# 2000 Kona Technical Information


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**FRAME DESIGN**

Kona is constantly evaluating and adjusting our frame designs as rider demands and technology change. Rather than re-inventing the mountain bike every season based on the latest trend, we choose to fine-tune our proven designs. While the sloping top tube design that we pioneered over 10 years ago has been largely imitated, we have continued to improve function with significant and subtle refinements. When advances in technology and manufacturing allowed us to produce full suspension frames, Kona incorporated all the benefits and enhancements of sloping top tube design.

**DESIGN FEATURES**

Over the years, Kona has earned a reputation for making bicycles that provide a stable, efficient and comfortable ride. This is how we do it:

**Sloping Top Tube**

- Longer than average top tube provides more room for correct positioning and free body movement.
- Allows for more stand-over clearance, critical on dual suspension due to higher bottom bracket.
- Makes a vertically more compliant main frame by bringing the top and down tube closer to parallel.
- Puts rider in secure position for downhill sections.

**Compact Rear Triangle**

- 16.75" chain stays provide the perfect balance of stability and power transfer when out of the saddle.
- Shorter seat stays have less deflection during braking and accelerate quicker than longer stays.
- Kona custom butted rear stays make a rear triangle that gives the most efficient rear power transfer feasible.

**Extended Seat Tube**

- External butting provides additional material to strengthen extended portion.
- Lower attachment of top tube has more stand-over, creates more compliant main and compact rear triangle.
- Kona seat clamps provide worry free locking power. Clamps are easy to replace if ever damaged, and eliminate the welded seat clamps which can distort the seat tube during fabrication.

**Long Head Tube**

- Provides stronger support at top tube and down tube intersection for suspension forks.
- Distributes shock better and prolongs headset bearing life.
- Stronger front end improves balance and steering in rough terrain.
- Has been adjusted to accommodate 3"+ travel suspension forks.

**KONA DUAL SUSPENSION DESIGN FEATURES**

**Kona Active 4-Bar Linkage**
Kona Active 4-Bar Linkage Kona Active Suspension Frame Design is based around a 4-bar linkage system, used on all Kona dual suspension bikes. Key features include:

- Compact rear triangle for quick acceleration.
- Rectangular chain stays for higher rigidity and performance.
- Pivot locations cancel pedalling input on suspension.
- Cartridge bearing pivots for ultra plush ride.
- High torsional rigidity for ride performance and longer bearing life.
- Cold-forged swingarms, dropouts & yokes for high strength and durability.
- Custom-valved rear shock by Fox Racing Shox.

**Cross-Country Dual Suspension** - MANOMANO, MOKOMOKO, KING KIKAPU
Kona Cross-Country dual suspension bikes are suited for lightweight, cross-country trail performance. Ideal for long-distance mountain biking & cross-country racing. Frame without shock weighs less than 5 pounds. Compared to 1999, frames are 6 oz. lighter, by reducing weight in the rear triangle and B/B/ shell. Lightweight components are used throughout. The latest in Fox suspension shocks, FLOAT, with Air Negative function is featured for high efficiency and light weight. Not recommended for downhill racing, dual slalom, tricks or stunts. Not designed for double clamp suspension forks - warranty is voided.

- Active, rising rate design built around Fox rear shock (6.5" eye to eye: 1.5" stroke).
- With a leverage ratio of 2.33:1, the rear wheel has 3.5" of travel.
- Main chainstay pivot is located 30mm above the horizontal hub axle plane, minimizing "pogo" effects caused by changes in the effective chainstay length. This location keeps the drivetrain length very consistent. It also helps to eliminate pedaling force from activating the suspension.
- Rectangular tapered rear stays connect to cold-forged swingarms
- A total of 6 bearing pivots on seat tube/rocker pivot and bottom bracket yoke.
- Custom valved Fox Air Vanilla (Manomano), Fox FLOAT (Mokomoko) and Fox FLOAT RC with lockout (King Kikapu).
- Made in 14", 16", 18", 19", 20" sizes. Rear triangle is the same for all sizes.
- Manomano standard spring rates: 400 lbs (14"), 450 lbs (16"), 500 lbs (18"), 550 lbs (19", 20", 21").

**Extreme Trails "Out Of Bounds" Dual Suspension** - STINKY DEE-LUX, STINKY
Kona Out of Bounds dual suspension bikes are suited for extreme trails where steep sections predominate. Frame is designed for high strength and durability, using Kona 7005 Aluminum double-butted tubing and Easton RAD Aluminum tubing. Heavy-duty components and shocks are featured for maximum strength. Bikes are heavier than cross-country dual suspension, but are fitted with triple chainrings to allow for steep uphill sections. Double clamp forks are compatible.

- Active, rising rate design built around Fox shocks (7.9" eye to eye: 2.0" stroke).
- With a leverage ratio of 2.5:1, the rear wheel has 5" of travel.
- Main chain stay pivot is located 35mm above the horizontal hub axle plane, minimizing "pogo" effects caused by changes in chainstay length. It also reduces pedaling force from activating the suspension.
- Rectangular rear stays connect to cold-forged swingarms.
- Wraparound head tube gusset and downtube gusset (Stinky) Easton RAD top tube and down tube on Stinky Dee-Lux provides added strength and accurate steering.
- A total of 8 cartridge bearing pivots on seat tube/rocker pivot, seat stay yoke and bottom bracket yoke.
- Custom tuned Fox Vanilla (Stinky) and Fox Vanilla RC (Stinky Dee-Lux).
- Stinky & Stinky Dee-Lux standard spring rates: 400 lbs (Small-15"), 450 lbs (Medium-17"), 500 lbs (Long-18"), 550 lbs (Extra Long-19").

**Downhill Dual Suspension** - STAB DEE-LUX, STAB PRIMO

Kona Downhill suspension frames are specifically designed for downhill riding and racing. They are very heavy and strong enough to withstand the rigors of a World Cup Downhill season. Double clamp forks are recommended. Compatible with single chainring only.

- Rising rate design built around Fox shocks (Stab Dee-Lux 7.5" eye to eye: 2.5" stroke) (Stab Primo 8.75" eye to eye: 2.75" stroke).
- Stab Dee-Lux leverage ratio of 3.13:1 results in 7" rear wheel travel.
- Stab Primo leverage ratio of 3.25:1 results in 8.9" rear wheel travel.
- Stab Primo adjustable rear dropouts allow 1" of wheelbase adjustment.
- Both models have new geometry better suited for increasing difficulty of DH courses.
- With pivots in ideal locations, pedal forces barely affect the rear shock, so that there is very little "squatting", "pogo-ing", "lockout" or chain stretch.
- Highly efficient design is very active under all types of pedalling and gravity forces.
- Rocker arms and yokes are cold forged for durability and rigidity.
- Frame is made of DH specific, custom butted 7005 aluminum for Kona.
- Stays are oversized and tapered, connecting to cold-forged swingarms, dropouts and yokes.
- Cartridge bearing pivots on Stab Dee-Lux seat tube rocker pivot, seat stay yoke and bottom bracket yoke.
- Custom valved Fox Vanilla RC (Stab Dee-Lux) and Fox DH Vanilla RC (Stab Primo).
- Stab Dee-Lux standard spring rates are: 550 lbs (Small), 650 lbs (Medium), 750 lbs (Large).
- Stab Primo standard spring rates are: 400 lbs (Small), 500 lbs (Medium), 600 lbs (Large).

**SERVICE NOTES FOR DUAL SUSPENSION**

- While the 4-Bar linkage system is very torsionally rigid and requires less maintenance than a single pivot rear suspension frame, bushings will wear out from long-term use. Bushing kits, rear dropouts (1998 & 1999), and replacement rear stays are available from Kona Mountain Bikes for all suspension frames.
- Cartridge bearings give the suspension a smoother ride. These bearings also require more attention. Contaminated bearings can rust & seize, and cause frame damage. Regularly inspect the bearings and make sure that they allow the linkage to move freely.
- Riders who have the original Kona dual suspension frames from 1995 can upgrade their shocks & linkages to a Fox Alps 4 air/oil shock.

**SET-UP NOTES FOR DUAL SUSPENSION (by Dr. Dew)**
**REAR SUSPENSION**

For 2000, Kona uses 8 different models of shocks on their rear suspension models. Made by FOX USA, they include FLOAT, FLOAT RC, Vanilla, Vanilla RC and Vanilla DH RC. Fox FLOAT shocks are air sprung and have negative air that creates a more active initial stroke. Fox Vanilla shocks are coil-over style shocks. If the shock model ends with RC, it signifies that the shock has external rebound and compression adjustment. For any rear suspension bike it is necessary to adjust sag in order to get the best performance. Set-up is done best when you have someone that can help you.

1. Measure the distance from the top of the rear wheel to the back of the saddle. Call this measurement #1.
2. Sit on your bike in your neutral riding position (best to prop yourself up against a wall). Have an assistant measure from the top of the rear wheel to the back of the saddle. Call this measurement #2.
3. Subtracting #2 from #1 gives you the sag measurement. Refer to chart below (coming soon) for recommended sag.
4. Decrease sag by increasing air pressure on Fox Float shocks or by tightening down the pre-load spring on Fox Vanilla shocks. Increase sag by decreasing air pressure or loosening the pre-load spring.
5. Repeat steps 1- 4 until proper sag is achieved.

**Rebound Adjustment (R)**

Rebound is adjusted using the red clicker knob on the shock. The rebound adjuster controls the speed at which the shock returns after compression. The shock has 12 clicks offering a wide range of adjustment. Rebound should be set so that the shock will return as fast as possible without pushing the rider off of the saddle. During your first few rides experiment with the adjusters noting the setting and the ride. The proper setting is a personal preference and varies depending on rider weight, riding conditions and riding style.

**Compression Adjustment (RC)**

Compression is adjusted using the blue clicker knob on the shock. The compression adjuster controls the speed at which the shock compresses through the stroke of the shock. The shock offers a wide range of adjustment. During your first few rides experiment with the adjusters noting the setting and the ride. Proper setting is personal preference and varies depending on rider weight, riding conditions and riding style.

**FOX AIR VANILLA FLOAT TECHNOLOGY**

FOX Load Optimum Air Technology "FLOAT". FLOAT is air technology. Air negative spring technology self-adjusts the air negative chamber to optimum performance based on the positive air chamber pressure. This technology delivers the performance of a coil with the ease of adjustability and light weight of an air shock. In general, negative springs help keep the suspension at ride height. Negative spring technology helps the shock to be more sensitive to small hits and sharp bumps.

**FOX SHOCK TERMINOLOGY**

**COMPRESSION DAMPENING:** The oil resistance felt when trying to compress the shock.
**FLOAT:** FOX LOAD OPTIMUM AIR TECHNOLOGY is air technology. This air negative spring technology self adjusts the air negative chamber to optimum performance based on the positive air chamber pressure. This technology delivers the performance of a coil with the ease of adjustability and light weight of an air shock.
**SHOCK SAG:** The amount the shock compresses with rider sitting on bike in normal riding position. This is usually 15% to 25% of total shock travel. Cross country: 15% to 25% suggested, Downhill 25% suggested.
**REBOUND:** After a shock is compressed it will extend because of spring force.
**REBOUND DAMPENING:** Rebound dampening controls the rate at which the shock will extend.
**PRELOAD:** The initial amount of force placed on the spring.
**SPRING RATE:** The force needed to compress the spring one inch.

**FOX PUMP INSTRUCTIONS**

Thread pump onto air valve (approximately 4 turns). When pump is properly installed PSI will register on pump gauge. Stroke the pump a few cycles. The pressure should increase slowly. If pressure increases rapidly check to make sure that pump is properly fitted and tightened onto the Schraeder valve.
*NOTE: If shock has no air pressure, the gauge will not register.*
*NOTE: Pump to desired PSI setting. When unthreading pump from air valve fitting, the sound of air loss is from the pump hose, NOT the shock itself.*
*NOTE: If you re-attach the pump, the hose will re-fill with air. This will result in a lower PSI registering of approximately 15 to 20 PSI on the gauge.*
*NOTE: The average setting range is from 100 to 300 PSI. Do NOT exceed 300 PSI.*
*NOTE: Replace shock valve cap before riding.*
*NOTE: Fox pump is an option, available from Kona Mountain Bikes.*

**FRONT SUSPENSION**

For 2000 Kona has used a variety of suspension forks. Travel ranges from 2" to 7" depending on the model. For any suspension fork you have to adjust sag in order to get the best performance. Fork makers suggest that the sag measures _ of the total travel. Sag for all suspension forks is measured best the following way:

1. Make sure that the stanchion protectors (dirt boots) won't interfere with your set-up. They can be removed or one can be zip strapped to the top of the stanchion tube right under the fork crown.
2. Install a zip strap around the stanchion and slide it down until it makes contact with the dust seal located at the top of the fork leg.
3. Sit on the bike with your feet on the pedals. Prop yourself against a wall. Do not bounce on the pedals or the saddle.
4. Get off of the bike without bouncing or compressing the suspension.
5. Measure the distance between the O-ring and the black seal to get the sag. Decrease sag by increasing the forks pre-load (turn knobs clockwise), increase sag by decreasing pre-load (turn knobs counter clockwise).

NOTE: Adjust sag on Bomber Z5 & Z4 forks by increasing or decreasing the air pressure. Increasing air pressure reduces sag, decreasing pressure increases sag. Make sure that both sides of the fork have equal air pressure.

**REBOUND ADJUSTMENT - Z-1 QR20, JR. T QR20, MONSTER T**

Rebound is adjusted using the small slotted screws located in the middle of the pre-load knobs. The rebound adjuster controls the speed at which the shock returns after compression. The shocks offer a wide range of adjustment. Rebound should be set so that the shock will return as fast as possible without causing the fork to come off the trail. During your first few rides experiment with the adjusters noting the setting and the ride. The proper setting is a personal preference and varies depending on rider weight and riding style.

NOTE: In order to achieve the forks' maximum performance, it is important to make sure that both legs are adjusted identically. Pre-load and rebound tuning should start with the adjusters both backed aff all the way. As you increase pre-load or slow rebound be sure to adjust both legs exactly the same amount.

**FRAME MATERIALS**
**TITANIUM**

- Titanium tubing is widely viewed as the ultimate frame material. Just as all aluminum and steel are not the same, the quality and properties of titanium can vary greatly with each tube manufacturer.
- If you look at the Periodic Table of Elements, you will find Ti below Al., indicating that Aluminum is lighter than Titanium. However, Titanium has superior mechanical qualities over Aluminum. In addition to having an excellent strength to weight ratio, Titanium has a structure which is resistant to fatigue and corrosion.
- The simplest and cheapest titanium tubing is known as CP, or commercially pure titanium. This is just what it sounds like; a simple element drawn into the shape of a tube. The typical CP frame is extremely flexible. Although titanium can resist many more stress cycles than aluminum or steel, this excessive flex will quickly lead to a work hardened stress crack. Yes, even titanium can fail.
- To improve the ride characteristics of a CP frame, some manufacturers introduce oxygen into the fabrication process. The oxygen embrittles the titanium and provides a degree of stiffness to the frame. The downside is that this process also shortens the fatigue life of the frame.
- The best way to improve the property of Titanium is to mix in Aluminum and Vanadium. By adding 3% aluminum and 2.5% vanadium, you get 3-2.5 Titanium alloy.
- This next point is important; all 3-2.5 titanium alloy tubing is not the same. How the tubing is produced greatly effects its strength and ride properties. Depending on the method used to draw the seamless tube, minimum yield strength can range from 75,000psi to 105,000psi. Additionally, by cold working the tube, the grain can be altered to better meet specific load requirements. Sandvik is one of the largest and oldest fabricators of titanium tubing. They control the production from the raw ore to the finished tube, and make all their titanium tubing to aerospace standards.
- Kona has been designing and selling Sandvik made 3-2.5 Titanium alloy frames for over 8 years. Through our extensive experience and Sandvik's massive capacities, we have produced one of the finest titanium mountain bikes in the world.

**TITANIUM MODELS**
**KING KAHUNA**

King Kahuna is made by Titanium Sports in Kennewick, Washington. All of the tubing continues to be made strictly of Sandvik aerospace certified titanium alloy tubing. The frame is used by the Kona Factory team and is the best cross-country hardtail race frame that we make. It is available as a frame set or complete bike, with the Kona Factory Kit component group (King Kahuna specifications in the Kona catalog).

- Sandvik custom drawn and directional shape seamless 3-2.5 titanium frame with reinforcing gussets.
- Sandvik custom drawn and tapered seamless 3-2.5 titanium chain stays and seat stays.
- 6-4 titanium plate dropouts made with "Bullet" plugs for superior strength & perfect rear wheel alignment.
- Made for 27.0mm seat post, 34.9mm front derailleur, 68mm bottom bracket, & 1-1/8" headset.
- Made entirely in the USA, 3.7 lbs (18").

**SCORE**

Score is an Out of Bounds hardtail frame, also made by Titanium Sports in Kennewick, Washington, with the same Sandvik aerospace- quality certified titanium alloy tubing as the King Kahuna . It is available as a frame set or complete bike, with Kona OB component group (Score specifications in the Kona catalog).

- Sandvik custom drawn 3-2.5 seamless titanium tubing.
- 6-4 titanium plate dropouts made with "Bullet" plugs for superior strength & perfect rear wheel alignment.
- Disc brake compatible.

- Made for 30.0mm seat post, 34.9mm front derailleur, 68mm bottom bracket, & 1-1/8" headset.
- Made entirely in the USA, 4.2 lbs (18").

**FRAME MATERIALS**
**ALUMINUM**

- Aluminum is light and fairly resistant to corrosion. These properties are what makes aluminum desirable. However, aluminum is relatively weak compared to steel or titanium, and has a finite fatigue life. The easiest way to make aluminum applicable for bicycle frame use is to increase the tubing diameter. The larger size tubes provide the necessary stiffness, while reduced wall thicknesses keeps the weight down.
- Like titanium, aluminum is best when other materials are added to form an alloy. "The aluminum/magnesium/silicon "system" is one of the most important in aluminum alloy metallurgy. The dissolving and precipitating of the compound magnesium silicide in the aluminum forms the basis of the 6000 series of aluminum alloys. Other elements such as copper, zinc and chromium are added to enhance the basic properties of the alloy." The higher percentage of silicon, magnesium and chromium differentiate 6061 from the weaker 6000 series alloys. The increased percentage of zinc helps make 7000 series aluminum the strongest of the aluminum alloys. With the increase in strength comes an increased difficulty in fabrication. The higher alloy contents makes the material harder to manipulate and weld.
- Aluminum has a finite fatigue life, the more you work it, the quicker it will fail. Knowing this, one of the main goals of a tubing fabricator is to develop processes to extend an aluminum tubeÕs life while keeping the weight to a minimum. If you use a plain gauge tube that is thick enough for a strong weld area, the overall weight of the tube tends to be excessive. By butting the ends of the tube, a frame maker can have plenty of material at the weld zones and still produce a light frame. The typical transition zone between thick and thin material tends to be rather short. Because of this, stresses put on the frame tend to remain at the weld zones. The faster the stress is applied, the short the frame life. By equipping aluminum Konas with suspension forks, damaging vibrations and impacts can be reduced at the head tube.
- Easton Ultralite tubing is not butted; it is tapered. Through a special technique, ÒEastonÕs cold-work process achieves an extreme differential between thick and thin wall tube sections - with a remarkably smooth transition." The large reduction in tubing material makes the frames light and responsive. The other major benefit of the tapering is that it helps distribute stress down the tubes length and not leave it concentrated at the weld zone.
- For 2000, Easton has introduced a new Aluminum alloy ÒScandium". Originally developed by the USSR in the production of surface to air missiles, Scandium was the only material that had sufficient strength to withstand the shearing forces of penetrating the Polar Ice Cap. Scandium is similar in weight and flex to titanium, with a very high surface strength. Frames built with Scandium must be built very accurately as the frame cannot be aligned (Òcold-set") after welding. The flexible and brittle nature of the material, and race-oriented function mean that warranty for frames built with Scandium (Explosif, Kapu, Haole) is one year.

**ALUMINUM DUAL SUSPENSION MODELS**
**STAB PRIMO**

Stab Primo is designed to withstand the rigors of a World Cup Downhill racing season. Frame design is new for 2000, allowing up to 9" of rear wheel travel. It is the strongest (and heaviest) frame that we make.

- Custom butted, ovalized and tapered DH tubing.
- Tubing dimensions: Top - 44 x 1.8t, Down - 46.8 x 2.3t, Seat - 34.9 x 2.4t, Chain stays Đ 59/17 tapered x 1.6t, Seat stays - 26/20 tapered x 1.75t.
- Forged aluminum swingarms, chainstay yoke, bottom bracket yoke, seat stay bridge and dropouts.
- Forged replaceable "H" dropouts.
- I.S. Disc mounts, head tube wrap, seat tube gussets, double clamp compatible.
- Cartridge bearing pivots eliminate stiction.
- Chain guide system keeps chain in place through bumpiest terrain.
- Made for 30.0mm seat post, no front derailleur, 68/110mm bottom bracket, & 1-1/8" headset.

- Available as frame, 9.5 lbs (Medium).

**STAB DEE-LUX**
Stab Dee-Lux is extremely strong and well suited for downhill racing and recreational riding, but with 7" of rear wheel travel, compared to 9" for Stab Primo.

- Custom butted, ovalized and tapered tubing.
- Tubing dimensions: Top - 44 x 1.8t, Down - 46.8 x 2.3t, Seat Ð 34.9 x 2.4t, Chain stays - 59/17 tapered x 1.6t, Seat stays - 26/20 tapered x 1.75t.
- Forged aluminum swingarms, chainstay bridge, bottom bracket yoke, seatstay bridge all aid torsional rigidity.
- Replaceable HRD dropouts.
- Cartridge bearing pivots eliminate stiction.
- Chain guide system keeps chain in place through bumpiest terrain.
- Made for 30.0mm seat post, no front derailleur, 68/110mm bottom bracket, & 1-1/8" headset.
- Available as frame, 7.9 lbs (Medium)

**STINKY DEE-LUX**
Similar design to Stinky, but with Easton RAD top and down tubes.

- Easton RAD butted, shaped and tapered tubing.
- Tubing dimensions: Top - 41/51/38 x 1.9-1.2-1.6t, Down - 41/61/41 x 2.6-2.0t, Seat - 31.8 x 2.35-1.8t, Chain stays LHS 34/17 x 1.8t, RHS 34/17 x 1.7-1.1-1.3t, Seat stays 24/19 x 1.6t.
- Forged aluminum swing arms, seat stay bridge, chain stay yoke, and dropouts aid torsional rigidity.
- I.S. Disc mounts, seat tube gussets, double clamp compatible, forged replaceable "H" style dropouts.
- Cartridge bearing pivots eliminate stiction.
- Made for 27.0mm seat post, front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Available as frame, 7.5 lbs (18").

**STINKY**
Highly active and extremely plush "Out of Bounds" frame design is based on the Stab Dee-Lux DH design, lighter and modified to allow triple chainrings for steep, technical descents and climbs. While these frames are suited for steep drop-offs and other types of rough terrain, they are not indestructible. Standard Kona Warranty applies to these and all Kona models.

- Custom butted, shaped & tapered tubing.
- Tubing dimensions: Top - 38.1 x 1.8 - 1.1 - 1.4t, Down Ð 44 x 2.6- 1.2-1.3t, Seat - 31.8 x 2.35 - 1.8t, Chain stays Ð LHS: 34/17 x 1.8-1.5t; RHS: 34/17 x 1.7-1.1-1.3t. Seat stays - 24/19 x 1.6t.
- Forged aluminum swingarms, seat stay bridge, chain stay and bottom bracket yoke aid torsional rigidity.
- Replaceable HRD dropouts, I.S. Disc mounts, seat tube gussets, double clamp compatible.
- Cartridge bearing pivots eliminate stiction.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/110mm bottom bracket, & 1-1/8" headset.
- Available as frame, 7.5 lbs (18").

**DUDU**
Based on Stinky Dee-Lux design, with shorter rear wheel travel for Dual Slalom race use.

- Easton RAD butted, shaped and tapered tubing.
- Tubing dimensions: Top - 41/51-38 x 1.9-1.2-1.6t, Down - 41/61-41 x 2.6-2.0t, Seat - 34.9 x 2.4t, Chain stays LHS 34/17 x 1.8t / RHS 34/17 x 1.7-1.1-1.3t, Seat stays 24/19 tapered x 1.6t.

- Forged aluminum swing arms, seat stay bridge, chain stay yoke, and dropouts aid torsional rigidity.
- I.S. Disc mounts, seat tube gussets, double clamp compatible, forged replaceable "H" style dropouts.
- Cartridge bearing pivots eliminate stiction.
- Made for 30.0mm seat post, 34.9mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Available as frame, 7.9 lbs (18").

**KING KIKAPU**
Our top of the line cross-country dual suspension model is designed for long-distance cross country riding, performance and comfort. 2000 model has lighter rear triangle, forks and components.

- Easton Ultralite tubing with shaped bi-oval down tube.
- Tubing dimensions: Top - 38 x 1.8/0.9/1.4t, Down - 44.5 x 2.4/1.0/1.3t, Seat - 31.8 x 2.35/1.8t. Chain stays Ð LHS: 34 x 17 tapered x 1.8t, RHS: 34 x 17 tapered x 1.7-1.1-1.3t, Seat stays - 24 x 19 x 1.6t.
- Cold forged aluminum swingarms, seat stay aid torsional rigidity.
- Forged replaceable HRD dropouts, I.S. Disc mounts, seat tube and chain stay gussets.
- Cartridge bearing pivots eliminate stiction.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Made with US-made tubing. Available as frame, 4.9lbs. (18" without shock).

**MANOMANO & MOKOMOKO**
Same frame design as King Kikapu, with the same rear triangle, rocker arm for similar lightweight cross-country performance.

- Custom butted, shaped & tapered 7005 seamless Aluminum alloy tubing.
- Manomano tubing dimensions: Top - 38 x 1.8/1.4, Down - 44 x 2.4/1.0/1.4t, Seat - 31.8 x 2.45t. Chain stays LHS Ð 34 x 17 tapered x 1.8t; RHS Ð 34 x 17 x 1.7-1.1-1.3t, Seat stays - 24 x 1.75t.
- Cold forged aluminum swingarms, chain stay yoke and seat stay bridge all aid torsional rigidity.
- Forged replaceable HRD dropouts, I.S. Disc mounts, seat tube and chainstay gussets.
- Cartridge bearing pivots eliminate stiction.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/113 (Manomano) 68/110 (Mokomoko) bottom bracket, & 1-1/8" headset. - 5.5 lbs. - 18" frame (without shock). Available as frame only.

**ALUMINUM HARDTAIL MODELS**
**EXPLOSIF**
Our lightest, limited production cross-country mountain bike frame, with a selection of lightweight components, designed for cross-country racing.

- Size specific construction with Easton Scandium and Ultralite tubing.
- Tubing dimensions: Top - (14"-17") 38/35 x 1.3-0.7-1.1t / (18"-20") 38/35 x 1.3-0.8-1.1t, Down - (14") 45/41 x 2.0-0.9-1.2t / (16"-20") 45/41 x 2.0-0.9-1.3t, Chain stays - RHS 22.2 x 2.0-1.2-1.4t / LHS 22.2 x 2.0t, Seat - 31.8 x 2.35-1.8t, Seat stays - 19 x 1.4-1.8-1.3-1.4t.
- Forged dropouts with I.S. disc mounts, forged replaceable "H" style dropouts.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/113 bottom bracket, and 1-1/8" headset.
- Made with Easton Scandium frame tubing and Easton Elite rear stays.
- Available as frame, 3.4lbs (18").
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**KULA & PAHOEHOE**

Lightweight production frame sets are designed for highly efficient hardtail cross-country racing and riding, with focus on lightweight equipment.

- Constructed of Easton Ultralite tubing, with shaped Bi-Oval down tube.
- Tubing dimensions: Top Ð 34.9 x 1.8/0.8/1.3t, Down - 45 x 2.4-1.0-1.3t, Seat - 31.8 x 2.35/1.8t, Seat stays - 19 x 1.4 x 1.8 Ð 1.3 Ð 1.4t, Chain stays - RHS 22.2 x 2.0 Ð 1.2 Ð1.4t; LHS 22.2 x 2.0t.
- Forged replaceable HRD dropouts, I.S. Disc mounts, Downtube gusset.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/110 bottom bracket, and 1-1/8" headset.
- Made with Easton frame tubing and 7005 Aluminum custom butted rear stays, 3.5 lbs (18").
- Kula available as frame only.

**MUNI-MULA**

Hardtail mountain bike for fun and technical single track riding.

- Constructed of custom butted 7005 aluminum tubing.
- Tubing dimensions: Top Ð 34.9 x 1.6/0.9/1.6t, Down - 44 x 2.3/1.2/1.5t, Seat - 31.8 x 2.35/1.8t, Seat stays - 19 x 1.8t, Chain stays - 22 x 2.0t.
- Forged replaceable HRD dropouts, I.S. disc mounts & down tube gusset.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Available as frame, 3.7 lbs (18").

**CALDERA & CINDER CONE**

Hardtail "Fun" mountain bikes.

- Constructed of custom butted 7005 aluminum tubing.
- Tubing dimensions: Top - 34.9 x 1.6-1.2-1.6t, Down - 44 x 1.8-1.3-1.6t, Seat - 31.8 x 2.35-1.6t, Chain stays - 22.2 x 2.0t, Seat stays - 19 x 1.8t.
- Forged dropouts with I.S. disc mounts, down tube gusset., forged replaceable "D1" style dropouts.
- Made for 27.0mm seat post, 31.8mm front derailleur, Bottom bracket: 68/110 (Caldera), 68/113 (Cinder Cone), & 1-1/8" headset.
- 3.8 lbs (18").

**NUNU & BLAST**

Hardtail "Fun" mountain bikes.

- Constructed of custom 7005 aluminum tubing.
- Tubing dimensions: Top - 34.9 x 1.65t, Down - 44 x 1.8t, Seat - 31.8 x 2.35-1.6t, Chain stays - 22 x 2.0t, Seat stays - 19 x 1.8t.
- Forged replaceable "D" dropouts.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/113 bottom bracket, & 1-1/8" headset.
- 3.9 lbs (18").

**CHUTE**

Our strongest hardtail "Out of Bound" bike for heavy-duty, steep and extreme trail riding. Also suitable for dual slalom racing.

- Constructed of Easton RAD 7005 aluminum tubing.
- Tubing dimensions: Top - 41/51-38 x 1.9-1.2-1.6t, Down - 41/63-41 x 2.6-2.0t, Seat - 34.9 x 2.5t, Chain stays - 25.4/19 square x 1.8t, Seat stays - 19/19 square x 1.8t.
- I.S. Disc mounts, double clamp compatible, forged replaceable "G" style dropouts.
- Made for 30.0mm seat post, 34.9mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Available as frame, 5.2 lbs (17").

**ROAST**

Out of Bounds hardtail bike, similar to 1999 Chute frame.

- Constructed of DH gauge 7005 Aluminum tubing.
- Tubing dimensions: Top Ð 40 x 1.8t, Down - 50.8 x 1.8t, Seat - 34.9 x 2.5t, Seat stays - 22.2 x 1.8t, Chain stays - 25.4 x 1.8t.
- Forged replaceable "G" dropouts, IS Disc mounts, head and down tube gussets, double clamp compatible.
- Made for 30.0mm seat post, 34.9mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- Available as frame, 4.9 lbs (17").

**HOO-HA**
Lighweight "hybrid" bike for city & commuting. A rigid Aluminum frame, with mid-sized 700c city tires for efficient recreational and city riding.

- Constructed of butted 7005 Aluminum tubing.
- Tubing dimensions: Top - 35 x 1.6/1.3/1.6t, Down - 38.0 x 2.0, Seat - 31.8 x 2..35t, Seat stays - 19 x 1.8t, Chain stays - 22 x 1.8.
- Forged replaceable "H" dropouts.
- Made for 27.0mm seat post, 31.8mm front derailleur, 68/110 bottom bracket, & 1" headset.
- Available as frame only, 3.8 lbs (18").

**KABOOM**
Lightweight single speed frame based on cross-country hardtail mountain bike design.

- Constructed of custom butted 7005 aluminum tubing.
- Tubing dimensions: Top - 35 x 1.6-1.2-1.6t, Down - 44 x 1.8-1.3-1.6t, Seat - 31.8 x 2.35-1.8t, Chain stays - 22.2 x 1.8t, Seat stays - 19 x 1.8t.
- Made for 27.0mm seat post, 68/113 bottom bracket, & 1-1/8" headset.
- Available as frame, 3.7 lbs (18").

**HAOLE & KAPU**
Lightweight road race machines built with Easton Scandium Aluminum & mUDSHARK carbon forks.

- Constructed of Easton Scandium and Ultralite tubing.
- Tubing dimensions: Top - 33-28.6 x 1.5-0.8-1.3t, Down - 41.3-38.1 x 1.8-0.7-1.2, Seat - 31.8 x 2.45-1.0-1.7t, Chain stays Ð 25.4 x 1.7-0.9-1.4t, Seat stays - 19 x 1.15t.
- Forged replaceable "HR" style dropouts.
- Kapu available as frame, 3 lbs (56cm).

**JAKE THE SNAKE**
Cyclo-cross frame built for lightweight, solid handling on moderate dirt surfaces and easy carrying. Also a good training or touring machine.

- Constructed of 7005 double butted tubing.
- Tubing dimensions: Top - 35 x 1.8/1.1/1.5t, Down - 40 x 2.2/1.2/1.6t. Seat - 31.8 x 2.35-1.8t, Seat stays Ð 19 x 1.4 Ð 1.75-1.3-1.4t, Chain stays Ð 25.4 x 1.8-1.15-1.2t.
- Forged replaceable HRD dropouts.
- Designed for 27.0mm seat post, 68/107 bottom bracket and 1" headset.
- Available as frame, 3.1 lbs (55cm).

**MAMA**
BMX race bike, built with heavy-duty Aluminum tubing, components selected for balanced strength/weight ratio.

- Constructed of 7005 Aluminum tubing with Easton RAD down tube.
- Tubing dimensions: Top - 38 x 1.8t, Down - 41/51-38 x 1.9-1.2-1.6t, Seat - 31.8 x 2.35-1.8t, Chain stays - 38-29 x 1.8t, Seat stays - 23/17 x 1.8t.
- Forged replaceable HRD dropouts.
- Made for 27.0 seat post, American style bottom bracket and 1-1/8" headset.
- Available as frame, 5 lbs.

**FRAME MATERIALS**

**STEEL**

- While the term "steel frame" covers anything from the stamped high tensile rig sold by mass merchandisers to the custom cromoly handbuilt, we'll limit this to the quality end of the range. Steel is appealing because it's durable, easy to work with and repairable.
- Basic components of 4130 cromoly steel are Chromium, Molybdenum, Manganese and Carbon. The ratio of elements combined with extrusion techniques is what makes a quality steel tube different from others. If made properly, a 4130 CroMo frame can last a lifetime. Unless a quality steel frame is pushed beyond its maximum yield, it should not fail. Yield strength of "standard" CroMo is @760N\mm2 compared to 3-2.5 Titanium's 792N\mm2.
- Steel is durable and can be comfortable and efficient. Springs are made of steel as the material can retain energy and expend it back. A steel frame doesnÕt absorb the force of a pedal stroke or the impact of a water bar, it stores it. The gathering of force is what makes a frame comfortable and the return of that energy gives a steel frame a lively feel.

**STEEL HARDTAIL MODELS**

**LAVA DOME**

- Constructed with Seamless double butted tubing, Ritchey investment cast rear dropouts.
- Tubing dimensions: Top - 31.8 x 0.9/0.6/0.9t, Down - 31.8 x 0.9/0.6/0.9t Seat - 29.8-28.6 x 1.3-0.7-0.9t, Seat stays Đ 19-16 x 0.6 - 0.9 - 0.6t, Chain stays Đ 24.9 - 16 x 0.9 Đ 0.6t.
- Made for 27.0mm seat post, 28.6mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- 4.5 lbs (18").

**FIRE MOUNTAIN**

- Constructed with Seamless double butted tubing with PG cromo rear.
- Tubing dimensions: Top - 31.8 x 0.9/0.6/0.9t, Down - 31.8 x 0.9/0.6/0.9t Seat - 29.8-28.6 x 1.2-0.6-0.9t, Seat stays -19 x 0.9t, Chain stays - 22 x 0.9t.
- Made for 27.0mm seat post, 28.6mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset
- 4.6 lbs (18").
- Fire Mountain is available with rigid (Kona Project Two) or front suspension (RST 281EL)

**HAHANNA**

- Constructed with cromoly main and tensile rear.
- Tubing dimensions: Top - 31.8 x 0.9t, Down - 31.8 x 0.9t Seat - 29.8-28.6 x 1.3-0.7-0.9t, Seat stays - 19 x 1.2t, Chain stays - 22 x 1.2t.
- Made for 27.0mm seat post, 28.6mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset).
- 4.9 lbs (18").
- Hahanna is available with rigid (Kona Project Two) or front suspension (RST 280).

**YEE-HA**

Steel "hybrid" bike for the city & commuting, with mid-sized 700c city tires for efficient recreational and city riding.

- Full cromoly construction. Tubing dimensions: Top Đ 31.8 x 0.9t, Down - 31.8 x 0.9, Seat - 29.8-28.6 x 1.2-0.6-0.9t, Seat stays - 19 x 1.2t, Chain stays - 22.2 x 1.2t).
- Made for 27.0mm seat post, no front derailleur, 68/110 bottom bracket, & 1-1/8" headset.
- 3.9 lbs (18").

**HUMUHUMU**

Classic Cruiser design for Happy-Go-Lucky riders.

- Tubing dimensions: Top - 31.8 x 0.9t, Down - 31.8 x 0.9t Seat - 29.8-28.6 x 1.3-0.7-0.9t, Seat stays - 19 x 1.2t, Chain stays - 22 x 1.2t.
- Made for 27.0mm seat post, 28.6mm front derailleur, 68/110 bottom bracket, & 1-1/8" headset).

**KUKU**

BMX heavy-duty steel Dirt Jump bike.

- Full cromoly construction.
- Tubing Dimensions: Top - 35 x 1.0t, Down - 50 x 1.2t, Seat - 29.8-28.6 x 1.5-1.0t, Chain stays - 25.4 x 0.9t, Seat stays - 19 x 0.9t.
- Made for 26.6mm seat post, American style bottom bracket and 1-1/8" headset.
- Head tube wrap and down tube gussets.
- Available as frame, 6.5 lbs.

**KONA FORKS**
Kona designed the original straight blade MTB fork, the Project Two. Just like our frames, this simple design has undergone many refinements over the years. From the start, the primary goal of the P2 has been handling. The stout unicrown design has unmatched torsional rigidity. This translates into more precise steering and braking under the harshest conditions.

**Project Two Fork**
- 1-1/8" untapered, oversize, unicrown design, full cromoly construction.
- New forged Kona brake cable attachment.
- Dropout eyelets for fenders/front rack.
- Steer tube = 1-1/8", Offset = 1.74".

**Project Two 700C Fork**
- 1" untapered, oversize, unicrown design, full cromoly construction.
- New forged Kona brake cable attachment.
- Dropout eyelets for fenders/front rack.
- Steer tube = 1", Offset = 1.77".

**Mudshark Carbon Road Fork**
- Investment cast crown and dropouts.
- 24mm oval tapered straight blades.
- Triple butted cromoly steer column.
- Steer tube = 1", Offset = 45mm, 580 grams.

**KONA RISER HANDLEBARS**
**Kona DB Handlebar**
- 6061 double butted aluminum.
- Designed for cross-country riding.
- 38mm rise, 640mm wide, 320 grams.

**Kona DH Handlebar**
- 2014 T-6 Super Duraluminum forged.
- World Cup Downhill race worthy.
- 38mm rise, 660 wide, 310 grams.

**Kona XC Handlebar**
- 2014 T-6 Super Duraluminum forged.
- 38mm rise, 660 wide, 250 grams.

*Handlebar Replacement Note:*
*It is recommended that Aluminum handlebars be replaced at least once per year under regular use. While Kona handlebars are tested to standards which would normally exceed 2-3 years of normal use, Aluminum tends to fail suddenly, and could result in serious injury or death.*

*Kona offers a 1/2 price replacement program for Kona handlebars.*

**KONA GRIPS**
**Pseudopod Grips**
- Dual density design, with soft outer section for comfort.
- K-Nine flange keeps hands from slipping out of position.
- Can be used with flange to inside (BMX) and closed end, or with flange on outside & bar end plug.
- 120 grams/pair, groovy glow-in-the-dark option.

**Moosenuckle Grips**

- Medium thickness with BH knobs for long wear.
- Two 1mm recessed grooves to allow wiring down for DH riding.
- 120mm in length with integrated end caps to keep your hands from coming off the bars.
- High grade Krayton rubber, 84 grams.

**KONA THUMB & O-BEAM SEAT POSTS**

- With the exception of 14" and 16" frame sizes, Kona's use 375mm seat posts. The post length provides a greater seat post/seat tube overlap A side benefit is that it expands the range of rider fit per frame size.
- O-Beam top is forged for strength and the twin bolt design allows for an easy, secure seat angle adjustment.
- The O-Beam weighs 250 grams.

**KONA WING NUT SEAT QUICK RELEASE**

- Makes saddle height adjustment quick and easy.
- Cold forged T6 6061 Aluminum for strength.
- QR is ergonomically shaped with compact design.

**FRAME WARRANTY**

Kona frame warranty is outlined in detail in the Kona Owner's Manual. It does not cover failure due to accidents, stunt riding, racing, use of double clamp forks (except for DH & OB models), or commercial use. It covers the original owner's use for 10 years from the date of purchase, with the exception of Easton Scandium frames which are covered for 1 year, and Titanium frames, which are covered for 3 years. Models purchased before 1998 have limited 20 year or lifetime warranty against defects in manufacturing. Ownership must be registered with Kona to validate the warranty. Sympathy pricing in the USA & Canada in case of accidents and other failures is available to the original owner