

1990 KLEIN ATTITUDE

Breaking barriers in more ways than one

■ Gary Klein is no stranger to controversy. His unique oversized aluminum bicycles have garnered more than their fair share of praise and criticism, innovation and imitation, aesthetic kudos and ugly duckling comments, and through it all Klein bicycles have kept on doing what they do—and doing it better every season.

To the bicycle world the name Klein stands for fat tubes. Gary Klein turned his college education into a business and managed to set the design world on end. The fat tubes of the Klein, which are now a trademark, weren't always so readily accepted. What the scoffers didn't realize was that the jumbo aluminum tubes of a Klein allowed it to be as strong as steel, exceedingly rigid and marvelously light. In today's era of alternative materials (carbon fiber, titanium, magnesium and matrix composites) a lot of people forget that aluminum is the most successful alternative ever used. Gary Klein not only recognized the alloy's potential, but he spearheaded the design movement that made its use possible.

DID HE INVENT IT?

No, Gary Klein didn't invent the aluminum bicycle, but he invested in it. Time, energy, creativity and innovation have advanced the aluminum bicycle from those early, cobby and crude beginnings to the art form that it is today.

The 1990 Klein Attitude is a bike that has benefited from Klein's unflinching devotion to aluminum. A close perusal of the Attitude is like taking a trip through Gary Klein's scrapbook, for it abounds with all the innovations, tricks and craftsmanship that have made Klein the most popular oversized aluminum bike on the off-road rider's wish list. Gary Klein isn't living in the past, though—he is moving forward, and in a year that will see designers serve up radical new elevated chainstay bikes, titanium featherweights and multi-material composites, the Attitude outshines them all with its evolutionary new concepts.

Take a tour of the Klein Attitude with the *MBA* wrecking crew.

FIRST STOP: THE TRUCK SCALES

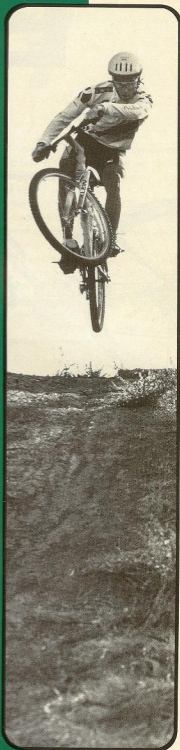
What does it weigh? It is light, and it is honestly light. What do we mean by that? In the past we have tested super-light Kleins, but a lot of the weight savings came with the use of off-road mirrors—sleight-of-hand tricks like Huret Jubilee derailleurs. Jubilees are wonderfully light, but not too durable. Past Klein "diet" bikes didn't weigh much, but what you saved in pounds you lost in time looking for replacement parts in roadside shops. Not so for the Attitude!

Hitting the infallible *MBA* scales at 23.75 pounds (with water bottle, cage, clips and straps), the Attitude is incredibly airy. There are no time trial parts, drilled derailleurs or French components on the Attitude. It is equipped with "real" parts, the kind you could actually risk going off with for a day in the boonocks.

NEXT EXIT: THE FORKS

Take a close look at the Klein aluminum forks because you are seeing mountain bike history in the making. No other big-name manufacturer would dare put aluminum forks on their bikes. No one! Gary Klein did, and he should be applauded for it. Why? Because all the other builders steered away from aluminum forks due to fear. Fear that the forks wouldn't be strong enough, that they would fatigue from the flex and that they would be ugly. The Klein Attitude's forks *are* ugly. To make aluminum forks strong enough to take the fear out of riding with alloy blades you have to make them big. The thought of putting really "big" forks on their bikes drove other builders away, but Gary Klein has never veered away from anything fat. Fat forks were a natural extension of his original fat frame.

We think that Klein aluminum forks are a bold move. By using 1-5/8-inch tubes spundown, the Klein forks have a constant wall thickness of .058". The steerer tube is a humongous 1-9/16 inches. Given the oversized



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Airy, agile, mobile and aggressive are the first things a rider notices about the 23.75-lb. Klein Attitude.

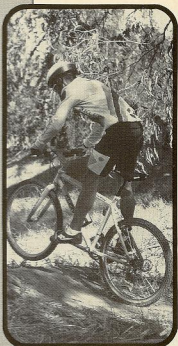
ufacturers would call it a 17.25-inch frame. Take our word for it—it's a 19. The head angle is a contemporary steep 71 degrees, while the seat tube is a relaxed 72.5 degrees. Relaxed seat angles weren't popular with the "steeper-is-better" crowd over the last few years, but are definitely making a comeback (it makes you want to congratulate the builders who never strayed from them).

Top tube length was a little shorter than many test riders would have liked (22.5 inches) and was mated to a four-inch-reach stem. The standover height (measured from the ground to the top of the top tube at the mid-way point) was 29.25 inches. With this standover height our Klein frame could accommodate riders with 30.5-inch to 33-inch inseams. It is basically a medium-length top tube bike (with a medium reach stem) that gets its rider adaptability by the use of a sloping top tube.

Chainstays are 16.75 inches long and are perfectly mated to the slack 72.5-degree seat angle. Remember that a slacker seat angle positions the rider's weight further back than on a steep (73- to 74-degree) seat, so ultra-short chainstays aren't necessary to guarantee good climbing traction.

BARGAIN BASEMENT: WHAT WE DIDN'T LIKE

We did like the three water bottle mounts. That is something that every serious trail bike should have. The extra water bottle boss can carry more fluid for expeditions or serve as a mount for pumps, tool kits, air cartridges or chain lube. Another plus was the Klein



As light as a titanium bike, the Klein is more rigid. A great combination.

SPECIFICATIONS

Model: Klein Attitude.
Manufacturer: Klein Bicycles, 118 Klein Rd., Chaska, WA 98532, (206) 262-3305.
Sizes available: 16", 20", 22".
Finishes available: Titanium Fade.
Suggested retail price: Complete bike \$1825; not complete, frame and handlebars \$1149.
COMPONENTS
Front derailleur: Shimano Deore XT.

Rear derailleur: Shimano Deore XT.
Front brake: Shimano Deore XT cantilever.
Rear brake: Dia-Comp 935 caliper.
Crankset: Shimano Deore XT.
Freewheel: Shimano Deore XT.
FRAME
Tubing: 6061 heat-treated aluminum.

Head angle: 71°
Seat angle: 72.6°
Top tube length: On 20" frame—22.1"
Chainstay length: 16.8"
Bottle-ons: Water bottles

NOTE: The MOUNTAIN BIKE ACTION test crew notes its test bikes under controlled circumstances, on private property and with respect for the environment. No awareness or environmentally sensitive areas are noted.



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fender mounts (people do ride in rotten conditions). The three water bottles and fender mounts would make the Attitude a great expedition, touring or camping bike, except for one thing—no rack mounts.

Our test bike came with a Lycra-covered Turbo saddle. We have a box full of ripped Lycra saddles in the palatial MBA workshop, and expect the Klein's to be joining the pile after the first big crash. We prefer saddles that are covered better than the riders sitting on them.

Chaining clearance is so severely limited that the 46-tooth big ring is the biggest ring the Klein will accept without some ground aluminum chips coming off the chainstays. Among the many reasons that elevated chainstay bikes were developed was to give mud clearance, chaining clearance and to lessen the damage caused by chainsuck. The Klein Attitude gained mud clearance at the expense of chaining clearance and added a steel plate to cut down on chainsuck destruction. The bottom bracket area is a compromise under any circumstances, but the larger tubes of aluminum require more compromises. Overall, Gary Klein made the best of a crowded situation and the Attitude addressed two out of three problems.

INFORMATION BOOTH: WHERE WE'RE AT

No need to hedge any bets—we like the Klein Attitude. Sure, we have a few quibbles, but that doesn't lessen the sheer joy of throwing a leg over a bike that is on the cutting edge of bike design. You have to respect Gary Klein for his willingness to sacrifice the traditional look of the classic bicycle to gain some improvement. The fat look, whether you are talking about frame tubes, forks, headsets or stem/bar combos, is stamped with Klein's signature. Big doesn't mean heavy, however. At 23.75 pounds the Attitude is three pounds lighter than most hardcore mountain bikes, and as light as the majority of wonder metal bikes.



Monopoly: The Attitude uses narrow Dia-Compe 986 cantilever brakes on the rear because they stick out less than the Shimano brakes. The narrow-profile Dia-Compes avoid heel clipping. Good thinking.



Chainsuck: Given the limited clearances that are imposed by the use of oversized aluminum tubes, the Klein has a special Chain Control Device (CCD) that keeps the links from grinding through the bottom bracket.

It's not a show bike that will crack or explode when you take it off its pedestal. The light weight wasn't attained by taking shortcuts in strength. It's a real dirt bike.

In a nutshell, the concept behind the Attitude is that the bigger you make the tubes the thinner you can make the walls. Thin-walled, oversized tubing is lighter and stronger than regular-diameter thick-walled tubing. The formula is a matter of finding the balance among fat, strong and light. That's what Klein is famous for. The formula is almost proprietary to Gary Klein.

We'd give a rough estimate that Klein's oversized aluminum tubing offers the equivalent strength and feel to 1.125-inch chromoly (at quite a weight savings).

OUT THE BACK DOOR: THE RIDE

We said it was a real dirt bike; we meant it. The shortish top tube gives the Klein an agile feel that plays perfectly with the fact that the Attitude is agile. The weight (or lack of it) is noticeable immediately. For rollies that you burned over on your 27-pound bike, you can now skim the top of in a gear taller on the Attitude. It jumps when you pedal, it whips when you jump and you smile when the terrain requires quick movements.

We thought, and we had pretty solid theoretical support, that the Klein would be harsh. Our expectation was based on the fact that the oversized tubing (even if it is made out of aluminum) was going to make a rigid, non-absorbent and stiff bike. The innovative aluminum forks have to be stiff, we figured, because they must be over-engineered, and any bike with a 1.6-inch steerer tube is going to resist giving. Not so. The complete bike responded to the whoops and undulations of rough ground with a firm but pliant feel. It was no rubber band, but it was softer than we expected, which proves that theory in bicycle design is not as important as the magic that a builder can add to a frame.

Good geometry, light weight and solid components (Shimano Deore XT) make the Klein one of the finest-looking, most innovative and detailed bikes we have tested in a long time. It's almost a shame to take this work of art into the brush and rocks of the real world, but it would be a bigger crime not to enjoy every moment at speed. Dings and scratches are signs of off-road happiness. What was the best thing about the Klein? Not having to stop and tighten the headset—ever! □