Bill of Materials Beltdriven Ender 3

## **BOM for Unrotated Transmission, V-Rollers, No extra bearing.**

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Category	Component	Quantity	Reuse from Printer?	Notes	My Source	Alternative Source	Price(shipping + My source)	
Motion	20T 8mm Pulley	3	no	One for each side on the Rod, one for the printed 80T Gear.	<u>Aliexpress</u>	Aliexpress	2,40 €	
	16T 5mm Pulles	1	no	Motorshaft	<u>Aliexpress</u>	Aliexpress	0,85€	
	Gt2 Belt	2 Meter	no	Don't buy the cheapest. You should go for one with glassfiber	Amazon Germany	<u>Aliexpress</u>	6,00€	
	188mm Looped Belt	1	no		Aliexpress	Aliexpress_Affiliate Link Voron Guys	1,96€	
	F623ZZ 3*10*4 bearing	4	no	2 Pieces for one side	<u>Aliexpress</u>		5,20€	
	608ZZ Bearing	4	no	Do you have an old skateboard? You can steal the bearings from the wheels;)	<u>Aliexpress</u>	Aliexpress	2,04€	
	8mm Rod	330 mm	yes/no	Theres no link, just go to your local hardware store and take a cheap 8mm (aluminium) rod.			3,00€	
				Mine costs around 3€. You don't have to buy a hardened steel one. (to expensive and hard to cut)				
Fasteners	M5x8mm	15	no	Any type of M5x8mm screw can be used. I really like the openbuilds one	<u>Aliexpress</u>		2,58€	
	M5x40mm	6	yes (3 x)	Screwhead have to fit under the extrusion from the X-Axis. (Inside with the exentric nut on the plates.)	Aliexpress	Aliexpress (cheaper)	2,56€	
	M5x30mm	4		Optional. for the top of the frame; the stock will work as well but only have a few millimeter to grip	Aliexpress		[2,27€]	
	M5 T-nuts	15	no		<u>Aliexpress</u>		2,00€	
	M3x30mm	2	no					
	M3x25mm	2	no					
	M3x16mm	10	no					
	M3x12mm	8	no	If you have no screws, you should buy a kit. Especially for the tensioner a longer screw can be good.	Aliexpress		5,86€	
	M3x10mm	2	no					
	M3x6mm	5	no					
	M3 nuts	10	no					
	Motor extension cable	1	no	The original Cable is obviously too short^^ Check if the middle cables are crossed!!!	Aliexpress		3,11 €	
Printed Parts	-	1	/	Thingiverse				
	LeftV3.3	1	/	Thingiverse Thingiverse				
	RightTop	1	1	Thingiverse				
	LeftTop	1	/	Thingiverse				
	RightBottom  LeftBottom	1	1	Thingiverse Thingiverse				
	Spacer	3	1	Thingiverse				
	Tensioner Block	2	1	Thingiverse				
	TensionerClamp	2	1	Thingiverse				
	Transmission	1	1	<u>Github</u>				
	MotorMountTensionerArm	1	1	<u>Github</u>				
	ZDriveTensioningRing	1	1	<u>Github</u>				
	80TRingGear	1	/	<u>Github</u>				
Filament	PETG or ABS	??kg	no	Yes you can use PLA, but you shouldn't ;)				
			A				Total costs: 39,83€	

Component	Sub-Component	Parts		Qty.	Description
Unrated Transmission					Unrotated Transmission. Adds 109 mm to the height.
	Unrotated without bearing				
		M5X8 LP-SHCS	<b>1</b>	5	
		M5 T-Nut	VO	5	
	Unrotated with bearing				
		M5X8 LP-SHCS	SO	5	
		M5 T-Nut	10	5	
		Bearing 608-2RS		1	
	NEMA17 Black - Z Drive Setup				
		Motor Mount Tensioner Arm	8	1	
		GT2 16T 6mm	620	1	
		M3X8 SHCS	0	4	
		M3X10 SHCS with Washer		2	
		M3 Hexnut	0	2	
		Z Drive Tensioning Ring	0	1	
	Mobius Z Drive Core		23		
		80T Hubbed Gear	•	1	
		GT2 20T 8mm - Deflanged		1	
		M3X6 SHCS	100 p	5	
	188mm GT2 Looped Belt 6mm width		0	1	
	Belts		11	2 meters	
	8mm Rod		/	1	
	GT2_20T		0	2	
Rotated Transmission					Rotated Transmission. Adds 52 mm to the height.
	Rotated without bearing	Frame B			
		M5X8 LP-SHCS	VØ	7	+ 2
		M5 T-Nut	Ø	7	+ 2
	Rotated with bearing	Frame B (Bearing)			
		M5X8 LP-SHCS		7	+ 2
		M5 T-Nut	10	7	+ 2
		Bearing 608-2RS	0	1	+ 1

Top/Bottom Parts					Top/Bottom Parts for all versions.
	Tops				
		Top Parts	9	2	
		Bearing 608-2RS		4	
		M5x30 LP-SHCS		4	
		M5X8 LP-SHCS		8	
		M5 T-Nut	6	12	
	Bottoms				
		Bottom Parts		2	
		F623ZZ Bearings	0	4	
		M3X30 SHCS	0)	2	
		M3 Hexnut		2	
		M5X8		8	
		M5 T-Nut	9	8	
Z Plates					Z-Plates for all versions.
	Z-Plates-DirectDrive V3				
		RightV3.3		1	
		LeftV3.3		1	
	Z-Plates-Bowden V3				
		RightV3.3Bowden	*		
		LeftV3.3Bowden			
	Rollers Assembly				
		M5X40 Button Head Screw		3	
				3	
		Spacers for rollers			
		Spacers for rollers  M5 Self-locking nut	6	3	
	Fasteners Z Plates				
	Fasteners Z Plates				
	Fasteners Z Plates	M5 Self-locking nut		3	
	Fasteners Z Plates	M5 Self-locking nut  M3X25 SHCS (Roller)		2	
	Fasteners Z Plates	M5 Self-locking nut  M3X25 SHCS (Roller)  M3X12 SHCS (Roller)		2 4	

MGN brackets (optinal).					MGN brackets (optinal).
		Right V3.3 (MGN)		1	+ 1
		Left V3.3 (MGN)		1	+ 1
		Spacer Block	1	2	+ 2
		MGN12 Linear Rail 300 mm		2	+ 2
	Fasteners (Rail)				
		M3X8 SHCS		24	+ 24
		M3 T-Nut		24	+ 24
	Fasteners Z-Plates				
		M5X40 Button Head Screw		1	- 2
		M5 Self-locking nut	0	1	- 2
		M3X20 SHCS		4	+ 4
		M3 Hexut	6	10	+ 10
		M3X10 SHCS		8	+ 8
		M3X25 SHCS		2	+ 2
		M3X12 SHCS	0	4	+ 4