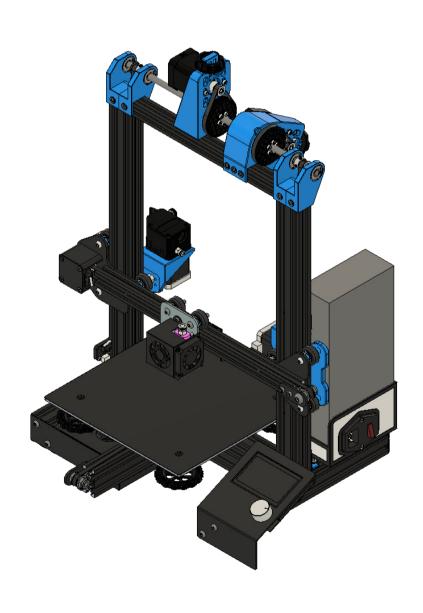
Single Z and V-Rollers

Rotated

or

Unrotated



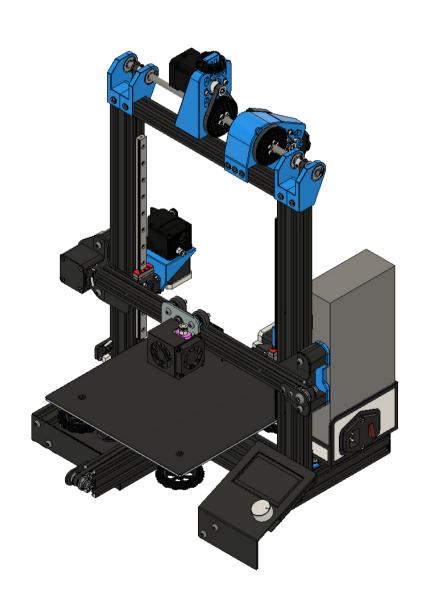
CategoryComponentQuantityRedse Horn DeliatorsNotesMy SourceAlternative SourceMotion20T Pulley - 8mm Bore3noOne for each side on the Rod, one for the printed 80T Gear.AliexpressAliexpress16T Pulley - 5mm Bore1noMotorshaftAliexpressAliexpressGt2 Belt2 MeternoDon't buy the cheapest. You should go for belts with glassfiber. Width: 6mmAmazon GermanyAliexpress		Single Z + V-Rollers							
Motion 2017-Bulley - Smm Bore 3 no One for each side on the Rod, one for the printed 801 Gear Melegeness Allegeness Allegeness 1 no Motion for the printed 801 Gear Melegeness Melegeness Melegeness 1 No Motion for the printed 801 Gear Melegeness Melegene	Category	Component	Quantity	neuse iroiii		My Source	Alternative Source		
September 1		20T Pulley - 8mm Bore	3	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	Aliexpress		
188mm Loped Belt			1	no	Motorshaft	Aliexpress	Aliexpress		
F632Z3 31074 bearing		Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Amazon Germany	<u>Aliexpress</u>		
Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in transmission body) Alleopress		188mm Looped Belt	1	no	Width: 6mm	Aliexpress	Aliexpress Affiliate Link Voron Guys		
8mm Rod 355 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 hardware store in the cut, You also could use your leadscrew. Fasteners MSx8mm 27 (28) no (28 for rotated) + 6 for PowerSupply holder if needed. Any type of MSx8mm screw can be used. MSx4Dmm 6 yes (3 x) way you can use any type of Strewbland must find either the extraord from the Arisk all local host 352 of 0 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 Strewbland must find either the extraord from the Arisk all local for the remaining holes. MSx2Dmm 2 no (28 for rotated) + 6 for PowerSupply holder if needed. MSx1Dmm 2 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx1Dmm 2 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 4 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 5 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 5 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 5 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 5 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 6 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 6 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 6 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. MSx8mm 6 no (19 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be		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			
Smm Rod 335 mm yes/no heres on 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. Call For Totalard 6			. (=)		Do you have an old skateboard? You can steal the bearings from the wheels;) (5 for extra bearing in				
Fasteners Msx8mm 27 (28) no (28 for rotated) + 6 for PowerSupply holder in deed. MSX40mm 2 (28) no (28 for rotated) + 6 for PowerSupply holder in deed. MSX40mm 2 (28) no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 2 no (28 for rotated) + 6 for PowerSupply holder in deed. MSX20mm 4 no (4 no		60822 Bearing	4 (5)	no	transmission body)	Aliexpress	<u>Aliexpress</u>		
Sester S		0 D. d	225		Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod. You don't have				
MS-40mm 6 yes (3 x) Screwhead must fit under the extrusion from the X-Asis, (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. MS-17-nuts 27 (28) no (28 for rotated) + 6 for PowerSupply hodier if needed. M3x25mm 2 no (28 for rotated) + 6 for PowerSupply hodier if needed. M3x20mm 2 no (17 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x12mm 4 no (17 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x8mm 4 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x8mm 5 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 8 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 8 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 8 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 8 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 8 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 9 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 nuts 9 no (18 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3 you		8mm Rod	335 mm	yes/no					
MSx40mm 6 yes (3 x) was 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. M5T-nuts 27 (28) no (28 for rotated) + 6 for PowerSupply hodier if needed. M3x25mm 2 no (28 for rotated) + 6 for PowerSupply hodier if needed. M3x20mm 2 no (19 on 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. M3x10mm 2 no (19 on 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. M3x10mm 2 no (19 on 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. M3x10mm 4 no (19 on 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. M3x10mm 2 no (19 on 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. M3x10mm 4 no (19 on the printer and place this on the inside of the right side. Allexpress (Phase) was allexpre	Fasteners	M5x8mm	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed. Any type of M5x8mm screw can be used.	Aliexpress			
Way you can use any type of screwhead for the remaining holes. Allexpress All					Screwhead must fit under the extrusion from the X-Axis. (Take a look at 5:20 of my video) You also could				
MST-nuts 27 (28) no (28 for rotated) + 6 for PowerSupply hodler if needed. Allexoress M3x25mm 2 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x10mm 2 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x10mm 2 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x10mm 5 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 5 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 5 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 5 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 6 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 6 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x6mm 6 no (7 you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M1xmm 1		M5x40mm	6	yes (3 x)	use a stock 40mm screw from the left side of the printer and place this on the inside of the right side. This				
M3x25mm 2 no ff you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x10mm 4 no ff you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x6mm 5 no					way you can use any type of screwhead for the remaining holes.	<u>Aliexpress</u>	Aliexpress (cheaper)		
M3x20mm 2 no If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. Allexpress M3x30mm 2 no		M5 T-nuts	27 (28)	no	(28 for rotated) + 6 for PowerSupply hodler if needed.	<u>Aliexpress</u>			
M3x12mm 4 no If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good. M3x6mm 2 no		M3x25mm	2	no					
M3x8mm 4 no		M3x20mm	2	no					
M3x8mm 4 no 5 no 6		M3x12mm	4	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress			
M3 mts 8 no		M3x10mm	2	no					
M3 nuts 8 no M3 washer 2 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_B 1 / Thingiverse LeftTop_B 1 / Thingiverse Bottom_F623 or_toothed 2 / Thingiverse Bottom_F623 or_toothed 2 / Thingiverse Tensioner Block 2 / Thingiverse Tensioner Clamp 2 / Thingiverse Tensioner Clamp 2 / Thingiverse Power_Supply_Holder 1 / Thingiverse Transmission 1 / Github MotorMountTensionerArm 1 / Github BOTRingGear 1 / Github SOTRingGear 1 / Github		M3x8mm	4	no					
M3 washer 2 no		M3x6mm	5	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)		M3 nuts	8	no					
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		M3 washer	2	no					
LeftV3.x 1 / Thingiverse (Bowden-Version available) RightTop_A 1 / Thingiverse RightTop_B 1 / Thingiverse LeftTop_B 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 SOTRingGear 1 / Github SOTRingGear 1 / Github	Electronics	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress			
RightTop_A 1 / Thingiverse	Printed Parts	RightV3.x	1	/	Thingiverse (Bowden-Version available)				
RightTop_B 1 / Thingiverse LeftTop_A 1 / Thingiverse LeftTop_B 1 / Thingiverse Bottom_F623 or_toothed 2 / Thingiverse Spacer 3 / Thingiverse Tensioner Block 2 / Thingiverse TensionerClamp 2 / Thingiverse Power_Supply_Holder 1 / Thingiverse Transmission 1 / Github MotorMountTensionerArm 1 / Github SOTRingGear 1 / Github SOTRingGear 1 / Github SOTRingGear 1 / Github		LeftV3.x	1	/	Thingiverse (Bowden-Version available)				
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 SOTRingGear 1 / Github SOTRingGear 1 / Github		RightTop_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		RightTop_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		LeftTop_A	1	/	Thingiverse				
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		LeftTop_B	1	/	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		Bottom_F623 or _toothed	2	/	Thingiverse (If you want toothed idlers see here: How to use toothed idlers)				
TensionerClamp 2 / Thingiverse Power_Supply_Holder 1 / Thingiverse Transmission 1 / Github MotorMountTensionerArm 1 / Github ZDriveTensioningRing 1 / Github 80TRingGear 1 / Github		Spacer	3	/	Thingiverse				
Power_Supply_Holder 1 / Thingiverse		Tensioner Block	2	/	Thingiverse				
Transmission 1 / Github MotorMountTensionerArm 1 / Github ZDriveTensioningRing 1 / Github 80TRingGear 1 / Github		TensionerClamp	2	/	Thingiverse				
MotorMountTensionerArm 1 / Github ZDriveTensioningRing 1 / Github 80TRingGear 1 / Github		Power_Supply_Holder	1	/	Thingiverse				
ZDriveTensioningRing 1 / Github 80TRingGear 1 / Github		Transmission	1	/	<u>Github</u>				
80TRingGear 1 / Github		MotorMountTensionerArm	1	/	<u>Github</u>				
		ZDriveTensioningRing	1	/	<u>Github</u>				
Filament Petg or ABS (+) ??kg no Yes you can use PLA, but you shouldn't;)		80TRingGear	1	/	<u>Github</u>				
	Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)				

Single Z and MGN 12H

Rotated

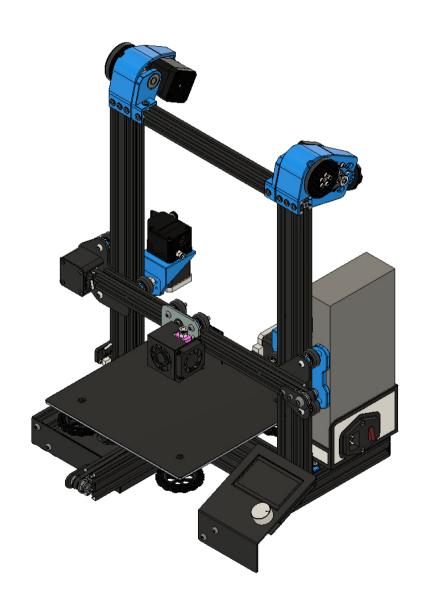
or

Unrotated



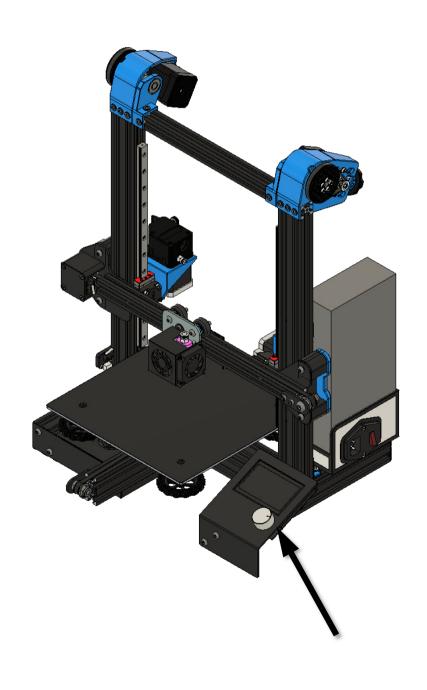
	Single Z + MGN								
Category	Component	Quantity	Neuse IIOIII	Notes	My Source	Alternative Source			
Motion	20T Pulley - 8mm Bore	3	no	One for each side on the Rod, one for the printed 80T Gear.	<u>Aliexpress</u>	<u>Aliexpress</u>			
	16T Pulley - 5mm Bore	1	no	Motorshaft	<u>Aliexpress</u>	<u>Aliexpress</u>			
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Amazon Germany	<u>Aliexpress</u>			
	188mm Looped Belt	1	no	Width: 6mm	<u>Aliexpress</u>	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)	<u>Aliexpress</u>				
	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.	<u>Aliexpress</u>				
	M5x40mm	4	yes (3x)		<u>Aliexpress</u>	Aliexpress (cheaper)			
	M5 T-nuts	27 (28)	no	(28 for rotated) + 6 for PowerSupply holder if needed.	<u>Aliexpress</u>				
	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		1	/	Thingiverse (Bowden-Version available)	- нежртезэ				
	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	1	Thingiverse					
	Right (MGN folder)	1	/	Thingiverse					
	Left (MGN folder)	1	1	Thingiverse					
	DistanceBracket	2	/	Thingiverse - you will need this to align the rails. Just take a look at my video.					
	Tensioner Block	2	/	Thingiverse - you will need this to align the rails. Just take a look at my video.					
	Tensioner Block Tensioner Clamp	2	/	Thingiverse					
	Power_Supply_Holder	1	/	Thingiverse					
		1	1						
	Transmission MaterMountTensionerArm	1	1	Github					
	MotorMountTensionerArm 7DriveTensioningRing	1	1	Github					
	ZDriveTensioningRing	1	/	Github					
F:1	80TRingGear		/	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	Neuse Iroini	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	Aliexpress
	16T Pulley - 5mm Bore	2	no	Motorshaft	<u>Aliexpress</u>	Aliexpress
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Amazon Germany	<u>Aliexpress</u>
	188mm Looped Belt	2	no	Width: 6mm	<u>Aliexpress</u>	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)	<u>Aliexpress</u>	
	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)	<u>Aliexpress</u>	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.	<u>Aliexpress</u>	
	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.	<u>Aliexpress</u>	Aliexpress (cheaper)
	M5 T-nuts	37	no	(37 for rotated) + 6 for PowerSupply hodler if needed.	<u>Aliexpress</u>	
	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.	<u>Aliexpress</u>	
	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!!!	<u>Aliexpress</u>	
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	1	Thingiverse		
	Power_Supply_Holder	1	/	Thingiverse		
	Transmission_Left	1	/	<u>Github</u>		
	Transmission_Right	1	/	<u>Github</u>		
	MotorMountTensionerArm	2	/	<u>Github</u>		
	ZDriveTensioningRing	2	/	<u>Github</u>		
	80TRingGear	2	/	<u>Github</u>		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		

Dual Z and MGN 12H



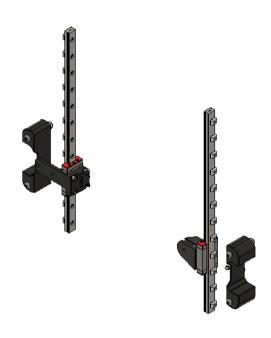
	Dual Z + MGN							
Category	Component	Quantity	Neuse IIOIII	Notes	My Source	Alternative Source		
Motion	20T Pulley - 8mm Bore	4	no	One for each side on the Rod, one for the printed 80T Gear.	Aliexpress	Aliexpress		
	16T Pulley - 5mm Bore	2	no	Motorshaft	Aliexpress	Aliexpress		
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for belts with glassfiber. Width: 6mm	Amazon Germany	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	Alta	AP.		
				transmission body)	<u>Aliexpress</u>	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		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 ;)				
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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	Notes	My Source	Alternative Source			
	300mm MGN Rail	2		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?		My Source	Alternative Source
	Key-bak Super48 13oz	1	no		<u>Amazon</u>	
	F623ZZ 3*10*4 bearing	2	no		<u>Aliexpress</u>	
Fasteners	M3x25mm	1	no			
	M3x12mm	2	no			
	M3 nuts	2	no			
	M5x8mm	2	no			
	M5 T-nuts	2	no			
Printed Parts	Bearing_Holder	1	/	<u>GitHub</u>		
	Keyback_mount	1	/	<u>GitHub</u>		
	Keybak_mount_plate	1	/	<u>GitHub</u>		
	Keybak_Spacer	1	/	<u>GitHub</u>		
	Left_Top_A_Keybak	2	/	<u>GitHub</u>		
Filament	Petg or ABS (+)	??kg	no	Yes you can use PLA, but you shouldn't ;)		