Part list for the Miniature Compound Bow by DonStickel

Please consult the associated instruction document for detailed information on all parts and a fully illustrated assembly guide.

Print Parts (to print)

Part ID	Name	Amount	Short Description	Recommended print settings[1] Layer height [mm]	Wall Thickness [mm]	Print speed [mm/s]	Approx print time per part[5] [hh:mm]	Approx cost per part[6] [€/$]	Recommended material
1	Riser	1	Main body of the bow all other parts are mounted to	0,15	default[2]	30	03:40	0,42	PLA
2a	LimbPivotHex	2	Limb carrier with hole for hexagonal nut	0,15	default	20	00:30	0,04	PLA
2b	LimbPivotBlank	2	Limb carrier with hole for round screw head	0,15	default	20	00:30	0,04	PLA
3a	Limb	2	The limbs of the bow providing all the energy for shooting	0,2	4[3]	40	01:30	0,40	PETG/elastic PLA
3b	AuxLimb	2	Auxiliary limbs enhancing the power further more	0,2	4	40	00:50	0,23	PETG/elastic PLA
4	LimbCap	2	Caps for clamping the limbs to the riser	0,15	default	20	00:40	0,05	PLA
5	Cam	1	Magic piece of applied kinematics doing all the compounding	0,15	1,6[4]	25	01:30	0,15	PLA
6	IdlerWheel	1	Skelletonized wheel redirecting the cable	0,15	1,6	25	00:30	0,06	PLA
7	CableAnchor	1	Anchor point for the loose cable end	0,15	1,6	20	00:05	0,01	PLA
8	CableGuard	1	Rod holding the cable out to the side of the arrow	0,15	3	30	00:40	0,09	PLA
9	ArrowGuide	1	Ring guiding the arrow for precise shooting	0,15	1,6	25	00:40	0,08	PLA
10	CounterWeightRod	1	Mount for the balancing counter weight	0,15	1,6	25	00:50	0,09	PLA
11	CounterWeightHull	1	Hull for the balancing counter weight	0,15	default	20	00:45	0,06	PLA
		18					**TOTAL** **16:40**	**2,48**	

Non-Print Parts (to buy)

Part ID	Name	Amount	Short Description	Approx cost per part[7] [€/$]
12a	M3x30 Screw	2	Used for mounting the limbs	0,0375
12b	M3x16 Screw	4	Limb pivot and cam/idler wheel assembly	0,0255
12c	M3x12 Screw	2	Cable guard assembly	0,025
12d	M3x10 Screw	2	Arrow guide assembly	0,024
13	M3 Nut	11	Used for general assembly	0,0135
14	M6 Nut	1	Used as the actual counter weight	0,0245
15	String 720mm	1	Main string driving the arrow	-
16	Cable 230mm	1	Secondary string distributing the draw force to both limbs	-
17	M3x10-20 Screw	1	For mounting the counter weight rod	0,025
				0,473

[1] Based on empirical value for my specific printer (Heavily modified and fine tuned Anet A6). If you happen to have a very high end machine with bowden extruder you may increase the print speed by a fair amount. You can find my basic slicer settings in the instructions

[2] Should be about 0,8 to 1 mm

[3] Little over half of the parts thickness. This way no infill is generated but only concentric lines. Very important for the limbs elasticity and longevity.

[4] Pretty filigree structures on this parts have to withstand all of the bow's drawforce. Thicker shell is what makes parts more robust not the amount of infill.

[5] Using the recommended print settings. Calculated by the slicer Ultimaker Cura (V 3.1.0). The actual printing time might vary.

[6] Calculated by Cura based on mean cost of 25 €/$ per 1000 g medium to high grade filament

[7] Calculated from the price per package of 100pcs. In hardware stores you usually pay by weight which may be significantly more expensive.