

The importance of good fit

Its an easy concept to grasp: for a bike to be comfortable, it must fit well.

Good fit is also a major part of performance. With a poor fit, the rider's weight balance may be off, degrading handling. If the rider is not correctly positioned for power, a bike may feel (and be) slow. And an uncomfortable cyclist wastes a great deal of muscle energy coping with the discomfort, slowing them and bringing on early fatigue.

A slow, poor handling bike that is uncomfortable makes for an unhappy cyclist. Or worse, an ex-cyclist. If we're lucky, this sad cyclist may stick with it long enough to perhaps find another bike that makes them happier, or another shop who will correctly fit them to their existing bike. In each case way we both stand to lose.

Old fitting methods

Some people still use standover clearance to size bikes. It wasn't many years ago that almost all bikes had horizontal top tubes. If we assume that those bikes had a fairly narrow range of bottom bracket heights, and that all stems were pretty similar in the amount of height adjustment they offered, that meant that the top tube could be used as an indicator of handlebar height, as well as seat height. Even so, standover did not take into account reach, an important part of fit that accounts for the distance from the saddle to the handlebars. Especially with modern frame design, standover can't tell us where either the seat or the handlebar goes. So standover only sort of worked as a fitting guide in the past, and for modern bikes doesn't work at all.



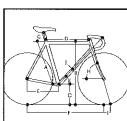
Another old bike fitting maxim was that to correctly fit a racer on a road bike, there should be about



four inches of seatpost showing, and the top of the stem should be no lower than two inches below the top of the saddle. While this may not be universally true, it brings up several important points in bike fitting that are largely overlooked today. This 'four inches of post' fit rule is for a road racer, who (may) be comfortable in a bent over, aero position. The average cyclist is likely to be more comfortable with their bars even with the top of their saddle. With sloping top tubes, wildly varying saddle designs, and modern stem configurations, this method can't tell us where the seat or bars go either, so the seatpost rule can't be used.

Some people use a geometry chart to fit bikes. Since most geometry charts don't list head tube length or the fork's axle-to-crown dimensions, there is no way to know how high the

handlebars are. The charts usually list seattube angle and top tube length, but without some complex math you can't know the relationship of the bars to the bottom bracket. And all those angles don't tell you much either. As an example, varying the seattube angle a degree effectively changes the top tube length by around a centimeter (depending on frame size) without actually moving the rider any closer or further from the bars. So basically, standard geometry charts tell you very little about a bike's fit.



Fitting modern bikes

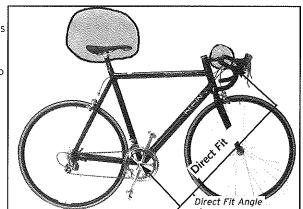
Today's bikes have lots of bottom bracket height variation, they use sloping top tubes, and many of them use Ahead or Airheadset™ type stems with varying rise, or riser bars. But talking about where the frame tubes are overlooks what's really important in bike fit; the location of the rider contact points of hands, feet, and seat. If these points are correct, the bike will be comfortable, the rider more efficient, and assuming they are properly balanced over the wheels the bike will handle its best.

If you force a rider into an uncomfortably bent-over position, their back will curve excessively and cut off their breathing. A stiff neck may prevent them from seeing the road well, and since head position is important to balance they may have problems steering. If they place too much weight on their hands, they may fatigue early or suffer from excessive pressure on their hand tissues. Basically, having a poorly fitted bike is a pain.

Direct Fit

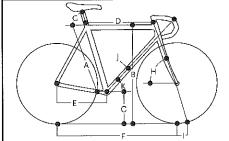
To properly fit a rider, you have to define the location of the three points of contact: the seat, the hands, and the feet. On a bike, these points correspond to the saddle, the grips (or top of the lever hoods on a road bike) and the pedals. To make the pedal location easier to locate, and since there is scant variation in crank length, we use the bottom bracket to reference foot position.

Of the three points on the bike, the hardest to adjust is the bottom bracket, having no adjustability. Next is the grips which have limited adjustability, even if parts are substituted.



The part with the most adjustment is the saddle, which can be moved up and down, or back and forth, a great deal. Since the seat has the widest range of adjustment and is the easiest to adjust, seat tube length should be the least of our worries in selecting frame size.

Since the hardest part of bike fit to adjust is the relationship between the bottom bracket and handlebars, the most efficient way to fit a bike should be to choose a bike with a frame design and size that places the handlebars where the customer wants them. In Klein's new Direct Fit system, we define this relationship in both distance and angle. For those of you who have sold Kleins for some time, you will remember that Klein ATBs used to be sized in inches corresponding to an imaginary horizontal line from the top of the head tube. Direct Fit is based on the same principle: hand position above the bottom bracket is critical for good fit.



Direct Fit Geometry Details on Page 23.

Defining a good fit

We've all seen the pictures of Greg LeMond time trialing in the Tour de France. His back is so flat he could balance dinner service for four without spilling the Perrier. This obviously worked for Greg, but most cyclists don't have that kind of flexibility.

When looking at a cyclists positions, we don't go by leg length or where the knee is over the pedal. Instead, we look for body shapes. Here we'll discuss those shapes in terms of the appropriate adjustments. Also bear in mind the needs of the customer; their fitness, experience, age, sex, and personal riding style. Each person is different, so there really are no rules, just guidelines.

Since the seat has the most adjustment, we may as well make those adjustments first. The fore/aft adjustment must be made in conjunction with seat height. As you move the saddle in any direction, it will effect the angles of the lower limbs. Start with the saddle level, or slightly nose-down.

Seat height

The foot (from ball to heel) should be flat at the bottom of the pedal stroke, with a slight bend in the knee. Check that the rider does not roll their hips side to side when they pedal. For novice riders, those without a lot of cycling fitness, or inexperienced off-road riders, go slightly lower. Runners may find a higher position allows them better usage of their running-trained muscles.

• Seat fore/aft

On an average rider of average build on some bikes, the KOPS (Knee Over Pedal Spindle) rule may work. But don't feel tied to this. There are a lot of reasons why. Consider two riders of exactly the same proportions and skill level, except one has small feet and the other has large feet; using the KOPS method would put very different angles in their ankles, knees and hips. Now consider two riders with exactly the same leg dimensions, except one has a lean physique with a lot of shoulder mass, while the other has more girth at the hips and stomach; the difference in their center of gravity will make the bike handle differently. And consider a road racer who wants to take up mountain bikes; to use those well trained cycling muscles for power they need to maintain similar angles and range of motion, so as they rotate their upper body into a mountain bike position, they need to rotate their lower body as well which moves their knees back.

So when considering fore/aft position, adjust for center of gravity and handling. Look at the angle between the torso and thigh at both the bottom and the top of the pedal stroke. Watch the rider transition between sitting and standing on the bike; it should be natural when standing to move forward of the saddle. Consider their foot size. And take into account the balance between the seat and bars; if they complain of excess hand pressure, one way to alleviate it is to move them back on the bike, putting more weight on the saddle. Re-check the seat height.

Handlebar height

The back should be mostly straight, with no sudden curves. Any sudden curves indicate the bar needs to be raised. Lower back pain generally means the same thing, although lower back pain also comes from excessive saddle height.

Generally, the handlebars should be lowered as far as they can go without being too low as indicated above.

Stem length

Arms should be slightly bent at the elbow. This allows the muscles to work as shock absorbers and prevents the ground from steering the bike by transmitting shock directly to the rider's torso. Elbow should be forward of the shoulder, allowing the arms and torso to form an 'arch' between the bars and saddle.

If the elbow is too far rearward, use a longer stem. If the shoulders roll forward (toward the middle of the chest) from their normal orientation (like when standing), use a shorter stem.

Determining what bike will fit

We've now defined the three fit dimensions to meet our goal of fitting the customer comfortably. To realize this goal, we need to have tools. We have provided you in the following pages with Klein Direct Fit information on all models, as well as a comparison to models from a popular bike brand, Trek. We even show some of the variations possible by changing stem lengths, rises, and spacer stacks on our year 2000 models.

Fine tuning

The Direct Fit chart only gets you to frame size. Past this recommendation, we leave it to your expertise to determine if the customer needs additional fitting. At this point, saddles may be changed to personal preference. Stems and seatposts can be raised and lowered, or parts changed to accommodate additional adjustment. With the Direct Fit chart getting you this far so fast, you will have more time for that personal, expert touch that defines you as the service oriented bike dealer in your area.

Other Direct Fit details

One of the problems for an active cyclist is getting both their road and mountain bikes to fit right. The problem is that most riders sit differently on a road bike than on a mountain bike. On a road bike, aerodynamics are very important and the terrain (pavement) is fairly consistent. On a mountain bike, handling and control are more important and the terrain is pretty unpredictable. With these differences, riders generally lean over more on road bikes than on mountain bikes. However, if a person is trained to pedal efficiently on one bike, they need to mirror the angles of their joints, and the range of motion of their muscles, on both bikes. To do this, use the Direct Fit from one bike and apply it to the other. By rotating the rider about the bottom bracket, their musculature can be used in much the same way on two very different bikes.

Its normal to find slight variations in Direct Fit measurements, since stems come in large increments. Variations in Direct Fit of less than 10mm are probably not noticeable to most riders.

Final adjustments (a disclaimer)

Like all sizing systems, ours is not 100%. There is enough variance in both human anatomy and riding styles that some people won't quite fit our recommendations. Any system which is based on body dimensions is going to fail, for the simple reason that length of limbs is not the only factor in fitting a bike.

- Flexibility is very important to bike fitting. Even some very fit racers cannot touch the floor with their knees locked. They certainly won't find it comfortable to be in a laid-out, aero position for long. Consider the lack of flexibility of Joe Average, and the aero position is intolerable.
 - Cycling familiarity. If a rider hasn't spent a lot of time on a bike, they may find it difficult to balance when bent over.
 - Body weight effects position. If a rider is, ummmm, stout, those bars can be hard to reach.
 - A fitter rider may be able to ride a higher saddle position more comfortably.
- People vary. Different people of the same height can have different length of limbs. People of similar dimensions can have differing muscle attachments. Varying levels of strength or fitness can mean the same person may not be comfortable with their racing position after a long layoff from cycling.

These are just a few of many more variables. The important thing is not that Direct Fit eliminates the need for custom fitting. Direct Fit just better describes how a bike fits, giving a basis for picking the right frameset in the first place.

Confusion over Klein fit

Some of our dealers have had a hard time picking the right size of Klein bike. Stuck in the land of seat tube lengths, it can be bewildering finding the right bike. So here we give the comparison of Direct Fit of Klein platforms to a few popular Trek models.

Quantum	51 765 43.1	53 797 42.9	55 834 41.9	57 854 42.5	59 883 42.6	61 902 43.0	
Trek 5200	50 767 47.1	52 791 44.9	54 802 44.7	56 835 43.7	58 850 44.9	60 884 44.5	62 898 45.6
Mantra	5 802 47.2	M 832 43.3	L 866 42.4	XL 898 44.0			
Attitude Comp	XS 773 53.3	S 813 50.6	M 839 47·5	L 860 47.4	XL 907 48.5		
Trek 7000	XS 770 53.6	S 801 49.7	M 832 48.9	L 851 49.2	XL 882 49.2		

You can also measure other brands or models of bikes in your store for comparison. These dimension are calculated from the center of the bottom bracket to the center of the hand position- the grips on a mountain bike, or the bars just behind the lever hoods on a road bike. All you need is a metric tape measure and a \$1.99 protractor. The Direct Fit angle is easy to measure by placing the protractor on the floor and pulling a string from the protractor, through the centerline of the bottom bracket, to the hand position.

All dimension are given with the bars in the highest position, with all spacers under the stem.

Suspension bikes should be measured in a sagged position.

Comparing size ranges with parts variations

Here's what's possible in adapting the Direct Fit by changing a few parts or moving spacers. There are even more adjustments possible, such as riser bars. Note that these changes can create the equivalent of the next bike size.

Quantum (spec)	51	53	55	57	59	61
Stem length	80	90	110	110	120	120
Stem angle	0	0	0	0	0	0
Spacers	25	25	25	25	25	25
	765	797	834	854	883	902
(amall astura)	43.1	42.9	41.9	42.5	42.6	43.0
(small setup)	60	70	70	20	00	100
Stem length Stem angle	60	70	70	90	90	100
Spacers	-17 O	-17 O	-17 O	-17 O	-17 O	-17 O
Spacers	723	753	773	805	826	851
	723 40.1	39.7	40.1	39.0	39.8	39.5
(large setup)			T 7			93.3
Stem length	90	110	120	130	140	150
Stem angle	Ő	0	0	Ó	ò	ó
Spacers	25	25	25	25	25	25
	773	814	842	87o	899	927
	42.4	41.6	41.3	41.3	41.4	41.2
	Description of Version (Version Co.)	7				
	_					
Mantra (spec)	S	M	L	XL		
Stem length	105	120	135	135		
Stem angle	7	7	7	7		
Spacers	25	25	25 9.c.c	25 0=0		
	802	832	866	898		
(small setup)	47.2	43.3	42.4	44.0		
Stem length	75	00	100	105		
Stem angle	75 7	90 7	105 7	105 7		
Spacers	0	0	0	. 0		
Space. 3	761	791	826	858		
	46.4	42.3	41.4	43.1		
(large setup)	accounted Extraordictions	in market line in Marini	Services Balais Republe	See (1925) P. P. S. S. See (1925)		
Stem length	120	135	150	150		
Stem angle	15	15	15	15		
Spacers	25	25	25	25		
	822	852	888	920		
	48,2	44.5	43.8	45.3		
Attitude Comm (2002-17/C	c	N 4		VI		
Attitude Comp (spec)XS	S	M	L	XL		
Stem length Stem angle	90	105	120	120	135	
Spacers	15 25	15	15 25	15	15	
Spacers	25 773	25 813	25 839	25 860	25 907	
	775 53.3	50.6	47.5	47·4	48.5	
(small setup)	ر.در		TAIA	TIX	77.4	
Stem length	75	90	105	105	105	
Stem angle	7	7	7	7	7	
Spacers	О	0	0	0	0	
	740	78o	806	827	859	
	50.7	47.7	44.3	44.2	46.1	
(large setup)						
Stem length	105	120	135	150	150	
Stem angle	15	15	15	15	15	
Spacers	25 _o_	25	25 0==	25	25	
	787	827	853	889	921	
	52.7	50.0	47.0	46.4	48.o	

Overall body height compared to Direct Fit dimensions

To make this system easy to use, we rely on overall body height. At first glance, this may seem inaccurate or oversimplified. Here's why we chose to use it this way.

- 1. Most customers already know how tall they are. You don't have to measure them, which takes time and may invade their sense of privacy.
- 2. Measuring body dimensions requires skill and training. Even with both, two different people may measure the same person differently. Another factor is clothing and body weight. Its easy to find specific points on a person with low body fat. It can be much more difficult on someone of higher body fat.
- 3. As explained earlier, as riders grow older, more experienced, or change fitness levels, their bodies change. These changes require their position to change. But the length of their limbs probably has not changed. So physical measurements are not an accurate method of adjusting bikes anyway.

So lets keep it simple. Ask them how tall they are. Ask them what kind of riding they want to do. Then look on the chart to see what Direct Fit dimension comes closest. Adjust according to their experience level, fitness, and age. And remember that custom fitting the right size frame is much easier than trying to fit someone on a too small or too large frame.

For a given level of rider, the Direct Fit measurement should be the same whether on a road bike with drop bars, or a mountain bike. But for two riders of the same height of differing riding styles, a more upright position will measure longer by about 5mm per degree. As an example, a 5'6" racer may fit a 44 degree bike of 790mm. But a 5'8 casual rider on a 50 degree bike should try a 820mm Direct Fit. Also note that women, due to their different body structure, may find it more comfortable to ride bikes with a higher angle.

Most people will fit more than one frame size. When faced with a choice, don't fall for the old "buy the smallest bike you can ride". Instead, focus on finding the bike that puts the handlebars in the customers preferred position. Remember that a higher (larger) Direct Fit Angle means a more upright position.

	Racer (40-48° angle)	Recreational (over 50° angle)
4'8"	<720	<750
4'10"	700-735	725-760
5'	720-750	740-780
5'2"	735-765	755-795
5'4"	745-780	775-810
5'6"	765-800	790-830
5'8"	805-840	805-870
5'10"	825-865	825-895
6'	845-890	865-920
6'2"	875-910	890-940
6'4"	885-930	910+
6'6"	905+	

Our Price: \$

				•	
Main tubes	Klein Power tubin	q			22 32 44
Stays	Klein Gradient alu	minum			11 52 76 105
Fork	Rock Shox Judy X	C		80mm travel	
Headset	Dia-Compe SE-1 A	headset		25.4/34.0/30.0, 25.5mm stack	, 12 48 70 96
Handlebars	ICON Onyx, 6061,	5° bend		25.4mm clamp diameter	14 41 60 82
Stem	ICON Onyx, direct	connect		41.0mm steerer clamp height	16 36 52 72
Grips	Bontrager Ergo			· -	
Shifters	Shimano Deore Ra	apidFire+			18 32 47 64
Front derailleur	Shimano Deore			Down pull, 34.9 mm/ 13/8"	21 27 40 55
	Shimano Deore L			·	
Brakes	Lee Chi TX22 dire	ct pull			24 24 35 48
Brake levers	Lee Chi LV77E, di	rect pull			28 21 30 41
Crankset	ICON Onyx, 4 arm	44/32/22		64/104 mm bolt hole circle	32 18 26 36
Bottom bracket				73 x 113	or 10 C0 30
Pedals	Bontrager RE-1, cl	ipless		9/16" axle	
	Shimano HG50 11-	32		9spd	26.5 lb.
	Shimano HG72			108 length, 9 speed	12.03 kg
Front wheel				Velox 19mm rimstrip	
Front tire				49/48	
Rear wheel	Bontrager Supers	tock		Velox 22mm rimstrip	
				HyperGlide cassette, 8/9spd, 1	35mm O.L.D.
Rear tire				47/46	
Tubes		light			
Spokes	DT 14G stainless			24 spoke Radial Front	28 spoke 3x / radial Rear
				254	267/251 rear (D/ND)
Saddle	SDG Satellite Com	p, CrMo			
Seatpost	SP-312 alloy micro	o-adjust		31.6mm diameter	
Seat binder	Alloy w/integral b	olt		36.4 clamp diameter	
				le derailleur hanger	
Colors	Light Blue / Black	fork • Blac	k decal		
				M	
Frame sizes	S	М	L	XL	
Direct Fit	808	838	859	906	
Fit angle	51.1	47.4	47.3	48.4	
Handlebar width	500	E00	E00	T00	
Stem length	580	580	580	580	
Stem angle	105	120	120	135	
Crank length	15	15 175	15 175	15	
Seatpost length	170 320	175 370	175 370	175 370	
Steerer, mm	193	193			
Steeren min	193	193	213	253	
Fork length	442 mm	axle-crown	raco		
Head angle	70.8	71.3	71.4	71.4	
Seat angle	70.8 72.8	71.3 72.8	71.4 72.8	71.4 72.8	
CI.L.J.	707	739	775	818	
Seat tube	400	445	489	533	
Head tube	105	105	125	165	
Eff top tube	574	595	611	627	
Reach	642	683	699	727	
Chainstays	417	417	417	417	1
BB height	295	300	303	305	1
Offset	42	42	42	42	
Trail	72	69	69	69	
Wheelbase	1037	1055	1072	1090	
IN Standover	27.8	29.1	30.5	32.2	
Seat tube	15.7	17.5	19.3	21.0	İ
Head tube	4,1	4.1	4.9	6.5	
Eff top tube	22.6	23.4	24.1	24.7	
Reach	25.3	26.9	27.5	28.6	
Chainstays	16.4	16.4	16.4	16.4	1
BB height	11.6	11.8	11.9	12.0	
Offset	1.7	1.7	1.7	1.7	
Trail	2.9	2.7	2.7	2.7	1
Wheelbase	40.8	41.5	42.2	42.9	1

Attitude

Main tubes	Klein Gradient al	uminum				22 32 44
Stavs						11 52 76 105
Fork	Manitou SX			80mm	travel	
Headset		neadset, a	lloy	25.4/34	4.0/30.0, 27.0mm stacl	(12 48 70 96
Handlebars	ICON Onyx, 6061	, 5° bend	-	25.4mr	n clamp diameter	14 41 60 82
Stem	ICON Onyx, direc	t connect		41.0mm	steerer clamp height	16 36 52 72
Grips	Bontrager Ergo					18 32 47 64
Shifters			re+	_		
Front derailleur	Shimano Deore L			Down p	ull, 34.9 mm/ 1 3/8"	21 27 40 55
Rear derailleur Brakes	Shimano Deore X Avid Single Digit		null			24 24 35 48
Brake levers	Avid Siligle Digit	io, unect	pun	Integra	ted brake/shift	28 21 30 41
	ICON Onyx, 4 arr	n 44/32/2	2		mm bolt hole circle	32 18 26 36
	Shimano BB-UNS			73 x 113		32 10 28 30
Pedals				9/16" a	xle	25.3 lb.
Cassette	Shimano HG70 11			9spd		11.46 kg.
Chain					gth, 9 speed	'''-'' '''
	Bontrager Super				9mm rimstrip	-
_ Front tire				49/48		
Rear wheel	Bontrager Super	stock			2mm rimstrip	125 0 D
Done Hen	Dantusas Comes	-V fماط:			lide cassette, 8/9spd,	135MM U.L.D.
Rear tire				47/46		
Spokes	Presta valve, ultr DT 14G stainless	a nynt		24 cnol	ke Radial Front	28 spoke 3x / radial Rear
Spores .	DI 140 Stailliess			254 254	te itadiai i i ont	267/251 rear (D/ND)
Saddle	SDG Satellite Co	mp. CrMo		~		
	ICON Onyx, 6061			31.6mm	n diameter	
Seat binder				36.4 cl	amp diameter	
Additionals			D, replacea	able deraill	eur hanger	
Colors	Yellow/Red Linea	r / Red fo	ork • Black	logo		
		_				
Frame sizes	XS	S	M	L	XL	
Direct Fit	773	813	839	860	907 48.5	
Fit angle	53.3	50.6	47.5	47.4	48.5	
Handlebar width	580	580	580	580	580	
Stem length	90	105	120	120	135	
Stem angle	15	15	15	15	15	
Crank length	170	170	175	175	175	
Seatpost length	270	270	350	350	350	
Steerer, mm	179	194	194	214	254	
F -1 161		4				
Fork length		n axle-cro		71 /	71 /	
Head angle Seat angle	70.2 72.8	70.8 72.8	71.3 72.8	71.4 72.8	71.4 72.8	
Standover	673	707	739	775	818	
Seat tube	356	400	445	489	533	
Head tube	90	105	105	125	165	
Eff top tube	551	574	595	611	627	
Reach	605	648	682	699	727	
Chainstays	417	417	417	417	417	
BB height	290	295	300	303	305	
Offset		38	38	38	38	
Trail	80	77 1037	74 1055	73	73 1000	
Wheelbase	1017	1037	1055	1072	1090	
Standover	26.5	27.8	29.1	30.5	32.2	
Seat tube	14.0	15.7	17.5	19.3	21.0	
Head tube	3.5	4.1	4.1	4.9	6.5	
Eff top tube	21.7	22.6	23.4	24.1	24.7	
Reach	23.8	25.5	26.9	27.5	28.6	
Chainstays	16.4	16.4	16.4	16.4	16.4	
BB height	11.4	11.6	11.8	11.9	12.0	
Offset		1.5	1.5	1.5	1.5	
Trail	3.2	3.0	2.9	2.9	2.9	
Wheelbase	40.0	40.8	41.5	42.2	42.9	

	Institute of the second		1 5		
Main tubes	Klein Gradient al	uminum			22 32 44
Stays	3				11 52 76 105
Fork	0			80mm travel	
Headset	Dia-Compe SA A	headset, a	lloy	25.4/34.0/30.0, 27.0mm stack	(12 48 70 96
Handlebars	ICON Graphite, 2	014, 7° be	nd	25.4mm clamp diameter	14 41 60 82
Stem		irect conn	ect	39.5mm steerer clamp height	1 6 36 52 72
Grips					
Shifters Front derailleur	3		re+	Davis 240 / 12/08	
Rear derailleur	4 - · · · · · · · · · · · · · · · · · ·	.Х		Down pull, 34.9 mm/ 1 3/8"	21 27 40 55
Brakes	- · · · · · · · · · · · · · · · · · · ·	20 direct	nullr		24 24 35 48
Brake levers	Avia Single Bigit	zo, un co	puiri	Integrated brake/shift	28 21 30 41
Crankset	ICON Graphite, 4	arm 44/3	32/22	64/104 mm bolt hole circle	32 18 26 36
Bottom bracket				73 x 113	JE 10 20 30
	Time Atac, cliple			9/16" axle	24.5 lb.
Cassette		-32		9spd	24.5 lb. 11.12 kg.
Chain Front wheel				108 length, 9 speed	11.12 Kg.
Front tire	Bontrager Race Bontrager Super	.V 1274ni	folding	Velox 19mm rimstrip 49/48	
Rear wheel	9 '	-x, 127 tpi,	lolulity	Velox 22mm rimstrip	
1,041,11,1041	Donnager Nace			HyperGlide cassette, 8/9spd, 1	I35mm O.L.D.
Rear tire	Bontrager Super	-X, 127tpi.	folding	47/46	····
Tubes	Presta valve, ultr	a light	-	-	
Spokes	DT 14/15G butted	l stainless	, alloy nips	24 spoke Radial Front	28 spoke 3x / radial Rear
				255	267/251 rear (D/ND)
Saddle			leather	n	
Seatpost Seat binder	ICON Graphite, 2			31.6mm diameter	
Additionals	,) ronlacoah	36.4 clamp diameter de derailleur hanger	
Colors					
	Dark Diac, Eight	DIGC 111100	ii , Bide ioi	N Milite 10g0	
Frame sizes	S	M	L	XL	
Direct Fit	803	832	853	899	
Fit angle	49.7	45.8	45.8	46.7	
Handlebar width	F00	F00	F00	500	
Stem length	580 105	580 120	580 120	580 135	
Stem angle	7	7	7	7	
Crank length	170	175	175	175	
Seatpost length	270	350	350	350	
Steerer, mm	193	193	213	253	
Fork length	443 m	n nyla arau	x2.00		
Head angle	70.8	n axle-crov 71.3	vn race 71.4	71.4	
Seat angle	72.8	72.8	71. 4 72.8	72.8	
MM Standover	707	739	775	818	
Seat tube	400	445	489	533	
Head tube	105	105	125	165	
Eff top tube	574	595	611	627	
Reach	649	691	707	736	
Chainstays BB height	417 2 9 5	417 300	417 303	417 305	
Offset	38	38	38	38	
Trail	77	74	73	73	
Wheelbase	1037	1055	1072	1090	
IN Standover	27.8	29.1	30.5	32.2	
Seat tube	15.7	17.5	19.3	21.0	
Head tube	4.1	4.1	4.9	6.5	
Eff top tube Reach	22.6 25.6	23.4 27.2	24.1 27.8	24.7 29.0	ļ
Chainstays	16.4	16.4	16.4	16.4	
BB height	11.6	11.8	11.9	12.0	
Offset	1.5	1.5	1.5	1.5	
Trail	3.0	2.9	2.9	2.9	
Wheelbase	40.8	41.5	42.2	42.9	

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Adroit P	rc	þ
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Main tubes	Klein Gradient alı	ıminum			22 32 44
Stays					
Fork		amanam		80mm travel	11 52 76 105
Headset				33.3/ 1.75-2" /39.7, 0mm stack	13 44 65 89
Handlebars		Q0 hand		25.4mm clamp diameter	15 38 56 77
Stem		2 Della		45.0mm steerer clamp height	
Grips				45.0mm steerer clamp neight	17 34 49 68
Shifters	Shimano Deore X	T DanidE	iro SI		20 29 42 58
Front derailleur	Shimano Deore X		ile ar	Down pull, 34.9 mm/ 1 3/8"	
Rear derailleur				Down pail, 34.9 Hilly 13/6	23 25 36 50
Real defailled Brakes	Avid Single Digit		e puil		26 22 32 44
Brake levers	Avid Siligle Digit	2J, mileai	puli	Integrated brake/shift	30 19 28 38
Crankset	ICON Sterling, 4	2rm 44/2	2/22	64/104 mm bolt hole circle	
Bottom bracket	Shimano BB-UN7		<i>~! ~~</i>	73 x 113	34 17 25 34
	Time Atac, cliples			9/16" axle	
Cassette	Shimano XT 11-34			9spd	23.8 lb.
Chain		r		108 length, 9 speed	10.78 kg.
Front wheel	4 ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Andifind		Velox 19mm rimstrip	
Front tire	Bontrager Ruce P		folding	49/48	
Rear wheel	Bontrager Race N		Tolding	Velox 22mm rimstrip	
, con whice	Doniciage: Race i			HyperGlide cassette, 8/9spd, 1	35mm O L D
Rear tire	Bontrager Super	X 127tni	folding	47/46	John C.E.D.
Tubes			roluling		
Spokes	DT 14/15G butted		allov nine	24 spoke Radial Front	28 spoke 3x / radial Rear
		3141111433	, and mps	255	267/251 rear (D/ND)
Saddle	SDG Satellite Cor	nn CrMo	/leather	233	201/2311641 (0/110)
	Thomson Elite	11p; 011110;	icaenci	31.6mm diameter	
Seat binder		oolt		36.4 clamp diameter	
Additionals			D. replaceab	le derailleur hanger	
Colors	Black / Red fork			•	
		•			
Frame sizes	S	М	L	XL	
Direct Fit	797	827	848	894	
Fit angle	49.6	45.5	45.5	46.5	
Handlebar width	580	580	580	580	
Stem length	105	120	120	135	
Stem angle	6	6	6	6	
Crank length	170	175	175	175	
Seatpost length	330	330	330	330	
Steerer, mm	193	193	213	253	
Fork length		n axle-cro		71.4	
Head angle	70.8	71.3	71.4	71.4	
Seat angle MM Standover	72.8 707	72.8 739	72.8 775	72.8 818	
MM Standover Seat tube	400	445	489	533	
Head tube	105	105	125	165	
Eff top tube	574	5 9 5	611	627	
Reach	647	690	706	735	
Chainstays	417	417	417	417	
BB height	295	300	303	305	
Offset	38	38	38	38	
Trail	77	74	73	73	
Wheelbase	1037	1055	1072	1090	
	,,,,,	1000			
IN Standover	27.8	29.1	30.5	32.2	
Seat tube	15.7	17.5	19.3	21.0	
Head tube	4.1	4.1	4.9	6.5	l
Eff top tube	22.6	23.4	24.1	24.7	
Reach	25.5	27.1	27.8	29.0	
Chainstays	16.4	16.4	16.4	16.4	
BB height	11.6	11.8	11.9	12.0	
Offset	1.5	1.5	1.5	1.5	
Trail	3.0	2.9	2.9	2.9	1
Wheelbase	40.8	41.5	42.2	42.9	
and the contract of the contra					

		·····				
Main tubes Stays	Klein Gradient a Klein Gradient a					24 34 46
Fork				80mm travel		11 57 81 110
Headset				33.3/ 1.75-2" /39.7, Omm s	stack	13 48 69 93
Handlebars	Klein MC3, 2014			25.4mm clamp diameter		15 42 59 80
Stem				45.0mm steerer clamp he	ight	17 37 52 71
Grips	Bontrager Ergo					
Shifters Front derailleur	Shimano XTR R Shimano XTR	apidFire S	L	Down null 340 mm/13/6	10	20 31 45 60
Rear derailleur	Shimano XTR S	GS		Down pull, 34.9 mm/ 1 3/8	5 ''	23 27 39 52
Brakes	Avid Single Digi		ar pull			26 24 34 46
Brake levers				Integrated brake/shift		30 21 30 40
Crankset	T		14/24	Splined/112/68 mm bolt he	ole circle	34 19 26 35
Bottom bracket Pedals			_	73 x 112.5		
Cassette			5	9/16" axle 9spd		22.3 lb.
Chain				108 length, 9 speed		10.10 kg.
Front wheel				Velox 19mm rimstrip		
_ Front tire			i, folding	49/48		
Rear wheel	Bontrager Race	Lite		Velox 22mm rimstrip		
Rear tire	Bontrager Supe	r-Y 1974a	folding	HyperGlide cassette, 8/9s 47/46	pa, 135mm	ı U.L.D.
Tubes	Presta valve, uli		, rolully	4//40		
Spokes	DT Revolution 1		y nips	24 spoke Radial Front	28 sr	ooke 3x / radial Rear
			. ,	252	267/2	251 rear (D/ND)
Saddle	SDG Satellite Co	omp, Ti/le	ather			
Seatpost Seat binder	Thomson Elite Alloy w/integral	half		31.6mm diameter		
Additionals			`D replace:	36.4 clamp diameter able derailleur hanger		1
Colors	Orange/Red Lin					
				-		
Frame sizes	S	M	L	XL		
Direct Fit Fit angle	797 49.6	827 45.5	848 45.5	894 46.5		
ricaligic	49.0	43.3	45.5	40.5		
Handlebar width	580	580	580	580		
Stem length	105	120	120	135		
Stem angle Crank length	6	6	6	6		
Seatpost length	170 330	175 330	175 330	175 330		
Steerer, mm	193	193	213	253		
F-3-1-2-11		4				
Fork length Head angle		m axle-cro		771 4		
Seat angle	70.8 72.8	71.3 72.8	71.4 72.8	71.4 72.8		
MM Standover	707	739	775	818		
Seat tube	400	445	489	533		
Head tube	105	105	125	165		
Eff top tube Reach	574 647	595 690	611 706	627 735		
Chainstays	417	417	417	417		
BB height	295	300	303	305		
Offset	38	38	38	38		
Trail	77	74	73	73		
Wheelbase	1037	1055	1072	1090		
IN Standover	27.8	29.1	30.5	32.2		OCTOROS
Seat tube	15.7	17.5	19.3	21.0		
Head tube	4.1	4.1	4.9	6.5		
Eff top tube	22.6	23.4	24.1	24.7		
Reach Chainstays	25.5 16.4	27.1 16.4	27.8 16.4	29.0 16.4		
BB height	11.6	11.8	16.4 11.9	16.4 12.0		
Offset	1.5	1.5	1.5	1.5		
Trail	3.0	2.9	2.9	2.9		
Wheelbase	40.8	41.5	42.2	42.9		

Main tubes	Klain Cradiant alu	minum			22 32 44
Stays					
		minum		20mm traval	11 52 76 105
Fork	Manitou SX			80mm travel	travel 12 48 70 96
Real Shock	Fox Float, air/oil			2.5" stroke, 178mm rear wheel	tiavei į
61 2 6 4				7.875" eye to eye,7/8" ends	14 41 60 82
Headset				25.4/34.0/30.0, 27.0mm stack	16 36 52 72
	ICON Graphite, 20			25.4mm clamp diameter	18 32 47 64
Stem		ect conne	ct	39.5mm steerer clamp height	
Grips	Bontrager Ergo				21 27 40 55
Shifters	Shimano Deore L		++		24 24 35 48
Front derailleur	Shimano Deore L			Down pull, Plate style	
Rear derailleur	Shimano Deore X				28 21 30 41
Brakes	Avid Single Digit 1	0, direct p	ull		32 18 26 36
Brake levers				Integrated brake/shift	
Crankset	ICON Onyx, 4 arm	44/32/22		64/104 mm bolt hole circle	27.0 lb.
Bottom bracket				73 x 113	12.26 kg.
Pedals	Bontrager RE-1, cl	ipless		9/16" axle	'E.20 kg.
Cassette	Shimano HG70 11-	32		9spd	1
Chain	Shimano HG72			108 length, 9 speed	
Front wheel		tock		Velox 19mm rimstrip	
Front tire				49/48	
Rear wheel				Velox 22mm rimstrip	
				HyperGlide cassette, 8/9spd, 13	35mm O.L.D.
Rear tire	Bontrager Super->	C. foldina		47/46	
Tubes					
Spokes		ingiic		24 spoke Radial Front	28 spoke 3x / radial Rear
оролез	D: 1-10 staithess				267/251 rear (D/ND)
Saddle	SDG Satellite Com	n CrMo		254	ZOT/ZOTTEGI (D/ND)
	ICON Graphite, 20			31.6mm diameter	
Sont bindor	Alloy w/integral b	^ ! ^ 		37.4 clamp diameter	
Additionals			anlagaable	derailleur hanger, shock pump	
Colors				e derameur nanger, snock pump	
Culuis	Black / Black fork	• Red logo	,		
Frame sizes	_	М	i .	XL	
	S	M	L		
Direct Fit	802	832	866	898	
Fit angle	47.2	43.3	42.4	44.0	
1122212222222	F00	500	500	500	
Handlebar width	580	580	580	580	
Stem length	105	120	135	135	
Stem angle	7	7	7	7	
Crank length	170	175	175	175	
Seatpost length	350	350	350	350	
Steerer, mm		193	213	253	
Fork length		axle-crow			
Head angle	71.2	71.7	71.8	71.8	
Seat angle	73.2	73.2	73.2	73.2	
MM Standover	726	738	778	791	
Seat tube	444	448	489	533	
Head tube	105	105	125	165	
Eff top tube	573	594	610	626	
Reach	649	690	720	736	
Chainstays	417	417	417	417	
BB height	310	315	319	323	
Offset	38	38	38	38	
Trail	74	71	70	70	}
Wheelbase	1042	1062	1076	1095	
	. +				
IN Standover	28.6	29.1	30.6	31.1	
Seat tube	17.5	17.6	19.3	21.0	j
Head tube	4.1	4.1	4.9	6.5	
Eff top tube	22.6	23.4	24.0	24.6	
Reach	25.5	27.2	28.4	29.0	
Chainstays	16.4	16.4	16.4	16.4	
BB height	12.2	12.4	12.6	12.7	
Offset	1.5	1.5	1.5	1.5	
Trail	2.9	2.8	2.8	2.8	
Wheelbase	2.9 41.0	41.8	2.6 42.4	43.1	
vviieeingse	I 41.0	4 1.0	46.4	40.1	

Main tubes	Klein Gradient alu	minum				22 32 44
	Klein Gradient alu					11 52 76 105
	Manitou Mars	,,,,,,,		80mm travel		
	Fox Float R, air/oil			2.5" stroke, 178mm rear wheel	travel	12 48 70 96
	l ox i iout it, uii, o.i.			7.875" eye to eye,7/8" ends		14 41 60 82
Headset	Dia-Compe SA Ah	eadset al	lov	25,4/34,0/30.0, 27.0mm stack		
Handlebars				25.4mm clamp diameter		16 36 52 72
Stem				39.5mm steerer clamp height		18 32 47 64
Grips	Bontrager Ergo			Crizinii Cicara Cianip ii cigii		21 27 40 55
Shifters	Shimano Deore LX	(RapidFir	·e+			
Front derailleur	Shimano Deore LX			Down pull, Plate style		24 24 35 48
Rear derailleur	Shimano XTR SGS			, .		28 21 30 41
Brakes	Avid Single Digit 2		pull			32 18 26 36
Brake levers			•	Integrated brake/shift		9E 10 -0 30
Crankset	ICON Graphite, 4 a	arm 44/3	2/22	64/104 mm bolt hole circle		[26.045]
Bottom bracket	Shimano BB-UN52			73 x 113		26.0 lb.
Pedals	Time Atac, cliples:	\$		9/16" axle		11.80 kg.
	Shimano HG70 11-	32		9spd		<u> </u>
Chain				108 length, 9 speed		
	Bontrager Race			Velox 19mm rimstrip		
Front tire		K, folding		49/48		
Rear wheel	Bontrager Race			Velox 22mm rimstrip		
				HyperGlide cassette, 8/9spd, 1	35mm (O.L <i>.</i> D.
Rear tire	Bontrager Super->	, folding		47/46		
	Presta valve, ultra					
Spokes	DT 14/15G butted	stainless,	alloy nips	24 spoke Radial Front		oke 3x / radial Rear
55.50 (B) 00 (B) (B) (B) (B)				255	26//25	51 rear (D/ND)
	SDG Satellite Com		eather	21.6		
Seatpost	ICON Graphite, 20	14		31.6mm diameter		
Seat Dinuer	Alloy w/integral be	oit		37.4 clamp diameter derailleur hanger, shock pump		
Colors				k • Manitou Blue logo		
	Mediterrangan Dit	Je / Maill	ou blue ioi	k • Mailitou Blue logo		
Frame sizes	S	М	L	XL		
Direct Fit	802	832	866	898		
Fit angle	47.2	43.3	42.4	44.0		
	77.1		- -	1 110		
Handlebar width	580	580	580	580		
Stem length	105	120	135	135		
Stem angle	7	7	7	7		
Crank length	170	175	175	175		
Seatpost length	350	350	350	350		
Steerer, mm	193	193	213	253		
Fork length	442 mm	axle-crow				
Head angle	71.2	71.7	71.8	71.8		
Seat angle	73.2	73.2	73,2	73.2		
MM Standover	726	738	778	791		-
Seat tube	444	448	489	533		
Head tube	105	105	125	165		
Eff top tube	573 640	594	610 720	626		
Reach Chainstays	649	690 417	720 417	736 417		
		417				
	417 310	315	310	4/4		
BB height	310	315	319 38	323		
BB height Offset	310 38	38	38	38		
BB height Offset Trail	310 38 74	38 71	38 70	38 70		
BB height Offset	310 38	38	38	38		
BB height Offset Trail Wheelbase	310 38 74 1042	38 71 1062	38 70 1076	38 70 1095		
BB height Offset Trail	310 38 74 1042 28.6	38 71 1062 29.1	38 70 1076 30.6	38 70 1095 31.1		
BB height Offset Trail Wheelbase	310 38 74 1042 28.6 17.5	38 71 1062	38 70 1076 30.6 19.3	38 70 1095		
BB height Offset Trail Wheelbase IN Standover Seat tube	310 38 74 1042 28.6	38 71 1062 29.1 17.6	38 70 1076 30.6	38 70 1095 31.1 21.0		
BB height Offset Trail Wheelbase IN Standover Seat tube Head tube Eff top tube Reach	310 38 74 1042 28.6 17.5 4.1	38 71 1062 29.1 17.6 4.1	38 70 1076 30.6 19.3 4.9	38 70 1095 31.1 21.0 6.5		
BB height Offset Trail Wheelbase IN Standover Seat tube Head tube Eff top tube Reach Chainstays	310 38 74 1042 28.6 17.5 4.1 22.6 25.5 16.4	38 71 1062 29.1 17.6 4.1 23.4 27.2 16.4	38 70 1076 30.6 19.3 4.9 24.0 28.4 16.4	38 70 1095 31.1 21.0 6.5 24.6		
BB height Offset Trail Wheelbase IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height	310 38 74 1042 28.6 17.5 4.1 22.6 25.5 16.4 12.2	38 71 1062 29.1 17.6 4.1 23.4 27.2 16.4 12.4	38 70 1076 30.6 19.3 4.9 24.0 28.4 16.4 12.6	38 70 1095 31.1 21.0 6.5 24.6 29.0 16.4 12.7		
BB height Offset Trail Wheelbase IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset	310 38 74 1042 28.6 17.5 4.1 22.6 25.5 16.4 12.2 1.5	38 71 1062 29.1 17.6 4.1 23.4 27.2 16.4 12.4 1.5	38 70 1076 30.6 19.3 4.9 24.0 28.4 16.4 12.6 1.5	38 70 1095 31.1 21.0 6.5 24.6 29.0 16.4 12.7 1.5		
BB height Offset Trail Wheelbase IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height	310 38 74 1042 28.6 17.5 4.1 22.6 25.5 16.4 12.2	38 71 1062 29.1 17.6 4.1 23.4 27.2 16.4 12.4	38 70 1076 30.6 19.3 4.9 24.0 28.4 16.4 12.6	38 70 1095 31.1 21.0 6.5 24.6 29.0 16.4 12.7		

Mantra Race

Our Price: \$

Main tubes	Klein Hexcel carbon fiber com	nposite			22 32	44
Stays		.,,			11 52 76	105
Fork			80mm travel			
Rear shock	Fox Float R, air/oil		2.5" stroke, 178mm rear wheel	travel	13 44 65	89
			7.875" eye to eye,7/8" ends		15 38 56	77
Headset			33.3/ 1.75-2" /39.7, Omm stack		17 34 49	68
Handlebars	Klein MC3, 2014, 9° bend		25.4mm clamp diameter			
Stem	Klein MC3		45.0mm steerer clamp height		20 29 42	58
Grips	Bontrager Ergo				23 25 36	50
Shifters	Shimano Deore XT RapidFire	SL			26 22 32	44
Front derailleur	Shimano Deore XT		Down pull, Plate style			
Rear derailleur	Shimano XTR SGS	.11			30 19 28	
Brakes Brake levers	Avid Single Digit 25, direct pu	111	Intograted brake/shift		34 17 25	34
Crankset	ICON Sterling, 4 arm 44/32/2	22	Integrated brake/shift 64/104 mm bolt hole circle			
Bottom bracket	Shimano BB-UN72E	-2	73 x 110		25.0 lb.	
Pedals	Time Atac, clipless		9/16" axle		11.35 kg.	
Cassette	Shimano XT 11-34		9spd			
Chain			108 length, 9 speed			
Front wheel	Bontrager Race Modified		Velox 19mm rimstrip			
Front tire	Bontrager Revolt ST-2, 127tpi	, folding	49/48			
Rear wheel		•	Velox 22mm rimstrip			
			HyperGlide cassette, 8/9spd, 1	35mm	O.L.D.	
Rear tire		, folding	47/46			1
	Presta valve, ultra light					
Spokes	DT 14/15G butted stainless, al	loy nips	24 spoke Radial Front		oke 3x/Radial R	еаг
Caddla	CDC Catalitie Camp Cubic floor	dda a u	255	267/25	51 rear (D/ND)	
Saddle	SDG Satellite Comp, CrMo/lea	itner	21 Curus diamentar			
	Thomson Elite Alloy w/integral bolt		31.6mm diameter 39.85 clamp diameter			
2 Additionals	1 water bettle mount CCD re	nlacoablo	derailleur hanger, shock pump			
Colors	Silver Cloud / Red fork • Red		detailled hanger, shock pump			
	Shiver cloudy Rea fork Rea	logo				
Frame sizes	s M	L	XL			
Direct Fit	796 826	861	893			
Fit angle	47.1 43.0	42.0	43.6			
Handlebar width		580	580			
Stem length		135	135			
Stem angle		6	6			
Crank length Seatpost length		175 370	175 410			
Steerer, mm		213	253			
Fork length	442 mm axle-crown		233			
Head angle		71.8	71.8			
Seat angle		73,2	73.2			
MM Standover		778	791			
└── Seat tube	444 448	489	533			
Head tube		125	165			
Eff top tube		610	626			
Reach		719	735			
Chainstays		417	417			
BB height Offset		319	323			
Unset Trail		38 70	38 70			
Wheelbase		1076	1095			
cinasc	1072 1002	.5,5				
IN Standover	28.6 29.1	30.6	31.1			
Seat tube		19.3	21.0			
Head tube	4.1 4.1	4.9	6.5			
Eff top tube		24.0	24.6			
Reach		28.3	28.9			
Chainstays		16.4	16.4			
BB height		12.6	12.7			
Offset Trail		1.5	1.5			
Trail Wheelbase		2.8	2.8			
wiiddibase	41.0 41.8	42.4	43.1			

Our Price: \$

Mantra Pro

	Main tubes	Klein Hexcel car	han fiher i	romposite		24 34 46
	Stays	Klein Gradient a		composite		12 52 7 4 101
	Fork				80mm travel	44 49 64 66
	Rear shock	Cane Creek AD-1	O, air/air		2.5" stroke, 178mm rear wheel	Have
	17-24-4				7.875" eye to eye,7/8" ends	16 39 56 75
	Headset Handlebars				33.3/ 1.75-2" /39.7, Omm stack 25.4mm clamp diameter	1 8 35 50 67
	Stem	Klein MC3, 2014 Klein MC3	, 9° bellu		45.0mm steerer clamp height	20 31 45 60
	Grips	Bontrager Ergo			iolomi, ottorioi elamp neigin	23 27 39 52
	Shifters	Shimano XTR Ra	pidFire SI	<u>L</u> ,		26 24 34 46
100000	t derailleur	Shimano XTR			Down pull, Plate style	
Rea	r derailleur	Shimano XTR SC				30 21 30 40
п	Brakes Irake levers	Avid Single Digit	Mag, line	ar puii	Integrated brake/shift	34 19 26 35
u	Crankset	Shimano XTR 4	arm 46/3	4/24	Splined/112/68 mm bolt hole ci	rcle
Bott	om bracket	Shimano XTR			73 x 116	24.0 lb.
	Pedals	Time Atac Carbo		5	9/16" axle	10.90 kg.
	Cassette	—			9spd	
300000	Chain Front wheel	Shimano Dura-A Bontrager Race			108 length, 9 speed Velox 19mm rimstrip	
	Front tire	Bontrager Super		folding	49/48	
	Rear wheel	Bontrager Race		,	Velox 22mm rimstrip	
					HyperGlide cassette, 8/9spd, 13	35mm O.L.D.
	Rear tire	Bontrager Super		, folding	47/46	
	Tubes Spokes	Presta valve, ult DT Revolution 14		v nine	24 spoke Radial Front	28 spoke 3x/Radial Rear
	Spokes	Di Revolution 12	+/ 1 <i>1</i> O, and	y mps	252	267/251 rear (D/ND)
	Saddle	SDG Satellite Co	mp, Ti/lea	ather		, , ,
	Seatpost	Thomson Elite			31.6mm diameter	
	Seat binder	Alloy w/integral			39.85 clamp diameter	
	Additionals Colors	1 water bottle m Silver/Blue Line			e derailleur hanger, shock pump	
	Colors	Silver/ Dide Line	ar / Reur	ork - Red to	90	
9	Frame sizes	S	М	L	XL	
	Direct Fit	796	826	861	893	
	Fit angle	47.1	43.0	42.0	43.6	
Hand	llebar width	580	580	580	580	
	Stem length	105	120	135	135	
	Stem angle	6	6	6	6	
	rank length	170	175	175	175	
	post length	290	330	370	410	
	Steerer, mm Fork length	193	193 m axle-cro	213	253	
	Head angle	71.2	71.7	71.8	71.8	
	Seat angle	73.2	73.2	73.2	73.2	
ММ	Standover	726	738	778	791	
E	Seat tube Head tube	444 105	448 105	489 125	533 165	
	Eff top tube	573	594	610	626	
6.000	Reach	647	689	719	735	
	Chainstays	417	417	417	417	
	BB height	310	315	319	323	
	Offset Trail	38	38 71	38 70	38 70	
	Wheelbase	74 1042	1062	1076	1095	
IN	Standover	28.6	29.1	30.6	31.1	
	Seat tube	17.5	17.6	19.3	21.0	
	Head tube Eff top tube	4.1 22.6	4.1 23.4	4.9 24.0	6.5 24.6	
	Reach	25.5	27.1	28.3	28.9	
	Chainstays	16.4	16.4	16.4	16.4	
	BB height	12.2	12.4	12.6	12.7	
	Offset Trail	1.5	1.5	1.5	1.5	
	Wheelbase	2.9 41.0	2.8 41.8	2.8 42.4	2.8 43.1	
	.,,,cciouse	1 41.0		T6.T	,	

							become and the second s
Headset Handlebars	Klein Gradient al ICON Air Rail Cane Creek Ahea ICON Onyx, ergo ICON Graphite, d ICON Powercork Shimano 105 STI	uminum adset bend irect conr	ect	26.0mn 39.5mn Flite De	n clamp di n steerer d ck compa	lamp heighi	14 74 100 t 15 69 93 17 61 82
Rear derailleur Brakes Brake levers Crankset Bottom bracket Pedals Cassette Chain Front wheel	Shimano 105 Shimano 105 Shimano 105 Shimano 105 Shimano HG70 1 Shimano HG72 Rolf Vector Michelin Axial Pr	2-25		Integrat 130 mm 68 x 10 9/16" ax 9spd 108 lend Velox 16 700 x 2	ed brake/s bolt hole 9.5 kle gth, 9 spec	shift circle ed rip	mp 19 54 74 21 49 67 23 45 61 25 41 56 19.0 lb. 8.63 kg.
Rear tire Tubes Spokes Saddle Seatpost Seat binder Additionals Colors	Presta valve, 48 DT 14/15G butted Selle Italia Flite, ICON Graphite, 2 Alloy w/integral 2 water bottle m	mm stem I stainless Gel, Ti/lea 014 bolt ounts	ather	700 x 2 20 spot 278 31.6mm		ront	130mm O.L.D. 24 spoke 2x Rear 288/287 rear (D/ND)
Frame sizes Direct Fit Fit angle	51 765 43.1	53 797 42.9	55 834 41.9	57 854 42.5	59 883 42.6	61 902 43.0	
Handlebar width Stem length Stem angle Crank length Seatpost length Steerer, mm	400 80 0 170 270 178	420 90 0 172.5 270 200	420 110 0 172.5 270 223	440 110 0 172.5 270 244	440 120 0 175 270 268	440 120 0 175 270 288	
Fork length Head angle Seat angle	73.5 74.0	n axle-crov 73.5 <u>74.0</u>	73.5 74.0	74.0 74.0	74.0 74.0	74.0 74.0	
MM Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	757 539 91 535 595 414 267 47 51	777 559 113 547 622 414 267 47 51 987	800 571 136 559 654 414 272 43 56 1000	823 597 157 571 666 414 274 43 53 1008	843 616 181 583 688 414 277 43 53 1023	866 635 201 595 700 414 279 43 53 1033	
Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	29.8 21.2 3.6 21.1 23.4 16.3 10.5 1.9 2.0 38.4	30.6 22.0 4.4 21.5 24.5 16.3 10.5 1.9 2.0 38.9	31.5 22.5 5.4 22.0 25.7 16.3 10.7 1.7 2.2 39.4	32.4 23.5 6.2 22.5 26.2 16.3 10.8 1.7 2.1 39.7	33.2 24.3 7.1 23.0 27.1 16.3 10.9 1.7 2.1 40.3	34.1 25.0 7.9 23.4 27.6 16.3 11.0 1.7 2.1	

	COMPANIE COM		1			•	
Fork Headset	Klein Gradient alı ICON Air Rail	ıminum dset bend	ect	26.0mm 39.5mm Flite De Braze-o	n clamp dia n steerer cl ck compat	amp height ible 4.9mm clan	14 57 79 98 15 53 74 92 17 47 65 81
Crankset Bottom bracket Pedals Cassette Chain Front wheel Front tire Rear wheel	Shimano 105 - Shimano HG70 12 Shimano HG72 Rolf Vector Michelin Axial Pro Rolf Vector Michelin Axial Pro	2-25, 9spd o, folding o, folding		74/130 s 68 x 118 108 leng Velox 16 700 x 2 Velox 16	mm bolt ho gth, 9 spec imm rimst 3c imm rimst lide casset	ole circle ed rip	25 32 44 55 19.5 lb. 8.85 kg.
Seat binder Additionals Colors	DT 14/15G butted Selle Italia Flite, I ICON Graphite, 2 Alloy w/integral b 2 water bottle m Blastberry • Meta	stainless Gel, Ti/lea 014 polt punts allic Silver	logo	278 31.6mm 36.4 cla	e Radial F diameter amp diame	ter	24 spoke 2x Rear 288/287 rear (D/ND)
Frame sizes Direct Fit Fit angle Handlebar width Stem length Stem angle Crank length Seatpost length Steerer, mm	51 765 43.1 400 80 0 170 270	53 797 42.9 420 90 0 170 270 200	55 834 41.9 420 110 0 175 270 223	57 854 42.5 440 110 0 175 270 244	59 883 42.6 440 120 0 175 270 268	61 902 43.0 440 120 0 175 270 288	
Fork length Head angle Seat angle MM Standover	370 mn 73.5 74.0 757	n axle-crov 73.5 74.0 777	vn race 73.5 74.0 800	74.0 74.0 823	74.0 74.0 843	74.0 74.0 866	
Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	539 91 535 595 414 267	559 113 547 622 414 267 47 51 987	571 136 559 654 414 272 43 56 1000	597 157 571 666 414 274 43 53 1008	616 181 583 688 414 277 43 53 1023	635 201 595 700 414 279 43 53 1033	
IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	16.3 10.5	30.6 22.0 4.4 21.5 24.5 16.3 10.5 1.9 2.0 38.9	31.5 22.5 5.4 22.0 25.7 16.3 10.7 1.7 2.2 39.4	32.4 23.5 6.2 22.5 26.2 16.3 10.8 1.7 2.1 39.7	33.2 24.3 7.1 23.0 27.1 16.3 10.9 1.7 2.1 40.3	34.1 25.0 7.9 23.4 27.6 16.3 11.0 1.7 2.1 40.7	

Quantum Race

Our Price: \$

Handlebars Stem Grips Shifters Front derailleur Rear derailleur Brakes Brake levers Crankset Bottom bracket Pedals Cassette Chain Front wheel Front tire Rear wheel	Klein Gradient a ICON Air Rail Cane Creek Ahe. ICON Sterling, 7(ICON Graphite, of ICON Powercork Shimano Ultegra Shimano Hoga Rolf Vector Com Michelin Axial Pi Rolf Vector Com	luminum adset 075, ergo lirect cont a STI a 53/39 a 12-25 p ro, folding p	nect	26.0mr 39.5mr Flite De Braze-c Integra 130 mm 68 x 10 9spd 108 len Velox 16 700 x 2 Velox 16	n clamp di n steerer d eck compa on type w/s ted brake/ n bolt hole 9.5 gth, 9 spe 5mm rimst 23c 5mm rimst lide casse	clamp height tible 34.9mm clam shift circle ed trip	14 74 100 15 69 93 17 61 82
Tubes Spokes	Presta valve, 48				e Radial F	ront	20 spoke 2x Rear 290/288 rear (D/ND)
Seat binder	ICON Graphite, 2 Alloy w/integral 2 water bottle m	31.6mm	ı diameter amp diame	er			
Frame sizes Direct Fit Fit angle	51 765 43.1	53 797 42.9	55 834 41.9	57 854 42.5	59 883 42.6	61 902 43.0	
Handlebar width Stem length Stem angle Crank length Seatpost length Steerer, mm	400 80 0 170 270 178	420 90 0 172.5 270 200	420 110 0 172.5 270 223	440 110 0 172.5 270 244	440 120 0 175 270 268	440 120 0 175 270 288	
Fork length Head angle Seat angle MM Standover	370 mr 73.5 74.0 757	n axle-crov 73.5 74.0 777	wn race 73.5 74.0 800	74.0 74.0 823	74.0 74.0 843	74.0 74.0 866	
Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	539 91 535 595 414 267 47 51	559 113 547 622 414 267 47 51 987	571 136 559 654 414 272 43 56 1000	597 157 571 666 414 274 43 53 1008	616 181 583 688 414 277 43 53 1023	635 201 595 700 414 279 43 53 1033	
Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	29.8 21.2 3.6 21.1 23.4 16.3 10.5 1.9 2.0 38.4	30.6 22.0 4.4 21.5 24.5 16.3 10.5 1.9 2.0 38.9	31.5 22.5 5.4 22.0 25.7 16.3 10.7 1.7 2.2 39.4	32.4 23.5 6.2 22.5 26.2 16.3 10.8 1.7 2.1 39.7	33.2 24.3 7.1 23.0 27.1 16.3 10.9 1.7 2.1 40.3	34.1 25.0 7.9 23.4 27.6 16.3 11.0 1.7 2.1	

Our Price: \$

Quantum Race T

			_				
Main tubes	Klein Gradient al	uminum					30 42 52
	Klein Gradient al	uminum					12 66 93 115
	ICON Air Rail						13 21 55 102
Headset Handlahard	Cane Creek Ahea ICON Sterling, 70	adset	fa a a d			6.5mm stac	-N
Stem	ICON Sterling, 70 ICON Graphite, d	irect conr	penu rect		n clamp dia n steerer c	imeter lamp height	
	ICON Powercork	ncce com	icci	37.31111	i Steerer C	idilip lieigili	O 33 14 32
Shifters	Shimano Ultegra	STI			ck compat		17 47 65 81
Front derailleur	Shimano Ultegra	T		Braze-o	n type w/3	4.9mm clai	mp 19 42 58 72
Rear derailleur	Shimano Ultegra						21 38 53 65
Brakes Brake levers	Shimano Ultegra			Integrat	ed brake/s	hift	23 35 48 60
Crankset	Shimano Ultegra	52/42/30)		mm bolt h		
Bottom bracket				68 x 118			25 32 44 55
Pedals	-						19.0 lb.
Cassette	Shimano Ultegra Shimano HG92	12-25		9spd	-16 0 -6-	لد	8.63 kg.
	Rolf Vector Com	n			gth, 9 spec imm rimst		
Front tire	Michelin Axial Pr			700 x 2		ı ıp	
Rear wheel	Rolf Vector Com				mm rimst	rip	
	 					te, 8/9spd,	130mm O.L.D.
Rear tire Tubes				700 x 2	3c		
Spokes	Presta valve, 48 DT Aero stainles		os	18 snok	e Radial Fr	ont	20 spoke 2x Rear
	DI ACIO Stannes	3, and y 111	,	270	c ((ddidi i i	JII.	290/288 rear (D/ND)
Saddle	Selle Italia Flite,	Gel, Ti/lea	ather				
Seatpost	ICON Graphite, 2	014			diameter		
Seat binder	Alloy w/integral 2 water bottle m	bolt		36.4 cla	mp diame	ter	
Colors	Silver Cloud • Me		er logo				
	onver ground me						
Frame sizes	51	53	55	57	59	61	
Direct Fit	765	797	834	854	883	902	
Fit angle	43.1	42.9	41.9	42.5	42.6	43.0	
Handlebar width	400	420	420	440	440	440	
Stem length	80	90	110	110	120	120	
Stem angle	0	0	0	0	0	0	
Crank length Seatpost length	170	172.5	172.5	172.5	175	175	
Steerer, mm	270 178	270 200	270 223	270 244	270 268	270 288	
0.001.011	110	200	223	<u></u>	200	200	
98,868,8							
Fork length Head angle		n axle-cro 73.5		740	74.0	74.0	
Seat angle	73.5 74.0	73.5 74.0	73.5 74.0	74.0 74.0	74.0 74.0	74.0 74.0	
MM Standover	757	777	800	823	843	866	
Seat tube	539	559	571	597	616	635	
Head tube	91	113	136	157	181	201	
Eff top tube Reach	535 595	547 622	559 654	571 666	583 688	595 700	
Chainstays	414	414	414	414	414	414	
BB height	267	267	272	274	277	279	
Offset	47	47	43	43	43	43	
Trail	51	51	56	53	53	53	
Wheelbase	975	987	1000	1008	1023	1033	
IN Standover	29.8	30.6	31.5	32.4	33.2	34.1	
Seat tube	21,2	22.0	22.5	23.5	24.3	25.0	
Head tube	3.6	4.4	5.4	6.2	7.1	7.9	
Eff top tube Reach	21.1 23.4	21.5 24.5	22.0 25.7	22.5 26.2	23.0 27.1	23.4 27.6	
Chainstays	16.3	16.3	16.3	16.3	16.3	16.3	
BB height	10.5	10.5	10.7	10.8	10.9	11.0	
Offset	1.9	1.9	1.7	1.7	1.7	1.7	
Trail	2.0	2.0	2.2	2.1	2.1	2.1	
Wheelbase	38.4	38.9	39.4	39.7	40.3	40.7	

Quantum Pro

Our Price: \$

Fork Headset Handlebars Stem Grips Shifters Front derailleur Rear derailleur Brakes Brake levers Crankset Bottom bracket Pedals Cassette Chain Front wheel Front tire Rear wheel Rear tire Tubes Spokes Saddle	Klein Gradient al Klein Aeros Carb Klein Airheadset ICON Sterling, 70 Klein MC3 ICON Powercork Shimano Dura-Ad Shimano Shimano	uminum on 075, ergo ce STI ce ce ce 53/39 ce 12-23 ce o, folding mm stem ig alloy ni	ps	26.0mr 39.5mr Flite De Braze-o Integra 130 mm 68 x 10 9 spd 108 len Velox 10 700 x 2 Velox 10 Hyper 0 700 x 2	gth, 9 speed 6mm rimstrip 23c 6mm rimstrip Hide cassette, 8/9s 23c se Radial Front	eight clamp spd, 130mn 16 sp	39 53 12 86 117 13 79 108 14 74 100 15 69 93 16 64 88 17 61 82 19 54 74 21 49 67 23 45 61 18.0 lb. 8.17 kg.
Seatpost Seat binder Additionals Colors	Thomson Elite Alloy w/integral I	oolt ounts			n diameter amp diameter		
Frame sizes Direct Fit Fit angle	53 793 44.2	55 827 41.6	57 847 42.2	59 876 42.2	61 896 42.8		
Handlebar width Stem length Stem angle Crank length Seatpost length Steerer, mm	420 90 6 172.5 287 196	420 110 0 172.5 287 218	440 110 0 172.5 287 239	440 120 0 175 287 262	440 120 0 175 287 284		
Fork length Head angle Seat angle	73.5 74.0	73.5 74.0	74.0 74.0	74.0 74.0	74.0 74.0		
MM Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	777 559 113 547 612 414 267 38 61 987	800 571 135 559 652 414 272 38 61 1000	823 597 156 571 664 414 274 38 58 1008	843 616 179 583 686 414 277 38 58 1023	866 635 201 595 698 414 279 38 58		
IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	30.6 22.0 4.4 21.5 24.1 16.3 10.5 1.5 2.4 38.9	31.5 22.5 5.3 22.0 25.7 16.3 10.7 1.5 2.4 39.4	32.4 23.5 6.1 22.5 26.1 16.3 10.8 1.5 2.3 39.7	33.2 24.3 7.0 23.0 27.0 16.3 10.9 1.5 2.3 40.3	34.1 25.0 7.9 23.4 27.5 16.3 11.0 1.5 2.3		

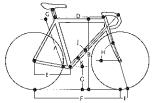
Our Price: \$

	,	
Main tubes		
Stays		
Fork Rear shock		
Real SHOCK		
Headset		
Handlebars		
Stem		
Grips Shifters		
Front derailleur		
Rear derailleur		
Brakes		
Brake levers Crankset		
Bottom bracket		-
Pedals		
Cassette		
Chain Front wheel		
Front tire		
Rear wheel		:
Rear tire Tubes		
Spokes		
Saddle		
Seatpost Seat binder		
Additionals		
Colors		
		·
Frame sizes Direct Fit		
Fit angle		
Handlebar width		
Stem length Stem angle		
Crank length		
Seatpost length		
Steerer, mm		
Fork length Head angle		
Seat angle		
MM Standover		
Seat tube		
Head tube Eff top tube		
Reach		
Chainstays		
BB height		
Offset Trail		
Wheelbase		
IN Standover Seat tube		
Head tube		
Eff top tube		
Reach		
Chainstays BB height		
Offset		
Trail		
Wheelbase		

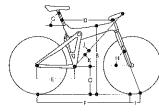
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Main tubes Stays Fork Rear shock Headset Handiebars Stem Grips Shifters Front derailleur Rear derailleur Rear derailleur Brakes Brake levers Crankset Bottom bracket Pedals Cassette Chain Front wheel Front tire Rear wheel Rear tire Tubes Spokes Saddle Seatpost Seat binder Additionals Colors Frame sizes Direct Fit Fit angle Handlebar width Stem length Stem angle Crank length	
Seatpost length Steerer, mm Fork length Head angle Seat angle	
MM Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	
IN Standover Seat tube Head tube Eff top tube Reach Chainstays BB height Offset Trail Wheelbase	

Frame Geometries

	Size	Seat Tube Center to Top (in./cm)	Top Tube Standover (in./cm)	Bottom Bracket (in./cm)	Effective Top Tube Length (in./cm)	Chainstay Length (in./cm)	Wheelbase (in./cm)	Fork Rake (in./cm)	Fork Travel (mm)	Seat Tube Angle	Head Tube Angle	Trail (in./cm)
		A	В	С	D	E	F			G	Н	ı
Mantra	5	N/A	28.6/72.6	12.2/31.0	22.7/57.3	15.4/41.7	41.1/104.3	1.5/3.8	80.0	64.6°	71.2	2.9/7.3
Mantra Comp	М	N/A	29.0/73.8	12.4/31.5	23-4/59-4	16.4/41.7	41.8/106.2	1.5/3.8	80.0	66.1"	71.7°	2.8/7.1
Barrier Views 1	L	N/A	30.6/77.8	12.6/31.9	24.0/61.0	16.4/41.7	42.4/107.6	1.5/3.8	80.0	65.1"	71.8°	2.7/6.9
	XL	N/A	30.6/77.8	12.7/32.3	24.7/62.6	16.4/41.7	43.1/109.5	1.5/3.8	80.0	66.4"	71.8°	2.7/6.9
Mantra Race	м	N/A	29.0/73.8	12.4/31.5	23.4/59.4	16.4/41.7	41.8/106.2	τ.5/3.8	80.0	66.1*	71.7°	2.8/7.1
Mantra Pro	L.	N/A	30.6/77.8	12.6/31.9	24.0/61.0	16.4/41.7	42.4/107.6	1.5/3.8	80.0	65.1°	71.8°	2.7/6.9
	XL	N/A	31.2/79.1	12.7/32.3	24.7/62.6	16.4/41.7	43.1/109.5	1.5/3.8	80.0	66.4	71.8°	2.7/6.9
Attitude*	XS	14.0/35.6	26.3/66.9	11.3/28.8	21.7/55.0	16.4/41.7	40.7/103.4	1.5/3.8	70.0	73.2°	70.7°	3.0/7.6
Attitude Comp	s	15.8/40.0	27.7/70.3	11.5/29.2	22.6/57.3	16.4/41.7	41.3/104.8	1.5/3.8	70.0	73.2ª	71.2°	2.9/7.3
Attitude Race	м	17-5/44-5	28.9/73.5	11.7/29.7	23.4/59.4	16.4/41.7	41.8/106.1	1.5/3.8	70.0	73.2*	71.7	2,8/7.0
Adroit Race	L	19.3/48.9	30.4/77.2	11,8/30,0	24.0/61.0	16.4/41.7	42.1/106.9	1.5/3.8	70.0	73.2	71.8*	2.7/6.9
Adroit Pro	XL	21.0/53.3	32.1/81.5	11.9/30-3	24.7/62.6	16.4/41.7	42.5/107.9	1.5/3.8	70.0	73.2°	71.8°	2,7/6.9
Quantum	51cm	21.2/53.9	29.8/75.7	10.5/26.7	21.1/53.5	16.3/41.4	38.1/96.8	1.9/4.7	N/A	74.0°	73 5°	N/A
Quantum Race	53cm	22.0/55.9	30.6/77.7	10.6/26.9	21.5/54.7	16.3/41.4	38.6/98.0	1.9/4.7	N/A	74.0°	73.5°	N/A
	sscm	22.5/57.1	31.5/80.0	10.7/27.2	22.0/55.9	16.3/41.4	39.1/99.3	1.7/4.3	N/A	74.0°	73·5°	N/A
	57cm	23.5/59.7	32.4/82.3	10.8/27.4	22.5/57.1	16.3/41.4	39.4/100.1	1.7/4.3	N/A	74.0°	74.0"	N/A
	59cm	24.3/61.6	33.2/84.3	10.9/27.7	23.0/58.3	16.3/41.4	40.0/101.6	1.7/4.3	N/A	74.0*	74.0°	N/A
	61cm	25.0/63.5	34.1/86.6	11.0/27.9	23.4/59.5	16.3/41.4	40.4/102.6	1.7/4.3	N/A	74.0°	74.0*	N/A:
	63cm	25.5/64.8	34.8/88.4	11.0/27.9	23.9/60.7	16.3/41.4	40.9/103.9	1.7/4.3	N/A	74.0°	74.0	N/A
Quantum Pro		21.2/53.9	29.8/75.7	10.5/26.7	21.1/53.5	16.3/41.4	38.4/97.5	1.5/3.8	N/A	74.0°	73·5°	N/A
	53cm	22.0/55.9	30.6/77.7	10.6/26.9	21.5/54.7	16.3/41.4	38.9/98.7	1.5/3.8	N/A	74.0°	73.5°	N/A
	SScm	22.5/57.1	31.5/80.0	10.7/27.2	22.0/55.9	16.3/41.4	39.4/100.0	1.5/3.8	N/A	74.0°	73·5°	N/A
	57cm	23.5/59.7	32.4/82.3	10.8/27.4	22.5/57.1	16.3/41.4	39.7/100.8	1.5/3.8	N/A	74.0"	74.0"	N/A
	59cm	24.3/61.6	33.2/84.3	10.9/27.7	23.0/58.3	16.3/41.4	40.3/102.3	1.5/3.8	N/A	74.0*	74.0°	N/A
	61cm	25.0/63.5	34.1/86.6	11.0/27.9	23.4/59.5	16.3/41.4	40.7/103.3	1.5/3.8	N/A	74.0°	74.0°	N/A
	63cm	25.5/64.8	34.8/88.4	11.0/27.9	23.9/60.7	16.3/41.4	41.2/104.6	1.5/3.8	N/A	74.0	74 0°	N/A



Quantum Series frame Line drawings correspond to chart dimensions.



Mantra Series frame Line drawings correspond to chart dimensions.



Attitude and Adroit frame Line drawing correspond to chart dimensions.

Direct Fit (mm)/Direct Fit Angle (Jand K)

	XS(51)	S(53)	M(55)	L(57)	XL(59)	(61)
Mantra	N/A	802/47.3°	832/43-4"	867/42.4°	899/44°	N/A
Mantra Comp	N/A	803/47.4*	833/43.5"	868/42.6°	900/44.1°	N/A
Mantra Race	N/A	795/47°	826/43"	860/42°	892/43.6°	N/A
Mantra Pro	N/A	795/47°	826/43°	860/42°	892/43.6"	N/A
Attitude ²	N/A	810/51.2°	840/47.6°	861/47.5°	908/48.5°	N/A
Attitude Comp	775/53-4"	815/50.8*	841/47.7°	862/47.6°	909/48.6°	N/A
Attitude Race	N/A	804/49.9*	833/46"	854/45-9°	900/46.9°	N/A
Adroit Race	N/A	798/49.7°	828/45.7"	849/45.6°	895/46.6"	N/A
Adroit Pro	N/A	798/49.7°	828/45.7°	849/45.6°	895/46.6°	N/A
Quantum	765/43.1°	797/42.9°	834/41.9°	854/42.5°	883/42.6°	902/43"
Quantum T	765/43.1"	797/42.9°	834/41.9°	854/42.5°	883/42.6°	902/43°
Quantum Race T	762/42.6°	794/42.4°	831/41.4"	851/42.1°	880/42.1°	899/42.6"
Quantum Race	762/42.6°	794/42.4°	831/41.4"	851/42.1"	880/42.1°	899/42.6°
Quantum Pro	N/A	793/44.2°	827/41.6°	847/42.2"	876/42.2°	896/42,8°

^{*}Attitude is not available in the U.S. market.

Direct Fit (J) The distance from the center of the bottom bracket spindle to the rider's hand position.

Direct Fit Angle (K) The angle created by the "direct fit" line and the horizontal line of the ground.

Visit your Klein dealer for more information about Klein's Direct Fit program or visit our web site at www.kleinbikes.com.