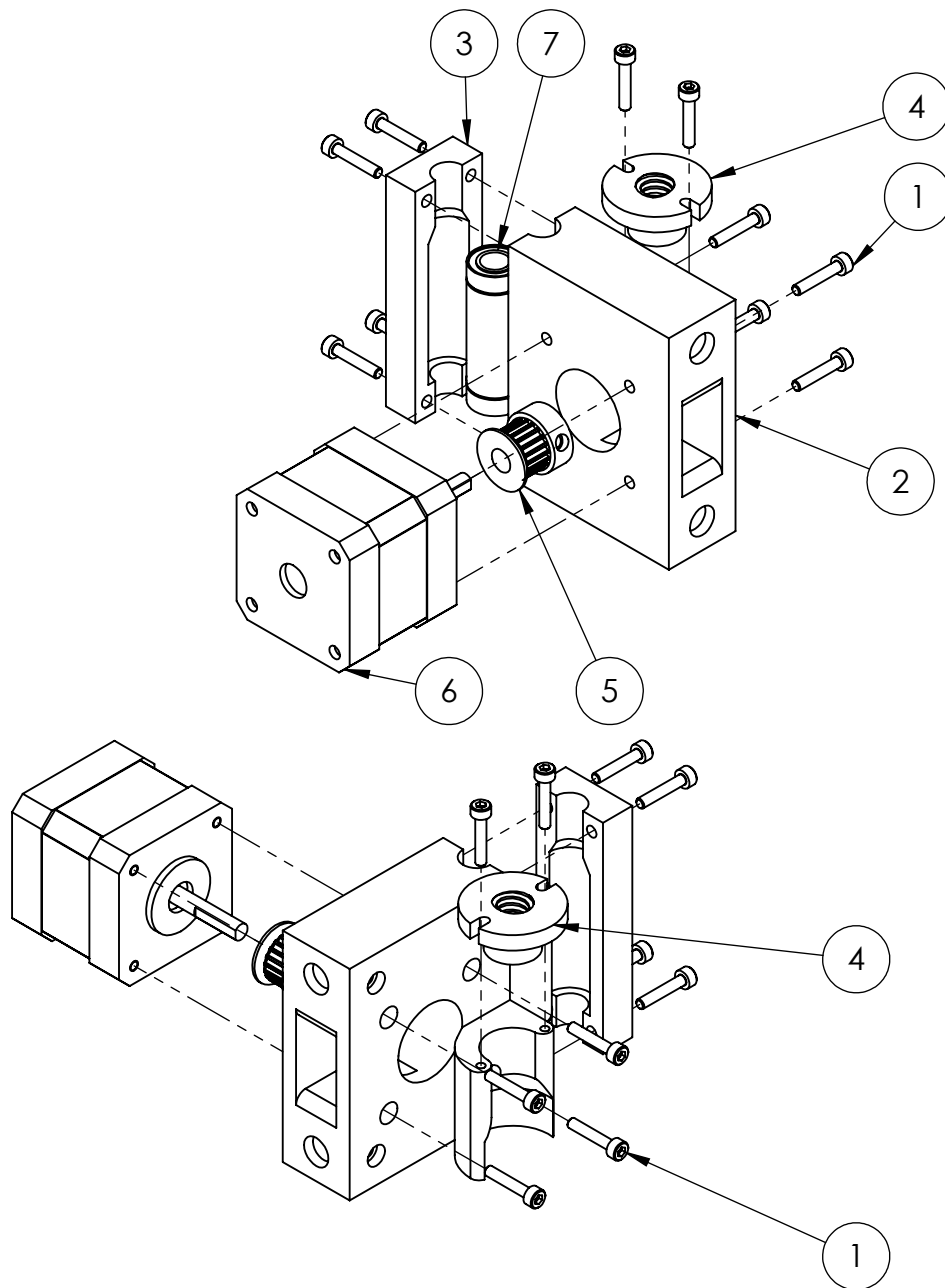
SCALE: 1:2

SHEET 22 OF 24

Filament Drive Cooling Fan

Proto-Plastik A52Z Ultimate

ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	10
2	2Z bearing holder left body	1
3	2Z bearing holder left cover	1
4	ACME threaded retainer	1
5	GT2 Drive Pulley	1
6	OpenBuilds Nema 17 SKU775	1
7	LM8LUU Bearing	1

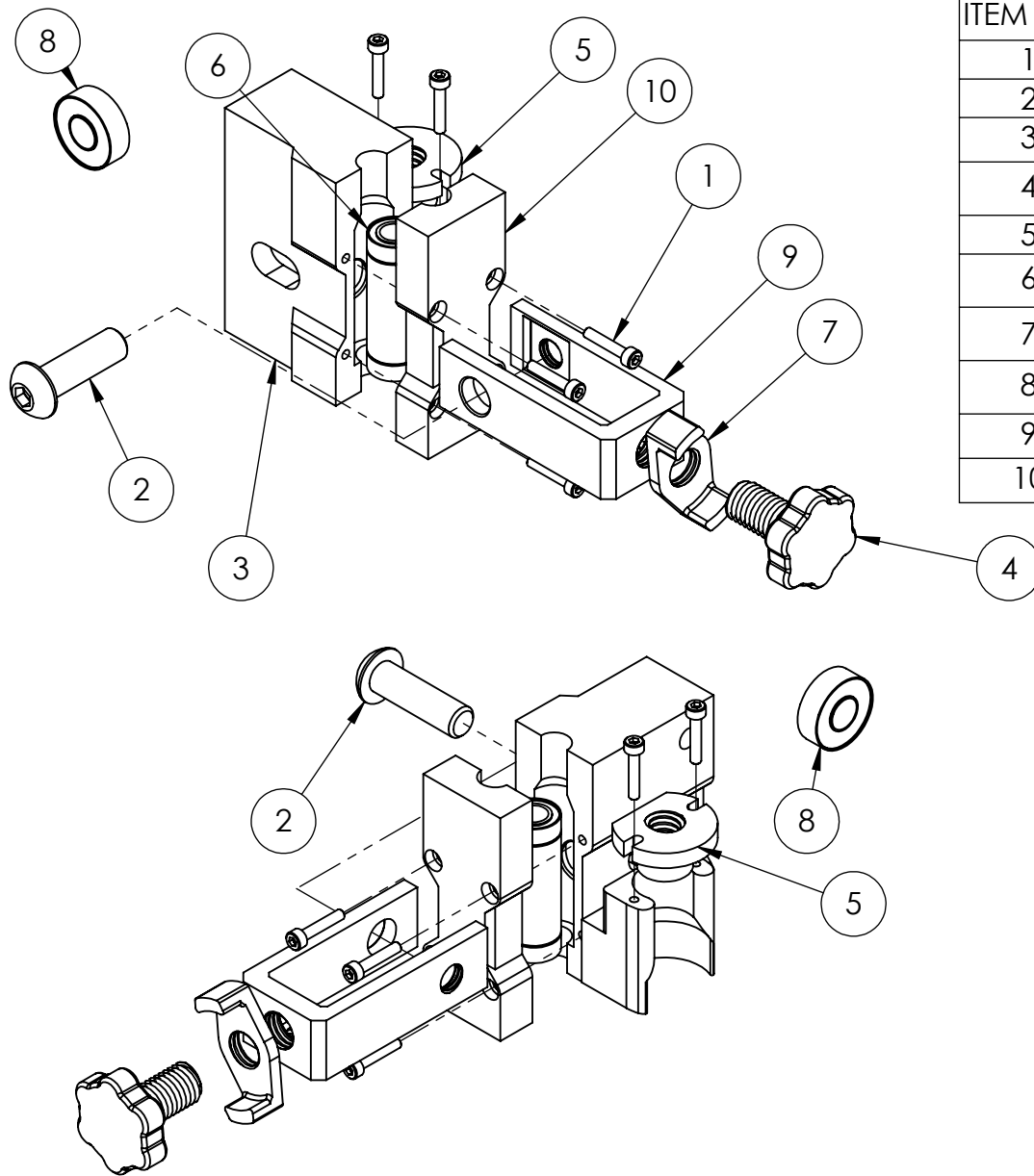


SCALE: 1:3

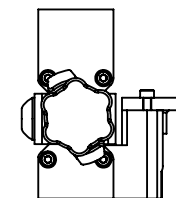
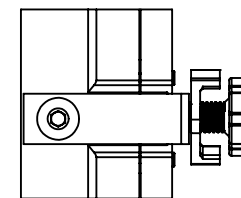
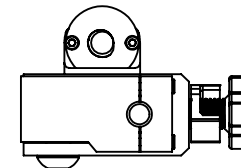
SHEET 23 OF 24

X-Axis Bearing Holder - LEFT

Proto-Plastik A52Z Ultimate



ITEM NO.	PART NUMBER	QTY.
1	B18.3.1M - 3 x 0.5 x 16 Hex SHCS -- 16NHX	6
2	SBHCSCREW 0.375-16x1.25-HX-N	1
3	2Z bearing holder right body-body	1
4	tightening knob	1
5	ACME threaded retainer	1
6	LM8LUU Bearing	1
7	lock nut	1
8	R6RS bearing	1
9	2Z bearing holder right body-tightener - revised	1
10	2Z bearing holder right cover	1



SCALE: 1:3

SHEET 24 OF 24

X-Axis Bearing Holder - RIGHT

Proto-Plastik A52Z Ultimate