

ELCOME TO CANNONDALE...

The memory is as clear as if it happened yesterday. The year was 1970. I was nearing the top of a particularly long hill when I saw a cyclist struggling valiantly toward the summit with a fully-loaded backpack. Slowing my car as I approached, I experienced a brief moment of insight: The exhausted cyclist would be far better off towing his load behind his bicycle on a second set of wheels.

That moment on the hill gave birth to a bicycle trailer and a company called Cannondale. It also reinforced a philosophy I'd long held, one that stays with our company to this day: Create a product that offers real, appreciable advantages and people will support it.

Today, Cannondale manufactures high performance bicycles, cycling clothing and cycling accessories. And though our company has grown physically, we remain a close-knit, responsive and passionate team. Each of the products on the following pages, from our Seat Cleat seat bags to our E.S.T. mountain bikes, reflects our commitment to innovation and our love of cycling. It is with pride that we present these products to you in our 1991 catalog.

Joseph S. Montgomery President



ANNONDALE BICYCLE FRAMES

"It has never been our goal to produce huge numbers of bicycles. Just the best bicycles."

—Cannondale founder and president Joe Montgomery

Nine years ago we rolled up our sleeves and set out to make the finest bicycle frames in the world. With complete freedom to select materials and construction methods, we eventually decided on aluminum over carbon fiber or steel and large diameter tubing over conventionally sized tubing. We also selected a lug-less welding and heat treating approach over brazing or glueing with lugs. (Lugs are the prefabricated joints commonly used to join tubes).

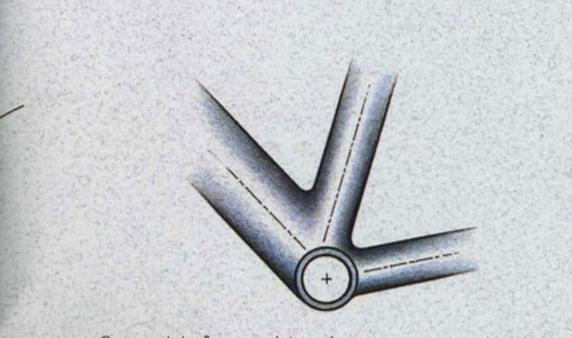
We chose aluminum for a number of reasons. It's light, allowing us to produce some of the very lightest bicycle frames on the planet (as little as 3.2 lbs.). It will not corrode and is affordable. Aluminum is also a natural shock absorber. Rather than telegraphing vibration and road shock, aluminum's low density dampens them for a naturally comfortable ride.

Aluminum's exceptionally light weight also allows us to use, and reap the full benefits of, large diameter tubes.

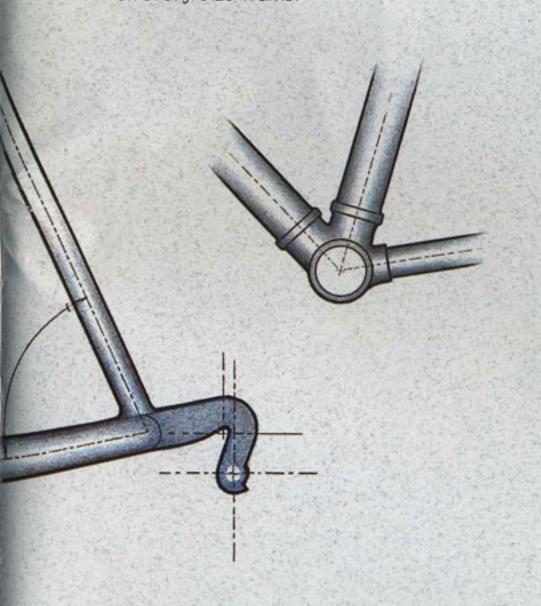
"Frame designers limit themselves by considering aesthetic convention and cost of manufacturing to be design constraints. We take a far more open-minded approach. Our insistence on superior performance drives the design of the frame."

-Cannondale design engineer David Graham





Cannondale frames (above) are constructed without lugs, the prefabricated joints commonly used to join tubes (below). Although more difficult to manufacture, our lug-less design lets us customize tube lengths for an almost perfect frame/rider fit on every size frame.



Large diameter tubing creates a frame that lets you travel faster and farther. When you pedal, some of your energy goes to the rear wheel to power the bicycle and some is wasted twisting the frame. A Cannondale's large diameter tubing prevents the frame from twisting, so energy that's normally wasted instead helps drive the bike forward. You go faster and farther without increasing your output because you're on a more efficient machine. Your energy gets used where it should—in faster cruising, quicker climbs and devastating sprints.

Our large diameter tubes are joined by a proprietary TIG-welding/heat treating process that gives our frames true "unibody" construction; instead of being merely a collection of tubes bonded to lugs, a Cannondale frame is a single, cohesive unit of aluminum.

Welding also gives us the flexibility to offer truly customized sizes. Lug tooling is expensive, so manufacturers often use identical lugs on different size frames. This restricts their ability to change tube lengths with sizes, often resulting in identical length top tubes on two or more frame sizes. Because we're not limited by lugs, we're able to customize whatever tube lengths are necessary to create an almost perfect frame/rider fit on every size frame.

If we could produce them faster without sacrificing quality, we would. Right now, we invest a minimum of three hours of hand labor in each frame."

—Cannondale vice president of operations Dick Resch

Cannondale frames are welded by hand, not by robots. It's a costly, time-consuming process. It's also one of the reasons why we produce far fewer bicycles than our competitors and must limit their distribution to a select group of professional, progressive bicycle retailers.

The costs and difficulties inherent in our production methods are such that we are the only large-scale manufacturer of bicycles employing them. TIG-welding is laborintensive. Heat treating is more art than science. (It took us literally thousands of man-hours to develop the complex heat treating procedure we use today.) But because our goal has always been to produce the lightest, most efficient, highest-performance, best-value bicycle, it's the only way for us to go.

Industry people say the Taiwanese plants that crank out frames for (their) competitors.....haven't matched Cannondale's pioneering techniques for producing lightweight welded aluminum frames. The Georgetown, Conn., company's lightest frame weighs about a pound less than the lightest steel frames found in the Far Eastern factories."

-Wall Street Journal, p. B1 + 2, July 27, 1990

Finally, where we manufacture our frames is as important as how we manufacture them. Every Cannondale frame is hand-built at our Bedford, Pennsylvania factory. Every one. Others boast that their Far Eastern bikes are "Designed in the U.S.A.", or "Assembled in the U.S.A.", but we remain the only large-scale manufacturer that designs, manufactures and assembles every one of its bicycles here in the United States. We're not just waving the flag; Monitoring quality control and creating innovative new products are simply far easier when you own the factory.

Listed on the following pages is more specific information on our E.S.T., mountain, cross training, racing and touring bicycles. Although intended for different purposes and equipped with innovative features unique to their category, each frame is hand-built through Cannondale's unique and painstaking manufacturing process.

LEVATED TECHNOLOGY BICYCLES

You know intuitively that you're able to ride faster on a flat, smooth trail than you are on a bumpy, rutted trail. On level, even terrain you can concentrate all of your energy on going fast. Attack a more challenging trail and your energy gets divided between two efforts: going fast and controlling your bike. Find a way to spend less effort on bike handling and you'll have more energy to devote to increasing your speed.

We've found a way. It's called the Cannondale E.S.T. frame and it features an independent, shock absorber-dampened rear triangle. The E.S.T. (Elevated Suspension Technology) frame smooths out trails, sucking up the bumps, ruts and rocks that rob you of speed, traction and control.

Here's how it works: The frame's independent rear triangle, or swingarm, is linked to the main triangle at two points. The lower connection, where the elevated chainstays meet the seat tube, is hinged to allow vertical pivoting of the swingarm. The upper connection links the swingarm to the main triangle via a spring-supported, oil-filled shock absorber. As you ride over bumps, the swingarm moves vertically beneath you. The bouncing and bucking you normally struggle with on rough trails get absorbed by the shock. You're left with a smoother ride that lets you focus more energy on going fast and less on controlling your bike. (And because the swingarm is hinged above the chain, none of your pedaling energy gets lost compressing the shock.)

The E.S.T. frame weighs under six lbs. and comes in three sizes. On each size, the shock absorber spring is matched to the weight of its typical rider (i.e. the largest frame has a beefier spring than the smaller sizes). The amount of shock absorption provided by the spring is adjustable, so you can fine-tune the suspension to your exact weight. Once adjusted, the spring tension is correct for any terrain. To absorb front wheel shock, we're equipping every E.S.T. frame with our shock absorbing Pepperoni aluminum fork and the Girvin Lightweight Flexstem.

The E.S.T. frame also features our new "Force 40" braking system, an innovative cable routing method that increases stopping power by 40% over conventional cantilevers. With more efficient braking, you'll not only feel more comfortable with your newly-acquired speed, you'll also enjoy less arm fatigue on all-day rides and long descents. And for a perfect finishing touch, the E.S.T. comes equipped with the same replaceable derailleur hanger (pictured on page 12) found on our 3.0 Series mountain frames.



COMPONENT SPECIFICATIONS

E.S.T. Suspension Frame* Cannondale Pepperoni aluminum . Campagnolo Contax, 32 hole, oxide finish, 390 g. SunTour XC Pro freehub and front hub, both with Grease Guard DT Competition, 14-15-14 double-butted, stainless steel Ritchey Megabite "World Champion" low density rubber compound 2.1", Kevlar Pedals Deore XT clipless Cook Brothers Racing, new RSR, 26-36-48 Chain Sedis ATB Freewheel SunTour 7-spd cassette, 13-15-17-20-23-26-30 Bottom Bracket Cook Brothers Racing, sealed Front Derailleur SunTour XC Pro Rear Derailleur SunTour XC Pro 7-spd Accushift Shift Levers SunTour XC Pro Multimount thumbshifters Handlebars Easton Hyperlite Girvin Lightweight Flexstem aluminum Stem quill Mavic 305 Headset . Cannondale Force 40 system Brakeset w/SunTour XC Pro, CT-XP20 cantilevers and Ritchey levers Selle Italia Turbo, black leather Saddle Ritchey Force Directional, silver anodized, Seatpost 330 mm. Seatpost Q.R..... Ringle Cam-twist, 40 g. . . Two Cannondale waterbottle cages Colors (Codes) Deep grey w/white swingarm and fork, all powder coated (S) Weight 26.5 lbs. Sizes 17, 19, 21 * Also available with 3.0 Series mountain frame.

||||turbo The spring-supported, oil-dampened shock absorber on our E.S.T. frame adjusts to your exact weight. Once adjusted, it's correct for all conditions. The frame's Force 40 braking system routes brake cables more directly- and more efficiently-to increase your braking power by 40% over conventional cantilevers. (patent pending.)

Deep grey w/white swingarm and fork, all powder coated (S)



E 2000

- The revolutionary E.S.T. suspension mountain bike frame
- Ritchey crank
- Easton Hyperlite handlebars
- Ritchey Logic headset
- Ringle Cam-twist seatpost quick release



COMPONENT SPECIFICATIONS

COMPONENT SPE	CIFICATIONS
Frame	E.S.T. Suspension Frame
Fork	Cannondale Pepperoni aluminum
Rims	Chinook CR16, silver anodized,
	32 hole, 410 g.
Hubs	Shimano Deore XT, rear
	freehub, XT front
Spokes	Stainless steel, 14 gauge
Tires	
	bead
Pedals	Shimano Competition Deore XT,
	alloy body and cage,
	w/Competition clips
Crank	Ritchey, 26-36-46, round rings
Chain	
Freewheel	
	cassette, 13-15-17-20-23-26-30
Bottom Bracket	Shimano Deore XT
Front Derailleur	Shimano Deore XT
Rear Derailleur	Shimano Deore XT, 7-spd SIS
Shift Levers	Shimano Deore XT above-the-
	bar thumbshifters
Handlebars	Easton Hyperlite, silver anodized
	aluminum, 149 g.
Grips	Tioga Biogrips, Kraton rubber
Stem	Girvin Lightweight Flexstem
Headset	Ritchey Logic
Brakeset	
	w/Deore XT ultra-low profile
	cantilevers and Ritchey levers
Saddle	Selle Italia Turbo, black leather
Seatpost	
	anodized, 330 mm.
Seatpost Q.R	Ringle Cam-twist, 40 g.
	Cosmic w/green swingarm (P)
Weight	
Sizes	17, 19, 21
	Carried A. L.



Cosmic w/green swingarm (P)

E 1000

- The revolutionary E.S.T. suspension mountain bike frame
- Cannondale Pepperoni fork
- Chinook CR16 silver anodized rims
- Ritchey Megabite 2.1" tires with Kevlar bead
- Grip Shift mountain style shift levers



COMPONENT SPECIFICATIONS

COMPONENT SPE	CIFICATIONS
Frame	E.S.T. Suspension Frame
Fork	Cannondale Pepperoni aluminum
Rims	
	32 hole, 410 g.
Hubs	SunTour XC Comp rear freehub,
	XC Comp front
Spokes	
Tires	
	bead
Pedals	
	cage w/Tioga Powerclips and
	straps
Crank	SunTour XC Ltd, 24-36-46, round
	alloy Powerings
Chain	
Freewheel	
	16-18-21-24-28
Bottom Bracket	SunTour sealed mech., bolt axle
Front Derailleur	
	SunTour XC Comp, 7-spd
	Accushift Plus
Shift Levers	Grip Shift mountain style
	Taperlite Easton E-9, silver
	anodized aluminum
Grips	Tioga Biogrips, Kraton rubber
Stem	
Headset	
	Cannondale Force 40 system,
	w/SunTour XC Pro, ultra-low
	profile CT-XP20 cantilevers,
	black XC Comp four finger levers
Saddle	Cannondale Competition, leathe
	Ritchey Force Directional, silver
	anodized, 330 mm.
Seatpost Q.R	Shimano Deore XT
Colors (Codes)	
Weight	
Sizes	

Jetfighter silver (S)

OUNTAIN BIKES

Our mountain bike frames are designed and built with four criteria in mind. They must be light, efficient, fast and rugged. A scant 3.6 lbs., they weigh less than all but one or two of the ultra-expensive titanium frames. Their stiff, large diameter aluminum tubing won't flex under the force of your pedaling, channeling more of your energy into forward motion. Their geometry emphasizes quick, responsive handling, and they're hand-built and equipped to thrive under the harsh demands of hard-core riding.

For 1991, we've added several subtle refinements. To improve tire clearance and avoid mud build-up, we've gone to oval "Mudcutter" chainstays. (We also think they look sleeker than our old crimped chainstays.) For more efficient braking, we've eliminated a long section of rear brake cable housing by switching from plastic top tube cable guides to welded cable stops, and we've off-set them from the top of the top tube for smoother routing.

In equipping our '91 models we've literally combed the globe to come up with the hottest components. Look for bikes with everything from Ritchey brake levers and cranksets to the trick Ringle Cam-twist seatpost quick release. Several models also feature our "beefy", super-light Pepperoni fork with vibration-dampening aluminum blades. And our bikes feature some of the latest technological innovations from Grip Shift, Shimano and SunTour. Whether you choose one of our level top tube bikes or the high bottom bracket/sloping top tube "Beast of the East" (with nimble handling perfect for trails, trials and technical riding), your Cannondale frame will also feature our innovative replaceable rear derailleur hanger. Get a branch jammed between



your chain and derailleur and the inexpensive and easily replaceable hanger will snap off before permanent damage can occur to your frame.

Our rear derailleur hanger can be replaced in minutes, turning what would otherwise be a major expense into a minor inconvenience.



COMPONENT SPECIFICATIONS

Frame	3.0 Series Mountain
Fork	
Rims	
	32 hole, presta valve, 410 g.
Hubs	
	XT front
Spokes	
Tires	
	bead
Pedals	Shimano Competition Deore XT,
	alloy body and cage,
	w/Competition clips
Crank	
Chain	
Freewheel	TO THE SELECTION OF SELECTION OF A THE SELECTION OF SELE
	cassette, 13-15-17-20-23-26-30
Bottom Bracket	
Front Derailleur	
Rear Derailleur	
Shift Levers	하는 하는 사람들이 많아 있다면 하는데
	bar thumbshifters
Handlebars	
	aluminum, 149 g.
Grips	
Stem	
Headset	
Brakeset	
	cantilevers w/Ritchey levers
Saddle	
Seatpost	Ritchey Force Directional, silver
	anodized, 330 mm.
Seatpost Q.R	
Colors (Codes)	
Weight	
Sizes	







MOUNTAIN FRAME GEOMETRY

SM2000, SM1000, SM700			SM500, SM400			BEAST OF THE EAST SM800					
Size	15	18	20	22	15	18	20	22	18	20	22
Seat Tube Angle (degrees)	73.50	73.50	73.50	73.50	73.50	73.50	73.50	73.50	72.00	72.00	72.00
Head Tube Angle (degrees)	71.00	71.00	71.00	71.00	71.00	71.00	71.00	71.00	71.00	71.00	71.00
Top Tube Length (in.)	21.50	22.50	23.25	24.25	21.50	22.50	23.25	24.25	22.50	23.25	24.25
Chainstay Length (in.)	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90	16.90
Fork Rake (in.)	1.75	1.75	1.75	1.75	2.00	2.00	2.00	2.00	1.75	1.75	1.75
Bottom Bracket Height (in.)	11.63	11.63	11.63	11.63	11.63	11.63	11.63	11.63	13.00	13.00	13.00
Wheelbase (in.)	40.94	41.94	42.94	43.94	41.20	42.20	43.20	44.20	42.14	42.74	43.94
Trail (in.)	2.62	2.62	2.62	2.62	2.36	2.36	2.36	2.36	2.62	2.62	2.62
Ground to Top of Top Tube (in.)	27.30	28.70	30.70	32.70	27.30	28.70	30.70	32.70	29.20	31.10	32.90

M 1 0 0 0

- 3.0 Series Mountain frame
- Cannondale Pepperoni aluminum fork
- Ritchey Megabite tires with Kevlar bead
- Grip Shift mountain style shift levers
- The lightest mountain bike in its price range, bar none



COMPONENT SPECIFICATIONS

Frame	. 3.0 Series Mountain
Fork	. Cannondale Pepperoni aluminum
Rims	. Chinook CR16, silver anodized, 32 hole, presta valve, 410 g.
Hubs	
Spokes	. 1918 (* 1972 F.) 1818 (* 1983 F.)
Tires	
Pedals	145-44 D s. 11 O 445 D D T.
Crank	
Chain	
Freewheel	
Bottom Bracket	. SunTour sealed mech., bolt axle
Front Derailleur	. SunTour XC Comp
Rear Derailleur	. SunTour XC Comp, 7-spd Accushift Plus
Shift Levers	. Grip Shift mountain style
Handlebars	. Taperlite Easton E-9, silver anodized aluminum
Grips	. Tioga Biogrips, Kraton rubber
Stem	. Ritchey Force
Headset	
Brakeset	 SunTour XC Pro ultra-low profile CT-XP 20 cantilevers, black XC Comp four finger levers
Saddle	. Cannondale Competition, leather
Seatpost	
Seatpost Q.R	
Colors (Codes)	. Jetfighter silver (S), Black/pearl Hyper- Highlight (H)
Weight	. 24.5 lbs.
Sizes	15 18 20 22

Jetfighter silver (S)



Black/pearl Hyper-Highlight (H)

M 8 0 0

- 3.0 Series "Beast of the East" Mountain frame
- Cannondale Pepperoni aluminum fork
- Ritchey Vantage Comp silver anodized rims
- Smoke 2.1" tires



COMPONENT	SPECIFICATIONS
Frame	3.0 Series Mountain "Beast of the East"
Fork	Cannondale Pepperoni aluminum
Rims	Ritchey Vantage Comp, silver anodize
Hubs	Shimano Deore LX, 36 hole, rear freehub
Spokes	Stainless steel, 14 gauge
Tires	Smoke, 2.1"
Pedals	Wellgo beartrap
Crank	Shimano Deore LX Superglide,
	24-36-46, round rings
Chain	Shimano Hyperglide
Freewheel	Shimano Hyperglide 7-spd cassette, 13-15-17-20-23-26-30
Bottom Bracket	Shimano, sealed mech., bolt axle
Front Derailleur .	Shimano Deore LX
Rear Derailleur	Shimano Deore LX, 7-spd SIS
Shift Levers	Shimano Deore DX Rapid Fire, 7-spd SIS
Handlebars	Aluminum, bulge design
Grips	Tioga Biogrips, Kraton rubber
1907	Tubular CR-MO, alloy bolt and wedge
Headset	Tange-Seiki ME-SII, triple sealed, black
Brakeset	Shimano Deore LX ultra-low profile cantilevers, black, Deore DX 2-finger levers, oversize cables
Saddle	Vetta anatomic
	Heat treated 4130 CR-MO, black, 350mm.
Colors (Codes)	Black w/hunter orange splatter & accents (#), Jade green (G)
Weight	27.0 lbs.



Black w/hunter orange splatter & accents (#)



Jade green (G)

17

M 7 0 0 -3.0 Series Mountain frame

- Ritchey Vantage Comp silver anodized rims
- Shimano Deore LX ultra-low profile cantilever brakes with Deore DX 2-finger levers and oversize cables



Frame	3.0 Series Mountain
Fork	Ritchey Logic
Rims	
Hubs	Shimano Deore LX, 36 hole, rear freehub
Spokes	
Tires	
Pedals	
	w/clips and straps
Crank	
	28-38-48, round rings
Chain	Shimano Hyperglide
Freewheel	Shimano Hyperglide 7-spd cassette 13-15-17-20-23-26-30
Bottom Bracket	Shimano sealed mech., bolt axle
Front Derailleur	Shimano Deore LX
Rear Derailleur	Shimano Deore LX, 7-spd SIS
Shift Levers	Shimano Deore DX, 7-spd Rapid Fire STI
Handlebars	Aluminum, bulge design
Grips	Tioga Biogrips, Kraton rubber
	Tubular CR-MO, alloy bolt and wed
Headset	Tange-Seiki ME-SII, triple sealed, black
Brakeset	Shimano Deore LX ultra-low profile cantilevers black, Deore DX 2-finge
	levers, oversize cables
Saddle	Vetta Anatomic
	Odyssey Aerator, black anodized,
	Schraeder valve
Colors (Codes)	Chameleon black w/lime splatter (a Violet-to-black fade (B)
Weight	
Sizes	



Chameleon black w/lime splatter (#)



Violet-to-black fade (B)

M 5 0 0 -3.0 Series Mountain frame

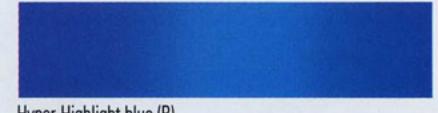
- Ritchey Vantage Sport silver anodized rims
- Dia-Compe 986 brakes with X-1 Short Stop levers
- SunTour X-1 hubs
- Tioga Surefoot III pedals with Tioga Powerclips and straps



COMPONENT	SPECIFICATIONS
Frame	3.0 Series Mountain
Fork	Tange unicrown, full CR-MO
	Ritchey Vantage Sport, silver
	anodized
Hubs	SunTour X-1, 36 hole
Spokes	Stainless steel, 14 gauge
Tires	Ritchey Megabite 2.1, skinwall
Pedals	Tioga Surefoot III, steel cage,
	resin body, w/Tioga Powerclips
	and straps
Crank	SunTour XCE, 28/38/48, round
	Powerings
	SunTour Accushift Plus
Freewheel	Suntour Accushift Plus 7-spd,
	13-15-17-20-23-26-30
Bottom Bracket	Japanese, sealed mech., bolt
	axle
Front Derailleur	
Rear Derailleur	SunTour X-1, Accushift Plus
	7-spd
	SunTour X-Press X-1, 7-spd
	Aluminum, bulge design
	Tubular CR-MO
Headset	Tange-Seiki ME-SII, triple
	sealed, black
Brakeset	Dia-Compe 986 w/X-1 Short
0.111	Stop levers
	Cannondale anatomic gel, black
	Kalloy STP-242
Colors (Codes)	Cosmic black w/white web (E),
144 * 1 -	Hyper-Highlight blue (B)
Weight	
Size	15, 18, 20, 22
1	
11-11-11	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1



Cosmic black w/white web (E)



Hyper-Highlight blue (B)

M 4 0 0

- 3.0 Series Mountain frame
- Cannondale anatomic gel saddle
- Farmer John's Nephew tires
- SunTour X-1, 7-speed X-Press shift levers



COMPONENT SPECIFICATIONS

COMPONENT SPECIFICATIONS	S
Frame 3.0 Series Mo	untain
Fork Tange unicrow	n, full CR-MO
Rims Weinmann silv	ver, 26*
Hubs Sansin CE-60,	sealed mech.,
CR-MO axle	
Spokes Stainless stee	l, 14 gauge
Tires Farmer John's 1.95"	Nephew, 26 x
Pedals Wellgo LU-892	2, black resin
Crank Sugino AC 110	
black rings	
Chain SunTour AP	
Freewheel SunTour Accus	shift Plus 7-spo
13-15-17-20-2	3-26-30
Bottom Bracket Japanese, sea axle	led mech., bol
Front Derailleur SunTour XCM	
Rear Derailleur SunTour XCM, 7-spd	, Accushift Plus
Shift Levers SunTour X-1, 7	7-spd X-Press
Handlebars High-strength	The Control of the Co
Stem Tubular CR-M	
Headset Tange-Seiki N steel	ME-II, chrome
Brakeset Dia-Compe XC	M, all alloy
Saddle Cannondale a	natomic gel
Seatpost Kalloy STP-24	2
Colors (Codes) Jet black (E),	
w/white web	
Weight 27.5 lbs.	
Sizes 15, 18, 20, 22	



Jet black (E)



Mystic blue w/white web (B)

Don't take land access for granted. Mountain biking is a new sport, and your actions on your next ride will influence which trails will be open for bicycle use in the years to come. Minimizing skidding, avoiding muddy areas, and being courteous to hikers and equestrians are simple things we can all do on every ride to keep the land open to bicycles. And if you're feeling ambitious, voluntary trail maintenance and packing out others' trash will benefit everyone.

The International Mountain Bicycling Association (IMBA) has established these basic guidelines for good trail riding:

Ride on open trails only
Leave no trace
Ride under control
Always yield to other trail users
Never spook animals
Plan ahead
Remember, good trail habits are everyone's business.
For more information contact IMBA at Route 2, Box 303,
Bishop, CA 93514. Or call, 619/387-2757.

Darcy Wright competing at the 1990 NORBA Points Series Race in Park City, Utah. Later in the year, Darcy took second in the hill climb at the Mountain Bike World Championships in Durango, Colorado. Photo by Neil Palumbo.



CROSS TRAINING BICYCLES

The focus is on comfort, versatility and performance with our 1991 line-up of Cross Training "hybrid" bicycles. Fun and easy bikes to ride, they're stable, sure handling, high performance machines equally at home on dirt roads or paved.

At the heart of our Cross Training models is a completely redesigned frame. Hand-crafted from large diameter, vibration-absorbing aluminum tubing, the lightweight frame converts pedal strokes into propulsion with a minimum of wasteful frame flex. The new frame has also been outfitted with a host of extras ranging from our innovative replaceable derailleur hanger to waterbottle bosses to front and rear rack mounts.

Each Cross Training model comes equipped with top quality components, including "rider friendly" upright handlebars and indexed, bar-mounted shifting (either thumb shifters or Grip Shift shifters). Each also comes outfitted with comfortable medium profile tires, gel saddles and powerful cantilever brakes.

Our Cross Training bikes can also be easily customized with a variety of readily available parts: down tube braze-ons allow easy conversion to down tube-mounted shifters, 700c wheels permit a wide range of tire and rim options, and cantilever brake bosses are compatible with all of the hottest mountain bike brakes.

Alone on the Gemini Bridges Trail near the La Sal Mountains, Utah. Photo by Dennis Coello.



COMPONENT SPECIFICATIONS

Frame Cross Training Fork Tange CR-MO unicrown Rims Wolber model 59, hard anodized, 700c, 36 hole SunTour X-1, sealed mech. Hubs Spokes DT, 14 gauge stainless steel Tires Avocet Cross, 700x38 c, Kevlar . Tioga Surefoot II, w/Tioga Powerclips, toe straps and Cinelli end buttons Crank Sakae SZC triple, 28-40-50 Chain SunTour Accushift Freewheel SunTour 7-spd 13-15-17-20-23-26-30 Sakae SX-BS sealed mech. Bottom Bracket . . . Front Derailleur ... SunTour XC Comp SunTour XC Comp 7-spd Rear Derailleur . . Accushift, indexed Shift Levers **Grip Shift** Handlebars Taperlight Easton E-9, silver anodized aluminum Stem TIG-welded, CR-MO, satin chrome finish, hybrid rise Headset Tange-Seiki, sealed mech., black Brakeset SunTour low-profile XC pro cantilevers w/XC-Comp four-finger levers Saddle VettaGel genuine leather, shock absorbing, ATB width Seatpost Ritchey FD, silver anodized Vetta wireless computer Extras C-300, Cannondale water bottle cage Colors (Codes) . Silver pearl (S) . 26.0 lbs. Weight Sizes 16, 18, 20, 22





CROSS TRAINING FRAME GEOMETRY SH800, SH600, SH400

Size (in.)	16	18	20	22
Seat Tube Angle (degrees)	75.00	73.00	73.00	73.00
Head Tube Angle (degrees)	68.00	70.00	70.00	70.00
Top Tube Length (in.)	19.39	21.10	22.00	23.00
Chainstay Length (in.)	17.00	17.00	17.00	17.00
Fork Rake (in)	3.02	2.63	2.63	2.63
Bottom Bracket Height (in.)	10.62	10.62	10.62	10.62
Wheelbase (in.)	40.78	40.68	41.77	42.72
Trail (in.)	2.34	2.25	2.25	2.25
Ground to Top of Top Tube (in.)	28.50	30.25	31.25	32.25

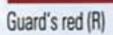
H 600

- Comfortable, stable, all-new Cross Training frame
- Shimano Deore LX derailleurs, 7-spd DX STI control levers
- '91 Shimano "low profile" Deore LX cantilever brakes
- VettaGel "Shock Absorbing" saddle



COMPONENT SPECIFICATIONS

Frame	Cross Training
Fork	Tange CR-MO unicrown
Rims	Sun Mistral M-17, silver
	anodized, 700c
Hubs	Shimano Deore LX sealed mech.
Spokes	DT, 14 gauge stainless steel
Tires	Tioga Bloodhound, 700x38c
Pedals	Shimano PD-M550 Competition
	w/toe clips and straps
Crank	Shimano Deore LX, triple
	28-38-48
Chain	Shimano Hyperglide
Freewheel	Shimano cassette 7-spd, 13-14-
	16-18-21-24-28
Bottom Bracket	Shimano sealed mech.
	Shimano Deore LX
	Shimano Deore LX, 7-spd SIS
Shift Levers	Shimano Deore DX, STI 7-speed control levers
Handlebars	Mountain bike style, alloy
Stem	TIG-welded CR-MO, hybrid rise
Headset	Tange-Seiki, sealed mech., black
Brakeset	New Shimano low profile Deore
	LX cantilevers
Saddle	VettaGel/VettaSkin/Shock
	Absorbing
	Alloy, 300 mm.
Colors (Codes)	Guards' red (R), Hyper-Highlight blue (B)
Weight	25.5 lbs.
197957	16, 18, 20, 22





Hyper-Highlight blue (B)

H 4 0 0

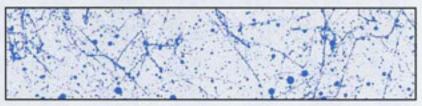
- Comfortable, stable, all-new Cross Training frame
- SunTour XCM derailleurs, 7-speed X-Press control levers
- Triple crankset, '91 Dia-Compe cantilever brakes
- Mountain bike style handlebars
- Wide Gel Saddle



Component	SPECIFICATIONS
Frame	Cross Training
Fork	Tange CR-MO unicrown
Rims	Sun Mistral M-17, silver
	anodized, 700 c, 36 hole
Hubs	Sansin CE60, sealed mech.
Spokes	DT, 14 gauge stainless steel
Tires	Tioga Bloodhound, 700x38c
Pedals	Black resin
Crank	Sugino AC-110 triple,
	28-40-50
	SunTour Accushift
Freewheel	SunTour 7-spd, 13-15-17-20-
	23-26-30
	Sealed mech.
	SunTour XCM
Rear Derailleur .	SunTour XCM, 7-spd Accushift, indexed
	SunTour X-Press 7-spd, indexe
Handlebars	Mountain bike style, ATB
Stem	TIG-welded, CR-MO, hybrid rise
Headset	Tange-Seiki
Brakeset	New Dia-Compe XCM
	cantilevers
Saddle	Wide Cannondale gel
Seatpost	Alloy, 300 mm.
Colors (Codes)	Cosmic black w/white web (E)
	White w/blue web (W)
Weight	26.5 lbs.
Sizes	16, 18, 20, 22



Cosmic black w/white web (E)



White w/blue web (W)

RACING BICYCLES

Criterium \crī-'tir-\(\overline{e}\)-\(\overline{o}\) n 1: A bicycle race of medium duration characterized by high speeds, sharp turns and repeated laps over a closed circuit of between one and two miles in length. 2: A bicycle, capable of high speeds and with precise handling, designed for use in criterium races.

Road Race \'rod'ras\\ n 1: A bicycle race of 50 to 150 miles in duration, arranged a: with fewer laps over an extended circuit, often 10 to 20 miles in length, or b: in a point-to-point format. 2: A bicycle designed for use in road races that is fast, comfortable and stable over long distances.

The concept of a generic "racing frame" is misleading because it implies that one geometry can deliver an equal level of performance across a range of applications. Like it or not, the best racing frames cater to one category of riding: You don't ride a time trial bike up L'Alpe d'Huez. That's why we offer a choice of frame geometries on Cannondale racing bikes.

CRITERIUM

Our Criterium frame goes fast. Period. It goes fast on the straights thanks to an immense down tube and tight rear triangle that make frame flex a contradiction in terms. Implausibly light,* the lightning-quick Criterium shoots through twisting turns thanks to its steep head angle and short chainstays. And while our Road Race frame may be a bit more comfortable, you needn't worry. When you're faster to the finish line you spend less time on the bike.

ROAD RACE

If you've ever driven cross-country by yourself you've probably been tempted to open it up on some empty stretch of desert highway. Or push it to the floor and watch the Kansas corn fields shoot by. We all know the urge: to go fast and go far, to motor along and watch the miles fly by beneath you.

That same feeling can be experienced on a bike equipped with our 3.0 Series Road Race frame. It's got all the comfort and stable handling required for a full day's hammer, thanks to a slimmer down tube, longer wheelbase and more relaxed head angle. Like all Cannondales, it's got stiff, oversize aluminum tubing that squeezes the maximum performance out of each pedal stroke by eliminating frame flex. And our Road Race frame weighs a mere 3.45 lbs.** Not only will you travel fast and far, you'll also travel light.

Although the Criterium and Road Race frames have a host of discernable differences, they also share similar features. Both have our double-offset seat tube cluster that increases efficiency while saving weight. Our unique, lightweight cantilever rear dropouts can be found on both frames, and both feature our replaceable rear derailleur hanger. Secured to the frame with two allen screws, the rear derailleur hanger can be replaced in moments should it bend or snap off in a crash.

^{* 3.2} lbs. on a 56 cm frame.

^{** 56} cm frame.



Size (cm.)

Trail (cm)

Ground to Top of Top Tube (cm)

Down Tube Outer Diameter (cm)

* Available as a frameset only.

50 53 63 66* Seat Tube Angle (degrees) 73.00 73.00 73.00 74.00 73.70 73.10 73.00 73.00 73.00 Head Tube Angle (degrees) 71.50 70.50 73.00 74.25 74.25 74.25 74.25 74.75 74.75 Top Tube Length (cm) 51.56 53.98 55.58 49.78 55.88 56.21 56.72 58.72 60.96 Chainstay Length (cm) 39.90 39.90 39.90 39.90 39.90 39.90 39.90 39.90 39.90 Fork Rake (cm) 5.40 3.81 3.81 3.51 3.51 Bottom Bracket Height (cm) 27.31 27.31 27.31 27.31 Wheelbase (cm) 98.93 100.81

5.59

79.50

5.08

5.59

81.03

5.08

5.59

82.80

5.08

5.59

84.33

5.08

5.59

87.63

5.08

5.59

91.44

5.08

5.59

77.72

5.08

6.35

71.88

5.08

5.66

75.18

5.08

50 56 58 60 63 73.00 73.00 73.00 74.00 73.70 73.10 73.00 73.00 70.50 71.50 73.00 73.00 73.00 73.00 73.50 73.00 49.78 51.56 53.98 55.58 55.88 56.21 58.72 56.72 40.54 40.54 40.54 40.54 40.54 40.54 40.54 40.54 5.40 5.40 3.81 3.81 3.81 3.81 3.51 27.31 27.31 27.31 27.31 27.31 27.31 27.31 97.46 98.35 98.38 98.07 99.57 98.43 6.35 5.66 5.59 6.35 6.35 6.35 6.35 6.35 71.88 75.18 77.72 79.50 81.03 82.80 87.63 84.33 4.11 4.11 4.11 4.11 4.11 4.11 4.11 4.11

Sometimes an hour just isn't enough. Cannondale employees competing in the daily Tour de Lunch. Photo by Steven C. Wyness.

R 2 0 0 0 & SC 2 0 0 0

- Hand-finished "Pro Series" 3.0 Criterium or Road Race frame
- '91 Shimano Dura-Ace 8-spd group with STI control levers
- Mavic Open 4 CD clincher rims with Michelin Supercomp HD tires
- Modolo X-Tenos handlebar and stem, Turbo saddle



COMPONENT SPECIFICATIONS		
Frame	(SR2000) or Criterium	
24	(SC2000) geometry	
Fork		
Rims	Mavic Open 4 CD clincher, 32 hole on 48-58, 36 hole on 60/63	
Hubs	Shimano Dura-Ace, freehub	
Spokes		
Tires		
Pedals	Shimano Dura-Ace clipless	
Crank		
Chain		
Freewheel	Shimano Dura-Ace 8-spd Hyperglide cassette, 12-13- 14-15-16-17-19-21	
Bottom Bracket		
	Shimano Dura-Ace, braze-or	
	Shimano Dura-Ace, Braze-Or	
	Shimano Dura-Ace STI	
Handlabasa	Control Levers	
	Modolo X-Tenos, anatomic	
Stem		
	Shimano Dura-Ace	
Brakeset	Shimano Dura-Ace, Super SLR	
Saddle	Selle Italia Turbo, leather	
Seatpost	Kingsbery USA, silver	
Extras		
	bottle cage, Cinelli tape	
Colors (Codes) Weight	Gray/silver/white triple fade	
	48, 50, 53, 54, 56, 58, 60, 63	
01263	40, 50, 55, 54, 50, 50, 60, 60	



Gray/silver/white triple fade (Z)

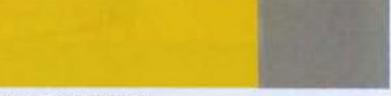
R 1 0 0 0 & SC 1 0 0 0

- Hand-finished "Pro Series" 3.0 Criterium or Road Race frame
- Complete '91 Mavic indexed component group
- Grip Shift shifters
- Mavic Open 4 CD clincher rims, Michelin Supercomp HD tires



COMPONENT SPECIFICATIONS

COMPONENT S	PECIFICATIONS
Frame	3.0 "PRO SERIES" Road Raci
	(SR1000) or Criterium
	(SC1000) geometry
Fork	Aluminum, hard anodized
	finish
Rims	Mavic Open 4 CD clincher,
	32 hole on 48-58, 36 hole on
	60/63
Hubs	Mavic 550, sealed bearing,
	alloy axle
Spokes	
Tires	Michelin Hi-Lite Super Comp
	HD 700 x 20 c clinchers,
200	Kevlar foldable
Pedals	
Crank	
Chain	
Freewheel	Aris New Success, 12-13-14
	15-17-19-21
Bottom Bracket	
F . D . III	adjustable chainline
Front Derailleur	
Rear Derailleur	
Shift Levers	
Handlebars	
Stem	
Headset	
Brakeset	
Saddle	
Seatpost	
Extras	
0-1 (0-4)	bottle cage, Cinelli tape
	Yellow, race graphics (Y)
Weight	
Sizes	48, 50, 53, 54, 56, 58, 60, 63



Yellow race graphics (Y)

R 9 0 0 -3.0 Series Road Race Frame

- Profile for Speed Aero III handlebars with deluxe armrests
- Grip Shift shifting
- Profile for Speed "Piggyback" behind-the-seat bottle holder
- Forward-position seatpost



COMPONENT SPECIFICATIONS

COMPONENT	SPECIFICATIONS
Frame	3.0 Series Road Race
Fork	Aluminum
Rims	Campagnolo Omicron Strada,
	silver anodized, 32 hole on
	48-58, 36 hole on 60/63,
Hubs	Shimano 600 Ultegra
Spokes	DT, 14 gauge stainless steel
Tires	Vittoria Flash M "Open
	Tubular," cotton clincher
Pedals	Look PM-66 clipless
	Shimano 600 Ultegra, 42/53
Chain	Shimano Hyperglide
Freewheel	Shimano 7-spd Hyperglide,
	13-14-15-16-17-19-21
Bottom Bracket	Shimano 600 Ultegra
Front Derailleur .	Shimano 600 Ultegra
Rear Derailleur	Shimano 600 Ultegra, 7spd SIS
Shift Levers	Grip Shift
Handlebars	Profile for Speed Aero III
Stem	TIG CR-MO, triathlon rise
Headset	Tange-Seiki Vantage,
	aluminum
Brakeset	Shimano 600 Ultegra,
	Super SLR w/aero levers
Saddle	Selle Italia Turbo, leather
Seatpost	Nitto S-66 forward position
Extras	Avocet model 30 Cyclometer,
	Profile for Speed Piggyback
	bottle holder w/two
	lightweight Cannondale cages
Colors (Codes)	Blueberry w/white and
	chartreuse (B)
Weight	24.0 lbs.
Sizes	48, 50, 53, 54, 56, 58, 60, 63



Blueberry w/white and chartreuse (B)

R 8 0 0 & SC 8 0 0 -3.0 Series Road Race or Criterium frame

- '91 Shimano 600 Ultegra Super SLR brakes
- Vittoria "Open Tubular" tires, Campagnolo Omicron Strada rims
- Cinelli handlebar and stem
- Avocet model 30 cyclometer



COMPONENT S	PECIFICATIONS
Frame	3.0 Series Road Race (SR800) or Criterium (SC800) geometry
Fork	Aluminum
Rims	
Hubs	Shimano 600 Ultegra
Spokes	DT, 14 gauge stainless steel
Tires	Vittoria Flash M "Open
	Tubular," cotton clincher
Pedals	Look PM-66 clipless
Crank	Shimano 600 Ultegra, 42-53
Chain	Shimano Hyperglide
Freewheel	Shimano 7-spd Hyperglide, 13-14-15-16-17-19-21
Bottom Bracket	
Front Derailleur	
Rear Derailleur	
Shift Levers	Shimano 600 Ultegra, 7-spd SIS
Handlebars	
Stem	
Headset	
Brakeset	
Saddle	Selle Italia Turbo, leather
Seatpost	
	Avocet model 30 cyclometer
	Black w/blue pearl Hyper- Highlight (H), Radiance red (R)
Weight	
	48, 50, 53, 54, 56, 58, 60, 63

Radiance red (R)



Black w/blue pearl Hyper-Highlight (H)

R 600 & SC 600

- 3.0 Series Road Race or Criterium frame
- TIG/CR-MO racing stem, Modolo anatomic handlebars
- VettaGel "Shock Absorbing" racing saddle
- Avocet model 30 cyclometer
- Wolber GTX double-eyelet rims



COMPONENT SPECIFICATIONS

COMPONENT	SPECIFICATIONS	
Frame	1000 10100	0)
	or Criterium (SC600) geomet	ŋ
Fork		
Rims	Wolber GTX, hard anodized,	
	32 hole on 48-58, 36 hole or	1
	60/63, double eyelets	
Hubs		
Spokes	The state of the s	
Tires	Michelin Select Sport,	
	700x20 c	
Pedals	Look PM-66 clipless	
Crank	Shimano 105SC, 42-53	
Chain	Shimano Hyperglide	
Freewheel	Shimano 7-spd cassette,	
	13-14-15-17-19-21-23	
Bottom Bracket.	Shimano 105SC	
Front Derailleur	Shimano 105SC	
Rear Derailleur .	Shimano 105SC, 7-spd SIS	
Shift Levers	Shimano 105SC, 7-spd SIS	
Handlebars		
Stem	TIG-welded, CR-MO, satin	
	chrome finish	
Headset	Tange-Seiki, sealed mech.	
Brakeset		
Saddle		
	Absorbing	
Seatpost	•	
	Avocet model 30 Cyclomete	r
	Cosmic black w/white web (E	
	Blue (B)	**
Weight	220 2 2 2 2	
	48, 50, 53, 54, 56, 58, 60, 63	



Cosmic black w/white web (E)



Blue (B)

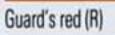
R 4 0 0

- 3.0 Series Road Race Frame
- Wolber GTX double-eyelet rims
- VettaGel "Shock Absorbing" racing saddle
- Lightweight, comfortable aluminum fork



COMPONENT SPECIFICATIONS

Frame	3.0 Series Road Race
Fork	Aluminum
Rims	Wolber GTX hard anodized,
	32 hole on 48-58, 36 hole on
	60/63, double eyelets
Hubs	Shimano RX 100
Spokes	DT, 14 gauge stainless steel
Tires	Michelin Select, 700x25 c
Pedals	Shimano RX 100
Crank	Shimano RX 100, 42-52
Chain	Shimano Hyperglide
Freewheel	Shimano 7-spd cassette,
	13-14-15-17-19-21-23
Bottom Bracket	Shimano RX 100
Front Derailleur	Shimano RX 100
Rear Derailleur	Shimano RX 100, 7-spd SIS,
	indexed
Shift Levers	Shimano RX 100, 7-spd SIS
Handlebars	Modolo T-EIT
Stem	TIG-welded, CR-MO, black
Headset	Tange-Seiki, sealed mech.
Brakeset	Shimano RX 100, aero levers
Saddle	VettaGel/VettaSkin/Shock
	Absorbing
Seatpost	Strong, alloy
Extras	Toe clips and straps
Colors (Codes)	Guards' red (R), Hyper-
	Highlight blue (B)
Weight	22.25 lbs.
Sizes	48, 50, 53, 54, 56, 58, 60, 63





Hyper-Highlight blue (B)

OURING BICYCLES

When we first introduced our aluminum bicycles with their distinctive large diameter tubes, we offered one model: a touring bike. Since then our touring bikes have crossed continents, circled the globe, and become famous for their light weight and solid, efficient performance.

Our touring frames feature stiff, large diameter aluminum tubing that all but eliminates wasteful frame flex. Ride a Cannondale touring frame and the same energy that normally gets lost in frame flex is channelled where it belongs: into pushing you up a hill, through a stiff headwind, or down some quiet country lane.

For 1991 we're proud to offer two models of touring bicycles. Both come equipped with Grip Shift shifting, 21-speed gearing, cantilever brakes and 700c touring-width tires. Less obvious but equally important, each touring bicycle we produce features Cannondale's American craftsmanship and over eight years of experience producing the finest long distance cycling machines in the world.

TOURING FRAME GEOMETRY ST1000, ST600

Size	19	21	23	25
Seat Tube Angle (degrees)	76.70	73.50	73.50	73.50
Head Tube Angle (degrees)	72.00	72.00	72.00	72.00
Top Tube Length (in.)	20.30	21.75	22.25	23.25
Chainstay Length (in.)	18.00	18.00	18.00	18.00
Fork Rake (in.)	2.13	2.13	2.13	2.13
Bottom Bracket Height (in.)	10.20	10.30	10.44	10.52
Wheelbase (in.)	41.10	41.30	41.60	42.70
Trail (in.)	2.15	2.15	2.15	2.15
Ground to Top of Top Tube (in.)	28.50	30.50	32.50	34.50

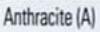


T 1 0 0 0 The finest expeditionary touring bike in the world

- SunTour XC Comp derailleurs with Grip Shift shifters
- SunTour Superbe sealed pedals, Grease Guard bottom bracket
- Sealed bearing hubs, Wolber model 59 700c rims, four cross lacing
- Mavic locking headset, Dia-Compe 986 brakes, wide Esge fenders



COMPONENT SPECIFICATIONS					
Frame	Touring				
Fork	CR-MO				
	Wolber model 59, hard anodized, 700 c, 36 hole				
Hubs					
Spokes					
Tires					
Pedals	SunTour Superbe, sealed, w/clips and straps				
Crank	SunTour XC Comp 28-42-50				
Chain					
Freewheel	SunTour 7-spd, 13-15-17-20- 23-26-30				
Bottom Bracket	SunTour/WTB Grease Guard				
Front Derailleur					
	SunTour XC Comp, 7-spd				
Shift Levers					
Handlebars	Nitto, model 55				
Stem	Nitto, forged alloy				
	Mavic, sealed w/built-in lock				
	Dia-Compe 986 w/BRS 500 aero levers				
Saddle	Brooks leather				
Seatpost	Kingsbery USA, silver				
Extras	Cinelli cork handlebar tape, Cannondale front and rear racks, three bottle cages, Esge 45mm. fenders				
Colors (Codes)	Anthracite (A)				
Weight	28.5 lbs.				
Sizes	19, 21, 23, 25				



T 600

- SunTour X-1 derailleurs
- Grip Shift shifting, Dia-Compe 986 brakes
- VettaGel "Shock Absorbing" saddle
- Cannondale BR85 rear rack, Michelin 700 x 28 c tires
- Four cross wheels



COMPONENT SPECIFICATIONS

COMPONENT SP	ECIFICATIONS
Frame	Touring
Fork	Tange CR-MO
	Sun/Mistral, model M17,
	700 c, 36 hole, silver anodize
Hubs	. SunTour X-1, sealed mech.
	. DT, 14 gauge stainless
Tires	. Michelin Select, 700x28 c
	. MKS AR-2, black, w/clips and straps
	. Sakae, SZC 28-40-50, black alloy rings
Chain	. SunTour Accushift
Freewheel	. SunTour 7-spd Accushift,
	13-15-17-20-23-26-30
Bottom Bracket	
Front Derailleur	
Rear Derailleur	. SunTour X-1, 7-spd
Shift Levers	(1) :
Handlebars	. ITM, alloy
Stem	. TIG-welded, CR-MO
	. Tange-Seiki, sealed mech., black
Brakeset	. Dia-Compe 986 cantilever w/aero levers
Saddle	. VettaGel/VettaSkin/Shock Absorbing
Seatpost	National Control of the Control of t
	. Cannondale BR85 rear rack
	. Light blue metallic (B)
Weight	
Sizes	
	A STATE OF THE PARTY OF THE PAR

Light blue metallic (B)

COMPONENT SPECIFICATIONS

(C: CAPTAIN, S: STOKER)

Frame	Tandem
Fork	CR-MO, Tandem
Rims	Chinook CRT 16 tandem,
	48 hole, hard anodized, 700 d
Hubs	Sansin tandem, sealed
	bearing, 48 hole
Spokes	DT, stainless steel, 14 gauge
	Michelin Hi-Lite Tour,
	700 x 35 c
Pedals	MKS AR-2 w/Tioga
	Powerclips and straps
Cranks	Shimano Deore XT, 32-42-54
	(38 synchronizing)
Chain	SunTour Accushift
Freewheel	SunTour 7-spd, 13-15-17-20-
	23-26-30
Bottom Bracket	Shimano Deore XT, sealed
	SunTour XC-Pro
Rear Derailleur	SunTour XC-Pro 7-spd
	Accushift Plus
Shift Levers	Grip Shift
	Nitto, C: 400/420, S: 450
Stem	C: CR-MO TIG, S: CRO-MO
Headset	Mavic, sealed, built-in lock
Brakeset	SunTour XC-Pro cantilevers,
	Dia-Compe 25IT aero double
	levers, Stoker handrests
Saddles	VettaGel/VettaSkin/Shock
	Absorbing
Seatposts	Ritchey Force Directional,
	C: 250 mm., S: 350 mm.
Extras	Cinelli cork handlebar tape
	Black (E), Black w/blue pearl
	Hyper-Highlight (H), Red (R)
Sizes	21x19, 23x19, 23x21, 25x21,
	25x23





A basic rule of physics: As a tube's length increases so does the ease with which it can be flexed. Apply the rule to tandem design, and you can see why most tandems are flexible and inefficient: their slim chrome-moly tubing is too susceptible to flexing when used in the lengths required for tandem frames.

A second rule of physics: As a tube's diameter increases so does its resistance to flexing. In other words, a large diameter tube is a stiff tube. If the makers of chrome-moly tandems used large diameter tubing, they'd recapture the stiffness lost by their long tube lengths. But the frame would weigh a ton.

The aluminum tubes used in Cannondale tandems are enormous, and they're as long, or longer, than the tubes in chrome-moly tandems. We're able to get away with it, and create a stiffer frame with more stoker (rear rider) room, thanks to the exceptionally light weight of aluminum. In fact, our frames weigh as much as 25% less than chrome-moly frames while blowing them away for stiffness and stoker comfort.

For 1991 we're offering both a tandem frame and a complete tandem bicycle. The frame is featured on page 42. The complete tandem accommodates either 27" or 700c wheels and comes set up for fast touring, but can be customized for more specific touring or racing applications.

TANDEM FRAME GEOMETRY

Size (in.)	21x19	23x19	23x21	25x21	25x23
Front Seat Tube Length (in.)	22.37	22.84	23.83	25.09	26.12
Rear Seat Tube Length (in.)	18.12	18.11	20.35	20.27	22.85
Front Seat Tube Angle (degrees)	75.30	74.10	74.10	72.00	72.00
Rear Seat Tube Angle (degrees)	75.30	74.10	74.10	72.00	72.00
Front Bottom Bracket Height (in.)	10.75	10.75	10.75	10.75	10.75
Rear Bottom Bracket Height (in.)	12.00	12.00	12.00	12.00	12.00
Chainstay Length (in.)	17.00	17.00	17.00	17.00	17.00
Head Tube Angle (degrees)	73.00	73.50	73.50	73.50	73.50
Fork Rake (in.)	2.25	2.13	2.13	2.13	2.13
Trail (in.)	1.78	1.78	1.78	1.78	1.78
Ground to Top of Front Top Tube (in.)	30.90	31.40	32.10	33.40	34.10
Ground to Top of Rear Top Tube (in.)	28.50	28.50	30.50	30.50	32.50
Effective Front Top Tube Length (in.)	21.40	22.10	22.10	23.10	23.10
Effective Rear Top Tube Length (in.)	28.00	28.00	29.00	29.00	30.00
Wheelbase (in.)	69.00	69.00	70.00	70.20	71.20

ANNONDALE FRAMESETS

New for 1991 are our Pro Series Road Race and Criterium racing framesets. Pulled off the production line after heat treating, the Pro Series frames are doted on by our craftsmen like spoiled children. Their welds are laboriously hand-finished to a polished smoothness. They are meticulously painted by hand, then clear-coated for a jewel-like gloss. They're outfitted with a top quality, shock absorbing aluminum fork. And finally, before they're built-up to become our top-of-the-line racing models, we set just a few aside to sell as framesets.

In addition to our Pro Series framesets, we also offer our E.S.T. and tandem framesets. Each gives you the chance to "custom spec" your own Cannondale, or upgrade your current components to a superior frame. Every Cannondale frameset is compatible with standard components and can be easily built-up by your authorized Cannondale retailer.

E.S.T. FRAMESET

- The industry's lightest suspension frame.
- Cannondale Pepperoni aluminum fork.
- Includes Cannondale's innovative Force 40 brake cable routing system for 40% more efficient braking than standard cantilevers (patent pending).

Sizes (in inches): 17, 19, 21

CRITERIUM AND ROAD RACE "PRO SERIES" FRAMESETS

- The same exclusive frame found on our top-of-the-line models.
- Precisely polished welds for ultra-sleek aesthetics.
- Aluminum fork for comfort and light weight.
- 126mm. rear dropout spacing. Sizes (in cm): 48, 50, 53, 54, 56, 58, 60, 63, 66* *Criterium geometry only

TANDEM FRAMESET

- Oversize lightweight aluminum tubes for an efficient, flex-resistant ride.
- A full 25% lighter than top quality chrome-moly tandems.
- Longer stoker's top tube for a more enjoyable ride.
- Includes a chrome-moly fork, Shimano Deore DX front derailleur, patented wedge-anchored eccentric and Tange-Seiki headset lock.

Sizes (in inches): 21x19, 23x19, 23x21, 25x21, 25x23

For her 1990 season, world-class cycling champion Marianne Berglund switched to a Cannondale 3.0 Series racing frame. We were flattered. Her competition, on the other hand, was shattered.

1990 results:

1st place Univ. of San Diego Grand Prix

1st place Balboa Park Grand Prix

1st place West Covina Criterium

1st place La Jolla Grand Prix

1st place Swedish Women's Festival Road Race

1st place Canadian Tire National Series

1st place Roffler Women's Cycling Classic

1st place La Mirada Circuit Race

1st place Sheriff's Criterium

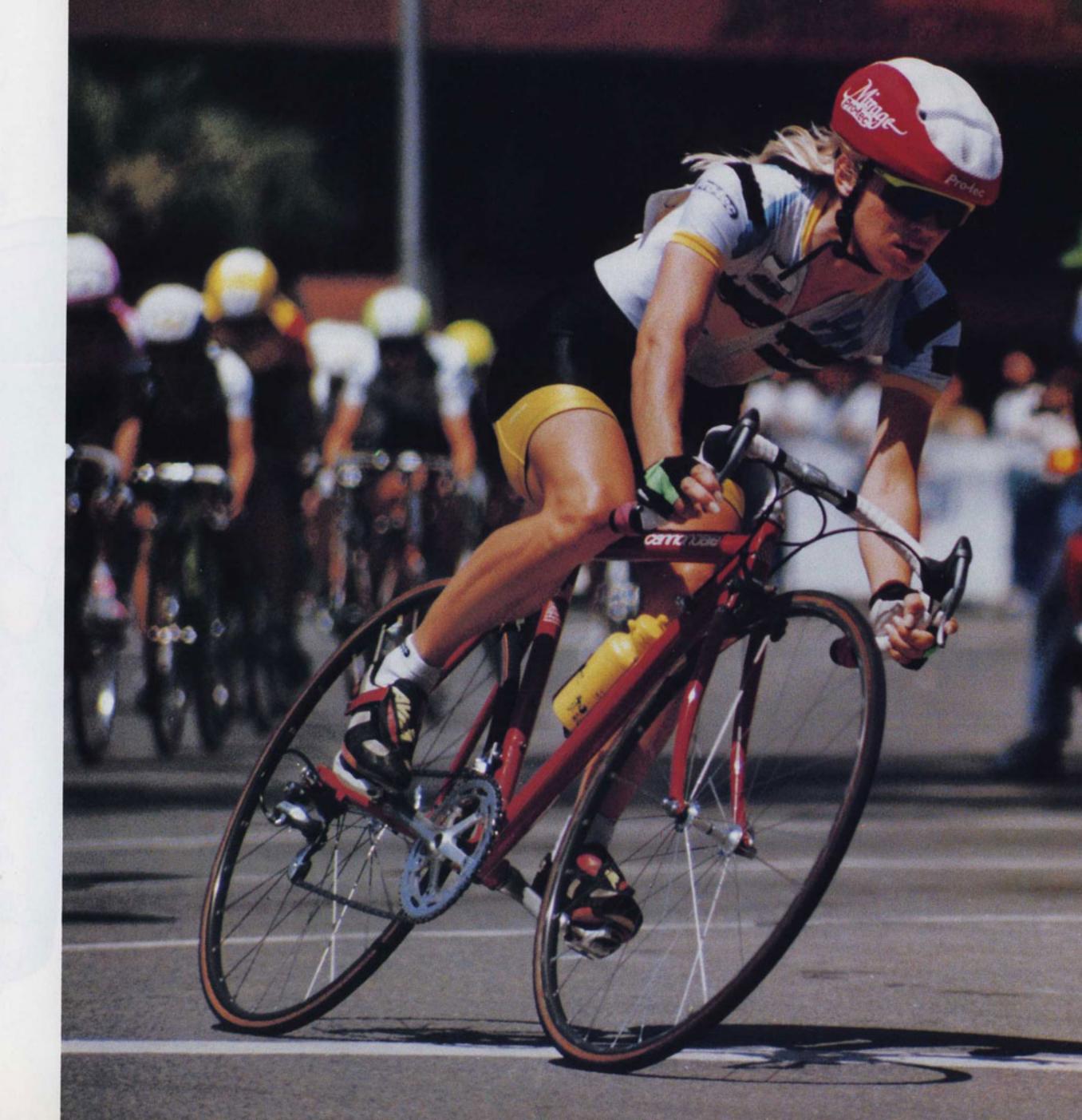
1st place Oceanside Criterium

1st place Athens Criterium

"Cannondale is the best criterium bike I've ever ridden. The stiffness of the frame gives me the competitive edge in the corners and in the sprint."

-Marianne Berglund

Marianne Berglund on her way to a first place finish at the 1990 La Jolla Grand Prix criterium. Photo by James Minardi.

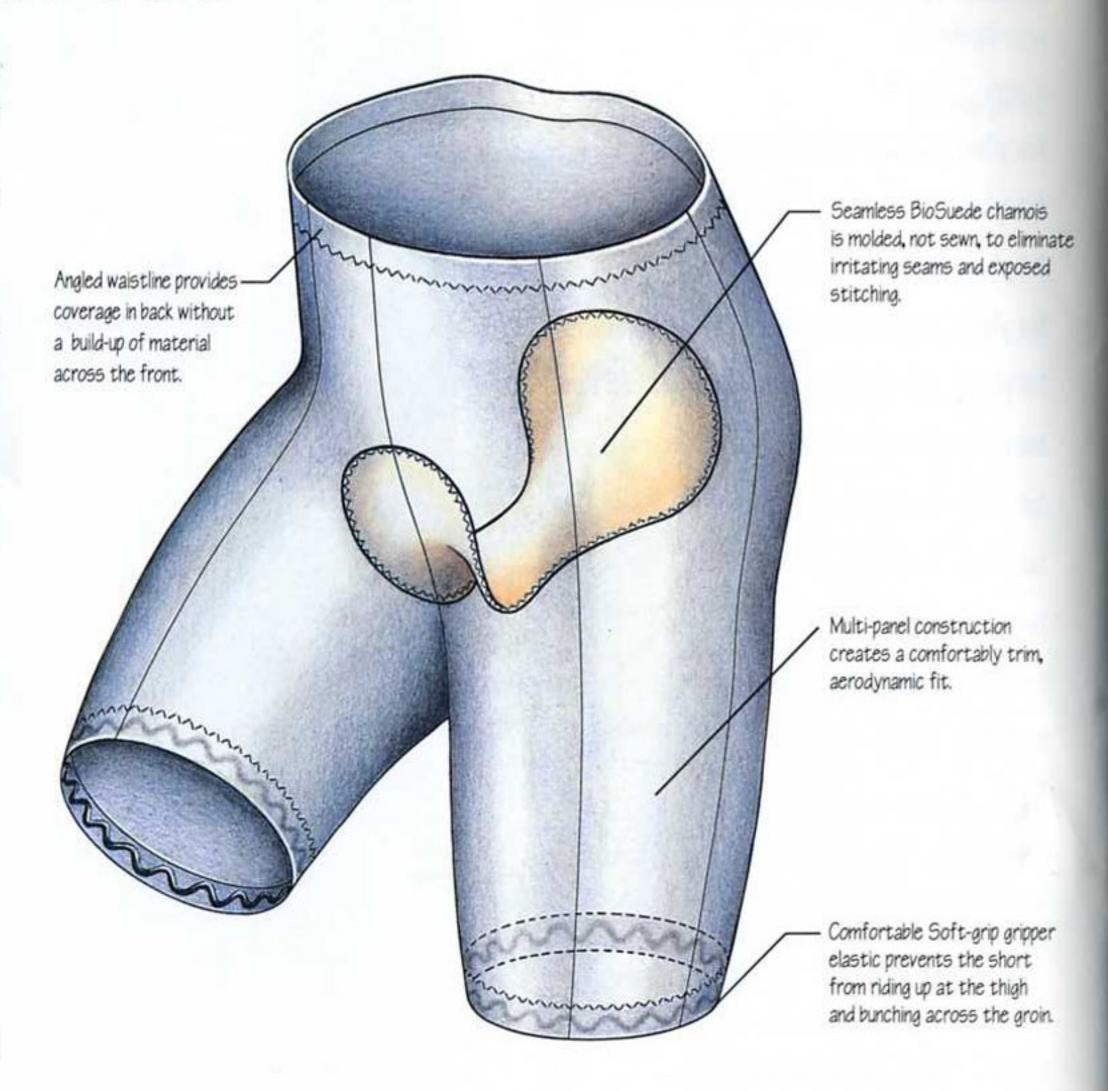


For decades apparel manufacturers have lined cycling shorts to pad and protect riders against abrasion with the saddle. And for decades they've done it the same way, cutting and sewing chamois (and recently, synthetic chamois) to cover the rounded crotch area just as leather is cut and sewn to cover a baseball. These cut-and-sewn liners can help make a short comfortable, but their contouring is less than perfect and their exposed seams and abrasive stitching are the chief cause of saddle sores.

Cannondale's knack for tackling traditional problems by exploring alternative approaches is as evident in our chamois design as it is in our distinctive bicycles. Our breakthrough, seamless BioSuedetm chamois is molded through a proprietary process*, not sewn, to eliminate irritating seams and exposed stitching while precisely matching anatomical contours. A perfectly smooth "second skin" that cushions and protects you from abrasion, the BioSuede chamois provides greater comfort and protection than any cut-and-sewn chamois, including our own. (It is also costly to produce, forcing us to limit it to selected shorts. The paneled chamois on our lower priced shorts also make cycling more enjoyable, and they match the best of the cut-and-sewn liners on the market for comfort, fit and protection.)

Our passion to craft a superior product permeates every garment we manufacture. From features as significant as the BioSuede seamless chamois to details as subtle as the orientation of the palm stitching in our cycling gloves, every item of Cannondale cycling apparel is designed to enhance your enjoyment of cycling.

*patent pending



CYCLING SHORTS

All of our nylon/Lycra shorts begin with a high back/
low front waistline. In the normal cycling position
(pelvis tilted forward with arms extended to the
handlebars), this angled cut provides plenty of coverage in back while preventing uncomfortable bunching
across the front.

For a trim, aerodynamic fit, we use multi-panel construction to accurately match anatomical contours. Our men's shorts come in models with four, six and eight panels; our women's shorts come with four and six panels. Shorts with more panels offer a better fit, but only up to a point. After eight panels the law of diminishing returns seems to apply. And as you'd suspect, the more panels, the higher the price.

The inside cuff of each leg features our comfortable Soft-griptm gripper elastic that prevents the short from riding up the thighs and bunching across the groin. (On our women's PCL Short, PCL thigh bands hold the short in place.)

CYCLING JERSEYS

Like our cycling shorts, our jerseys are cut for comfort in the normal, outstretched cycling position. Sleeves are rotated forward and then sewn to the jersey to naturally "reach" forward to the handlebars, and the trim, aerodynamic cut is longer in back for a gap-free overlap with cycling shorts.

Where appropriate, we've outfitted our jerseys with a tapered collar that won't harrass your chin as you look back to check on the pack. These same jerseys also feature YKK zippers that control ventilation and let you robe and disrobe without removing your ears. Most also come with generous elastic-closure rear pockets for stowing everything from sew-ups to a bonk-busting double p.b. & j. on whole wheat.

MEN'S AND WOMEN'S CLOTHING LINES

Not even stretch fabrics can create "unisex" cyclewear that properly fits both men and women. To insure a sleek, comfortable fit, our shorts and jerseys are offered in separate men's and women's models. The men's jerseys are cut longer waist-to-shoulder and wider across the back. The women's jerseys are slimmer in the sleeves. The women's shorts feature a longer rise (the distance from groin-to-waist) and fuller hips, while the men's shorts are a bit shorter in the length of the legs.

The performance of cyclewear is largely a function of

its comfort and fit, but there's a third element that we also focus on when designing apparel: appearance.

Although a dog-ugly jersey can conceivably perform as well as a more attractive one, it will never be as much fun to wear.

Looking sharp on your bike is part of the joy of cycling, and it's o.k. to demand good looks in your cyclewear. And while we might spend more time, money and energy perfecting the hard-to-see, functional details, we also work hard to create clothing that looks as good as it performs.



OMEN'S CLOTHING

About three years ago, large numbers of women began taking up cycling for fun, sport and fitness. New to the sport, many knew little about the equipment they'd need to reach their full potential. That's no longer the case. Today these same women are knowledgeable, experienced riders who demand far more from their cycling products than ever before.

Every garment in our 1991 women's line has been meticulously designed and tested by Alison Kellagher, a five-time New York district road race champion and former National Team rider. Alison's extensive cycling experience is perfectly complemented by formal training from New York's prestigious Fashion Institute of Technology. She is uniquely qualified to produce top-quality women's cyclewear.

For '91, Alison has crafted a collection of tops and shorts that emphasize exacting fit and high speed performance without neglecting fashion. From the Coolmax/Lycra inner bra in our Croptop to the longer leg cut in our Six Panel Seamless Chamois Short, each garment is designed to meet the strict requirements of the discriminating woman cyclist.

All women's garments come in small, medium and large sizes.

WOMEN'S CROPTOP (F128)

A smart choice for hot weather, our Croptop features an open X-back design for maximum ventilation and support. A comfortably wide Lycra lower band and wide back straps hold the Croptop securely in place without the irritation or "digging in" of narrower straps. Made with a 5.8 oz. blend of Zefsport®nylon and Lycra, the Croptop also features the extra wicking and support of a Coolmax/Lycra inner bra. Colors (codes): Magenta with hot red accents (H), Ultramarine with sea green accents (U).







WOMEN'S PCL SHORT (F002)

Great for warmer weather, our PCL Short is constructed from a cool, breathable, poly-cotton-Lycra blend. Supremely comfortable, it features our wide, non-binding Scrunchtm waistband, Hourglasstm synthetic chamois liner and soft-gripping PCL thigh bands. And like all our women's shorts, our PCL Short is cut higher in the back and lower in front for a great on-the-bike fit. *Colors (codes):* Ebony with hot red "swipe" (H), Ebony with ultramarine "swipe" (U).

Women's harmony short with seamless biosuede chamois (F124)

Like our other shorts, the Harmony Short serves as a functional bridge between two separate elements, you and your saddle. To insure a comfortable body-to-bike transition, our Harmony Short comes equipped with our innovative one-piece seamless BioSuedetm chamois. Precisely molded for anatomical accuracy, the chamois eliminates the irritating seams and exposed stitching that can cause chafing and saddle sores. Made with a 7.5 oz. matte-finish Zefsport nylon/Lycra blend, the Harmony Short has a non-binding Scrunch waistband for comfort and six panel construction for a precise anatomical fit. Soft-griptm gripper elastic thigh bands hold the short in place when pedaling.

Colors (codes): Ebony with hot red and magenta accents (H), Ebony with ultramarine and sea green accents (U).

WOMEN'S SLEEVELESS JERSEY (F123)

Made from a polyester/cotton blend, our Sleeveless Jersey pairs the comfort and breathability of cotton with the shape retention and wicking abilities of polyester. Cut close and bordered with comfortable poly/cotton ribbing, the neck and arm openings won't sacrifice aerodynamics by scooping air and causing the jersey to "balloon" around you. Contrasting shoulder panels add a splash of color.

Colors (codes): Sea green with ultramarine accents and sea green ribbing (G), White with hot red accents and white ribbing (W).

Women's harmony jersey (F120)

The benefits of poly/cotton and Lycra blend perfectly in our Women's Harmony Jersey to provide a comfortable, aerodynamic fit. For maximum breathability and a soft "hand" or feel, the front and back panels are cut from the same poly/cotton fabric used in our Sleeveless Jersey.

For a more contoured, anatomic fit, the side panels, sleeves and shoulder panels are cut from a Zefsport nylon/Lycra blend. Coordinating perfectly with our Harmony Shorts, the Harmony Jersey features a comfortable tapered collar with five inch zipper and three handy rear pockets with elastic closure. For non-binding comfort, sleeves are angled forward to "fall" naturally to the exact arm position used when riding.

Colors (codes): Sea green with ultramarine sleeves and white side panels (G), White with magenta sleeves and hot red side panels (W).

WOMEN'S SIX PANEL SHORT WITH SEAMLESS BIOSUEDE CHAMOIS (F126)

The same one-piece, seamless BioSuede chamois found in our Harmony Short can also be found in our "basic black" Six Panel Short. Because it's seamless, the chamois avoids the two most common causes of chafing: exposed seams and stitching. Made with a 5.8 oz. Zefsport nylon/Lycra blend, the Six Panel Short also features Soft-griptm gripper thigh bands and a high back/low front waistline for proper fit in the normal riding position. *Color (codes):* Ebony (E).

EN'S CLOTHING

Serious cycling demands that you go beyond the titillation of bright colors and stretch fabrics and equip yourself with clothing that enhances your performance on the bike. While we design our cyclewear to be attractive, our primary goal is to create clothing that lets you comfortably ride faster and farther.

Our approach is simple in theory, labor-intensive in application. First, we research hundreds of fabrics and materials to identify those that are of the highest quality and best suited to cycling. Then we combine these raw materials with precise and exhaustively tested patterns and designs. Finally, we throw in twenty years of quality hands-on manufacturing experience.

The results: a jersey that combines the benefits of both Lycra mesh and poly/cotton mesh panels. A one-piece chamois that replaces irritating seams and exposed stitching with a smooth, seamless, perfectly contoured liner. Jerseys with sleeves that are rotated forward before being sewn on, so they naturally "fall" to the exact angle your arms assume when reaching for the handlebars. And much more.

Discovering fabrics and developing features like these and the countless others in our line is a difficult job, but one well worth the effort. The performance of your cyclewear has a direct effect on your overall performance, and the time and effort we put into developing Cannondale cyclewear will pay dividends for you every time you ride.

All men's garments come in small, medium, large and extra large sizes.

MEN'S SIX PANEL SHORT (M830)

Like all our nylon Lycra shorts, our six panel short is cut higher in back and lower across the front for superior fit in the normal riding position. These shorts are extremely comfortable, thanks to the contoured fit of six panel construction and the plushness of a chamois liner backed by a soft terry pad. Soft-griptm gripper elastic thigh bands prevent bunching caused by shorts riding up at the leg. Available with the Cannondale name screenprinted on the leg in white or our stylish "multicolor" fade, or with our more subdued barpole logo. Constructed of a 5.8 oz. Zefsport® nylon/Lycra blend. Colors (codes): Ebony with white barpole logo (E), Ebony with white barpole and white "Cannondale" logo (C), Ebony with yellow barpole and multicolor "Cannondale" logo (T).

MEN'S SLEEVELESS JERSEY (M123)

Constructed of the same comfortable, breathable poly/cotton fabric as our Men's Poly/cotton Jersey, our Men's Sleeveless Jersey is the perfect solution for hot, humid riding conditions. Cut with a higher neck and smaller arm holes than most tank tops, the jersey won't slow you down by scooping air and "ballooning" around you. Lightweight poly/cotton rib at the arm holes and neck seal out the wind for further protection against ballooning, and three rear pockets with elastic closures keep essentials close at hand.

Colors (codes): Blue (V), Red (R), White (W).





MEN'S TEAM ISSUE JERSEY (M120)

Wear the same jersey that Cannondale computer programmer and Connecticut State Road Race Champion Dave Wolfe wears when he races. Identical to those worn by our racing team, our Team Issue Jersey is constructed from a lightweight COOLMAXtm blend that wicks moisture to keep you cool and dry. Cut a bit longer in back for gap-free coverage when you're on the drops, the Team Issue Jersey features a zippered collar and forward-angled sleeves that naturally "reach" forward toward the handlebars. Three rear pockets are perfect for storing mid-race munchies and post-race State Championship trophies.

Colors (codes): Cannondale team print (Y).

MEN'S FOUR PANEL SHORT (M127)

Innovative seam placement and precise pattern making result in a four panel short with the contoured fit of many more expensive six panel shorts. Made from a durable 5.8 oz. Zefsport®nylon/Lycra blend, our four panel short features a comfortable Y-cut synthetic chamois backed by a soft foam pad. Soft-griptm gripper elastic thigh bands hold the short in place during the most vigorous spinning, while a color leg panel adds a touch of contrasting style.

Colors (codes): Ebony with dark gray (E), Ebony with red (R),

MEN'S TEAM ISSUE EIGHT PANEL SEAMLESS CHAMOIS SHORT (M893)

Ebony with yellow (Y).

Comfort and fit combine in our Team Issue Short. The comfort results from our patented, one-piece, seamless Ultrasuede chamois and an underlying polyester fleece pad. (Constructed without seams or exposed stitching, the seamless chamois won't chafe or irritate like many conventional liners.) The superior fit is a product of the short's eight panel construction, which creates more accurate contouring than a four or six panel approach. Made from a durable 8.4 oz. nylon/Lycra blend. (Not shown.)

Colors (codes): Ebony (E), Ebony with white "Cannondale" screenprint on leg (C).



MEN'S INTERVAL SHORT WITH SEAMLESS BIOSUEDE CHAMOIS (M125)

In our colorful Interval Short, irritation is eliminated by a smooth, seamless, one-piece molded BioSuede chamois. Further comfort is provided by cool, contrasting, mesh leg panels and Soft-grip gripper elastic thigh bands. Made with a matte-finish 7.5 oz. Zefsport nylon/Lycra blend, the shorts feature our high back/low front waistline for a perfect fit in the saddle.

Colors (codes): Ebony with white accent, hot red mesh panel and oversize logos (H), Ebony with white accent and royal blue mesh panel (V), Ebony with yellow accent and jade green mesh panel (J).





A.T.W. T-SHIRT (T291)

The same comfort and weathered look found in your favorite pair of Levi's can also be found in our A.T.W. t-shirt, making it perfect for those occasions when a three-piece suit seems a bit much. Bedecked with our stylish chameleon graphic, this garment-dyed, 100% cotton shirt exudes undiluted reptilian charm. Pre-washed.

Colors (codes): Khaki green (K).

CANNONDALE LOGO -T (T290)

Support your local bicycle manufacturer. In a shameless bit of self-promotion, we've splashed a colorful Cannondale logo across the chest of this hefty, 100% cotton t-shirt. Pre-washed for minimal shrinkage, the Logo T is available in your choice of white. Colors (codes): White (W).

Cycling gloves

INTERVAL GLOVES (BG97)

Our Interval Gloves feature beefy Shock Stoppertm neoprene padding across the palm and in the "valley" between thumb and forefinger. Anatomically-oriented palm stitching insures the pad and pigskin palm bend precisely as your hand does, and colorful terry cloth/Lycra/Lycra mesh back panels combine the functional benefits of each. New for 1991, the Interval Gloves coordinate perfectly with items in our '91 men's and women's apparel lines.

Colors (codes): Blue with ebony and white (B), Jade with ebony and yellow (J), Hot red with ebony and white (H).

RACING GLOVES (BG96)

Our Racing Gloves incorporate lightweight palm padding for a delicate touch on the brake and shift levers and anatomically-positioned palm stitching that lets the pad bend where your palms bend. Unlike other gloves, the "valley" between your thumb and forefinger is also padded for comfortable riding on the brake hoods. The Racing Gloves also feature an absorbent terry panel on the back that's perfect for mopping a sweaty brow.

Colors (codes): Blue with ebony accents (V), Ebony with neon yellow accents (E), Red with ebony accents (R).

Cannondale Ace Purchasing Agent Tom Maney hammers through the last turn before the finish at the Jack Rabbit Run, Norwalk, Connecticut. Photo by Kathy Ceconi.

LL-TERRAIN WEAR

Our new line of A.T.W.tm (All-Terrain Wear) clothing bridges the gap between skin-tight, spandex cyclewear (which is great so long as you're actually on your bike) and general-purpose activewear (which looks sharp but is poorly suited for even casual riding).

Eye-catching clothing designed around subtly concealed high-performance cycling features, the A.T.W. line lends itself especially well to casual mountain biking, where a loose, non-binding fit is more important than a sleek profile. Off the bike, the good looks and comfortable fit of our anorak and shorts make them appropriate for everything from day-sailing to happy hour at the local cantina.

Every A.T.W. garment is crafted from Zepeltm-coated Tacteltm nylon that's wind, water and stain resistant. A synthetic fabric with the soft hand of cotton, Tactel has far greater durability than fabrics made from natural fibers.

Each A.T.W. garment comes in small, medium, large and extra large sizes.

WOMEN'S A.T.W. ADVANTAGEtm SHORT (F130)
Our Women's Advantage Short combines a "crinkle cut"
Tactel nylon outer short and a comfortable, cycling-specific tricot inner brief. The brief is anchored to the outer short at the waistband only, so there are no odd looking seams across the crotch. A Coolmax/polypropylene pad, confined to the middle section of the brief for minimal bulk, breathes, wicks moisture and acts as a lightweight cushion between you and the saddle.

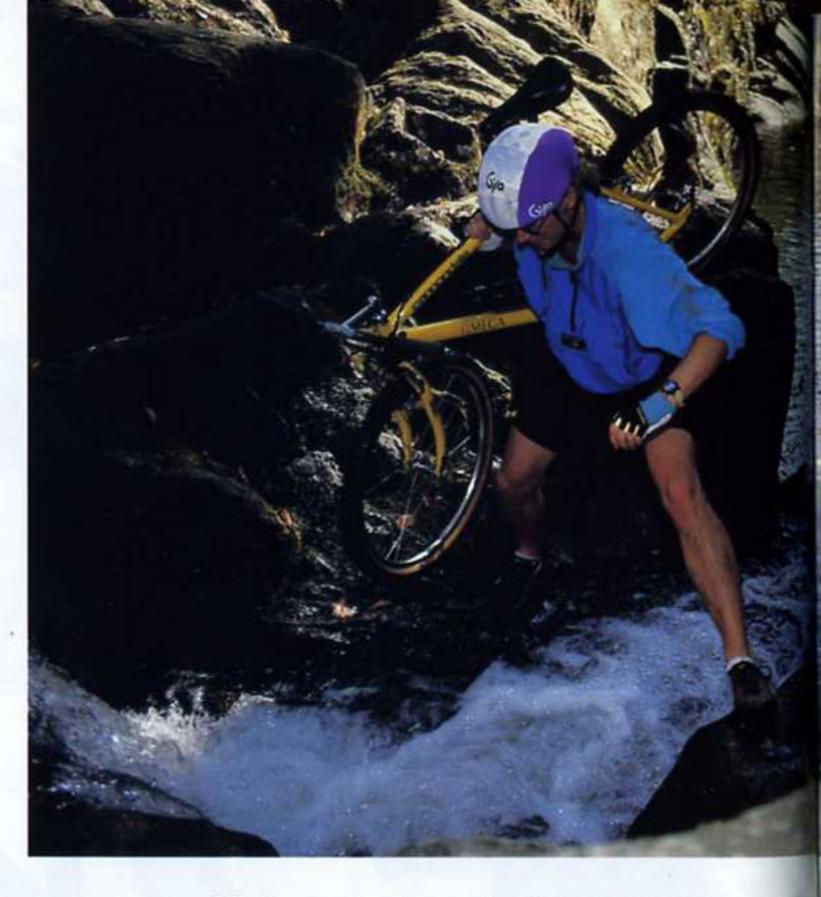
We've cut our women's short for the best possible fit: a touch fuller in the hips, longer in the leg and with a longer rise (the area between crotch and waistband). The short also features a drawstring elastic waistband, deep front pockets and a hook-and-loop closure rear pocket.

Colors (codes): Ebony with ultramarine waistband (E), Royal blue with jade green waistband (V), Yellow with magenta waistband (Y).

MEN'S A.T.W. ADVANTAGEtm SHORT (M130)
Although our Advantage Short looks like a pair of hip beach trunks, it's actually a serious cycling short. Under the "crinkle cut" Tactel nylon shell is a comfortable tricot cycling-specific brief with a Coolmax/polypropylene pad that breathes and wicks moisture for dry comfort.

To minimize bulk, only the seamless center section of the brief (the section you sit on when riding) is padded. The front and rear sections of the brief are sheer tricot for support and breathability, and they're securely sewn to the short at the waistband only to avoid odd looking seams at the crotch. The shorts also feature an elastic waistband with drawstring, deep front pockets and a hook-and-loop closure rear pocket.

Colors (codes): Blue (V), Ebony (E), Orange (O), Yellow (Y).



MEN'S A.T.W. NEW ADVANTAGEtm SHORT (M131)
Our New Advantage Short is actually two shorts joined together at the waist: a comfortable, full-service Lycra mesh cycling short on the inside and a "crinkle cut" Tactel nylon short on the outside. Like other high performance cycling shorts, the breathable inner Lycra mesh short comes with Soft-grip gripper elastic thigh bands and a comfortable hour glass-shaped synthetic chamois backed with foam padding. The outer short is identical to the shell on our Men's Nylon Advantage Short, from the drawstring-equipped elastic waistband right down to the hook-and-loop closure rear pocket.

Colors (codes): Ebony with ebony inner short (E), Royal blue with ebony inner short (V). Not shown: Ebony with hot red (H).



ANNONDALE BAGS AND ACCESSORIES

Every cyclist needs accessories. Go two hours without a waterbottle in 90 degree heat and humidity, or walk 15 miles home in cleats because you don't have a seat bag to hold a patch kit, and you'll no doubt agree.

Cannondale bags and accessories set the standard for intelligent design, quality materials and precise construction. We scrutinize the details, from the number of stitches-per-inch used to sew our bags (five — more stitches weaken the fabric with needle holes, fewer stitches create a weak seam) to the diameter of our waterbottle mouths (2 1/2" — wide enough to accept ice cubes and powdered drink mixes). We continually seek out larger innovations as well, developing them into first-of-their-kind products like our Bugger bicycle trailer, Transport pick-up truck bike rack, expandable seat bag and folding cyclists' tool.

One of our most elegant product developments was introduced just last year: the Seat Cleattm seat bag mounting system. Simple, clean and efficient, the Seat Cleat prompted *Mountain Bike Action* to write "We're amazed it took this long to be invented." *International Design magazine* agreed, honoring the Seat Cleat with an award in its prestigious "ID Annual Design Review," the

world's largest juried design recognition program.

The Seat Cleat system (patent pending) takes the hassle out of mounting seat bags. Standard equipment on five of our six seat bags, the Seat Cleat pops into place over your saddle rails with just a twist. Secure the easy to use hook-and-loop strap around the seat post, and you're on the road.

The same attention to detail and intelligent design found in our Seat Cleat is also present in our other bags. We use sturdy YKK zippers and bar tacking in key stress areas. All bags are sewn with cotton-wrapped, poly-core thread that swells when wet to help keep rain from penetrating needle holes along each seam. Our handlebar bags are equipped with a patented* quick release mounting system, and our Overland panniers feature a removable outer pocket that doubles as a fannypack. Finally, every Cannon-dale bag is crafted from rugged 500 denier Cordura nylon. The larger fibers on 1000 denier fabric are too large for a tight, waterproof weave while the smaller fibers in lighter weight fabrics can't provide the rugged abrasion resistance you need in a bike bag.



Rod and Laura Holmes, formerly of the Cannondale Accounting Department, and companions take timeout for tea in Kerala, India. Photo by Rod Holmes.

^{* (}U.S. patent #4798318.)



ANNONDALE BAGS

SEAT CLEAT MOUNTAIN BAG (B903)
Cannondale's first seat bag for mountain bikes features Seat Cleat convenience, 50 cu. in. capacity and a drawstring closure that allows over-stuffing. A mud flap keeps contents clean and acts as a cinch strap that, along with a foam lining, keeps the bag's contents from rattling.

Colors (codes): Ebony (E), Ebony with jungle green (J), Ebony with red (R), Gray with pink (S).





TOOT SEAT/HANDLEBAR BAG (B905)
Our versatile Toot bag mounts on either saddle rails or handlebars. 160 cu. in. of cargo space can easily hold a patch kit and tire levers with room left over for lunch. Quick access to the bag's contents is made easy by a topmounted, wrap-around YKK zipper.

Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).



SEAT CLEAT EXPANDER (B911)

HOOK-AND-LOOP EXPANDER (B912)
The newest version of our pioneering expandable seat bag features our Seat Cleat mounting system and contrasting gusset colors. With the pull of a zipper the Expander goes from a compact 100 cu. in. wedge to a generous 150 cu. in. seat bag. Also available with hook-and-loop strap-attachment (B912).

Colors (codes): Blue with teal gusset (B), Ebony with ebony gusset (E), Gray with pink gusset (S), Red with ebony gusset (R).



SEAT CLEAT RACER WEDGE (B904)
The sleek, 50 cu. in. capacity Racer Wedge carries on-the-road repair gear with room left over for extras. With several exciting color options, convenient Seat Cleat mounting and an internal elastic strap to secure cargo, the Racer Wedge is both attractive and functional.

Colors (codes): Blue with teal and ebony (B), Ebony (E), Ebony and red (R), Gray with pink (S).



SEAT CLEAT MINI WEDGE (B901)
Our Mini Wedge features our easymounting Seat Cleat attachment system and hot color blocking. Its 25 cu. in. capacity lets you carry essential repair gear, while an internal elastic strap prevents it from rattling inside the bag. Colors (codes): Ebony (E), Ebony with jungle green (J), Ebony with red (R), Gray with pink (S).

SEAT CLEAT FLAT FIXER (B906)

This sharp looking 25 cu. in. capacity mini wedge comes with a full patch kit and three tough tire levers. Featuring hassle-free Seat Cleat attachment, the Flat Fixer's internal elastic strap prevents the patch kit and levers from rattling around inside the bag. *Colors (codes):* Blue (B), Ebony (E), Gray (S), Red (R).



CYCLISTS' FANNYPACK (B085)

Our fannypack's narrow belt and off-center, quick-release buckle let you comfortably bend at the waist, while keys and change stay close at hand in the two convenient side mini-pockets. Padded Flex Panels adjust to your movements and provide a comfortable cushion between you and the bag's contents, and internal elastic cargo straps secure larger items in the 200 cu. in. main pocket. Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).

TRESTLE HANDLEBAR BAG (B556)

Our Trestle handlebar bag provides 660 cu. in. of cargo space in its roomy main compartment along with additional storage area in two smaller outer pockets. Like our Crossroads bag, the Trestle features our composite internal support frame and our patented quick-release system for fast, secure mounting. Two elastic mesh side pockets are perfect for maps, sunscreen and other frequently needed items. Includes map case and shoulder strap.

Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).







CROSSROADS HANDLEBAR BAG (B555)

560 cu. in. of cargo space and our patented quick-release mounting system let you carry a camera, light jacket or other medium size gear on any road or mountain bike. Smaller often-used items can be safely stored in the bag's two elastic mesh side pockets. Our unique internal support frame holds the bag's shape while spreading the load to reduce wear on the seams. Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).

EXPANDER PANNIERS (B088)

Equally at home on front or rear racks, our Expander panniers offer 700 cu. in. of cargo space that you can quickly zip down to 400 cu. in. to keep gear snug and stable against the bike. The Expanders feature our new expansion spring mounting system, a rigid internal frame and two outer pockets per pannier.

Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).





CABOOSE INSULATED RACK CASE (B909)
Our Caboose bag is great for everything from a picnic lunch to delicate items like cameras. It features a removable, water-tight foam liner for insulation and protection from the outside

world. Easily mounted with hook-and-loop straps, this portable cooler can carry a total of 550 cu. in. of gear in its main compartment and three external pockets.

Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).



WHISTLESTOP HANDLEBAR BAG (B907)

A sleek, compact handlebar bag, the Whistlestop features our patented quick-release mounting system that's perfect for both road and mountain bikes. A carrying strap adds to the Whistlestop's convenience, while its 250 cu. in. capacity provides plenty of room for day-riding and commuting. Colors (codes): Blue (B), Ebony (E), Gray (S), Red (R).

OVERLAND REAR PANNIERS (B089)

Perfect for a cross-country odyssey, our Overlands can carry a full 1,250 cu. in. of gear in each bag. Our patented internal support frame holds the bag's shape while forming a handy top platform for carrying large cargo like tents and sleeping bags. With easy access through side zippers, there's no need to unload the top platform to get inside the panniers. The Overlands also feature our new expansion spring mounting system, a mesh side pocket and three exterior cargo pockets per side, including one that converts into a fannypack. *Colors (codes):* Blue (B), Ebony (E), Gray (S), Red (R).

REAR CARRIER RACK (BR85)

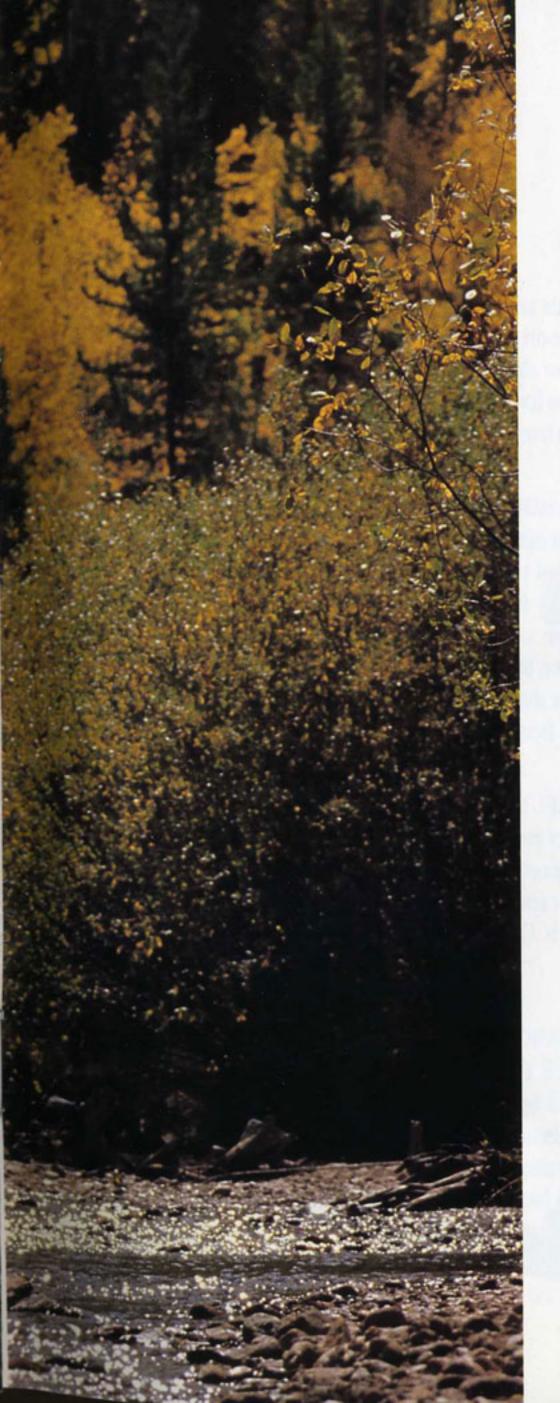
Our lightweight aluminum rear rack tickles the scales at less than 300 grams, yet provides a stable, sturdy platform for panniers, rack trunks and other cargo. Welded for strength, the rack features our patented* one-bolt adjustment and a tough powder coated finish.

Colors (codes): Ebony (E), Jungle green (J),

Red (R), Silver (S), White (W). * #4,66,071







BUGGER BICYCLE TRAILER (B006)

Introduced as the world's first bicycle trailer — and Cannondale's first product — over 20 years ago, the Bugger is a legitimate classic. Constructed around a rugged polyethylene shell that comfortably seats two children (maximum height: 40 inches), the Bugger goes on and off your bike in seconds thanks to our unique torsional hitch. A five-point child restraint system secures children over both shoulders, across the waist and between the legs. Quick-release, child-resistant buckles make getting kids in and out a breeze. The Bugger comes with a soft foam pad for a cushioned ride, and the trailer's head-supporting shell actually allows children to snooze while under way.

BUGGER SUNSHADE (A221)

Help protect your children from prolonged exposure to the sun. Our Sunshade (pictured at right) attaches quickly and easily and can be removed just as fast. The open design provides plenty of flow-through ventilation for cool comfort.

BUGGER RAIN CANOPY (A222)

Seal out the elements with our Rain Canopy and keep children warm and dry. Easy to install or remove, the Rain Canopy features a zippered door and snug, wrap-around fit to keep out rain and spray. Two side windows allow you to peek in on passengers without exposing them to the weather. (Not Shown.)

ANNONDALE ACCESSORIES



A kinder, gentler way to carry your bicycle in a pick-up truck. Photo by Steven C. Wyness.

Transporttm truck rack (A205)

Drive around with an expensive bicycle lying in the bed of your pick-up and you're asking for trouble. All that bouncing and rattling can easily scratch, crush, bend, fold, spindle or mutilate even the most rugged components.

Our Transport Truck Rack offers a kinder, gentler alternative. Clamp the front fork of your bike onto the horizontally-mounted Transport and your bike rides safely and securely in an upright position.

Standard equipment on the Transport allows you to carry two bikes, while additional fork mounts (optional) allow you to carry as many as four bikes, depending on the size of your truck. Optional wheel

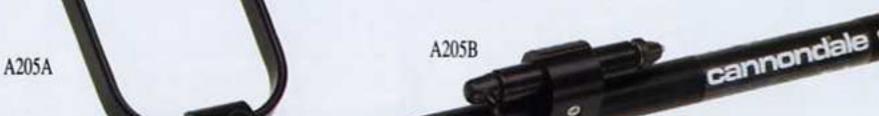
mounts safely stow your front wheel as well. The Transport comes fully assembled, installs without tools or alterations to your truck, and is available in widths for narrow- (54" - 59.5") and wide-bed (60" - 65.5") trucks.

BIKE MOUNT (A205B)

Mount extra bikes (up to four, depending on the width of your truck bed) with additional bike mounts. Bike mounts attach to the Truck Rack with an allen wrench, and hold bikes in an upright position by clamping the front fork with a quick-release mechanism like those used to secure your bike's front wheel. One per package.

WHEEL MOUNT (A205A)

Protect your front wheel by mounting it to your Transport rack alongside your bike. Our front wheel mount attaches easily to the Truck Rack with an allen wrench. One per package.



RIPPLE GRIPtm FOLDING TOOL (A801)

Our Ripple Grip folding tool is a compact tool box that's perfect for roadside repairs, handling everything from tightening a loose stem to popping a stubborn flip-top on an après-cycle Cherry Coke. Tucked neatly inside an ergonomically shaped ABS handle are four allen keys (3, 4, 5 and 6mm.) and self-locking phillips head and flat head screwdrivers. All are constructed from tough, durable chrome vanadium steel, and each is securely anchored to a chrome vanadium steel chassis concealed in the brightly colored handle. Two integral spoke wrenchs, mounted into the base of the handle, complete the package. Spring availability. Colors (codes): Ebony (E), Red (R), Yellow (Y).



DEFLECTORtm BIKE SHIELD (A300)

Our new Deflector bike shield protects your rackmounted bike from airborne hazards ranging from kamikaze bugs and wind-driven rain and grit to the occassional myopic sparrow. In front, a tough, protective panel of windproof and waterproof Cordura nylon absorbs the brunt of the abuse. For a snug, aerodynamic fit, the Deflector's central panel is crafted from a tightly-woven nylon/spandex blend. The rear waterproof panel provides wrap-around protection to your saddle.

Colors (codes): Ebony (E), Ebony with jungle green central panel and large white Cannondale logos (J).

fork-mounting bike racks.

let you throw the Deflector in the washing machine

for quick, easy cleaning. The Deflector fits both

mountain and road bikes, and is also compatible

with triathlon-style aero handlebars and upright or

The Deflector attaches securely to your bike with hook-and-loop straps and non-marring, non-



SIX-IN-ONE FOLDING TOOL (A124)

Four allen keys (3, 4, 5 and 6mm.), a flat head screwdriver and a phillips head screwdriver come packed in a convenient tool ready to handle most of the day-to-day adjustments you perform on your bike. Made of rugged chrome vanadium steel with a tough cellulose acetate handle, our Folding Tool makes a great addition to our Flat Fixertm seat bag. Colors (codes): Ebony (E).



ATERBOTTLES AND CAGES

Cannondale waterbottles are constructed of soft, squeezeable, FDA-approved virgin plastic. Each features a wide mouth that simplifies cleaning and adding ice cubes or powdered energy drinks. Our bottle cages hold your water supply firmly in place, yet allow easy access to a refreshing drink with just a tug.

FAST GRIPtm WRAP-MOUNT WATERBOTTLE (BH05)

FAST GRIPtm BRAZE-ON MOUNT WATERBOTTLE (BH05B)

Our two Fast Grip waterbottles hold a full 25 ounces of your favorite libation. Secured to your frame's down tube, each model offers the hasslefree operation of hook-and-loop attachment. *Colors (codes):* Blue (B), Red (R), White (W).

QUENCHtm WATERBOTTLE (BH02)

SUPERQUENCHtm WATERBOTTLE (BH03)
Compatible with all standard cages, our Quench and Superquench bottles offer you a choice of capacities as well as a choice of colors. Our Quench waterbottle holds a full 24 ounces, while the Superquench's quart capacity makes it a smart choice for longer rides or hot, humid days.

Colors (codes): Blue (B), Clear (X), Clear w/Cannondale logo (C), Ebony (E), Neon print (N), Red (R), White (W), Yellow (Y).

MTB RAGE CAGE (BH60)

Great for mountain biking, our rugged Rage Cage is constructed of solid 1/4 inch welded aluminum rod. Powder coated for a tough finish, the Rage Cage is available in an assortment of colors.

Colors (codes): Blue (B), Ebony (E), Jungle green (J), Red (R), Silver (S), White (W), Yellow (Y).

FLIGHT CAGE (BH85)

Our high-impact Flight Cage weighs in at just 48 grams. Its sleek, efficient styling holds your waterbottle firmly in place, yet allows the removal and reinsertion of the bottle with remarkable ease.

Color (codes): Ebony (E), Hot pink (P), Hot red (H), Jungle (J), White (W).

FEATHERLITE CAGE (BH55)

The excellent strength-to-weight ratio of lightweight aluminum rod allows us to craft a sturdy cage at a mere 40 grams. Our welded Featherlite Cage is available in your choice of seven attractive colors.

Colors (codes): Blue (B), Ebony (E), Jungle green (J), Red (R), Silver (S), White (W), Yellow (Y).



Rod Holmes filling a day's worth of waterbottles in Egypt with the help of a friend. Photo by Laura Holmes.

Cover photo: Not your typical "field" sprint. Darcy Wright at the Park City 1990 NORBA Points Series Race. Photo by Neil Palumbo.

Studio photography by Frank Poole.

THE CANNONDALE LIFETIME GUARANTEE

We are proud to back every Cannondale frame with a lifetime guarantee against any defects, not including normal wear and tear. Frames determined to be defective will be repaired or replaced with a comparable Cannondale frame at no charge to the original owner with proof of purchase. Parts and components not manufactured by Cannondale will carry the warranty provided by the original manufacturer.

Cannondale apparel and accessories are similarly guaranteed against defects, not including normal wear and tear.

This guarantee does not cover items subjected to abuse or conditions judged by Cannondale to be excessive. All claims must be processed through an authorized Cannondale retailer. To find the nearest Cannondale retailer, please call us at 1 800 BIKE USA.

THE CANNONDALE FRAME EXCHANGE POLICY

Cannondale has a unique frame exchange policy to assist our customers with frame problems not covered by our guarantee. Ruin your Cannondale in a crash, outgrow your frame size or lose your bike off the roof rack on the San Diego Freeway, and we'll happily exchange your original frame for a brand new frame at a reduced price. For more information, please call 1 800 BIKE USA. (In PA, or outside the continental U.S., dial 1-814/623-2626.)

SEND US YOUR PHOTOS!

We would love to consider your photographs for use in our catalog. If you have natural, unposed shots that show our products in use and capture the unique spirit of cycling, please send them to Kathy Ceconi at our Georgetown, CT address. Should we decide to use your photos, you will receive \$200 worth of Cannondale products at no charge. Sorry, but only 35mm. slides can be considered. Photos not selected for use will be returned.



A NOTE ON BICYCLE SAFETY...

You can easily reduce the risk of accident and injury while riding by taking a few simple precautions. We strongly encourage you to take these basic steps:

- -Always wear a helmet when riding.
- -Keep your speed under control.
- -Don't ride at night or in inclement weather.
- -Learn and obey all traffic laws that apply to bicycling.
- -Check to insure the quick release skewers on your wheels are properly closed before each ride.
- -Test your brakes for proper operation before each ride.
- -Make sure your bicycle is equipped with a full complement of reflectors. (Every Cannondale bicycle is shipped with those reflectors required by the Consumer Product Safety Commission. If your Cannondale bicycle does not come with reflectors, please contact your retailer or call us toll-free at 1 800 BIKE USA.)
- Have all repair and maintenance work performed by an authorized Cannondale retailer.

We strongly recommend that you familiarize yourself with the basic operation of all the parts on your bicycle. To learn more about cycling safety and bicycle operation, check your library for bicycling books or contact your local bike shop, police department or YMCA about bicycle safety classes.

©1991 Cannondale Corporation, Georgetown, CT 06829 For more information, call 1 800 BIKE USA

All components and specifications subject to change without notice.