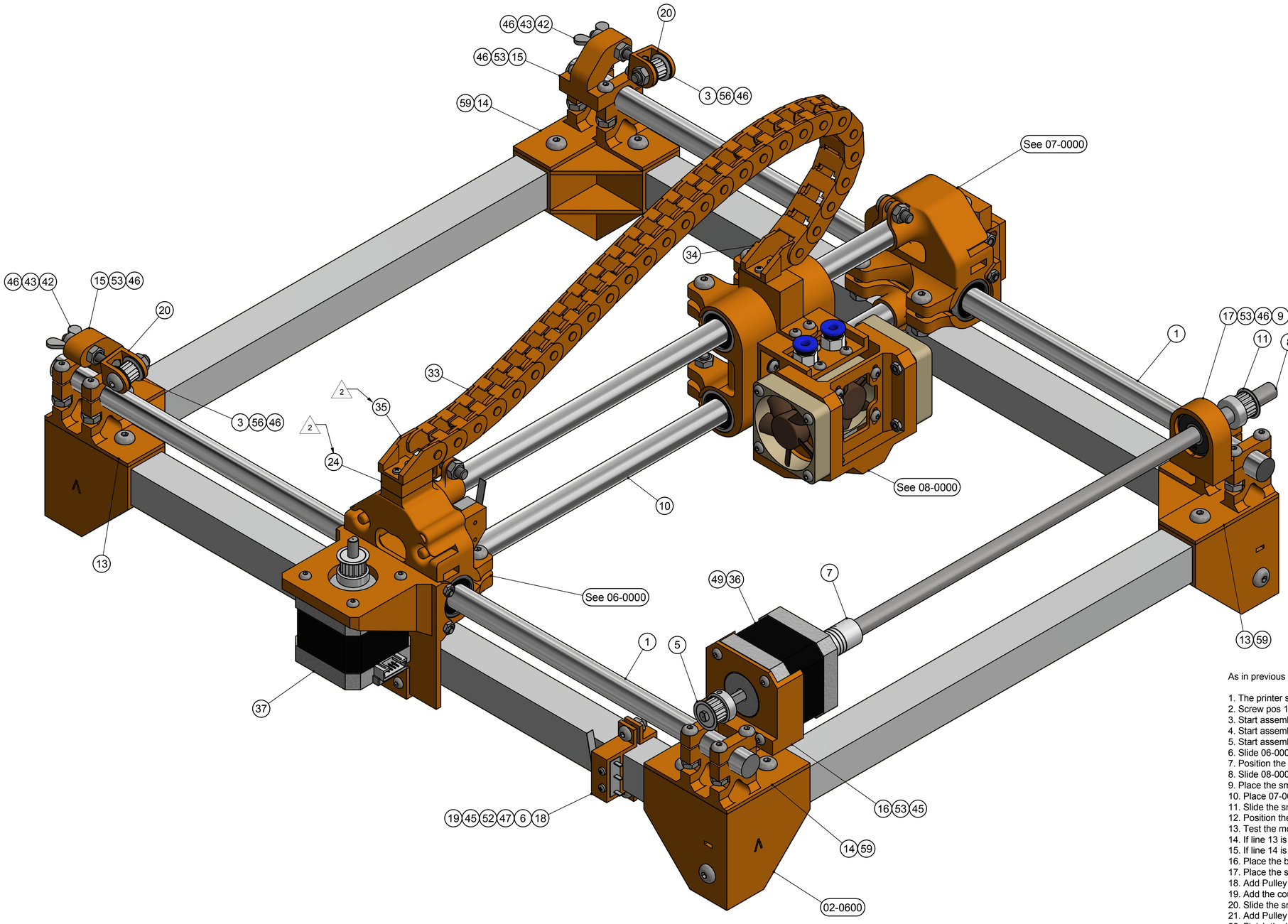

Parts List					
POS.	QTY.	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH
1	2		12mm smooth hardened rod L=450	Stainless Steel	
2	2		fan 40mm		
3	3		Idler GT2 - 16 Teeth - 5mm	Aluminum 6061	
4	1		Fan 30x30		
5	2		Pulley GT2 - 20 Teeth - 5mm	Aluminum 6061	
6	2		Omron SS-5GL2	Generic	
7	1		Flexible Threaded Coupler 5-8 mm	Aluminum 6061	
8	1		8mm smooth hardened rod L=280	AISI SS 304 L	
9	1		608RS - Bearing	Generic	
10	2		12mm smooth hardened rod L=300	Stainless Steel	
11	1		Pulley GT2 - 20 Teeth - 8mm	Aluminum 6061	
12	4	02-0600	Top corner bracket 2.0	PLA Plastic	
13	2	04-0600	Top Bracket (1) 2.0	PLA Plastic	
14	2	04-0601	Top Bracket (2) 2.0	PLA Plastic	
15	2	04-0602	X-Axis Bracket 2.0	PLA Plastic	
16	1	04-0603	X-Axis Bracket Front motor 2.0	PLA Plastic	
17	1	04-0604	X-Axis Guide bracket 2.0	PLA Plastic	
18	1	04-0605	Limit Switch holder X-Axis (1) 2.0	PLA Plastic	
19	1	04-0606	Limit Switch holder X-Axis (2) 2.0	PLA Plastic	
20	2	04-0607	Belt Tensioner X-Axis Idler Holder 2.0	PET Plastic	
21	1	06-0600	Bridge Motor side vertical carriage 2.0	PLA Plastic	
22	1	06-0601	Motor bracket vertical carriage 2.0	PLA Plastic	
23	1	06-0602	Cable bridge (2) 2.0	PLA Plastic	
24	1	06-0603	Cable start lifting bridge	PLA Plastic	
25	1	07-0600	Bridge Idler side vertical carriage 2.0	PLA Plastic	
26	1	07-0601	Idler bracket vertical carriage 2.0	PLA Plastic	
27	1	07-0602	Idler holder Y-Axis 2.0	PLA Plastic	
28	1	07-0603	Idler adjustment blocker Y-Axis 2.0	PLA Plastic	
29	1	08-0600	Cyclops Bridge 2.0	PLA Plastic	
30	1	08-0601	Part Cooling housing 2.0	PLA Plastic	
31	1	08-0602	Cable bridge (1) 2.0	PLA Plastic	
32	1	08-0603	Y-Carriage Vertical Cyclops 2.0	PLA Plastic	
33	27	15-0601	Cable Chain - Link	PLA Plastic	
34	1	15-0602	Cable Chain - End	PLA Plastic	
35	1	15-0603	Cable Chain - Start for top of x-carriage front	PLA Plastic	
36	1	17HS13-0404D	Nema 17 42x42mm stepper motor (Dual axis)		
37	1	17HS4401	Nema 17 42x42mm stepper motor		
38	2	20x20x1 L=354	Aluminium extrusion	Aluminum 6061	
39	2	20x20x1 L=400	Aluminium extrusion	Aluminum 6061	
40	1	Cyclops Assembly			
41	6	DIN 125 - A 3,2	Washer	Stainless Steel	
42	2	DIN 315 - M4	Wing Nut	Steel, Mild	
43	2	DIN 933 - M4 x 30	Hex-Head Bolt	Stainless Steel	
44	21	DIN 934 - M3	Hex Nut	Stainless Steel	
45	9	DIN 934 - M4	Hex Nut	Stainless Steel	
46	41	DIN 934 - M5	Hex Nut	Stainless Steel	
47	8	ISO 7049 - ST2,2 x 9,5	(Sheetmetal) Tapping Screw	Stainless Steel	
48	2	ISO 7380-1 - M3 x 8	Hexagon Socket Button Head Screw	Stainless Steel	
49	16	ISO 7380-1 - M3 x 10	Hexagon Socket Button Head Screw	Stainless Steel	
50	6	ISO 7380-1 - M3 x 16	Hexagon Socket Button Head Screw	Stainless Steel	
51	6	ISO 7380-1 - M3 x 20	Hexagon Socket Button Head Screw	Stainless Steel	
52	2	ISO 7380-1 - M4 x 12	Hexagon Socket Button Head Screw	Stainless Steel	
53	17	ISO 7380-1 - M4 x 20	Hexagon Socket Button Head Screw	Stainless Steel	
54	2	ISO 7380-1 - M4 x 25	Hexagon Socket Button Head Screw	Stainless Steel	
55	4	ISO 7380-1 - M5 x 16	Hexagon Socket Button Head Screw	Stainless Steel	
56	10	ISO 7380-1 - M5 x 20	Hexagon Socket Button Head Screw	Stainless Steel	
57	1	ISO 7380-1 - M5 x 25	Hexagon Socket Button Head Screw	Stainless Steel	
58	4	ISO 7380-1 - M5 x 30	Hexagon Socket Button Head Screw	Stainless Steel	
59	8	ISO 7380-1 - M5 x 35	Hexagon Socket Button Head Screw	Stainless Steel	
60	8	LM12UU	Linear bearing	AISI SS 316 L	
61	4	M3x70	Threaded rod	Stainless Steel	

As in previous drawings, we used different bolts and nuts, galvanised steel versions.

1. The printer should be standing on it's feet on the working area.
2. Screw pos 13 and pos 14 in place.
3. Start assembling 06-0000
4. Start assembling 07-0000
5. Start assembling 08-0000
6. Slide 06-0000 over the smooth rod pos 4
7. Position the smooth rod in the respective holders on the front side and secure it with pos 15 and pos 16
8. Slide 08-0000 over the smooth rods pos 10
9. Place the smooth rods in 06-0000 (do not tighten them yet)
10. Place 07-0000 over the smooth rods pos 10 (do not tighten them yet)
11. Slide the smooth rod po4 in 07-0000
12. Position the smooth rod in the respective holders on the front side and secure it with pos 15 and pos 17
13. Test the movement in X direction, it should all move freely without any cutting of the LM12UU in the smooth rods
14. If line 13 is ok, start fastening 06-0000 and 07-0000, test the movement in the Y direction frequently.
15. If line 14 is ok, test both the X and Y directions, all should run smooth without any friction
16. Place the bearing 608RS into pos 17
17. Place the stepper motor pos 35 on pos 16
18. Add Pulley pos 5 to the stepper motor
19. Add the coupler pos 7 to the stepper motor
20. Slide the smooth rod pos 3 thru the bearing in place in pos 3 the coupler
21. Add Pulley pos 11 on pos 3
22. Finish the build on pos 15 (Left hand front side)
22. Finish the build on pos 15 (Left hand rear side) (This is mirrored from the front side)
23. Re-check the movement of the X- and Y axis to see if it still runs friction free
24. Add the GT2 belt on the front and rear side.
25. Position the X to the right hand side, to where the dual axis stepper motor is.
26. Check if 08-0000 can move free from the front to the back
27. Align the Pulleys with the GT2 belts and tigthen the Pulleys (Straight linear motion)
28. Check if the nozzle is running outside the print area in the homing position.

Now it is time to place the stepper motors for the Z axis (if not done yet) and the the T8-8 rods for the heated bed.
Fasten the T8 nut in it's respective position but do not tighten them fast yet. It might need some alignment later on.

You should not have the printer completed in the full mechanical state.

REV	DATE	DESCRIPTION	DESIGNER
2	27-9-2018	Added part 06-0603 to lift cable chain changed 15-0600 to 15-0603	3D_PP
1	24-9-2018	Replaced 1xM5 nut with 1x M4 nut in 07-0000	3D_PP

Project: Project naam		Dimensions: In mm (U.N.O.)
Client: Client naam		Scale: No Scale
Internal Rev		Projection
Created by: Sjaak	First issue: 1-8-2018	
Description: Product		For Assembly see
Project no.: Drawing nr.: Project	Chapter - Sheet nr.: 04-0000 X-Y-axis assembly	Material