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WHEN KIDS ATE WALNUTS AND FEARED QUICKSAND (RR 11)

A few months ago one of you said in a letter that *technology makes work better and recreation worse*. I wish I'd said it, but I can at least relate to it. When I fish, I want a fly rod that looks pretty and flexes right and doesn't wiggle; I'm not waiting for one that guarantees no tailing loops. When I'm take a picture, I want a camera that works like an eyeball, not a brain*; and when I'm riding I want a bicycle I can shift ten times better than a baby Martian can, and if it's a mountain bike, I want one that doesn't technologically insulate me entirely from the bumps, because manageable bumps make it fun.

I think lots of riders load up on bicycle technology because—well, there's not a lot of choice in the matter these days, for one thing—but mostly because they see shifting and braking and bumps in the trail as hassles, obstacles, hurdles—challenges they'd best tackle with as much technology as their wallets and spouses allow.

That approach makes the bike a serious tool, and if you think of your bicycle as a tool, you'll think of riding it as work. Bikes are fun, toys are fun, therefore bikes are toys—even when you're grunting up Mt. Jumbo. Most people justify expensive tools, but not expensive toys, because in their heads tools are on a higher rung than toys. That's a little reversed, and maybe it stems from the same source that—oh, forget it. I'm getting into pop psychology here, and that's not the plan.

A huge part of the fun I get riding my bike is feeling the bar tape, shifting my hands around on the bars and brake

hoods, feeling the brake cables with my thumbs, and shifting gears and correcting bad shifts. This is getting seriously near to sappy, and I sure don't want that, but I'm trying to relate it to *technology makes work better and recreation worse*, and I think the point I'm trying to make is that some bikes are more tactile and fun to feel than others—and it seems to me that as conveniences climb, that declines. I just thought of an exception, and it came to me so fast it makes me think there might be a dozen more: Cyclometers. Personally I hate them, but I think maybe that's because back when I used to ride with one, I was always pushing myself to maintain and improve the numbers. It made riding work, not play.

I called Maynard yesterday to see if he'd do a story for the Reader, a particular one that might not be up his alley, but he'd be good for it. Our conversation strayed and he told me Shimano'd given him one of the new Ultegra groups with the built-in video-robot that tells you what gear you're in and how fast you're pedaling, so you know you're in the right gear. Sometimes I think Maynard throws these scalding cauldrons in my lap to see if I'll leap up screaming, but this time it was just an innocent comment.

He said it shifted so well, and so silently, and so fast, that without the video you might not even know you're shifted gears. Whether that appeals to you depends on how you feel about clicks and clunks. I like them, because over the years I've gotten used to them, and now they seem like the voice of the bike. (Now that's sappy.) I like quiet bikes,

*sometimes I like the brainy ones

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FRAME NEWS

THE ROAD STANDARD AND LONGLOW ARE NOW MADE IN CALIFORNIA

It seemed important for a small business (four employees) to have an alternate supplier, so starting last October, the Road Standard and LongLow have been made in our home state. This is not a nasty divorce from Waterford!

The fact is, Waterford has grown a lot since we first signed up with them, and taking away our Road Standard and LongLow means we won't have four models competing with each other for factory man-hours. Equally important, we're more involved this way.

When we get a frame order, we look at your weight, frame size, what you're used to riding and what you're looking for in a new frame, and select each tube accordingly, and that kind of personalizing requires the kind of attention we're now able to give it.

We have a terrific selection of standard and custom tubes, all high-strength, heat-treated or vanadium-alloyed steel, from Reynolds of England, Dedacciai and Columbus of Italy, and Vitus of France.

There are five different top tubes, six different down tubes, four different seat tubes, seven different seat stays, five different chainstays, five different fork blades, three different steer tubes.

Once we have all your information, we pick a mix just for you; and if you're thinking *what about the tubing sticker?*, well, there isn't any. But when you get your receipt you'll see each tube identified, and then when your friends ask, **'What's it made of?'** you can tell them, tube by tube.

All the tube makers have their strengths; which really means we like some main tubes better than others, some chainstays better than others, some fork blades better than others. Seat stays are all about the same.



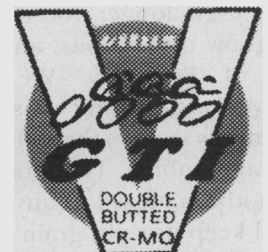
Vitus is a French company better known for its aluminum than its premium seamless steel tubing. Rut Vitus has made absolutely top-line steel tubing since at least the mid-'70s. I liked it so much back then that I got a Vitus **983** tubeset and had a custom frame made from it. But like so many nice French things, it has always been under-marketed here in the **U.S.**, so if you want it you have to really seek it out. We import it directly from France, as there's no US distributor. Vitus has a great selection of

tubes. Other makers may have a more extensive selection overall, **but** in the normal-sized tubes we use, Vitus has probably the best selection. For instance, they're the only ones to make a 28.6mm tube in 0.8 x 0.6 x 0.8mm thickness; we had to get these custom before now.

The Vitus steel is **all** "18mcdv6," the same vanadium-improved CrMo as used by Dedacciai, the new Italian rage. I thought only

Dedacciai had this alloy, so I asked Mr. Rollin at Vitus "**do** you get your tubes from Dedacciai?" and he said no, Dedacciai and Vitus both buy from the same French steel mill, then process the steel their own way.

I like the Vitus main tubes a lot. Beside the 8-6-8 down-tube, there's a 9-7-6-7-9 (triple-butted) downtube, and a smart 9-7-6 seat tube. And, while most other tubers thin out their high-strength steels too much, Vitus offers both thick- and thin-walled tubes in 18mcdv6. Most other tubers would think "what's the point?" and do it only as a custom with high minimums; but I like the option, and we use it on some big boy bikes.



Vitus chainstays are 390mm, 20mm shorter than Reynolds and Columbus stays. So when we use the Vitus stays, we also use a Tecnociclo dropout model that has added length to make up for it. This particular dropout model is the Pave, and its name and design suggest it was designed for Paris-Roubaix, that cobblestone race that brutalizes most bikes. Racers often ride special frames with longer chainstays and greater clearance for this race, and the Pave dropout makes that happen. Anyway, it's a good mate with Vitus chainstays.

Dedaccia has good tubes and seems more willing than others to do customs, but the fax number seems to change a lot, and it's hard to communicate with them. We finally got an order in, but we'd get more if we could count on delivery. Dedaccia is probably the most popular tubing these days on fancy Italian bikes, so we can't expect them to bend over backwards for our business. They did make us custom tubes, though—and offer 30-day terms.



Reynolds is great, really easy to work with, seems willing to do custom tubes. and I really like the 753 and the 725 (heat-treated CrMo, just as strong as 753). I wish the 531 fork blades were a little longer, and they're trying to get some for us. The 531 blades are 370mm long, like Vitus. Columbus and Dedaccia are both 390mm, and that works better for certain models. The 725 tubing has the same strength as 753, but is less heat sensitive—not a bad thing—so it doesn't require the builder pass a test to build with it. Our builder (you'll meet him) is 753 certified, however, and treats all tubes as though they were 753.



Columbus's strong point is its fork blades, which are long enough stock, and have a nice shape. They're making some even longer for us, in both Road Standard and LongLow dimensions, and we should have them by the end of February. We expect delays! Columbus's nivachrome tubing has nickel and vanadium, and Columbus says it's the only steel made specifically for bicycle frame tubing. That doesn't make it any better, but it is as good a material as anything. The vanadium helps the metal keep its tight grain structure under the heat of the torch. It was developed primarily (I think) for tig-welding;

and when you silver-braze it, there's almost no change to the metal's grain structure and mechanical properties. (Vitus and Dedacciai also have vanadium-alloyed steels.)

(COLUMBUS) A typical Road frame these days has two to four brands of

tubing. We can easily do all Vitus or all Reynolds in certain models and sizes, but we prefer to mix it up, and most of our customers, once they understand the logic, like the idea that, combined with their own color choice and cosmetic details, they very likely have a one-of-a-kind frame.

We measure all the tubes, weigh them for roundness, straightness, and wall thickness, and weed out any that fall out of a narrow, acceptable range. (We save those tubes for future samples, or our own personal bikes.) It's more expensive to build a frame this way, but if our situations were reversed we'd expect no less from you.

WHO BUILDS THEM?

Joe Starck. Joe is 37. He began building frames in the mid '70s—at Trek—and later signed on with Masi/California. After a year of building forks, he became head builder there, and during the next five years built thousands of Masi Gran Criteriums (basic road Masi) and Volumetricas (oversized, thin-wall). Masi was and still is regarded as the premier Italian bicycle frame, and most Masi aficionados regard the California-built as the best of them.

Joe's approach to frames and his love of lugs and traditional methods parallel our own, and his brazing skills and clean finish work are as good as they get. We're really thrilled to have Joe build Rivendells, and will profile him in depth in RR-12.

NEW PAINTER, SIMILAR COLORS

The new painter is another Joe—Bell, or JB, as he's known. JB has painted lots of fancy bikes over the past 22 years. He's the guy who paints Richard Sachs frames, among others, and he and his small crew (Rob, Ralph, Tony) do fantastic work. He could have matched our 1997 colors exactly, but we opted to shoot for the same general colors we had at Wford, and accept the best local interpretations of them. We like dealing with JB. He is a rare combination of competence-based confidence and humility. For instance:

- When he painted the prototype, he filled in the lug windows with the same creamy paint as the head tube. You'd expect a prototype to be painted according to the instructions, but he said, "I thought the frame looked unfinished, so I did the windows." It looks great, and now almost every frame comes with window fill.

- He appreciates our business, but he didn't make any promises he couldn't keep to get it. He said, "expect me to be late with the painting. We don't rush any jobs, and we don't let frames out of here until they look (perfect), and sometimes have to do it over and over. And paint takes a loooooong time to dry, you know."
- He's reluctant to hand-paint names on frames. He told me "I've seen the Waterford jobs, and that guy (Ron) is *talented*. I can't do that." He prefers letter transfers, and whether you get letter transfers or a hand written name depends on his confidence that day.
- Although many consider JB at the top of his craft, he himself said, "There are lots of other painters who do at least as good a job as we do." The evidence doesn't support that, but the humility is refreshing.
- We were willing to pay the extra charge for pearls (a special effect that looks good), but then JB figured out a way to get us the pearly look without the extra step they ordinarily require. I'm not saying he knows how to skip a step and get the same result exactly, but we were going for a particular look, not a specific style (candy or pearl or whatever). He easily could have eliminated the step and charged us for it, and how many wouldn't have? He saved us money, and we're passing it on to you. On the other hand, when I asked if we could get a volume discount for sending a couple hundred frames to him this year, he said something like "All my customers are equally important, and these paint jobs just cost a lot of money. I know we're not cheap, but no volume discounts."
- Since JB's listed in the directory as a bicycle frame painter, he often gets requests to paint bikes, for neighborhood kids. He doesn't just blow them off and tell them to scat—if he's not the right guy for it, he helps them find someone who is.

1998 Colors

. ("Solid" in a description means "not metallic or pearl.")

1. **Silver metallic.** Fine-grained, classic, low-key.
2. **Solid dark orange.** Not yellowy or reddish. Looks strong and orangy in sunlight, rich on dark days.
3. **Dark orange pearl.** Ritzier than the solid orange. It's dazzling, actually, but dark enough to not look garish.
4. **Solid green.** Like Coleman stove green, but a little prettier. Best with creamy head tube and window fill.
5. **Rich green.** Dark and kelly-like, hint of candy, fancy.
6. **Light green metallic.** Silvery green, medium grain.
7. **Light blue.** Light pewtery blue with a silky look. Get it!
8. **Red.** Winelike. oxblood-like. Fine-grained sparkle.
9. **Deep blue metallic.** Two-thirds of the way between royal and navy. If you like darkish blues, you'll like this.
10. **JB's choice:** He knows our style and decals, so he'll choose the tasteful color and make every one different. If you want a one-of-a-kind and are willing to gamble, choose Joe's choice and be surprised.

We'll soon have all the colors on our web site, and in the

meantime, we'll send samples when you order a frame.

PRICES, OPTIONS & UPCHARGES

0. Single color painted frame and fork: \$1100 until Feb 12. After that it's **\$1225.** (Our costs have increased more than this price increase.) Deposits hold the price at time of deposit.

1. Painted head tube-\$100

Cream. It looks English and shows off the lugs. Our opinion?—Get it. Over time the \$100 will mean nothing, and the effect will be there every time you look at your bike.

3. Window fill-\$50

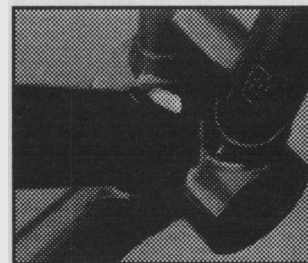
The fork crown, lug, and brake bridge tang windows are filled in with the same cream as the head tube. If you want a silver frame, you get blue or multicolored (fancy!).

4. Name-on-the-top tube -\$25

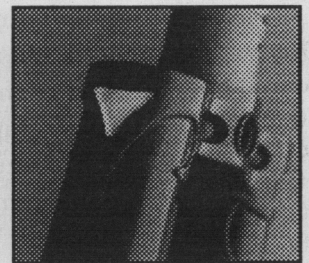
Front or rear, L or R side. If we mispell your name, we'll knock a few bucks off the \$25 fee. How does \$22 sound?

5. FrameSavering-\$25

If you get your frame without bottom bracket, buy a can of Framesaver for \$12 and do it yourself and have enough left over for 3 more frames. If you get a bb installed, pay the \$25. We'll do your frame and give you the leftover.



Windowfill in bb shell



Windowfill in Road Std fork crown.

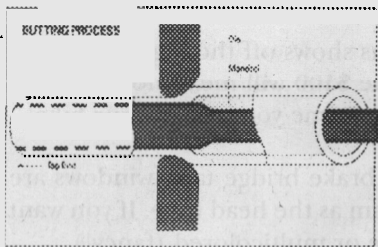


Back & the seat lug. This photo may not show it, but this part of the bike looks like a bushy-eyed robot with stiff arms.



Windowfill in the seat stay bridge reinforcements

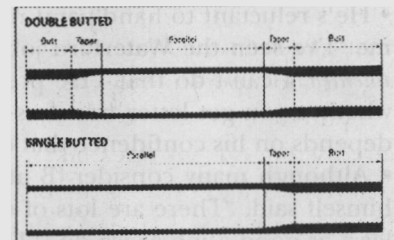
THE STEEL IN A FRAME



Butting a tube

THIS IS ABOUT TUBES, DROPOUTS, LUGS, CROWNS, AND ALL THE OTHER BITS OF STEEL THAT GO INTO A RIVENDELL FRAME. THAT'S A WARNING—IF IT SOUNDS BORING, IT WILL BE! IT'S HARD TO TALK ABOUT FRAME TUBING WITHOUT USING THE LANGUAGE OF FRAME TUBING, AND IF YOU DON'T KNOW THE LANGUAGE YOU'LL GET LOST IN NO TIME. SO: A BUTT IS THE THICK-WALLED END OF A TUBE. A BELLY IS THE THINNER MIDSECTION. TUBE DIMENSIONS ARE METRIC. WALL THICKNESSES ARE LIST-

ED IN TERMS OF MILLIMETERS, SO 8-0-8, REFERS TO A TUBE THAT'S 0.8MM AT THE BUTTED ENDS AND 0.6MM IN THE BELLY. IF THE TUBE IS 1MM THICK AT THE ENDS, AND 7MM IN THE BELLY, IT'S WRITTEN 1-7-1.



A typical downtube or top tube (top)
A typical seat tube

1. Top tube.

Typically 635mm/25-inches long before cutting. All our top tubes are 28.6mm in diameter. The old road standard was 25.4, and this is still a nice size for small to medium frames. But we didn't want to have another two lugs made for that size top tube (upper head and seat lug), so we went to 28.6mm on all sizes. It's not a major cop-out, since this size looks good on small and big bikes. We use downtubes and seat tubes for top tubes. Most pure top tubes have 80mm butts, but we like 100 or so, so we buy downtubes (which have 100 to 125mm butts) and chop accordingly. Our light top tubes are 8-5-8. By modern standards, that's a medium weight top tube. Our standard top tubes are 8-5-8 or 8-6-8, but for heavier riders and bigger frames, we've gone up to 9-6-9. The fatter the belly, the more dent-resistance, but in real life there's a fine line between a smack that would dent a 0.5mm belly and not a 0.6mm, so if you really love your frame, wrap the handlebar-contact point with some cloth tape, to absorb a blow that would otherwise dent the tube. A typical top tube weighs 7.5 to 8.9oz.

2. Seat tube.

Typically the same 635mm/25-inches as the top tube, which allows us to build a frame up to about 65cm. We have 680s for giant frames. Most seat tubes are single-butted, down at the bottom. Butts range from 0.7 to 1.0, and we use 0.8 to 1.0, but mostly 0.9. Reynolds butts are

typically 125mm, most others are 150; Vitus seat tube butts are 170mm (but can be chopped to whatever you like). We got six Tange Prestige seat tubes in 1-86—a wonderful, smart tube for a big frame—but we're out of them now. Vitus makes a nice 9-7-6, a good one for big frames. A .6mm top end generally yields a 27.2 seat post. $28.6\text{mm} - (2 \times 0.6\text{mm}) = 27.4\text{mm}$, but after heating and shrinking, it works out to 27.2. A typical raw seat tube weighs 8.8 to 9.8oz.

3. Down tube.

620 to 650mm as purchased. Usually double-butted, although Vitus has a neat 9-7-6-7-9 (triple-butted) tube, which we use on some frames. Upper downtube butts range from 100mm (Reynolds) to 125mm (most others). The lower end of the downtube, near the bottom bracket, has the longer but. This is the end you chop from. Most tubes are marked with the manufacturer's name on one end of the tube, and that end you leave alone (typically; some builders, working on superlight frames, map chop from both ends to eliminate most of the butt). A typical uncut down tube weighs 10 to 11.5oz.

4. Chainstays.

Raw chainstays used to come 440mm, but since modern bikes have too-short chainstays, the tubing manufacturers are now making too-short chainstays. Reynolds and Columbus are 410mm; Vitus is 390mm. We can still make

long-chainstay frames with these, but it takes some tricky dropout selection. We're working with the tubers to get us longer ones to start, though.

The classic road chainstay is a round 22.2mm in diameter at the point where it enters the bottom bracket shell, then flattens to 26mm x 17mm at the point where the tire passes it (to increase tire clearance), and then it turns round again and tapers to about 13mm at its end. This is called a "round-oval-round" (ROR) chainstay. All round chainstays are used mostly for track bikes, but we like them for some tall frames, and denting the insides for tire clearance.

Back in the '70s there were three "standard" road chainstays. Columbus had SL chainstays in 0.7mm thickness (at the fat end), which they recommended for riders under 160lb, and SP chainstays, which they recommended for riders over that. But these were regarded as ultra-conservative recommendations, and in practice riders up to 180 at least routinely road the thinnies. Meanwhile, Reynolds's road chainstays were 0.8mm.

These days a typical Rivendell chainstay is still the same 22.2mm, and we have them in 0.7, 0.8, 0.9, and 1.0mm. The steels we use are "enhanced" alloys—stronger than the classics, either by virtue of heat treatment or alloying with vanadium. We use the 0.7s for Road Standard riders under 160lb, and the other sizes for LongLows and heavier riders. The right chainstay is stressed more than the left (one can conclude this from having seen at least 60 broken right chainstays over the past 20 years, and zero broken lefts), so theoretically it would make sense to spec a heavier right chainstay, and we sometimes do that.

Many of the fancy new oversized/thinwall high tech tube-sets come with extreme oval chainstays instead of the classic round-oval-round style. We have some of these, and shells to go with them, and may use them on some large frameset. They don't look too funny, and they offer really nice tire and chainwheel clearances.

5. Seat Stays

These are the least-stressed tubes on a bike, and vary the most in dimensions. Most common is the single tapered (ST), sometimes called conical, because they're shaped like cones. They're fat up near the seat post, tapering as they near the dropout. Conical seat stays typically are 16mm or 14mm at the fat end. 11mm, 12mm or 13mm at the dropout end. The other style is double-tapered (DT, or "biconical"), meaning they're smaller at the tips and fatter in the middle. Typical outer dimensions are 14mm

x 16mm x 12mm. Seat stays weigh between 7oz and 10oz per pair. The trend in superlight steel road bikes is to go fatter outside and thinner in the wall—16mm x 0.6, and even 19mm x 0.5. That looks weird and we don't like it.

We have a good selection of ST and DT seat stays, ranging in size from 14mm to 16mm, in wall thickness of 0.6mm, 0.7mm, 0.8mm, 0.9mm, and 1.0mm. The seat stays you get on your Rivendell depend your weight, frame size, and the fit-up with your frame's seat- and chainstays.

6. Fork blades.

The standard fork blade starts as a 24mm diameter tube, either 0.9mm or 1.0mm thick at one end, and 0.5mm or 0.6mm thick at the other. (The thick part is the butt, and it's about 80 to 90mm long). Then the tube is tapered to 13mm at the dropout end, and if it's going to be a classic road blade, the 24mm fat end is ovalized. Reynolds blades are 27.5 x 20, Columbus are 28 x 19. They're interchangeable in crowns designed for standard fork blades. Our LongLow has full-round 24mm blades, as do the Heron Road and Touring frames, classic track bikes, and some fancy English frames.. A round blade looks 'skinnier' from the side, and that looks pretty nice. In theory, the oval blades resist fore-aft forces better, and the round blades resist lateral forces better. We've tried to tell a difference and can't.

One of our frustrations has been getting long enough fork blades. Older bikes had longer forks, new bikes typically have shorter ones, and the combination of good clearance and flat crowns (which require longer forks; think about it) increases the need for—more length. Reynolds, Columbus, and Vitus are making us custom lengths. A normal road fork blade weighs 6oz to 7oz.

7. Steer tube.

The typical steer tube is about 2.3mm thick at the bottom where it enters the crown, and 1.5mm thick everywhere else. The lower, butted portion of Tange, Columbus, and Vitus steerers has raised ribs to increase stiffness in an area that couldn't possibly benefit. Reynolds steerers aren't ribbed, just butted. Reynolds also has a 1.5mm unbutted steerer, which seems risky, but in fact it's a heat-treated one that plain doesn't break. A typical steer tube weighs around 10.8oz.

8. Head tube, head tube extension.

Head tubes aren't as complicated as the other tubes, and our only requirement is that they be made of CrMo or some other reasonably strong steel. Our head tubes are

31.7mm in diameter, and 0.9 or 1.0mm thick. Most of our head tubes are Reynolds **531**. Making head tubes from super high strength steels is like making toothpicks out of laminated hickory. On our frames we extend the head tube past the head lug, then braze on another sleeve (the head tube extension, or HTX). This sets the headset and all that sticks out of it higher up, allowing you to get the bars higher. The HTX weighs half an ounce.

10. Dropouts

All dropouts are made in Italy by Tecnociclo, of a vanadium-improved steel that suffers little under heat. We keep a selection of four or five different models, and choose the ones that mate best with your frame's seat- and chain-stays. Weight per frame: **6** to 8oz.

11. Fork crown

A fork without a crown is like a pants without a pockets. **You** end up looking at a crown a lot when you ride, so we like the nice ones. Flat crowns are the oldest and now rarest style, and they're the only kind we use. We get many requests from other builders to buy our crown, and it's flattering, but the 'only ones we've sold have gone to Tom Ritchey, for his Swiss Cross bikes; and Waterford has used a few for its W13. Our Road Standard crown weighs 3.6oz, the LongLow crown weighs about 5.3oz.

12. Investment Cast M.I.T. Lugs

About 3.8 ounces the set. Taiwan is a haven for investment casting, and the U.S. government has had things made by the same vendor that makes our lugs. All the Italian investment castings come from Taiwan, and even the BB shells we got from France—beautiful shells that fit our frames really well—came from Taiwan. I asked the fellow “Are these French? Or Taiwanese?” He said “No, no, we like to support our European makers. **So** we get these from Italy.” That was true, but when I opened the box and looked at the first one, it had the familiar mark of a top Taiwan casting house right there on the bottom. But they were routed through Italy. We've tried to get lugs made here, but the tooling cost is five times as high, the per-piece prices is six times as high, the minimum runs are four times as high, and at best the quality would be equal. Most of the time when we speak to U.S.-based investment casters, we **say** “bicycle,” and they think “toy,” and start bragging about all rocketship parts they do for NASA. The casters in Taiwan specialize in bicycle castings, they know the shrink rates and particulars of the pieces, and they do a great job. Plus, they're eager to do business and seem

genuinely appreciative. We're still pursuing U.S.-made lugs (for our stem project, among others) because it would be convenient to have a closer source; but so far we haven't found a good fit.

13. Bottom bracket shell.

We use several similar models, from the **U.S.** (Henry James), Taiwan (Everstand Long Shen), Italy and France (see previous paragraph). They're all good. We look for angles that fit our range of frame geometries closest, and then Joe moves the metal to make the fit perfect. A typical bottom bracket shell weighs 5 to 6oz. Some have cast-in guides, some use screw-on cable guides, and we don't favor one way over the other. One has an open window in the bottom (a practice that originated to lighten, fancify, and allow water to drain). Although the window seems counter to our grouchy, common sense/down to earth the window doesn't bother **us** at all. It isn't a weak point, and this particular shell (a “French” one) has ideal geometry for many of our frames.

10. Bits and pieces

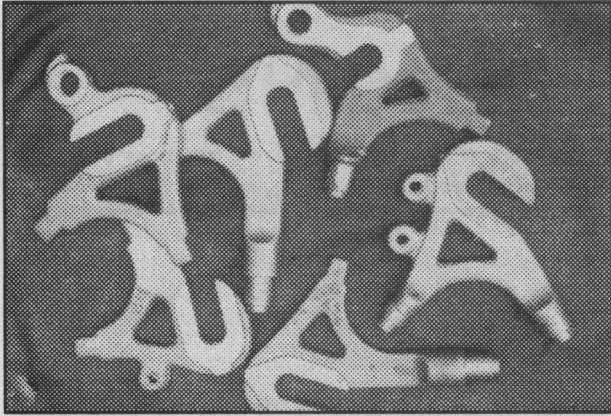
Brake bridge, chainstay bridge, pump peg, four bottle bosses with stars. These come from Italy, the U.S., Japan. All told, these weigh just a little tiny bit.

11. Silver brazing rod.

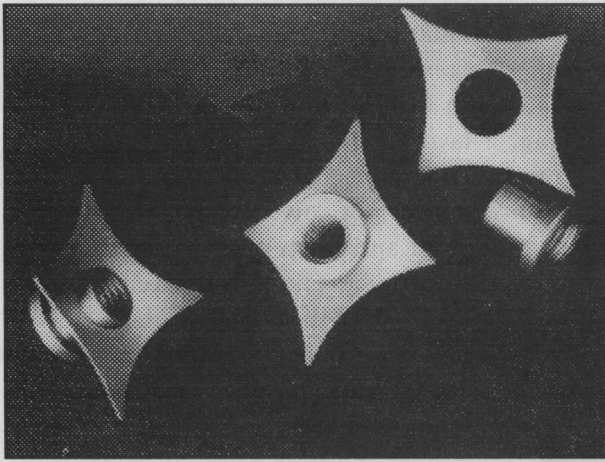
It's not pure silver; it's called “silver” because it has a higher percentage of silver than brass rod does. **So** it's sort of like a copper penny in that respect. Silver rod sells for roughly \$8.50 per ounce, and there's about 1.5oz in each frame.

Paint, Decals

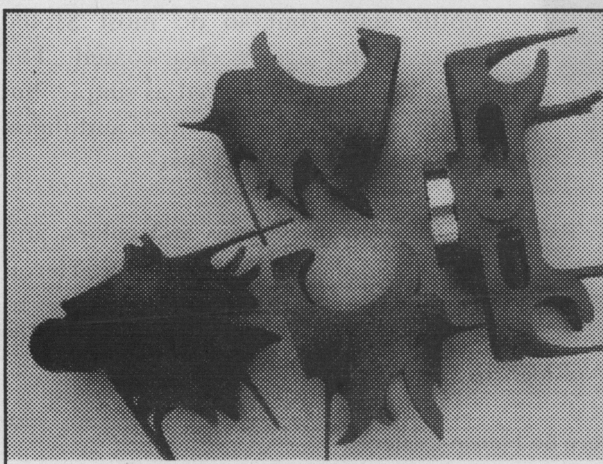
Adds 3-4oz. Rivendells are covered with either DuPont Imron or House of Kolor paint, and clear-coated to add depth and protect the decals. The decals are made by Screen Specialties in North Carolina. Virtually all limited production, custom, and vintage bike decals come from Screen Specialties. Proprietor Gary Prange has been doing decals longer and better than anyone alive, and nobody's as good or as easy to work with. We have a few variations, and choose the best one for your particular color—don't ask to see the choices, because there aren't any!



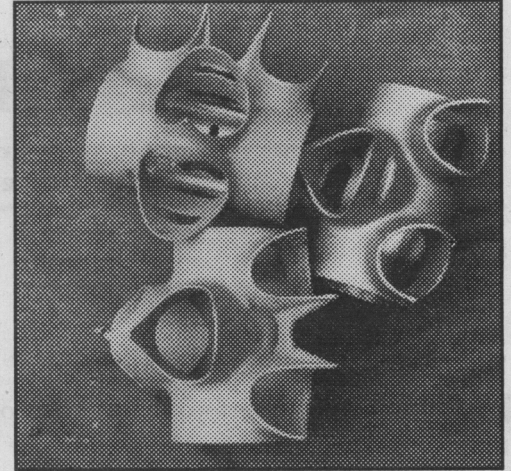
Like BB shells, your frame's dropouts are determined by the geometry and tubes. Depending on the frame, we may cut off an eyelet or braze one on. All Rivendell dropouts have at least one eyelet. Zero is not an option.



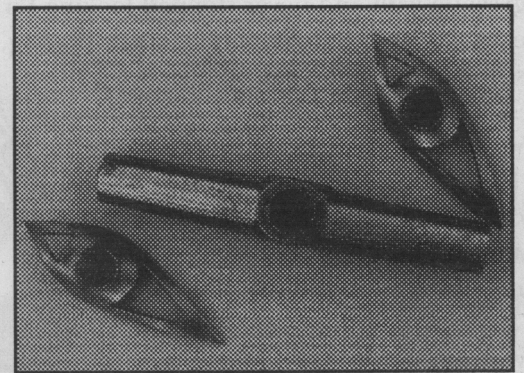
Bottle bosses and diamond-reinforcements. The reinforcements are purely cosmetic and add tedium to the build, which is why few frames have them. Shown much larger than actual size.



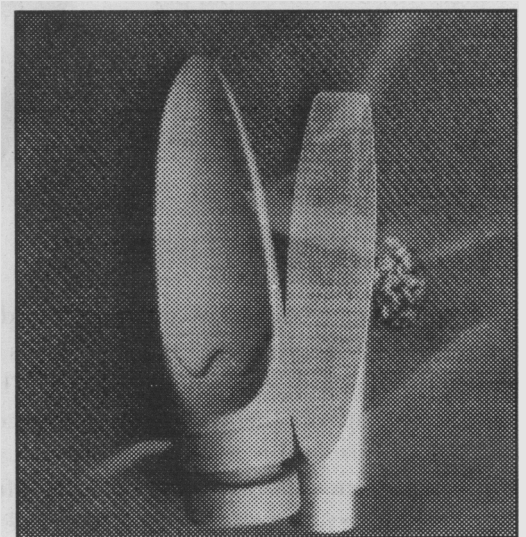
Our standard Road lugs and crown. Some larger sizes get different lugs, equally pretty, but sized for a fatter down-tube. Long Lows get a different crown, for round-bladed forks. Shown smaller than actual size.



Left: We use several different shells, all good ones. The shell we pick depends on the frame's geometry, our mood that day, and what we have on hand.



Rear brake bridge/seat stay bridge and reinforcing tangs. Shown nearly actual size.



These plug into the seat stays. We use many different seat stays, and each has its unique inside diameter, so we need several different plugs, too.

ALL ABOUT HERONS

THEY'RE NEW, THEY'RE GOOD, THEY COST \$700 (MEMBER PRICE), AND IF YOU'RE READING THIS AFTER FEBRUARY 2, THEY'RE READY TO SHIP RIGHT NOW.

Rivendell, Waterford, and Rona Components formed a joint venture to produce high quality, U.S.-built, budget-priced frames—sort of a Volkswagen with a pedigree—and we named them Heron, after the bird. The concept is simple—blue-collar bicycle frames with tradition, quality, and class. We wanted Herons to have elements we all grew up with and never stopped looking for in a nice bike frame: hand-building, silver brazing, lugs, and a real metal nameplate.

As we've said many times before, there are lots of strong ways to join tubes. We much prefer silver brazing because it's gentle on the tubes and makes the frame easier to repair. We like lugs for the way they look and the way they strengthen frame joints, like external butting. It's hard to justify nameplates (formerly known as head badges) from a functional perspective, but their chunky permanence is nice.

With Herons, you get all these things, and you as a Rivendell member pay just \$700.

Hérons are cheap (affordable) for good reasons.

First, we're limiting models, sizes and colors, and standardizing specs so they can be built in batches. **Second**, we're buying and selling as direct as possible. That eliminates extra markups in the chain of commerce. **Third**, we're trimming our profits with the hope that we'll sell more frames. In fact, with three fingers in the Heron pie, none of us is making much money on it; but we're well into it now and are giving it a go, and if the volume creeps up toward 500 so a year without completely cannibalizing

Rivendell or Waterford sales, we'll relax a little more. Meanwhile, they're just really good deals.

What are the differences between a Rivendell and a Heron?

1. Rivendells are built with fancier tubing. It has better numbers (greater tensile strength, etc.) and costs more.

Hérons are built with Reynolds 531, the classic road tubing, a favorite for years among tourists and racers. To suggest that Reynolds 531 (say "five-three-one", not "five thirty-one" or "five hundred and thirty-one") is anything less than a superb tubing for bicycle frames is nutso. Five-three-one frames are legendary for their durability, and you can expect your Heron to be around thirty years from now.

2. Rivendells have more hand finishing, fancier detailing (bottle boss stars, lug thinning) and are clear-coated; Herons have minimal hand finishing, lack the bottle stars (but so do most \$1,400 frames), and aren't clear-coated. The Heron lugs were conceived as simple, but we added curves and points here and there, and they came out looking great.

3. Rivendells come in more sizes and colors, and have more options. One of the keys to getting the Heron prices down was simplifying, and the most effective way to do that is to standardize production, to build and paint in batches of like sizes and colors.

Will there be Heron dealers?

Maybe only four, and we'll sell to these dealers at no profit. We feel no obligation to do that across the nation.



Starting January 26, we can deliver your frame fourteen days after we receive order and payment. If you want a complete bike, give us a month (more on this later).

TWO MODELS: Road & Touring

Both are 700c-wheeled bikes, except for the 53cm Touring, which is designed around 26-inch wheels, because the clearances needed for a real, dedicated touring frame don't allow the larger 700c wheels to fit and the particulars of the geometry just so happened to work with the lugs. Eventually we'll have a nice color brochure or a set of postcards. Meanwhile, if you want snapshots, call and we'll send.

Heron Road Frame

Sizes: 52 - 54 - 56 - 58 - 60 - 62 (center-to-top)

With lots of the same features as Rivendells, and are just as versatile. You can put fenders on it, or ride it with 700x35s on bad roads and fire trails, and you can race it on a smooth course. Our priorities were to design a versatile, all-around road frame that you can ride on any surface, and one that offers more comfort—by means of a proper riding position—than 99 percent of the frames you can shake a stick at. Two eyelets per dropout, which is marginally strange for a “road” bike. But that's how the dropouts came, and we didn't want to chop one off.

Heron Touring Frame

Sizes: 53 - 55 - 57 - 59 - 61 - 63 (center-to-top)

A good all-purpose rough-stuff bike. The stout frame, and good clearances for mud, fat tires and fenders, make it ideal for trail riding and bad-weather/bad-road riding.

It's smooth and stable by virtue of its wheelbase and steering geometry, but no way does it feel like a station wago. It corners hard and fast without any wrestling, and you don't have to wrestle it into compliance like you do with a lot of road bikes. It'll build up into a wonderful bike for commuting, long distance riding, or light trail riding. If all your bikes are road bikes and none of them accommodate fenders or racks and so are pretty useless in the winter, why not get a Heron Touring and ride a bike with a different personality for a few months out of the year? You'll stay clean, at least, and you'll probably ride it half the time when the weather's perfect, too.

For true, loaded touring, this frame is perfect. Although deep down we prefer 26-inch wheels for fully loaded touring, 700c is the American favorite size, and done right (good rim, enough spokes, good build, low dish), the 700c wheels do a great job. The clearances are right for fat

tires and fenders, and it's a rigid enough frame to handle heavy loads without squawking.

Colors

- pewtery silver or dark blue metallic.

Sizing & Set-Up

All fitting methods and formulas and systems and devices have a built-in bias, and ours is comfort. And despite what you may hear about the comfort-enhancing properties of this or that tube material, the fact is that most of a bike's comfort is determined by your position on the bike (most-ly, how high the bars are relative to the saddle). If your saddle is much higher than the bar, you're leaning over too far and supporting your weight on your hands and with your arms, like holding yourself in a push-up position. Your arms are tense, like a jackhammer operator's, and it's not good for you or fun. The Heron size recommendations in the **Sizing by Saddle Height** chart later on allow you to get the bars higher.

The Best Way To Get the Right Size

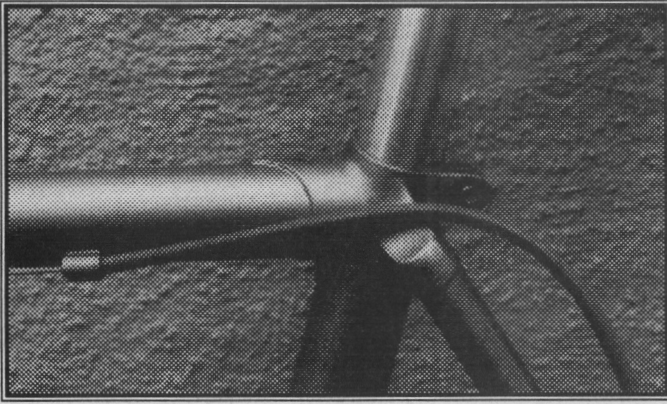
If you absolutely know your best saddle height (center of bottom bracket to top of the saddle, parallel to the seat tube), go by the **Saddle Height** chart. The numbers are the result of all our experience, and we'll stake our reputation on them. Again, they may not work for all bikes, but they do for Herons.

Notes:

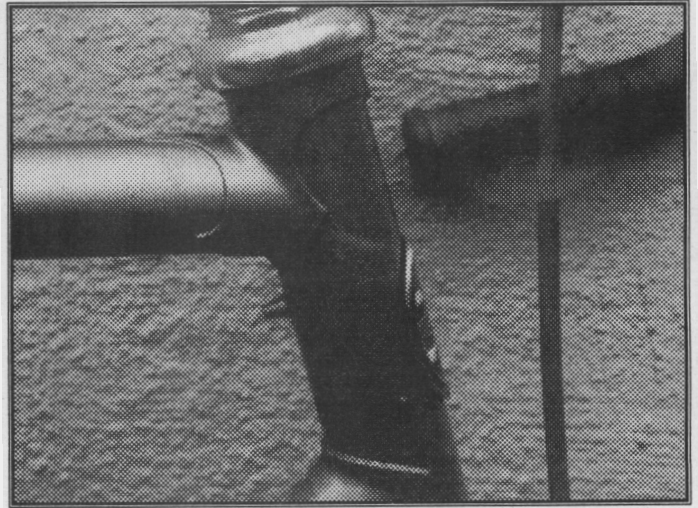
- 1) Smaller tires lower standover height, increasing crotch clearance. The sizes we recommend here assume a 700x32 road tire, and a 700x38 touring tire. If you're between sizes and ride smaller tires, you can get the larger frame.
- 2) We size bikes in a way that results in a bigger frame than a typical fit-kitter will recommend. Fine tuning is done with the seat post, stem, and bars.



The Heron decal revives the styling of the old Cinelli decal, before Cinelli went to the disappointing “winged C”. Otr tse & color is a little bit different, so don't yell at us for copying it exactly.



The seat lug is the least sveltly beautiful part of the Heron frame, and it's still not that bad. The cast-in seat stay pockets are almost as quick to build with as a tig-welded joint, but look better than those, and are rock-solid strong. The binder bolt is included. All frames take a 27.2mm seat post, the most common size.

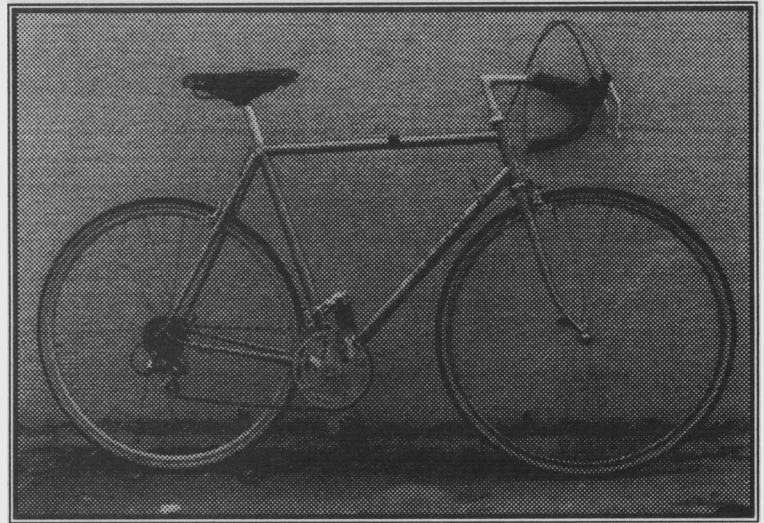


We like the head lags. More medieval-knight-like than faerie-like. They have thick waists with nice scalloped sides and points. A 5mm head tube extension is cast-in. The joints are as strong as they look.



Here's our Heron poster. Drawn by Andrew Denman, a 19-year old from Lafayette, CA. Approximately 18 x 24, printed on good, heavy poster stock. Full color, very nice, \$7.

GEOMETRY



56cm Heron Roadframe

ROAD HERON

SIZE	HEAD	SEAT	RAKE	BB DROP	C/STAY	TT
52	72.5	73.5	4.5	7.5	42.5	53.5
54	73	73	4.25	7.5	42.5	54.5
56	73.5	72.5	4.25	7.5	42.5	56.5
58	73.5	72.5	4.25	7.5	42.5	57.5
60	73.5	72.5	4.25	7.5	42.5	59.5
62	73.5	72.5	4.25	7.5	42.5	61.5



57cm Heron Touring. With Moustache H'bar, half-step gearing Double-eye-lets front and rear, three water bottle braze-ons, good clearance. Shown here with often and justifiably much-maligned Pumpkin.

TOURING HERON

SIZE	HEAD	SEAT	FORK RAKE	BB DROP	C-STAY	TT
53	72	73.5	4	8	45.5	54.5
55	72	72.5	5	8	45.5	56.5
57	72	72	5	8	45.5	57
59	72	72	5	8	45.5	58
61	72	72	5	8	45.5	59.5
63	72	72	5	8	45.5	60.5

HOW TO BUILD UP A HERON BIKE

1. BUY A KIT, ASSEMBLE THE BIKE YOURSELF.

You can put together any kind of Heron you like:

• **Hard-core classic:** The local favorite, with non-aero brake cables, friction shifting, and toe-clips and straps. A mixed group from several companies and countries, guaranteed to work harmoniously indefinitely.

• **Soft-core classic:** As above, but with aero brake levers, optional indexing and you buy your own clipless pedals.

• **Shimano-approved or Campagnolo-approved:**

We haven't been paying much attention to the latest modern offerings, them not being our bag and all, but we have good friends whose job it is to spec bikes for the famous companies, so we'll ask them what we should do. Probably we'll pick out some midpriced groups from each company—a sub-Ultegra group from Shimano, a sub-Chorus group from Campy. As with our other options, these will come with Brooks and Nitto other things. Bear with us while we collect pricing information on everything. We'll

be up to speed on the fancy parts by the end of March.

Another option, if you like, is to buy the frame from us and buy the parts from your local dealer. Many of you have good relationships with your dealer, and might feel funny about showing up one day on a fresh new bike you didn't buy from locally. Don't feel funny about not buying the whole bike here. We're grateful for whatever business you can offer us, and will do our best to give you good advice regardless. Just ask.

2. OR BUY EVERYTHING HERE AND HAVE OUR OWN PETER KELLEY ASSEMBLE IT

Peter builds bikes on his own time and charges \$120. He's an ace bicycle mechanic, even uses a torque wrench (in case you meet him in court), and dozens of Rivendell owners have been delighted with their Peter-built. If you want Peter to build your bike, call him here (510) 933-7304 to check his build schedule and get more details.

Sample HERON Road bike (hard core classic)			Sample HERON Touring bike (modified soft core classic)		
item	detail	price	detail	price	
Frame	56cm silver	700	63cm silver	700	
Headset	Tange-RollerBall	40	Tange-RollerBall	40	
Stem	Nitto Aero	23	Nitto Technomic Dlx	23	
Handlebar	Nitto #185 x 44	38	Nitto Moustache	38	
Tape	Tressostar	6	Tressostar	6	
Seat post	Nitto One-Bolt	33	Nitto One-Bolt	33	
Saddle	Brooks B.17	65	Brooks B.17	65	
Brakeset	Campy GranSport	70	DiaCompe 986+cables	30	
Shifters	SunTour Sprint DT	28	Shimano 105 BarCon	60	
Crank	SunTour Superbe 172.5	140	Ritchey 175 1/2stepped+ G	225	
B. Bracket	SunTour Superbe	30	Phil 119mm	130	
Pedals	MKS Sylvan Track	45	MKS Touring	38	
Clips	ALE Stainless	12	ALE Stainless	12	
Straps	ALE all leather, blue	5	ALE all leather, blue	5	
F. Der	SunTour Lite	7	SunTour Alpha 5000	35	
R. Der	Shimano RSX	30	Sachs Centera GT	30	
Wheels	Phil r. hub, Shmno ft huttet DT spokes on Ritchey Rock rims	230	Phil r. hub, Shmno ft buted DT spokes on SunCR18 rims	250	
Freewheel	Sachs 13 x 26 7sp	42	Sachs 13 x 32 7sp	42	
Chain	Sachs M55	19	Sachs M55	19	
Local tax for California residents ?					
Freight		35		35	
Total		\$1598		\$1811	

The two samples shown are good, smart bikes with healthy doses of Phil, Campy, SunTour, Brooks, Nitto, ALE—trusty, high quality names that have been around forever and are as trusty as bike parts get. No interim parts you'll live with for now but will want to replace as soon as you get that bonus. If you want to spec the bike yourself, call for tips or refer to our catalogue. If you spec out a problematic bicycle, we'll catch it and get you back on course.

HERON

HERON ORDER FORM

Name _____

Address _____

Phone # (day) _____ (eve) _____

Road (\$700) 52 54 56 58 60 62 Silver Blue

Touring (\$700) 53 (26" wheels) 55 57 59 61 63 Silver Blue

With headset installed? No Yes (+\$40) _____

(Installation does not include final adjustment.
That should be done with the stem in place)

With Phil bottom bracket installed? No Yes (+\$135) _____

Local sales tax in California. _____

Freight to lower 48 states \$35

Overseas freight \$100

Alaska, Hawaii \$90

Additional freight for assembled bike:

...to lower 48 \$50

...overseas \$100

Alaska or Hawaii \$90

Overseas freight \$150

Total \$ _____

SIZING BY SADDLE HEIGHT		
SADDLE HEIGHT	HERON ROAD	HERON TOURING
66	52	won't fit
67	52	53
68	52/54	53
69	54	53/55az
70	54	55
71	54/56	55
72	56	55/57
73	56	57
74	56/58	57
75	58	57/59
76	58	59
77	58/60	59
78	60	59/61
79	60	61
80	60/62	61
81	62	61/63
82	62	63
83	62	63
84	won't fit	63

PAYMENT

Visa or Mastercard # _____ expires _____

Check or money order # _____ amount _____

**THIS PAGE IS BLANK SO YOU CAN USE THE
ORDER FORM ON THE FLIP SIDE.**

BY HAROLD BRIDGE

A BRIEF HISTORY OF DERAILLEUR DESIGN

A FEW ISSUES AGO THERE WAS A LETTER FROM A GUY NAMED HAROLD BRIDGE. IT WAS IN RR6, I THINK. WE GOT MANY REQUESTS TO HEAR MORE FROM HAROLD, SO I CALLED HIM UP AND GOT A DERAILLEUR ARTICLE HE'D ALREADY WRITTEN FOR ANOTHER PUBLICATION, AND AN INTERVIEW. HERE THEY ARE.



As far as I know, all current derailleur gears are designed around the swinging parallelogram principle introduced by Campagnolo in 1951. Before that there were a multitude of different concepts, some fairly simple and common. Others were quite exotic and less used.

The standard racing gear of the late thirties through the forties were the French Simplex. A cage with a single roller at the bottom moved the chain across the three sprockets quite efficiently, except that as the spring pushed the chain onto the bigger sprockets with the cable pulling the chain onto top cog, it tended to cause problems should the rider decide half way up a climb that a lower gear was required.

With the use of double chainwheels becoming more common, it was found the single roller Simplex didn't provide enough chain wrap, especially on the smaller sprockets. It was redesigned with an extra spring and another roller to press the chain further around the sprocket. This design survived for many years.

Tourists favoured the Cyclo gear for its wider gear range capabilities. Rather cumbersome to look at, it was easy to use as, no springs were involved in the transverse movement of the chain. A double cable wrapped around the gear lever pulley and the pulley at the gear end, which was mounted on a shaft into which was machined a quick thread, or spiral spline. Whichever way the cable moved, the top pulley following the spiral groove guided the chain. Yet another gear, Trivelox, required a special hub. This contained a sliding sprocket mount so that when the rider decided to change gear, instead of the chain moving

across, the sprockets did instead, thus maintaining chain alignment. This was a much more serious consideration when using a stiff 1/8-inch Renold's chain in the days prior to the development of special 3/22-inch derailleur chains. While all this was going on Tuillio Campagnolo was going his own way in Italy. It was common practice in the twenties for riders in the big stage races to use a double sided hub with a sprocket on one side that permitted them relatively high speeds on the flat. Then, when the mountains hove into view they would stop, turn the wheel round and continue on something like a 54-inch gear (44x22). From this developed the idea of double sprockets each side so that the wheel didn't have to be turned round every time, just readjusted for chain tension. This gave them the low for the ups and more than a freewheel for the downs.

In 1934 Campagnolo produced his "CORSA" gear mechanism. With presumably four sprockets on one side of a dished wheel (later 5) the whole concept was based upon the rack and pinion theory of parallel controlled movement (see sketch A). An extended rear hub quick release lever was clipped to the seat stay about level with the top of the wheel. Another lever, also clipped to the seat stay, controlled a cage round the top line of the chain. The routine was: (1) Release rear hub QR (2) Turn chain cage lever, whichever way required to effect a gear change while at the same time backpedaling a half stroke so the chain could move across the sprockets (see sketch R).

THE RACK & PINION PRINCIPLE

Some riders, such as the great Gino Bartali, developed the expertise with which to use a single finger to put side pressure on the chain whilst at the same time doing up the

QR. This was to stop the chain from getting too tight. Sounds difficult, but later some riders even used this device in conjunction with a double chain wheel!

THE CORSA GEAR

In 1950 Campagnolo unveiled their new gear. This was a single lever version of the CORSA. It was a marvel of engineering ingenuity. A knuckle part way down the rod connected to the chain cage as well as down to the QR (see sketch C). Undoing the QR disengaged the QR at the knuckle, and engaged the chain cage. Then, as with the CORSA, a twist of the lever whilst at the same time backpedaling moved the chain to the desired sprocket. The final movement of the lever reversed the procedure, leaving the cage disengaged and locking up the QR. That is where a neat bit of engineering came into play. An adjustable cam would roll the wheel forward enough to take the tension off the chain.

The unveiling of this new gear took a particularly dramatic form. Fausto Coppi used it in Paris-Roubaix that year. He broke away with Frenchman Marcel Dior on his wheel, and when Coppi moved over for Dior to take his turn at the front, the Frenchman refused to go. He was under orders from his Director Sportif to stay on Coppi's back wheel, knowing that Coppi's sprint was weak, and Dior was in a good position to win at the Roubaix velodrome.

It is said, when the going gets tough, the tough get going. That is what Fausto did. As he gripped the brake hoods a little harder, the veins on his forehead stood out and he rode away from Dior, thus winning his only Paris Roubaix. Thus, the name of this new gear; "Paris-Roubaix."

As an aside of some interest to randonneurs: Marcel Dior in 1951 won the last of the professional Paris-Brest-Paris races in what is still the fastest time, 38 hours and about 50 minutes.

Apart from a few aficionados, the days of the wheel moving derailleur were over, however. In 1951, photos of the Tour *de* France revealed that the winner, Swiss Hugo Koblet, was using a new gear that we were anxious to learn more about. This was another dramatic unveiling. In the days of national teams, Koblet's Swiss team was not too good. It is said that when he punctured, they would

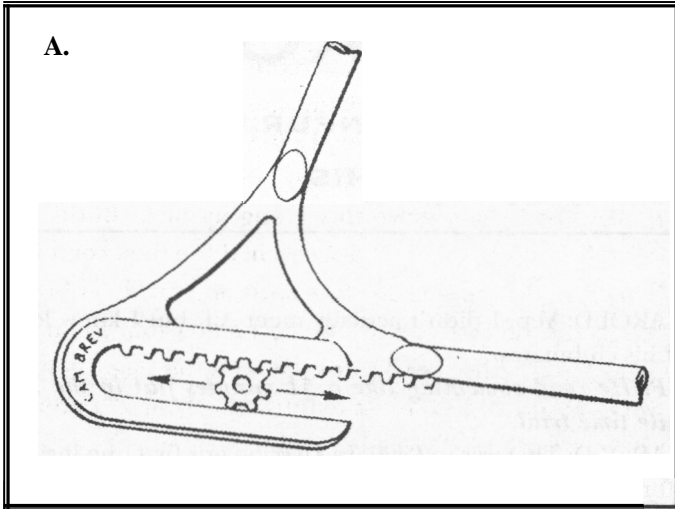
wait for him and he would pace them back to the hunch! On one stage he indulged in a 140km-time trial, building up a sizeable lead of about 11 minutes at one point. The greats, Coppi, Bartali, Bobet and the man who eventually finished second in that Tour, Gemanini, were, in Gem's words, "knocking each other over in our anxiety to get to the front and chase down this young upstart." But to no avail: After sitting up as he approached the line, combing his hair, and mopping his face with an eau de cologne sponge (his on-the-road grooming earned him the nickname, The Peddler of Charm), Hugo Koblet had won by several minutes. He went on to finish the Tour 22 minutes clear of second placeman Gemanini.

THE PARIS-ROUBAIX GEAR

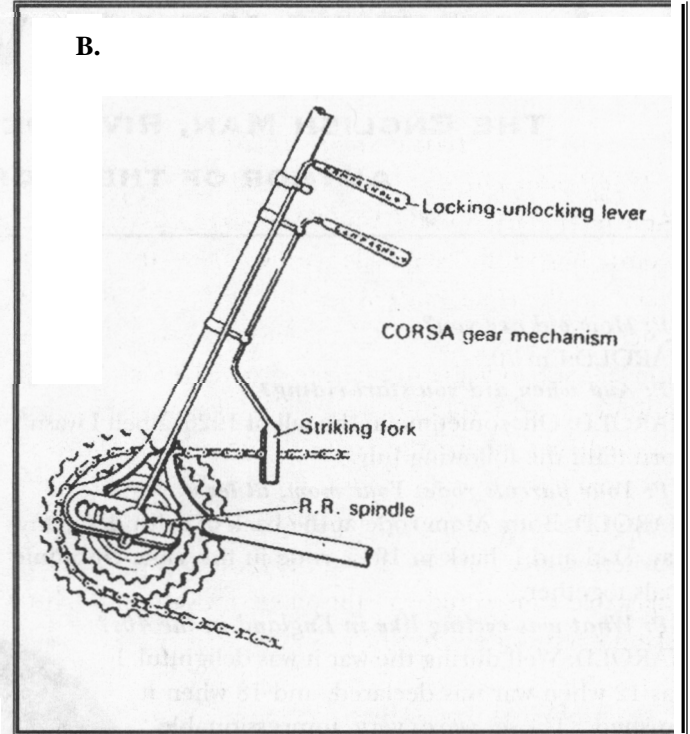
Since then the swinging parallelogram gear has become the standard. Even so, a few stuck with the Paris-Roubaix. The only Brit I know of who used one with notable success was Dave Keeler. He won the 1957 North Road 24-hour time trial with 478 miles (770 kms). It *so* happened that I finished at the same time on the finishing circuit as Dave. The difference was that he had done the full course plus a few more laps of the finishing circuit than I had for my 403 miles (645 kms). And as Dave continued to sit on his bike looking relaxed while he accepted the congratulations of the crowd and answered the questions of the reporters, I sank to the grass feeling dizzy.

The following year, 1958, Dave Keeler went for the long one, Land's End to John O'Groats. This 870-mile (1400km) jaunt goes from the southwestern most tip of England to the most north easterly corner of Scotland and takes in a severe range of terrain, weather, busy cities, and brutal hills. He knocked about 3 hours off the old record with his 2 days 3 hours. But he found that using the Paris-Roubaix gear for such an extended trip gave him back ache. When he won the North Road 24 that year with 490 miles (788.6 km) he was using a Campagnolo Gran Sport like the rest of us.

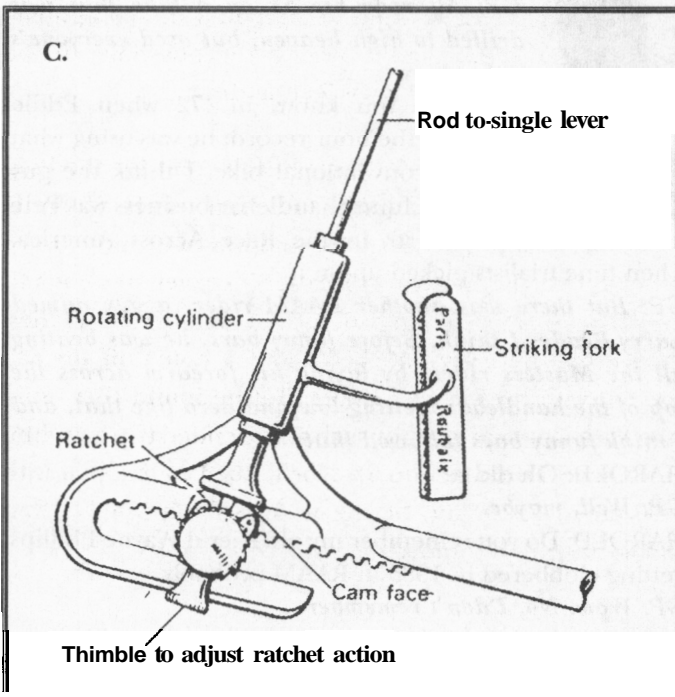




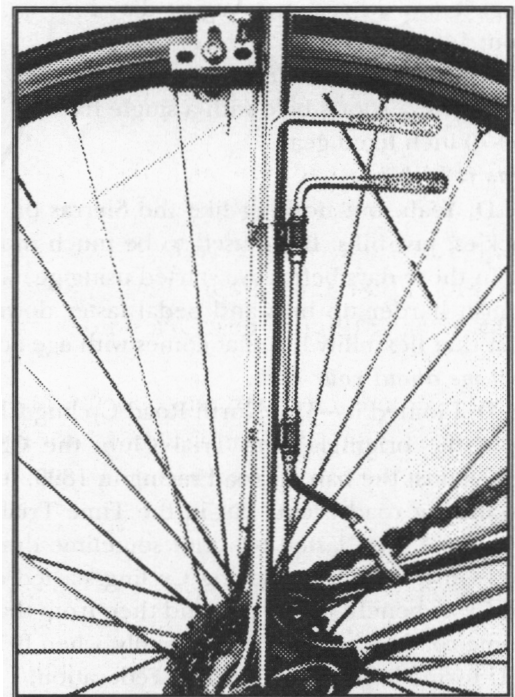
Now you see how it worked. The precision required to braze and align a frame with these dropouts is much higher than toothless dropouts require. Only the best builders could do it.



The "strikingfork" is the rear derailleur. The "locking-unlocking lever" is the rear quick-release lever.



Campagnolo made a few versions of its Paris-Roubaix dropout. All had teeth which mated to a notched hub axle—so you could loosen the wheel to change gears and the wheel wouldn't slide to the side.



Pino Morroni raced this actual set-up in cyclo-cross races in the late '30s. Everybody who whines about friction shifting or downtube levers would get a healthy dose of perspective shifting this. It takes a typical rider 15 tries to do it right even once. The old guys were fast and smooth...

INTERVIEW WITH HAROLD

THE ENGLISH MAN, RIVENDELL MEMBER, RANDONNEUR, AND
AUTHOR OF THE STORY THAT PRECEDES THIS

GP: *How old are you?*

HAROLD: I'm 70.

GP: *And when did you start riding?*

HAROLD: Oh, sometime in the fall of 1926, albeit I wasn't born until the following July.

GP: *Your parents rode. Your mom, at least.*

HAROLD: Both. Mom rode at the back of a Tandem, anyway. Dad and I, back in 1945, rode in the same club time trials together.

GP: *What was cycling like in England in the 40s?*

HAROLD: Well during the war it was delightful. I was 12 when war was declared, and 18 when it finished. Those were very impressionable years. When I was 14, I spent a lot of time in the air raid shelter and I was thoroughly fed up with it and I said, "Mom, make me some sandwiches." And I left home about 5 in the morning, it was a gorgeous August day, I did about 140 miles round Oxford.

GP: *What was your bike like?*

HAROLD: Just a sports bike with a single fix gear, 60-70 inch fixed gear...

GP: *Was it hilly?*

HAROLD: Yeah, but nothing like the Sierras or the Rockies, just hills. But I used to be much more flexible in those days before we started using gears and we could push harder up hills and pedal faster down them. I've lost that flexibility but that comes with age anyway.

GP: *Tell me about your club.*

HAROLD: I joined it—the North Road Cycling Club—in 1944. It's the original Time Trial Club, the Club that rebelled against the ban on road racing in 1895. It continued organizing road events but in the Time Trial format and, of course, that lasted up until sometime during the war the British League of Racing Cycling started organizing Red Cross benefit road races and then from that developed some road racing in Britain. Finally, when BLRC and the NCU formed the British Cycling Federation, I think in 1959, they finally got road racing approved again. In those 50 odd years the Time Trials were taking a very stern hold.

GP: *When did you leave England?*

HAROLD: 1964.

GP: *You were riding . . . was Alf Engers riding then?*

HAROLD: Yep. I didn't actually meet Alf, but I knew lots of his clubmates.

GP: *He road something like a 51 minutes flat in the 25 mile time trial.*

HAROLD: That was in 1969. In 1978 he was first one inside 50 minutes.

GP: *You how, in the U.S. at that time I think the national record in the 25 mile time trial was somewhere in the low 54s. We didn't really think an Englishman was going so much faster.*

HAROLD: Well, you know, I get Cycling Weekly occasionally from Britain and you look at the times and the names it doesn't matter what the date on the magazine is they all look exactly the same you're used to. A few super athletes like Chris Boardman and Graham O'Bree have pushed the records way up beyond out of reach of most people.

GP: *Alf rode his 51 on a bike that was drilled to high heaven, but used everyone's technology.*

HAROLD: You know, in '72 when Eddie Merckx got the hour record, he was using what was a fairly conventional bike. I think the guy who started the funny handlebar business was Pete Penseyres, wasn't it? In the Race Across America. Then time trialists picked up on it.

GP: *But there was another RAAM rider, a guy named Larry Reade, I think. Before funny bars, he was beating all the Masters riders by laying his forearm across the top of the handlebar, getting low and aero like that, and I think funny bars followed that.*

HAROLD: Oh did it?

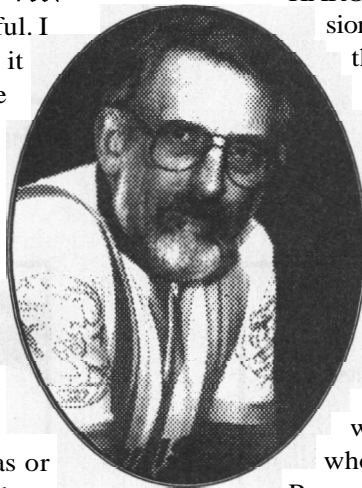
GP: *Well, maybe.*

HAROLD: Do you remember my old friend Wayne Phillips getting clobbered in 1985 in RAAM probably.

GP: *Wow. No, I don't remember.*

HAROLD: Run down in New Mexico somewhere. He rode RAAM unsupported, and he tried to get sponsorship but couldn't, so he thought he would try and do it as an unsupported, and at 2 in the morning or something he was found beside the road with tire marks up his back and over his helmet. And, of course, he is a wheelchair athlete now.

GP: *Well, back to Alf's 51. I remember back at those times*



over here there were people who thought those fast English times we'd hear of were done on very slight downhill A-to-B courses.

HAROLD: No, no, **no**, no! The Road Time Trial regulations are that for a 25-mile event the start and finish have to be within a mile of each other. You can't have them just across the road from each other if you've got more than an hour's worth of riders, because it gets too confusing **so** you have to separate the start and finish to a certain extent. And I know that the course that he did that on was Alfin Road. I road it once or twice, and Railey Cutting was a miserable hill to climb. most of the roads were . . .

GP: How do you spell that?

HAROLD: Huh?

GP: How do you spell Railey Cutting?

HAROLD: R-a-y-l-e-i-g-h.

GP: How come they called it Rayleigh Cutting?

HAROLD: Well, the village or town of Raleigh is right there—a cut into the hill. They can go completely over the top of it. But it was still a miserable climb. I tried it. I road a ninety-inch fixed gear down there and did a 104:52, or something, and that was 1963 just before I immigrated.

GP: In the letter you wrote that prompted this interview, you mentioned tying race wheels to the bike so you could ride the everyday wheels to the race. How did that work?

HAROLD: It's a piece of flat bar with (a bend} in it. It's slotted to fit on to the spindle of the bottom, and then you clamp the spindle of the wheel you are carrying into the slot at the other end, and just strap it to the handlebars.

GP: So, people bought these or made these things?

HAROLD: Oh, no, they are made. There would be nothing to stop you from making them. They would be quite easy to make.

GP: Let's talk about your bikes. What do you ride?

HAROLD: Well, I've got my 1954-racing bike, but it needs a lot of work on it at the moment. The bottom bracket is falling apart, **so** mostly, for my commutes and such, I ride a Centurion Pro 15. It is a nice bike, bit heavy but I've got 700C wheels in it and at the moment 700x32 Avocet Cross tires. They are like riding up hill all the time, you know.

GP: Yeah. Not to be confused with the Avocet slick we sell, though.

HAROLD: The other bike is a Randonneur bike made by CBS in British Columbia. It has Reynolds 531 tubing. That's a nice, fast bike, and it's intelligently designed with clearance for mud guards and what not. I cannot see any reason for taking mudguards off except for actual competition, you know.

GP: Yeah.

HAROLD: **On** that one I am using Michelin Highlight Comps, 700x23, you know.

GP: Are you in an club?

HAROLD: B.C. Randonneurs, yeah. I've been doing the Randonneur series since 1983. About 12 consecutive Super Randonneur medals from France up until 1994. Then I went down with arthritis. I am just getting back **in now**.

GP: For the benefit of people who don't know what Randonneuring is...

HAROLD: Well, when people ask me that, "I say, "One part touring cyclist, one part racing cyclist, and one part masochist." It's a scheme for encouraging people to extend themselves. If you're not too experienced, the idea of riding 200 km in a day, about 125 miles, it might seem to be the absolute limit, but once you get used to doing the system, doing a 600 km Randonnee in a weekend becomes quite—well not easy, but quite possible, you know. And the whole system is set up to encourage people to push themselves. There's a set route with control points, and you have to be at those control points between certain times. There are maximum and minimum speeds, average speeds. **So** that, for instance, the 200, the fastest you can finish in is **5** hours and 53 minutes.

GP: They limit how fast you can go?

HAROLD: Yes. That stops it from becoming unsanctioned race. If you go too fast, you have to wait for the control to open. There is nothing wrong with that.

GP: I'm just surprised.

HAROLD: And what often happens at Paris-Brest is, the guys get to the first control before it opens **so** instead of resting after they have signed in, they rest before they sign in that's all, you know. Then **as soon as** the control opens, they get their cards stamped and signed and they are off straight away. But the minimum speed limit is approximately 15km an hour, or about 9 miles an hour. Well, for most people who enjoy cycling, taking 13-1/2 hours for 125 miles is not too strenuous, you know. Rut, of **course**, most people try and get around in about 10 hours or so. In the 600, some guys get round about in 22, 23 hours. That's not particularly fast in time trial terms. But you know, in a randonnee you've got to stop and get your own food, find your own way, mend your own flats and whatnot. It puts a different perspective on it.

GP: How much gear do you bring?

HAROLD: That depends **on** the conditions.

GP: Let's say on a potentially rainy 200km ride.

HAROLD: I've got a small lifejacket which rolls **up and** fits into my wedge **bag** quite comfortably. The regulations require lights and mudguards. If you have battery lights, you got to have a spare battery, and if you have generator lights you got have spare bulbs. Of course, **you** carry a **spare** tire, tubes and patch kit and tools. Most of us **do** anyway.

GP: Is there a series of events?

HAROLD: Yes.

GP: How many?

HAROLD: On the Internet there is information about events all around the world: Australia, Britain and Europe, as well as North America. We have two series in the Vancouver area: 200, 300, 400, 600 and 1,000. Then, on Vancouver Island there is a series, and in the interior, up in Kamloops they have a series up to 400, anyway. I do a 600 up there. Rut last year, for the first time, we ran our own 1,200. We are repeating that this year. That's the same distance as Paris-Brest. It's a loop through the Canadian Rockies, including that famous road down from Jasper to Banff. That's an awesome stretch of road, that is. When we did it last year, Ron Himshute from Seattle did it on a Rivendell.

GP: Z know Ron.

HAROLD: Yes, I thought you would. The Randonneur organization in Britain—Audax UK—they get very upset if people start talking about their times. All they want to say is whether you finished inside the time limit or not. Did you qualify or did you not qualify? They don't like talking time. Whereas, I think it is quite natural that people take an interest in what time they did in comparison to what other people did. So our newsletter lists everybody's times.

GP: Do you have to qualify for the longer rides?

HAROLD: Yes, you have to ride the 200 in order to qualify for the 300. If a newcomer decided to quit after doing a 300, they can start next year at the 400. But to qualify for the Super Randonneur, you have to complete 200, 300, 400 and 600km rides. I did the whole series every year.

GP: What is the season for the rides?

HAROLD: Well, the first 200 is usually early or mid-April and our last, another 200, is at the end year in September. Some of the events are not too popular because people are doing other things very often then.

GP: If you do a 600 and stay overnight, do you camp?

HAROLD: No, we organize the route so that round about the 350 to 400 mark we have a motel room, at a control point, and we get a big room with a couple of double beds and people go in there and crash for a couple of hours. The nice way to ride a 600 is to plan on taking 36 hours, including 4 hours sleep.

GP: Just 4 hours sleep? Is there a requirement for sleep?

HAROLD: No, no. Two days after my 65th birthday, back in 1992, we had a 600, which went down into Washington state, and at the point where we didn't have a motel organized and we were down at Marysville near Everett and we were looking for a motel, we couldn't find one. We wasted two hours trying to find somewhere to sleep and finally we just gave up and carried on through the night. Instead of taking my normal 36 or 38 hours, I got round in 32:43 that clay.

GP: How tall are you?

HAROLD: Getting shorter every year I think. I'm about 5'9"5'9-1/2" I think. I used to say 5'10". Long legs.

GP: What size bike are you riding?

HAROLD: 58 centimeter, or 23 inch.

GP: What's your bike like?

HAROLD: On my CBS I've got a very nice Italian saddle. a Concor.

GP: Oh yeah. Z couldn't stand those saddles myself. Z could never get comfortable on them. Z hated its gus.

HAROLD: Well, I was surprised, too. I've got a cheap Norco saddle, which is scooped up at the back, and I like that, and I was looking for another saddle that scooped up at the back and finally I found this one and I bought it. I thought. "It doesn't look very big, I wonder if I will be comfortable." I've ridden it in a 200km ride and was quite happy with it, so I'll try it in the 300 later this year. I'll tell you quite honestly, in 1986 I finally dispensed with my favorite Brooks B.17, very reluctantly. I had ridden 12 hour and 24 hour Time Trials on that without any saddle soreness at all. But it was sagging, and if you pull it up tighter with that nose bolt, it straightens out in the middle while it needs to be narrow. So I bit the bullet and rode plastic saddles from then on. I do still have one B17. That is on my old racing bike.

The other thing I use is barcons (*handlebar-end shifters—ed.*). I tell you a very good reason for using barcons when Campag first brought out their chain tensioning gears in 1950 . . . well they brought them back in 1951. They first appeared in the Tour de France that year. When they came into England in 1952, early '52, I bought them straight away. It was so much better than the old Simplex. But they came complete with barcons and the first Campag chain tensioning gears all had barcons and Coppi and Bartali were all using them. And from "52 I was using them and then I didn't find the . . . well, the old Campag barcons didn't give you enough control over the gear. You couldn't change down from top just one sprocket, because there was too much chain between the top jockey and the sprocket. So I went to Down Chew Believers (editor's note: This phone interview was transcribed by a non-cyclist. Most of the bikey terms I've fixed—Coppi was Karpi, and so forth, hut I had to leave this one in, and you can figure it out yourself. By the way: the shaving razor's cold, and it stings.) In 1983 when I got the CBS built and I rode Harry Breast (*I left this one in, too; one & many variations—ed.*) on it, I had Down Chew Believers then, but I was planning to go to barcons. I was riding once, and hit a frost heave in the road. I didn't see it and it threw me up in the air, my hands came off the bars while I was changing gear. Well, I am going back to barcons and so I've used them ever since.

GP: What's a frost heave?

HAROLD: Anything it wants to. Well, when you get heavy

rain, say in November, and find the crack in the road and it soaks up the . . . it soaks into the subsoil underneath the road, and then a heavy frost comes down and it freezes and it swells. It just pushes the road up like a mini volcano, you know. And course it is a nasty jolt.

GP: Pushes the surface of the road up?

HAROLD: Yeah. You get the ice forming and swelling, you see. *So* it is quite a common occurrence round here.

GP: Have you gone back to England since you . . .

HAROLD: Oh yes. Several times. Yes. Last . . . because of my arthritis, I had a holiday planned in '95. I was going back for six weeks. I was planning to ride the Mosey Roads **24** a month before Paris-Brest.

GP: Now how do you spell the Mosey Roads or the . . .

HAROLD: Mosey M . . . like you know Mosey side where the beeples come from?

GP: I'm not familiar with it. Z remember the song "Ferry Cross the Mersey" ...?

HAROLD: Yeah, S-E-Y.

GP: OK

HAROLD: Merseyside. Yeah. Well the Mersey Road Club organized . . . there are **two** 24-hour events in England at the moment. The Mosey Road and the North Road. The North Road is the world's oldest cycling event. Goes back to 1886 and, anyway, I was planning to ride the Mosey Road **24** and spend the next three weeks stacking in the miles and then go across Mud Perry Breast. To try to get my Super 5,000 pin, which I missed in '91. Anyway, *as* it turns out by '95 I was hit by arthritis, I wasn't riding on a bike at all. *So*, but I had the holiday booked *so* I went back there.

GP: Arthritis in what part of your body?

HAROLD: Well, I've got osteoarthritis in the right knee, but I've got rheumatoid arthritis all over the arms, shoulders, legs. . . .

GP: How long have you had that?

HAROLD: Well it started in '94 and but I had this holiday booked *so* I went back and I was driving everywhere and, oh, it is a miserable business. It was the first time I had gone back to England without a bike. Even when my dad died in 1982 I went back on my bike *so* . . . I put my bike together at rode up to the old home. That was November of '82. But I've always gone with a bike, either touring or racing or something, you know, and I've had some good holidays back there. In 1993, I took **two** Canadians with me. We were planning to ride Audax U.K.'s London-Edinburgh-London. *So* we had a week's tour and then I didn't finish. I got to Edinburgh and I was way out the back, right on the time limit and in need of sleep and food, *so* I quit at that point, but the other **two** finished. In 1985, the North Road Club celebrated its centennial, and my part was to go back and ride the **24** hour one more time, when I was 58. I did a very modest ride. It was rotten weath-

er, bitterly cold at night. I finished **up** with 354 miles, which was rather disgusting

GP: Not too disgusting. I've never ridden that long in any 24-hour period, so Z hope it's not too disgusting.

HAROLD: Well, it was 100 miles behind the winner.

GP: How often do you get out now?

HAROLD: I've been extremely lucky. I have a very good rheumatologist, and I'm back on the bike now. The arthritis doesn't bother me on the bike at all, except the neck gets stiff at times. The only problem I get with the arthritis now is that the knee and the leg wake me up with pain when I've been lying in bed to long. They say, "Hey, come on, it's time to get up." It's the arthritis in the leg, which gets me up in the morning and I hobble across my shower and do stretching exercises under a hot shower, you know. After that I am **OK** for the rest of the day.

GP: How much are you riding your bike? Do you . . .

HAROLD: Well this year so far I've done about **2 1/2** thousand kilometers. That's not very much at all. Normally, I can do about a **1,000** a month, at least. But. . . .

GP: You're retired . . .

HAROLD: Eh?

GP: You're retired?

HAROLD: No, I cannot afford to retire. I'm still paying a mortgage.

GP: What do you do for a living?

HAROLD: I am **quality** control inspector of building submarines. You know down in Sacramento, Shell built that fully automated gas station? You've read about that?

GP: Z didn't read about it. Submarines?

HAROLD: Back in April it was on the television. We built that and then once we got it perfected, we broke it down and shipped it off down to Sacramento.

GP: So that is why the unemployment is so high in Sacramento.

HAROLD: Well, the excuse that Shell uses is because of the high crime rate in places like Houston and Los Angeles, *so* people don't have to get out of their cars. You pull up to the customer interface, the interface comes up to the **win-**dow, you wind the window down, put your card in, take your card out, press the button for what grade of gas you want and the machine does the rest, and it takes **just** 2 minutes. *So* they are planning to build lots of them. We won't be building them all, but we designed and built the first one. Anyway, it's like a **5-kilometer** ride from home where I work. *So* its not training-going to and from work.

GP: Well, thanks for taking all the time to talk. Z wish you good luck with your arthritis and your riding.

HAROLD: OK.

GP: You know, one of these days, you know, you might even get back on a real saddle there.

HAROLD: You never know.

BY GABE KONRAD

THE RANDONNEURS

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Randonneur. Like other French cycling terms—*peloton*, *In course en tete*, *lantern rouge*—it practically rolls from the tongue. Alternately meaning “long distance” and “super tourist,” *randonneur* has come to represent the hard-riding cyclists who partake in the Paris-Brest-Paris, Boston-Montreal-Boston, and other long-distance events. Randonneurs drum up visions of hunched-back, grimacing tourists churning out mile after long mile, as well as a graceful portrait of a past full of Rene Herse bikes and the smiling mug of Sir Hubert “Oppy” Opperman.

The definition of *randonneur* has always been a bit sketchy. James ‘Konski, director of the International Randonneurs in Syracuse, New York, says that “a *randonneur* event is not a race, yet it is a race; it’s not a bicycle tour, yet it is a tour. It is a reliability trial or a kind of king of the time trials.” In fact, a *randonneur* event is what you make of it; touring with time limits or racing the clock and your fellow tourists, they are events for all long-distance aficionados. And the history of the *randonnem* has been a hundred years in the making. In the France of 1890, the bicycle was still but an infant toddling along the streets of Paris. Only a couple thousand people rode, and despite the recent development of the pneumatic tire, the bicycle’s popularity was slow in coming. The French public, not very accepting of this new pastime, looked on cyclo-tourists as oddities, and racers as lunatics. One gentleman, however, saw the bicycle as more than an outlandish fad, but as the future of French sport and transportation. Pierre Giffard, editor of the Parisian newspaper *Le Petit Journal*, hatched a plan that would not only launch the bicycle into the public spotlight, but also ensure the wheel a spot in the French psyche for a century to come.

Monsieur Giffard planned an event that could be termed the world’s first extreme sport—a 750-mile race from Paris to Brest, on the west coast of France, and back.

But more than a race, Giffard’s Paris-Brest-Paris **would** be a proving ground for the bicycle and its riders, where the value of the bicycle as a means of long-distance transportation could be proven. The PBP was an endurance event with a ten-day time limit.

The hard-riding French tourists were thrilled about the event, and throngs of them signed on. Even after strict rules and an entrance fee were announced, 300 participants still applied—seven of whom were women. The French public was intrigued by the supportive and negative press alike, and cycle manufacturers were excited as well. Sensing a wonderful chance to tout their new products, Dunlop sponsored the amateur Jiel-Laval, with Michelin backing the pro Charles Turront—the race favorites. For this first Paris-Brest-Paris, pacers were allowed and some of the professionals hired on as many as ten to draft them for the entire distance. While they were allowed abundant help, they were required to ride the same machine throughout the event. So with much pomp and circumstance, brass bands playing and speeches being made, officers of the event placed seals on the bikes to be sure that this rule could be upheld. 280 riders registered their machines, of which there was one stout man on a high-wheeler, two tandems, and ten trikes. As a shameful sign of the times, the women were not allowed to participate.

At dawn on Sunday, September 6th, 1891, 207 of the registered riders took off from the offices of *Le Petit Journal* in Paris, and began winding their way to Brest. They were a motley bunch of cyclists, riding a variety of machines in clothing that ranged from street clothes to body stockings. All varieties of baggage were in use, from tightly bound tool kits strapped under the saddle, to bulky carpet bags dangling from handlebars and diamond frames. Not knowing what to expect from the miles ahead, some of the cyclists were pensive and quiet, steadily turn-

ing their cranks, while some were wild-eyed with excitement, jovially laughing as they rode.

Henri Desgrange, who went on to organize the Tour de France, would write in the coming years, “**You**, who had not even been born then, could never imagine the excitement of that September day. We had no eyes, no ears, no nose for anything except the adventure ahead. We were entering a world unknown.”

From the beginning, the two race favorites, Jiel-Laval and Terront, took charge. Jiel-Laval was a calm, calculating athlete. He had devised a mile-by-mile plan for the event from which he would not sway. The wheels of Terront, on the other hand, were reactionary, his race tactics guided by his moods and surroundings. After torrents of flat tires, crashes, exhaustion, and just plain frustration, only 106 of the riders reached Brest.

Jiel-Laval made great time, the first rider to arrive in Brest. On his return trip there was talk that Terront had passed out, so Jiel-Laval, after much prodding from his coaches, took an unscheduled nap. It proved to be an untimely decision, since Terront was only napping himself. When Terront awoke, feeling fresh, he climbed aboard his bike and sped his way back toward Paris. At one point, Terront turned **off** his lights and waved away his pacers, so as not to wake the sound-sleeping Jiel-Laval as he passed in the night.

Terront’s exhaustion soon returned. He began to sway about the road and even drifted to a stop now and then. After losing his lights, he crashed and flipped over a barrier. He broke a crank arm and rode with a single leg until the next checkpoint, where repairs were made. Bruised, but not broken, Terront arrived at the finish line in Paris in the twilight hours with a time of 71 hours and 31 minutes; the ten-day time limit would have to be re-examined. Jiel-Laval managed to hold on to second place, but it was another eight hours until he arrived, dead on his feet.

Ninety-nine of the riders completed the first Paris-Brest-Paris. **Most** of them treated the event as a tour, finding a good meal and bed at the end of each long day. PBP was a success, and Giffard’s goal of bringing the bicycle into the public spotlight was attained. There was a new acceptance **of** the machine and the people who rode them—the French bicycle boom had begun.

Giffard wanted to stage the event again, but to retain its unique stature he decided to hold it only once every ten years **as** a professional race. It was held again in 1901, ‘11, ‘21 and ‘31. But as the number of road races increased, professionals began to shy away from Paris-

Brest-Paris—favoring shorter events to the grueling 750-mile tour. To combat dwindling numbers, Paris-Brest-Paris opened its roads in 1931 to the tough, long-distance tourists called *randonneurs*—athletes who would not shy from such a challenge, even with its new 90-hour time limit. The *randonneurs* were hard-core cyclo-tourists that took mile after mile of the road in stride. They could ride, unlike most racers, **two** or three hundred kilometers and still describe the beauty of the scenery they rolled through. For finishing the PBP they would receive **a** medal, the opportunity to sign their name in the great book as a member of the *Anciennete de Paris-Brest-Paris*, and most importantly, the stature that this accomplishment brought.

The first *randonneur* winner of PBP was **Jules** Tranchant, who reached Paris in a scant 68 hours and thirty minutes. **Also** partaking in the ‘31 PBP was the young Australian Hubert Opperman (1904-1996), who, after setting and breaking numerous distance records in his native land, beat out the French national road Champion Bidot for the Paris-Brest-Paris professional win.

Opperman, known to his friends and fans as “Oppy” (these days it would have been “The Opster”), **was** still an unknown in Europe, despite his 17th placing in the 1928 Tour de France and being the 1924 Australian road champ. He had gone on to take 12th in the 1931 Tour de France, but this Paris-Brest-Paris win shot him into the spotlight, making him a well known figure in Europe. He was already known in Australia for the distance records **he** held, but now he became a national hero. He had the motor-paced distance record of 860 miles, and hit the 1,000-mile mark in 28 hours, 55 minutes. Later he became Sir Hubert Opperman, an Australian statesman, and a Paris-Brest-Paris institution, getting involved with PBP organization and making many public appearances.

At the time of his death, just a month shy **of** his 92nd birthday, Oppy held over 100 distance records, and was involved as an advisor and friend to *randonneur* societies across the globe, including America’s International *Randonneurs*.

The new rando formula was a hit. Paris-Brest-Paris, now held every four to five years, has become the goal for every *randonneur* cyclist, the ultimate attainment. and since the thirties, the number of *randonneurs* and *randonneur* events has grown exponentially. There were 3,380 participants in the 1995 Paris-Brest-Paris—of which hundreds were women—and this success has been due mainly to the many national and regional *randonneur* societies. International *Randonneurs*, based in Syracuse,

New York, has taken a practically unknown aspect of cycling and turned it into a recognized subculture of the American cycling community.

Founded in 1975 by James Konski, International Randonneurs is the American qualifying organization for Paris-Brest-Paris, and sanctions the numerous qualifying tours, called *brevets*, that are held throughout the United States. IR acts as the tie that binds together the numerous, small randonneur organizations situated around America, including Alaska. It organizes discounted group trips for Paris-Brest-Paris, and through its promotion and efforts, International Randonneurs has increased the number of American participants in PBP from 8 in 1975, to 35 in '79, 107 in '83, 230 in '87, and 289 in '95. An amazing 402 Americans took part in the PBP centennial event in 1991.

International Randonneurs **also** sanction the Boston-Montreal-Boston, an event similar in distance and format to Paris-Brest-Paris. Boston-Montreal-Boston is a 750 mile event. While Boston and Montreal are both at sea level, there is over 30,000 feet of climbing in between, and with the rough roads, long days, and typical rain, it makes for a challenging event. New to the ranks of randonneur super-tours is the Perth-Albany-Perth in Australia, another **750** mile tour that debuted in October of 1997. Oppy would have been proud.

The rules for BMB are similar to PBP. Unlike some other long-distance races, such as the Race Across America, drafting is permitted. Reflective vests are mandatory at night, and in addition to acceptable lighting, you must **also** have a solid red tail light - a good idea for any nighttime cycling. Support vehicles are allowed, but they can not follow a rider and they must take a different route, using a leapfrog type of support. Riders can accept mechanical assistance only from authorized BMB personnel, though they can seek help from anyone at the checkpoints. At each checkpoint, riders must present their ID and a route card to be stamped by BMB officials. These controls can be as far apart as 100 miles. Riders must reach each control before it closes, or be disqualified. The times that the checkpoints open and close are loosely based on a 13km per hour pace, and while this seems like a reasonably slow speed, remember that the figure includes time spent eating, mechanical problems, getting lost, and, if the rider chooses, sleeping.

There are also secret controls where, unannounced to the riders, tour officials will ask to see and stamp route cards to make sure no nefarious business is going on. In an effort to discourage dropouts, riders that quit are required to find their own transportation back to the starting point.

There are several ways to qualify for the BMB or PBP, but the most popular is to complete a series of brevets prior to the main event. **To qualify**, a rider must complete a 200 km brevet in 14 hours, a **300** km in 20 hours, a 400 km in 27 hours, and a 600 km in **40** hours. Also available is a 1000km brevet that must be completed within 75 hours. At one time it was necessary for riders to travel all over the United States to find these qualifying brevets but now, with randonnam societies springing up **all** over the country, one doesn't need to travel far at all to find a series.

The equipment used by randonneurs is as varied as the type of people who take part in these long-distance events. Go on-line and you can find 20-page dissertations on lighting systems, from a 70-year old Frenchman's double "D" flashlight clamped to his front rack, to the high-tech, \$500 systems used by the record-breakers. Of course, when you're riding hundreds of miles at night, lighting becomes very important. You can always opt for some luxurious equipment as well, like index finger lights to illuminate your maps and cyclometer, or GPS units to help you find your way. Getting lost is always a possibility even though—to give you an example of how diligently these courses are mapped out—the cue sheets for a typical BMR are over a dozen pages long.

Bikes range from classic upright touring models, to ultra-light race rigs, in everything from lugged steel to titanium. Anything goes. However, stay and fork clearance is an issue, as Paris-Brest-Paris requires the use of fenders.

Transporting your gear is another important topic that will bring about various answers from experienced randonneurs. What to carry and when to carry it are serious considerations. The support staff of PBP and BMB will transport a rider's gear, like sleeping bags, tools, extra food and clothing, to predetermined checkpoints. At that point, the randonneur can choose to use it, take some along, or unload some of the gear already being carried. Knowing when to unload a heavy lighting system, or knowing where you'll take a sleep break, are important details that take up a large part of the participant's planning.

Nutrition is another complicated issue. Choosing between Gatorade or plain water, Cliff Bars or bananas, liquid energy diets or seven course meals takes a lot of thought and experience. Luckily, the brevets are an excellent chance to not only condition your body, but to work out your equipment and nutritional choices as well.

But what of the motivation behind riding these distances in such short periods of time? All serious cyclists have felt the pride of accomplishment when first riding a

metric century, then a century. **So** why not keep going? Pierre Giffard's idea behind Paris-Brest-Paris was to show what a bicycle rider **was** capable of - the incredible distances they could cover - and the randonneurs just keep on proving his point. There are cyclists who take on these long-distance events to conquer personal **goals**, to beat their best times, or set new overall records. And there are cyclists who treat this as nothing more than a tour - longer than most. **but** still a tour.

Larry Strung, a member **of** the Toronto Randonnews, **has** just completed his first brevet series and has his eyes on the next Paris-Brest-Paris in 1999.

Larry feels that he is physically predisposed to long distance events, and he succinctly describes his interest in randonneur events, saving, "Feats of endurance appeal to my romantic side." He goes on to describe the challenges of long-distance touring and the dangers of exhaustion: "One of my new rando friends, nicknamed 'Sergeant Friday' because he rides a Bike Friday and refuses to acknowledge fatigue, commented that randonnem riding is 80 percent mental and only **20** percent physical. He's right. Keeping your brain on top of the almost surreal input **is** the challenge.

Navigating at night when you have to stop under a street light or put your map in front of your headlight to see it, then you can't watch your computer for the mileage when you should turn because it isn't lit either, and neither are the street signs. You're **so** tired that at the next intersection you come to you can't remember what the street name was anyway, **so** you have to pull out the map and do it all over again. When you do get lost, you have to struggle not to get bitchy with your riding buddies and try to calmly figure out how to get back on route. When your riding buddies get bitchy, realizing that it's their fatigue and not really you. When you're riding strong, falling off the back to help a friend back on to the group because you know six hours later it may be your turn to fall off the back. All the emotions of war for people who love peace."

Larry Strung's club simply says that "The goal of randonneuring is to promote individual health and achievement in a non-competitive athletic environment."

Any way you choose to approach it, randonneur events are a challenge and an adventure, and while many cyclists don't aspire for anything more than a century, there are those who do want much more, and the randonneurs are here for them.

For further information, contact

International Randonneurs
Old Engine House No. 2
727 North Salina Street
Syracuse, NY 13208
ph. (315) 471-2101.

Membership is \$20 per year, and includes a quarterly newsletter and other periodic publications. IR can **also** steer you toward your nearest randonneur organization. **My** gratitude goes out to Clifford Graves, whose wonderful stories about his own PBP experiences heavily influenced this article.

SOME OF THE RULES

1. You must be
 - at least 19 to ride alone
 - at least 17 to ride alone with signed parental approval
 - at least 14 to ride with a registered adult member
 - covered by liability insurance
2. ANSI, Snell, or CSI-approved helmet
3. You must obey all traffic laws
4. Your bike must be in safe working order and be equipped with
 - a front white light and a red rear light.
 - spare bulbs and batteries.
 - full fenders covering 90 degrees of the front wheel and at least 180-degrees of the rear wheel.
5. You must carry personal ID at all times.
6. You must qualify at a shorter distance before attempting the next longer ride.

LETTERS

WHAT ARE WE TRYING TO DO HERE, ANYWAY?

Dear Grant.

Enough already with this bar laquer/shellac silliness. I'm starting to get a little worried about you guys.

Tim Montee

Boy, I gotta say, this shellac stuff is really takin this retro thing too far. What next, fixed gears only? And I was content just to be stuck in the 70s!

Ted from Oakland

MOUSTACHE H²BAR TIP

If you're using Moustache Handlebars, consider cutting off the ends before installing brake levers and shifters. My hands are lightly honed, with short palms. I cut off an inch. It seemed like a good dimension to start with because the Shimano shifter bodies are 30mm long (a little more than an inch). If your palms are wider, maybe start with half an inch or three-quarters of an inch, whichever feels/looks comfortable/good.

This brings the shifters to where the bars used to end and, at least to me, improves the ergonomics of the set-up. When they're forward an inch, it's amazing how much closer to hand they are.

*—David Croyle
South Carolina*

CONFIDENTIAL TO TIM & TED

Today is Lupercalia, better known as Valentine's Day, but that is yet another story which I can pass along.

I've been tracking down shellac, both its use as a word in European societies and in its origins as a product, which again I suspected to be in India. Both are pretty interesting, if you are interested in this sort of thing.

As every scholar of ancient Indian folklore knows (but quite understandably not the rest of the world), there is mention of the use of "lac" as a resinous varnish in the great epic, the Mahabharata. Mahabharata is, among many other things, the story of ancient India's great confrontation of dynastic succession that

brought with it a war, the interventions of the Lord Krsna, and cause for a poem of nearly 100,000 lines, quite literally a "lakh" in duration. Great story.

In one important episode the Pandavas, Our Heroes, are nearly murdered by their cousins, The Villianous Kauravas, by being burnt to death in a House of Lac. The Lac House was a fire trap, of course, given how the lac was prepared (and while this is not entirely clear, it appears not to be far from the ways we use it today, or rather, as a Rivendell Preparation.) And just so you can put the worry to rest: Our Heroes escape with the help of an uncle who finds out the plan of murderous arson and has a "substitute" family take their place. The story does not put to rest these moral amihiguities any more than it explains how the house got shellaced. What it does imply is that Lac Houses were fit for princes. Shellacing is a highfalutin thing to experience, but you'd better watch out for the Bad Guys.

What we have here is a clear and unambiguous reference to the use of lac perhaps as early as the fourth century before the Common Era (that's B.C.) and no later the fourth century, C.E. (that's A.D.). These are the dates for the composition of the Mahabharata and the story may point to a much, much earlier time. This predates the first reference of use in the modern Europe by about fifteen hundred years. The Oxford English Dictionary cites a 1553 treatise on the Newe Ind. (margin 21), "Lacha is ye gumme of a tree wherewith silke is colored."

But where does the word "lac" come from! And what of early uses in the West? I thought these matters worth investigating further, as I prepared my handlebars for Brooks saddle-matching shellac.

Clearly, lac is an ancient Indian preparation and so likely derives from an ancient Indian word. It is also a preparation filled with interesting folklore about its origins, including the idea that it comes from crushed hugs. This is not actually the case, but the idea that it comes from crushed hugs (or even ants)

is hardly a new one. We have our first reference to this idea circa A.D. 250 in the work of the Latin writer Aelian in his treatise de Nat. Animal, iv. 46 where he writes: "There are produced in India animals the size of a beetle, of a red colour. an if you saw them for the first time you would compare them to cinnabar. They have very long legs, and are soft to the touch; they are produced on the trees that bear electrum, and they feed on the fruit of these. The Indians catch them and crush them, and with these dye their red cloaks, and the tunics under these. and everything else that they wish to turn to this colour, and to dye. And this kind of clothing is carried also to the King of Persia." Hmmm, wonder why he thought this?

There is actually an even earlier reference in the Greek work called the Perplus, about A.D. 80-90, who mentions "lac dye" (lakkos chroma' tinos, literally a "lake of color"). Now we should note that in certain dialects of English the word "lake" means a particular red color and certainly it comes from this relationship to "lac". Lac seems always to suggest these various shades of red as well as the various resinous substances in which it appears. These Greek and Latin references, however, point to the origin in Sanskrit, via Prakrit and then Hindi. We can explain it pretty clearly this way: "Lakh" is Hindi, not in this case meaning the number 100,000, but from the Prakrit "lakkha". (Prakrit is to Sanskrit what Italian is to Latin, if that makes any sense. Prakrit is used in plays and dramas, for example, when anyone of non-noble birth speaks. But all Sanskrit-derived or rooted languages, such as modern Hindi, descend through "praktization.") Anyway, the Prakrit word "lakkha" is a pronunciation of the Sanskrit "laksha" (like nibbana is to nirvana, if you follow that) and "laksha" is actually, the word "raskha" Bingo! We have now reached the meaning that makes lac what it is: "raksha" means "a protector," "something that protects," just as lac provides a protecting cover. A raksha is also a covering. (You may be familiar with the heads favored by hippies and

Hindu ascetic devotees of the god Shiva, called "rudra-raksha," which protect with the blessing of Rudra or Shiva.)

Ye Olde Hobsonjobson, the venerable resource of all etymological relations between Indian languages and English, has a nice, longish entry on "lac": "The resinous incrustation produced on certain trees by the puncture of the Lac insect. The incrustation contains 60 to 70 per cent. of resinous "lac," and 10 per cent dark red colouring matter from which is manufactured lac-dye. The material in its original crude form is called stick-lac; when boiled in water it loses its red colour. an is then termed *seed-lac*, the melted clarified substance, after the extraction of the dye. is turned out in thin irregular laminae called *shell-lac*. This is used to make sealing-wax. in the fabrication of varnishes, and very largely as a stiffening for men's hats."

This explanation in Hobsonjobson is confirmed by no less an authority than the Oxford English Dictionary which says, "The dark-red resinous incrustation produced on certain trees by the puncture of an insect (Coccus or Cateria lacca)... The incrustated twigs are called stick-lac; The resin broken off the twigs and triturated with water to remove the colour is called seed-lac; melted, strained, and formed into irregular thin plates. it is known as shell-lac or SHELLAC." While Indians never seem to have been confused about the process by which it is made we have as late as 1682 a reference in the Cosmography of Heylin which says that "lacca" is "a gum there made by Ants, as here Bees make Wax." Connecting shell-lac to beeswax may have only analogical significance but it is a strange Rivendell karma, don't you think?

Anyway, as far as I can tell these sorts of misunderstandings about the "irregular laminae" being crushed bugs of one sort or another or being made by ants, reveals an estrangement from the process. Folks who had the stuff but were not close to the making of it had all sorts of ideas about where it came from. Indeed it does come from what an insect does but it is from the resin that it causes to flow. Another reference from 1510 is only a tad more clear-minded about its origins but seems to mistake the shell-like pellets for a shelled nut. It states: "There also grows a very large quantity of *lacca* (or *lacra*) for making red colour, and the tree of this is formed like our trees which produce walnuts." (Varthema. 238, again quoted from Hobsonjobson.)

The use of shellac was also well-known in Persia (as Hobsonjobson goes on to say) since the word: "aak," and "lak" or "luc" are used in modern Arabic for seal-

wax, and in various Arabic-speaking regions for a variety of substances giving a red dye. Still, we have no evidence that in India the word was applied otherwise than to the *lac* of our heading.

What I think must be the case is that shell-lac and related products were traded across southeast Asia from ancient times, and undoubtedly made their way into the Roman empire across the sea and land trade routes developed with the Arabs and Persians. Perhaps there is even an earlier connection since Alexander's armies return from the sub-continent shortly after his death in 320 B.C. or so, with all sorts of goods and ideas, but that is pure speculation. The references we do have lead me to think that lac was used in the West in ways not unlike the ways we might use it today since at least the early first century. This makes sense since the Mahabharata reference suggests its use in India perhaps four hundred years earlier.

The word "shellac" in English is likely the translation of the French, *laque en e'cailles*, that is, lac in plates. We can compare this to the German word Schalenlack too. But, as we have seen, it seems that the "lac" part is Sanskrit and the "shell" part is derived by distinguishing one particular use of lac from others.

I think I have exhausted my knowledge of shellac at this point except perhaps to note that one 1693 reference states, "Manna and Gum Lacca he clearly shews to be Spontaneous Exudations."

Douglas R. Brooks
Professor of Religion
University of Rochester
Rochester, NY

Words From Bob

I just finished looking at RR10 and have a few comments:

1. P. 33, brown leather toe straps. How about matching leather handlebar tape?
2. P. 33, lugged SS stem. Please don't forget those people who want/need a high rise and short reach. My excuse is an Alex Moulton one-size fits-all bicycle that needs a high rise and short reach (60-80 mm) to get the riding position I like. I've seen pictures of Alex Moulton bikes set up for kids with almost zero reach.

Bob Fenichel
Arlington, VA

Bob, I think in the future we'll try to just carry natural colored toe straps. We keep running out of red or yellow, and I think everybody is okay with natural. But we'll see if ALE can do them that way.

We looked in to leather bar wrap. We can buy golf club grip wraps in leather,

but it costs too much. I think they figure anybody who can afford greens fees and club memberships isn't going to squawk about \$25 for grips. Anyway, in RR12 (if it doesn't make it in here) we'll have more bar-wrapping options, though none in hide.

The lugged stem is actually coming along. I've pretty much given up hope of a stainless one. Columbus makes suitable steel, but not in the right dimensions for a stem (22.2 x 2.0 for the quill; 25.4 x 1.2 mm for the extension). We hear TIG-welders are asking them for stainless stem material, and if they get it we'll just hop on that and get ours, too. Stainless tubing itself is easy to get. Strong stainless is not. We found a source, a specialty tube maker, who quoted us \$53 per foot for the tubing we need. That takes all the fun out of it—we'd be left selling stems to the Shah of Iran, Donald Trump, the two Michaels, and the one remaining Gabor.

So we're back to CrMo, in which case we'll nickel-plate the buggers. That'll be fine. The lugs are designed, we're contacting casters, we have the money, and we'll try for a June '98 delivery. As for quill length and all—the ONLY economical thing about lugged stems is that it's easy to cut the quill or extension any length we want. Right now we're thinking of lengths between 85 and 135mm; quills in 150, 170, 190mm.

— GP

Words From Wise

The book that had the most profound influence on my life was Walden, by Henry David Thoreau; however, I never got completely through it until about six years ago. See, I would start reading it and have an uncontrollable urge to give it away. Paring away possessions, divesting myself of worldly things was only one of the messages of this book. Its message to simplify also goes right to how I choose to live my life.

I have perfected the art of efficient travel. I can pack a carry-on with my regular clothes and travel for months on that. It is a skill I developed while travelling from Taiwan, my home for three years, to Hong Kong, China, Thailand, then the big trip through the Soviet Union (it was called that then), to and around Europe. The technique didn't really get perfected until that trip was over, but nothing could have impressed the principle of simplicity upon me more than slogging around bags over two continents.

I do not wear a helmet. I have one, I would probably wear it off-road, or if I'd gone over the handlebars more than just once in twenty-six years, and landed on

something other than my hands and my face (for which I have a small rapier-srar that would have been quite the thing in nineteenth-century Prussia). It is not a safety issue, though; it is a simplicity issue. I don't wear gloves, sunglasses, special shoes, riding shorts, or jerseys, either. My bike, a Specialized Globe 7, has amenities like flat pedals (truly clipless), an internal 7-speed hub, frrnlrs, and a chain guard. I have added amenities like a Brooks saddle, Nightsun headlights, and a Carradice saddlebag. It is my commuter: It goes to work and to the grocery store. It is transportation, and anyone from an era before the ubiquitous automobile would have recognized that. I could go on about that at length; however, my point is about simplifying things.

We will see just how simple things can get in the coming weeks and months. My car lost its oil pan to a curb on Monday, and I have decided not to have it fixed right now. This effectively strands me in Carson City. Being a large-city person, I had been making trips to Reno as a fix. These I don't get any more. Winter is coming, and cycling to work could get interesting. I cycled all summer, though; I'm confident in my ability to transport whatever on the bike. You might call this my own experiment on Walden Pond. We will, in future, discuss the possibility of me getting an A/R, in red, for serious snow.

—Michael Wisp

TOM-SIGHTING

I thought you might be interested/amused by my one and only encounter with Tom Ritchey. Bark in Sept. 1990, my friends, Carol and Doug, and I were on a mountain bike trip in the San Juan Mountains of southwestern Colorado. It was a loop trip that went from Lake City to Ouray, to Telluride, to Silverton, and back to Lake City. The route is primarily old mining roads which are regularly traveled by tourists in 4wds. Between each town we had to cross a mountain pass that ranged from nearly 11,500ft. to 13,000 ft. in elevation.

The week we were there coincided with the World Mountain Bike Championships held in Durango, CO, not far from this region. On the third day of our trip, we were riding from Telluride over Ophir Pass to Silverton. It was a wonderful day and we were enjoying the ride up the pass. It was slow going with the three of us strung out along the road. As I reached the top of the Pass, I stopped

to enjoy the scenery and wait for the others to catch up.

After several minutes, a 4wd vehicle arrived at the top of the pass. It stopped, all four doors opened, and out jumped several kids and a woman. The children ran wildly around enjoying their freedom. A few moments later, Doug arrived at the top of the pass. He said he had seen a cyclist coming up the pass on a road bike behind him. We both thought, in amazement, 'Who in their right mind would try to ride this pass on a road bike? They must be nuts! This ride is tough enough on our fat tire mountain bikes.' (Mine was, and still is, an MB-3). As Doug and I discussed this amazing feat, the woman in the 4wd overheard our conversation and mentioned that she was driving the sag for the rider, and they were just waiting for him to arrive at the top. I recall Doug saying to her, 'You should tell your husband he ought to buy a mountain bike for a ride like this.' Her response was, 'Yea, I know. You'd think he'd have a mountain bike. After all, he is Tom Ritchey.'

Doug and I both about fell over when we heard that! What was Tom Ritchey doing up here in the middle of the San Juan Mountains? We decided that he was probably in the area for the World Mtn. Bike Championships. Soon, we saw Carol approaching the top. Sure enough, close behind her was "some guy on a road bike!" Skinny tires and drop bars! As the riders approached, Jim and I began to cheer Carol on as Tom closed in on her. We were yelling, "Come on Carol, GO! You can do it! That's Tom Ritchey behind you! GO! You can beat him!"

Our cheering didn't help much. Tom passed Carol just below the top of the pass. Luckily, I got a picture. (I've attached the picture) I was sure Tom would stop at the top to get food or a drink from his wife. Then I'd get a chance to shake his hand, talk to him, and take a look at that bike he was riding. I was quite disappointed when he didn't stop. He just kept riding, down the other side. His wife and kids jumped back in the 4wd and off they went. The three of

us were left standing there in amazement. None of us could believe what had happened. Since that day, I've learned a lot about cycling. I've learned to appreciate what Tom was doing that day; when our impression was, "this guy must be nuts to ride a road bike on mtn hike trails." It was a day I'll never forget. Although I



Carol, left; Tom, right

didn't get a chance to shake hands and talk to Tom, I begin a whole new appreciation for cycling.

—Mike Gillespie

When I recently received a new B.17 saddle from you folks, I saw that it was chamfered at the bottom. Of course, cutting the leather in that way leaves a somewhat raw looking edge. Before putting the saddle on my bike I headed for my shop for a piece of beeswax. I then rubbed the wax along the raw edge, and then burnished the waxed area to a high gloss with a smooth piece of wood. This is just a trick that I learned in my leather working days. By the way, I believe that "chamfering" is a woodworking term. Leather workers would call that process "skiving."

—Kenneth Sole

Kenneth, thanks for the tip and the vocabulary lesson. I don't like to misuse terms like that. Probably the equivalent, in bike language, is calling a wheel a rim, a seat post a seat tube

—Grant

OBSIDIAN BEATS LASER

I'm not retro for the sake of it—I use Ergo shifters because they suit my style of riding. But rather for the sake of function. Wool jerseys are better, so I wear them. I ride a steel frame, because it's durable, dependable, and comfortable to ride. It's frustratingly hard to find just plain good stuff, when everyone makes more money by selling glitz and silly toys. Economic reality in a saturated market, I suppose. I thought, given the comment about obsidian knives on your introductory page, that you might be interested in mine. I'm not into flint-knapping at all, but I do use obsidian scalpels made for me by an archaeologist. For certain of the surgeries I do, they are a better tool. The best appearance and healing result in taking a mole off a nose isn't obtained by an Nd-YAG laser, but by a stone knife.

—Lee Green MD MPH
Associate Professor
Dept Family Medicine
University of Michigan

THE PROBLEM WITH BIG HEADS

I am a subscriber, and really enjoy the articles, even though I don't understand all the subtleties and nuances and was never a bike enthusiast. I have started riding, and learned about Rivendell in *Mountain Bike*.

I am a good golfer, and also played a lot of tennis, and have seen (and been seduced by) the march of technology and the need (advertising and marketing created) for the latest and greatest. I feel I have learned a couple of things from all of this (and wasted some money)

1. Workmanship and good quality are always worth paying for.

2. Just because something is new, doesn't mean it's better. Example: Titanium is the buzzword in golf nowadays. You can make a bigger clubhead, and therefore, more forgiving, because of the lightness and strength of titanium. However, this lightness also creates a need for a longer shaft, otherwise the swingweight is too light. So therefore, you now NEED a bigger clubhead, because with the longer shaft, you are less precise. The powers that be promote titanium as a material that will help you hit the ball farther. Well, you hit it farther, because the shaft is longer, thereby creating a wider arc, and more clubhead speed! Physics. The material only helps in a) making a bigger, more forgiving clubhead, and b) pump ing up the price of a driver to \$500.

Club makers also make clubs now for people who do not play the game well. They take a weaker shaft and label it FIRM, (for ego purposes), and make it so

you can hit the ball high and left (since most hackers hit it low and right). We have come to a point therefore, where clubs are not being designed for the good golfer, or to give a golfer feedback to become good, but to allow a poorer golfer to get away with poor swings and mishits. Maybe this makes the game more enjoyable for some, but I can't find a club I like to play with! This, I suppose is the mere ranting of a stick in the mud, old fashioned (even though I'm only 31) retro type guy, but I miss the days when clubs were made not only with function in mind, but also feel, feedback, and beauty as well.

By now, (if you've read this far) you're thinking, what the heck is this guy talking about??? Well, to finally get to the point, I feel the same about today's craze for mountain bikes. I see people riding fully suspended techno mountain bikes on the road, and they'll never see a trail! While the more upright position may be more comfortable, everything else about a mountain bike seems to make it harder to get about on our roads...knobby tires that don't roll well, suspension that pogoos when you get out of the saddle to climb, and an uncomfortable bar for riding any distances longer than a couple of miles. The "microdrive" concept is also a hard one to grasp. Isn't the purpose of a bicycle efficient transportation? Bikes are geared so low that the purpose seems to be to try to make it so anyone can ride up a hill without working at it. It doesn't succeed. I end up in the big ring all day. And that leads to another subject! This deal where people go to a ski resort, take their bike up on the tram, and ride downhill! If you can't ride up the hill, you shouldn't ride down it!

Now then...I have to admit I bought a Kona Cinder Cone that has a front suspension fork. I asked to get it changed to a rigid fork, and the bike store looked at me like I had 2 heads. Now I've bought bar ends, changed the saddle, got "road" tires, and raised the stem, and I still have a BIG problem: Everything goes numb. Crotch not so bad, now that I've bought bike pants, but after 45 miles, my fingers and toes go numb, and I can't seem to be able to find a way to get comfortable. I go on a 15-20 mile ride, and I suffer. I've put in 400 miles or so, and am not having fun! When I ask the store about fit, they look at me sideways, and act baffled! I am a big guy, (6'1", 260), but I didn't think that bicycles were only made for 65 kilo 5'4" mountain climbing fiends in the Tour de France! Anyone should be able to find a bike that fits, and that they can enjoy riding, right? I am ready to quit biking. Maybe I didn't invest enough in the bike,

but I want to go to a road bike and quite possibly a Rivendell. I ride mainly on the road, and I want to ride fast and comfortable, and train well...I guess I need to know if there is a solution to my fitting problem, and can you solve it or at least offer a suggestion.

—John Lo

Hi John,

Nice letter. Z don't play golf anymore (Z did when Z was 9-10-11, a lot), but I'm captivated by golf infomercials, and Z read what Z can when Z see it, about golf technology. There are many parallels between golf, tennis, bikes, fishing, equipment. Z remember reading an article about the way the old golf clubs were made. Zt had step-by-step photos, and they were so beautiful. I've often thought that toning down the golf gear might even reduce the pressure to shoot a low score.

About your bike and numbness: numbness comes from pressure, and pressure comes from too much weight on the numb part, and that comes from one or both of only two things — a bad position (in the case of numb hands, maybe the bars are too low), and too little shifting around. If your hands are numb, you've got to move them around more or get the bars higher. In this way, most 6-footers get a bad deal, because most mountain bikes stop at around 21-inches, and that means low bars. You can get a high-rise stem, though. Also, something like a Moustache H'bar might work. The whole point of the design is to give you many places to put your hands, but there's more to it than that. With flat bars and bar-ends, you may switch hands, but you don't really switch pressure points. Either M-bars or drops solve this problem, but you've still got to get them high enough. One good way to tell if they're high enough is to take your hands off the bars and see if you can maintain your upper body position; and if you can't, it suggests that you're leaning on the bars, and that would only be the case if they were too low or too far away. Try different bars, and if it still doesn't work, try a different bike, a different fit. Siring is easy. Two rules of thumb on fitting road bikes for a person of your height: Saddle height minus 17/18 cm = frame size. Another: Pubic bone height minus 27cm = frame size. These are only as reliable as your starting measurements. In both cases they'll put you on bigger bikes than any shop would, and you'll be better off

— Grant

TOMATO, TOMADO & POTATO, POTADO

In the discussion of dropouts (RR-10) and ends the word “tendon” is used repeatedly. I wonder if it shouldn’t be “tenon” as in “mortise and...”

—Simon

Simon,

You are right. I got “tendon” from Tecnociclo’s Mario Papallardo, but it was from a conversation, and I’m now sure he said “tenon” and I heard “tenDon.” I looked up both in the dictionary. Tenon is “a projection shaped to fit into a mortise.” “Tendon” is “a strong band or cord of tissue connecting a muscle to some other part.” I think I’d be nervous if I had to defend “tendon” over “tenon” in this case. Thanks for fixing me on that one.

—Grant

A TYPICAL TECHNICAL QUESTION

I’ve got an order form right here. So pubic bone height, as best I can tell, is 85.1cm Saddle height is 72.4cm. That seems pretty far out of your 9-11 cm rule, but I tried raising my saddle to 75 cm, and I have to lock my knees and slide off the side of the saddle to reach the pedals at the bottom... so maybe I pushed too far “past the nasty stuff when measuring the pubic bone height.” Anyway, those are the numbers I get...

My height is 5’10”, weight is about 175 lbs. My current bike (which is extremely comfortable) is as follows:

Seat Tube: 56.5 CC, 58 C-T

Down Tube: 63.5 C-C

Top Tube: 56.5 C C

My stem raises about 3” and extends about 3.5”. No, I don’t feel squished by the top tube at all.

Seat tube angle is almost certainly 74 deg, head tube is supposedly 73 deg, but the shop measuring it had an inclinometer held together with a paper clip, so I’m a little suspicious.

I was thinking of a 58cm Road Standard. As I mentioned, I’d like a slacker seat tube angle, though I’m guessing 72.5 will feel quite a bit different? I don’t know what the head tube of 73.5 would change... The shorter top tube seems most compatible with what I have (if those numbers are C-C), so I’d lean towards that...

BUT... I’d definitely like your suggestions given my measurements/etc. I confess I haven’t fully absorbed all your information about your frames, the impact of a sloping top tube, the headset extension, etc.

Generally I do longer, non-competitive riding, tend to carry at least a rack-pack full of clothing, camera, etc., may ride

anywhere from 25-75 miles on a typical ride, do a few centuries each year, some brevets or doubles thrown in. Not likely to start racing criteriums at this point, but likely to continue lengthening my rides. Let me know if the 58cm seems reasonable, or if you have a different suggestion.

—Nick

Nick,

Do you think you could send a photo of your bike, set up as it is? You could do it with or before the order form.. That’ll tell me a little more. It’s unusual to have a saddle so low with a pubic bone height of 85.1. It’s not necessarily wrong, and in your case it seems to be right, since you certainly ride enough to expose any wrongness. Still, it’s unusual and therefore we should investigate.

One explanation could be that you pedal with your heel down. There’s a certain amount of heel upness and downness that falls in a normal range and accounts for individual differences. On the other hand, a low saddle will tend to make you pedal heel-down because your leg is trying to straighten a bit more than the saddle height allows with a level heel. And after many miles and months or years, you can become accustomed to it and comfortable with it, even to the point where it can become RIGHT for you (the “it’s hard to argue with success” idea).

So I wonder — when you say you can’t reach the pedals when the saddle is at 75 — is that still the case with a level heel? And what about something like 74cm saddle height?

This frame will be with you a long time, maybe forever, so there’s no use rushing anything. After I see some pictures (one of you on your bike, hands on the brake lever hoods in your normal riding position, too), things will start settling in.

It’s comforting to know you’re already riding a 58c/t. That’s the size your pubic bone suggests, although if this were France in the ‘50s you’d be on a 60.

In bikes, what looks right pretty much all the time works right. I can tell how much standover clearance you have by how much extended-visible seat post and saddle you show, another reason I want to see a photo of your bike.

All this talk of seat tube length is clouding the real fit issue, which is the relative heights and horizontal distance between the saddle and the handlebars, and more specifically, the orientation of the triangle formed by the parts of the bike that you contact (pedals-saddle-bars). We

want the top side of that triangle to be relatively level, and the lower point of that triangle to be well forward of the upper (of the saddle). That’s what a shallow seat tube angle and a relatively high bar position encourages... and is the key point of our frame design, the upstroke of the head tube extension, and so on.

Grant

CURRY FROM CHRISTCHURCH ON CLOTHING; CAMPAG, CINELLI AND COUNTRY

Pleased to see that in the U.S., home of conspicuous consumption, there is at least one retailer who sells the tried and true. It took me a cycling lifetime to discover what works for me.

I have two bicycles. The first is a locally made standard CrMo touring frame with alloy rims on small flange Campag track hubs and a single fixed gear of 63-inches. TA single chainring, 1/8-inch chain, Lyotard pedals, Cinelli 65 bars and stem, and a single Mafac Racex brake. This is for shopping, commuting, and flat road local rides. I, like most of my generation, started cycling on the fixed wheel and like to keep the tradition alive. My touring cycle is an F.W. Evans 531 frame bought in London 20 years ago, on Super Champ rims with 36/48 Phil Wood hubs, SunTour down tube levers, New Record front (brazed on) and rear derailleurs, TA double chainset 30/42, SunTour New Winner block 16-17-18-21-26-32. Record bottom bracket and headset. Cinelli 65 bars and matching stem. Mafac tandem cantilever brakes and hardened plastic levers, Lyotard pedals. Both frames are black, the only colour for a gentleman’s bike (and the simplest color to touch-up when scratched), and both have Brooks leather saddles. The Carradice long flap saddlebag is quickly switched between cycles as required, by means of a simple but cunning device built by a friend. The derailleurs are 15 years old, the saddle is over 30 years old, the saddlebag (patched here and there with cotton duck and leather) is 18 years old. The rider is 65 years old.

Choosing a frame has obviously altered somewhat since I bought my Evans. Then. I walked into the London shop, asked for a frame. “Touring or racing, sir?”

“Touring.”

“Inside leg, sir?”

“34 1/2-inches.”

“What colour, sir: blue or black?”

“Black.”

“Here you are, sir,” he said, handing me a 24 1/2-inch frame, which is the most comfortable I’ve ever ridden.

I wear exactly the sort of clothing and Reynolds leather shoes described in Brian

Walker's nostalgic article reprinted in RR10, even down to the cape and spats. The gabardine windcheater jacket he describes but doesn't name is a Greenspot Nomad, still made by Greenspot Sportswear of Wetherby, England. I bought two such jackets over 20 years ago and still wear them. You can throw them in the washing machine, hang them up, and in half an hour they're dry and ready to go, and need no ironing. They'll stand a shower, are almost completely windproof and practically indestructible, being made of double-thickness, silicone-proofed cotton poplin. Apart from a little fading from the sun, mine are as new and will probably see me out. I've replaced one of the zips.

Yours sincerely,

A.J. Curry
Christchurch, NZ

That's why we eschew them rips.

— Grant

JUST WHAT WRONG?

The article by Brian Walker in RR-10 is not only out of date but it's just flat **ass** wrong. You should not carry luggage in a large saddlebag and a large handlebar bag. You should carry the weight in low-mounted front panniers and the bulk in low-mounted rear panniers and the rear panniers should be inside the wheelbase, which is why a loaded touring bike needs long chainstays. That's what Daniel Rebour said in 1946, what Jim Blackburn said in 1981 and what Frank Berto has said for 15 years. Please publish this somewhere.

I have installed the Shimano Nexave rear derailleur and freehub on my 1965 Paramount with 105 STI shift levers. It's currently 11 to 34 on the rear and 52-42-30 on front (with the 105 triple front derailleur). This is the way for you to build up Rivendell loaded touring bikes for you non-retro buyers. You pick the High and Low by selecting the chainwheels. You can **use** anything that Shimano makes from 52-42-30 to 42-32-22. You got a sweet shifting super wide range (six to one). The 11 to 34 Nexave cassette is a medium ratio 7-speed (11 to 26) with a stump puller **bull** low. The reverse action of the rear derailleur takes some getting used to but it is the best thing that Shimano has done for touring bikes in this decade.

'Gears to you!

Frank Berto

The opinions expressed were those of the author, and all Z did was print them? Nevertheless, it has been my experience (as opposed to "if is my opinion") that

bicycle riders adapt to loads carried incorrectly. When Z rode across the country, Z did it with **2400** cubic inches of Kirtland GT panniers and a whopping load strapped on top. (Note to readers in general: Z also did it with Jan Ellis, and if you know her, please ask her to get in touch.) Up front Z had Kirtland's biggest handlebar bag, not even cinched down to the front eyelets because Z didn't read the directions. Z rode with Safeway sneakers and a potholder sewn into cut-off sweatpants, which worked fine until the potholder came loose and then Z later switched to gym shorts. Wrong it was, fine it worked, and if you don't believe me, ask Jan. We saw hundreds of other tourists that year, and everyone rode this way. Front panniers and low-riders may have existed, but greenhorn American tourists never heard of them, and this system's deficiencies never even occurred to me until Z became learned. Ignorance in anything is usually best avoided, but once in a while it is bliss.

On a remotely related note, Waterford builder Steve Suvia told me a story of an old Paramount frame that came in for minor surgery—a new braze-on, or something. As it turns out, it was so far out of alignment the cows wouldn't come home at all. So Steve did the right thing and straightened it and sent it back. A few days later the owner called up and said "what'd you do to my frame? Zt rides funny!" Steve offered to put it back the way it was, but after explaining to the guy what happened and suggesting he try to get used to a straight frame, the fellow relented and hasn't squawked since.

—GP

CONTINUED FROM PAGE ONE

...but total silence is impossible, and when a bike does make noise, I want it to be something I'm used to. Maynard also mentioned that the bike he's spent most of his El Niño Winter on his one speed. On that bike, he's always in the right gear.

On January 12 I watched an old movie, and one of the guys in the room in the movie hopped up and started playing the piano. I turned to Mary and said "that's unrealistic—he wouldn't just be able to play like that." She told me that in the pre-television days in England, singing and piano playing were common forms of after-dinner entertainment for rich people (she said "the gentry"), and most of them could play. We have a piano, but I can't play it... it may be because I watch The Practice instead of practicing.

We're often told that technology can unleash our chomping-at-the-bit genius within, and we've all seen the benefits of technology in business, medicine, and crime-fighting. But if we use too much technology, too often and when it's more of a convenience than a necessity, our pensmanship slips. We read fewer books, we grow impatient with everything, and we forget how to slice and dice with a knife. We stay home and watch video games and think we're improving our eye-hand-coordination, amazed that our cave-man ancestors survived without electronically honed E-HC. We'd be better off juggling, playing catch, or roaming around the hills watching out for quicksand.

There are some great high-tech things in bicycles. Bike helmets, which I hate to wear uphill but always wear coming down, are one example. Reflective fabric and especially those cheap flashing lights are probably technology's greatest contribution. Lugs are right up there, too.

We've been here three years now, and last year sold \$600,000 worth of stuff—up about \$65,000 from 1996. We don't keep close track, and we don't have financial goals other than good cash flow. As much as I like the bike-part of the business, and that is what it's all about, I am most proud that our vendors know they'll be paid on time. I personally have little to do with that—it's Peter, Joe, Allen, and Mary (she pays the bills).

Last year was another year without a single bounced and uncollectable check. That's unheard of for any business, even more so in mail order, which is why most mail order business won't ship until your check clears. Thanks a lot, and just for the record, the first person to break that streak gets his or her name in a future Reader, in 48point Garamond.

Business is good, and we're grateful and feeling fortunate. The roads and trails are slowly getting dotted with honey brown Brooks B.17s and black Carratlices, though sightings of shellacked bar tape remain rare.—Grant

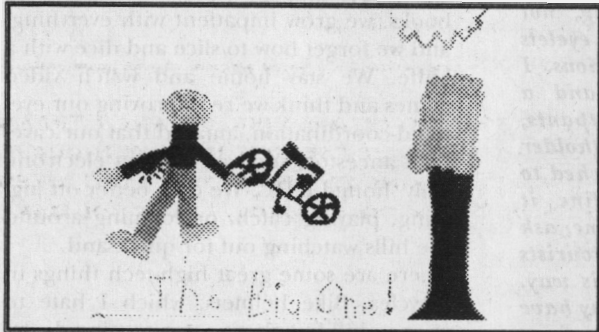
p.s. I just realized another contradiction in this thing, and it is I go on and on about how bikes are fun to touch and play with, and I say that as though my kind of bikes are, but modern ones aren't. Maybe the more widgets you have at your fingertips, the more there is to play with. Maybe that's part of the attraction. I'm not sure. Maybe, with the old cyclometers I had and hated, I should have just pushed buttons and paid less attn. to the screen. —G



THE KIDS PAGE



DOES YOUR YOUNGSTER LIKE TO WRITE OR DRAW PICTURES? WE'D LIKE TO PUBLISH THEM. DUE TO THE VOLUME, NOT ALL WILL MAKE IT IN THE RR, BUT ALL ENTRIES WILL BE ACKNOWLEDGED. SEND NON-RETURNABLE ART AND STORIES TO RR-KIDS, 1547 PALOS VERDES NO. 502, WALNUT CREEK, CA 95596. NO EMAIL, NO MAJOR PARENTAL HELP, AND ALL ENTRIES MUST BE SOMEHOW RELATED TO BIKES.

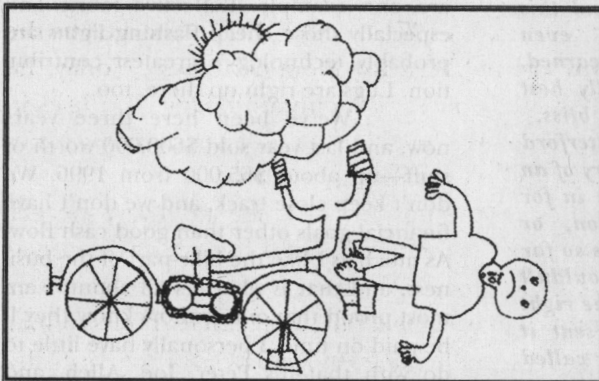


The Big One!

One sunny day while I was camping, I went bike riding with my brother and my friend. I was riding really fast when my brother turned in front of me, and I crashed into him! I got a bad road rash. It really hurt!

—Daniel Sellers
Clyde, N.C.

Daniel, road rashes always hurt—that's the thing with them. Skin wasn't made to be abraded off by pavement! But at least crashing teaches you what not to do—in this case, don't ride behind your brother! —Grant

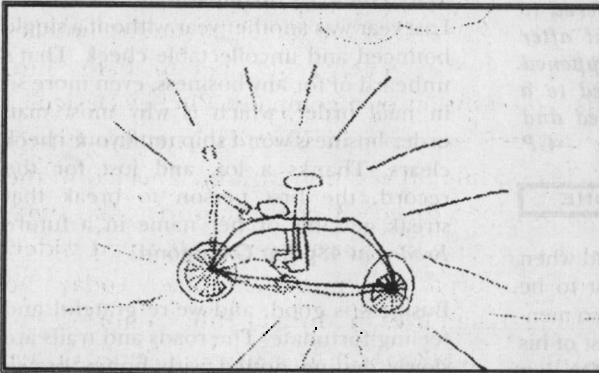


Falling

One day I was riding my bike in my driveway in California. My sisters and their friend were watching. I turned around and my hike tires slipped out from under me. I fell and hit my chin on the hard pavement! My parents rushed me to the hospital! The doctor put six stitches in my chin! I felt jittery and a little scared while the doctor was stitching, but I got a milkshake and peppermints to make up for it! Phone home!

—Joel Sellers

I can see that insuring the Clan Sellers is not an easy way to make money! But your doctor and parents know the right way to take care of you when you're hurt, at least, and you'll have a story to go along with your scar-stitches. —Grant

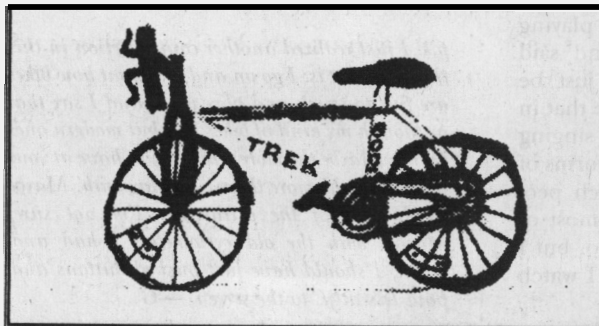


This is my bike.
I like it a lot.
This is my bike.
That's what I thought.

—Molly Zook
Prineville, OR

What a delightful poem and picture, Molly! Your bicycle has a Volkswagen look about it, and I like that a lot. I like the way you made it look so shiny, too. —Grant

picture by Clara Wetmore



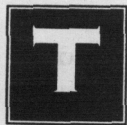
Clara, Trek has the money. They should put this art on their catalogue, or make T-shirts out of it. It's an amazingly detailed illustration, better than I could do. Especially the saddle—you got the shape perfectly. (Not that I'm an art critic, but I know saddle shapes). And your saddle to bar height is much like the position we espouse! —Grant

WHO INVENTED THE MOUNTAIN BIKE?

PAPER FOR THE 8TH INTERNATIONAL CYCLE HISTORY CONFERENCE. GLASGOW, SCOTLAND. AUGUST 27, 1997

BY FRANK J. BERTO © FRANK J. BERTO - REVISED FOR RIVENDELL READER. OCTOBER 9, 1997

MOST PEOPLE, AND I'M ONE, ARE SICK OF READING ABOUT WHO INVENTED THIS MOUNTAIN BIKE, SO WHEN FRANK SAID HE HAD SOMETHING I MIGHT WANT TO PUT IN THE RR ON THIS VERY THING, I SAID "SEND IT IN" BUT THOUGHT "BARKING UP WRONG TREE." THEN I STARTED READING IT AND FOUND MYSELF LIKING IT, AND IN THE END I LIKED IT ENOUGH TO GIVE IT TEN WHOLE PAGES. IT'S THE DEFINITIVE AND FINAL WORD ON THE SUBJECT, AND IF YOU CARE ABOUT THE HISTORY OF BIKES AT ALL, IT'S ESSENTIAL READING. —GP



he 1970s mountain bike originated in Marin County in Northern California, in the coastal region a few miles north of San Francisco's Golden Gate Bridge. This paper will describe the development of the mountain bike as told to me first hand by the five major participants: Gary Fisher, Charlie Kelly, Joe Breeze, Tom Ritchey, and Mike Sinyard. Of these, only Gary Fisher has actually claimed to be the inventor. None of the others who were present during its gestation and birth agreed with Gary's claim.

I have an edge over those who research dead people and ancient history, because I lived in Marin County and wrote for *Bicycling* in the '70s and '80s, and I know the main characters, and everyone is still alive.

CAST OF CHARACTERS

Gary Fisher was born in 1950, started bike racing in 1962 at age 12, and started riding and assembling fat-tired clunkers at age 23 (1973). He was the first person in Marin to put derailleurs on a fat-tire bike. He founded the *MountainBikes* company with Charlie Kelly as his partner in 1979. He started his own company, Fisher MountainBikes, in 1983. He lives in San Anselmo, California, and is president of the Fisher Bicycle Corp., a division of Trek.

Joe Breeze was born in 1953. He was a serious bicycle racer and a frame builder in the early 1970s. Like Gary, he started riding fat-tired clunkers in Marin in 1973. In 1977 and 1978, he built ten frames and assembled ten mountain bikes. His Breezers proved the market for mountain bikes. Today, he lives in Fairfax, California, and heads his own company, Breeze Cycles.

Charlie Kelly was born in 1945. He and Gary Fisher

shared a house from 1971 through 1977. Charlie was the writer and the publicist for MountainBikes. Today, he keeps the records on early mountain biking. He lives in San Anselmo, where he writes for half a dozen magazines and runs a household moving business.

Tom Ritchey was born in 1956. He was a very successful Junior racer—"senior slayer" was his tag; since even as a junior he was beating older, supposed-to-be faster senior racers. He became a full-time bicycle frame builder as soon as he graduated from high school. In 1979, he built the first dozen frames for MountainBikes. Tom built the frames for about half of the first 2000 mountain bikes from 1979 to 1982. Today, he lives in Palo Alto, California, and owns his own company, Ritchey Designs.

Mike Sinyard was born in 1949. He met the Cinelli family in 1974, while on vacation in Italy. This led to the founding of Specialized Bicycle Imports. In 1982, Specialized imported the Stumpjumper, the first widely advertised, mass-produced, mountain bike. Today, he owns Specialized and lives in Morgan Hill, California.

Otis Guy was a bike racer and an early Repack rider who was present from 1974 to 1976. Today, he is a Marin firefighter and a frame builder. He makes about 25 custom-built road and mountain bikes per year.

Alan Bonds shared a house with Gary Fisher and Charlie Kelly in 1976 and 1977. In the last half of 1976, he bought 100 old bikes from Legendary Wocus. Alan refinished the old bikes and sold them as clunkers.

Russ Mahon lived in Cupertino, south of San Francisco. In early 1973, he built the first clunker with derailleurs and all of the mountain bike features. Gary Fisher saw Russ Mahon's clunker in December, 1974.

John Finley Scott built a fat-tire bike with hybrid gear-

ing (3-sprocket freewheel plus 4-speed Sturmey Archer hub) in 1953. He built a 10-speed ‘Woodsy Bike’ with 650B rims and tires in 1960. He bought 110 mountain bike frames from Tom Ritchey in 1979 and he financed the MountainBikes startup in 1979.

DEFINITIONS

If I say so-and-so invented the mountain bike, I must define *mountain bike* and *invent*. The definitions that follow are my own interpretations.

Definition. A **mountain bike** should have:

1. **Fat, 26-inch tires.**
2. **Upright riding position and flat handlebars.**
3. **Derailleurs.**
4. **Good brakes.**
5. **A design suitable for off-road use.** Knobby tires, strong frames, high bottom brackets, long cranks, relaxed frame angles, and heavy-duty components.
6. **Marin County Origin.** This is not a technical feature but it defines which early bikes were part of the lineal development of today’s mountain bikes. Just as the pedal-driven velocipede originated in Paris in the 1860s, so the mountain bike originated in Marin County in the 1970s. Other fat-tired, derailleur-gear, properly braked roadsters were built elsewhere before 1975. There were many more than the ones that I have listed. They were not mountain bikes because nothing came of them.

This definition describes the first generation of mountain bikes from, say, 1977 to 1983, and except for the relaxed frame angles, remains a reasonable definition of today’s front- and rear-suspended motorless motorcycles.

Many of the principals who were involved in the development of the mountain bike seem to have a simpler definition. In their view, Item 3, the installation of derailleur gearing on a fat-tired bicycle, was the critical event.

DEFINITION OF INVENT

The dictionary definitions that applies to bicycles are:

Webster - To discover as by study or experiment; produce for the first time; as to invent printing.

Random House - To originate or create as a product of one’s own ingenuity, experimentation or contrivance: to invent the telegraph.

Oxford - To find out in the way of original contrivance, to create, produce, or construct by original thought or ingenuity.

In my interpretation, an inventor must pass three tests. **First**, the inventor must have the original idea and not copy someone else’s. **Second**, the inventor must make the first prototype, which can not be a copy of someone

else’s. **Third**, the inventor must actively participate in the subsequent developments that lead to the use of the invention.

TERMINOLOGY USED IN THIS PAPER

A *clunker* is a pre-mountain bike that used an old balloon-tired roadster frame. There were coaster brake clunkers and derailleur clunkers.

A *mountain bike* is a bicycle with a brand new frame that satisfies the mountain bike definition. Everything before Joe Breeze’s 1977 Breezer was a clunker.

A *cruiser* is a single-speed, coaster brake, balloon-tired bicycle that was and still is popular in So. California.

CRITERIA FOR MOUNTAIN BIKE INVENTION

Assuming the mountain bike resulted from invention rather than evolution, the inventor would have to meet the following criteria, roughly in order of importance:

1. **He was fiit to conceive the idea** for the mountain bike and he did not get the idea from someone else.
2. **He made the fiit prototype** mountain bike that included all the definitive characteristics and he did not copy some one else’s earlier bike.
3. **His prototype mountain bike was the progenitor**—the oldest ancestor of what we now call a mountain bike.
4. **After making the prototype, he was actively involved** in the development of subsequent mountain bikes.
5. **He was the first to use the name mountain bike** to describe his bicycles.
6. **He got a patent** on the mountain bike. (Patents are good for dating ideas. However, the patent holder isn’t always the inventor. He’s just the first person to claim the invention at the patent office.)

There are problems when a device evolves over time, rather than being one person’s brainstorm. Somewhat similar devices usually existed prior to the “invention date.” Someone always finds an earlier device that seems to disqualify any inventor.

The mountain bike was a combination of features and components which had been invented earlier, and with all that prior art, it is easy to say there is no inventor. Alternatively, there may be an inventor who meets almost all of the criteria.

THE CHRONOLOGICAL STORY

1933: The Schwinn B-10E. Frank W. Schwinn introduced ththis, the first mass-market bike in America since the 1890s to use wire bead tires and inner tubes. The B-10E used 26 x 2.125 low-pressure balloon tires, and created a

new U.S. market for better quality bicycles.

The B-IOE, typical of Schwinn's pre-war balloon tire bicycles, had shallow frame angles, lots of fork rake, and a high bottom bracket. The Excelsior was one of Schwinn's top quality bicycle models in the mid 1930s.

The pre-war Excelsior got the reputation as the ideal frame for off-road down hill racing in Marin. Joe Breeze copied the Excelsior geometry in 1977. Tom Ritchey copied it in 1979 from Joe Breeze's bike, and Mike Sinyard copied the geometry in 1981 from Tom's MountainBike. This "Marin" geometry was standard on mountain bikes until about 1985.

1937: Schwinn introduced front and rear drum brakes, and developed a strap-on cantilever front brake conversion kit in the early 1950s. These were much sought after by the early clunker builders.

1970 to 1971: Larkspur Canyon Gang. Around 1970, mountain bike precursors appeared in Larkspur and Mill Valley, two small towns on the east slope of Mount Tamalpais in Marin County. The riders belonged to the Larkspur Canyon Gang—a dozen casual friends, nothing sinister. They started riding old one-speed, coaster brake, newsboy bikes on the trails of Mount Tamalpais, and called their bikes *beaters* or *balloons*. They ran a race from the top of Mount Tamalpais to Larkspur Canyon using any trail the rider chose. Technical innovation consisted of using the best coaster brake and fitting a front drum brake if you could find one. If your bike broke, you threw it away and bought another one at the Goodwill for \$5.

1972: LC Gang member Marc Vendetti became interested in road bike racing and joined Marin's road racing club, Velo Club Tamalpais, a road racing club. Tim DuPertuis of VCT built a fat-tired bike with 24-inch wheels and derailleurs, but nothing came of it.

1973: Marc Vendetti introduced off-road clunker riding to the VCT. Joe Breeze, Otis Guy, and Charlie Kelly were early converts. They bought old clunker bikes and started riding them on the trails of Mount Tamalpais. **Gary Fisher** had been riding clunkers on and off since 1971. **Yon** didn't have to be a bike racer to ride a clunker in Marin—the general public bought clunkers and used them both on the trails and for general transportation.

By the end of 1973, there were twenty or thirty clunker riders in Marin, mostly men in their teens and twenties. In the early 1970s, Marin's clunkers and their riders had a counter-culture image, especially to straights like me, with three teen-age **sons**. Most of the riders lived in Fairfax and San Anselmo, two small towns on the north slope of

Mount Tamalpais.

The early bikes were called many names but they were usually called clunkers in Fairfax and San Anselmo.

Upgrading the Clunker: The old Schwinn bike frames held up better than other brands and were better than the newer Schwinn middleweight bicycles. Riders **also** learned that Morrow and Musselman coaster brakes dissipated heat better than Bendix coaster brakes, which were better than New Departure coaster brakes.

At this point, a highly desirable clunker had front wheel brakes, a lever-operated two-speed Bendix coaster-brake hub, and long Ashtabula cranks. In a low-key, trial-and-error fashion, Marin's clunker riders improved the performance of their off-road bikes.

Russ Mahon and the Cupertino bikes: In 1972 and completely distinct from the Marin developments, carpenter Russ Mahon and some of his friends started riding fat-tire bikes in the Santa Cruz mountains about 70 miles south of Mt. Tam. They formed the Morrow Dirt Club, named after the Morrow coaster brake. It grew to ten members, and each built his own off-road bike which they called a bomber. In his spare time, Russ assembled three bomber bikes for use by friends and family. Then in February, 1973, **Russ** built a rear wheel using a French Atom drum brake hub and a five-sprocket freewheel. He installed this wheel on his Wards Hawthorne bomber bike, which already had a front drum brake. He completed the bike with long-arm plastic brake levers, a Shimano Tournay rear derailleur, a double crankset and a front derailleur from a Schwinn Varsity, and SunTour thumb shifters. This bike met all of the basic requirements for a mountain bike except for heavy duty brake levers, cables, and casings.

By the end of 1973, about half of the members of the Morrow Dirt Club had abandoned coaster brakes and were riding ten-speed derailleur clunkers at a time when the Marin County riders were still using coaster brakes.

1974. This was last year of the ten-speed bike boom in the U. S., the year of the great gasoline shortage, and the critical year for the invention of the mountain bike.

Gary Fisher's First 1974 geared clunker: Gary Fisher recalled that he built the first clunker with a Maxicar drum brake rear hub and a rear derailleur in September of 1974. Over the next few months, he added handlebar-mounted shift levers, a front derailleur and a double crankset to this bike. The next year, he added a TA triple crankset and SunTour thumb shifters. The pads on the Maxi-Car rear hub wore out and Gary rebuilt the wheel

onto an Exceloo rear hub.

Gary can't produce any hard evidence to support the September, 1974 date for this prototype bike. He kept the prototype bike until 1996, and now the bike is in the Shimano Museum in Osaka. I saw it and photographed it in 1996, before it was shipped to Japan.

The prototype that I saw has major problems with Gary's claimed September 1974 production date because:

- The adapter that allowed a cotterless crankset (TA or any other) to be installed in a 2-inch diameter Ashtabula bottom bracket was not made until 1976 at the earliest.
- The Shimano 600 rear derailleur was not available until mid 1975. I wrote a derailleur test for the March 1975 *Bicycling* and could not get a Shimano 600 to test.
- Many of the people who rode with Gary recall that his first derailleur bike was a red and ivory B. F. Goodrich, made by Schwinn, with stem shifters mounted on the handlebar. The prototype has a nickel-plated Schwinn Excelsior frame and SunTour thumb shifters.
- The Cook Brothers BMX-style front fork was not available for 26-inch wheels until 1977. Pictures of Gary's 1975- and 1976 bikes show flat, forged, Ashtabula-style forks.

When Gary and I reviewed the final draft of this paper, he agreed the bike in the Shimano Museum is a replica of the various clunkers that he rode in the middle 1970s, not one actually built in 1974.

The December, 1974 Mill Valley Cyclo-Cross Race:

On December 1, 1974, Russ Mahon, Bernie Mahon, and Carter Cox drove up from Cupertino to ride in the Mill Valley cyclocross race, bringing their three fat-tire clunkers. Each bike was a different, but all had drum brakes, front and rear derailleurs, and SunTour thumb shifters.

Gary Fisher and Otis Guy were in this race. Gary was riding his cyclo-cross bike. Charlie Kelly and Joe Breeze were spectators. Everyone saw the Cupertino bikes. There is a picture of Gary looking at them in the lineup.

At the end of the race, the three went back to Cupertino and disappeared from the mountain bike story. The Morrow Dirt Club disbanded in 1975 as the members moved away from Cupertino.

Charlie Kelly and Otis Guy believe Gary Fisher got the idea of adding derailleurs and thumb shifters to his clunker when he saw the Cupertino bikes. Gary recalls that he was surprised to see that somebody else was building derailleur clunkers, and that they needed better brakes.

I have been unable to find anything in writing or a dated picture to confirm the date for Gary Fisher's first prototype mountain bike, so I have to rely on the twenty-

two-year-old recollections of the five people who were there at the time.

1975: Gary Fisher's Early Geared Clunkers. Charlie Kelly and Otis Guy recall first seeing Gary Fisher's red and cream B.F. Goodrich clunker equipped with derailleurs in the summer of 1975. Joe Breeze is uncertain of the date but recalls that Gary's first derailleur bike had stem-mounted shifters, not the SunTour thumb shifters.

Gary recalls that he built two or three more IO-speed clunkers in 1975 and there are undated pictures of two of them. Gary says he built a clunker for Fred Wolf in 1975 with an Ashtabula double crankset and SunTour front and rear derailleurs. This mud-covered bike is pictured the September, 1979 *Mariah/Outside* magazine.

Gary says he built another clunker with a green Schwinn Excelsior frame for his personal use in 1975. This clunker is pictured in the 1991 book, *Climb Every Mountain the Mountain Bike Way.* The Shimano Positron stem shift levers mounted on the handlebars date this bike. The first Positron rear derailleur, marketed in 1975, had two cables. The two cables are clearly visible. The rest of the components are in keeping with 1975.

Charlie Kelly and Otis Guy agree that Gary assembled the first derailleur clunker in Marin County.

Derailleur gearing improved the clunker's off-road capabilities. By the end of 1975, half a dozen people besides Gary Fisher had fitted derailleur gearing to their clunkers. Joe Breeze and Otis Guy stuck with their authentic coaster brake clunkers. The number of Marin clunker riders grew to perhaps fifty.

1976 The derailleur-equipped clunker was catching on in Marin. Many people built their own clunkers but a tiny cottage industry developed to convert old roadster bikes, mostly Schwinn's, into clunkers and sell them.

Gary Fisher, Charlie Kelly, and Alan Bonds shared a rented house at 32 Humboldt Avenue, San Anselmo. They had an informal arrangement to build clunkers for their own use or to sell to friends. Charlie rounded up frames and parts in his travels as a roadie with the Sons of Champlin rock band. Gary worked in the Wheels Unlimited bike store in San Rafael and knew where to find new parts. There were half a dozen other clunker assemblers in Marin in 1976.

ALAN BONDS AND L. WOCUS

Alan Bonds heard about a fantastic Wocus Bike Shop in Klamath Falls, Oregon. In mid-1976, Alan Bonds and a friend drove a truck to Klamath Falls to investigate. They

asked for directions to the Wocus Bike Shop at a gas station. 'You mean 'Legendary Wocus,' the man replied, and gave them exact directions.

It wasn't a fantasy. Mr. Wocus repaired bikes for the local kids. **H**e owned a house with a large lot and he had been dismantling old bikes for many years. There were six monster piles of rusty bike frames in his back yard, each approximately twenty bikes in diameter x ten bikes high. He had separate piles of wheels, forks, and handlebars. The hubs, brakes, chains, etc. were in pails and barrels.

They made a deal to buy fifty frames complete with components for three dollars each. Mr. Wocus allowed them to pick through the piles and barrels and select the choice items. They rooted through the piles for the rest of the afternoon until they filled the truck.

Alan Bonds went back a month later and bought another fifty bikes. The two truck loads pretty much high-graded the Schwinn Excelsior frames, Morrow coaster brakes, Union drum brakes, etc. from the Legendary Wocus mother lode. Marin builders made pilgrimages to Klamath Falls for another five years, to get parts.

Alan Bonds now had a stockpile. He sand-blasted frames, repainted them in authentic period colors, and assembled clunkers for the local Marin market. Alan recalls that he assembled about 25 clunkers in 1976, half with derailleurs and half with coaster brakes. Gary Fisher supplied the necessary special components. Alan says Gary built about three clunkers and Charlie Kelly built one clunker in 1976. Most of the other clunker-makers bought frames from Alan. The L. Wocus trove helped Marin reach a critical mass.

By the end of 1976, there were about twenty geared clunkers in Marin. When a Campagnolo Record-equipped Schwinn Paramount cost \$600, the going price for a clunker with derailleur gearing was around \$400.

THE REPACK RACES

The first Repack race was a downhill time trial held on the Pine Mountain fire road on Mount Tamalpais on October 21, 1976. It was organized by Charlie Kelly and Fred Wolf to settle an argument over who was the fastest descender. Repack was named because the steep 2.1-mile downhill course burned the grease out of the coaster brakes and they had to be repacked (overhauled). Seven people were in the first race. Alan Bonds won, and was the only rider who didn't fall.

Not everyone knew about the first race, so a second race was held a week later with a field of nine. Bob

Burrows won the second race on a 1950 Schwinn Spitfire rebuilt by Gary Fisher to include drum brakes and front and rear derailleurs.

Nine Repack races were held in 1976, eight in 1977, three in 1978, and two in 1979. There were "final" races in 1983 and 1984. I rode in the 1983 race. Charlie Kelly organized and publicized most of the Repack races and he was the timer and record keeper. The scheduling depended on Charlie's travels with the rock band. Most of the races were held in the fall after the end of bicycle road racing season and after the first rains made the fire road more useable.

Gary Fisher won four races and set the course record of 4 minutes 22 seconds, which still stands. Joe Breeze won the most races (10) and he holds the second fastest time of 4 minutes 24 seconds.

The Repack race was critical for the development of the mountain bike in Marin County. In a typical race, five or six racers would fail to finish because of mechanical failures. Winning depended largely on rider skill but everyone sought to gain a technical edge. When something worked, it was quickly copied.

Joe Breeze and Otis **G**uy continued to ride their one-speeds, but there was an advantage to derailleur gearing. Without the Repack proving ground, the mountain bike would probably have developed differently, and it certainly would have taken longer. Repack was the U.S. equivalent of the Polymultiplie races and exhibitions that took place in Chanteloup, France in the 1950s.

The number of Marin clunker riders increased to about a hundred. There was a shortage of suitable old frames to replace the casualties and to satisfy the new customers. There were lots of newer middleweight Schwinn cantilever frames but they didn't hold up as well as the older Schwinn's.

CRAIG MITCHELL'S FIRST FRAME

Charlie Kelly weighed 180 pounds and was hard on bikes. In 1976, he asked Joe Breeze to build a custom clunker frame. Joe was busy, so Charlie asked Craig Mitchell, another local frame builder. Craig completed the frame in ten days. Rather than copying the Schwinn Excelsior frame dimensions, he provided steeper frame angles and a shorter wheelbase. Craig's first custom clunker frame was closer to the geometry of today's mountain bikes.

Charlie assembled the bike as a ten-speed with front and rear derailleurs and a set of Ashtabula forks which had too much rake. The bike was an unsatisfactory down-

hill racer, so Charlie dismantled it after two weeks and returned the frame to Craig. The first custom-built mountain bike was resold and reportedly shipped to Australia.

1977: THE FIRST BREEZERS

In the spring of 1977, Charlie Kelly again asked Joe Breeze to build a clunker frame. Joe agreed and Charlie made a down payment. Joe was a good choice. He was an experienced frame builder, and a good designer and machinist in addition to being a road racer and a Repack clunker racer.

The frames of the Schwinn-based clunkers were weak and heavy. Some of the Schwinn clunkers weighed as much as 50 pounds. Joe designed a clunker frame that was both stronger and lighter. There was a significant local demand for custom-built mountain bikes, and when the word got out, Joe got eight more orders.

He was a slow, methodical designer and builder. He prepared drawings, and ordered tubing and components. The prototype, Joe's personal bike, was completed in September, 1977. It was painted and had a hand-made, braced fork. The last nine bikes were nickel-plated and used Cook Brothers BMX forks.

1978. Joe Breeze kept going until he completed the nine frames. They were nickel-plated at once and assembled and delivered starting in June 1978. Everyone called them Breezers.

The Breezer had Schwinn Excelsior geometry on a conventional diamond frame using straight tubes with an extra pair of small diameter tubes ("twin laterals") extending from the rear dropout to the head tube. The frame was made from plain gauge chrome-moly aircraft tubing. The first Breezers weighed 38 pounds, much of it in the steel rims and heavy tires—all that was available in 1978. The Breezers were genuine mountain bikes, but the name "mountain bike" hadn't been used yet. They had Phil Wood hubs and bottom brackets, Dia-Compe cantilever brakes, Magura motorcycle brake levers, TA Cyclotouriste double or triple cranksets, SunTour thumb shifters, and either Shimano or SunTour derailleurs.

Joe Breeze designed and built the first modern mountain bikes with all new components. They were widely seen and admired and they proved that there was a market for something better than old Schwinn. The Breezers expanded the market beyond Marin County. Gary Fisher and Charlie Kelly did not sell any of the first ten Breezers. Joe sold them himself for \$750 for a complete bike.

CRESTED BUTTE TO PEARL PASS

Reports reached Marin of a Colorado bicycle race from Crested Butte to Aspen on a rocky trail over Pearl Pass

(12,700 feet). In September 1978, Joe Breeze, Mike Castelli, Wende Cragg, and Charlie Kelly drove to Crested Butte. Gary Fisher flew in from Emmaus, Pennsylvania, where he had been road testing bicycles for *Bicycling*. Joe, Charlie, and Wende took their Breezers. Gary and Mike took their old derailleur clunkers.

The Butte riders were mostly forest firefighters and patrons of the Grubstake Bar and Grill. They rode one-speed Schwinn. It turned out that it wasn't really a race. It was more of an event and they decided not to put it on. When they found out that four people, including Wende Cragg, a woman, had driven a thousand miles to participate, the event was quickly scheduled.

During the transit of Pearl Pass, it was obvious that geared bicycles with good brakes were much better than one-speeds. It was also obvious that the custom-made Breezers held up better than old Schwinn clunkers. After the event was over, Gary Fisher pulled a wheelie to impress the kids of Aspen, and his handlebars broke off.

In November 1978, Gary Fisher ordered three custom clunker frames from Jeff Richmond. Jeff took four months to complete the order. Gary didn't order a Breezer because he didn't like the twin lateral tubes.

In late 1978, Schwinn introduced the Klunker V which sold for \$160. This had fat tires and five-speed derailleur gearing but it was closer to a beach cruiser than a mountain bike.

1979: THE FIRST RITCHEY MOUNTAIN BIKE

The demand remained for custom-built, fat-tire, off-road bikes. After the Breezers, it was hard to call a custom-built bike a clunker. Marin, indeed most of Northern California, had been mined clean of suitable old frames. Foraging expeditions to the hinterlands came back empty handed. Gary needed a rapid frame builder.

In January, 1979, Joe Breeze visited Tom Ritchey, a Palo Alto frame builder. Tom was building a tandem for Joe Breeze's and Otis Guy's cross-America record attempt. Joe took his Breezer with him to show Tom how he wanted the twin lateral tubes he installed on the tandem.

Tom was already riding off-road on a lightweight bicycle with tubular tires. He had a project to build a lightweight off-road bicycle using 650B (26 x 1-1/2) tires and alloy rims, but upon seeing the Breezer, put that on hold and decided to build his own custom clunker using 26 x 2.125 tires. Tom felt he could make a lighter bike by using a larger diameter (1-1/4 inch) down tube. Tom's frame geometry was again based on the Schwinn Excelsior.

Tom rode in the January 20, 1979, Repack race on Wende Cragg's Schwinn clunker. He crashed when the handlebar twisted, and that crash inspired the Bull Moose handlebar. (Nice design. slightly heavy, now obsolete.—ed)

Gary Fisher and Tom Ritchey discussed mountain bikes at the race. Gary recalls that he ordered three frames from Tom, Tom made the three frames in **two** weeks. Tom decided to keep one frame for himself. Gary picked up the two frames in February, 1979.

Tom recalls that Gary ordered one frame. Tom made the second frame for himself and decided to make an extra frame since he and Gary rode the same size—the the “one for Tom, one for Gary, one to sell” story.

Tom was only twenty-three, but he was already a well known frame builder. making and selling about **250** road frames a year. He was also a skilled machinist and could make the exotic parts needed for custom clunkers.

There are two versions of the story of the next batch of Ritchey frames. Tom recalls that after he completed the first three, he decided to build a second batch of nine more frames. When they were finished, he called Gary to see if he wanted to sell them. Gary recalls that he ordered ten more frames when he picked up the first two.

The nine or ten frames were completed in three weeks, and Gary picked them up in mid-March. In 1979, Tom charged **\$450** each for painted frames with forks. Gary paid for the frames **as** he sold the completed bicycles, and sold the ten frames over the next four months.

It was a hectic year for Gary Fisher. He was a serious Category One bicycle racer. He went to France for several weeks to race and to train. He spent three months in Colorado Springs, the training center for the U.S. Olympic bicycle team. Eddie Borysewicz, the team coach, told Gary that he **was** too old and would never be a top road racer. It was time for a career change.

THE ORIGIN OF THE MOUNTAINBIKES COMPANY

In the summer of '79, Gary was returning from **Palo** Alto with a carload of Ritcheys. On the way home, he stopped to see Charlie Kelly in Fairfax to show him the frames.

They both agreed that Tom Ritchey was the prolific frame builder that would allow a mountain bike business to expand. Gary needed more help to handle the growing business. Then and there, they pooled their total capital (about \$300), opened a joint bank account, and founded MountainBikes. Either Charlie Kelly or Gary Fisher coined the name MountainBikes in September 1979, when they applied for a business license.

MountainBikes assembled Tom Ritchey's frames into bicycles and sold them for around \$1300, payable in advance. After you paid your money, Gary shopped for components **to** complete the Ritchey-MountainBike.

The bikes were called Ritchey-MountainBikes when Tom Ritchey supplied the frames. MountainBikes bought frames from other frame builders but Tom was the major supplier. The first catalog emphasized the Ritchey name. Many people assumed Tom Ritchey owned MountainBikes, or **was** at least a partner. This wasn't the case. Gary Fisher and Charlie Kelly owned MountainBikes. There was no written contract between MountainBikes and Tom Ritchey. Everything was word of mouth, which caused problems four years later.

Tom Ritchey was a friend of John Finley Scott. John saw the market potential and the trend and planned to be a major part of it. He ordered 110 mountain bike frames from Tom, at \$190 for an unpainted frame without forks. John's huge frame order allowed Tom to build the jigs to speed up his frame-building operation.

John Scott's mountain bike sales plans did not develop as he hoped. It required considerable organization **to** make the forks, paint the frames, and assemble the bicycles. John stored most of the frames in his garage in Davis.

John knew of the MountainBikes operation in Fairfax. He approached Gary Fisher and offered to **sell** Gary the Ritchey frames on a “pay-as-you-sell-them” basis. John loaned Gary \$10,000 to keep MountainBikes growing.

The first Mountainbikes used a mix of components:

- **Huret** Duopar rear derailleur
- **Simplex** front derailleur
- **SunTour** thumb shifters and Winner freewheel
- **TA** Cyclo-tourist triple crankset
- **Phil Wood** hubs
- **Mafac** tandem cantilever brakes
- **Magura** motorcycle brake levers
- **Avocet** saddle.

MountainBikes inventoried the components to allow people to build their own mountain bikes.

The first few Mountainbikes used steel rims. In 1979, both Araya and Ukai made 26-inch alloy rims for the adult BMX market. This made the cantilever brakes more effective. When the Cycle **Pro** Snakebelly skin-wall mountain bike tire appeared in 1980, the tire-rim combination took six pounds off the weight of the wheels. The lightest Ritchey-MountainBike weighed only 28 pounds.

In 1979, something like 200 custom-built mountain bikes were sold. This included about 40 Ritchey-

MountainBikes and about 75 Mert Lawill Pro Cruisers. The \$500 TIG-welded Pro Cruiser was a high-tech production, but the component selection was poor and the frame geometry was marginal. Other custom builders made smaller quantities.

In 1979, Schwinn changed the name of the Klunker V to Spitfire V and raised the price to \$173. Estimating mountain bike sales is difficult—were bikes such as these mountain bikes, or cruisers, or BMX bikes?

1980: FOUR COMPANIES EXHIBITED MOUNTAIN BIKES AT THE LONG BEACH BIKE SHOW IN JANUARY

Tom Ritchey made the first Bull Moose combined handlebar-stem in early 1980. Fat-tire bikes required a longer bottom bracket spindle so that the chainwheels cleared the chainstay. Tom made a custom sealed-bearing bottom bracket that provided wide-spaced bearings.

Gary Fisher won the Reseda to the Sea Challenge Race on a mountain bike in March, and he came second in the Sacramento District Cyclo-cross championship on a mountain bike. These results suggested that the mountain bike was more than just a downhill racer.

FAT TIRE FLYER

Charlie Kelly published the first issue of Fat Tire Flyer in August 1980. Old Fat Tire Flyers are the prime source of early mountain bike history. Denise Carmagno took over as editor with the third issue. Charlie was the major publicist of the early mountain bike era.

About 150 Ritchey-MountainBikes were sold in 1980. This was probably half of the total sales of genuine mountain bikes. Joe made and sold 25 Breezers in 1980 and 1981. The second generation Breezers had single down tubes.

There was only a 5-speed Cruiser in the 1980 Schwinn catalog. Nothing we'd call a mountain bike.

1981:-FIFTEEN CUSTOM BUILDERS EXHIBITED MOUNTAIN BIKES AT THE JANUARY 1981 LONG BEACH BICYCLE TRADE SHOW

There were mountain bike races in southern California. Tom Ritchey had two part time employees who prepared the tubing. Tom did all of the frame brazing himself. Tom made six different mountain bike frame sizes. He would make 100 frames in one size and then take a few weeks off.

John Finley Scott purchased Spence Wolfe's Cupertino Bike Shop in January, 1981. It became the headquarters for mountain bike sales south of San Francisco. Gary Fisher repaid the loan from John with

finished Ritchey-Mountainbikes, which were sold by the Cupertino Bike Shop.

The Specialized Stumpjumper: Mike Sinyard's company, Specialized Bicycle Imports, sold imported parts to MountainBikes. Mike could see the growing market. Mike recalls that in mid-1981, he bought one Ritchey-MountainBike for himself, and three more for his friends.

Mike Sinyard and his designer, Tim Neenan, liked what they saw. Mike decided to import a Japanese-made mountain bike. Tim suggested minor design changes. Mike took his Ritchey-MountainBike and Neenan's drawings to Japan and ordered copies from Toyo. Toyo was already building road bikes for Specialized.

There is an interesting story about these bikes. Many Ritchey frames did not include forks, so the forks were made by other frame builders. Forks were time consuming because there were no lugs available. Tom's frames had a sloping top tube. John Paget was one of the frame builders who made forks. He assumed that the frames had a level top tube and he made a batch of forks that were about half an inch too long. Gary and Charlie needed to make deliveries so they used the forks. This resulted in extra fender clearance and a slightly shallower head angle. The bikes that Mike bought had the long forks and this shows in the first Stumpjumper.

The mountain bike gospel spread far beyond Marin. There were numerous organized races in the western states. The Fisher-Kelly-Ritchey operation sold about 500 Ritchey-Mountain Bikes in 1981. They had lots of competition from other small builders but MountainBikes was the clear leader. The Ritchey frameset sold retail for \$625. A complete bike was \$1300.

The 1981 Schwinn King Sting 5 was a 5-speed adult BMX bike for \$550. The 1981 Murray Baja sold like hot cakes for \$120. With fat tires and ten-speed derailleur gearing, it looked like a mountain bike but everything else was gas-pipe quality.

1982: ABOUT TWENTY SMALL MAKERS EXHIBITED AT THE JANUARY, LONG BEACH BICYCLE SHOW

or advertised in the 1982 *Fat Tire Flyers*. These included Joe Breeze (Breezer), Colorado Bicycle Co., (Roughrider), Charlie Cunningham (Indian), Richard Cunningham (Mantis), Cupertino Bike Shop (Saturn), Barry Konig (Proteus), Erik Koski (Trailmaster), Mert Lawill (Pro-Cruiser), Jeff Lindsay (Mountain Goat), Moots Cycle (Mountaineer), Scot Nicol (Ibis), Glen Odell (Bruiser), Chris Pauley (Tierra), Steve Potts (Wilderness Trail

Bikes), Angel Rodriguez (R & E Cycles), Mike Rust (Rocky Mountain Bicycle Works), Erik Sampson (Rock Creek Cycles), Ross Shafer (**Salsa**), and Victor Vicente of America (WA), a former Olympic road racer known to his parents as Michael Hiltner.

Most small builders sold direct to the customer. You paid \$300 down, and got your bike when it was ready—anywhere from several weeks to several months later.

The Fisher-Kelly-Ritchey MountainBikes operation was unique. Almost all of the frames were hand built by Tom Ritchey, but his quantities approached factory production. Five hundred Ritchey-MountainBikes were sold in 1982, priced from \$820 for a Ritchey Mount Tam to \$1500 for a Ritchey Everest.

1983: MOUNTAIN BIKES ENTER THE MASS MARKET

1982 was the last year small custom builders dominated the market. At the January, 1982 Long Beach Bicycle Show, three major bike makers—Specialized, Univega, and Schwinn—displayed factory-made mountain bikes that were sold at regular bike shops across America.

Mike Sinyard's \$750 Specialized Stumpjumper was the talk of the show. He imported only 500 in 1982. Mike could have sold many more but there were shortages of financing and components. Specialized advertised a lot and expanded the market for mountain bikes.

Univega imported and sold about 3000 Univega Alpina Sport mountain bikes, made and designed in Japan by Araya. The 1982 Alpina Sport had a 48-36 double chainwheel, so it wasn't a hill climber, but it cost only \$500. Ben Lawee, who owned Univega, was famous for picking hot trends, and the next year, Univega imported four mountain bike models made in Japan by Miyata.

In 1982 Schwinn had two 1982 fat-tire bikes: the King Sting and the Sidewinder. Schwinn couldn't decide if they were mountain bikes, adult BMX bikes, or heavy duty cruisers. Both were available with one-, five-, or ten-speed gearing but they had inadequate brakes, high-rise handlebars, and frame geometry outside of what at the time was the norm.

1983: MOUNTAIN BIKES GO MAINSTREAM

About 5% of 1983 U.S. bicycle sales were mountain bikes. Ten years later the proportions were reversed. In 1993, mountain bikes and hybrids had 95% of the adult market and road bikes had less than 5%.

In 1983, you could still buy mountain bikes from the small custom builders, but almost all of the major makers

were in the market. Centurion, Cycle Pro, Diamondback, Fuji, **KHS**, Miyata, Puch, Raleigh of America, Ross, Schwinn, Sekai, SR, Takara, Trek, and Univega were all supplying mountain bikes in numerous price ranges to their dealer networks. AMF, Huffy, and Murray of Ohio were supplying their versions to department stores.

The Japanese parts companies, especially SunTour, had closely followed the mountain bike trend. In 1983, SunTour introduced MounTech, and Shimano introduced Deore XT mountain bike groups. Sugino and Sakae introduced triple cranksets for mountain bikes. The window of opportunity for Huret, Mafac, Simplex, and TA had been wide open for five years, but they didn't bite, and the Japanese have dominated bike parts since.

Specialized introduced the \$500 Stumpjumper Sport to go with the \$750 Stumpjumper. Gary Fisher and Tom Ritchey went to Japan and contracted to have a less expensive MountainBike made by Panasonic. The Montare was available in three models priced from \$450 to \$750.

In early 1983, Gary Fisher and Charlie Kelly changed the name of their company to Kelly-Fisher MountainBikes. There never was a formal written agreement with Tom Ritchey. Other custom builders supplied frames to MountainBikes. If the frame was made by Tom Ritchey, the bicycle was called a Ritchey-MountainBike. The Ritchey name on the decal certainly added value to a MountainBike.

Tom Ritchey's company was called Ritchey Custom Cycles but by 1983, Tom was largely out of the custom frame building business. He made two grades of mountain bike frames. The top quality frames became the \$1800 Ritchey Everest or the \$1100 Ritchey McKinley. The less expensive frames became the \$875 Ritchey Mount Tam. Even with the Japanese competition, about 1000 Ritchey-MountainBikes were sold in 1983.

MountainBikes's problem was financing. As they grew, they hired more employees, bought more components, carried more inventory, and went deeper into debt. They were later and later in their frame payments to Tom, their major creditor.

In mid-1983, Gary Fisher bought out Charlie Kelly for \$2,300 and an Apple computer. The price was low because MountainBikes was deep in debt.

Both Gary Fisher and Tom Ritchey had plans for the future but they were different plans. At the end of 1983, their disagreements came to a head and the breakup was less than amicable.

PREDECESSORS THAT WEREN'T MOUNTAIN BIKES.

1930: Vernon Blake Roadster. Vernon Blake was a fascinating character and a friend and protege of Velocio. He was an editor for the British magazine *Cycling*, and he had a major influence on UK bicycle developments.

He and Velocio both believed in the chain flotante. Flotantistes used two or three chainwheels and a single-sprocket freewheel. The lower run of chain hung loose. Down shifts were made by kicking the chain with the heel. Upshifts were made by lifting the chain with a wire hook or a finger.

In the May 1930 C.T.C. Gazette, Blake described a bicycle he made for bad roads and long hills. It used 26 x 2 inch balloon tires. The gear train used 48-36-24 chainwheels and a reversible rear wheel with a 16-tooth sprocket on one side and an 18-tooth on the other. It had roadster handlebars, cantilever brakes, and handmade brake levers.

Was this the first mountain bike? Would it have been the first mountain bike if Vernon Blake had fitted derailleurs, or if it had been designed for off-road use? Probably not. The problem wasn't lack of technical features but timing. Blake was premature and nothing came of his bicycle. The cycling world wasn't ready for mountain bikes in 1930.

1953: John Finley Scott was a sociology professor at the University of California at Davis in the 1970s, with an independent outside income. He was a bicycle innovator. As a undergraduate student in 1953, he **assembled a fat-tired off-road bike using a diamond frame, flat handlebars and a hybrid gear train** with a Sturmey Archer four-speed hub, an 18-to-28 three-cog freewheel, and a Super Champion rear derailleur. He proved to himself that with low enough gearing it was possible to ride over rough single track trails. This bike was stolen.

John's 1960 "Woodsy Bike" had a custom-built Jeff Butter (Geoffrey Butler? —ed) frame with 650B rims and tires, dropped handlebars, sidepull brakes, Cyclo Benelux rear derailleur, Simplex front derailleur, TA 52-49-30 triple crankset and a 14 to 28 five sprocket freewheel. John pedaled this bike thousands of miles over numerous high mountain passes. The cycling world wasn't ready for mountain bikes in 1960. John shows up again in the mountain bike story in 1979 when he bought 110 frames from Tom Ritchey and financed Gary Fisher.

1961-1962: Schwinn Corvette. Frank W. Schwinn believed in derailleur hicycles. The problem was educat-

ing the American market. The 1961-62 Corvette was a five-speed derailleur version of a popular middleweight Schwinn bicycle. It had middleweight tires, flat handle bars, derailleur gears and moderately effective caliper brakes. It sold poorly when ten-speed Schwinn Varsitys and Continentals were selling well. With chrome fenders and front and rear racks, the Corvette was clearly not designed for off-road use.

1972: Tim DuPertuis's 24-inch derailleur clunker. In the spring of 1972, Tim DuPertuis was working in the Boneshaker Bike Shop in San Anselmo. He built a derailleurgeared fat-tired bike for his own use by adding the ten-speed gear train from a Schwinn Varsity to a Schwinn cantilever frame roadster with 24-inch wheels. He sold the bike in the summer of 1972 before he went to Europe. This may have been the first fat tire bike in Marin with derailleur gearing. It had small wheels, poor brakes, and "ape-hanger" handlebars but the problems were not technical. Tim DuPertuis and his bike had little to do with the subsequent development of the mountain bike, and there are no pictures of Tim's bike.

1973: Russ Mahon and the Cupertino bikes. Russ Mahon started building fat-tired bikes for off-road riding in the Cupertino, California area in 1972. In February 1973, Russ Mahon added front and rear derailleurs and a five-speed drum-brake hub to a Wards Hawthorne (built by Cleveland Welding) clunker bike. Russ's 1973 clunker had all of the essential elements that define a mountain bike: fat tires, flat handlebars, derailleur gearing, thumb shifters, and effective brakes. Russ made two similar derailleurgeared clunkers for his family. His friends made about six additional fat-tired bikes with derailleur gears.

In December 1974, Russ Mahon, Bernie Mahon, and Carter Cox brought their three fat-tire bikes with derailleurs to a cyclo-cross race in Mill Valley, California. Gary Fisher, Joe Breeze, Charlie Kelly, and Otis Guy were at the race and they all saw the bikes. After the race, Russ went back to Cupertino and simply disappeared from further mountain bike developments. By my definition of invent, Russ Mahon did not invent the mountain bike because his contributions ended in 1974.

ORIGIN OF THE NAME "MOUNTAIN BIKE"

In 1869, a drawing of a Gebirgevelocipede (mountain bike) appeared in an 1869 German magazine. The balloon-supported hicycle would not have been very practical, but it was probably the first use of *mountain bike*.

Either Charlie Kelly or Gary Fisher coined the name

MountainBike in September, 1979, when they took out a Marin business in the name MountainBikes. The early catalogs spelled it either Mountain Bikes (two words) or MountainBikes (one word).

In 1980, Charlie Kelly hired a lawyer to trademark the name. They asked for trademarks for MountainBike, Mountainbike, Mountain Bike, and mountain bike. The trademark office asked if the bike was only for mountain use. The lawyer said, "Yes." The correct answer was "No" and the trademark was refused. Gary and Charlie did not mention their failure to get a trademark at the time. It was generally accepted that they had a trademark.

WING BAMBOO

In the mid 1970s, Wing Bamboo, a Santa Barbara hippie, used the term "mountain bike" to describe his fat-tired clunker. James McLean, who became a salesman for Specialized, heard Wing Bamboo use the name and James suggested the name to Charlie Kelly in 1978.

Gary and Charlie's MountainBikes was the first to use the name in Marin to describe their fat-tired bicycles and they certainly popularized the name mountain bike.

The final insult came when *Bicycling* decided "mountain bike" was an unsuitable generic name, and ran a contest for a better one. The winner was ATB (All Terrain Bicycle.) *Bicycling* decreed that henceforth mountain bikes would be called ATBs. This caused confusion for three or four years, but the public would not buy "ATB," and "mountain bike" was back on top. If ATB had won, would Gary Fisher claim to be the inventor of the ATB? Gary says, "Yes."

ESTIMATED PRODUCTION OF GEARED CLUNKERS AND MOUNTAIN BIKES.

Year	Derailleur Clunkers	Mountain Bikes
1973	3 (Cupertino)	0
1974	3 (Cupertino)	0
1975	5 (Marin)	0
1976	15 (Marin)	0
1977	25 (Marin)	2
1978	30 (Marin)	9
1979	?	200
1980	?	300
1981	?	2000
1982	?	5,000
1983	?	50,000

This table is a rough effort to show the growth of pre-mountain bikes and mountain bikes in the San Francisco Bay Area for the first eight years. From 1973 to 1978, the table shows the numbers of fat-tired, derailleur-gearped bikes with old frames (derailleur clunkers). From 1977 to 1983, the table counts new custom-built frames (Mountain Bikes) that were made in the Bay area and elsewhere. The figures are approximate because nobody actually count them, and it's hard to separate quasi-mountain bikes from the genuine articles.

SUMMARY OF THE SIGNIFICANT EVENTS THAT LED TO THE MOUNTAIN BIKE.

Old balloon-tired clunkers ridden off-road in Marin and Santa Clara counties. The best old models were modified to include better brakes

1970: Larkspur Canyon Gang members in Marin.

1972: Russ Mahon and others in the Cupertino area.

1973: Gary Fisher, Marc Vendetti, Joe Breeze, and Otis Guy in Marin.

Ten-speed clunkers with drum brakes, freewheel, and rear derailleur, double crankset and front derailleur.

1973: Russ Mahon in the Cupertino area.

1975: Gary Fisher in Marin.

First purpose-built mountain bike frame.

1976: Frame built by Craig Mitchell for Charlie Kelly.

First complete new mountain bike with new frame, all new components, cantilever brakes, front and rear derailleurs, thumb shifters, and triple crankset.

1977: Joe Breeze.

1979: Tom Ritchey. Ritchey frames were assembled into MountainBikes by Gary Fisher and Charlie Kelly.

First commercial use of the name MountainBike.

1979: Gary Fisher and Charlie Kelly.

First mass produced genuine mountain bikes for regular retail distribution.

1982: Mike Sinyard (Specialized Stumpjumper).

1982: Ben Lawee (Univega Alpina Sport).

SO WHO INVENTED THE MOUNTAIN BIKE?

Depending on the definition of "inventor," there are three possible choices:

1. Russ Mahon invented the mountain bike because he made the first fat-tired, off-road bike with all of the essential features in February 1973. He assembled three off-road bikes with derailleur gearing and used them in the Cupertino area. Gary Fisher saw Russ Mahon's bike in December 1974.

2. Gary Fisher invented the mountain bike. Gary Fisher has not produced hard evidence to support his claim that he fitted a freewheel and a rear derailleur to his Schwinn clunker in September 1974, before he saw Russ Mahon's "Cupertino" bike. There *is* evidence to support a mid-1975 date. Assuming that Gary made his first derailleur-equipped bike in mid-1975, after he had seen Russ Mahon's bikes, Gary could be the inventor because:

- Gary assembled the first clunker in Marin with all of the key mountain bike features.
- Gary's 1975 clunker was the progenitor of today's mountain bikes.
- Gary was actively linked to the progression of events that led to the development of mountain bikes.
- Gary (and/or Charlie Kelly) were the first persons to call a clunker a MountainBike and they popularized the generic name, "mountain bike."

3. Wing Bamboo. Wouldn't that be a hoot?

4. No single person invented the mountain bike.

Mountain bikes just happened when enough of the early pioneers piled enough developmental logs on to the mountain bike bonfire. Critical mass was achieved and the mountain bike mushroomed. This is my conclusion.

Gary Fisher is not the inventor of the mountain bike because he did not have the brainstorm for the first clunker developments in Marin County and he saw Russ Mahon's Cupertino derailleur-equipped clunker in 1974 before he added a derailleur to his clunker.

Russ Mahon is not the inventor of the mountain bike because he had nothing further to do with mountain bike developments after 1974.

LESSONS FOR BICYCLE HISTORIANS

How does this apply to Pierre Lallement, Pierre and Earnest Michaux, and the Olivier brothers?

Problems with Dates. My first observation is that people have poor memories for dates. Even though the events that led to today's mountain bike took place less than twenty five years ago and all of the principals are still alive, I found it difficult to fix the dates within a year. It was necessary to read letters, catalogs, and magazines to fix the correct dates. The most reliable dating mechanism is the publication date of the literature. We can be sure that an event took place before the date of publication of literature that described the event. The later the publication, the greater the likelihood that the author is repeating old myths or inventing new ones.

Pre-dating Inventions. The interesting parallel is

between Gary Fisher and Pierre and Ernest Michaux. Pierre and Ernest Michaux (or the later historians) had to predate the Michaux invention of the velocipede back to either 1855 or 1861 to predate Lallement's 1863 velocipede. Gary Fisher tried to pre-date his first derailleur-equipped clunker from mid-1975 back to September 1974 to precede his sighting, of Russ Mahon's derailleur-equipped clunker. The Michauxs needed to rewrite history by eight years or *so*. Gary Fisher needed less than a year.

Problems with prior *art* This is a serious problem with the mountain bike because it was a combination of features and there were many similar earlier bicycles. This is less of a problem with the velocipede. We eliminate Kirkpatrick Macmillan by saying pedaldriven.

Few inventions take place without something similar having been invented beforehand. Does the inventor's original brainstorm have to be virginal? If the inventor didn't know about the prior device, can he be the inventor? Is it the existence of the prior device or the inventor's awareness of the prior device that is critical? The dictionary definitions don't help us in these areas.

Historians must decide if the prior bicycles were essentially the same as the inventor's bicycle. 'Velocipede' and "mountain bike" must be precisely defined to establish if the later bicycles were different from the earlier bicycles.

If the later velocipede or mountain bike was essentially the same as the earlier one, and if the maker of the later bicycle was aware of the earlier one, we have to assume he copied it, and *so* cannot be its inventor.

Other requirements for invention. Finally, we have to decide if the prior inventor actively pursued his invention. The dictionary definitions give us some help here. An inventor must fabricate subsequent devices. My litmus test is that the inventor's first device should be the progenitor of the line of later devices. There are three cumulative requirements; the original idea, the first prototype, and the subsequent development. This often leads to the situation where there is no inventor because no one person meets all three requirements.

Comparisons with Michaux and Lallement. If the Michauxs did not know about Pierre Lallement's velocipede, we can accept that the Michauxs invented the velocipede either in 1855, or 1861, or 1865.

If the Michauxs knew about Lallement's velocipede and if Lallement did nothing to develop his invention, and he just disappeared from bicycle history, then we might be able to accept that Michaux was the inventor.

If the Michauxs knew about Lallement velocipede,

and if Pierre Michaux was hired to make copies of it, and if Lallement proceeded to patent and to develop his velocipede, then we have problems with the Michaux's claim that he is the inventor of the velocipede.

If Lallement had the first idea for a pedaldriven velocipede, and built his velocipede and rode it in Paris in 1863, before any sighting of a Michaux velocipede, and if Lallement went to Boston and got a patent on the velocipede and participated in subsequent developments, then Lallement meets all three of my requirements for inventor.

ACKNOWLEDGEMENTS

My thanks to Joe Breeze, Gary Fishrr, Otis Guy, Charlie Kelly, Tom Ritchey, and Mikr Sinvard for rapr-recordrd interviews. Thanks also to Alan Bonds, Tim DuPertuis, Ben Lawee, Russ Mahon, and John Finley Scott for telephone interviews. My special thanks to Charlie Kelly and Joe Breeze for letting me use thrir extensive files of early mountain hike history

There is a dearth of published mountain bike history prior to 1978. There are very few pictures of 1974, 1975, or 1976 clunkers. The facts for the 1972 to 1977 prriod are based on the recollections of the people who were part of the action. All of the participants reviewed drafts of this paper, made corrections, and suggested improvements.

LIST of REFERENCES. The references for this paper make a stack that is three inches high. The annotated Reference List is six pages long. I have not included thr Reference List (and had hr, I wnludnn't have published it—GP). The signiticant reference is a November 27, 1979 letter from Charlie Kelly to Russ Mahon on MountainBikes letterhead. It says, "I watched the M. V. cyclo-cross in '74 and was blown out by thr ballooner action. Please send me a spec. list of rhr bikes in use. These were the 1st multispeed ballooners I ever saw and we jumped on thr concept hard at about the same time. You can see how hard we jumped on it."

August 21, 1997 Letter from Gary Fisher

Dear Frank

For many years now "Who invented the mountain bike?" stories have been written. These stories have typically been written in one of two ways:

First, by overworked and underpaid magazine staff members on a tight deadline who gathered recollections from limited sources. Facts went unchecked and many times a sensational "Did not - Did too" slant would be played up.

Second, by any of the bike makers including my company, who were anywhere in Marin in the late seventies or early eighties. The marketing specialists would go to work stretching facts to create cycling gods. The results were never unbiased. Never did anyone define what "invention" meant, or what makes a mountain bike a mountain bike. You did the best job by far, explaining how the

mountain bike got here, and yours is the paper I will give to those wanting to know the story. Would you have taken on the task had you known how difficult it would be to resolve the stories? Do you think it would have been much easier if we were all dead?

One aspect of the story I don't think you mentioned was how much fun the development was. The mountain bike was a secret, that once shared, changed people forever. To watch it spread, bringing joy to the world made my contemporaries and I feel like true contributors to society. Thank you.

—Gary Fisher

FRANK BERTO'S RESPONSE: *After presenting this paper, I asked the attendees at the 8th History Conference for their opinions on who invented the mountain bike. They were unanimous that no one person invented the mountain bike. Some felt that my definition of "invent" might be too rigorous.*

I spent nearly three months on this paper - much more than I planned. I had the eerie feeling that I was walking in the shoes of the historians who recorded the invention of the velocipede more than a century ago and who made such a mess of it. I was determined to do better. I'm certainly glad that everyone is still alive because many of them were able to correct their recollections when they reviewed the recollections of the others.

August 21, 1997 Letter from Joe Breeze, Charlie Kelly, and Otis Guy. Gary Fisher.

FRANK BERTO'S RESPONSE: *I have not included this four-page letter. I included a number of the comments and suggestions in the final version of the paper. Joe, Charlie and Otis do not believe that "anyone is the sole inventor of the mountain bike." I agree. Their other significant objection is that the paper devoted too much ink to Gary Fisher. This may be true but it was necessary because Gary Fisher had claimed to be the inventor of the mountain bike. I will send a copy of their letter to anyone who requests it.*

Send a self-addressed stamped envelope to:

Frank Berto
70 Crane Dr.
San Anselmo, CA 94960

that's all, folks!

BY RIC HJERTBERG

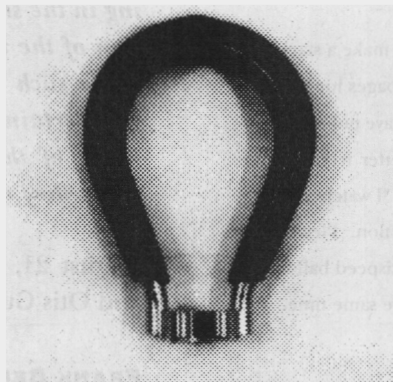
SPOKE WRENCHES

ERIC AND JON HJERTBERG STARTED WHEELSMITH, THE PALO ALTO, CALIFORNIA-BASED BICYCLE SHOP, SPOKE DISTRIBUTOR, AND WHEELMAKERS. RIC WROTE A STORY IN THE 1991 BSTONE CATALOGUE ABOUT SPOKED WHEELS, AND NOW I ASKED HIM TO DO THIS ONE ON SPOKE WRENCHES. I'VE ALWAYS LIKED SPOKE WRENCHES A LOT, BUT EVIDENTLY NOT AS MUCH AS RIC DOES. PHOTOS BY MITCH CLINTON.

Tensioned wire wheels give bicycles their life. Paragons of strength and efficiency, thanks to their economy of weight and cost, nearly two billion receive daily use on our planet.

Spoke tension is the wheel's mechanism for delivering *so* much with *so* little. This invisible asset is accessible only with a spoke wrench—one of *so* many bike tools good for one thing only. A puny spoke wrench in the hands of an experienced builder can invest a wheel with over 200 lbs. of tension on each spoke, a or 3.2 tons of tension per wheel. Judged on some sort of usefulness-to-weight ratio spoke wrenches are remarkable and, considering their unique task, these little devices are my favorite hand tools.

Last month I emptied my spoke wrench drawer and inspected some of the models I rarely use. They struck me like little archeological bits, evidence of intelligent life, a bit like arrowheads. Were they used in anger? Did some head of household toil all day with them to bring home the bread? Did they ever see the hands of a truly gifted builder? Did one of their wheels ever win a race or change a life? Were some of them never used, passing through history in the dusty corner of a parts drawer?



The venerable Park loop offers a different vinyl dip color to designate each gauge size. This item so dominates the contemporary scene that many experienced builders have used no other. I prefer tearing the vinyl off (except for electricians, vinyl is for wimps) and grinding a larger bevel to the jaw base edges (right where the round wire handle joins) so it stands less chance of scratching a colored rim while turning. This is my wrench of choice and a nice exercise in minimalism.

After a few minutes of such reflection, I rang up fellow tool nerd, Calvin Jones, special projects manager for Park Tool and a life long bicycle mechanic. "Send me your tired, your poor, your huddled wrenches yearning to turn free," I said. "We can combine spoke wrench drawers to form a tiny collection!"

Our Wrench Reunion was assembled the next week and photographer and former Mavic mechanic Mitch Clinton lovingly captured the group on the cobble floor of WheelSmith's Palo Alto store. We can think of a few obvious omissions but many of our favorites are there. The wrenches fall into several distinct categories:

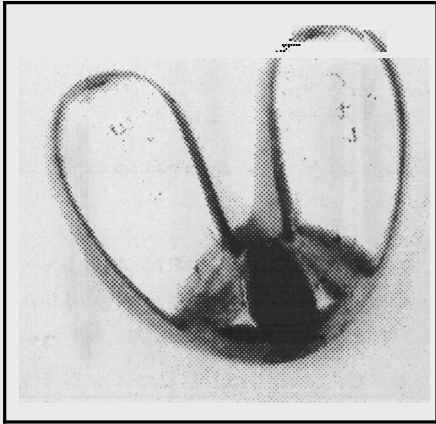
- butterfly shapes where the wings are used for turning leverage
- T-shapes where fingers drive the cross of the T
- round wrenches, often with several sizes
- adjustable wrenches, especially useful before standardization
- open end wrenches, miniature versions of the common wrench
- drivers, slotted or socket screwdrivers to turn the nipple from above

Eric "Ric" Hjertberg, WheelSmith, Inc.

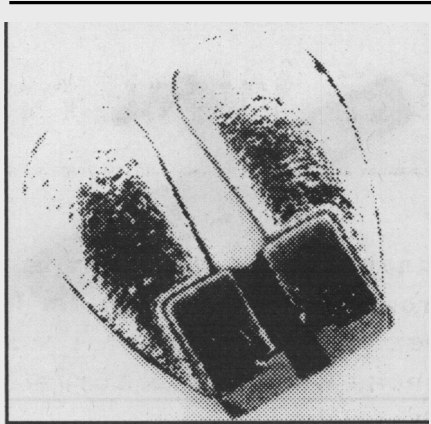
201 Hamilton Avenue, Palo Alto, CA 94301

Phone (415) 324-0510 • Fax (415) 324-2241

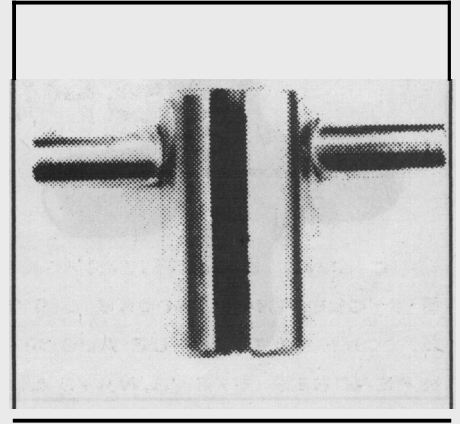
email ric@wheelsmith.com • © 1997, WheelSmith, Inc.



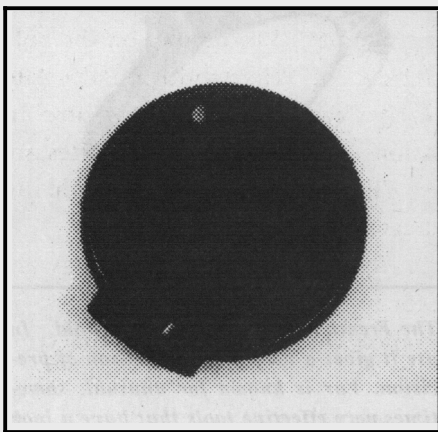
A graceful aluminum butterfly with steel insert was marketed as a *Surre'*. With use this French wrench became polished to a brilliant luster while your hands became impregnated with aluminum. Though toxic, this is probably the beauty queen of the collection.



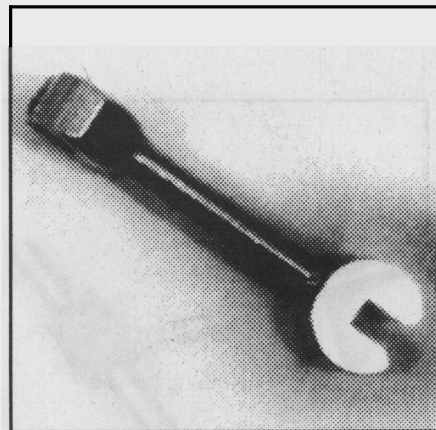
The famous Schwinn butterfly was made by Park Tool. Its chrome plated steel handle used a replaceable, hardened base available in sizes to match different nipple dimensions.



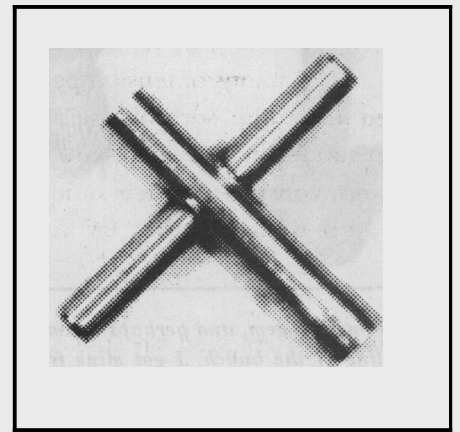
The stout Wald T has a plating that polishes with use. I hope it wasn't cadmium because I was addicted to this tool for many years. Like hard saddles, some wrenches just grow on you and if you build (ride) often enough the shortcoming becomes your strength (callus). This one is hard enough to never deform, a noble wrench characteristic.



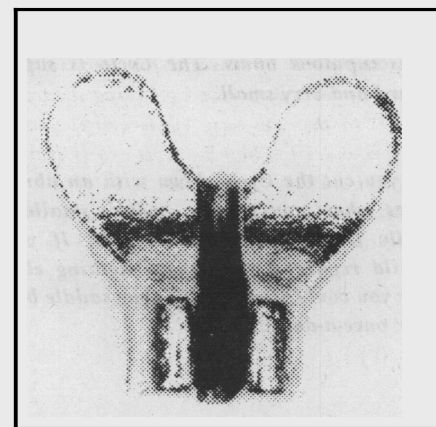
The bright "Spokey" is a clever, contemporary design which has failed to unseat the Park loop. Colored plastic is molded around a small steel insert which drives the nipple from three rather than only two sides. Not quite as quick on and off and unnecessary if the nipple is lubricated, this driving method can deliver much more torque to a nipple.



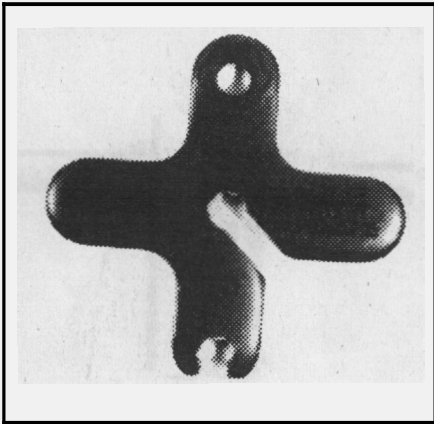
A double headed, open end wrench by Park Tool. Is it a dog bone or a dumb bell?



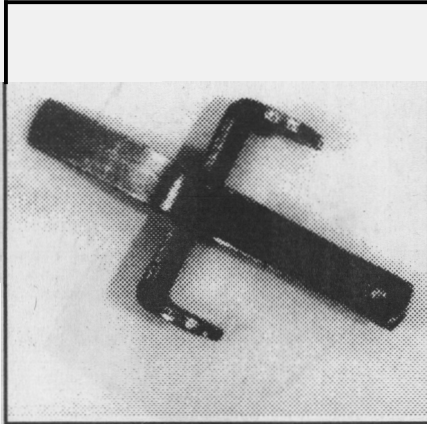
This small socket was made by the eccentric and prolific Harlan Meyer of Hi-E Engineering. Some of his spoke and rim creations nearly scared us to death in the seventies. Its thin walled socket drives a hex shaped, hidden nipple where often no other will fit.



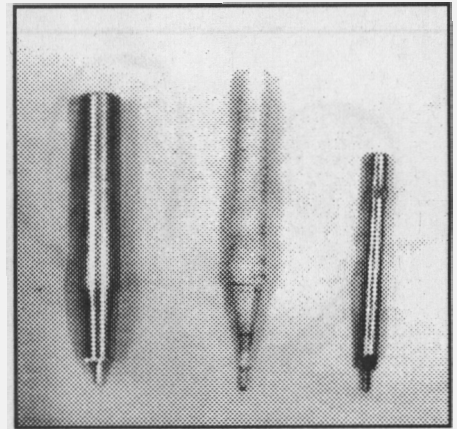
A nickel plated, cast iron butterfly is stubby and unmarked. Its jaw features narrowing sides that enable a crude fit on many nipple sizes.



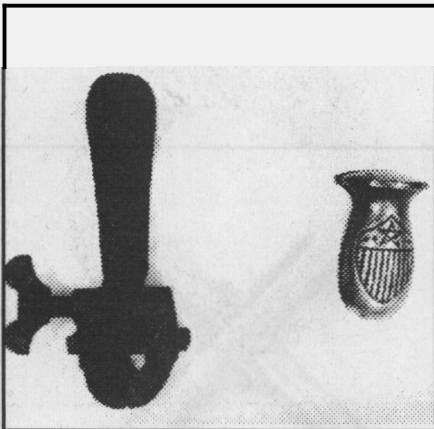
Here is an early Spline Drive wrench. Like the three-sided drive of Spokey, this "better" driving system solves a problem too many builders do not recognize.



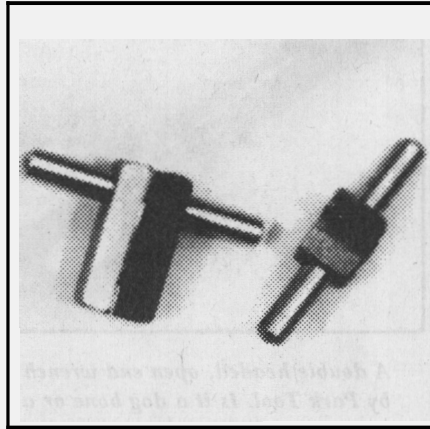
This wrench belongs to Park's Howard Hawkins. Bent from a single "X" shape of thin steel plate, it includes a clever spring clip which pushes against the spoke to keep it in place. It came from Island Cycle Supply with a price tag of 15¢.



One of the original aero rim nipple drivers. Deep rims pose numerous problems when inserting and initially turning nipples. This little screwdriver has a thin probe which slides down the nipple's throat, holding it while the builder inserts it into the rim. Saavedra of Argentina it in the early eighties.

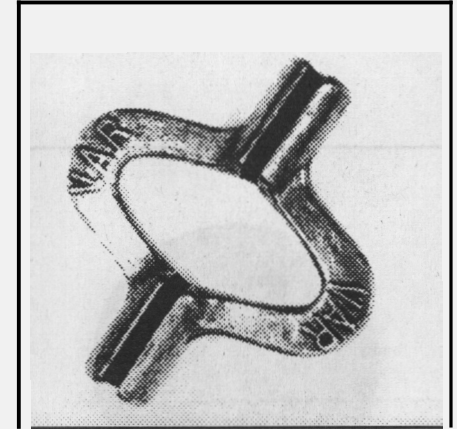


This is one is a gem, and perhaps the most interesting of the bunch. I got mine from Ralph Kornahrens in the seventies but think it was made in the East Bay Area. The handle fits in a concave recess so as it turns the nipple slot is tightened. It is presently resting in the open position.

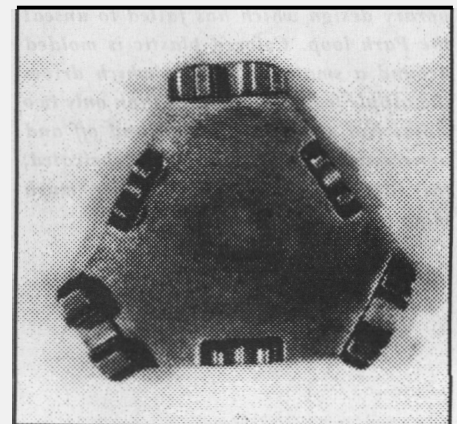


The English Cyclo wrench has a hex shaped body in hardened steel. This shape was often copied in inferior materials by unscrupulous bums. The Cyclo is super hard and very small.

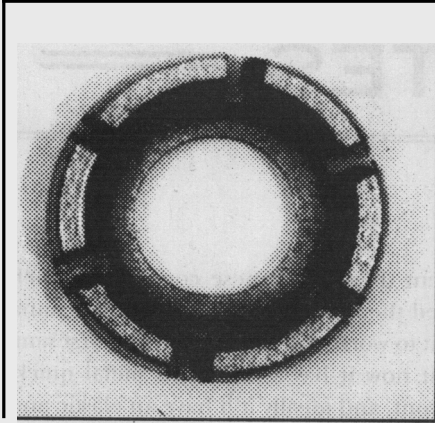
If you cut the Cyclo down with an abrasive wheel you get the world's smallest, fully functional spoke wrench. If you build regularly you'll need nothing else. Or you could stash one in your saddle bag for once-a-decade use.



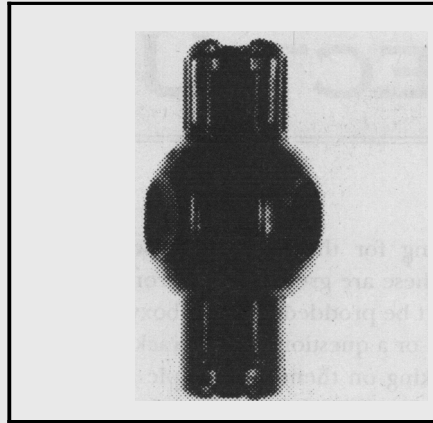
The French Var is a beauty to behold. In use it gives a very nice impression of precision. Var is known for unusual, sometimes very effective tools that have a look and feel that is medieval.



Park's current SW-7 is a lovely 3 sized wrench cast in stainless tool steel. (photo to right)



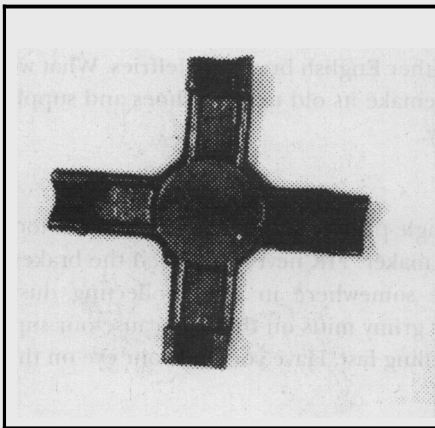
Germany's Eldi makes undeformable tools. Their multi-size, round wrench proclaims its "Chrom-Vanadium* metallic superiority.



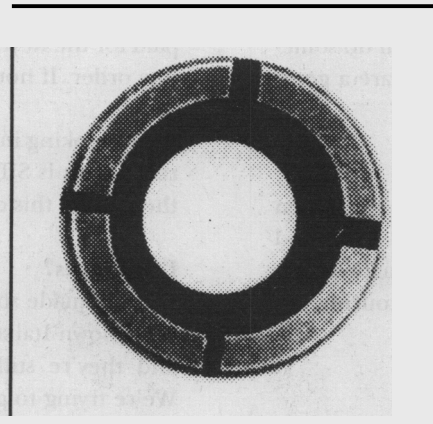
Years ago Araya of Japan delivered this nylon probe for its early ADX aero rim. Zi used tiny aluminum inserts into which the nipple was loaded before assembly.



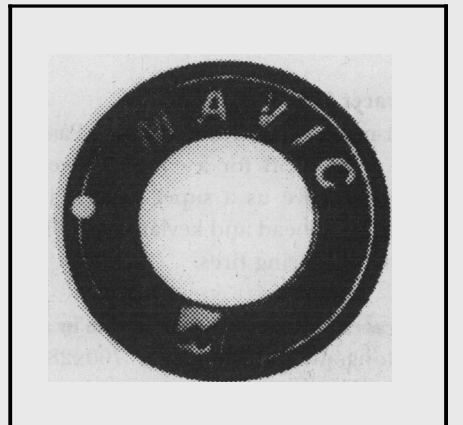
This one's a gem, probably the most interesting of the bunch. Zi got mine from Ralph Kornahrens in the '70s, but Zi think it was made east of San Francisco. The handle on the right sits in a concave recess so as it turns, the nipple slot is tightened. Shown in the open position.



This statuesque, bronze cross looks teutonic but hails from France. Inscribed "Cholain," it offers four sizes, each of three-side drive design. However, cast in bronze it is not likely to last long in use. Those clever Gauls.

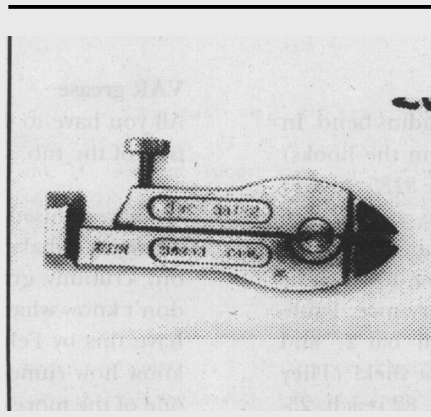


Assos of Switzerland was an early champion of aerodynamic rims and produced a house spoke wrench of unaero dynamic form.



The dominant high performance rim maker of our times is Mavic of France. Who could blame them for producing a generic round wrench with their proud trademark? Zi was drilled for a link and distributed on a key chain.

Park's lovely SW-10, graceful as a tropical fish, too clumsy for building, but ah . . . if a nipple seizes from corrosion or is deformed from the use of a Cholain wrench, this cutie can do it. Drop on some penetrating oil and attach the eager jaws. Tighten the thumbscrew and voil', zee nipple turns! I have worked a couple of miracles with this device and my tool box will never be without it.
(photo to right)



PROJECT UPDATES

Nitto Racks

Don't pat off getting a Bruce Gordon waiting for these. Gordon racks are great, and they're available; these are great and aren't. Nitto still plans to **do** them, but can't be prodded. We stay on them and keep wishing to hear news or a question regarding some detail; so we know they're working on them; but it's a slow process. Also coming: Seat post-mounted Carradice saddlebar carrier, **so you** can put a Carradice on any bike. Before the Millenium!

Postcards

For us to answer questions we get with orders, or to jot notes and send them **off** quick. **Also**, we're considering doing a series of postcards on the frames, rather than a proper frame brochure. To **save** printing costs. We recently came into some fine old-poster artwork, ideal for postcards, and we'll do something with these, too. So that's the deal—postcards are a good possibility.

Panaracer 700x35 Touring tire

Kevlar-reinforced nylon casing, Pasela tread. We've ridden these on and off for a couple of years, like them a lot, and Panasonic gave **us** a super casing, just for **us**. Available late March. Wire bead and kevlar **bead**. This will **be** the touring tire to beat **all** touring tires.

Panaracer 700x28 & 32--available in a couple weeks

Our long-awaited Panaracer 700x28s arrived with blue sidewalls instead of black, **so** we sent them back, and the next batch will look normal. In wire or kevlar bead. We also have drawings for a 700x32, to replace the nearly impossible-to-get Avocet 700x32; **but** Panaracer wants a minimum of 10,000 per year, and that's quite impossible! We're talking to Foxonall of Thailand, makers of the Clement tires. Chances are good for a clincher version **of** the Campionato Del Mondo, a true 28mm wide tire.

New Nitto Handlebar

A drop bar with 90 reach, 142 drop, and 60mm radius bend. In normal talk, it's a medium drop bar that feels (in the hooks) like a deep drop. It has 8mm more reach than the #185, **so** isn't exactly a substitute for that fine bar, and it has a 24-degree ramp behind the **curve**, as compared to 32 for the 185, and 23 for the DirtDrop and **175**. We don't have a name for the bar yet, **but we** do have **two** samples, and they're very nice. I submitted the drawing as "dream bar 1" and "dream bar 2," **and** that's the name **Nitto put** on them. It better not stick! (They couldn't make Dream bar 1: 140 drop, 65 radius, 82 reach, 23-deg ramp.) Available March 29.

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New Handlebar bag.

From Carradice. We sent them a Japanese copy of a French boxy style bag, and asked them to make it work with our mini-rack, and we'll also get it to work with a drop bar. The first sample is 80% there. Right now it has a big weird metal quick-release buckle on the front, and ideally it'll have an elastic antl a hook, like the French bags.

Touring shoes

It is such a hassle to get the Reynolds shoes, **so** we just can't do it anymore. We're looking at importing a Sidi, and Carnac says they have a good one, and Lake has some shoes that might work. We hear rumors of a Detto touring shoe (it's Italian!), and hope to get a sample. (If you have already ordered antl paid for the Reynolds shoes, maybe they'll come in on the overdue order. If not, we'll refund!

We're looking into another English brand, T. Jeffries. What **we** really want is SIDI to remake its old touring shoes antl **supply** them here, this country.

FIR Brakes?

Modolo made some single-pivot sidepulls for FIR, the not-too-well-known Italian rim maker. FIR never marketed the brakes, and they're still there somewhere in Italy, collecting dust. We're trying to get our grimy mitts on them, because our supply of Cyclones is dwindling fast. Have you had your **eye** on the Cyclones? Buy now.

The Little Yellow Book

Is on backorder until at least January-end. For the month and a half we had them, it was neck-and-neck with pine tar soap as our best-selling item. If you want one, order it and get on the list. Price will remain \$13 for this skinny, 45-page tomette by Daniel Rebour.

VAR grease

All you have to do to want this is **see** a Daniel Rebour illustration **of** the tub. **so** here it is:

We haven't used it, but VAR would no sooner make (or put its name on) crummy grease than—than I don't know what. Rumors arc we'll have this by February 15, but you know how rumors go. This will **be** one of the more expensive greases, but you get to keep the tub.



PROGRESS REPORT

IF YOU HAVEN'T READ THIS BEFORE: THE PROGRESS REPORT IS MY PERSONAL JOURNAL OF STARTING AND MAINTAINING THIS BUSINESS. I'M NOT A GOOD BUSINESSMAN, I GET FRUSTRATED, THINGS DON'T ALWAYS WORK OUT THE WAY I'D LIKE THEM TO, THERE ARE UGLY SURPRISES, AND SOMETIMES I JUST NEED TO VENT. YOU DON'T HAVE TO READ IT, BUT I HAVE TO WRITE IT, AND ENOUGH OF YOU HAVE TOLD ME YOU ENJOY READING IT (MANY OF YOU HAVE SMALL BUSINESSES OF YOUR OWN, AND CAN RELATE), THAT I'VE DECIDED TO KEEP IT PUBLIC. —GRANT

Sept 9. The Anaheim show ended yesterday and we didn't show because we don't sell through dealers. and Peter and I came away feeling really lucky. So much wizard? and shouting and tying to out-tech each other. and I got the feeling everyone's getting tired of it. Anyway, we had fun. We talked to Foxonal (formerly Clement) about tires, and we may get a Campionato Del Mondo clincher. and/or a Paris-Roubaix. We also talked to Panaracer about the tire they've been working on for a while, but they haven't worked much on it. and now we may not do it with them. We still are going to buy the Cat 1 Pro 700x28 in our catalogue and were glad to know that even tho they've quit making it. we can still get it.

We found some q/r skewers at Ritchey. For years they've been stripping Shimano hubs of the q/rs and putting on Ritcheys. and they have a huge stash that we're going to buy. We may be dropping some of the tires, but will probably buy more cranks. Ritchey's out of bottom brackets, and we thought Sugino made them for him. but it turns out Tange-Sekai (the headset people) do, and they have a ton of them (literally) and Tom has no need for them anymore, since they're 120 and most of what he sells needs a 108 or something...so we're going to try to make a deal where we buy the bhs cheap from Tange, and then we'll buy more cranks, and maybe offer a good deal if you get both. Talked to Dia-Compe Japan and found out all the good old tooling for the good old brakes, sidepull and cantilevers, was scrapped and turned to rehar to help build the new Osaka airport. But they still have the tooling drawings, and maybe something can happen there. Shimano's new Utegra crank looks great. and comes in a triple version. and we were eager to see it...and hummed that it's a splined crank. I suppose Phil could make a hh to fit it, but I sure wish it had a normal taper. We finally found some normal peanut gloves. and Mohammed said we could use any leather he had. so he'll make us some prototypes and we'll have them for next spring. I think I want goat leather, not tanned, with the peanut hack and no label at all, not even ours. Putting a label on gloves is like putting a label on snotrags. and only skiers and cyclists would put up with it. Well. maybe baseball players. too. but I can handle that better.

We also met with Dedacciai and Columbus about tubing, and if Reynolds reads this that may surprise them. It's just research. The 753 we use is wonderful, but I hear Reynolds may drop both 753 and 531 in a couple years. and if they do that we'll get something else real fast. Anyway. we have to prepare.

We also met with some Italian wool makers, and they don't seem so interested. Parentini (actually the first name of the owner) was there. and said "yes, we, my family, started out with the all-wool. but you know, the market...." and things like that. He said they could do it. but it takes the fun out of it when you

have to coax Satch away from the boombox to play the trumpet.

As of today we're sans insurance of any kind. It was easy come, easy go—we had it for only a month or so before the insurance company recategorized us as a manufacturer (even tho Wford builds the bikes) and quintupled our rates. So we're investigating other insurance companies, and it's no fun at all. Peter's concerned about building bikes for people, then coming back and suing us—something that happens a lot in bike shops. Our customers are great, and he and Gary do super builds, and there are waivers, but still. We used to be listed as an "additionally insured" by Wford, but J thought it was a waste of \$ because if we got sued they'd get sued anyway, so now we're with nothing, but I think we can get listed on Wford's again if we ask and pay more for it.

We met with Nitto today about the racks and orders. It was so much easier than doing it by fax. We showed Mr. Yoshikawa exactly what we needed, with set stuff up on bikes and showed how it needed to be, and now it looks like we'll have a stand-alone low-rider and a 3-piece front system that works on all cantilever-brake bikes (most, anyway), and maybe a Carradice bag uplift that mounts on the seat post, too. It was a small money day because of the meeting, but we got good stuff done.

Sept 12. We need insurance, and something about that ought to happen today. It looks like it'll cost about \$12K, and we can't afford it, and somehow we have to find a company that'll do it for less. Wford put us back on (maybe for the first time) its policy as an "additionally insured" but says it won't do us any good, because that's supposed to be in addition to other insurance we have; and if we don't have any and get sued. its insurance company will then sue us. But Wford's insurance company would also be our insurance company, so I don't know how that works. Anyway, we're probably going to do something about it today, and it's kind of bumming us all out because the cost of insurance will probably take all our hope of a profit for the year.

We aren't up as much as we thought, anyway. Peter says we're on schedule to do about \$600K in sales this year. It doesn't matter how much sales, what matters is cash flow, and ours has been okay, better than last year by far.

I've been looking at other tubesets because I hear rumors that Reynolds will quit both 531 and 753. So I've got the books on the others, and Columbus and Dedacciai have some good tubes. Lots of tubes out there are plenty good, but if we do leave Reynolds (or Reynolds leaves us without 753 and 531) it'll be interesting to see how people react. It's just steel with alloying elements and treatments that result in certain properties. and lots of people can make it right and good.

Allen's been working in shipping a day a week, but

it looks like we may need him more than that. Peter gets frustrated not being able to reconcile computer things, and I'm often taking one order, entering another, checking a back-order on the phone. and there's nobody really who has the time to deal with returns...so Allen can help a lot. Payroll will go up. but if frustration and inefficiency go down, that'll be okay.

We got a note yesterday from a customer who thought we were gypping people by selling the Yellow Book for \$13. Another fellow got mad when he thought his bike came without downtube shifter braze-ons, but he didn't realize they were under the downtube shifter adapters. He didn't seem. I don't know, humbled or apologetic or anything like that when I explained to him if anything he seemed more angry that he was put in the position of NI don't know, but I get the feeling this fellow is unsatisfiable. It didn't start out that good with him. We DID drop the ball on his order, and were a month late getting it to him. He seemed fine with that, and I wrote him a note thanking him for his kindness, and took \$200 off the price of his frame. But on the invoice, it showed \$100 off the frame price, and the other \$100 came partly off other things—the hh, the headset, the S&S coupler, for a total of \$200. He didn't notice that, and got mad—even though it was our offer in the first place—and left a man phone message about "one P*k up after another," (the second one being that we didn't take off \$200—which we in fact did). I offered to refund his entire payment, but he said no, just get the hike to me by the weekend. So Peter drove it to his house. he wasn't there, and the housemate didn't prompt him to leave it, and Peter got the feeling he was unwelcome to do that, so we took it back. Finally we shipped it, and it was without the Phil bbNour mistake. and more fuel in the fire. In the meantime he said "cancel the rack and wheels and any other orders." so we did that, but then he called and said he wanted them. So we hustled and got it together. but I sent him only the rear rack. because the front, well, I got the feeling he'd have trouble fitting it. or getting hags to fit it, and I didn't want to frustrate him any more, or have him think we're hahoons for sending him a rack that doesn't, I don't know. Anyway, it's not been easy. I hope these confrontations are NOT unavoidable. It is so depressing. Sometimes people are just intolerant, but then there are the guys like Marc E. and Douglass and Bill D. and John F. and so many others that make up for them. More than make up for them. We aren't a perfect machine, but Peter's made us a lot better. and I'm not ashamed of anything we do or how we do it. RR10 is at the printer now, and will be mailed next week. Ritchey wants to buy 100 more road crowns for his cyclo-x hike, and that'll drain us a lot. so — even though the policy is "nobody else can use

them.” I owe Tom from the past, and I’m breaking the policy for him, and we can harter with cranks and make it all okay. I need to order them, though.

Sept 13. Yesterday we got insurance. finally, at a cost of \$8,500 per year. down from the original quote of 21,000, and down even from the “bargain” quote of \$10,920. I don’t think we’ll need it. but it’s peace of mind and protection of some sort. I guess.

Yesterday also was a sort of big day. when Wford called, a conference call after hours with Richard. Shoe, and Marc, and we talked about lots of stuff. mostly frames. and I think I let a bomb out when I said I was looking around for other suppliers. I don’t want to hurt their feelings. and hut I don’t want to be entirely dependent upon Wford for our frames, either, since they seem to be growing much faster than we are, and they have other plans to expand into this area and that. and I’m not sure those plans will work out, but I don’t want to be on the suffering end of them if they don’t. I’m especially concerned about—well. we have a good relationship, and I don’t want to harm that. and I don’t want to wreck things between Marc and me. We used to talk at least 3 times a day. and that was for months, and then that stopped. I got the feeling I was bugging him, and then Gary came on and it was less necessary to talk to Marc. bot in retrospect it never should have stopped.

We are looking around for another supplier. but not to cut out Wford completely, just to spread the eggs into more than one basket, which is always a good thing to do with anything. So Peter’s having a frame made by another builder, and we’ll look at it. and I’m confident it’ll be good. As long as we’re at Wford it’s awkward to explore other tubings, because Wford is so tight with Reynolds. But Reynolds has been bought and sold a couple times. and really recently again, and I don’t know the plans of the new owners, but what I’ve heard is that they plan to discontinue both 531 and 753 within a couple years. Maybe just the stays, maybe all the tubes, I’m not sure. but that would be the stupidest and most infuriating thing they could do. Na dumber debacle than New Cake; and the fact that they’re even considering it drives me nuts.

Columbus and Dedacciai have some nice tubes, and if they’ll work with us, we may go that way with a few frames—but it would be hard to do it at Wford. I’d feel like I was asking Wford to be disloyal to Reynolds. and it’s not that at all. I don’t know how we’d manage the transition from Wford to someone else, or how or if we’d say to customers “it’s as much a Rivendell as ever.” and how much they’d trust the new builder, but obviously I’m not going to use just anybody. We have a good relationship with Wford. but it’s not like a marriage. At times in the past I’ve felt like a pain in the neck to them, and I don’t like feeling that. This is supposed to be a dream come true. a fun thing. a good thing. and I don’t like feeling that I’m making ridiculous, expensive requests when I ask for this or that. some kind of cosmetic touch here and there in a certain area. Anyway, there’s been progress lately, and Marc’s pretty confidence-inspiring.

I’ve sent H J some lug designs, and maybe he’ll do them for us. For the stem and frames, just some new designs. The stem for sure, the others, I’m not so sure. I just like lugs so much, and especially after seen the lugless Tomassinis and the other lugless Italian bikes at the show, it just strengthens my resolve to do lugs, lugs, only lugs. I don’t know that it’s important for us to have a signature lug, so long

as all the lugs we do have are our own, nobody else’s. and they’re pretty.

I hear Tom R. is building very few fillet-brazed bikes these days, and that’s too bad. He’s so good, but he’s spread so thin, and I guess his time is better spent (moneywise) doing other stuff. It’s okay, but it seems wacky that the best fillet brazer in the world, clearly, by far, of all time, is N well, he’s his own guy. he runs his business, to whatever extent it’s him who’s running it his way, so that’s that. But if it were up to me I’d make him build a frame a day, even if nobody was buying them. That’s not stupid, that’s art. He wants another 100 road crowns for cyclo-x frame he’s selling in Europe. The idea was NOT to sell to anybody, but he’s a special case, and we can barter for cranks and that may be okay. I need to buy more beeswax this weeking and melt it down. We need more Yellow Books. I bought a copy of Elton John’s Your Song because I was singing it to Kate and Anna and I couldn’t remember the words. I’ve got to call Art Stump and interview him, but I might need some pics of his bikes. Cameras are on my mind so much. M6 or Calumet Cadet is the question.

Sept 17

The dogdu hit the fan today. Last week R and S and M called up and we had a conference call. They were concerned about Gary, and that he’d seemed bummed out lately, and wanted to know if I had any insight into maybe why, or something. They suggested, and I agreed, that he was feeling the stress of working both for Wford and for Rivendell, and sometimes he gets caught between us. I told them I also thought he might be worried about his future, and they asked why, and I said “because he knows I’m sort scouting about for another frame builder, to supplement the frames you build for us, and I may have found the guy, and I think he’s afraid that might leave him without a job.” Well, that caught them all offguard, but I told them because it was true, and we were talking about Gary.

I suggested maybe just one of the three Wford builders build all the Rivendells, so, for instance, there’d be less of a chance that they’d get a Wford bridge placement mixed up with ours. And since I know Steve loves to build them, I suggested him.

I think they put one and one together and came up with B, because then they went to Steve and, maybe presuming he was the mystery builder, and in talking to Steve, Steve mentioned that he had been out to California and spoken with me last month. Which was true, but he was out here on personal business, since his family’s from here and he had a wedding to go to. He just came by and we talked. He does want to move back here someday, and probably within a few years; and he would like to keep building frames, and it’s hard for an independent to make a go of it, and he likes Rivendell a lot...so I told him I wouldn’t lure him out here, that if he was going to come out anyway, and he verified that he was, that if we had some frames to throw his way, I’d do it. Why not? Anyway, it seemed more fishy than that to Wford, and things got rather ugly there for a while. Peter and I called Richard at 6 pm our time and talked with him about it for 3 hours, and I also sent a faxletter explaining there was no sneaky stuff, no master plan to take a builder from them.

I felt bad. they felt mad, Gary felt nowhere, Steve felt as though he’d let down Marc, and Marc and Steve are really close....

And this morning I got to work and saw Marc’s reply to my letter, and it was great, and pretty much could-

n’t have been any better. So Man cut some olive branches from our tree today and we Fed-X’d them a big old wreath. and I think the experience was good for everyone, and I hope so. I may ask if it’s okay to print those letters in here. Maybe that’d be pushing it, hut Marc’s reply was really good. and it’s just normal stuff. anyway. Nothing nasty, but still. maybe too personal for this. I have the copies. they have the copies. nobody else needs to see them. Rut this way I’d have a rerord of it for good. not that I need a record. but I do want this section to be a journal for Rivendell, and this was unquestionably the most tension- and emotion-filled moment of the trip so far.

I melted more beeswax tonite. I couldn’t find enough dixie cups. so I put some in cupcake papers. and Anna started to go for them. What a stupe I was. She didn’t touch one, but it was close. and when disasters almost hut don’t quite happen. it makes all other things seem small.

The phones seem quieter and the daily batches are smaller, and frame sales have slowed from about one a day to about hvo a week. and it’s a good thing we’re getting RR10 out now. I sure hope it helps. We got the other color samples for Herons. and there’s a gorgeous blue to go along with the silver. antl that’ll he it. We’re tning to put together parts kits for complete Heron bikes, and so far it looks like we can get a whole bike down to about \$1500 or so. We’ll see how it goes.

Sept 25. It seems slow, but Peter said the computer said we had a good month last month antl we’re hanging in there this month. Our worries are the usual Nitto supply worries, and this month it’s Brooks, too. We’ve been out for a month. and we NEVER wanted to EVER be out of these again. but stuff happens and here we are out, and tomorrow a shipment of 60 is due at the port in Los Angeles. antl we’ve made arrangements with Clearfreight to get it through customs and trucked to us. and it’ll be the most expensive batch of Brooks ever. I’m sure. We’ve been out of Pearl 8’s and 9’s for two months. and now they say it’ll be another month and a half. and if it weren’t for these legendary Nitto delays. we’d be pretty happy about everything.

I asked an Italian forging company if they could make stuff, and if they could send samples of things they’d made already. They said sure they could. and they couldn’t send samples. because they have non-disclosure agreements with their customers. and they added that I’d recognize all the parts. so I can guess Campy uses them. I’m fearing for the future of the Ritchey crank, which I think is unbeatable. and we’ve got to get another source. I also sent a gum hood to an injection molder today. to get a quote. I’ve been asking Deddacciai and Columbus if they’ll do some special tubes for us. hut we’re too puny for them to consider anything like that. so I’m not optimistic. Reynolds is good. but they keep getting bought and sold. and that’s not a good sign. Joe from Ritchey moved to New Hampshire. John Nugent is gone from Sarhs, and he was the nicest guy to us from the start. and I sure hope he does well. Someone faxed us a letter today. a private letter Trek sent to its employees. saying “we lost money this year big time, our stock is falling, we have too many bikes in the warehouse, everything costs too much, there will be no raises. no profit sharing, but don’t worry. we’re still strong.” So this year Rivendell mav do better than Trek.

Two prototype Herons got painted today and will go out tomorrow, so we’ll ride them in a week or so. Ort. 2. Last night I woke up early worried about a

bike I'd mis-sized someone for, and I couldn't get back to sleep, so I went in and looked at the specs again, and it turned out I did okay. Somehow I'd gotten the wrong measurements into my head, so I looked them up again and looked up the frame, and all's fine. We've been talking a lot lately about sizing and being consistent, and we want it to get to the point where Peter and I will size riders exactly alike. It's about 90% that way now, and the range is still acceptable, but we need to nail things down more. So while I was in I set up lots of saddles on lots of frames and hikes and tried to establish minimum and maximum saddle height for all the different frame sizes. There's some overlap, and a small foot on a long leg throws off the range, but I still wrote down all the figures for the Road frame, and they're good.

I turned in the final copy for the frame brochure, and we've got to get it out soon. Frame sales have slowed to maybe 2 a week, and that's not a sustainable number. We got two Heron prototypes yesterday. We sent back the towing model because it was the wrong color blue, and we need it right for the Heron brochure, or the web site, or all of that stuff. The silver road frame has a slightly too long fork. I can make it work by filing the slots in the front caliper, but we've got to nail it before building a bunch of them. I don't know exactly how we'll launch them. Maybe the web page, or a special mailing. If we can get the brochure together, we can mail it with RR11 next month.

We're still suffering bad from Nitto and Brooks shortages. Brooks should be here today, though, and Nitto is still at least 3 weeks away, and I'll bet anything it's 3 weeks. The daily hatrhes are around \$1,500 these days, and we need around \$2,000. We accidentally built a couple frames prematurely—customers put down \$25 on them, and somehow they went through the process and are now just waiting for a paint color: and the thing is, I don't know if the customers want the frames or not, but we've got to pay for them.

I can't recall who loaned me the Patterson book, but I want to return it, and I hope if he reads this he'll get in touch with me. I'd like to earn the Patterson books, but it's not that easy.

Oct. 3. Today was our best in a long time, maybe ever. Threr frame payoffs and shipping out fifty back orders of B.17s did it, and today's deposit will be close to \$6,000. Yay, I'm happy.

Something's starting to concern me. A couple things, actually. One is that Ritchey wanted more fork crowns for his European cross hikes, so we traded 100 crowns for 12 cranks. It seemed like a fair deal at the time, since we really need those cranks, but that doesn't leave us with too many crowns left. Gary has maybe 25 at the factory, and I've got 27 here now. I ordered another 200 three weeks ago, and if they come in on time we'll be okay, but LS does not often deliver on time, and I sure don't want to get stuck. I think I'll up the order Monday.

Another thing we're trying to find an alternate source for frames, in addition to Wford, and we found a guy, recommended by Richard Sarhs. This guy has been called "the best unknown frame-builder in the country," and he has all the credentials we're looking for. He's built a few thousand frames, he was head builder at Masi-California for several years, and he's a super craftsman who likes lugs and wants to do it. The problem we might face is, if up to now customers have been partly sold on Rivendell because of our Wford recommendations, how

will they take to this new guy (Joe). I want people to want Rivendells because they're Rivendells, not because of who builds them. I mean, who builds them is my—our—concern, and it's a huge deal, and we wouldn't just fan them out to anybody. But I want people to trust me, or us, to do the research, to make the right decisions. Related to this issue is, well, a few weeks ago I called up Reynolds to buy a few tube sets from them directly. We usually get them from Wford. T from Reynolds sort of flipped out and called Wford and said "Grant wants to buy dirrrt—what's happening?" or something like that. Wford has all our Reynolds tubes, on consignment, and I'm not sure they'll sell to me. I don't like feeling like I can't even buy tubes I spec'd, but that's how it is. So I've been looking around, talking to other tubing companies and suppliers, and found some good tubes from Columbus, Dedacciai, Tange (no longer in business, but some fine, super tubes still exist), and we can buy Reynolds fork blades if we like. It's a good fork. Anyway, so now if we want to blend into another source for frames, there's the issue of how do we present alt. no. 2? When someone calls up and orders a frame, can I say "how about we get someone else to build it—out of something else?" I've tried it, and it's not being well-met, and I don't know exactly how to deal with it. Maybe do a profile on New Joe in the RR. Dedacciai has agreed to make a few tubes to my spec, with 30-day delivery time, but I'm not sure the quantities. I've asked Columbus. Some of the nivachrome and 18mcdv6 Dedacciai looks good in standard tubes, and some of the Tange Prestige is terrific—especially the seat tubes. It'll be easier if Columbus comes through with Metax in the right configurations. I want good relations with Wford and NewJoe, and I don't want to pit them against each other, pricewise or qualitywise—I just want to have eggs in more than one basket, because we're at the point where it's dangerous not to. I just wish someone would say "I trust you. Use whoever you want to build the frames, use whatever tubing you think is right, and I know there might be more than one answer." The thing is, a Rivendell is a Rivendell—it's not a Wford-built/Reynolds-tubed Rivendell, or a NewJoe/Columbus-Tange-Dedacciai-Reynolds-tubed Rivendell. The frame is the frame, and the riding position and frame design and tube worthiness and craftsmanship and durability and ride and aesthetics are what matters. Peter's new road frame comes next week, built by NewJoe. Where will it all go, or will it end up a hard-feelings mess? This is my journal, it just happens to be public. This kind of stuff makes me self-conscious and makes me wonder why I bother with it, or if it's right or fair to bother with it.

Henry James is working with us on some new lugs and crowns, including the stem lugs. I hope he comes through. We have good lug designs already, so I don't know if they're all that necessary, but it's not as though there are so many good-looking lugs around that the last thing the world needs is a couple more. These new lugs will be really spectacular, at least by my standards. I hear Reynolds will discontinue 531 and 753 in a couple of years, and they already have some new tubesets—725 looks pretty good, and comes in really good dimensions for our frames. I wonder how many different tube companies could be represented in a frame, without compromising any tube and doing it just for the exercise.

Oct 8. Peter got a road frame today, built by Joe, and our first non-Wford-built Rivendell. We just had to

have other options, just to be safe, faster, more versatile, and Richard Sarhs recommended Joe, and he's really good. It's also really awkward, trying to figure out how to present Joe as a reasonable alternative to Wford. If we just say "he's a new guy" it doesn't sound good: and he's built more than a thousand frames, many of them Masis, so he's hardly "new." It's also awkward because I don't want anybody to think we're unhappy with the Mford frames, or that Mford is unhappy with us, or anything weird like that. We just want more flexibility, and Wford has increased its own production from a few hundred a year to a whole lot more than that, and then there are Herons, and they'll cut into the factory time, and so we just need to be able to vent some frames to another builder, and Joe's that guy. There are rumors that Reynolds will phase out 733, and so we're also working with other tubemakers and some other new Reynolds tubes, and with a little cooperation, we're getting tubes just as good as the 753 tubing. We're going to Columbus and Dedacciai (who is making us custom tubes), and Tange has some nice Prestige tubes, but they're out of the tubemaking biz now, so they're in short supply. I like their 1.0 x 0.8 x 0.6 seat tube, but there are just 16 of those left. Dedacciai is making us some 0.9 x 0.6 seat tubes, and Reynolds has those in 72.5, too. When we go this way we'll lose the pizzazz of the 753, but the tensile, yield, and elongation are the same or better (in some cases), and I hope people just trust us to use good tubes and aren't hating the frames because of what brand of tube goes on the frame. Still, it's awkward. The Joe-built frames are painted elsewhere, too, and so we have to tackle the color problem. Wford uses a different brand of paint than Joe, and they both have different mixing techniques and so on, so we'll probably just have, say, a light blue metallic, a burnt orange, and so forth, and not really specify exactly what shade of these they'll get. It seems to me that if you like light blue metallics, you can't really love one and hate another two octaves off it. Still, we'll try to get them close.

The prospect of another builder has increased tensions between us and Wford, but they're understanding and taking it really well, very classy. I just hope our customers trust us to deliver perfect frames regardless.

Oct 17. We sort of finalized it today with Wford that some of our Road Standards and LongLows would be built by our other builder, and they took it well, which was nice. We have to reconcile how we're going to deal with the Rivendell-specific/exclusive 753 tubes they're inventorying. There are only a few, and we'll absorb them as we ran. There's an 8-6-8 short road frame downtube that'll be a perfect top tube for top tubes 56cm and shorter. Downtubes usually have longer butts than top tubes, but I like long butts anyway, so it'll be good. Probably 18g heavier, but stronger. I've ordered a hunn of Dedacciai tubes, and I'm getting quotes from Vitus. I called Vitus (in Franre) and the woman said I needed to talk to Mr. Rollin, which she pronounced the way Franre people pronounce that. A man came on the line and I asked "are you Mr. Hreauxlawn" in my best French, which is preth crappy. PMF, and he said "I'm Mr. Rollin," in a perfect American accent, and laughed. The Vitus tubes are pretty interesting. Franre, but in the Vitus brochure I saw the material spec "18mcdv6" Na term I'd only seen in the Dedacciai stuff. I noticed some neat lugs and hub shells in the Vitus brochure, and some Tecnociclo dropouts, so I thought maybe Vitus was using

Dedaccia tubes. But Mr. R said "no-no. Ze tubes zey are from France. We buy from ze zame zource (steel mill?) Dedacciai does. We hutt tem our way and zey hutt zem their way. Et ees ze same metierhyielle." I like many of the Vitus tubes best, at least right off the paper. hut Dedarcia is making many tubes custom for us, so we've got that covered. Still, Vitus has some that don't overlap anybody's, and for some sizes it'll be good to have them. Most tubes do a 0.9 x 0.6 x 0.9 downtube, hut Vitus does a 0.9 x 0.7 x 0.6 x 0.9; and the Vitus seat tubes have the longest butts I've seen N170mm, compared to 150mm for Columbus, Dedacia. some Reynolds (others are 125). The French always do things a little differently, and I sort of like that. And they're the only ones with an 868 downtube in a supersteel. without going rustom. It's like our rustom 733. hut right out of the book.

Peter's getting frustrated with invoicing and shipping errors. He's hanging in there pretty well, hut it's clear he's frustrated. and it worries me that he'll get too frustrated and just up and quit. Our sales are good, hut the more we sell the more mistakes we make. We can't rely on repeat orders if someone has a had experience twice. We cover them and often overcompensate, hut it's not a good way. We're having an okay week, hut barely paying the hills. A big Nitto order. due in 3 weeks. will help a lot. I hope the Nitto racks materialize. the final ones, and they're just as we expert them to be and need them to be. We're out of Carradice LSLFs, too. And we've been hugging Brooks about the grey Ti saddles, the small leather saddlebags, and the leather brake hoods. John (from Brooks) has a pretty good sense of humor. I get the feeling he'd rather we not ask for this special stuff. He said they were having a hard time getting consistent light greys, and also mentioned that a few years ago, Brooks came out with a run of saddles with no dye at all. They showed barbed wire scars and whatever else the cow ran into, and no hvo looked alike. So naturally we want those now, not the greys, not even light greys. He said the English riders were intrigued by them, hut inevitably wanted a "nice" saddle for their own hikes. He thought maybe Californians wouldn't mind the natural saddles, and I can't imagine anybody minding them; and I can't imagine why they weren't a hit over in England. Anyway, I've let him know the naturals are my first choice. and maybe we'll order fifty of them to start. It'll be a rash flow killer, and that's the last thing we need, hut after all the work and expense of doing a ti-B.17 in this funny finish, we can't very well order half a dozen. I realize I mentioned his sense of humor without citing an example.

We're trying to pick '98 colors. Usually people tight over color-picking. Here, I want Peter to do it. he wants me to, and we'll hoth be happy as long as we get a nice green, a light blue, a burnt orange. One of the issws is whether or not we have the same colors for all models, regardless of where they're built. We have to keep it simple. and nobody knows how to do that.

Oct 20. We got word today that the Nitto shipment is going to cost \$11,000. Somehow, it seems, in the confusion that always seems to surround the Nitto orders, our Gmonth projections got turned into real live orders, and here they come. A hundred DirtDrop handlebars. Fifty 29.4 Moustache H'bars. Twenty 7cm TDLX stems. No tires, which we need and want (Panaracer). No racks or rack samples, which we need even more. Just tons of bars. A

month and a half ago Chien said we could extend our payments if we had to, and we'll have to. We've sent in a semi-hig Dedaccia order, a pretty big Vitus order, and are trying to get lots of Reynolds, as well. The new 725 looks really good, and comes in just about ideal dimensions. By combining Vitus and Dedaccia and Reynolds, and using some Columbus and Tange, we can put together really good, customized tube sets; and then we have the 753, too.

Peter and I talk every day about how to blend in the new frames with the Waterfords, and there's no easy answer. It's such a stressful time. We need to have another source, hut we don't mean to hurt Waterford in the process, and we especially want people to buy our frames because they're Rivendells, not because they're Wford-built, or Joe-built. So we're thinking about whether or not we should even say who builds them. He's good, we're really thrilled to have him build for us, hut is it wrong to want people to want our frames because they trust US to pick a good builder and do all the other right stuff—design, tube selection, graphics, and all? Cinelli never built a frame, from what I hear.

It doesn't matter. I think we'll do a profile on Joe, and as far as that goes, I'd like to profile John, who builds for us at Wford, too. They're hoth so good. At one time I wanted each builder to sign the chainstays, hut Wford resisted that because each frame is a group effort. It's true, and that's a good reason, hut I've always felt the builder, the guy who actually brazes the frame, has a pretty big hand in it. In Joe's case, he does everything hut paint the frame. Nobody tacks it for him, or miters the tubes. That's no holier, hut it's nothing not to talk about, either. Anyway, we've got this issue to deal with. Frame orders have slowed a lot anyway. We had the brochure almost ready to go, hut now that we're lateralling frames to Joe, and there will be new colors for 1998, it hardly makes sense to put out \$2,400 toward a color frame brochure, when it'll be obsolete in a few months. Maybe color photocopies and quickie text will do.

Vitus gives me prices tomorrow.

Nov 4. I called Brooks's John MacNaughton today to try to extract an answer one way or another on the leather hoods and Ti-rail B.17 and leather tool pouch, and hatted .333. They're making for us 40 saddles with natural leather (not dyed). He's skeptical of how they're going to look, hut said something like "the Californians may like it." He insists on sending a sample before the whole hatch, so that's okay, hut I don't see how they can't look great. The small tool pouches are another matter, and he's not sure when they'll be able to get to them, or the leather brake hood covers. I sent some sample gum hoods to an injection molder who does other hike-industry stuff, and he got them and replied quickly and enthusiastically, hut we got the quote for the mold today, and it's \$9,000. He's sending a quote with the piece price, in runs of 500 to 5,000, and I'm not optimistic. There's another alternative, though NGipiemme in Italy still makes cranks and brakes and derailleurs, and they've got to have molded rubber hoods of some kind, and it shouldn't be hard to get the acceptable color brown. I'm getting quotes.

Nov 5. It's a good day here. The Nitto shipment arrived, and all four of us were raving and even ranting about how well they pack everything. The cardboard boxes are Japanese quality (murh hetter than

Taiwan or England or Italy, although Italy is second), and everything is so lined up and padded and efficiently packed, just so tidy. It makes a nire impression, and it impressed upon us the importance of packing things nicely. Allen took out DirtDrop bars to count them, with the plan to put them hack in the same box, hut he took out maybe 25 and could fit hack only 20. And that was without the original packing material.

I spoke to Dedacciai this morning, and our tubes will fly out by UPS this roming Friday. I was talking to Rirhard S, this morning and he told me about a neat downtube Dedacciai has. Nan OS downtube that fits a 28.6 lower head lug. It's not listed in the Dedacciai brochure, hut I asked about it and yes they have it and I ordered a few. Dedarcia didn't have our 8-6 chainstays, hut Reynolds and Vitus hoth have those, so no problem there; and they're subbing (with approval) some 0.7 chainstays, same dimension as the older Columbus SL, hut with even stronger tubing. They'll be good to have for smaller frames and lighter riders, anyway.

We got the final foreign draft for VITUS today, and so sometime in the next 3 weeks we should be fat in tubing.

The Heron Touring frame prototype came in, and it looks great. We'll build it up in a day or so and take it out, hut I'm optimistic. Tom R. called and said "I finally read the interview," and I told him he'd have read it sooner if he'd sign up, so he did. He also thanked me for "massaging" his comments, hut that's strange, because I didn't really do that. I got rid of a few ums and stuff like always, hut if anything, Tom's speech is more formal than it needs to be, as though he's careful about even syllabel. Anyway, it ran extremely true to the tape.

Nov 8.

I feel stupid today. I ordered a ton of tubes from Vitus in France and Dedaccia in Italy, and I was so concerned about chainstay thickness and taper and shape that I didn't even notice until midnight tonite that they're roming 390 long. If I add half the hh shell diameter, about 1.75cm, and the distance from the place on the dropout where the tube ends and the center of it, where the measurement ends, that's another 1.75+ cm, for a total of 390 + 3.50, or 425.5cm. But most of our frames have longer stays than that, so I rode to work just now, which is tomorrow, and faxed Vitus a note saying "sorry about this, hut if the order hasn't already been filled, could you make those 390mm bases (French for chainstays) 420s?" If it was the first, second, third, or fourth change to the order since I finalized it, I wouldn't feel like such an idiot, hut this is at least the fifth, and the last time I was so emharassed that I promised NO MORE CHANGES, so I just said, this time, "if it's any hassle at all to change, then ship me those others and I'll order the 420s on another immediate order." But I can't afford to do that.

Maybe I can sell some of these to Rirhard or Roland or Nwell, how many other steel builders are there? R & R don't buy a lot of tubing anyway. I can save them for sub-56cm frames, they'll be fine for those. I wonder how fast Reynolds can get us some 420s in 0.8, 0.9, and 1.0? Two months, I'll bet.

I'm trying to raise more money to get us over this hump. We can sell demo frames, maybe. Maybe in RR! I can list them and have a silent auction by fax and credit card. I don't know.

Nov 9. Yay, I went into the office today, Sunday, and on a lark I measured a Reynolds 725 chainstay, and it was 410. npt 390. So that means Joe ran build those frames. He can go up to 44.7 or so with that.

and that's good enough. In the old days chainstays came 440 or longer. Reynolds at least keeps it at 410, but with most builders doing short rear end bikes, they're wrecking it for us by creating a demand for 390s and such. I hope Vitus can do those for us in 410 at least.

I got yesterday's mail today, and Brooks says we still owe them \$1700. I can't imagine why. Noh, maybe it's for the recent order of B.17s and Ti B.17s. I'll have to look into that.

Nov 19. The Brooks bill was already paid. It was just a statement, and it was more than a month old. Anyway, we're out of Brooks, and everyone seems to be ordering them for Christmas, and they're in order from England, and I'll be tearing my hair out if we don't have them by 12/15.

The Vitus and Dedaccia tubes have me worried. Dedaccia isn't returning my faxes, they said the tubes were being shipped on Ort 31 by air, but if so they'd have been here more than a week ago. Vitus—I called them yesterday and got a fax this morning with good news—the tubes will leave in a couple of days and be delivered directly to us. So maybe that means no customs hassles. Maybe they're shipping by UPS, or have made the customs arrangements already.

The Heron touring frame needs to get assembled. That should happen by this weekend. We got the new Rivendell road and longlow rolol samples today, changed a few things, and that'll be it. I stapled color chips to description pages and Joe stuffed them into about 20 envelopes for the first-round Cabuilt buyers. It was a small money day today—less than a thousand dollars. I know some bike shops aren't doing half that, but they don't have our mailing and tooling and just plain METAL expenses. There's no fat, but there's no spare money, either. I sent for brochures on some neat English stuff—knickers, more shoes, and that Windcheater jacket. In about two weeks we'll get them, and that's about the time I need to start on the new catalogue.

Nov 24. We had a had week last week, and I hope tomorrow is better. Only one frame order, and slow days on the phone, small batches. We clearly need to get this Reader out, and that means I need to wrap up some stories and take photographs and find artwork. I can't find that triangle story, and it's a good one. I can't find the spoke wrenches photos, but I've seen them in the past two weeks, and I remember putting them somewhere where they couldn't get lost. I always do that. Peter has the TR riding photo, and he needs to get it to Meghan. I'm afraid if things go like this another week or two well drain our \$10K savings to make rent and payroll, and that would be really depressing.

I had a good talk with Joe S. tonite. He's read my favorite book twice. Na good omen for sure. We've got to get a LongLow to Biryrling for review. I'm starting to really like the solid green color, and I think it'll look great with a painted head tube. We'll call it Ameriran Touring Green. I think people won't buy it, like silver in that way, but it looks good. Jan 17. I haven't made an entry here for a long time, it seems. It's been busy at work, not all good, but mostly good. This Reader has taken forever, and at one point was more than a hundred pages, and that's nuts. I can't reordinate it all—the photos, artwork, stories, proofing, all that stuff. It's supposed to be a little newsletter, not a huge old magazine, but the thing is, I like it a lot. A few months ago I was fretting about not knowing what to put in it, and now I have all kinds of ideas. I called Chuck up last

night and asked if he'd do a story on the aesthetic decline of hicycle company logos artwork, and he said sure, and things like that get me excited. I want Maynard to interview PH, but it might be hard to get him to Illinois to do it, but it could be good.

Mostly these days I'm on top of the frame orders, making sure Joe has the right tubes, trying not to forget to send him tubes after we get an order. My favorite part of work is picking tubes for frames—looking at who the frame's for, how much the rider weighs, what he or she expects and hopes for in a frame, and then going into room #3 and getting my hands greasy with the tubes. I'm not a builder, and probably any builder would think it was pathetic, the thrill I get doing that, and how good I feel even just holding the tubing, getting the grimy hands, weighing the tubes and marking them. Then I lay out a square of craft paper and draw a bike sketch and label each tube, and the rider's name, and then I wrap it up and tie it with cheap sisal. It makes me feel tidy, organized, and involved.

I think things are smoothing out with Waterford. They were never rocky rocky, but it was tense there for a while. I feel like Marc knows me pretty well, and we've spoken so much in the past few years, and I like him so much, and sometimes I feel as though I'm betraying him by going to Joe for our frames. But then I realize how, with the way we're doing the frames now, each order would drive them up the wall. We were a good match then, they made terrific frames for us, but the frame program has grown more complicated, and they don't want that and I don't want to saddle them with it.

I wish we could have Joe on the payroll. I don't know if he'd like that. I think he likes being independent, since he's been independent for such a long time, and it's hard to give that up. But we sure do want a long relationship with him, and I hope he feels the same. He says he can build somewhere between 200 and 250 frames per year, and that's almost exactly what we're doing. When Steve from Wford moves back to California, he can build some, too. I don't know when he's going to move, or if he'll be interested in the work when he does, but it's a possibility. Peter and I are concerned and talking almost daily about getting more independent of the suppliers; getting our own brand, or at least dealing more directly with factories, especially for tires, but really for almost everything. Avocet doesn't keep good stocks of the 700x32, and that's right in the middle of our tire line, so we have to get them some other way. Panaracer will do a tire for us, our own design, and it is all designed, but they want a minimum commitment of 10,000 tires per year. We can sell about 500 per year.

The Ritchey crank situation looks scary. Benjamin from Ritchey called last week and asked us how many cranks we thought we'd need between now and May—and added that they had about ten in stock right now. Yikes. Tom has to be working on another crank, because I can't believe he'd let such a fine crank die without having a replacement, but if there's no demand, what's he to do?

We're always scrounging for long-cage rear derailleurs, and triple-front derailleurs. I think we have one of the last decent supplies of good half-step fronts, in the A5000, and I'm glad we bought 369 of them a couple years ago. But it's still nervous-making to think that our hread and butter parts are just so unpopular that nobody wants to make them anymore. Now that SRAM bought Sachs, what will that do to freewheels? Obviously SRAM wouldn't have bought Sachs if it just wanted to destroy its

manufacturing capabilities, but what part of Sarhs does SRAM care about and what does it want to get rid of? I can't believe they value the freewheels that highly. They're costly to make, and Sarhs makes just about 25,000 of them per year now. SunRace in Taiwan still makes freewheels. I don't know how they are, how they last, if they last, but it bears investigating. I'm afraid we won't get the same price for freewheels from SRAM as we did from Sarhs. John Nugent, former pres of Sarhs, offered us a nice price that allowed us to sell them for \$40-\$42, but SRAM might not continue that. All the fine folks at SRAM know me for is the old days, when they used to come by Bstone and try to sell GripShift to us, and I was the nut they had to crack, and they never did, because I wanted a friction option. So now, when Rivendell needs kind treatment from SRAM, maybe we won't get any.

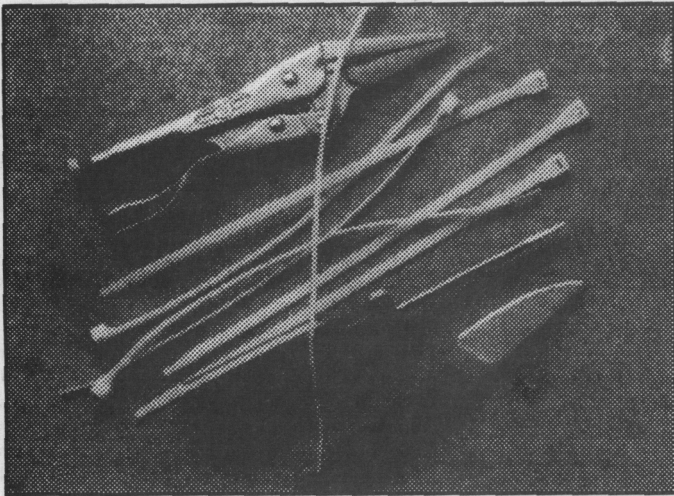
Peter wonders, and I wonder, too, when we're going to get over the money hump. If we're selling \$600,000 and not socking any away, something's wacky. But even fiscally-conservative Peter says we're not doing anything dumb with it. I'm paying my mortgage and food for the family, but nothing else. Peter doesn't make enough, but we're working on that. If he left we'd sink fast, and I don't know what I'd do. Anyway, I think he likes it here, and our friendship has grown immensely since he came here. We need to get over the hump. Right now, it seems it's huge-but-necessary purchases, and restart-up costs (going to Joe, getting tubing) that's costing so much. JB says "I see lots of nice bikes come through here, and I can tell you, your hikes are way too cheap," and when I look at the time and expense that goes into them I know that, but I'm not comfortable telling people our frames cost a thousand and a half dollars, yet. The catalogue is due next month, it may be a month late, and we're going to have to do something then. This 72-pager is expensive to make and mail, and it's going to be followed next month by an even more expensive catalogue.

We've been thinking about an interesting project—budget S&S frames and bikes. Somebody will read this and do it before us, though. Ours would be steel, fillet-brazed to save lug costs, painted one color, no options, but well-thought out. Then we thought "are we losing our focus?" by going into S&S bikes in a semibig way, and non-lugged ones at that. So we wrote the one fancy/famous marketing consultant both Peter and I like. We said "We have a single question for you, and a small budget. We have \$10,000 in our savings, and we'll give you ten percent of that to answer this one question. We'll give you enough background information to make an intelligent answer. You can take as much or as little time as you need, but we just want your opinion in the form of a yes/no or go/no go." And a representative from the company wrote back and said "usually we charge \$15,000 for a consultation, but we'll make you a special deal for \$10,000, plus first class air fare and hotel accommodations." So instead of saying "you can't afford us," they were happy to more than take every penny we have. Well, we don't have that much anymore anyway. Yesterday's hatch was \$650. Peter's saying "let's get the Reader out!" and I'm saying "I don't want to turn out a piece of junk, so I need more time with it!" My editorial rambles on way too long, and I know I'll wish I hadn't written it. END

*F*ENDERS ARE A FRUSTRATING UNLESS YOU WERE RAISED ON THEM. WITH THEM? WHATEVER, THEY CAN DRIVE YOU NUTS. HERE'S THE EASY WAY

ZIP-TIE YOUR WAY TO FENDER NIRVANA

YOU WILL NEED



A screwdriver, needle-nose pliers or vise grips, a knife, and 6-8 zip ties.

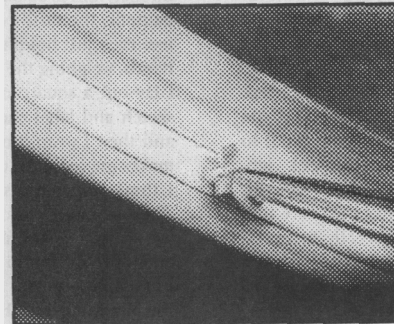
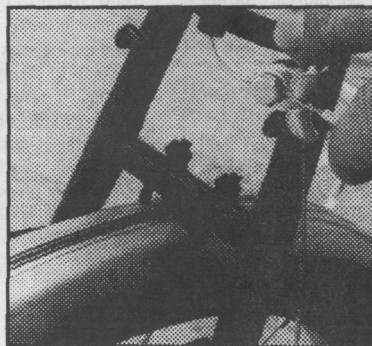
FRONT FENDER WITH CANTILEVERS

Position the fender where you want it to be, then make two holes, one in front and one behind the crown, dead center on the fender. Use these to zip-tie the fender, sort of as shown here.

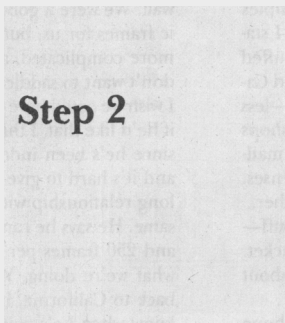


REAR FENDER, WITH CANTILEVERS

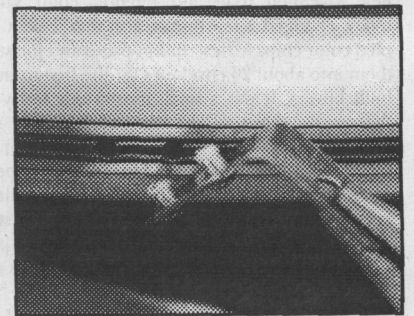
Position the fender where you want it to be, then make two holes, one in front and one behind the crown, dead center on the fender. Use these to zip-tie the fender, sort of as shown here.



Step 1

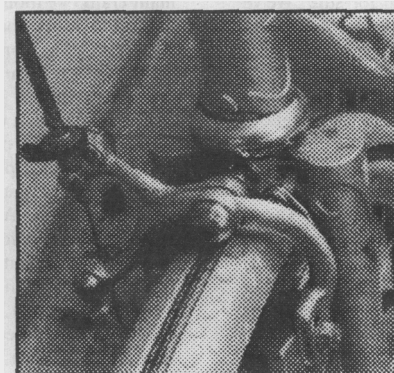


Step 2



Step 1 & 2. Use the screwdriver to pry up a corner of the rivet backing on the inside of the front fender, then grab the corner with the vise-grips and pull it off. Then go to the outside of the fender and tear out the "L-bracket," leaving two harmless holes. On the rear fender, just slip off the mounting bracket and throw it out.

FRONT FENDER WITH SIDE PULLS



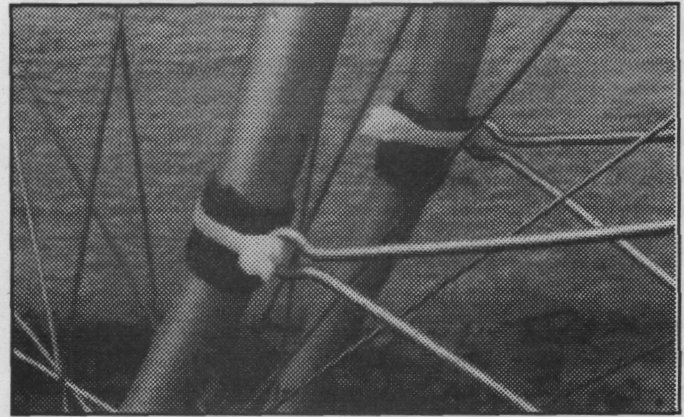
Use the knife to ream two holes in front of the crown, two behind it, then zip-tie as shown. The Rivendell Road Std. crown is ideal for this (luck, not plan). Any flat crown will work--just run the zip over the top of the crown. Might be hard with unicrowns.

REAR FENDER, WITH SIDEPULLS



*Zip-tie as shown. Rear fenders, at least ESGEs, come with a sliding clip which, if you **try** will drive you nuts as it rubs against the tire. Zip ties, on the other hand, eat **up** almost no room. Snug them up and **off** you go.*

FORK ATTACHMENT

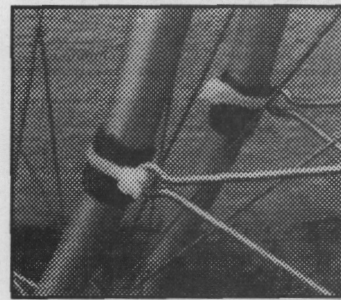


*Hardcore fender-type from rainy countries think fenders should attach well up the backside of the forks. That way, if junk gets jammed into them, the jamming won't stuff the fender behind the fork **crowns**, sending you over the bars. (Safety clips prevent this), **If** you'd like your Rivendell to have back-of-the-fork eyelets, **we** can do it. Otherwise, use zip ties and do it this way!*

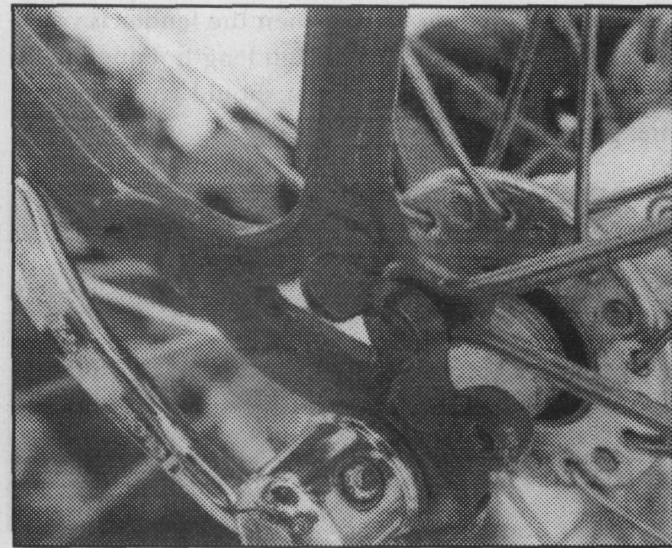
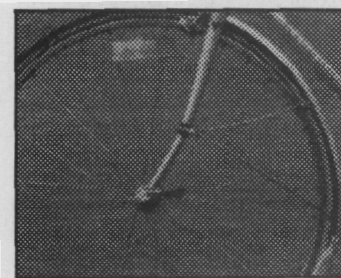
CHAINSTAY ATTACHMENT



*Ream a hole in each side of the chainstay and zip it on. When you **go** to remove your rear wheel, the fender slides forward to let it out.*



If your bike has no eyelets, zip-tie the fender stays to the seat stay/dropout, like this. You can wrap the bike with bar tape first, to prevent gouging.



*Z know what you're thinking — Z know zip-ties and that's not one. Right — it's a rare, elusive wing-bolt. This is the handiest way to bolt fenders to eyelets. **We** usually have a few around, and if you want some with your fenders, ask.*

*Toss your wrenches as far as **you** can! Wingbolts make mounting fenders a cinch. We'll **try** to include them with each set of fenders you buy, but no guarantees.*



PLASTIC FENDERS FOR THE REAL WORLD

I love the look of hammered metal fenders — “turtle-back, they’re sometimes called — and I even know where to get them. But they cost \$80 to **\$100** per pair, and are harder to mount than plastic fenders. I don’t have them figured out, so they make me feel incompetent. I **also** like wooden fenders, but they cost even more than the aluminums and are even less tinkerer-friendly. I’d like to do a story on wooden fendermakers of America (there are several), and so if you know them, pass this note along and have them get in touch. My fumbliness with wooden fenders shouldn’t reflect badly on the fenders themselves. Aluminum and wood fenders are proven splatter-catchers, but most of the ones I see these years are on show bikes. I just want workhorse fenders that are easy to mount and are made of a gummy plastic that I can ream a hole in with any knife around.

ESGE (“s-g”) fenders are good. They’re made from a cellulose-reinforced recycled German plastic that’s *so* unbrittle and nicely gummy you’ll swear on a stack **of** Bibles it’s part beeswax. Bluemels, from France, is ESGE’s arch-rival in the high volume plastic fender market, and I’ve never used them, so I don’t know much about them. I imagine they’re good, but I can’t imagine any Fender any better than an ESGE.

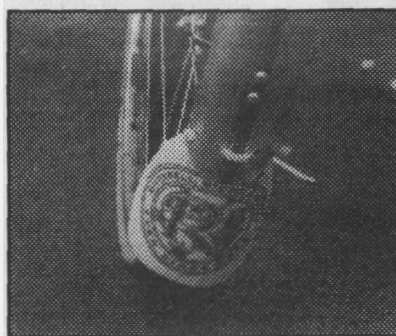
If you mount them at the dropout, you can prevent such an accident shy using a breakaway device (something homemade, like a weak zip-tie) or the ESGE plastic clip.

In Europe, the bike and fender makers’ are getting sued left and right by people who get hurt when they stuff debris between tire and fender and go flying over the handlebar.

ESGE fenders don’t come with mudflaps, but mudflaps are a good addition and you can make them yourself from milk jugs, milk cartons, old tire casings, truck inner tubes,

neoprene, or water bottles. Attach with hot glue, rivets, zip-ties, **or** whatever else is appropriate to the material.

Mudflaps on the rear reduce spray toward your riding companions, but not by a whole **lot**. Mudflaps on the front keep lots of spray off your feet.



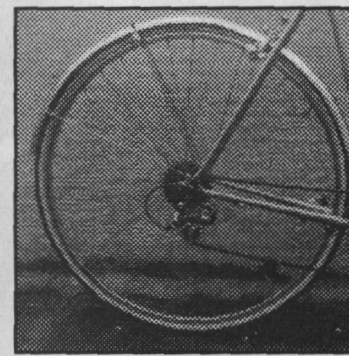
Ream four holes in the fender. This mudflap is cut from a water bottle, but other materials work. By your third attempt you’ll be an expert.

Front mudflaps can interfere with roof-mount rack trays, too. Flexible ones fold up. If you have the ESGE clips **at** the eyelets, you can pull your fenders out of their sockets and gain clearance that way.

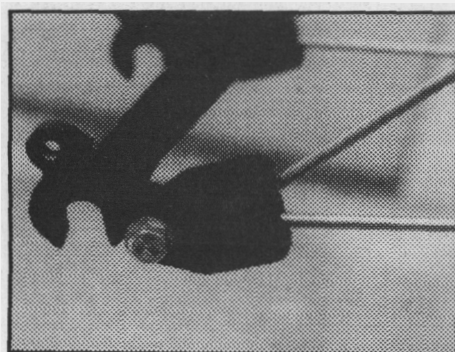
We have wing-bolts for attaching rear fenders. They aren’t stainless, *so* they rust unless you treat them with you-know-what, but they’re a handy way to mount fenders. We got them for personal use, not to sell, but if you want some, order them for **\$1** per pair.

WHEN STYLE MATTERS

The Fender Battalion likes it when the fender is visually equidistant from the tire its full length. Functionally it makes no difference, but you should try to make it look good.



Left: Ugly -but it works. Right: Looks better, still works.



ESGE’s “secu-clips” are ugly as sin, but they’re a good safety feature on front fenders. If you don’t have these guys, use weak zip-ties or attach the stays high up the fork.

That’s all I have to say about fenders. — Grant

WHY I RIDE HALF-STEP

BY PIAW NA

IT'S A CHALLENGE TO GET A HIGH ENOUGH HIGH GEAR AND A LOW ENOUGH LOW, WITH SMALL INCREMENTS AND A LOGICAL SHIFTING SEQUENCE. THERE IS A WAY THOUGH AND IT'S CALLED HALF-STEP PLUS GRANNY. SMART AS IT IS, IT'S ALMOST UNHEARD OF THESE DAYS—NO DOUBT A CO-CONSPIRACY BETWEEN PARTS MAKERS WHO'D RATHER FOCUS ALL THEIR ENERGY ON MOUNTAIN-BIKE STYLE PARTS, AND THE SEGMENT OF THE INDUSTRY THAT THINKS GEARS ARE TOO TECHNICAL TO TALK ABOUT AND MIGHT SCARE YOU OFF BIKES AND ONTO SKATES, OR SOMETHING. IF YOU'RE CONTENT YOUR CURRENT GEARING, RIDE IT. IF NOT, READ THIS.

Half-step gives me the right gear at the right time, and when I need to shift I am never at a loss. A good half-step gearing system will have you wondering why anyone would want to put eight or nine speed clusters on a perfectly good bicycle.

HOW WE SHIFT

In general, we like to make coarse changes until we find something approximately right, and then fine-tune the adjustments later.

The cross-over system, with 10 or more tooth differences in the front chainwheels, is counter intuitive. You first have to figure out which chainring you need to be on (the coarse adjustment), and if you make a mistake, you end up shifting through all the cogs in that chainring before realizing your mistake. If you're in a 39 x 15 gear and want to shift up, you end up shifting into the 95 inch gear onto, maybe, a 53/15. If that's too high and it surely will be—too bad.

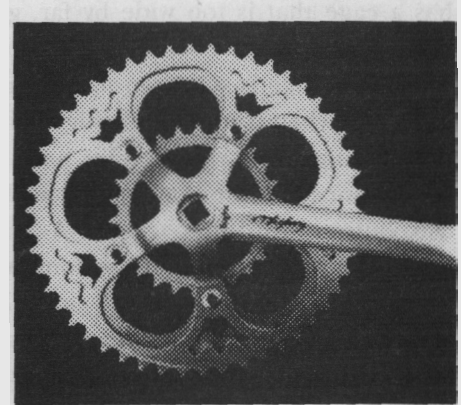
So then you'll have to shift to the 19 tooth cog to get the good, in between gear. Dropping from the 53/24 to the 39/19 gives me similar problems. On a typical cross-over geared bike, I frequently find myself in a gear that's just slightly off, with no easy way to tell how I can find the right gear; shifting up on the rear cogs gives me too high a gear, shifting down on the rear gives me too low a gear. When you're mountain biking and the terrain changes constantly, it's not a big deal to be in a slightly wrong gear, but on the road during a long day of touring, being in the wrong gear is frustrating. This is why clever component manufacturers come up with 8 speed and nine-speed hubs, with all their attendant problems.

Half-stepping lets you avoid the weaker wheel problems, because it uses fewer rear cogs. And it's easier shifting, too.

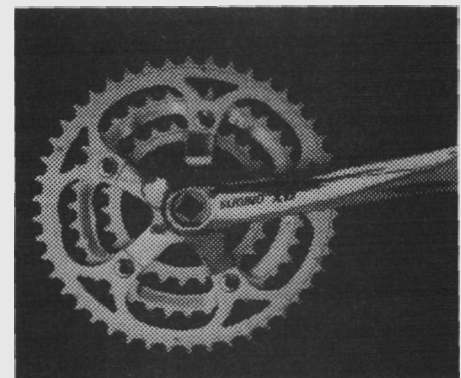
If you want to shift up just a little bit, you always know where your next gear is if you're in the small chainring (or middle ring on a Half-Step plus Granny triple), just shift to the big one. If you're in the big chainring, just shift to the next smallest cog and the small chainring. You step-down in exactly the reverse. You'll never be stuck in the wrong gear. If a road's steepness changes suddenly, you can first use the rear derailer to find approximately the right gear, and then make the fine adjustments at your leisure, or power up the climb if it's short. In both cases, you don't have to think hard.

Typical and good half-step+granny: 50 x 46 x 28.

Mountain bike-style front derailleurs won't work here—when the chain's on the big ring, the inner cage rubs the middle. So use a road derailer or something like the SunTour A5000.



Typical wide-range triple, with large jumps between all the chainrings. Combined with a 6-7 speed wide-range rear, every adjacent gear is a whopping change. Go to 8 or 9 speeds back there, and wheel strength suffers.



DESIGNING YOUR GEARING

Before computers, I'd have to discuss logarithms and methods of designing half-step gearing. I'd also have to supply a gear table with this article. With a personal computer, anyone with a spreadsheet program can easily experiment with cogs and chainwheels to find the kind of gearing he or she likes. Then it's just a matter of ordering the cogs and chainwheels of the right size.

HALF-STEP COMPATIBLE COMPONENTS

Unfortunately, all production bicycles sold today are sold with cross-over gearing, and hence, component manufacturers are only producing derailleurs geared towards cross-over systems.

Most people are easily convinced of the advantages of half-step gearing, but the hard part is finding half-step compatible derailleurs. Half-step demands a wide range in the rear derailleur, and most modern rear derailleurs just won't do it. For my A/R, I had to get a Shimano XT super long cage rear derailleur—the kind that downhill mountain bike racers used. I never thought that I would use anything like that.

For the front derailleur, the typical mountain bike triple has a cage that is too wide by far, giving you problems when trying to shift between the two larger chain rings. The inner cage is set down too low relative to the outer cage, and when you're on the big chainring, it rubs on the middle ring. What you want for half-stepping is a relatively narrow cage without a large vertical difference between the outer and inner cages. A typical road double derailleur fills the bill, and so long as it has a long cage that reaches down low, it will do well for most half-step arrangements. I have had great success using the Shimano 600 (Ultegra) front derailleur as a half-step front derailleur. (Half step-specific front derailleurs are no longer made)

Shifters are a more personal preference. Most people prefer handle-bar shifters of some sort when using half-step (either bar-cons or the STI/Ergo shifters). With enough practice, a double-shift (shifting both the chainwheels and cogs) can also be done smoothly with downtube shifters.

Ultimately, the real test of the gearing system is whether it works well. Half-step is a proven, easy to use system which causes no reliability problems in your drive train. For many years, all good bicycles had half-step system; having

only 5 cogs made it essential that every cog count.

The cross-over system which 7 speed wheels have made practical makes gear shifts difficult enough that manufacturers keep introducing more speeds in the rear cogs. Yet, all the new equipment (which tends to make wheels more fragile) is still more difficult to use and no more effective than a traditional 5 or 6 speed gear system with the half-step. **With half-step, you'll never need more than 7 speeds (and it's doubtful that anything more than 6 speeds is an improvement), and you'll never be in the wrong gear.**

Stronger wheels, easier to use, and great versatility—how could anyone ask for more?

GEARING BASICS

In North America, the most common way of measuring a particular gear (chainwheel/sprocket/wheel combination) is in "gear inches." Gear inches are a throwback to the old days when everyone rode "penny farthing" bikes. On these bikes, the bigger the front wheel, the further you went for each pedal stroke, so most cyclists rode the biggest wheel they could straddle. The gear inch relates the chainwheel/sprocket/wheel combination to the equivalent wheelheight of an old high-wheeler bicycle.

Gear inches for 700c wheels are calculated as follows:

$$(\text{front chainwheel/rear cog}) \times 27$$

For 26-inch wheels, multiply by 26.

For instance, 48t chainwheel/24t rear cog=2. On a 700c wheel, this would be a 54-inch gear, since $2 \times 27=54$. On a 26-inch wheel it would be a 52-inch gear. (*The European way of calculating gears, by actual wheel diameter, is more logical and accurate, but old dog/new tricks, etc.—ed.*)

In general, a low gear is anything below 40 inches, medium gears are between 40 and 80 inches, and high gears are above that.

HALF-STEP PLUS GRANNY

On the next page are two typical half step arrangements. The one on top is what I like for touring. Notice a lowest low gear of 18 inches, low enough to carry a touring load up most hills; and a highest gear of 106 inches, high enough to avoid spinning out. Shifting from the small chainring to the big one makes small changes, shifting between cogs make big changes. On the big rings, each gear shift is about 48 inches in difference (e.g., from 67 to 75, from 75 to 82). Gear differences in this range are

known as a “half-step”, hence the name of the gearing system. Gear differences from 9-16 inches make a full step. Most riders won’t notice gear differences less than 4 inches, so I consider 70 inch gears and 72 inch gears duplicates, and so on.

HALF-STEPPERS: NERDY?

The accusation is common enough, probably because half-step gearing makes use of every gear on your bike, which in turn seems nerdy and complicated, by nature.

And because they complain about duplicate gearing and complicated shift sequences in crossover (or any non-half-step) gearing, and some people think only nerds would care so much about gears. **But all** that aside, half-step is easier to use than cross-over gearing because of the way most cyclists like to find gears. The hurdles are breaking your old habits and learning new ones. You’ll probably find it easy to do, since half-stepping is more intuitive anyway; and once you get the hang of it, you’ll never go back.

CHARTS

MY HALF-STEP+GRANNY WITH 26" WHEEL			
	24	44	49
12	—	95	106
14	—	82	91
17	—	67	75
20	—	57	64
24	28	48	53
28	22	41	46
34	18	34	—

MY HALF-STEP+GRANNY WITH 700C WHEEL			
	24	42	46
12	—	95	104
14	—	81	89
17	—	67	73
20	32	57	62
23	26	49	54
26	24	44	48
30	22	36	—

Notice the logical sequence and easy shifts. Every other shift is a double-shift (you shift both the front and the rear derailleurs), but you never shift more than one cog at a time, and the close-together big chainrings make it so easy. Once you understand the concept and how it works, you can make your own. The basic concept: 3-4t difference between two big chainwheels: large jumps in the rear.

Each of these examples has at least 14 usable, non-duplicate gears, and a simple, logical shifting pattern.

TYPICAL CROSSOVER TRIPLE, 7SP, 26-INCH			
	26	36	46
12	—	78	100
13	—	72	92
15	—	62	80
17	—	55	70
20	34	47	62
24	28	39	50
28	24	33	x

Notice the many near-duplicate gears and if you want to shift sequentially, it’s awkward as all get-out. This “21-speed” has just 12 usable, nonduplicate gears, and requires a wacky shifting sequence to access them in order.

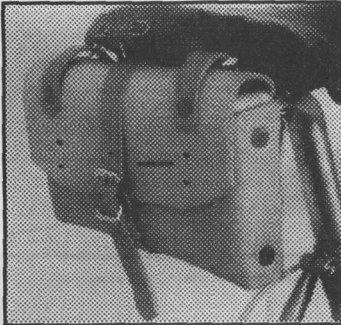
TYPICAL “RACING TRIPLE” STYLE, 9-SPEED, 700C			
	32	42	52
12	—	95	117
13	—	87	108
14	—	81	100
15	—	76	94
16	—	71	88
18	48	63	78
20	43	57	70
23	38	50	61
26	33	44	—

More logical sequence than the upper example, but many duplicates, awkward shifting, and weaker wheels. It has been said, cruelly, that “racing triple” is an oxymoron, marketed to non racers who think they’re strong as oxen, but are actually as smart as morons. We don’t go that far, but the too high highs, the not lows, the awkward shifting and weaker wheels are hard to ignore. Note that this 3x9 set up has just 12 usable non-duplicate gears.

WINTER FLYER

and the answer is.....the Daily Double!

SPECIALES & NORMALES



ACME Leather Saddle Pouch—\$40

I know what you're thinking—why the \$2 upcharge since last month? Well, the \$38 price was based on them having nickel-plated buckles, which only the prototype had. We ultimately went with brass, which costs more. These pouches also work

on the handlebar, on your belt, or as shoulder bags, with a strap or string of some kind. Versatile, thick, and even though they're light and palid when new, a coating of leather dressing (your choice) and time will darken them up just fine. Made by Rivendell member Steve Jackson. This thing will outlast you.

Kucharik Wool Tights—\$77

Thinner than Sergals (sometimes we call it "California wool") but that means you can wear these longer into the Spring. Kucharik wool clothing is remarkably well-sewn. We've never seen a seam give and it's doubtful these tights will be the first. Normal Kucharik wool tights have nylon cuffs, but for us they do them in all wool.

Kucharik Wool Jerseys—\$77

If you're sick of tight jerseys or just can't fit them, this is what you need. We asked Kucharik for a fuller cut, and the typical Italian eat-like-a-bird megamiler cyclist will swim in these. These are all wool, and they don't shrink much if you wash them warm and dry them naturally, but if your housemate washes them hot and dries them hot, they'll shrink...to fit. Go by this chart. It's not complicated, and these are great-feeling, great-fitting, and like all Kucharik garments, the seams stay together forever.

Inches tallxWt	warm wash/cool dry	hot wash/hot dry
64-68 x 110-140	S	S
65-70 x 140-150	S	M
67-72 x 150 - 172.5	M	L
69-74 x 172.5 - 200	L	XL
69 - 76 x 190 - 230	XL	XXL
71 - 77 x 235 - 280	XXL	

royal blue or red, both with grey collar and cuffs.
three rear pockets, 7-inch zipper.

Panaracer Cat I 700x25—wire bead, \$22; kevlar bead, \$30

We've liked this tire ever since we tried it a couple years ago. Panaracer calls it a 28, but it measures 25mm. In any case, it is a terrific tire. Japanese made, so you know the quality and the quality control are the best. The casing is nylon reinforced with kevlar. Panaracer's top casing. The cross section is round, the tread is "mixed"—herringbone, file, whatever—they ride and corner great. For a light road tire, we believe this is the best one out there. Black tread, skinwall, perfectly normal looking except for a rather large and disappointingly gaudy label on the side. Available February 1.

Nitto KK Stems—\$32

If you want to raise your bars but your current stem won't allow it, get one of these. The 190mm quill is 55mm (more than two inches) longer than a standard quill, and the extension angle is the familiar 72-degrees, so it looks good, too. Clamp diameter is 26mm, so it fits Nitto, Modolo, Specialized, Scott, many 3ttt, and future Cinelli bars. The KK stands for Kelley Kobayashi, an L.A.-based former framebuilder and Nitto importer, and Rivendell member, who had these leftover from a former life. Beautiful, back-saving stems.

Chain roller/Dropout protectors for travel—\$6

These are what European pro team mechanics use when they're washing down a frame after a muddy race. They take out the rear wheel, put these in the dropout, and they can still turn the cranks and get at the chain and derailleur pulleys. Also useful for travel, when you have to take the wheel out. This protects the dropout from being squozen shut by a ruffian in a uniform of some sort. Italian made, cheery yellow and red plastic.



Brooks B. 17

Saddles: Honey Brown with steel frame, \$65;
Grey with titanium frame: \$130

The B.17 continues to be our most popular Brooks saddle with a .17 in the name, and a good third of the ones we sell are to riders buying their second one (not because the first one wore out). Finally, we have it with titanium rails, in grey. After

what—almost a year of promises? The Grey/Ti one weighs a scant 450g; the Brown/Steel classic weighs a scant 539g. The most comfortable saddle we've sat on, ever, by far. We're well-stocked in the brownies, and after filling back-orders for the greys, we're down to maybe 20. More will follow, but there will be another delay.

Kids Helmets—\$20

For person or persons under the age of maybe 2 1/2. Florida-made, perfectly protective helmet in blue, lavender, or yellowish green, with balloons on it. See a photo of it on the head of the supermodel on p. 77 of the brick-red catalogue.

Organic Cotton Musettes—\$11

Open top design with tie-downs so if you overstuff it, the stuff you overstuff it with won't fall out unless it's oranges. Organic cotton. Waist straps to prevent swinging. Wad-uppable, so it crams into small pockets, yet it'll accommodate two half gallons of milk. Sewn strong to last. Forgot to put them in the catalogue. We have 20.

Bridgestone Posters—\$7

There's a horse one with a road bike and a sheep one with a mountain bike. Nice art by famous English art fellow Christopher Wormell. Linoleum block prints on 100 percent post-consumer waste, acid-free (archivequality) 80-lb stock. Rich colors, suitable for framing. Specify Horse or Sheep.

Carradice Shopper panniers—\$42

ONE rear pannier, drawstring top closure and wooden handle. Black waxed cotton with outer mesh pocket, big enough for a grocery bag full of groceries, at least in England. We bought these back in the days of extravagance, have sold them here and there, they're good. We have eight.

Carradice Homemade Handlebar bag—\$30

We had some mini Lowsaddle Longflaps made, but didn't actually try them out before buying. To make an old and long story short, they work fine as handlebar bags on drop-bar bikes. Attach them with four toe-straps. Sounds worse than it is. Looks good and works well—I like it (Grant). Toe straps included. (Hint: The toe straps we include are the same ALE all-leather laminated jobs we sell for \$5/pr. Nice straps.)

Lip lvo—\$1

The first lip stuff ever made, still the best. Non-addictive, good smelling (peppermint and vanilla). If you never use lip balm don't start now, but if you do, you might as well use the best, and this is it, and most places don't sell it. Comes in the familiar tube, so you don't have to dip your filthy finger in it to apply it to your lips.

Carradice Ponchos—\$48

Ponchos are a revelation. They catch wind, hide your arms,

make it hard to scratch your nose—but you stay dry, and don't sweat like a pig. All in all, the tradeoffs are worth it.

Touring Bikes (books)—\$40

Sick of hype and hero-worship and non-information? Get this book. It's a pretty fair education in frame design from English builder Tony "Anthony" Oliver's point of view. Lots of illustrations and photographs, easy to read, honestly a real page-turner. Hardcover and classy looking. A year and a half ago, Rivendell member John Bayley sent me a copy. When I tried to find it for Rivendell, what I found was that nobody had it. So I was ready to import it directly, when finally a U.S. distributor was named, but this particular distributor doesn't sell any other bike book—it seems to specialize in yoga/gardening/massage/alternative lifestyles books—and that's why you don't see this in bike stores. Anyway, we have it and it's good.

The Book of Nonsense—\$14

Edward Lear wrote this in 1848, and I've liked it since 1962. I remember getting it from the Tab Book Club. Edward Lear started out professionally as a scientific illustrator, specializing in animals and birds. Then his eyesight declined and he went to landscapes. He was good at both, and traveled the world, sometimes on a ship, drawing pictures and corresponding with friends. He never married, but sort of liked this one lady. He may have been part gay, as well. This is a terrific book, it really shows his genius, and is thoroughly entertaining to adults and children. It's not one of those children's books you wish your kids would like because it's an old classic, but is actually either boring or semi-violent. It's one that they will like, because it's fun to read and look at. This particular edition is nicely bound, with gold accents and a sewn-in bookmark.



Carradice Saddle Bonnet—\$14

We've been out for a while and will have more by, say, January 31. The best protection for a \$8.17, and it doesn't work with any other. You'd think there'd be a saddle cover option for any leather saddle, but no. Works better than Proofide in a real gulleywasher.

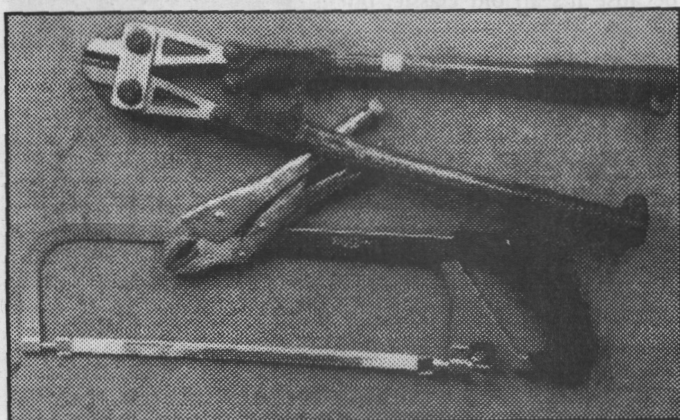
ESGE Fenders—\$40

Silver with thin black stripes. Stainless steel hardware. Our will come with 10 zip-ties and two wing-bolts (until supply lasts). Sizes: For close-clearance 700c bikes, get 700x45. For ample-clearance 700c bikes, get either 700x45 or 700x35. For small-to-medium 26-inch tires, get 26 x 50. For 26-inch fannies, get 26 x 65.

MECHANIK'S CORNER

FOR YEARS, GOING BACK AT LEAST TO 1991 WHEN I WAS DOING THE BSTONE CATALOGUES, I'VE WANTED TO HAVE A COLUMN OR STORIES OF MECHANICAL BLUNDERS BY OTHERWISE GOOD MECHANICS—SORT OF A “WE'RE ALL HUMAN AND SCREW UP SOMETIMES” KIND OF THING. PRIVATE CONVERSATIONS AND ACTUAL OBSERVATION HAVE ASSURED ME I'M NOT ALONE, BUT I WANT SOME PUBLIC DISCLOSURE NOW. I'D LIKE TO HEAR FROM JIM LANGLEY, TONY PENNA, STEVER GRAVENITES, TIM PARKER, SHELDON BROWN, RIC HJERTIBERG, BOB HILLHOUSE, KIM YOUNG, OR ANY OF YOU WHO HAVE REALLY SCREWED UP SOME MECHANICAL TASK, BIG TIME. IT'S BETTER IF IT'S ON SOMEONE ELSE'S BIKE, AND IT'S EVEN BETTER IF IT WAS UNDER THE GUN, JUST BEFORE A RACE OR SOMETHING. BUT THOSE DETAILS DON'T MATTER. YOU DON'T NEED TO WRITE A WHOLE PAGE ABOUT IT, OR BLOW IT OUT OF PROPORTION (FORGETTING TO WEAVE A SPOKE, PUTTING IN A BEARING RACE BACKWARDS). IF WE GET ENOUGH ENTRIES WE'LL JUST FILL THIS PAGE WITH SNIPPETS. SIGN YOUR NAME, AND IF YOU'RE STILL AN ACTIVE PROFESSIONAL, TELL US WHERE YOU WORK. IT'LL BE CATHARTIC. I'LL KICK IT OFF WITH MY OWN STORY, WHICH ENDED LAST NIGHT.

I decided, at the last minute, to switch a bike customer's gearing from crossover to half-step. It was a 63cm LongLow, beautiful green wit cream accents, perfectly shellacked bar tape, two-our fender job, with custom mudflaps, B.17 titanium saddle, everything delux-o. Peter, who built the bike then left to go skiing for the weekend, told me “don't mess with the bike!” (he knows me). I didn't actually remember our customer requesting any particular gearing, but I had an idea of the range of gears he wanted and I thought half-step would do it for him, and I didn't like the 50-38-24 x 13-28 set up on the bike. Also, I wanted to shoot a photo of it as a half-step bike, and still under the influence of Piaw's Half-Step story, it had to be half-step. I figured I could make a quick switch-back if the customer didn't like it.



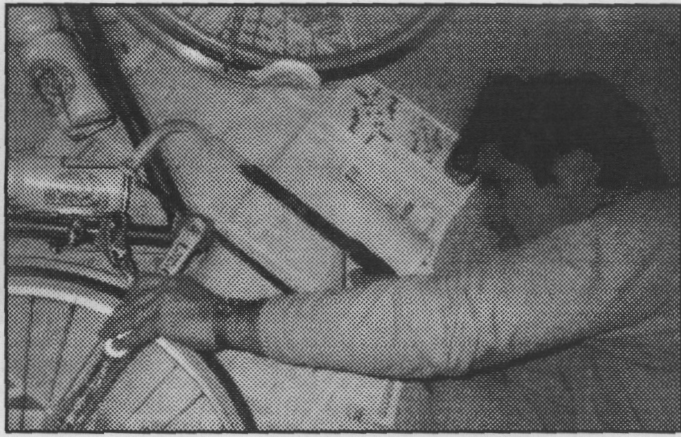
Tool of the trade.

So I quickly grabbed the 15mm socket wrench, and with the bike leaning against the wall, extracted the crank bolt. Leaning the bike against the wall lead to the problem: the

bolt unthreaded, but gravity held the crank bolt washer in, and being in a hurry, I didn't notice it was still there.

I threaded in the Campy crank arm extractor then threaded the puller part. I felt resistance, as always, but it seemed a little more than usual. Usually when you pull a crank the resistance is low as the puller approaches the spindle, high for a couple turns of the wrench when it contacts the spindle and starts pulling the crank off it, and low again once the crank has broken free. This time the high resistance seemed a little higher and seemed to last a little longer than it should, but a) I've removed a thousand or more cranks in my life and this procedure has been a no-brainer for at least the last 900 incidents; and b) I knew Peter installed the crank with a torque wrench, and when you do it to “proper” specs with a torque wrench, it's always snugger than when you do it by feel, so I attributed the added resistance to the crank's “proper” installation.

After maybe ten high-resistance turns of the wrench I noticed the puller was backing out and pulling with it some aluminum crank threads, and then I knew I'd left the crank bolt washer in the crank. I took it out, tried to reinstall the puller, and of course by the the threads had been wrecked, so no go. We have a Stein crank-rethreader somewhere, so I thought I could fid it and rethread it and remove the crank and then buy the arm myself and put a new one on the customer's bike; but I couldn't find it. So I called Eric and asked him if he had a fix, and he suggested some kind of automotive tool I forget the name of (it wasn't a gear puller), but no store that might have one would be open now, and probably not on Sunday, and even if I could get one I wasn't thrilled about a compressed air-driven tool jacking away at crank and the



Properform, focused on the job at hand

frame that had to be delivered pristine. **So** I called Eric's brother Tim. He offered sympathy and told stories about how he'd used a crow-bar before, or a hacksaw blade to cut the spindle. He suggested taking the blade from the saw and wrapping it with bar tape as a handle, to reduce the risk of hacking the frame. or crank arm.

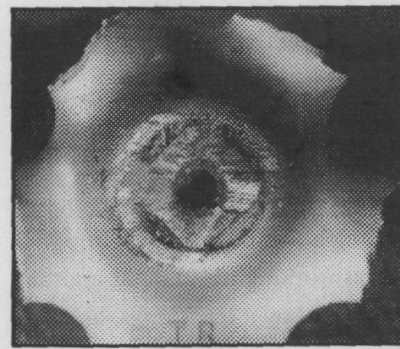
At this point I was thinking "at least I haven't accidently maimed anybody today, and I don't have poison oak, and the frame is still perfect," and I kept thinking "haste makes waste, haste makes waste, haste makes waste." I didn't want to rush into anything and gouge the frame. One buzz with a sawblade might not hurt the frame, but would certainly have to be explained, and at that point I'd rather just get the customer another frame. But this frame was already several weeks late (like 6 —).

The first thing I did was remove the chainrings. The outer ones came off easy of course, but it didn't look like the inner one would make it so long as the crank was still on the spindle. I didn't want to take out the bolts and have the thing still dangling captive and getting in the way of the sawing, so I got our bolt cutters (they're Chinese!) and snipped out the sections between the bolts. That gave me an idea—maybe I could get most of the way though the crank arm with the same Chinese bolt cutters, then just saw a little more toward the spindle. then pry open the crank and have it break free that way. The CBCs didn't work as well on fat aluminum, though, so I went **to** work hacksawing the crank, starting at the center and working toward the spindle. After five minutes I looked at my progress and realized even if I could reach the spindle via the outer part of the arm, there'd still be a bit solid chunk of inac-

cessible aluminum grasping the spindle, and I'd still be stuck.

I was avoiding having to cut the spindle itself, for **two** reasons. One, it was **a** brand new Phil, and that's a lot of money right there; and Two, the spindle is hardened 17-4 stainless, and the only hacksaw blade I had was already on its last legs. Also, the crank spider might get in the way.

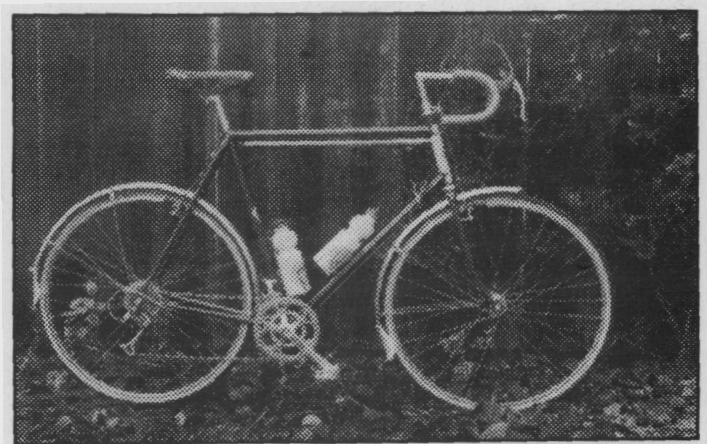
To kill time and take on an easy challenge while I thought of an alternative, I decided to cut off the spiders, and make the right crank look as much as possible like a left. That done, it was clear the only logical next step was the spindle; and with the chainrings and spider arms out of the way, at least I had a clear shot at it. The blade might not last and it might take a few hours, hut at least the frame itself wouldn't be at risk. **So** late Saturday night,



A job well done.

with Saturday Night Live on and black people doing skits poking nasty fun at other black people, but it's supposed to be okay because they're black, I sawed away and got through it, hallelujah.

Then I cleaned up the filings, inspected the frame and saw it was perfect, and installed a new bb and crank and half-step arrangement. Relieved and cleaned up and in bed by 1:45.



\$345 worth of fine bike parts and one hacksaw blade later, all's well. Moral: If a problem can be solved by throwing time and money at it, it's not a problem at all.



Age: 23

Background “Attended” New College in Sarasota, Florida for 4 years, worked at a local volunteer bike shop for 2 years, then moved to SF Bay Area to work in another bike shop.

Plans: To stay with Rivendell. I like working and living here.

What I like about bikes; favorite kinds of bikes: I like simple, elegant, efficient bikes, and practical bikes; bikes for transportation. I like any bike that gets ridden a lot.

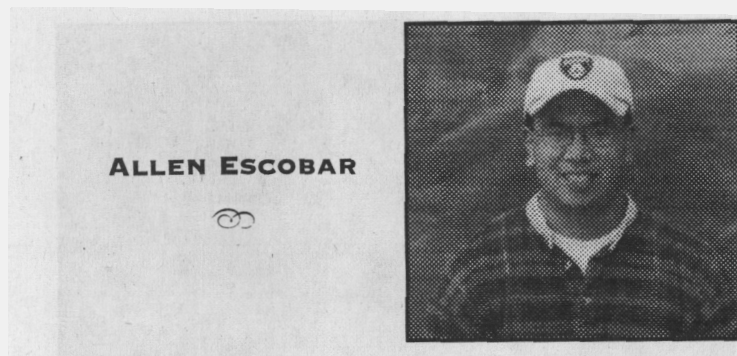
Other interests: Writing, literature, anthropology, Buddhism, being outdoors, motorcycles.

How I came to work for Rivendell: I found out about Rivendell in college, after being a Bstone fan. I read the web page initially, then while I was working full time at another bike shop, I came by to join and buy a few things, and was pressed into service that day.

I helped out occasionally, a day a week or so as needed, and eventually found myself working 6-7 days a week between Rivendell and my normal bike shop job. Then Peter and Grant offered me full time work, and I was glad to take it and work with the kinds of bikes and parts I identify with.

I like being able to be honest about the things we carry, and talking to people who are interesting, smart, maybe know a lot about bikes, and have similar tastes in bikes. I'm glad we're doing Herons now, because I think it's good to have a wider range of bikes, and with the Herons, more people can afford a traditional, high quality bike.

It would be nice to have a showroom here, or a nicely set up build area—just a nice place to show people around.



Age: 24

Background graduated from San Jose State University

Plans: Allen is married with plans to have children within the next three years.

What you like about bikes, favorite kinds of bikes:

I like bikes that are strong, durable, and beautiful. I have a burnt orange Road Standard, Ibis Mojo, a Bontrager, and an All-Rounder.

Other interests: Photography, painting, reading, camping, and Abercrombie & Fitch hats.

How you found out about Rivendell and anything about working here, why you like it, what you'd like to change about it, anything:

I heard about Rivendell through Hiroshi at Jitensha Studio, a traditional bike shop in Berkeley. I admire Hiroshi's taste in bicycles and he introduced me to Rivendell's. Also, in High School I liked to read Grant's articles in bicycle magazines, and I liked his books (*regional, where-to-ride your bike books, nothing hard*—Grant). Those books encouraged and inspired me to ride my bicycle, and it seemed natural to like Rivendell's approach. It's a pleasure to work here.

*Grant's comments about Joe and Allen
and employees in general;*

I like Joe and Allen because they're nice people, secure, and I can relax when they talk on the phone. I don't want anybody to ever be someone, or say something that isn't exactly true just to “get the sale,” and I don't want any yes-men around, cow-towing to me. Joe and Allen (and Peter too, and Spencer when he was here) are good people first, and good employees because of it. Joe sometimes talks on the phone for 20 minutes about things that clearly aren't going to result in a sale, and I'm glad he feels comfortable doing that. Allen is quieter than Joe

Rivendell

FRAME ORDER FORM

NAME _____

ADDRESS _____

CITY, STATE, ZIP _____

DAY PHONE _____ EVE PHONE _____ FAX _____

How old are you, and how long have you been riding bike? _____

What is your current favorite hike (model, size) and what do you like most about it? _____

Why are you ordering a Rivendell? _____

Height _____ Weight _____ Pubic Bone Height _____ Saddle Height _____

FRAME STYLE (CIRCLE):

Road LongLow All-Rounder Mtn/Touring (all frames come with 15mm head tube extension as standard)

SIZES

Road frames: 50 to 65cm • LongLow: 52 to 65cm • All-Rounder: 42, 46, 48, 50 to 63cm • Mtn: 16 to 24 inches, 1-inch jumps

___ I will defer to your judgement

___ Please build me a _____

Color (if you don't pick one here, we'll send you a snapshot of the colors when we get your deposit.)

Solid Green Lt. Green Metallic Pearl Green Lt. Blue Dark Blue Solid Dark Orange Pearl Dark Orange **Oxblood Red** Silver JB's Choice

PRICE:

\$1100 (before Feb 13); \$1230 (after Feb 13. Deposit hold the price)

OPTIONS

Painted head tube (\$100) ___ Window fill (\$50) ___ Name on frame (\$25) ___ FrameSaver (\$25) ___

When would you LIKE your frame? _____ When do you absolutely have to have it by? _____

When we get your order we'll send you a receipt showing your balance, and the frame details. **With** each subsequent payment we send a new receipt showing changes, if any. When your frame is ready we'll give you a call, then you pay the balance and we ship it to you, generally by UPS.

If you want a complete bike, we can do that, too. Prices generally run between \$2100 and \$2700, depending of the parts, of course. We're happy to work with you closely, so you end up with the very best bicycle at the best possible price.

QUESTIONS

Sometimes we have frame customers who seem timid about asking questions, or questioning our recommendations. **DON'T BE** — it's our favorite subject. It's going to be your frame, you'll have it the rest of your life, and you should know it from steel to decals. Frame conversations tend to be long, and if we sense ours may run more than a few minutes, we'll take your number and call you back immediately.

PAYMENT	
\$300 down payment	
Check or money order number: _____	Amount: _____
Credit Card Number: _____	
EXPIRES (numerical month/year) _____ / _____	

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MAILABLE, FAXABLE, COPYABLE PARTS & ACCESSORIES ORDER FORM

NAME _____ ORDER DATE _____

MAILING ADDRESS _____ CITY _____ STATE _____ ZIP _____

SHIP TO, IF DIFFERENT _____

WORK PHONE: () _____ HOME. PHONE () _____ FAX OR EMAIL? _____

ITEM	QTY.	SIZE	EACH	TOTAL
BACK ISSUES/RR, \$2 EA EXCEPT #1: #1 (\$4), 2, 3, 4, 5, 7, 8, 9 (CIRCLE WHAT YOU WANT; WHOLE SET IS \$15)				

ATTENTION NEW MEMBERS!

If **you** are joining now antl already have the catalogue , please put an **X** here _____.

If you already have a **sample copy** of the RR, tell us which issue it is (6? 7? 8?) antl we'll start your subscription with the next one. I have _____. Thanks.

First Subtotal: _____

Minus any Rivendollars or Gift Cert: _____

Second, possibly lower subtotal: _____

Tax (CA only): _____

Shipping (see below left): _____

Membership or subscription renewal (\$15)

TOTAL: _____

SHIPPING		
	Ground	Air
UPS	\$5	\$12
CANADA	\$15	\$22
INTL	\$25	\$45

PAYMENT

Check or money order number: _____ Amount: _____

Credit Card Number: _____

EXPIRES (numerical month/year) _____ / _____

Coupons. Members only. Not combinable

FIVE RIVENDOLLARS



MINIMUM \$50 PURCHASE



Good Through Feb. 15,1998

SEVEN RIVENDOLLARS



MINIMUM \$100 PURCHASE



Good In Feb.

EIGHT RIVENDOLLARS



MINIMUM \$150 PURCHASE

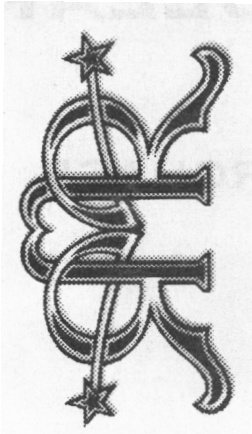


Good in March

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Please deliver this to:

