

# Alpha aluminum

## Is aluminum a new material?

It should be common knowledge that most modern aircraft use aluminum exclusively for their primary structures (internal frames and bulkheads) and 95% or better of their exterior surfaces, including load bearing skins. The aircraft industry has been using these alloys for several decades. The aircraft companies have picked aluminum because it offers the best combination of material properties and processing capability in order to create high performance, light weight, robust aircraft. So aluminum alloys have certainly proved their long term durability and high performance in the aircraft industry. The occasional failure that has occurred has typically been due to a design or manufacturing defect or improper maintenance.

## Doesn't steel resist fatigue better than aluminum?

Occasionally we hear fatigue failure erroneously described as similar to the result of bending a coat hanger back and forth. This example is not relevant to the durability or reliability of a bicycle frame. When you permanently deform the coat hanger you are yielding it. This has no relation to fatigue strength. Some of the highest fatigue strength materials (like carbon composite) will not take a significant permanent set, breaking instead at a high force level. So these extremely high fatigue strength fibers would rate near zero by the coat hanger test.

A high strength steel alloy will exhibit a longer fatigue life at a high, fully reversing load level. But remember, these numbers always reflect performance for a unit volume. Steel weighs 3 times as much as aluminum for the same volume. In other words, if these statistics were based on weight instead of volume, steel would have to exhibit 3 times the fatigue strength of aluminum to be considered stronger, and it doesn't. Steel is only the better material if you don't care how much your bike weighs.

## What are the benefits of aluminum in bike frame construction?

Aluminum is a great material to work with. It's light weight, or more accurately, low density. One cubic inch weighs one tenth of a pound. Contrast that to steel, where the same cubic inch weighs three times that amount. You can use twice the volume of metal that a good steel frame uses and the steel frame will still weigh 50% more than an aluminum frame. And the lighter weight positively affects the ride quality.

Aluminum provides a great ride, if you use it to its optimum. Aluminum's low density and high formability allows a designer to tailor the stiffness of each part of the frame through tubing and joint design. Tube shaping and butting can make more difference in the ride of the bike than the material itself.

Aluminum is very strong. It is possible to achieve significantly higher strength properties in the aluminum structure per weight than in steel. Part of this comes from the basic material properties. You can use more material, and more easily form the material, so you can put just the amount and shape needed into the bike.

But the largest contributor to high strength is engineering and design. The low density and high formability of aluminum allows tubing with increased wall thickness, complex shapes and larger sections where we want to achieve high strength properties in the overall structure.

## Are all aluminum alloys basically the same?

Some of the highest strength aluminum alloys, particularly in the 7000 series, have low elongation, or toughness, or resistance to crack propagation. This is important for overall strength and fatigue resistance. With alloys exhibiting higher toughness less material is needed to resist fatigue, and this can result in a lighter bike. Like with any bike frame material, good design and manufacturing is much more important than a small difference in a single mechanical property.

## What do the numbers mean?

When we discuss aluminum alloys, we refer to a four-digit number. This is the alloy name, based on the alloying materials in the aluminum. A metallurgy reference would explain precisely what elements are added to the aluminum in a specific percentage.

The second part of describing aluminum alloys is the heat treatment or other strength enhancements which have been applied to the alloy. With some alloys, special heat treatments or work hardening are essential to achieve their maximum strength. Other aluminum alloys attain their maximum strength by simply cooling at room temperature, also known as 'normalizing'.

Since heat treatment adds extra steps to manufacturing, it adds cost. An oven large enough to handle bike frames also adds cost. 6061 aluminum requires heat treatment. 7005 is usually normalized.

## ALPHA NOMENCLATURE EXPLAINED-

### Alpha

Proprietary Trek aluminum tubing, using 7005 or 6061 T6 aluminum. These frames use special tubing diameters, wall thicknesses, designed by our engineering staff. Alpha frames are built by outside vendors to Trek specifications. They go through the full Trek engineering process starting with design and including a full testing protocol. Some Alpha frames are built in Wisconsin, some are imported then painted and assembled in Wisconsin. Alpha tubesets are on the 4000 series ATBs, 1000 series road bikes, Navigators, and some hybrids.

### Alpha ZX

Like the Alpha frames, Alpha ZX is Trek designed aluminum tubing. However, Alpha ZX frames are built with 6061 T6 aluminum. Trek's proprietary heat treating process enhances the Alpha ZX tensile strength, yield strength, and elongation making for a superior frame.

Alpha ZX frames are all built and painted in Wisconsin. They are slightly lighter than the standard Alpha frames, and with the same durability, making them ideal for riders concerned with faster times. Alpha ZX tubesets are on 4000 series ATBs, and some hybrids.

### Alpha SL

Alpha SL and SLR frames are also Trek designed tubes of 6061 T6. They are built and painted in Wisconsin. In addition, SL frames are use butted tubing to reduce weight and enhance the ride. Trek's proprietary heat treating process enhances the Alpha SL tensile strength, yield strength, and elongation making for a superior frame.

Alpha SL and SLR tubesets are on 6000 series ATBs, 2000 series road bikes, XO-1, and Hilos.

# Alpha SLR hardtails

## New for 2002

Alpha SLR ATB frames, both standard and WSD, were formerly Alpha ZX. This means these frames are now double-buttressed 6061 T6 aluminum, and the men's frames now use Pro geometry.

## Geometry

The regular Alpha SLR hardtail uses our race-proven Pro geometry, which has its roots in racing. The Alpha SLR WSD hardtail uses our proven WSD geometry.

## Ride

These are race bikes. As such, the Alpha SLR hardtail's frame offers outstanding pedaling efficiency. This exceptional frame rigidity also gives the Alpha SLR its 'riding on rails' cornering ability. This explains why these are some of the most popular bikes on the race circuit today.

## Frame details

The Alpha SLR hardtail uses Alpha SLR aluminum frame technology. An oversize down tube creates a rigid structure between the bottom bracket and head tube, for frame stiffness and strength. Speaking of frame strength, we even added a big butterfly gusset under the head tube.

The head tube is butted, with a thin mid-section for low weight, but heavy duty walls at the top and bottom to support the headset cups.

Full top tube cable routing keeps the cables out of the muck for friction free shifting and braking.

The fittings, like dropouts and seatstay yoke, on the Alpha SLR ATB are forged aluminum. Forging provides the highest structural integrity, while the low density of the aluminum keeps the bike light.

Alpha SLR bikes have 2 water bottle mounts, except the XS WSD. This frame size does not have a tall enough seat tube to allow a water bottle mount to be used.

The Alpha SLR hardtail frame uses a special dropout to accommodate a disc brake adapter. This adapter provides mounting for an International style rear disc brake.

## Alpha SLR ATB

		15.5	17.5	19.5	21.5
MILLIMETERS	Frame sizes	15.5	17.5	19.5	21.5
	Head angle	71.0	71.0	71.0	71.0
	Seat angle	73.5	73.0	73.0	72.5
	Standover	706	742	780	821
	Seat tube	394	445	495	546
	Head tube	105	125	145	165
	Eff top tube	550	588	625	641
	Chainstays	424	424	424	424
	BB height	297	297	297	300
	Offset	42	42	42	42
	Trail	71	71	71	71
	Wheelbase	1030	1064	1101	1114
	INCHES	Standover	27.8	29.2	30.7
Seat tube		15.5	17.5	19.5	21.5
Head tube		4.1	4.9	5.7	6.5
Eff top tube		21.7	23.1	24.6	25.2
Chainstays		16.7	16.7	16.7	16.7
BB height		11.7	11.7	11.7	11.8
Offset		1.7	1.7	1.7	1.7
Trail		2.8	2.8	2.8	2.8
Wheelbase		40.6	41.9	43.4	43.9

## Alpha SLR WSD ATB

		XS	S	M
MILLIMETERS	Frame sizes	XS	S	M
	Head angle	70.0	70.0	70.0
	Seat angle	75.0	74.0	73.5
	Standover	670	700	740
	Seat tube	356	406	457
	Head tube	90	90	105
	Eff top tube	518	532	563
	Chainstays	424	424	424
	BB height	289	289	293
	Offset	41.9	41.9	41.9
	Trail	78	78	78
	Wheelbase	1018	1023	1051
	INCHES	Standover	26.4	27.6
Seat tube		14.0	16.0	18.0
Head tube		3.5	3.5	4.1
Eff top tube		20.4	21.0	22.2
Chainstays		16.7	16.7	16.7
BB height		11.4	11.4	11.6
Offset		1.6	1.6	1.6
Trail		3.1	3.1	3.1
Wheelbase		40.1	40.3	41.4

# 6700

## FRAMESET

MAIN TUBES	Alpha SLR aluminum	
STAYS	Alpha SLR aluminum	
	<i>Frame weight</i>	3.6 lb (1.65 kg)
FORK	RockShox Duke C	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	STR Aheadset	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23.0

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Select	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano Deore RapidFire+	
BRAKE LEVERS	Avid AD 3L, long pull	
GRIPS	Bontrager Ergo	

## DRIVETRAIN

FT DERAILLEUR	Shimano Deore	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	34.9 mm/ 1 3/8"
RR DERAILLEUR	Shimano Deore LX SGS	
CRANKSET	Bontrager Select 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Shimano BB-LP27	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	Shimano HG-72	
	<i>Chain type</i>	<i>9 speed</i>
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 7.0 11-32, 9spd	

## GEARING

	22	32	44
11	52	76	105
12	48	70	96
14	41	60	82
16	36	52	72
18	32	47	64
21	27	40	55
24	24	35	48
28	21	30	41
32	18	26	36

## BIKE WEIGHT

26.7 lb.  
12.12 kg.

## FIT

Frame	Size	15.5	17.5	19.5	21.5
Rider height	Inches	67	72	75	77
	Cm	171	182	190	197
Handlebar	Width, mm	620	620	620	620
Stem	Length, mm	90	105	105	120
	Angle	5	10	10	10
Crank	Length, mm	175	175	175	175
Seatpost	Length, mm	300	350	350	350
Steerer	Length, mm	195.0	215.0	235.0	255.0

## WHEELSET

FRONT WHEEL	Bontrager Superstock, 24°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 19mm
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
REAR WHEEL	Bontrager Superstock, 28°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
SPOKES	DT 14G stainless	
	<i>Front, mm</i>	254, Radial
	<i>Rear, mm</i>	267/269, 3x
INNER TUBES	Presta valve, ultra light	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	31.6
SADDLE	Bontrager FS 2000	
BRAKES	Shimano M420, V type	
PEDALS	Shimano SPD M515, clipless	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/integral QR	
	<i>Inner diameter, mm</i>	36.4
ADDITIONALS	2 water bottle mounts	

## COLORS

Starry Night/Candy Blue • White/Red decals • Red fork  
Autumn Gold • Black/Red decals • Red fork (not available on 6700 Disc)

# 6700 Disc

## CONTROLS

BRAKE LEVERS ..... Hydraulic, attached to brake

## WHEELSET

FRONT WHEEL	Bontrager Superstock Disc, 24°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR WHEEL	Bontrager Superstock Disc, 28°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
SPOKES	DT 14G stainless	

## OTHER

BRAKES	Shimano Deore LX, hydraulic disc	
	<i>Rotor diameter</i>	6.3 in.
	<i>Bolt circle diameter</i>	44mm

## BIKE WEIGHT

27.8 lb.  
12.62 kg.

## Key features:

**Rider: Every day enthusiast or aggressive newbie**

### Frameset

Alpha SLR butted aluminum - light, strong, and stiff

Pro geometry- Race proven

### Wheelset

Bontrager Superstock- light and strong

Bontrager Jones AC- all-round tread

### Components

All-round level (LX and Deore)-all round performance with 9 speed and powerful brakes

# 6700 WSD

## FRAMESET

MAIN TUBES	Alpha SLR aluminum	
STAYS	Alpha SLR aluminum	
	<i>Frame weight</i>	4.2 lb (1.91 kg)
FORK	RockShox Duke C, light springs	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	STR Aheadset	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23.2

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Select	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano Deore RapidFire+	
BRAKE LEVERS	Alloy, direct pull, woman's reach	
GRIPS	Bontrager Race, dual density	

## DRIVETRAIN

FT DERAILLEUR	Shimano Deore	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	<i>Plate style w/34.9mm clamp</i>
RR DERAILLEUR	Shimano Deore LX SGS	
CRANKSET	Bontrager Select 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Shimano BB-LP27	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	Shimano HG-53	
	<i>Chain type</i>	3/32"
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 7.0 11-32, 9spd	

## GEARING

	22	32	44
11	52	76	105
12	48	70	96
14	41	60	82
16	36	52	72
18	32	47	64
21	27	40	55
24	24	35	48
28	21	30	41
32	18	26	36

## BIKE WEIGHT

26.1 lb.  
11.85 kg.

## FIT

Frame	Size	14	16	18
Rider height	Inches	63	65	68
	Cm	159	164	173
Handlebar	Width, mm	600	600	600
Stem	Length, mm	60	75	90
	Angle	5	5	5
Crank	Length, mm	170	170	175
Seatpost	Length, mm	300	300	350
Steerer	Length, mm	178.2	178.2	193.2

## WHEELSET

FRONT WHEEL	Bontrager Superstock, 24°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 19mm
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
REAR WHEEL	Bontrager Superstock, 28°	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
SPOKES	DT 14G stainless	
	<i>Front, mm</i>	254, Radial
	<i>Rear, mm</i>	267/269, 3x
INNER TUBES	Presta valve, ultra light	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	31.6
SADDLE	Bontrager FS 2000 WSD	
BRAKES	Shimano M420, V type	
PEDALS	Shimano SPD M515, clipless	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/quick release	
	<i>Inner diameter, mm</i>	36.4
ADDITIONALS	2 water bottle mounts, rack mounts (1 bottle/ no rack on 14)	

## COLORS

Candy Blue/Starry Night • White/Red decals • White fork

## Key features:

**Rider: Every day woman enthusiast or aggressive newbie**

### Frameset

Alpha SLR butted aluminum - light, strong, and stiff

WSD geometry- Fit and performance for her

### Wheelset

Bontrager Superstock- light and strong

Bontrager Jones AC- all-round tread

### Components

All-round level (LX and Deore)-all round performance with 9 speed and powerful brakes

WSD forks, handlebars, grips, saddle, cranks to fit and perform for a woman

# 6500

## FRAMESET

MAIN TUBES	Alpha SLR aluminum	
STAYS	Alpha SLR aluminum	
	<i>Frame weight</i>	3.6 lb (1.65 kg)
FORK	Manitou Super 6	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	STR Aheadset	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23.2

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport, 25mm rise	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Sport	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano Deore RapidFire+	
BRAKE LEVERS	Alloy, direct pull	
GRIPS	Bontrager Ergo	

## DRIVETRAIN

FT DERAILLEUR	Shimano Deore	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	34.9 mm/ 1 3/8"
RR DERAILLEUR	Shimano Deore LX SGS	
CRANKSET	Bontrager Sport 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Shimano BB-LP27	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	Shimano HG-72	
	<i>Chain type</i>	9 speed
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 7.0 11-32, 9spd	

## WHEELSET

FRONT WHEEL	Alloy, QR hub, 32°, Bontrager Corvair rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 19mm
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
REAR WHEEL	Shimano C201 hub, 32°, Btrg Corvair OSB rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
SPOKES	14G stainless	
	<i>Front, mm</i>	266, 3x
	<i>Rear, mm</i>	263/265, 3x
INNER TUBES	Presta valve	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	31.6
SADDLE	Bontrager Sport	
BRAKES	Alloy direct pull	
PEDALS	Alloy cage w/clips and straps	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/integral QR	
	<i>Inner diameter, mm</i>	36.4
ADDITIONALS	2 water bottle mounts (1 on XS)	

## COLORS

Trek Red/Starry Night • White/Silver decals • Black fork  
Dusk • Black/Silver decals • Black fork

## GEARING

	22 32 44
11	52 76 105
12	48 70 96
14	41 60 82
16	36 52 72
18	32 47 64
21	27 40 55
24	24 35 48
28	21 30 41
32	18 26 36

## BIKE WEIGHT

27.5 lb.  
12.49 kg.

## Key features:

**Rider: Every day enthusiast or aggressive newbie**

### Frameset

Alpha SLR butted aluminum - light, strong, and stiff

Pro geometry- Race proven

### Wheelset

Bontrager Corvair/OSB rims-low weight, smooth braking action

Bontrager Jones AC- all-round tread

### Components

All-round level (LX and Deore)-all round performance with 9 speed and powerful brakes

## FIT

Frame	Size	15.5	17.5	19.5	21.5
Rider height	Inches	67	72	76	79
	Cm	171	182	193	200
Handlebar	Width, mm	620	620	620	620
Stem	Length, mm	90	105	120	135
	Angle	15	15	15	15
Crank	Length, mm	175	175	175	175
Seatpost	Length, mm	300	350	350	350
Steerer	Length, mm	195.2	215.2	235.2	255.2

# Alpha hardtails

## For 2002

Alpha ATB hardtail frames, both standard and WSD, remain unchanged from 2000.

## Geometry

The regular Alpha ATB uses classic 'NORBA' geometry, which has its roots in racing. The Alpha ATB WSD uses our proven WSD geometry.

## Ride

These are bikes capable of racing, but with nimble handling that makes them ideal for all-round riding and fun single-track.

The Alpha ATB's frame offers outstanding pedaling efficiency. This exceptional frame rigidity also gives the Alpha ATB its 'riding on rails' cornering ability. You may notice this description shares many of the superlatives of our Alpha SLR ATB frames. The similarity should be no surprise, since the Alpha frames share the SLR heritage and are designed by the same engineering staff.

## Frame details

The Alpha ATB uses Alpha aluminum frame technology. An oversize down tube creates a rigid structure between the bottom bracket and head tube, for frame stiffness and strength. Speaking of frame strength, we even added a big butterfly gusset under the head tube.

Full top tube cable routing keeps the cables out of the muck for friction free shifting and braking.

The fittings, like dropouts, on the Alpha ATB are forged aluminum. Forging provides the highest structural integrity, while the low density of the aluminum keeps the bike light.

Alpha ATB bikes have 2 water bottle mounts, except the XS WSD. This frame size does not have a tall enough seat tube to allow a water bottle mount to be used.

The Alpha ATB frame uses a special dropout to accommodate a disc brake adapter. This adapter provides mounting for an International style rear disc brake.

## Alpha ATB

		13	16.5	18	19.5	21	22.5	24
	Frame sizes	13	16.5	18	19.5	21	22.5	24
	Head angle	70.5	71.0	71.0	71.0	71.0	71.0	70.5
	Seat angle	74.0	73.5	73.0	73.0	73.0	72.5	72.0
MILLIMETERS	Standover	647	709	735	764	801	838	872
	Seat tube	330	419	457	495	533	572	610
	Head tube	90	90	105	125	145	185	225
	Eff top tube	529	559	578	588	599	609	615
	Chainstays	430	430	430	430	430	430	430
	BB height	288	295	298	298	298	300	303
	Offset	38.1	38.1	38.1	38.1	38.1	38.1	38.1
	Trail	79	75	75	75	75	75	79
	Wheelbase	1016	1039	1055	1066	1078	1084	1089
	INCHES	Standover	25.5	27.9	28.9	30.1	31.5	33.0
Seat tube		13.0	16.5	18.0	19.5	21.0	22.5	24.0
Head tube		3.5	3.5	4.1	4.9	5.7	7.3	8.9
Eff top tube		20.8	22.0	22.8	23.2	23.6	24.0	24.2
Chainstays		16.9	16.9	16.9	16.9	16.9	16.9	16.9
BB height		11.3	11.6	11.7	11.7	11.7	11.8	11.9
Offset		1.5	1.5	1.5	1.5	1.5	1.5	1.5
Trail		3.1	3.0	3.0	3.0	3.0	3.0	3.1
Wheelbase		40.0	40.9	41.6	42.0	42.4	42.7	42.9

## Alpha WSD ATB

		XS	S	M
	Frame sizes	XS	S	M
	Head angle	70.0	70.0	70.0
	Seat angle	75.0	74.0	73.5
MILLIMETERS	Standover	670	700	740
	Seat tube	356	407	457
	Head tube	90	90	105
	Eff top tube	518	532	563
	Chainstays	424	424	424
	BB height	289	289	293
	Offset	41.9	41.9	41.9
	Trail	78	78	78
	Wheelbase	1018	1023	1051
	INCHES	Standover	26.4	27.6
Seat tube		14.0	16.0	18.0
Head tube		3.5	3.5	4.1
Eff top tube		20.4	21.0	22.2
Chainstays		16.7	16.7	16.7
BB height		11.4	11.4	11.6
Offset		1.6	1.6	1.6
Trail		3.1	3.1	3.1
Wheelbase		40.1	40.3	41.4

# 4900

## FRAMESET

MAIN TUBES	Alpha aluminum	
STAYS	Alpha aluminum	
	<i>Frame weight</i>	4.2 lb (1.91 kg)
FORK	RockShox Judy C	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	STR Aheadset	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23.0

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport, 25mm rise	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Sport	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano Alivio RapidFire+	
BRAKE LEVERS	Alloy, direct pull	
GRIPS	Oasis, dual density	

## DRIVETRAIN

FT DERAILLEUR	Shimano Alivio	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	34.9 mm/ 1 3/8"
RR DERAILLEUR	Shimano Deore SGS	
CRANKSET	Bontrager Sport 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Shimano BB-LP27	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	IG31	
	<i>Chain type</i>	3/32"
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 5.0 11-32, 8spd	

## WHEELSET

FRONT WHEEL	Alloy, QR hub, 32°, Bontrager Corvair rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 19mm
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
REAR WHEEL	Shimano C201 hub, 32°, Bontrager Corvair OSB rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
SPOKES	DT 14G stainless	
	<i>Front, mm</i>	266, 3x
	<i>Rear, mm</i>	263/265, 3x
INNER TUBES	Presta valve	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	29.2
SADDLE	Trek ATB	
BRAKES	Alloy direct pull	
PEDALS	Alloy ATB, clipless adaptable	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/integral QR	
	<i>Inner diameter, mm</i>	35.0
ADDITIONALS	2 water bottle mounts, rack mounts (1 bottle/ no rack on13)	

## COLORS

MetalFlake Yellow • Black/Silver decals • Black fork  
 Starry Night • Blue/White decals • Black fork

## GEARING

	22	32	44
11	52	76	105
12	48	70	96
14	41	60	82
16	36	52	72
18	32	47	64
21	27	40	55
26	22	32	44
32	18	26	36

## BIKE WEIGHT

28.1 lb.  
12.76 kg.

## Key features:

**Rider: Casual enthusiast or newbie**

### Frameset

Alpha aluminum - light, strong, and stiff  
 Singletrack geometry- Nimble steering and maneuverability

### Wheelset

Bontrager Corvair/OSB rims-low weight, smooth braking action  
 Bontrager Jones AC- excellent all-round traction/control

### Components

Sport level (Deore)-Wide bars for control, comfortable position, and powerful brakes

## FIT

Frame	Size	13	16.5	18	19.5	21	22.5
Rider height	Inches	64	66	69	72	74	77
	Cm	163	169	175	182	189	196
Handlebar	Width, mm	620	620	620	620	620	620
Stem	Length, mm	75	75	90	105	120	135
	Angle	15	15	15	15	15	15
Crank	Length, mm	170	170	175	175	175	175
Seatpost	Length, mm	300	300	350	350	350	350
Steerer	Length, mm	180.2	180.2	195.2	215.2	235.2	275.2

# 4900 WSD

## FRAMESET

MAIN TUBES	Alpha aluminum	
STAYS	Alpha aluminum	
	<i>Frame weight</i>	4.2 lb (1.91 kg)
FORK	RockShox Judy C, light springs	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	STR Aheadset	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23.2

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Sport	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano Alivio RapidFire+	
BRAKE LEVERS	Alloy, direct pull, woman's reach	
GRIPS	Bontrager Race, dual density	

## DRIVETRAIN

FT DERAILLEUR	Shimano Alivio	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	<i>Plate style w/34.9mm clamp</i>
RR DERAILLEUR	Shimano Deore SGS	
CRANKSET	Bontrager Sport 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Shimano BB-LP27	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	IG31	
	<i>Chain type</i>	3/32"
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 5.0 11-32, 8spd	

## WHEELSET

FRONT WHEEL	Alloy, QR hub, 32°, Bontrager Corvair rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 19mm
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
REAR WHEEL	Shimano C201 hub, 32°, Btrg Corvair OSB rim	
	<i>E.R.D., mm</i>	542
	<i>Rim strip</i>	Velox 22mm
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	49/54
SPOKES	DT 14G stainless	
	<i>Front, mm</i>	266, 3x
	<i>Rear, mm</i>	263/265, 3x
INNER TUBES	Presta valve	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	29.2
SADDLE	Bontrager FS 2000 WSD	
BRAKES	Alloy direct pull	
PEDALS	Alloy/alloy cage, clipless adaptable	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/quick release	
	<i>Inner diameter, mm</i>	31.9
ADDITIONALS	2 water bottle mounts, rack mounts (1 bottle/ no rack on XS, S)	

## COLORS

Iris • White/Silver decals • White forkk

## GEARING

	22	32	44
11	52	76	105
12	48	70	96
14	41	60	82
16	36	52	72
18	32	47	64
21	27	40	55
26	22	32	44
32	18	26	36

## BIKE WEIGHT

27.8 lb.  
12.62 kg.

## FIT

Frame	Size	14	16	18
Rider height	Inches	62	64	68
	Cm	159	164	174
Handlebar	Width, mm	600	600	600
Stem	Length, mm	60	75	90
	Angle	15	15	15
Crank	Length, mm	170	170	175
Seatpost	Length, mm	300	300	350
Steerer	Length, mm	180.2	180.2	195.2

## Key features:

**Rider: Casual woman enthusiast or newbie**

### Frameset

Alpha aluminum - light, strong, and stiff  
WSD geometry- Fit and performance for her

### Wheelset

Bontrager Corvair/OSB rims-low weight, smooth braking action

Bontrager Jones AC- excellent all-round traction/control

### Components

Sport level (Deore)-Wide bars for control, comfortable position, and powerful brakes

WSD forks, handlebars, grips, saddle, and cranks to fit and function for a woman



# 4500

## FRAMESET

MAIN TUBES	Alpha aluminum	
STAYS	Alpha aluminum	
	<i>Frame weight</i>	4.2 lb (1.91 kg)
FORK	RockShox Judy TT	
	<i>Travel, mm</i>	80
	<i>Axle-crown length, mm</i>	451
HEADSET	Steel	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23

## CONTROLS

HANDLEBAR	Bontrager Crowbar Sport	
	<i>Clamp diameter, mm</i>	25.4
STEM	Bontrager Sport	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano EF29	
BRAKE LEVERS	Integrated brake/shift	
GRIPS	Oasis, dual density	

## DRIVETRAIN

FT DERAILLEUR	Shimano Acera-X	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	34.9 mm/ 1 3/8"
RR DERAILLEUR	Shimano Alivio	
CRANKSET	Bontrager Sport 44/32/22	
	<i>Bolt hole circle, mm</i>	64/104
BB	Cartridge	
	<i>Shell x axle, mm</i>	73 x 113, Square
CHAIN	IG-51	
	<i>Chain type</i>	3/32"
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 5.0 11-32, 8spd	

## WHEELSET

FRONT WHEEL	Alloy, QR hub, 32°, Matrix 750 rim	
	<i>E.R.D., mm</i>	561
	<i>Rim strip</i>	Rubber
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	26 x 2.1
REAR WHEEL	Shimano RM-40 hub, 32°, Matrix 750 rim	
	<i>E.R.D., mm</i>	561
	<i>Rim strip</i>	Rubber
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	26 x 2.1
SPOKES	14G stainless	
	<i>Front, mm</i>	267, 3x
	<i>Rear, mm</i>	262/263, 3x
INNER TUBES	Schraeder valve	

## OTHER

SEATPOST	Bontrager Sport	
	<i>Outer diameter, mm</i>	29.2
SADDLE	Trek ATB Comfort	
BRAKES	Alloy direct pull	
PEDALS	Alloy platform	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/quick release	
	<i>Inner diameter, mm</i>	34.9
ADDITIONALS	2 water bottle mounts, rack mounts (1 bottle, no rack on 13)	

## COLORS

Bright Silver/Trek Red • Black/White decals • Red fork  
 Starry Night/Spanish Gold • Red/White decals • Black fork

## GEARING

	22	32	44
11	52	76	105
12	48	70	96
14	41	60	82
16	36	52	72
18	32	47	64
21	27	40	55
26	22	32	44
32	18	26	36

## BIKE WEIGHT

29.2 lb.  
 13.26 kg.

## Key features:

**Rider: Casual enthusiast or newbie**

### Frameset

Alpha aluminum - light, strong, and stiff  
 Extra large 24" frame available  
 Singletrack geometry- Nimble steering and maneuverability

### Wheelset

Alloy rims and quick release hubs- light, easy to operate  
 Bontrager Jones AC tires- all-round treads

### Components

Recreation level (Alivio)-Wide bars for control, comfortable position, and powerful brakes

## FIT

Frame	Size	13	16.5	18	19.5	21	22.5	24
Rider height	Inches	66	68	71	72	75	77	77
	Cm	167	172	180	184	192	194	196
Handlebar	Width, mm	580	580	600	600	620	620	620
Stem	Length, mm	90	90	110	110	130	130	130
	Angle	25	25	25	25	25	25	25
Crank	Length, mm	170	170	170	175	175	175	175
Seatpost	Length, mm	300	300	350	350	350	350	350
Steerer	Length, mm	191	191	206	226	246	286	325

# 4300

## FRAMESET

MAIN TUBES	Alpha aluminum	
STAYS	Alpha aluminum	
	<i>Frame weight</i>	4.2 lb (1.91 kg)
FORK	RST Capa CL	
	<i>Travel, mm</i>	63
	<i>Axle-crown length, mm</i>	435.5
HEADSET	Steel	
	<i>Size</i>	25.4/34.0/30.0
	<i>Stack height, mm</i>	23

## CONTROLS

HANDLEBAR	Steel, 30mm rise	
	<i>Clamp diameter, mm</i>	25.4
STEM	Alloy quick change, direct connect	
	<i>Steerer clamp height, mm</i>	41.0
SHIFT LEVERS	Shimano EF29	
BRAKE LEVERS	Integrated brake/shift	
GRIPS	Oasis, dual density	

## DRIVETRAIN

FT DERAILLEUR	Shimano C050	
	<i>Cable routing</i>	<i>Top pull</i>
	<i>Attachment</i>	34.9 mm/ 1 3/8"
RR DERAILLEUR	Shimano Acera-X	
CRANKSET	FCM55, alloy, 42/34/24	
	<i>Bolt hole circle, mm</i>	62/108
BB	Cartridge	
	<i>Shell x axle, mm</i>	73 x 116, Square
CHAIN	KMC Z-72	
	<i>Chain type</i>	3/32"
	<i>Chain length (links)</i>	108
CASSETTE	SRAM 5.0 11-32, 8spd	

## WHEELSET

FRONT WHEEL	Alloy, QR hub, 36°, Matrix 550 rim	
	<i>E.R.D., mm</i>	559
	<i>Rim strip</i>	Cloth
FRONT TIRE	Bontrager Jones AC	
	<i>Tire size</i>	26 x 1.95
REAR WHEEL	Shimano RM-40 hub, 36°, Matrix 550 rim	
	<i>E.R.D., mm</i>	559
	<i>Rim strip</i>	Rubber
REAR TIRE	Bontrager Jones AC	
	<i>Tire size</i>	26 x 1.95
SPOKES	14G stainless	
	<i>Front, mm</i>	265, 3x
	<i>Rear, mm</i>	262/263, 3x
INNER TUBES	Schraeder valve	

## OTHER

SEATPOST	Alloy micro-adjust	
	<i>Outer diameter, mm</i>	29.2
SADDLE	Trek ATB Comfort	
BRAKES	Alloy direct pull	
PEDALS	Platform	
	<i>Axle diameter</i>	9/16"
SEAT BINDER	Alloy w/quick release	
	<i>Inner diameter, mm</i>	34.9
ADDITIONALS	2 water bottle mounts, rack mounts (1 bottle, no rack on 13)	

## COLORS

Ball Burnished/Candy blue • Black/Red decals • Candy Blue fork  
Stone Pearl/Platinum • Black/Red decals • Candy Red fork

### Key features:

**Rider: Casual double tracker or newbie**

#### Frameset

Alpha aluminum - light, strong, and stiff

Singletrack geometry- Nimble steering and maneuverability

#### Wheelset

Alloy rims and quick release hubs- light, easy to operate

Connection tires- smooth and fast on pavement, wide for casual off-road riding

#### Components

Recreation level (Acera)- wide performance range, comfortable position, and powerful brakes

### GEARING

	24	34	42
11	57	81	100
12	52	74	92
14	45	64	79
16	39	56	69
18	35	50	61
21	30	42	52
26	24	34	42
32	20	28	34

# 4300 Disc

## WHEELSET

FRONT WHEEL	Alloy, disc comp., QR hub, 36°, Matrix 550 rim	
	<i>E.R.D., mm</i>	559
	<i>Rim strip</i>	Rubber
REAR WHEEL	Alloy, disc comp., QR hub, 36°, Matrix 550 rim	
	<i>E.R.D., mm</i>	559
	<i>Rim strip</i>	Rubber
SPOKES	14G stainless	
	<i>Front, mm</i>	260/262, 3x
	<i>Rear, mm</i>	262/263, 3x

## OTHER

BRAKES	Hayes disc, mechanical	
	<i>Rotor diameter</i>	6.3 in.
	<i>Bolt circle diameter</i>	44mm

### BIKE WEIGHT

29.2 lb.  
13.26 kg.

### BIKE WEIGHT

29.2 lb.  
13.26 kg.

## FIT

Frame	Size	13	16.5	18	19.5	21	22.5
Rider height	Inches	65	67	70	72	75	76
	Cm	165	171	179	182	190	193
Handlebar	Width, mm	580	580	600	600	600	600
Stem	Length, mm	90	90	110	110	130	130
	Angle	25	25	25	25	25	25
Crank	Length, mm	170	170	170	175	175	175
Seatpost	Length, mm	300	300	350	350	350	350
Steerer	Length, mm	190	190	205	225	245	285