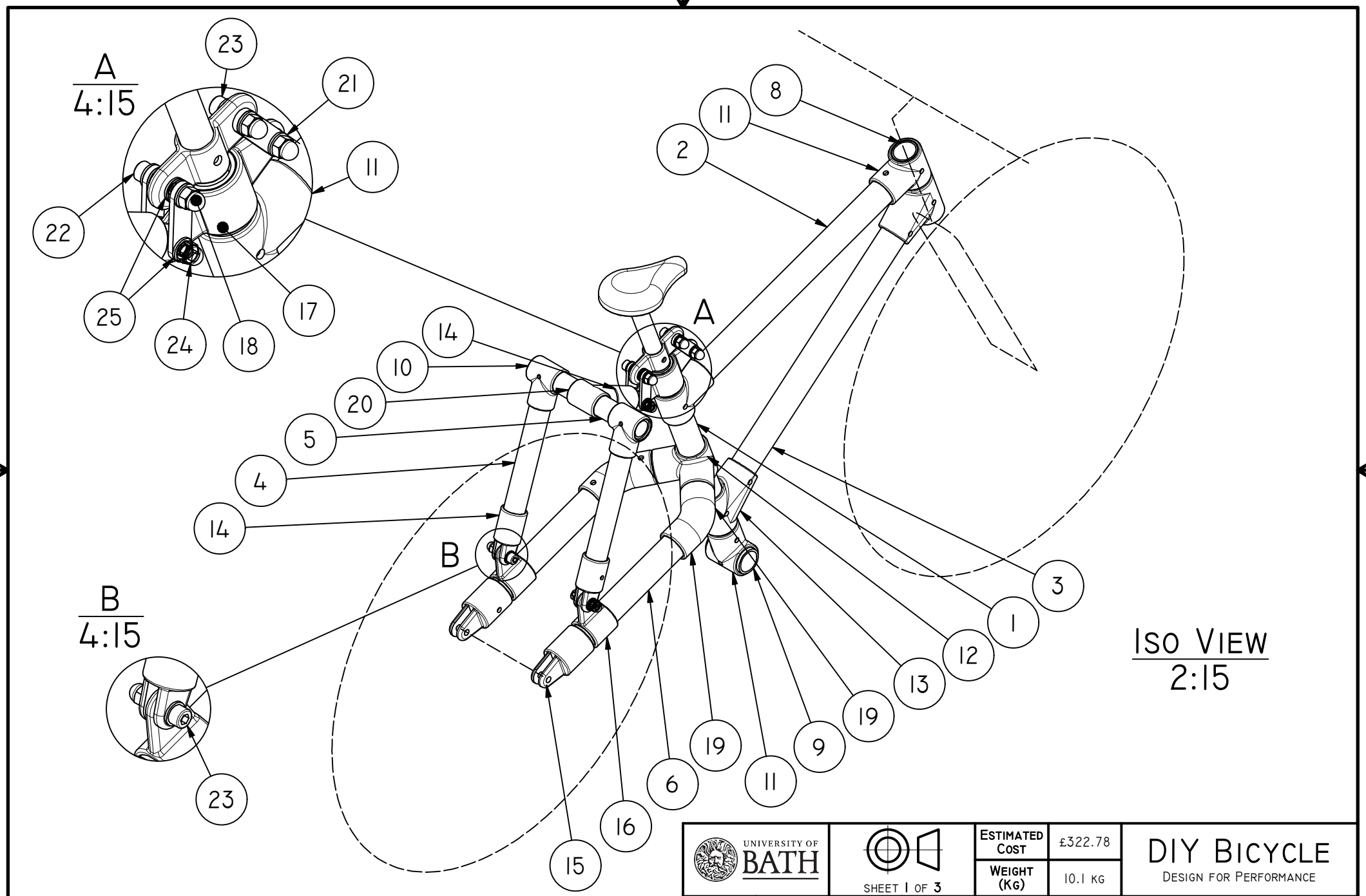


UNIVERSITY OF BATH		SHEET 1 OF 3		ESTIMATED COST	£322.78
				WEIGHT (KG)	10.1 KG
DESIGNER	HANNAH ROSEN	DATE	13/05/2020	SCALE	2:15

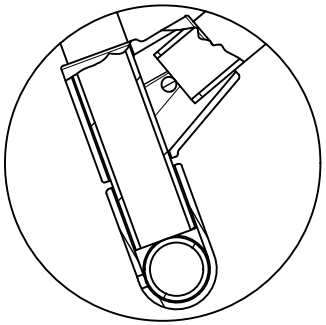
DIY Bicycle

Design for Performance

BIKE
REV 1

NOTES ON COMPATIBILITY:

1. In general, if a component is a fraction of a mm away from a perfect fit, consider employing a simple shim. Shim stock is readily available in a variety of thicknesses and materials, or aluminum foil could be folded to the right thickness. Leave a gap for the grub screw in the clamp.
2. Bottom Bracket: 73mm English Thread
3. Fork: Head tube is designed for 1⅛" fork steerer. Ceeway also sells a Ø32.4mm HT for a 1" fork, but note that this would need to be used with size 6 clamps.
4. Seatpost: Should be Ø26-27.5mm to fit the Size 5 clamp shown here (M51-5), or Ø21-22.5mm if a Size 4 clamp is used (M51-4).
5. Wheels: Frame can accommodate 29" rims with 44mm tyres and 135mm rear hub spacing. Seatstays and Chainstays can be made shorter if desired for smaller wheels, but rear hub spacing cannot be less than mm. If a wider spacing is desired the chainstay spacers can simply be cut a little longer. A long axle and axle spacers should be used (These can just be washers).



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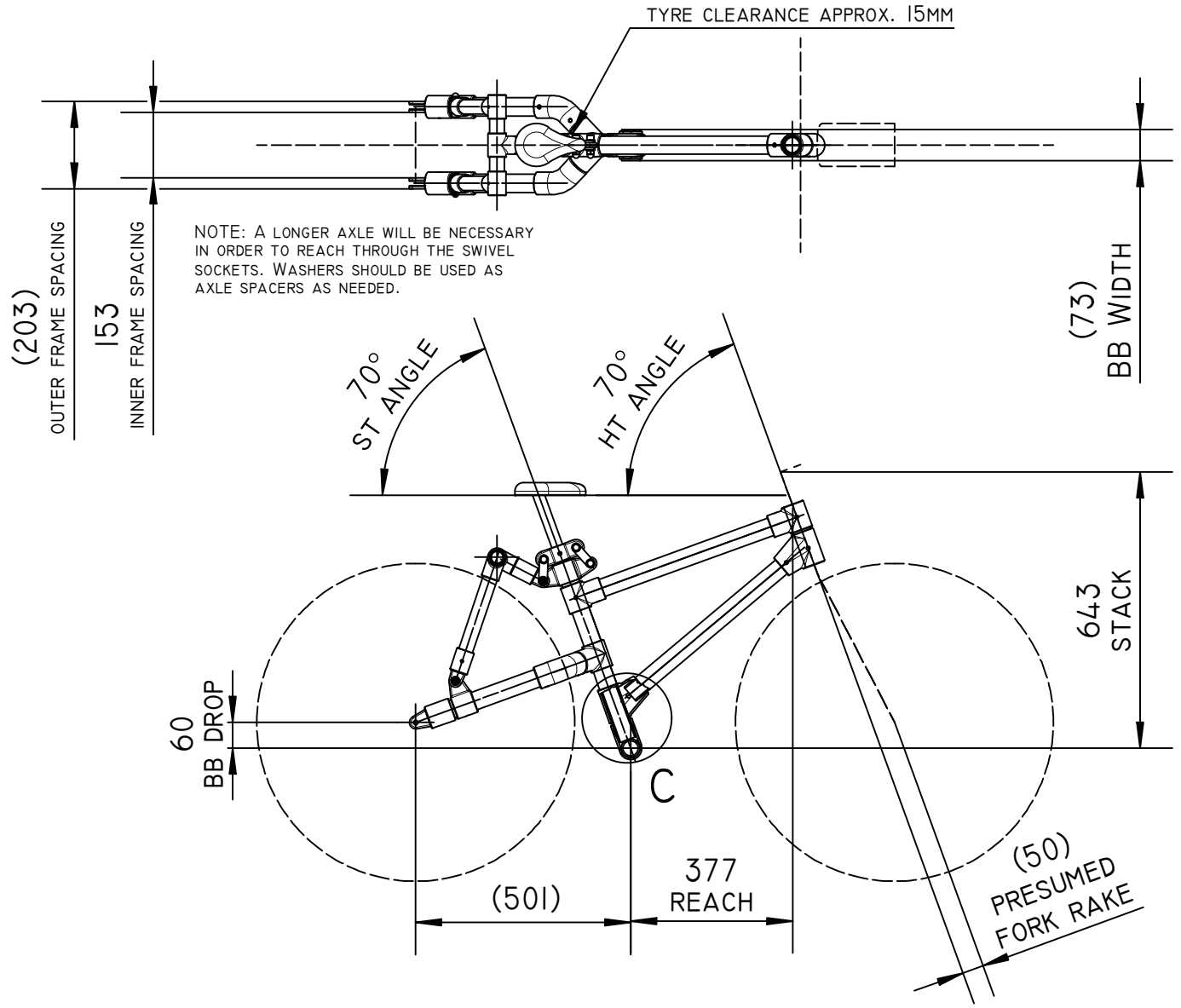
1:5



UNIVERSITY OF BATH		SHEET 2 OF 3		ESTIMATED COST	£322.78
				WEIGHT (KG)	10.1 KG
DESIGNER	HANNAH ROSEN	DATE	13/05/2020	SCALE	1:15

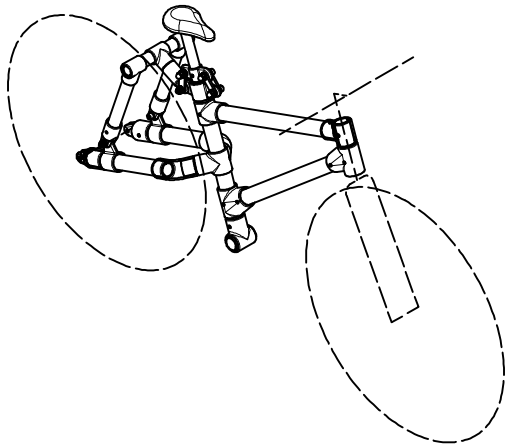
DIY BICYCLE

DESIGN FOR PERFORMANCE

BIKE
REV 1

PARTS LIST

ITEM	PART NUMBER	REV	DESCRIPTION	QTY	SIZE	OD (MM)	LENGTH (MM)	MATERIAL	MASS (KG)	ESTIMATED COST	VENDOR
1	ST	1	SEAT TUBE	1	7	42.2	440	ALUMINIUM 6082 T6	0.513	£7.33	SIMPLIFIED BUILDING
2	TT	1	TOP TUBE	1	7	42.2	505	ALUMINIUM 6082 T6	0.589	£8.41	SIMPLIFIED BUILDING
3	DT	1	DOWN TUBE	1	7	42.2	494	ALUMINIUM 6082 T6	0.576	£8.23	SIMPLIFIED BUILDING
4	SS	1	SEATSTAY	2	6	33.7	260	ALUMINIUM 6082 T6	0.215	£1.42	SCAFFOLDING DIRECT
5	SSP	1	SEATSTAY SPACER	1	6	33.7	228	ALUMINIUM 6082 T6	0.189	£1.25	SCAFFOLDING DIRECT
6	CS	1	CHAINSTAY	2	7	42.2	300	ALUMINIUM 6082 T6	0.35	£5.00	SIMPLIFIED BUILDING
7	CSP	1	CHAINSTAY SPACER	2	7	42.2	80	ALUMINIUM 6082 T6	0.093	£1.33	SIMPLIFIED BUILDING
8	ZALC18210	-	HEAD TUBE	1	6	41	150	ALUMINIUM 7005 T6	0.122	£7.00	CEEWAY
9	BBSLEEVE73.42	-	BOTTOM BRACKET	1	7	42	73	STEEL, MILD	0.243	£7.00	CEEWAY
10	L10-6	-	SINGLE SOCKET TEE	2	6			ALUMINIUM CAST	0.13	£9.56	KEE SYSTEMS
11	L10-7	-	SINGLE SOCKET TEE	3	6.5			ALUMINIUM CAST	0.2	£13.46	KEE SYSTEMS
12	L21-7	-	90 DEG SIDE OUTLET TEE	1	7			ALUMINIUM CAST	0.3	£18.35	KEE SYSTEMS
13	329-7	-	11 TO 30 DEG TEE	2	7			IRON, CAST	0.63	£13.21	KEE SYSTEMS
14	LF50-6	-	FEMALE SWIVEL SOCKET	3	6			ALUMINIUM CAST	0.17	£8.64	KEE SYSTEMS
15	LF50-7	-	FEMALE SWIVEL SOCKET	2	7			ALUMINIUM CAST	0.25	£11.17	KEE SYSTEMS
16	LM50-7	-	MALE SWIVEL SOCKET	2	7			ALUMINIUM CAST	0.15	£10.34	KEE SYSTEMS
17	LM51-7	-	MALE DOUBLE SWIVEL SOCKET	1	7			ALUMINIUM CAST	0.2	£16.46	KEE SYSTEMS
18	M51-5	-	MALE DOUBLE SWIVEL SOCKET	1	5			IRON, CAST	0.33	£10.30	KEE SYSTEMS
19	55-7	-	120 TO 150 DEG ELBOW	2	7			IRON, CAST	0.81	£12.91	KEE SYSTEMS
20	L114-6	-	SWIVEL TEE	1	6			ALUMINIUM CAST	0.18	£18.50	KEE SYSTEMS
21	LINK	1	SEATPOST CLAMP LINK	4				ALUMINIUM 6082 T6	0.016	£3.00	CUSTOM
22	M10X35 SHCS A2	-	M10 X 35MM SOCKET HEAD CAP SCREW	2				STAINLESS STEEL AISI 304	0.041	£.66	ACCU
23	M10X45 SHCS A2	-	M10 X 45MM SOCKET HEAD CAP SCREW	4				STAINLESS STEEL AISI 304	0.035	£.65	ACCU
24	M10 DN A2	-	M10 DOME NUT	6				STAINLESS STEEL AISI 304	0.019	£.62	ACCU
25	M10 W A2	-	M10 WASHER (2MM THICK)	18				STAINLESS STEEL AISI 304	0.004	£.23	ACCU



NOTES:

1. A GOOD QUALITY THREAD LOCKER MUST BE USED ON ALL THREADS. LOCTITE 243 IS A GOOD CHOICE AS IT IS STRONG ENOUGH TO RESIST LOOSENING DUE TO SHOCK AND VIBRATION, BUT CAN STILL BE DISASSEMBLED WITH HAND TOOLS. IT ALSO TOLERATES CONTAMINATION WITH OIL TO A CERTAIN EXTENT (SUCH AS CHAIN GREASE). THERE ARE ALSO CHEAPER ALTERNATIVES AVAILABLE SUCH AS RS COMPONENTS' OWN BRAND THREAD LOCKERS.
2. CARE SHOULD BE TAKEN TO CHOOSE A FORK, BOTTOM BRACKET BEARINGS, WHEELS, AND OTHER COMPONENTS WHICH ARE COMPATIBLE WITH THE FRAME COMPONENTS (SEE SHEET 2).
3. ALL TUBE LENGTHS ARE PROVISIONAL AS THERE IS LIMITED INFORMATION ON HOW FAR INTO THE CLAMPS EACH TUBE IS INSERTED. LEAVING A 10-20MM MARGIN FOR ADJUSTMENT IS ADVISED WHEN CUTTING TUBES.

UNIVERSITY OF BATH		SHEET 3 OF 3		ESTIMATED COST	£322.78
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DESIGNER	HANNAH ROSEN	DATE	13/05/2020	SCALE	1:20

DIY BICYCLE

DESIGN FOR PERFORMANCE

BIKE
REV 1