

Framework	total amount	printed	comments
cornerprofile_foot_X4.stl	4	● 6.2 cm3	
thread rod M6 x 380mm	3		
6 nuts M6	18		
6 washers M6	18		
Aluminium angle profil 35.5 x 35.5 x 2.4	5.0 m		according to drawing framework_angle_profile.png
socket head screw M6 x 16mm	12		
nut M6	12		
washer M6	24		
A-axis hold	total amount	printed	comments
axis_hold_A_frontplate2.stl	1	● 1.5 cm3	
axis_hold_A_frontplate1.stl	1	● 4.9 cm3	
axis_hold_A_block1.stl	1	● 26.1 cm3	
axis_hold_A_block2.stl	1	● 1.5 cm3	
axis_A_thickening.stl	1	● 6.7 cm3	perfect fit for taulmann filament spool (18.8 mm dia)
2 countersunk screws M3 x 12mm	4		
2 nuts M3	4		
countersunk screw M4 x 20	2		
nut M4	2		
rod d: 8.2mm x 203mm	1		
A-axis wheel stop	total amount	printed	comments
wheel_stop_A_back1.stl	1	● 4.9 cm3	print these with 100% infill
wheel_stop_A_back2.stl	1	● 1.5 cm3	print these with 100% infill
wheel_stop_A_front1.stl	1	● 9.7 cm3	print these with 100% infill
wheel_stop_A_front2.stl	1	● 1.9 cm3	print these with 100% infill
wheel_stop_A_front3.stl	1	● 3.9 cm3	print these with 100% infill
countersunk screw M3 x 12mm	2		
nut M3	2		
compression spring 20 x 6.6 (in:5.3 thick:0.7)	1		spring inside diameter: 5.3 mm, thickness: 0.7 mm
rubber mat 20 x 20 x 1.5 mm	1		
double-face tape 20mm wide 20 mm long	1		
Wheel brake	total amount	printed	comments
brake1.stl (part in break set!)	1	● 2.5 cm3	Order here: https://shop.trigoprint.com/trigoprint-wheeler-brake-set.html
brake2.stl (part in break set!)	1	● 1.1 cm3	Order here: https://shop.trigoprint.com/trigoprint-wheeler-brake-set.html
countersunk screw M3 x 12mm	3		
washer M3	3		
nut M3	3		
holding angle 60 mm leg length	1		
screws, nuts, washers for angle	some		
additional	total amount	printed	comments
angle_guide1.stl	1	● 2.7 cm3	to use with teflon tube
angle_guide2.stl	1	● 0.7 cm3	to use with teflon tube
angle_guide_simpel.stl	1	● 2.2 cm3	
countersunk screw M3 x 12mm	5		
nut M3	5		
washer M3	3		
Filament router	total amount	printed	comments
fila_router1.stl	1	● 1.3 cm3	
fila_router2.stl	1	● 4.3 cm3	
fila_router3.stl	1	● 2.6 cm3	
fila_router4.stl	1	● 0.8 cm3	
router_mount_back.stl	1	● 5.9 cm3	
router_mount_motor.stl	1	● 30.9 cm3	
router_mount_front.stl	1	● 5.4 cm3	
thread rod M5 x 175 mm	1		
nut M5	8		
screw M3 x 10 mm	4		
nut M3	7		
u-profile	0.2 m		according to drawing u-profile.png
countersunk screw M4 x 20 mm	2		
nut M4	2		
washer M4	2		
Flexible Coupling 5mm Shaft to Screws	1		diameter 19mm length 25mm
socket head screw M2.5 x 10 mm	4		
ballbearing 8 mm x 5 mm x 5 mm	2		
countersunk screw M3 x 25 mm	2		
countersunk screw M3 x 12 mm	1		
teflon tube 6 mm x 4 mm	0.3 m		

Middle axis	total amount	printed	comments
wheel_Z_mount_motor.stl	1	● 54.9 cm3	
middle_axis_hold_block.stl	1	● 37.8 cm3	
gear_10.stl (gear is in gear set!)	1	● 10.1 cm3	Order here: https://shop.trigoprint.com/trigoprint-wheeler-gear-set.html
gear_10_60.stl (gear is in gear set!)	1	● 51.0 cm3	Order here: https://shop.trigoprint.com/trigoprint-wheeler-gear-set.html
countersunk screw M4 x 20mm	2		
nut M4	3		
washer M4	3		
screw M3 x 10mm	4		for motor mount frontside
socket head screw M4 x 30mm	1		for motor mount backside
ballbearings 17 x 6 x 6 mm	2		
rod d: 6mm x 120mm	1		
screw M3 x 12mm	2		
nut M3	2		
Locking ring middle axis	amount 2 rings	printed	comments
middle_axis_hold_FSR_X2.stl	2	● 3.0 cm3	
2 screws M3 x 12mm	4		
2 nuts M3	4		
Z-axis hold	total amount	printed	comments
axis_hold_Z_block.stl	1	● 39.4 cm3	
gear_60.stl (gear is in gear set!)	1	● 46.6 cm3	Order here: https://shop.trigoprint.com/trigoprint-wheeler-gear-set.html
socket head screw M4 x 30mm	2		
nut M4	2		
washer M4	4		
ballbearings 16 x 8 x 5 mm	2		
rod d: 8mm x 240mm	1		
screw M3 x 12mm	2		
nut M3	2		
Locking ring Z-axis	amount 2 rings	printed	comments
axis_hold_Z_FSR_X2.stl	2	● 3.4 cm3	
2 screws M3 x 12mm	4		
2 nuts M3	4		
Z-axis wheel stop	total amount	printed	comments
wheel_stop_Z_back1.stl	1	● 5.3 cm3	print these with 100% infill
wheel_stop_Z_back2.stl	1	● 1.5 cm3	print these with 100% infill
wheel_stop_Z_front1.stl	1	● 9.0 cm3	print these with 100% infill
wheel_stop_Z_front2.stl	1	● 4.0 cm3	print these with 100% infill
wheel_stop_Z_front3.stl	1	● 1.9 cm3	print these with 100% infill
countersunk screw M3 x 12mm	2		
nut M3	2		
compression spring 20 x 6.6 (in:5.3 thick:0.7)	1		spring inside diameter: 5.3 mm, thickness: 0.7 mm
rubber mat 20 x 20 x 1.5 mm	1		
double-face tape 20 mm x 20 mm	1		
Filament wheel	amount 1 wheel	printed	comments
wheel_Z_middle_plate_X2.stl	2	● 12.2 cm3	
wheel_Z_bar_X8.stl	8	● 3.4 cm3	
countersunk screw M4 x 12mm	8		
nut M4	8		
washer M4	8		
countersunk screw M3 x 12mm	16		
nut M3	16		
plywood panel 297 x 420 x 4 mm	2		
Electronics	total amount	printed	comments
camera_case.stl	1	● 17.5 cm3	
camera_case_lens_holder.stl	1	● 1.7 cm3	
camera_case_top.stl	1	● 4.4 cm3	
press_button.stl	1	● 5.9 cm3	
Arduino Nano (or similar)	1		controller for Wheeler
Raspberry Pi Model B, incl. power supply	1		used for camera
Raspberry Pi cam	1		resolution 2592 x 1944 pixel
macro lens f=3.6 mm, f/2.9	1		
DRV8825 stepper driver	2		operating voltage: 8.2 V to 45 V, output: 1.5 A per phase
Nema17 48mm stepper motor	1		holding torque 0.44 Nm (62 oz in)
Nema11 51mm high torque stepper	1		holding torque 100 mNm(13.5 oz in)
microswitch SS-01GL13	1		for router endstop
socket head screw M2 x 12 mm	2		for router endstop
nut M2	2		for router endstop
case for electronics	1		choose your own
case for Raspberry Pi	1		choose your own
power supply 12V 2A	1		
some cables, a button and a few screws			for electronics check electric diagram

Accumulated list		
Wheeler (without filament wheel)	grand total	
angle profil 35.5 x 35.5 x 2.4	5.00 m	
screw M3 x 10 mm (any type)	8	
screw M3 x 12mm (any type)	12	
countersunk screw M3 x 12mm	17	
countersunk screw M3 x 25 mm	2	
countersunk screw M4 x 20mm	6	
socket head screw M2 x 12 mm	2	
socket head screw M2.5 x 10 mm	4	
socket head screw M4 x 30mm	3	
socket head screw M6 x 16mm	12	
washer M3	6	
washer M4	9	
washer M6	42	
nut M2	2	
nut M3	35	
nut M4	9	
nut M5	8	
nut M6	30	
rod d: 6mm x 120mm	1	
rod d: 8.2mm x 203mm	1	
rod d: 8mm x 240mm	1	
thread rod M5 x 175 mm	1	
thread rod M6 x 380mm	3	
u-profile	0.23 m	
ballbearing 8 mm x 5 mm x 5 mm	2	
ballbearings 16 x 8 x 5 mm	2	
ballbearings 17 x 6 x 6 mm	2	
holding angle 60 mm leg length	1	
flexible coupling 5mm shaft to screws	1	
compression spring 20 x 6.6 (in:5.3 thick:0.7)	2	
rubber mat 20 x 20 x 1.5 mm	2	
double-face tape 20 mm x 20 mm	2	
teflon tube out: 6 mm; in: 4 mm	0.25 m	
Nema11 51mm high torque stepper	1	
Nema17 48mm stepper motor	1	
microswitch SS-01GL13	1	
Arduino Nano (or similar)	1	
Raspberry Pi Model B	1	
Raspberry Pi cam	1	
macro lens f=3.6 mm, f/2.9	1	
button	1	
case for electronics	1	
case for Raspberry Pi	1	
power supply 12V 2A	1	
cables and screws for electronics	as needed	
screws, nuts, washers for holding angle	as needed	