

Sphinx 1050

Parts Needed For Each Step of Assembly

(Step numbers come from Video)

Steps 6 and 7 appear out of order in order to focus wheel assembly all at one time for more efficient assembly of wheels for use in future steps.

QTY Description

2	V-Slot 20 x 60 x 1000mm	
3	V-Slot 20 x 80 x 380mm	
8	Cast Corner Connectors	
6	Black Angle Connectors	
26	8mm M5 Screws	
25	M5 Tee Nuts	

Step 2 - Mounting Configuration for Spoil Board

QTY Description

12	Single L-Brackets	
12	8mm M5 Screws	
12	Drop-in Tee Nuts	

Step 3 - Y-Axis Assembly - Rails

QTY Description

2	C-Beam 500mm	
2	M5 Tee Nuts	
2	8mm M5 Screws	

Step 4 - Anti-backlash Nut Block Assembly - Right Plate

QTY Description

1	Y-Axis Right Plate	
1	Anti-backlash Nut Block	
2	20mm M5 Screws	
2	3mm Aluminum Spacers	
2	M5 Silver Nylon Hex Nuts	

Step 6 - Wheel Assembly Large Extreme Wheels

QTY Description

1	Large Extreme Wheel Shell	
2	OpenBuilds Bearing	
1	Precision Shim	
NOTE: ASSEMBLE 12 WHEELS IN TOTAL		

Step 7 - Wheel Assembly Mini Extreme Wheels

QTY Description

1	Mini Extreme Wheel Shell	
2	Mini V Bearing	
1	Mini V Precision Shim	
NOTE: ASSEMBLE 24 WHEELS IN TOTAL		

Step 5 - Wheel Assembly Right Y Plate

QTY Description

1	Y Axis Right Plate Assembly	
10	27mm M5 Screws	
4	6mm Aluminum Spacers	
6	6mm Eccentric Spacers	
8	Mini V Precision Shims	
10	M5 Black Nylon Hex Nuts	
8	Mini Extreme Wheels	
2	Large Extreme Wheels	

Step 13 - Anti-backlash Nut Block Assembly - Z Plate

QTY Description

1	Double Wide Gantry Plate	
1	Anti-backlash Nut Block	
2	20mm M5 Screws	
2	3mm Aluminum Spacers	
2	Precision Shims	
2	M5 Silver Nylon Hex Nuts	

Step 14 - Wheel Assembly - Z Plate

QTY Description

1	Z-Plate Assembly	
8	25mm M5 Screws	
4	6mm M5 Spacers	
4	6mm Eccentric Spacers	
4	Mini V Precision Shims	
8	Mini Extreme Wheels	
8	M5 Black Nylon Hex Nuts	

Step 15 - Z Axis Reduction Plate Assembly

QTY Description

1	X to Z Assembly	
1	Z Plate Assembly	
1	Nema 23 Reduction Plate	
2	C-Beam End Mounts	
8	25mm Screws	

Step 16 - Lead Screw and Mount Mounting Assembly - Z Axis

QTY Description

1	Z Axis Assembly	
1	NEMA 23 Motor	
2	Flanged Bearings	
2	8mm Shims	
2	8mm Lock Collars	
1	GT3 20 Tooth Timing Belt	
1	GT3 20 Tooth Clamp Bore Timing Pulley	
4	20mm M5 Screws	
4	M5 Black Nylon Hex Nuts	
1	GT3 Closed Loop Timing Belt	
1	250mm Lead Screw	

Step 17 - Eccentric Adjustments - Y Axis Plates

QTY Description

2	Y Axis Plate Assemblies	
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Step 18 - End Plate Assembly - Y Axis

QTY Description

2	Front End Plates	
2	Back End Plates	
16	15mm Tee Nuts	
16	12mm M5 Screws	

Step 8 - Anti-backlash Nut Block Assembly - Left Y Plate

QTY	Description	
1	Y-Axis Left Plate	
1	Anti-backlash Nut Block	
2	20mm M5 Screws	
2	3mm Aluminum Spacers	
2	M5 Silver Nylon Hex Nuts	

Step 9 - Wheel Assembly - Left Y Plate

QTY	Description	
1	Y-Axis Left Plate Assembly	
10	27mm M5 Screws	
8	Mini Extreme Wheels	
2	2 Large Extreme Wheels	
4	6mm Aluminum Spacers	
6	6mm Eccentric Spacers	
8	Mini V Precision Shims	
10	M5Black Nylon Hex Nuts	

Step 10 - Anti-backlash Nut Block Assembly - X Plate

QTY	Description	
1	X-Axis Plate	
1	Anti-backlash Nut Block	
2	20mm M5 Screws	
2	3mm Aluminum Spacers	
2	M5 Silver Nylon Hex Nuts	

Step 11 - Dual Wheel Configuration for X-Axis Plates

QTY	Description	
1	X-Axis Plate Assembly	
1	X-Axis Plate	
8	Large Extreme Wheels	
8	Precision Shims	
4	60mm M5 Screws	
4	9mm Aluminum Spacers	
4	6mm Aluminum Spacers	
4	6mm Eccentric Spacers	
4	M5 Black Nylon Hex Nuts	

Step 12 - X to Z Axis Mounting Assembly

QTY Description

Step 19 - X to Y Axis Installation with Z Axis

QTY	Description	
1	Z Axis Assembly	
1	C-Beam 1000mm	
8	15mm M5 Screws	

Step 20 - Lead Screw and Motot Mounting Assembly - X Axis

QTY	Description	
1	1000mm Lead Screw	
1	NEMA 23 Stepper Motor	
4	60mm M5 Screws	
4	40mm Aluminum Spacers	
4	9mm Aluminum Spacers	
2	Flanged Bearings	
2	8mm Shims	
2	8mm Lock Collars	
1	1/4" Flexible Coupling	

Step 21 - Lead Screw and Motot Mounting Assembly - Y Axis

QTY	Description	
2	500mm Lead Screw	
2	NEMA 23 Stepper Motor	
8	60mm M5 Screws	
8	40mm Aluminum Spacers	
8	9mm Aluminum Spacers	
2	1/4" Flexible Coupling	
4	Flanged Bearings	
4	8mm Shims	
4	8mm Lock Collars	

Step 22 - End Cap Assembly

QTY	Description	
12	End Caps	
12	Self Tapping Screws	

Step 23 - Router Spindle Mount Assembly

QTY	Description	
1	Router Spindle Mount	
2	Black Angle Corner Connectors	