

KLEIN 1991



ALL KLEIN FRAMES ARE MADE IN THE U.S.A. AND OFFER EXCLUSIVE DESIGN FEATURES.

The patented chainstay on the drive side has a thicker wall to provide added stability where stress is greater. The bottom bracket is extended and offset to increase power train rigidity. And the sealed bearings are directly press-fit into the precision-bored bottom bracket, creating a long life, maintenance-free unit.



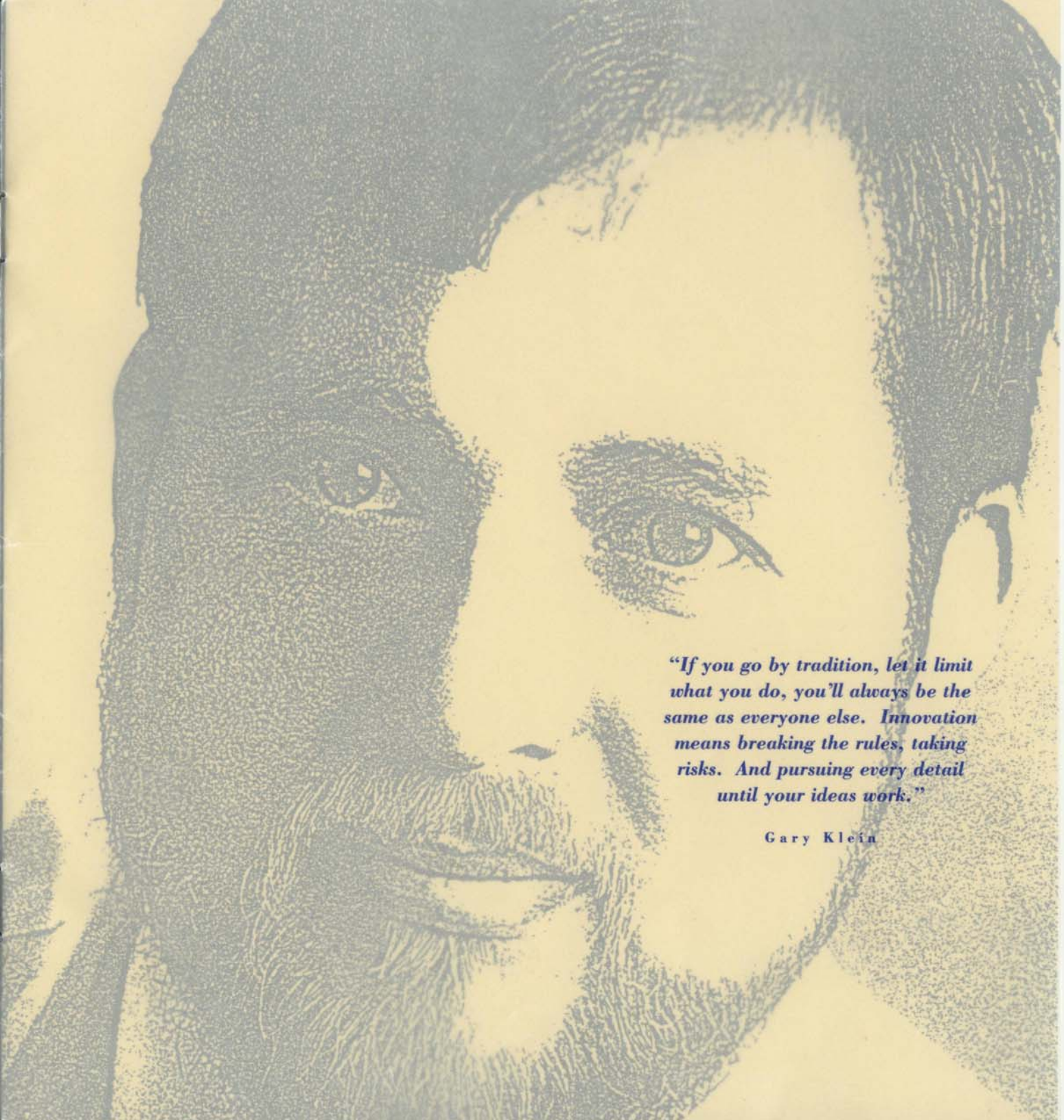
KLEIN HAS A TRADITION OF INNOVATION.

Klein's unique Chain Control Device™, included on every 1991 mountain bike, keeps the chain from slipping up between the chain ring and chainstay by sweeping it clean and avoiding chain suck.



QUALITY AND WORKMANSHIP ARE APPARENT IN THE SMOOTH WELDS AND BRIGHT, GLOSSY FINISH OF A KLEIN.

But what you can't see makes it a truly extraordinary bicycle. Butted tubes provide added strength to the highest-stressed areas of the frame on all '91 mountain bikes. The top tube has been made longer for greater riding comfort. Also new for '91: mountain bikes available in 19" size.



"If you go by tradition, let it limit what you do, you'll always be the same as everyone else. Innovation means breaking the rules, taking risks. And pursuing every detail until your ideas work."

Gary Klein

In 1975, a group of engineering students at MIT, including Gary Klein, built a bike frame of aluminum tubing. Conventional wisdom didn't give this project a chance.

But it succeeded.

15 years later, as Bicycle Guide describes him, "Klein seems content to continue his own way in frame design, just as he went into aluminum when the rest of the world went into steel."

The bicycles and frames that bear his name reflect his innovative spirit, his quest for lighter, faster, ever more responsive bikes.

The result? Klein has become the standard by which other lightweight bikes are evaluated. A true American legend, engineered and handmade in the U.S.A.

At the core of every Klein is the oversize Aluminum Power Tubing®, offering a stiffness-to-weight ratio previously thought impossible. This prevents energy-wasting flex in the frame, transferring the rider's energy into pure forward motion.

And at the heart of every Klein, an obsessive attention to detail. The frames are perfectly aligned. Guaranteed. The bottom brackets are maintenance free. All tubes are precisely mitered. High penetration welding goes through the parent metal. Each weld is smooth, with no gaps. None.

Even the paint job is superior. Multiple coats of Durethane enamel that lasts for years.

It's simple. Klein bicycles are built the way all extremely refined machines should be. Correctly. Carefully. By people, not other machines.

That's why they come with a limited lifetime or one million mile warranty. And that's why a Klein is probably the finest bike you'll ever buy.

ADROIT

"skillful, expert, adept, handy, quick, ready, clever, versatile, shrewd, sharp, smart" Roget's Thesaurus

New this year. And incredibly fit. Even lighter than Attitude. The Adroit™ is the lightest, fastest, most technically-advanced off-road bike ever produced by Klein.

In fact, it's the lightest production bike you can buy. Just 20.5 pounds for the Ultra Light model.

At Klein, we know the way to build the lightest bike is to use the lightest frame. And this new frameset, including fork, headset, bar and stem, is the premier example of Klein's new Proportional Tubing™(PT) and composite fiber technology, designed to increase strength in the highly-stressed areas of the bike while reducing weight overall.

The Adroit showcases the latest developments from Klein: The crown of the fork uses Proportional Tubing. The fork blades are lightweight boron/carbon reinforced. All main tubes are butted. The seat has been increased to 1-3/8" OD vs. the standard 1-1/4" OD to give additional strength to the seat post and seat clamp. Rear dropouts are lightened.

The result of these many innovations? The Adroit frame and fork is a half pound *lighter* than Attitude. With no sacrifice in strength.

Klein's supersized headset, fork and bar & stem Ride Control System™ are standard on the Adroit. It's available in Backfire™ or Gloss Black in 18, 19, 20 or 22 inches. With the XT Component package, the weight is 23.25 pounds. The Adroit Team Issue weighs in at 23.75 pounds. And again, the Adroit Ultra Light is just 20.5 pounds.

Adroit XT
Adroit Team Issue
Adroit Ultra Light

See page 11 for components



ATTITUDE

This is it. A proven winner. From the day it was introduced, the Klein Attitude™ has been the hottest mountain bike on the hill.

Thanks to some engineering innovations from Klein, it's even hotter. Proportional Tubing™ has been used in the fork, to add strength while eliminating weight. Tubes have been butted to add strength at the joints by eliminating part of the weld gussets.

Check the supersized "25" headset. Its inner diameter of 1-9/16" is more than 50 percent larger than the traditional 1". This revolutionary headset, along with the fork and bar & stem combination, make up Klein's Ride Control System™ for more steering control and increased shock absorption at the front end. Incredibly responsive. Floats easily over rough terrain.

Fast and efficient. Features rear cantilever brake mounts, horizontal rear dropouts, and 135 mm rear axle spacing. Available in 18, 19, 20, or 22 inches. Multiple coats of Klein's Durethane paint process bring the Attitude to a gleaming Bright Green/White/Magenta fade or Backfire fade.

Choose your weapon: The Attitude XT weighs in at 23.75 pounds. For more competitive riders, the Attitude Ultra Light comes in at only 21 pounds. Or the Attitude Team Issue, featuring the new Campagnolo Centaur group, and weighing a mere 24.25 pounds.

Attitude XT
Attitude Team Issue
Attitude Ultra Light

See page 11 for components



Klein's Ride Control System is standard on Adroit (shown) and Attitude.


ATTITUDE
KLEIN
KLEIN

RASCAL

Radical racing geometry makes the Rascal™ an aggressive mountain bike. Unsurpassed climbing and descending capability. Features rear cantilever brake mounts, horizontal rear dropouts, and 135mm rear axle spacing.

Available in 18, 19, 20 or 22 inches, the Rascal XT weighs 24.5 pounds. Klein's unsurpassed multiple coats of Durethane will keep your Rascal looking new. Available in either Gloss Black with Bright Green or Gloss Black with Flare fade.

Rascal XT

See page 11 for components

"GARY KLEIN MAKES SOME OF THE FINEST HANDBUILT ALUMINUM BIKES IN THE WORLD."
Mountain & City Biking





PINNACLE

When you're ready for the finest all-purpose mountain bike, this is it: Klein's Pinnacle™ is the all-around mountain bike for both racing and touring.

Special features, too: rear cantilever brake mounts, front and rear eyelets for rack mounts, 135 mm rear axle spacing, and chainstays redesigned for 1991 to accommodate larger (2.5") tires.

The Pinnacle is available in Flare or Bright Green, and in 18, 19, 20 or 22 inches. With the Suntour XC Limited component package, the weight is 25.6 pounds. Also available with Deore DX (25 pounds) or Deore XT (24.5 pounds).

Pinnacle XC Ltd.
Pinnacle DX
Pinnacle XT

See page 11 for components


AVOCET
AVOCET
quantum
KLEIN

QUANTUM

The racer's choice. A proven winner that offers peak performance at a terrific price.

Precision alignment ensures top efficiency, translating the rider's energy into pure forward motion. Instantly responsive for very aggressive riding.

Popular with successful triathletes, biathletes, and road racers, the Quantum™ is available in 51, 53, 55, 57, 59, 61 or 63 cm. Choose the Gloss Black or Pearl White paint job.

The Quantum Race is 20.5 pounds, the Quantum Super Race just 19.6 pounds. Or the featherweight Quantum Delux Race, just 19.3 pounds.

Quantum Race *(105 group)*
Quantum Super Race *(Ultegra)*
Quantum Delux Race
(Dura Ace or Chorus)

See page 11 for components

"A WORLD-CLASS BIKE WITH OVERSIZE ALUMINUM TUBING, BUILT BY THE GUYS WHO PERFECTED THAT TECHNOLOGY."
Bicycle Guide



KIRSTEN

Specially designed for a smaller person, the Kirsten™ is a true performance bike. It has all the speed and handling you expect from a Klein. The frame geometry has been designed to maximize the power and skill of a smaller, lighter rider, using full size 700c front and rear wheels.

Kirsten is available in 47 or 50 cm. The color is Ultra Violet.

The Kirsten Sport weighs in at 19.7 pounds. The Kirsten Super Sport is 19.5 pounds. And the Kirsten Delux Sport is a mere 19.3 pounds.

Kirsten Sport *(105 group)*
Kirsten Super Sport *(Ultegra)*
Kirsten Delux Sport
(Dura Ace or Chorus)

See page 11 for components

PERFORMANCE

Take off on Klein's Performance™, the bike that's ideal for long distance racing and excellent for touring and fitness riding. The slightly relaxed geometry offers a comfortable ride with racing performance and efficiency.

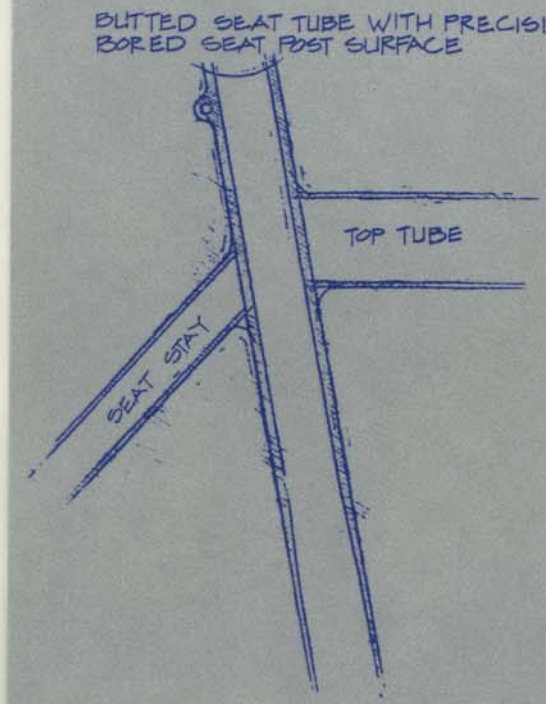
Performance is available in 52, 54, 56, 58, 60, or 62 cm. The color is Ultra Violet.

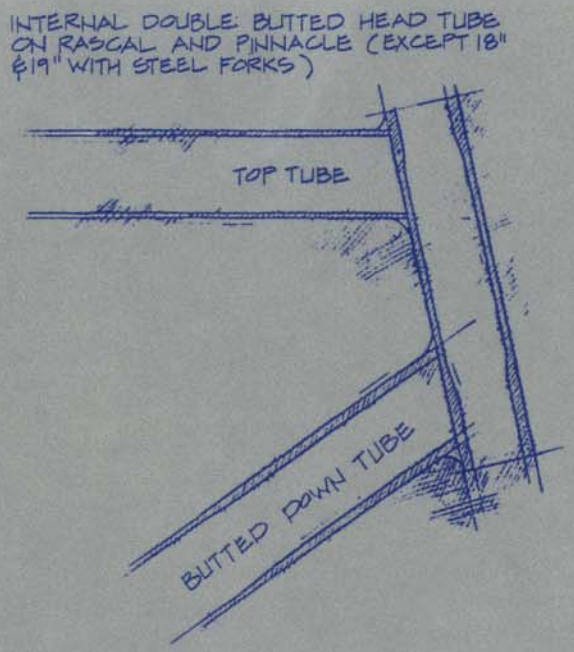
The weights vary with the component packages, as follows: Performance Sport is 20.5 pounds. Performance Super Sport is 19.6 pounds. And the Performance Delux Sport is 19.3 pounds.

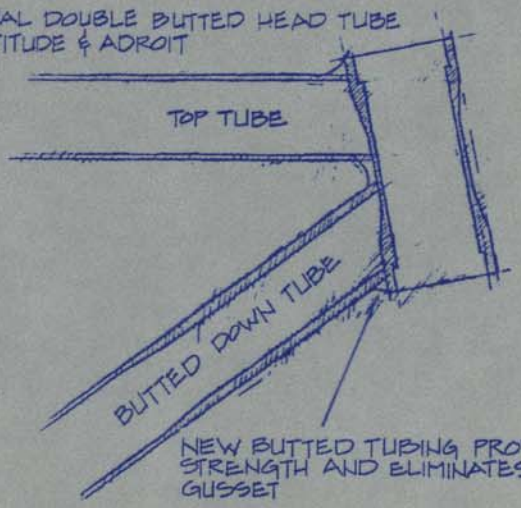
Performance Sport *(105 group)*
Performance Super Sport
(Ultegra)
Performance Delux Sport
(Dura Ace or Chorus)

See page 11 for components









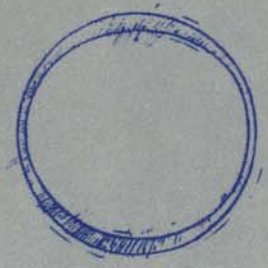
Klein's Proportional Tubing™

Different sections of a bike frame are subject to different stress loads. More specifically, different sections of a single frame tube are subject to different stresses.

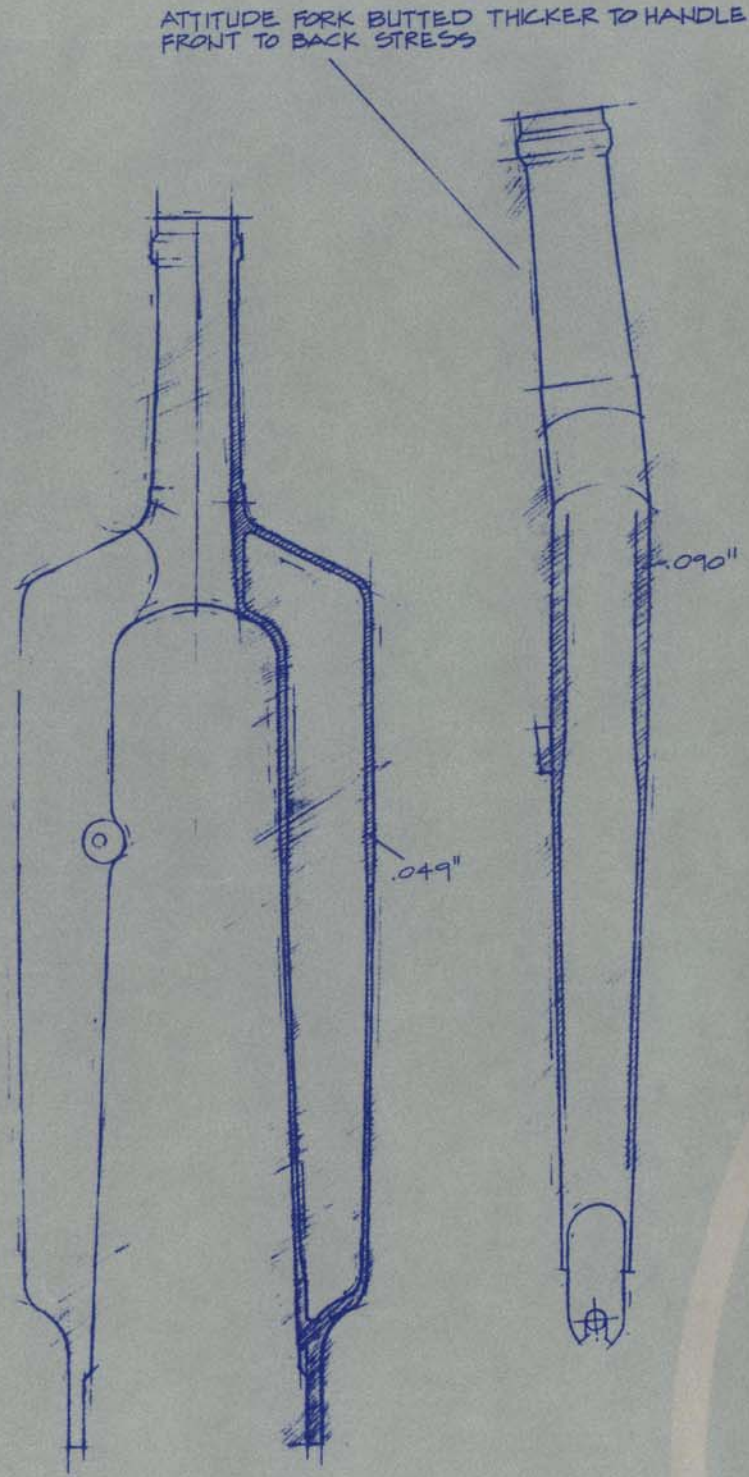
Klein has used this fact to advantage, as an opportunity to eliminate weight while adding strength.

Butted tubing is used to increase the strength of the frame or fork tube by increasing the wall thickness uniformly near the region of higher force, typically near the joints. In order to create a lighter weight, more responsive frameset, Klein's exclusive Proportional Tubing goes the next step by increasing the wall thickness *only* in the areas of maximum force.

The wall thickness of a tube in a particular location is in direct proportion to the force that spot will see in use. Hence the name, Proportional Tubing.



END VIEW OF P.T.



CROSS SECTION VIEW OF P.T. IN ATTITUDE FORK

KLEIN'S CUSTOM FRAMESETS

All Custom-fitted Framesets Include As Standard:
Side-mounted down tube shift levers, heavy-duty, precision-sealed bearing bottom bracket assembly, all cable guides, one water bottle mount and custom fitted color-matched pump. Finished with durable Durethane polyurethane enamel in Pearl White, Gloss Black, Ultra Violet, Flare or Bright Green.

Criterium.
Frameset only (51-68cm)
Gary Klein personally supervises the custom fitting and choice of components for every Criterium built. And, after a meticulous final inspection, his written approval accompanies each completed frame. Body measurements and riding style are analyzed for a perfect fit.

Team Super.
Frameset only (51-68cm)
The Team Super represents the highest quality, custom-fitted frame Klein can produce. Any flaw in the finish is cause for rejection. Nothing is spared in the design and construction of this frame. In addition to all the Criterium features, Boron fiber is used in the chainstays, seat stays and front fork blades for its shock-absorbing characteristics and power-train rigidity. Since Boron composites absorb high frequency shock many times better than conventional materials, the Team Super has an exceptionally smooth ride.

Advantage.
Frameset only (46-70cm)
Gary Klein personally reviews the fitting and choice of components for the Advantage. His final inspection approval accompanies each custom-fitted frame.

Stage.
Frameset only (46-70cm)
The Stage represents the ultimate in comfort and performance. It's the frame for individuals who demand the very best the world has to offer, not only in ride and handling, but in aesthetics as well.

In addition to all the Advantage features, Boron fiber reinforcements are used in chainstays, seat stays and front fork blades to further enhance the properties of the frame. Boron fiber, per weight, is the strongest, stiffest structural material in the world, absorbing high frequency shock many times better than conventional materials. Truly, the best bicycle available.

MOUNTAIN BIKES

Pinnacle, Rascal, Attitude and Adroit

Component	XC Ltd.	DX	XT	Team Issue	Ultra Light*
Brake Set	XC Ltd.	Deore DX	Deore XT	Centaur	Dia Compe SS-5 (F) 986 Cantilever (R)
Chain	XC Ltd.	DX	XT	Regina	XC Pro
Crankset	XC Ltd. 26 x 36 x 46	DX 26 x 36 x 46	XT 26 x 36 x 46	Centaur 26 x 36 x 46	Suntour XC Pro 24 x36 x 46
Front Derailleur	XC Ltd.	DX Super Glide	XT Super Glide	Centaur	Suntour XC Pro
Shift Levers	XC Ltd.	DX	XT	Campagnolo	Grip Shift
Rear Derailleur	XC Ltd.	DX	XT	Centaur	Suntour XC Pro Short Cage
Handlebars	Sakae MTB	Klein	Klein	Klein	Klein
Stem	Sakae MTB	Klein	Klein	Klein	Klein
Headset	DX	DX	XT	Centaur	Klein
Hubs	XC Ltd.	DX	XT	Centaur	Hi E/Ringle Skewers
Quick Release	XC Ltd.	DX	XT	Centaur	Ringle
Rims	Campagnolo Thorr	Campagnolo Thorr	Campagnolo Thorr	Campagnolo Thorr	Campagnolo Contax28(F),32(R)
Spokes	Wheelsmith stainless	Wheelsmith stainless	Wheelsmith stainless	Wheelsmith stainless	Wheelsmith stainless
Tires	Ground control	Ground control	Ground control S	Ground control S	Ritchey Kev. Race
Freewheel	XC Ltd. Cassette 13-28, 7 spd.	DX Cassette 12-28, 7 spd.	XT Cassette 12-28, 7 spd.	Regina 12-28, 8 spd.	Campagnolo Alloy 12-26, 7 spd.
Pedals	Sakae Low Fat	DX	XT	Centaur	XC Pro/Titanium Spindle
Toeclips	Not included	DX	XT	Centaur	Shimano
Toestraps	Not included	Binda	Binda	Centaur	Binda
Saddle	Avocet Gelflex	Avocet Gelflex	Avocet Gelflex	Avocet Gelflex	Sella Italia Turbo
Seat Post	XC Ltd.	XT	XT	Centaur	Ritchey FD 300mm
Water Bottle	Klein	Klein	Klein	Klein	Klein
W.B. Cage	Specialized Mt.	Specialized Mt.	Specialized Mt.	Specialized Mt.	Specialized Mt.

**Additional features: titanium bottom bracket spindle, titanium crank bolts and titanium water bottle screws.*
Specifications subject to change without notice.

ROAD BIKES

Quantum, Performance and Kirsten

Component	105	Ultegra	Dura Ace	Chorus
Brake Set	105	Ultegra Aero	Dura Ace	Chorus
Chain	105	Ultegra	Dura Ace	Sedis
Crankset	105 42 x 53	Ultegra 42 x 53	Dura Ace 42 x 53	Chorus 42 x 53
Front der.	105 (with hinge clamp)	Ultegra (with hinge clamp)	Dura Ace (with hinge clamp)	Chorus (with hinge clamp)
Rear der.	105	Ultegra	Dura Ace SIS	Chorus
Shift Levers	105	Ultegra	Dura Ace SIS	Chorus Syncro II
Handlebars	Sakae FX	Sakae FX	Cinelli	Cinelli
Stem	Sakae FX	Sakae FX	Cinelli 1/A	Cinelli 1/A
Headset	105	Ultegra	Dura Ace	Chorus
Hubs	105	Ultegra	Dura Ace	Chorus
Quick Release	105	Ultegra	Dura Ace	Chorus
Rims	Campagnolo (clincher)	Campagnolo (clincher)	Campagnolo (tubular)	Campagnolo (tubular)
Spokes	Wheelsmith stainless	Wheelsmith stainless	Wheelsmith stainless	Wheelsmith stainless
Tires	Specialized Turbo (wire)	Specialized Turbo (wire)	Specialized (tubular)	Specialized (tubular)
Freewheel	105 Cassette 13-21, 7spd.	Ultegra Cassette 12-21, hyper glide, 7spd.	Dura Ace Cassette 12-21, 8spd.	Suntour 12-21, 8 spd.
Pedals	Not included	Not included	Not included	Not included
Saddle	Avocet gelflex	Avocet gelflex	San Marco regal	San Marco regal
Seat Post	American Classic	Ultegra	Dura Ace	Chorus
Water Bottle	Klein	Klein	Klein	Klein
W.B. Cage	Specialized	Specialized	Specialized	Specialized

Specifications subject to change without notice.

CUSTOM FRAMESET OPTIONS

Custom color in Durethane polyurethane enamel (includes color chart and touch-up paint)
Candy Apple or Backfire finish
Touch-up paint, standard colors
- Single color
- Two-color fade
- Three-color fade

Color chart
Internally routed rear brake cable (inside top tube)
Aero Wishbone Seat Stay
Aero 24-inch front wheel sloping top tube
Bar control stops, in lieu of down tube levers
Replacement front fork for Advantage or Criterium
Replacement front fork for Stage or Team Super
Replacement frame-fitted pump, ready for painting

Water Bottles, Mounts and Cages
Extra mounts for additional water bottle
Color-matched alloy cage and Klein water bottle

Front Derailleurs (1 1/4")
Superbe Pro endless band clamp
Campagnolo Chorus/Victory
Shimano Deore XT
Braze-on Boss for Campagnolo style
Shimano Hinge Clamp for braze-on style

Seatposts
American Classic 180mm, 27.4mm, 6.0 oz.

Other Components
Rear rack mounts
Bottom bracket spindles 113, 117, 119, 121, 125, 130, 135
Bottom bracket bearings, precision, sealed, pr.
Refinish custom framesets (in standard color)

Klein Corporation tries to maintain an inventory of framesets, options, and bicycles so that orders can be shipped immediately. From time to time, demand is so overwhelming that the production is unable to keep up. Your dealer can contact the factory at (206) 262-3305 for availability of any specific items. Prices and specifications subject to change without notice.

OPTIONS

For Quantum, Performance, Kirsten, Pinnacle, Rascal, Adroit and Attitude models.

The following options are available when ordering. Special color or frame modifications may delay delivery by an additional three weeks.

Touch-up paint, standard colors
- Single color
- Two-color fade
- Three-color fade

Color chart
Painting front fork
Custom Low Rider, Rack mounts on front fork(requires painting)
- Mountain bikes only

Refinish in standard single color
Refinish in standard 2-color fade
Refinish in standard 3-color fade

Other Components & Accessories

Klein water bottle and cage
Klein bottom bracket installation tool kit
Klein Attitude/Adroit headset tool kit
Klein Chain Control Device tool kit
Klein Chain Control Device kit
Bottom bracket spindles 113, 117, 119, 121, 125, 130, 135
Bottom bracket bearings, precision, sealed, pr.
Klein cycling caps white or yellow

Front Derailleurs (1 1/4")

Shimano Deore XT
Shimano Hinge Clamp for braze-on style

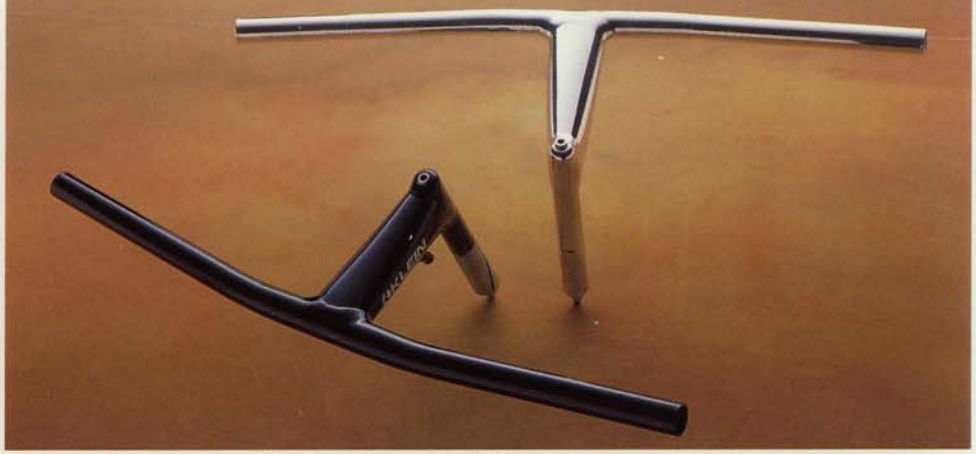
Seatposts

American Classic 180mm, 27.4mm, 6.0 oz.
American Classic 280mm, 27.2mm, 10.7oz.
IRD Custom 355mm, 27.2mm, 9.7 oz.

Accessories

Klein and Giordana have combined their talents to offer you Italy's finest riding apparel.
Thermal jackets (sizes 2-6)
Short sleeve cycling jerseys (sizes 2-6)
Long sleeve cycling jerseys (sizes 2-6)
Cycling shorts (sizes 2-6)
These brilliantly-colored, quality, fashionable garments are distributed by Gita Sporting Goods and handled by Klein dealers.

Klein T-shirts by Balance Ltd.
- Tank-tops
- Short sleeve T
- Long sleeve T
- Polo pique knit
- Sweatshirt



Mission Control™, Klein's Popular Lightweight, One-Piece Bar and Stem.

For all Klein riders who want to lose weight: our Mission Control (MC for short) bar and stem is 1/3 pound lighter than other lightweights of comparable size. That's lighter than the Answer Taperlight bar and Tioga T-Bone stem combination.

Crafted from strong, shock-absorbing T6 heat treated aircraft aluminum and complete with titanium hardware, this component at a supersized 1 3/8" is standard on our Attitude and Adroit models. All 1991 Klein mountain bikes (except XC Ltd.) will come with Mission Control at the 7/8" size and it is an option on the Pinnacle XC Ltd. This 7/8" size is also available for retrofit on existing Klein bikes or other manufacturer's 7/8" size bicycles.

The bar measures a full 580mm. The steerer insertion, at 120mm, is 40mm longer than the T-Bone, providing the rider a generous height adjustment. The longer anti-slip clamping wedge distributes pressure more evenly, so you can have a tighter grip with less force.

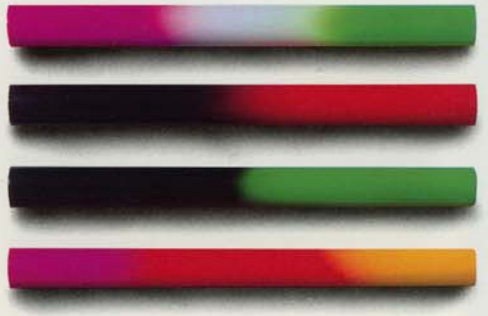
Painted
Unpainted (Chrome moly stem bolt)
Polished

GEOMETRY

Frame Specifications Frame Size	Top Tube Height From Ground (inch)	Top Tube Length *(Horiz.)* (cm)	Top Tube Angle	Seat Tube Angle	Head Tube Angle	Front Fork Rake (inch)	Chain Stay Length (inch)	Bottom Brake Height (inch)	Wheel Base (inch)
QUANTUM									
51cm 20.1in.	29.8	53.5	0	74	73.5	1.5	16.3	10.5	38.1
53cm 20.9in.	30.6	54.7	0	74	73.5	1.5	16.3	10.6	38.6
55cm 21.7in.	31.5	55.9	0	74	73.5	1.5	16.3	10.7	39.1
57cm 22.4in.	32.4	57.1	0	74	74	1.5	16.3	10.8	39.4
59cm 23.2in.	33.2	58.3	0	74	74	1.5	16.3	10.9	40
61cm 24.0in.	34.1	59.5	0	74	74	1.5	16.3	11	40.4
63cm 24.8in.	34.8	60.7	0	74	74	1.5	16.3	11	40.9
PERFORMANCE									
52cm 20.5in.	30.1	54.2	0	74	72	1.75	18	10.2	40.7
54cm 21.3in.	31.0	55.2	0	74	72	1.75	18	10.3	41.1
56cm 22.0in.	31.8	56.2	0	74	72.5	1.5	18	10.4	41.2
58cm 22.8in.	32.7	57.2	0	74	72.5	1.5	18	10.5	41.6
60cm 23.6in.	33.6	58.2	0	74	72.5	1.5	18	10.6	42.2
62cm 24.4in.	34.4	59.2	0	74	72.5	1.5	18	10.7	42.6
KIRSTEN									
47cm 18.5in.	27.3	51.3	14	74	71	2.0	16.77	10.1	38.4
50cm 19.7in.	27.3	51.3	14	74	71	2.0	16.77	10.1	38.4
PINNACLE									
46cm 18in.	27.1	55.3	15.0	72	70	1.56	16.95	11.50	40.4
48cm 19in.	28.0	57.4	10.0	72	70	1.56	16.95	11.50	41.3
51cm 20in.	29.2	58.9	8.0	72	70	1.62	16.95	11.90	42.0
56cm 22in.	31.6	60.4	7.3	72	70	1.75	16.95	11.90	42.9
ADROIT, ATTITUDE & RASCAL									
46cm 18in.	27.1	56.0	15.0	72.5	70	1.44	16.65	11.50	40.4
48cm 19in.	28.1	57.9	10.0	72.5	70.5	1.44	16.65	11.50	41.0
51cm 20in.	29.4	59.4	8.0	72.5	71	1.50	16.65	11.90	41.6
56cm 22in.	31.6	61.1	7.5	72.5	71	1.63	16.65	11.90	42.6



Multiple coats of Durethane enamel give every Klein a bright, glossy, tough finish. Shown here (top to bottom): Flare, Bright Green, Ultra Violet, Gloss Black, and Pearl White.



Klein's multiple color fades(top to bottom): Bright Green/White/Magenta; Black/Flare; Black/Bright Green; and Backfire.



Klein Bicycle Corporation
118 Klein Road
Chehalis, Washington 98532
(206) 262-3305