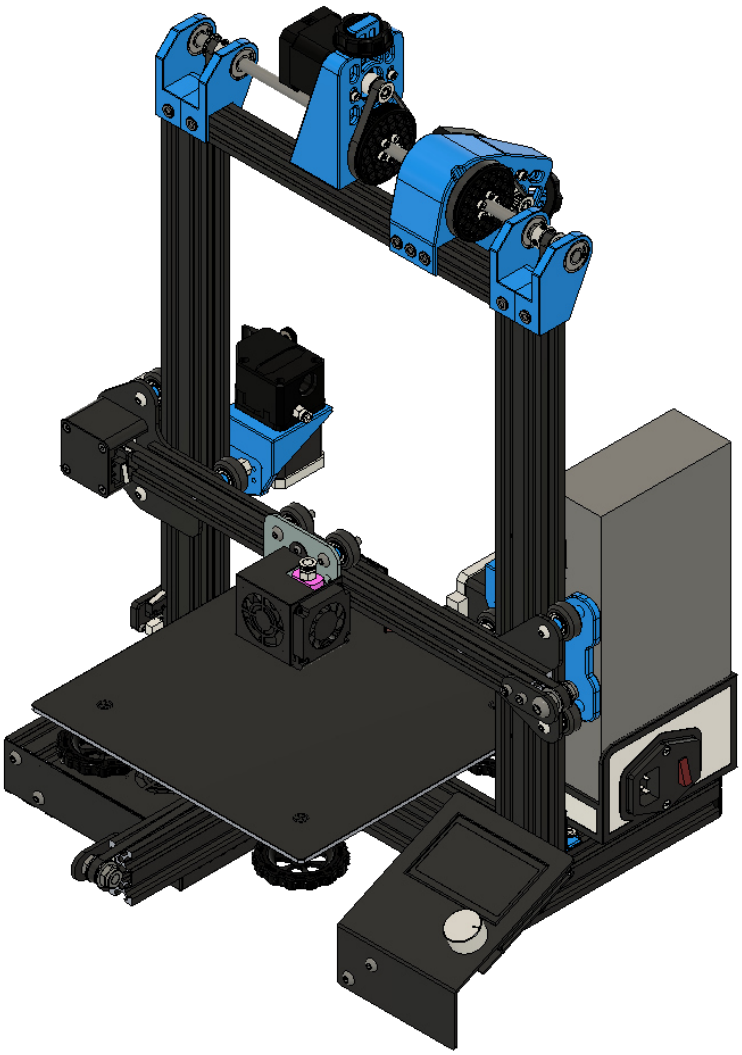
Single Z and V-Rollers

Rotated

or

Unrotated



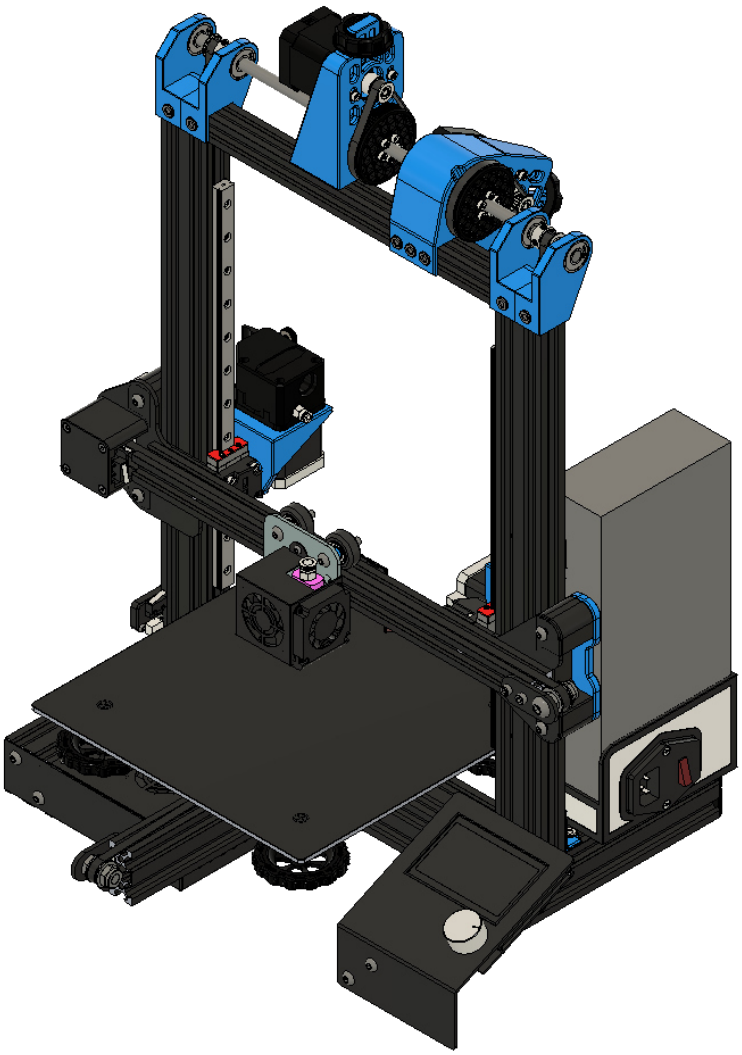
Single Z + V-Rollers						
Category	**Component**	**Quantity**	**Reuse from Printer?**	**Notes**	**My Source**	**Alternative Source**
Motion	**20T** Pulley - **8mm** Bore	3	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	
	16T Pulley - **5mm** Bore	1	no	Motorshaft	Aliexpress	
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Aliexpress	
	188mm Looped Belt	1	no	Width: 6mm	Aliexpress	Aliexpress Affiliate Link Voron Guys
	F623ZZ 3*10*4 bearing	4	no	2 Pieces per side or 2x 20T toothed Idlers (18mm in diameter, 8.5mm width, 3mm ID)	Aliexpress	
	608ZZ Bearing	4 (5)	no	Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in transmission body)	Aliexpress	Aliexpress
	8mm Rod	335 mm	yes/no	Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod. You don't have to buy a hardened steel one. (to expensive and hard to cut). You also could use your leadscrew.		
Fasteners	M5x8mm	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed. Any type of M5x8mm screw can be used.	Aliexpress	
	M5x40mm	6	yes (3 x)	Screwhead must fit under the extrusion from the X-Axis. (Take a look at 5:20 of my video) You also could use a stock 40mm screw from the left side of the printer and place this on the inside of the right side. This way you can use any type of screwhead for the remaining holes.	Aliexpress	Aliexpress (cheaper)
	M5 T-nuts	27 (28)	no	(28 for rotated) + 6 for PowerSupply hodler if needed.	Aliexpress	
	M3x25mm	2	no			
	M3x20mm	2	no			
	M3x12mm	4	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress	
	M3x10mm	2	no			
	M3x8mm	4	no			
	M3x6mm	5	no			
	M3 nuts	8	no			
	M3 washer	2	no			
Electronics	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress	
Printed Parts	RightV3.x	1	/	Thingiverse (Bowden-Version available)		
	LeftV3.x	1	/	Thingiverse (Bowden-Version available)		
	RightTop_A	1	/	Thingiverse		
	RightTop_B	1	/	Thingiverse		
	LeftTop_A	1	/	Thingiverse		
	LeftTop_B	1	/	Thingiverse		
	Bottom_F623 or _toothed	2	/	Thingiverse (If you want toothed idlers see here: How to use toothed idlers)		
	Spacer	3	/	Thingiverse		
	Tensioner Block	2	/	Thingiverse		
	TensionerClamp	2	/	Thingiverse		
	Power_Supply_Holder	1	/	Thingiverse		
	Transmission	1	/	Github		
	MotorMountTensionerArm	1	/	Github		
	ZDriveTensioningRing	1	/	Github		
	80TRingGear	1	/	Github		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Single Z and MGN 12H

Rotated

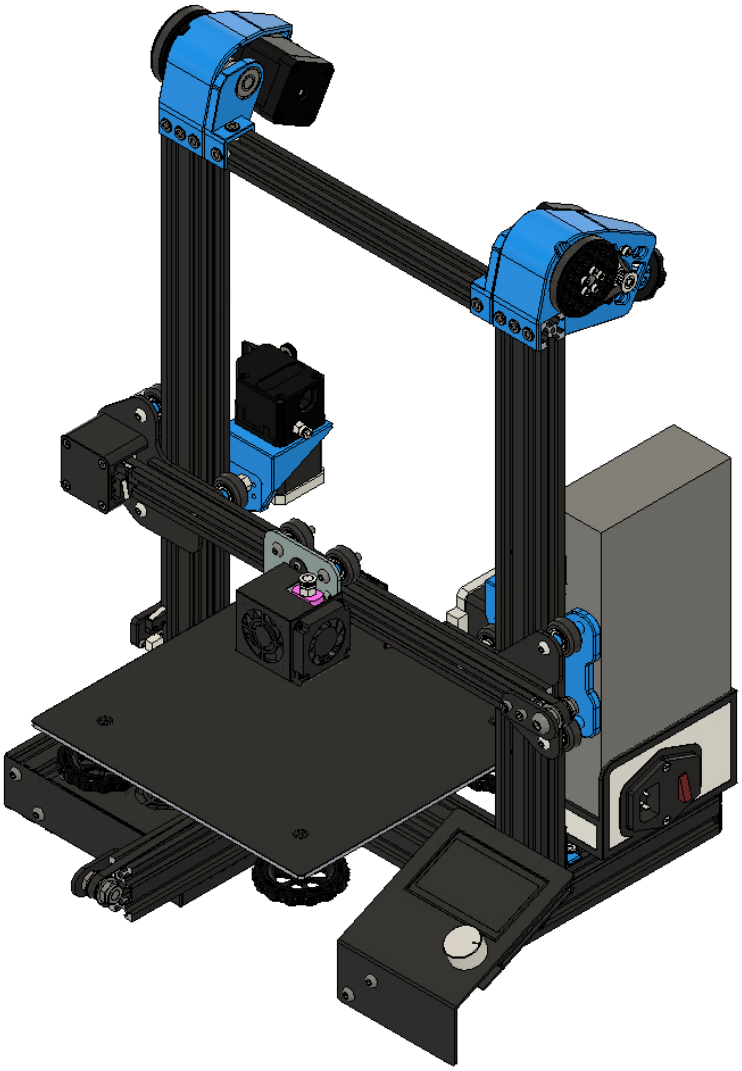
or

Unrotated



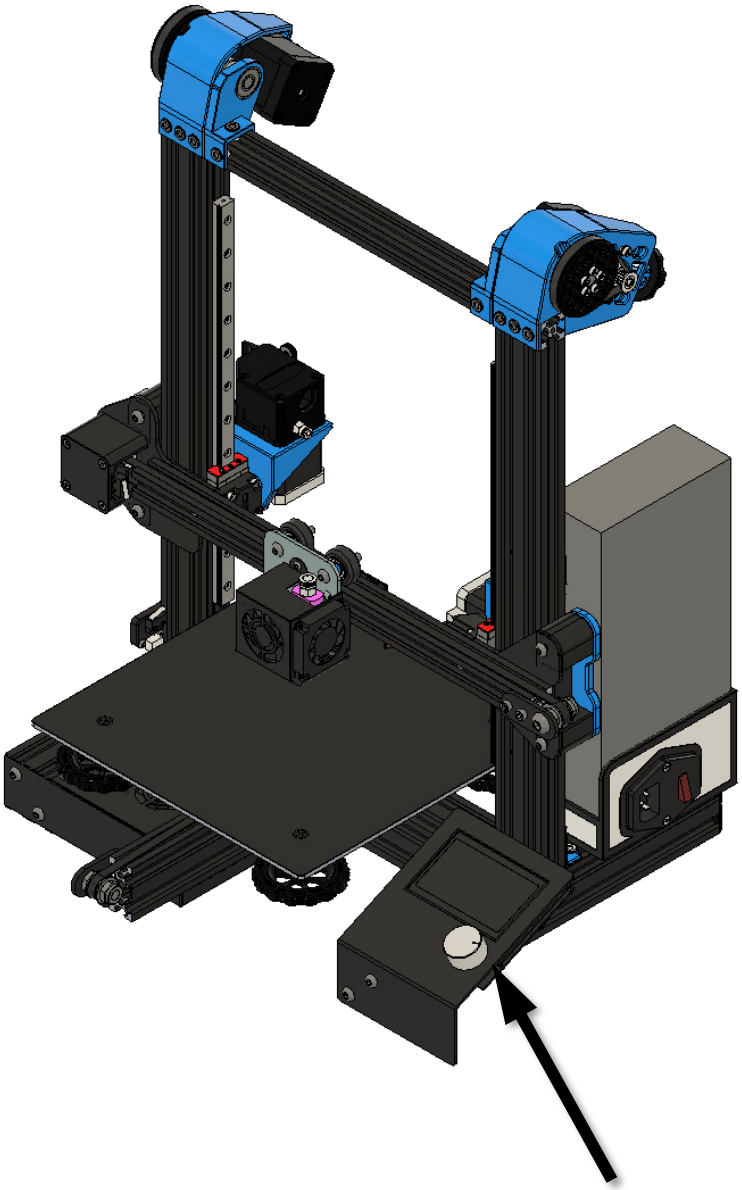
Single Z + MGN						
Category	**Component**	**Quantity**	**Reuse from**	**Notes**	**My Source**	**Alternative Source**
Motion	**20T** Pulley - **8mm** Bore	3	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	
	16T Pulley - **5mm** Bore	1	no	Motorshaft	Aliexpress	
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Aliexpress	
	188mm Looped Belt	1	no	Width: 6mm	Aliexpress	Aliexpress Affiliate Link Voron Guys
	F623ZZ 3*10*4 bearing	4	no	2 Pieces per side or 2x 20T toothed Idlers (18mm in diameter, 8.5mm width, 3mm ID)	Aliexpress	
	608ZZ Bearing	4 (5)	no	Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in transmission body)	Aliexpress	Aliexpress
	8mm Rod	335 mm	yes/no	Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod. You don't have to buy a hardened steel one. (to expensive and hard to cut). You also could use your leadscrew.		
	300mm MGN Rail	2	no	Don't buy the cheapest.		
Fasteners	M5x8mm	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed. Any type of M5x8mm screw can be used.	Aliexpress	
	M5x40mm	4	yes (3x)		Aliexpress	Aliexpress (cheaper)
	M5 T-nuts	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed.	Aliexpress	
	M3x25mm	2	no			
	M3x20mm	6	no			
	M3x12mm	4	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress	
	M3x10mm	10	no			
	M3x8mm	28	no	You will need 24 of them to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
	M3x6mm	5	no			
	M3 nuts	12	no			
	M3 washer	2	no			
	M3 T-nuts	24	no	You will need these to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
Electronics	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress	
Printed Parts	RightV3.x	1	/	Thingiverse (Bowden-Version available)		
	LeftV3.x	1	/	Thingiverse (Bowden-Version available)		
	RightTop_A	1	/	Thingiverse		
	RightTop_B	1	/	Thingiverse		
	LeftTop_A	1	/	Thingiverse		
	LeftTop_B	1	/	Thingiverse		
	Bottom_F623 or _toothed	2	/	Thingiverse (If you want toothed idlers see here: How to use toothed idlers)		
	Spacer_Right (MGN folder)	1	/	Thingiverse		
	Spacer_Left (MGN folder)	1	/	Thingiverse		
	Right (MGN folder)	1	/	Thingiverse		
	Left (MGN folder)	1	/	Thingiverse		
	DistanceBracket	2	/	Thingiverse - you will need this to align the rails. Just take a look at my video.		
	Tensioner Block	2	/	Thingiverse		
	TensionerClamp	2	/	Thingiverse		
	Power_Supply_Holder	1	/	Thingiverse		
	Transmission	1	/	Github		
	MotorMountTensionerArm	1	/	Github		
	ZDriveTensioningRing	1	/	Github		
	80TRingGear	1	/	Github		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Dual Z and V_Rollers



Dual Z + V-Rollers						
Category	**Component**	**Quantity**	**Reuse from**	**Notes**	**My Source**	**Alternative Source**
Motion	**20T** Pulley - **8mm** Bore	4	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	
	16T Pulley - **5mm** Bore	2	no	Motorshaft	Aliexpress	
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Aliexpress	
	188mm Looped Belt	2	no	Width: 6mm	Aliexpress	Aliexpress Affiliate Link Voron Guys
	F623ZZ 3*10*4 bearing	4	no	2 Pieces per side or 2x 20T toothed Idlers (18mm in diameter, 8.5mm width, 3mm ID)	Aliexpress	
	608ZZ Bearing	4	no	Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in transmission body)	Aliexpress	Aliexpress
	8mm Rod	2x65mm	yes/no	Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod. You don't have to buy a hardened steel one. (to expensive and hard to cut). You also could use your leadscrew.		
Fasteners	M5x8mm	37	no	(37 for rotated) + 6 for PowerSupply holder if needed. Any type of M5x8mm screw can be used.	Aliexpress	
	M5x40mm	6	yes (3 x)	Screwhead must fit under the extrusion from the X-Axis. (Take a look at 5:20 of my video) You also could use a stock 40mm screw from the left side of the printer and place this on the inside of the right side. This way you can use any type of screwhead for the remaining holes.	Aliexpress	Aliexpress (cheaper)
	M5 T-nuts	37	no	(37 for rotated) + 6 for PowerSupply hodler if needed.	Aliexpress	
	M3x25mm	2	no			
	M3x20mm	2	no			
	M3x12mm	4	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress	
	M3x10mm	4	no			
	M3x8mm	8	no			
	M3x6mm	10	no			
	M3 nuts	10	no			
	M3 washer	4	no			
Electronics	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress	
Printed Parts	RightV3.x	1	/	Thingiverse (Bowden-Version available)		
	LeftV3.x	1	/	Thingiverse (Bowden-Version available)		
	RightTop	1	/	Thingiverse DUAL Z Folder		
	LeftTop	1	/	Thingiverse DUAL Z Folder		
	Bottom_F623 or _toothed	2	/	Thingiverse (If you want toothed idlers see here: How to use toothed idlers)		
	Spacer	3	/	Thingiverse		
	Tensioner Block	2	/	Thingiverse		
	TensionerClamp	2	/	Thingiverse		
	Power_Supply_Holder	1	/	Thingiverse		
	Transmission_Left	1	/	Github		
	Transmission_Right	1	/	Github		
	MotorMountTensionerArm	2	/	Github		
	ZDriveTensioningRing	2	/	Github		
	80TRingGear	2	/	Github		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Dual Z and MGN 12H



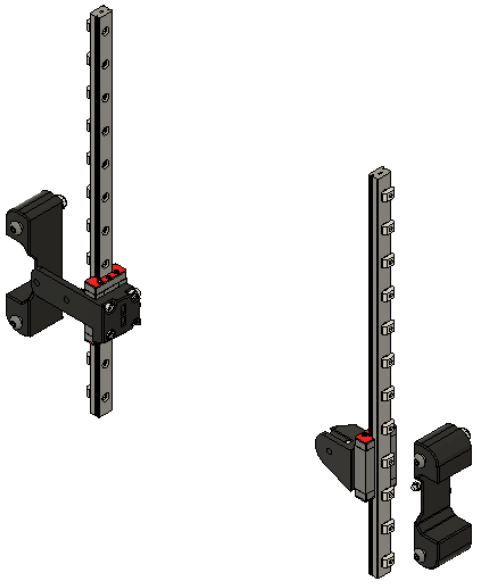
Dual Z + MGN						
Category	**Component**	**Quantity**	**Reuse from**	**Notes**	**My Source**	**Alternative Source**
Motion	**20T** Pulley - **8mm** Bore	4	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	
	16T Pulley - **5mm** Bore	2	no	Motorshaft	Aliexpress	
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Aliexpress	
	188mm Looped Belt	2	no	Width: 6mm	Aliexpress	Aliexpress Affiliate Link Voron Guys
	F623ZZ 3*10*4 bearing	4	no	2 Pieces per side or 2x 20T toothed Idlers (18mm in diameter, 8.5mm width, 3mm ID)	Aliexpress	
	608ZZ Bearing	4	no	Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in transmission body)	Aliexpress	Aliexpress
	8mm Rod	2x 65mm	yes/no	Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod. You don't have to buy a hardened steel one. (to expensive and hard to cut). You also could use your leadscrew.		
	300mm MGN Rail	2	no	Don't buy the cheapest.		
Fasteners	M5x8mm	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed. Any type of M5x8mm screw can be used.	Aliexpress	
	M5x40mm	4	yes (3x)		Aliexpress	Aliexpress (cheaper)
	M5 T-nuts	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed.	Aliexpress	
	M3x25mm	2	no			
	M3x20mm	6	no			
	M3x12mm	4	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress	
	M3x10mm	12	no			
	M3x8mm	32	no	You will need 24 of them to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
	M3x6mm	10	no			
	M3 nuts	14	no			
	M3 washer	4	no			
	M3 T-nuts	24	no	You will need these to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
Electronics	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress	
Printed Parts	RightV3.x	1	/	Thingiverse (Bowden-Version available)		
	LeftV3.x	1	/	Thingiverse (Bowden-Version available)		
	RightTop	1	/	Thingiverse		
	LeftTop	1	/	Thingiverse		
	Bottom_F623 or _toothed	2	/	Thingiverse (If you want toothed idlers see here: How to use toothed idlers)		
	Spacer_Right (MGN folder)	1	/	Thingiverse		
	Spacer_Left (MGN folder)	1	/	Thingiverse		
	Right (MGN folder)	1	/	Thingiverse		
	Left (MGN folder)	1	/	Thingiverse		
	DistanceBracket	2	/	Thingiverse - you will need this to align the rails. Just take a look at my video.		
	Tensioner Block	2	/	Thingiverse		
	TensionerClamp	2	/	Thingiverse		
	Power_Supply_Holder	1	/	Thingiverse		
	Transmission_Left	1	/	Github		
	Transmission_Right	1	/	Github		
	MotorMountTensionerArm	2	/	Github		
	ZDriveTensioningRing	2	/	Github		
	80TRingGear	2	/	Github		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Upgrade V-Rollers to MGN 12H

Single Z and Dual Z

+

Rotated and Unrotated



Version: Upgrade from V-Rollers to MGN						
Category	**Component**	**Quantity**	**Reuse from Printer?**	**Notes**	**My Source**	**Alternative Source**
	300mm MGN Rail	2	no	Don't buy the cheapest.		
Fasteners	M3x20mm	4	no			
	M3x10mm	8	no			
	M3x8mm	24	no	You will need these to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
	M3 nuts	4	no			
	M3 T-nuts	24	no	You will need these to mount the rails. All holes: 12 per rail. You can use less, minimum 4 per rail.		
Printed Parts	Spacer_Right (MGN folder)	1	/	Thingiverse		
	Spacer_Left (MGN folder)	1	/	Thingiverse		
	Right (MGN folder)	1	/	Thingiverse		
	Left (MGN folder)	1	/	Thingiverse		
	DistanceBracket	2	/	Thingiverse - you will need this to align the rails. Just take a look at my video.		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Upgrade with Keybak

Single Z and Dual Z

+

Rotated and Unrotated

Version: Upgrade with Keybak						
Category	**Component**	**Quantity**	**Reuse from Printer?**	**Notes**	**My Source**	**Alternative Source**
	Key-bak Super48 13oz	1	no		Amazon	
	F623ZZ 3*10*4 bearing	2	no		Aliexpress	
Fasteners	M3x25mm	1	no			
	M3x12mm	2	no			
	M3 nuts	2	no			
	M5x8mm	2	no			
	M5 T-nuts	2	no			
Printed Parts	Bearing_Holder	1	/	GitHub		
	Keyback_mount	1	/	GitHub		
	Keybak_mount_plate	1	/	GitHub		
	Keybak_Spacer	1	/	GitHub		
	Left_Top_A_Keybak	2	/	GitHub		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		