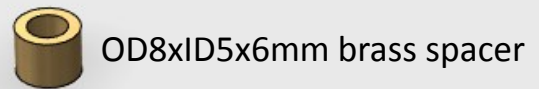# Dual-Z + Vertical Carriage
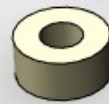

LP Design

Tarantula
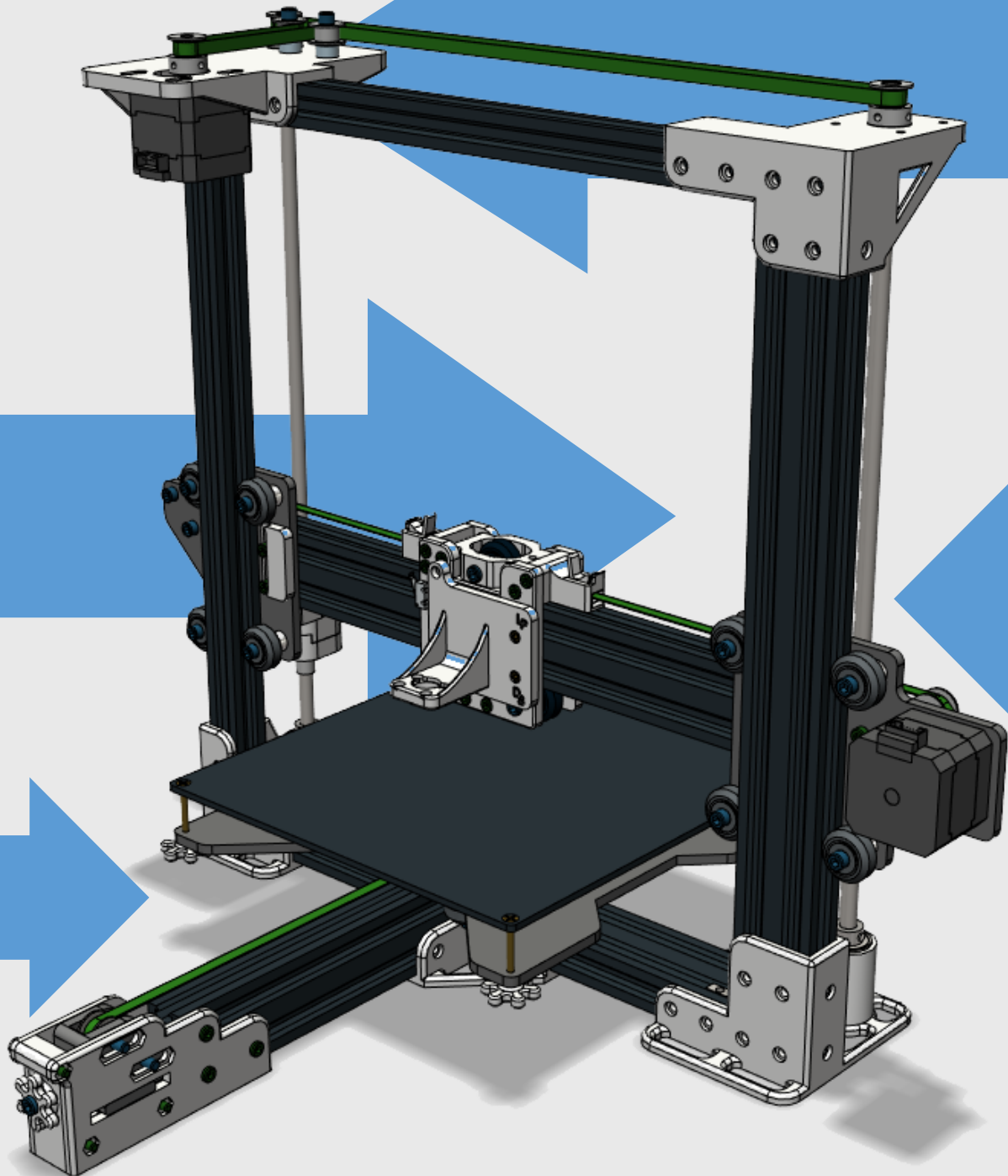
Glossary
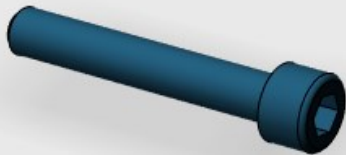
OD8xID5x6mm brass spacer
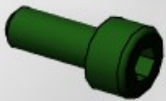
OD11xID5x5.10mm nylon spacer

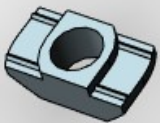OD10xID5x6mm aluminium spacer

OD8xID5x1mm brass shim

M5 bolt and nut
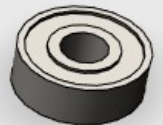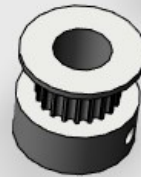
M4 bolt and nut

M3 bolt and nut

M4 T-nut

608ZZ ball-Bearing (OD22,ID8,7mm)

GT2 timing 20-teeth pulley, 5mm bore

GT2 timing 20-teeth pulley, 8mm bore

GT2 Idler 20-teeth pulley
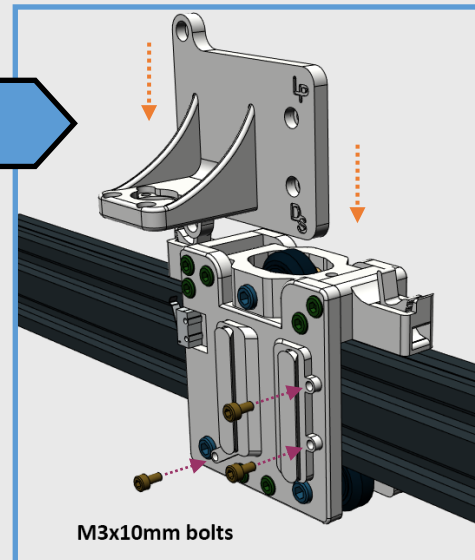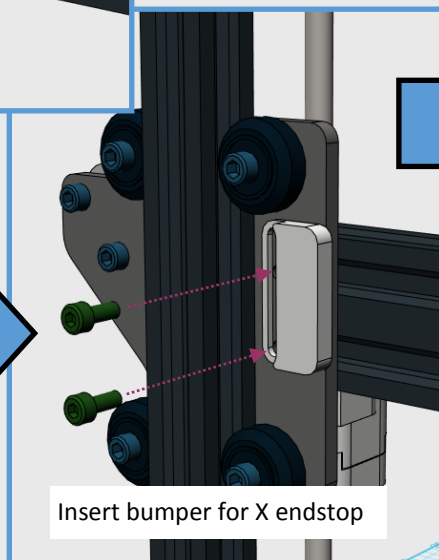
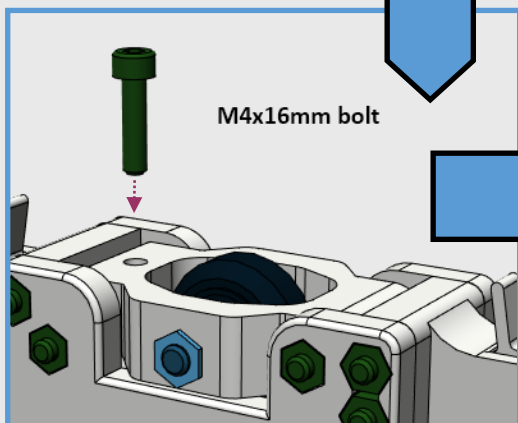Idler smooth pulley

OD14xID8x7mm Lock collar

LP Design

Required hardware

Designation	Quantity
608ZZ ball-Bearing (22x8x7mm)	4
8x5x6mm brass spacer	6
GT2 closed loop Belt, 900m (450 teeth)	2
GT2 Idler pulley, 5mm Bore, 20 teeth	2
GT2 idler smooth pulley	2
GT2 timing Pulley, 5mm bore, 20 teeth	2
GT2 timing Pulley, 8mm bore, 20 teeth	2
Leadscrew, T8x8 lead, 400mm	2
Lock Collars, 8mm bore (14x8x7mm)	4
M2, 16mm Bolt + M2 Nut	2
M3, 10mm Bolt + M3 Nut	3
M3, 12mm Bolt	4
M3, 30mm Bolt	3
M3, 8mm Bolt	5
M4 Nut	3
M4 Nuts	8
M4 T-Nut (10x6)	46
M4, >35mm Bolt	3
M4, 10mm Bolt	46
M4, 16mm Bolt	1
M4, 35mm Bolt	7
M5 Nut	4
M5, >35mm Bolt	2
M5, 25mm Bolt	1
M5, 30mm bolt	1
M5, 30mm bolt + M5 nut	2
M5, 35mm Bolt + M5 Nut	3
Nylon Spacer (11x5x5)	2
OD10xID5x6mm aluminium spacer	2
OD8xID5x1mm brass shim	2
V-slot wheels	3
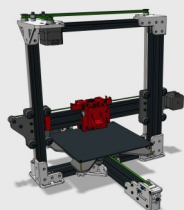
Modular Vertical X Carriage

Designation	Quantity
M5, 35mm Bolt + M5 Nut	3
M4, 35mm Bolt	7
M4, 16mm Bolt	1
M4 Nuts	8
M3, 10mm Bolt + M3 Nut	3
M2, 16mm Bolt + M2 Nut	2
8x5x6mm brass spacer	6
V-slot wheels	3

2x M2x16mm

2x M4 nuts

3x M4 nuts

3x M3 nuts

2x M5 nuts + 2x M4 nuts

M5x35mm

M4x35mm

V-slot wheels

8x5x6mm brass spacer

V-slot wheel

8x5x6mm brass spacer

M5 nut

M4 nuts

M5x35mm bolt

M4x35mm bolts

M4x16mm bolt

Insert bumper for X endstop

M3x10mm bolts
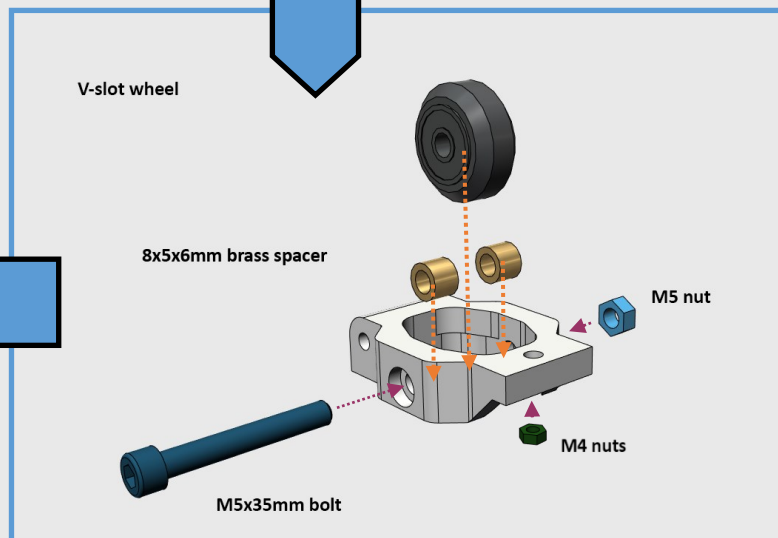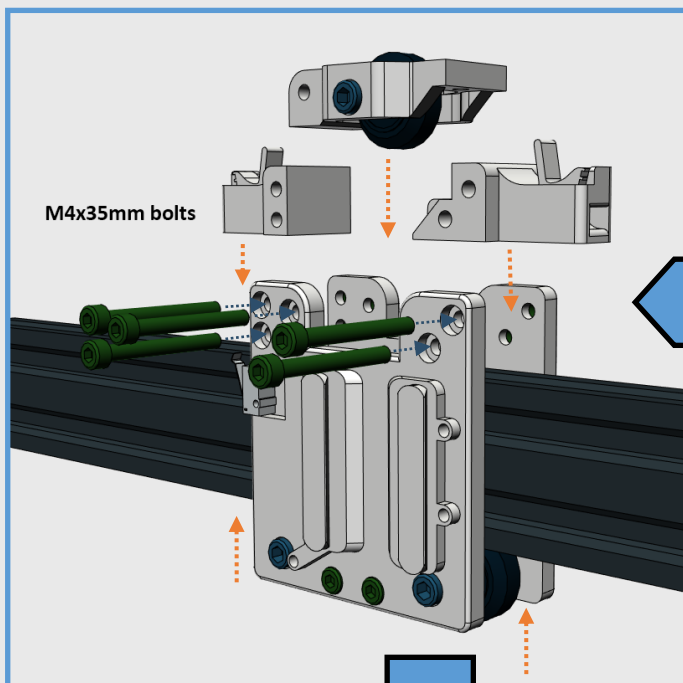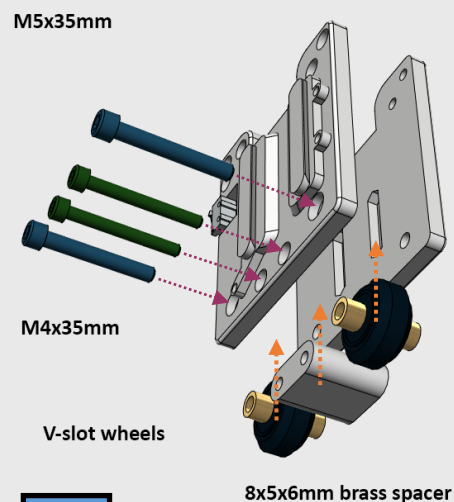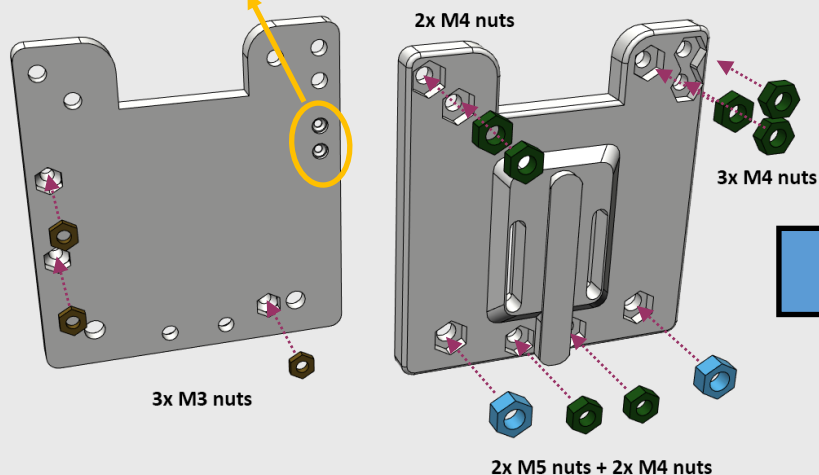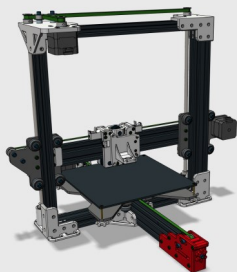
Y Bracket with belt tensioner

Designation	Quantity
M4 T-Nut (10x6)	6
M4, 10mm Bolt	6
M4, >35mm Bolt	3
M4 Nut	3
M5, >35mm Bolt	2
M5, 25mm Bolt	1
M5 Nut	3
GT2 Idler pulley, 5mm Bore, 20 teeth	2

2x Idler GT2 teethed pulleys

1x M5 Nut

1x M5x25mm Bolt

2x M5 Nuts

2x M4 Nuts

1x M4x35mm Bolts

2x M5x35mm Bolts

2x M4x35mm Bolts

3x M4x10mm Bolts

3x M4x10mm bolts

6x M4 T-Nuts
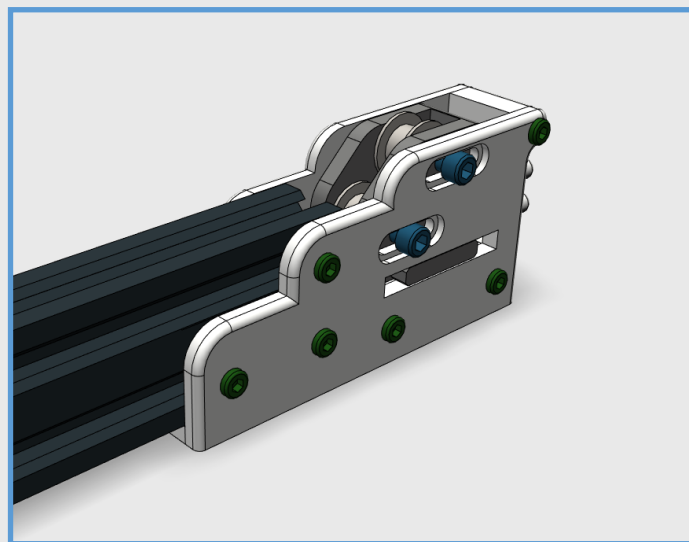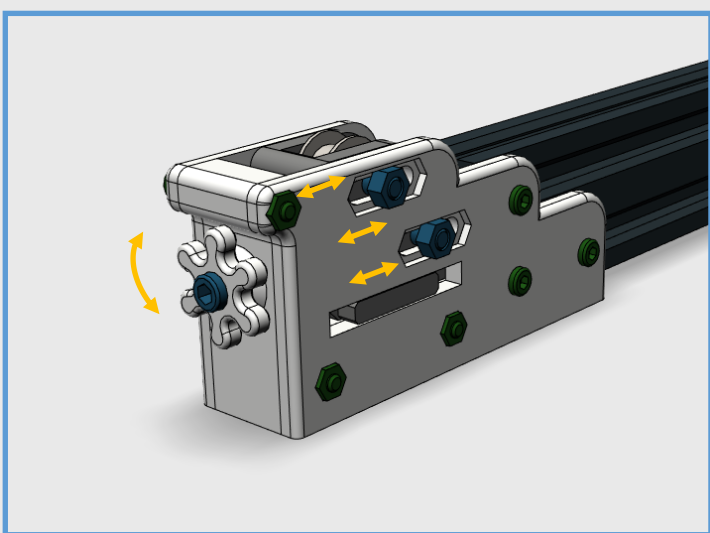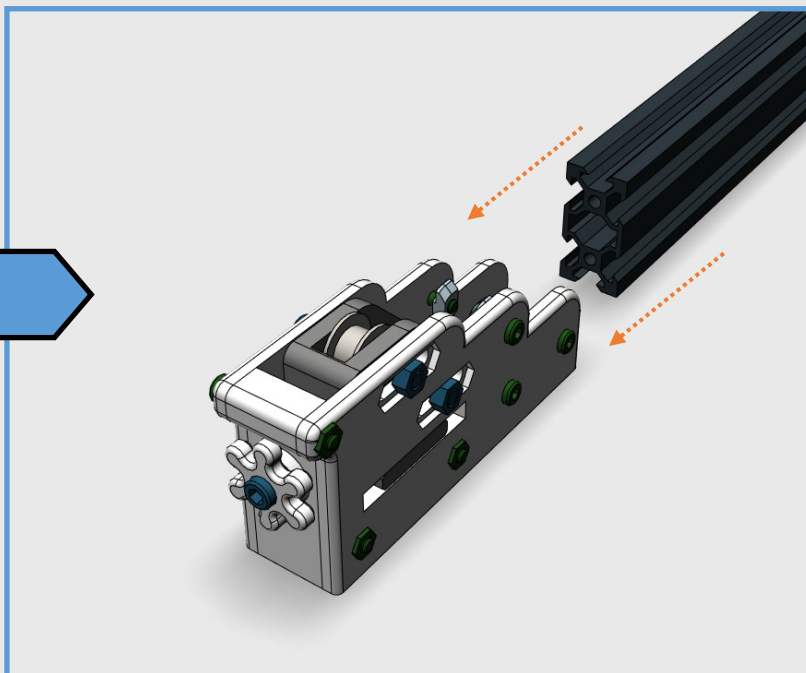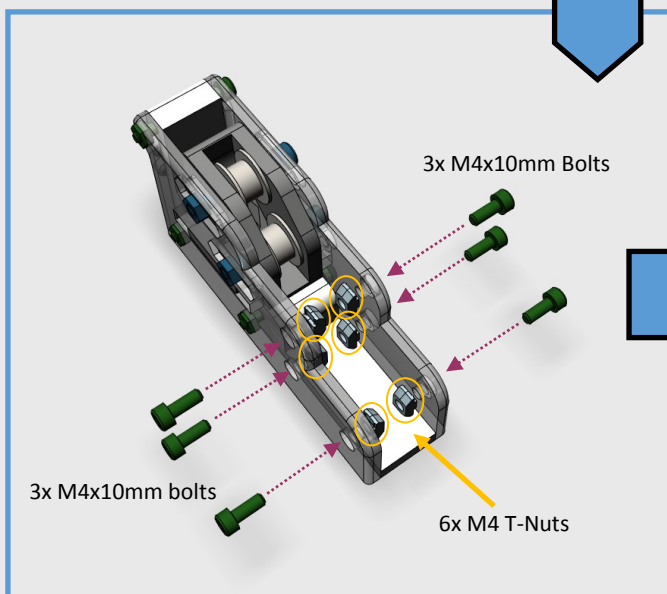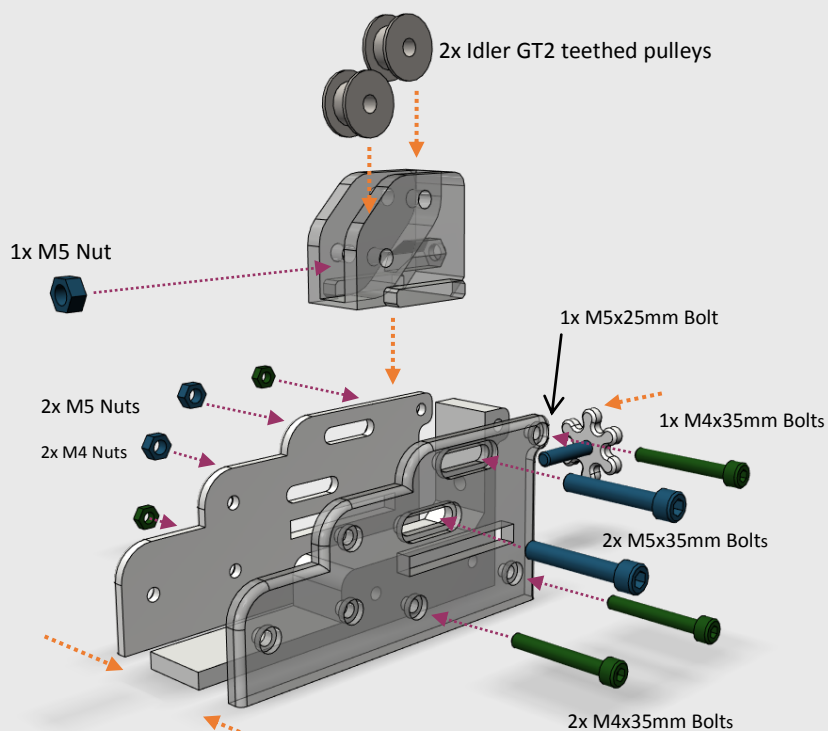
Bottom Brackets

Designation	Quantity
M4 T-Nut (10x6)	up to 32
M4, 10mm Bolt	up to32

11x M4x10mm Bolts

+ 11 T-Nuts

12x M4x10mm Bolts

+ 12 T-Nuts

9 x M4x10mm Bolts

+ 9 T-Nuts
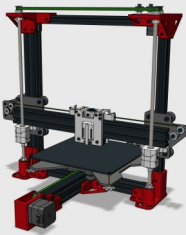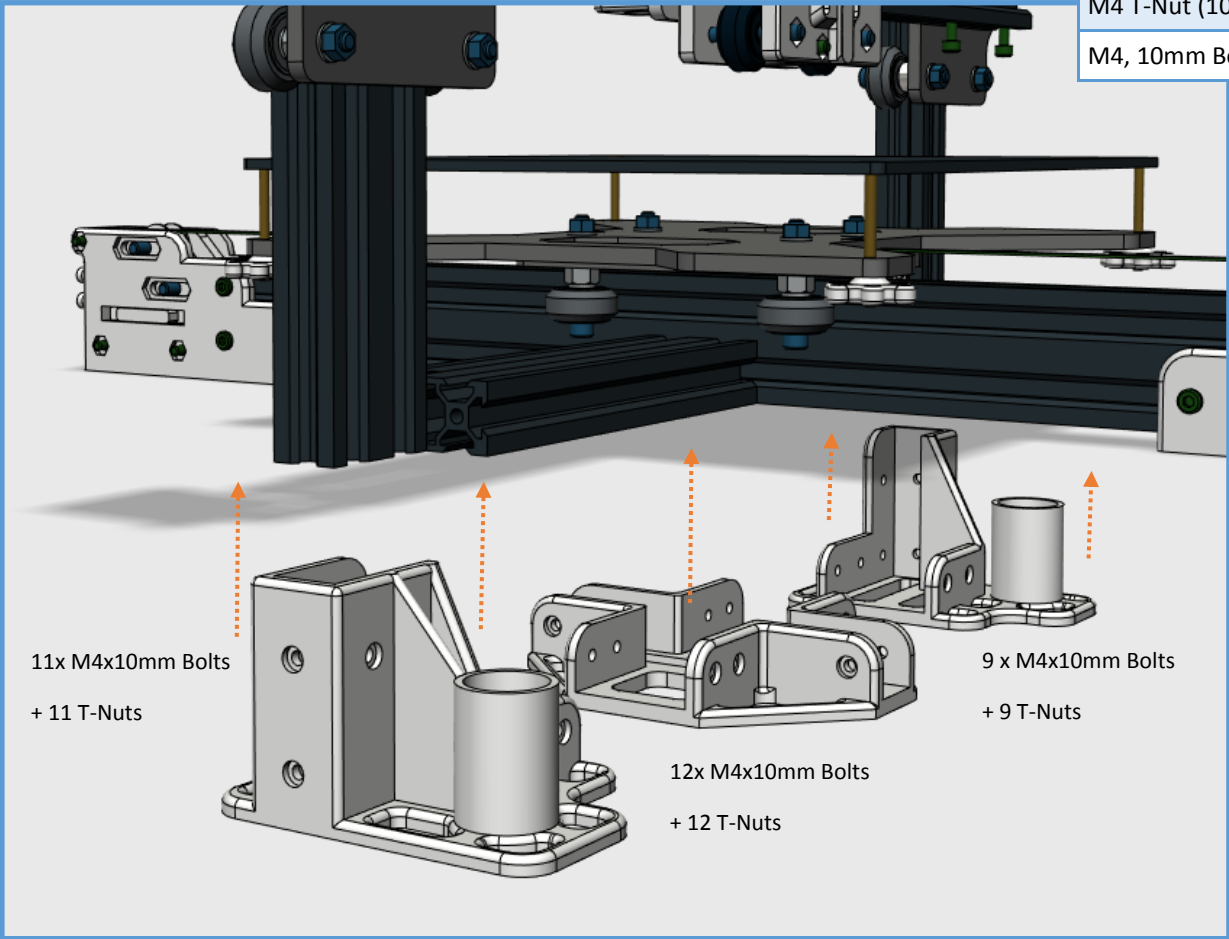
Designation	Quantity
M4 T-Nut (10x6)	2
M4, 10mm Bolt	2
M3, 12mm Bolt	4
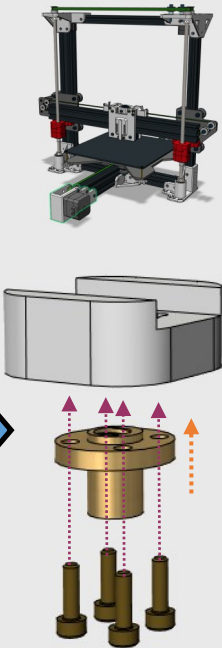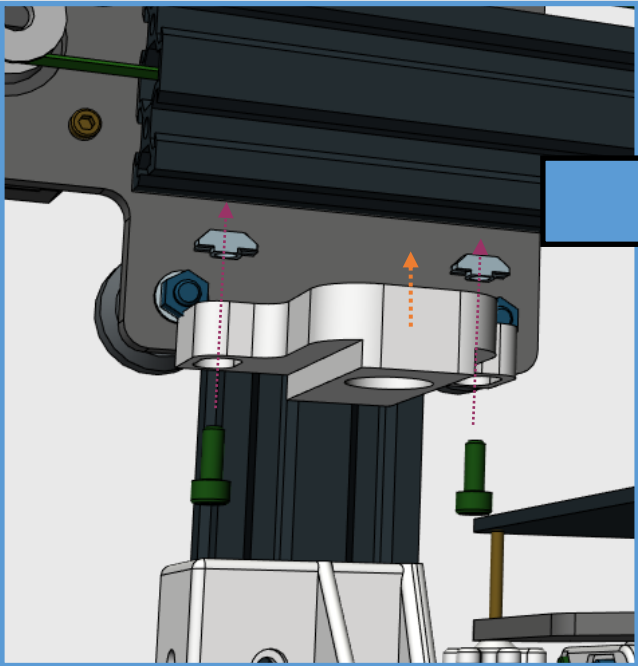
Oldham Coupler
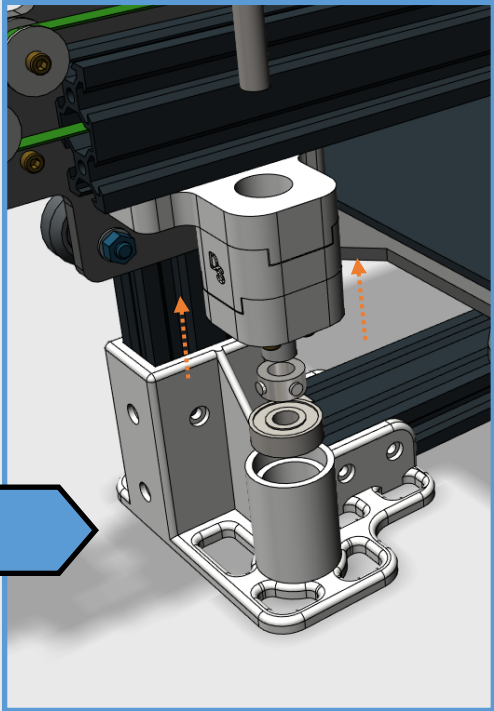
To do on both sides of the printer for dual-Z

Lead screws and Brackets

Lead screw

Lock Collar

608ZZ ball bearing

Bottom

Top
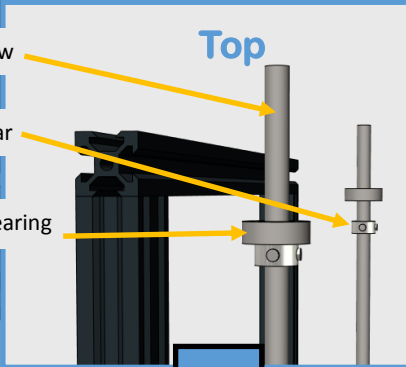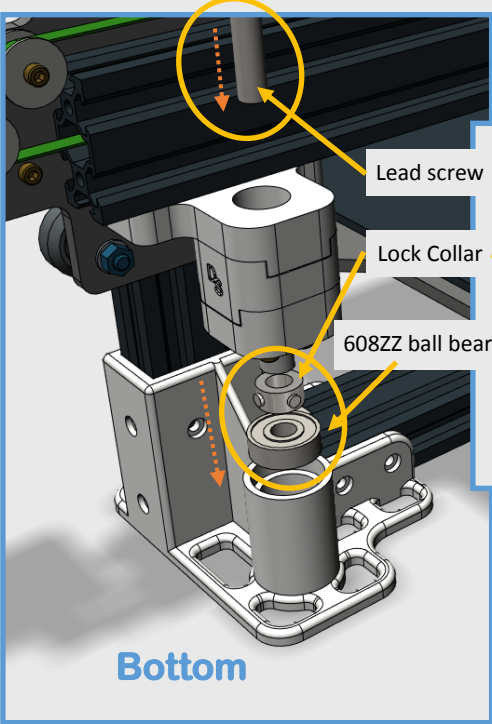
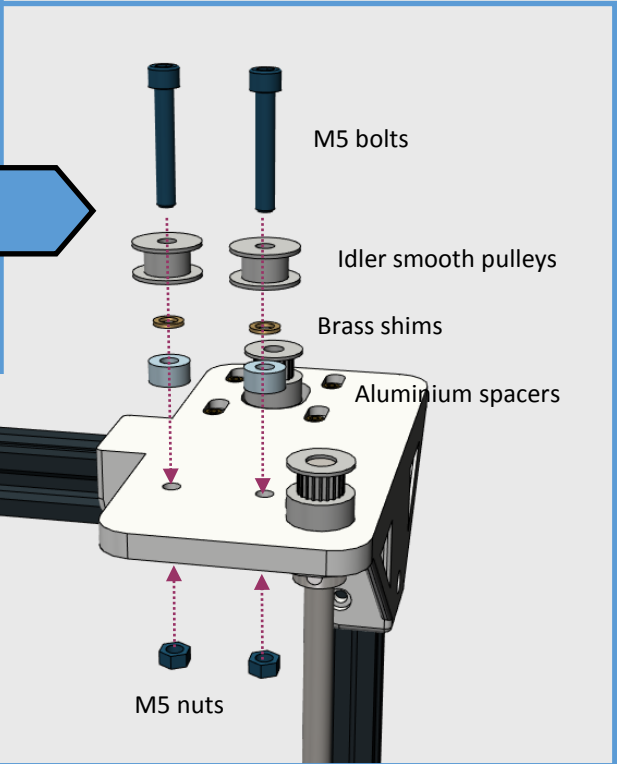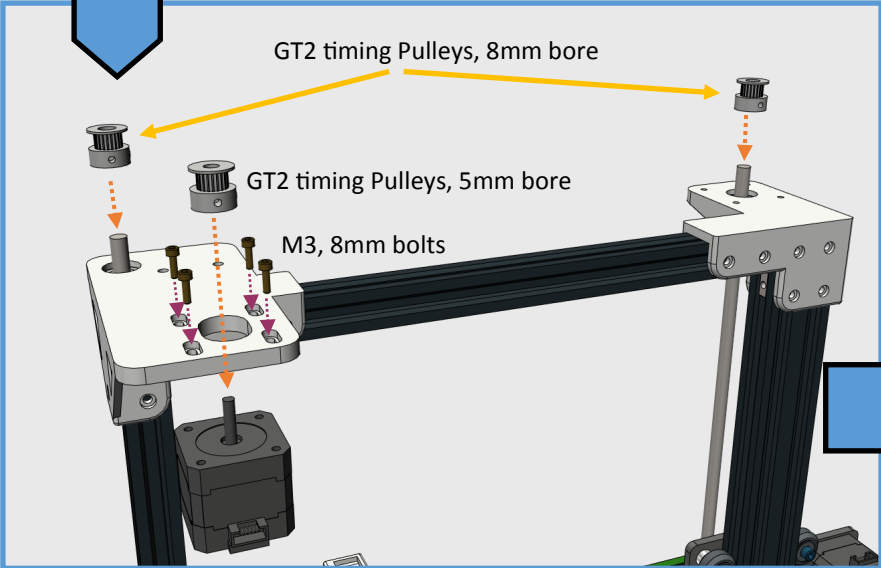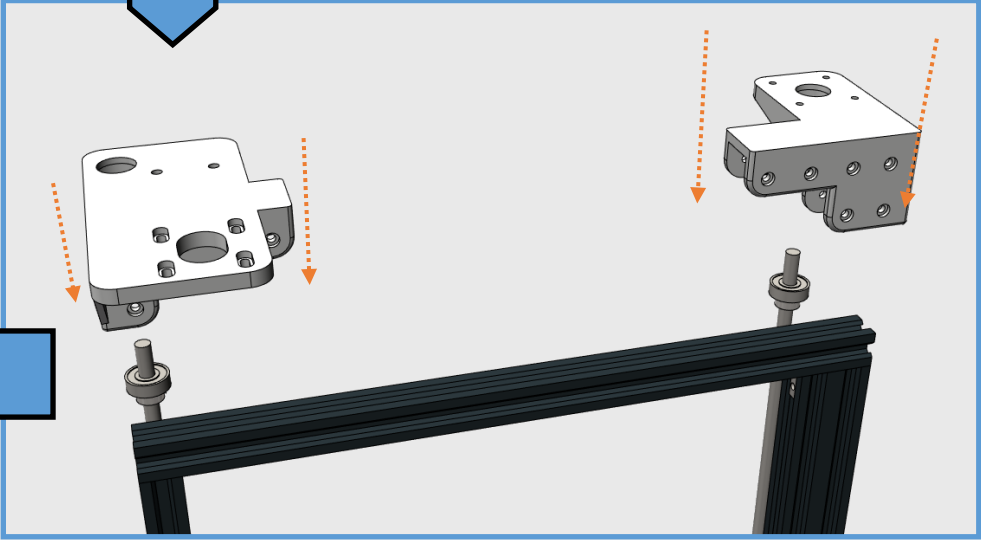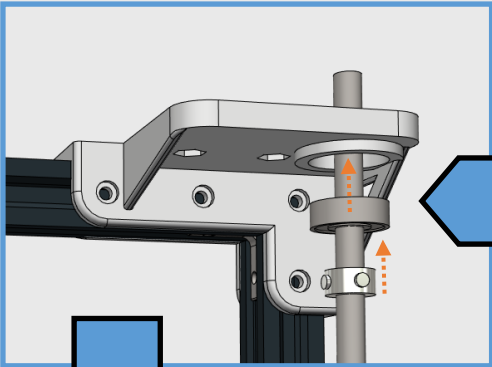| Designation	Quantity
Leadscrew, T8x8 lead, 400mm	2
GT2 closed loop Belt, 900m (450 teeth)	2
GT2 timing Pulley, 8mm bore, 20 teeth	2
GT2 timing Pulley, 5mm bore, 20 teeth	1
608ZZ ball-Bearing (22x8x7mm)	4
Lock Collars, 8mm bore (14x8x7mm)	4
M3, 8mm bolt	4
M5, 30mm bolt + M5 nut	2
OD8xID5x1mm brass shim	2
GT2 idler smooth pulley	2
OD10xID5x6mm aluminium spacer	2

GT2 timing Pulleys, 8mm bore

GT2 timing Pulleys, 5mm bore

M3, 8mm bolts

M5 bolts

Idler smooth pulleys

Brass shims

Aluminium spacers
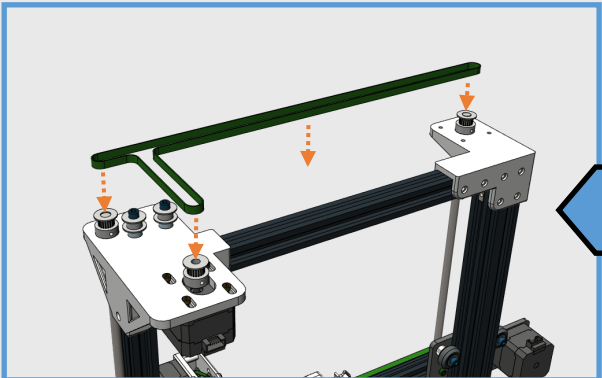
M5 nuts

Y Bracket for stepper motor

6x M4 T-Nuts

3x M4x10mm Bolts

3x M4x10mm Bolts

1x M5x30mm bolt

1x M3x8mm bolt

3x M3x30mm bolts
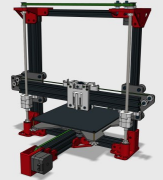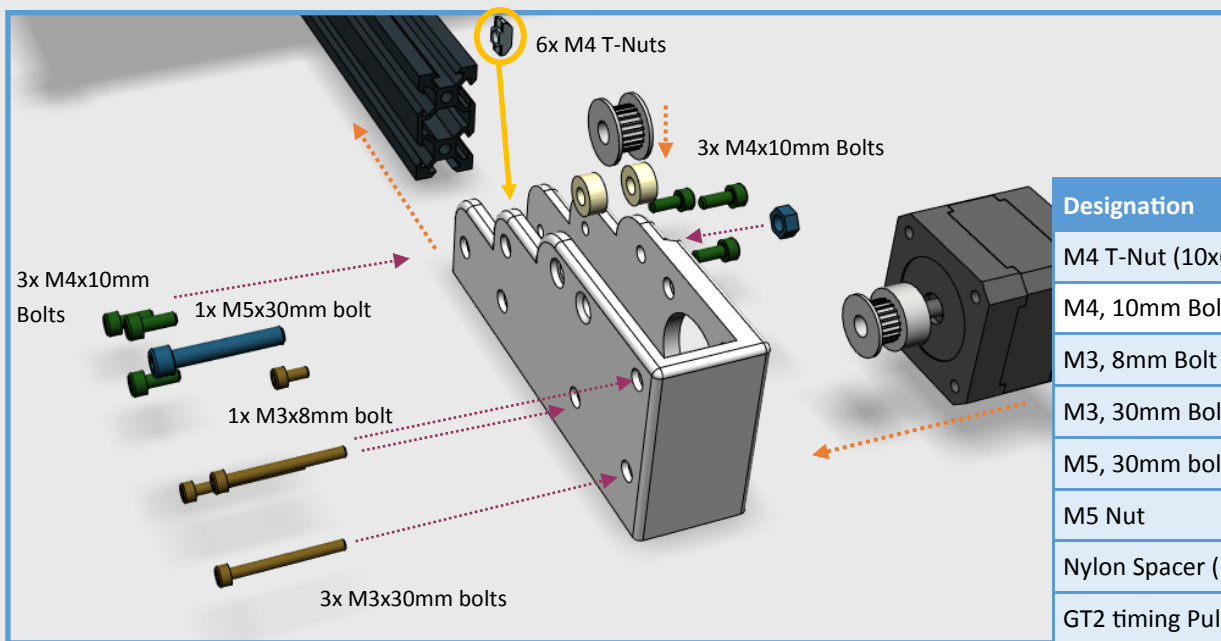
Designation	Quantity
M4 T-Nut (10x6)	6
M4, 10mm Bolt	6
M3, 8mm Bolt	1
M3, 30mm Bolt	3
M5, 30mm bolt	1
M5 Nut	1
Nylon Spacer (11x5x5)	2
GT2 timing Pulley, 5mm bore, 20 teeth	1
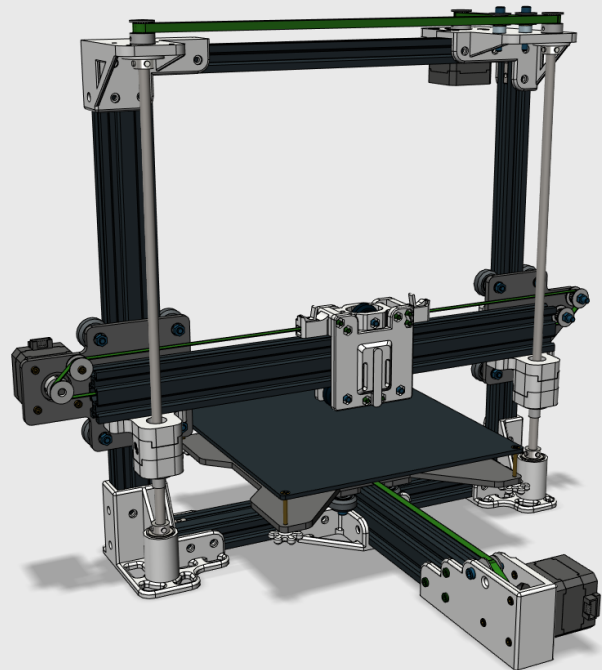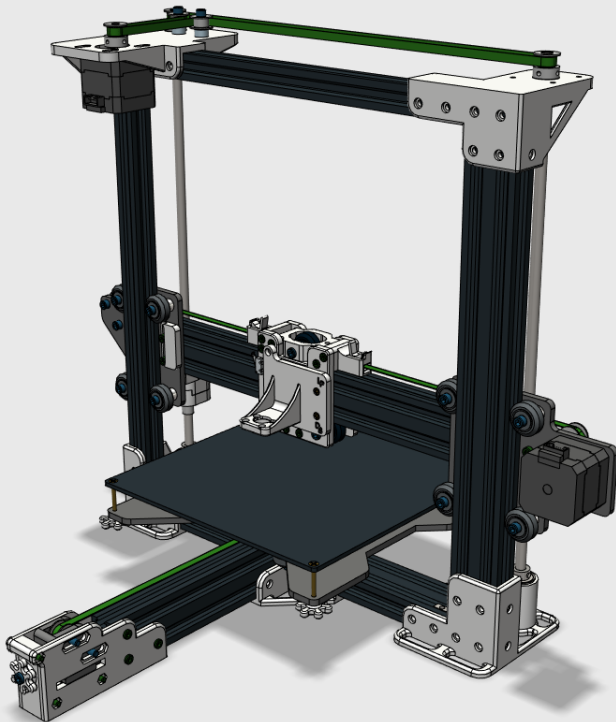
Special thanks to

Rob Cad (Thingirob) : Original brackets
Sergiy Matsak (*MSA*) : Original vertical X-carriage
Bruce Walker (bdwalker1) : Original Y-belt tensioner
Doron Shalev : Original Oldham Coupler