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The Rivendell Reader

Issue No. 31 January 2004

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At Least Five Times A Year, For Bicyclers

John B. (but it might as well be anybody) messing around camp during a recent bicycle tour of Trinidad & Tobago.

When Most Dads Had an Elephant Gun and Most Kids Were Part Cherokee

We took an email poll and asked you to choose between four issues per year at 48 to 56 pages, and six issue per year at 32 to 40 pages. It was about 35-to-1 in favor of more & shorter, with about 220 precincts reporting. This issue is 48 pages, because it was going to be 56, but then I pulled eight to give me a good start on the next one, the first of the shorties.

Last week as I was riding up the mountain, I came upon another rider who saw my bike and said, "nice 'dell!" What I *thought* was, "please don't abbreviate it like that." What I *should* have said was, "Thank you, and you've got a nice 'ek." but I just said thank you and kept on riding.

When I was about 20 feet up, he yelled, "I hear the guy who made that bike works in Walnut Creek!" I said, "yes, I think you're right," even though "made" is not exactly accurate. Then the fellow added, "…and he's opinionated as he**!" That's when I started to feel weird.

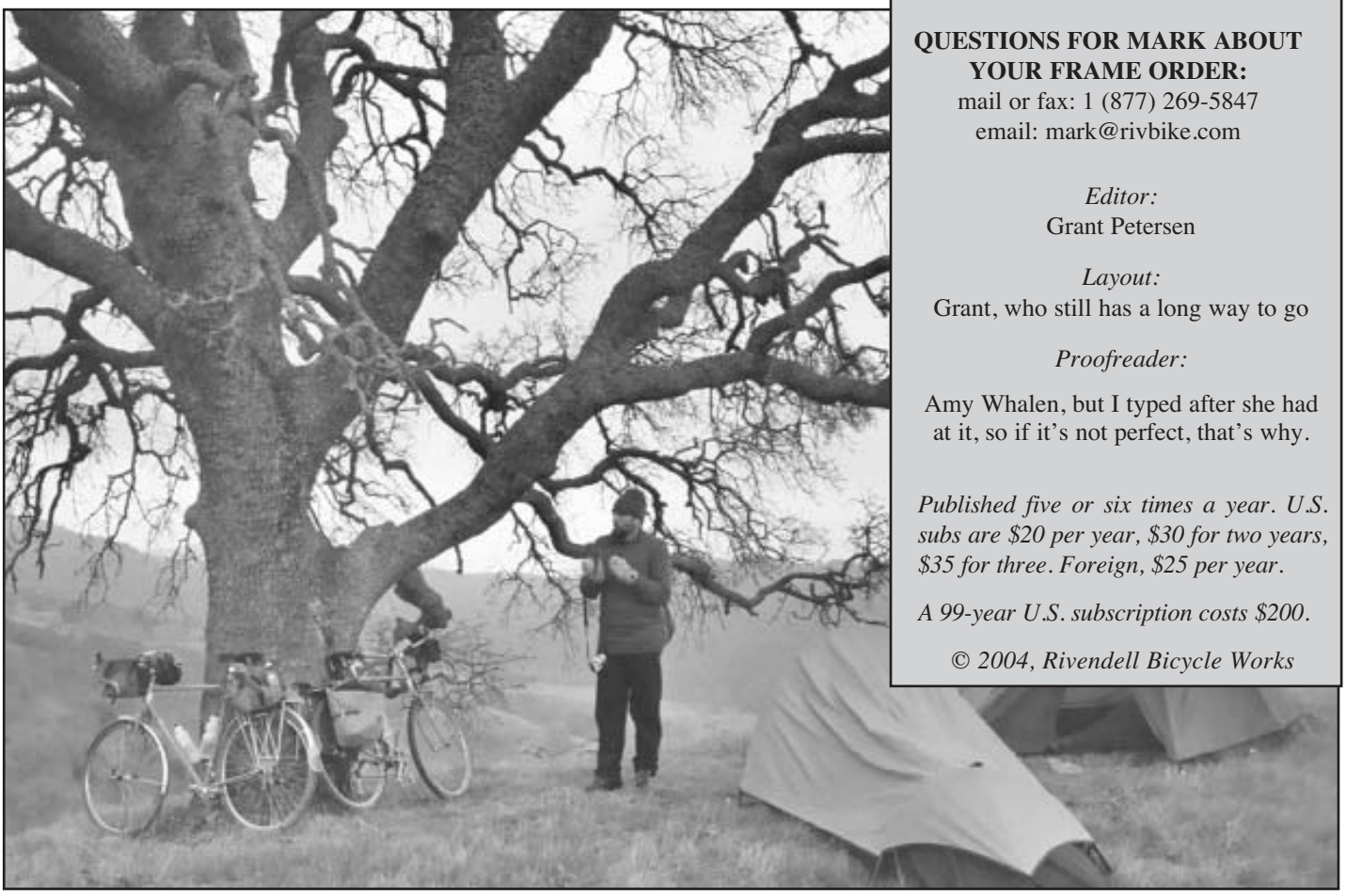
I've been spoken to about myself, without the other guy knowing he was talking to the guy he's talking about, about six times in the past year. I always feel like I'm lying to the guy, not saying who I am, but when I ride my bike, I want to be able to look disheveled and ride however I'm riding without representing Rivendell. I generally make minimal changes to my hair or clothing before going on a ride, and I don't shoot for a particular look, so I eat breakfast and go out with bad hair, and I don't out myself.

But in these conversations, often the fellow will say something about me or Rivendell that he wouldn't say if he knew who I was, and then it's too awkward to say it. If the conversation continues, and leads to an introduction, I have to introduce myself, too, and he feels tricked or embarassed. In the past year that's happened at least three times.

I'll bet many of you who have Rivendells, Rambouillets, Romuluses, or Atlantises have had somebody ask you, "how old is that bike?" It happens a lot. Usually the rider says, " I used to have a bike just like that. An old Raleigh…" and goes on about how he misses that bike, but his new fancy bike is so much better. These days all lugged bikes are lumped together because there are so few of them. The range of quality is tremendous, but it's all good company, I think.

…continued on page 3

In This Issue



The Rivendell Reader

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I like old bikes, but I don't revere them. I divide them into "old medium quality" bikes and "old fancies" (pro bikes). I like the old mediums for their details and attempted beauty. Even a super cheap/hideous bike with a painted head tube, pinstriped lugs, chrome-cap on the fork crown simulating a chromed crown, and chromed fork ends looks neat. There's so much to look at; it's not homogenous like so many modern bikes that look like they came out of a mold. The old cheapies and mediums never made anybody drool, but so many of them have outlasted their original parts and keep getting the job done. When you put bikes like that side-by-side with modern molded bikes, they seem warm and lovely.

I wonder how quickly the old top makers would have tossed the lugs and steel in favor of today's modern methods and materials if they'd had the chance. There are plenty of old names out there with bikes their founders wouldn't recognize, just as there are Merckxs and LeMonds that are unlike any bike Eddie and Greg rode in their day. That doesn't take anything away from them, it's just a subset of the same phenomenon. For the record, Eddie Merckx won all his races on a lugged steel bike; and Greg LeMond won 99 percent of his on one, too. LeMond's most famous win, his come-from-behind time trial victory that won him the Tour de France that year, was on a carbon fiber bike (but it had friction downtube shifters).

Today's ideal race bike is disposable and inexpensive to make. It is just strong enough for the task of racing, because all excess weight has been scraped away. It is not intended to be ridden for a decade, which is okay, because it doesn't have the kind of beauty that ages well.

When I go to a trade show and see the latest aluminum and carbon fiber Colnagos and DeRosas, it's like seeing gramps in a perm, wearing pumpkin bell-bottoms with a wide white belt, white shoes, gradient glasses, and a puka-shell choker. He's given up shirts, but at least he thumps his chest a lot. This is the kind of comment that gets me into trouble.

On that note, we may introduce a vinyl saddlebag this spring or summer. If we do, though, it will be really special and expensive vinyl. I'm not kidding.

By now many of you have heard about the mountain lion attack in southern California that killed 35-year-old Mark Reynolds. He was riding solo, and about four hours later, the same cat also attacked and almost killed 30-year-old Anne Hjelle, who was saved only when other riders beat the cat off with rocks and a bike. Most of us like the idea of riding among wild animals, and we come home happy & braggy when we see one. The comfort range is proportional to the perceived danger and escapability. My own comfort range for the various animals that I see are: Coyotes (25 feet), bobcats (25 feet), deer (20 feet), cows (8 feet), pigs (100 feet), racoons (4 feet), mountain lions (150 feet, but I've yet to see one).

It's my dream to see a mountain lion, and there are plenty of them around, I hear. Every likes to see wild, beautiful, rarely seen, majestic creatures.

After the attack the authorities flew a helicopter over the area and used infrared sensors to find the lion, then shot him. I bet most people who didn't know the victims and weren't there when it was happening have mixed feelings about that. Well, they killed at least two other lions afterward, too. After they got the attack-cat.

It's easy to write off that mountain lion as a predatory rogue who, now that he's tasted human blood, wants more of it. That he killed Mark Reynolds and attacked Anne Hjelle a few hours later makes that an easy argument, but all anybody can do it guess. The lion got Reynolds while he was sitting down fixing a flat and looking small. What a tragic ending.

The cat was just being a cat, and as awful as this incident was, nobody and no cat did anything wrong. I wish Mark Reynolds's family and friends the best—whatever that may mean in this situation, and I don't have a clue, but I feel sorry for them and Mark; and I hope Anne Hjelle recovers physically and emotionally and lives to tell her grandchildren about it, if she has grandchildren. I also think the park service should stop shooting mountain lions.

Bhima Sheridan, who managed the daily operations here and was the only one here not intimidated by computers, has left with his wife to work on an eco-tourism project in Suriname, just off the coast of South America. I'm not sure which coast. He gave plenty of warning and trained his replacement, Sterling Hada, well. Sterling is 44, has worked for high-tech companies, was familiar with our software even before we hired him, and was looking for a change of careers. Plus, he's a rider of course, and like most of us here, was a customer before we hired him.

We've had a decent year. This next one could go either way. Big news in the industry is that Shimano's worldwide orders for 105 and Ultegra parts are about eight times higher than predicted, which is going to delay delivery up to several months. As you may know, we spec those parts on our only complete bike (last year, the Romulus, and this year, the Rambouillet), and we aren't yet sure how we'll be affected. We have come up with a Plan B using Deore XT this and that in place of Ultegra and 105, and that would be fine, too. We'll just have to wait and see and be pushy and insistent, but still nice and understanding.

Other projects, quick update: the Saluki, a traily-road bike with either centerpulls or cantilevers, will likely have the latter because our cantilever project with Dia-Compe is moving along, but not quickly enough. Frames by Summer is the plan. Our mixte bikes will be made for both women and men, will have feminine and boyish colors, and will be named the Glorius and Wilbury, respectively. Delivery late Summer, but if your initials are K.G. we'll see about getting you a perfect prototype before that.

What I'd like to offer, but may not, is a bike for people who weight 325 pounds or more and currently can't ride. I think this would be a fantastic contribution. Imagine—if you're that heavy you never feel speed or wind or smooth, pain-free movement. I have the bike designed in my head. It would have a 34.9mm down tube—1-3/8 inches, or 1/8 inch fatter than the quite-common 31.8mm/1-1/4 inch down tube. It would be sort of a mixte frame, for a low standover height, because if you're heavy you'd have a hard time swinging a leg over a normal top tube. The rear spacing would be tandem-sized 145mm so the wheels could be dishless. The wheels would be 26 x 2.0 slicks, and the bars would be high and steel. The head tube would be the largest available. It would be lugged. It would be so easy to do without lugs, but lugs are our thing here, so that's not an option. It would be better lugged, anyway. I'd also like to have some bikes for children between 6 and 11. After that, they want a bike just like dad's, and most dads these days have dual-suspension mountain bikes. Anyway, there are lots of opportunities out there.

This is the last of the larger issues. From now on we'll alternate 32 and 40 pages, and this year we'll get out at least five. Six counting this, which should have been mailed last year, is the deal. —Grant

RR 31 Mail

Protecto

I just received the catalog and was going through it the last couple of days. The desirability of friction shifting, flat pedals, wool clothing, odd-ball shaped handlebars, etc. is a matter of personal taste and can be debated endlessly so I won,t go there. However, you made one recommendation that I think goes beyond opinion and into irresponsibility.

On page 64 are "Tips For Happy Riding" and one says; "At least one ride in 10 go with out your sunglasses and gloves." I strongly disagree. Sunglasses and gloves are not just fashion accessories. They are safety equipment.

Go without (sun)glasses? Have you ever had a flying insect or a stone chip bounce off your glasses instead of hitting your eye? I have several times.

No gloves? Hand injuries are the most prevalent in bike accidents. In any accident you see coming your first instinct is to put out your hand and road rash on your palms is both very painful and slow to heal. I had one very minor spill a few years ago that abraded the palm of my glove to the point I threw it away but my hand was unhurt. I certainly don't see the need to buy $150 Oakleys or $45 Assos gloves but the use of sun (or clear) glasses and gloves should never be recommended against. —Dave Bialosky

Thank you for not laying into us the way one fellow did. He saw the photo of John on the cover of the catalogue (no sunglasses, helmet on his Boxy bag, since he was going uphill and it was hot), and he accused us of treating our customers as "cash-dispensing machines with a pulse." As a matter of fact, that photo was taken on a summertime overnight (the cover photo of RR30 was taken an hour and a half later); and about 12 hours later, we were riding back to civilization, and I actually was stung just below the eyeball by a bee. Man, that hurt like heck. My eyeball started weeping, like just dripping big drops, and I fell to the ground and said "ow-ow-ow." But I didn't swear off sunglasses-free riding because of it. I think the rock-chip thing is pretty unlikely, and at some point you either have to wear full body armor or ride only on Marshmallow Lane. I think people make up their own minds about these things, but for the record: Rivendell is all for safety. Protect yourself how you see fit, and don't copy us when we're not modeling the safest possible ways. Finally, I don't think my stream-of-consciousness opinions carry that much weight, If they did, I'd—I'd probably ask everybody to send me five bucks. —Grant

Carbon Fork Clearance

I just thought I'd mention I'm seeing a lot of manufacturers boasting about having carbon forks and such with fender clearances, and for at least 28mm tires. That may not impress you, but hey…

—David Regen

IT DOES impress me…so long as it happens. At the recent InterBike trade show, I walked around with a Ruffy-Tuffy wheel and put it into various carbon forks. Reynolds has the best clearance, but still not even close to clearance for fenders. The Ritchey cleared, but with about 3mm all around. Most still didn't clear…so maybe it's in the works, but it's not what they showed. It IS a good sign, though, that they're at least aware of it. They'll have to come up with a way to mount a fender at the bottom, though. There are cyclo-cross forks with that kind of clearance, in carbon. Anyway, nobody here is what you'd call a "huge fan of carbon fiber forks, fender clearance or not."—Grant

Tippecanoe & Hamilton, Too

I just wanted to make two points regarding the "Point/Counterpoint" regarding Tyler Hamilton in the Summer 2003 issue of the *Reader*...

(1) Neither contributor mentions that Tyler has an established history of riding well while injured that goes back before the 2003 TdF. He finished quite well in an earlier Giro d'Italia while injured. He clearly knew what he was doing and why he was doing it. He added no risk to other cyclists in either case.

(2) Neither contributor notes what Tyler's act in the 2003 TdF has done for 110mm BCD cranks. Because he knew he could not climb on a "standard" road crank due to his injury, Tyler switched to an (as yet unreleased) 110 BCD carbon crank which permitted him to use lower gear ratios and climb with the other leaders by keeping his rpm's high and not having to stand and honk on the bars as much. Since the 2003 TdF, there has been lots of interest in the "Tyler" crank and renewed interest in general with the kind of gearing that Ritchey, Grant, and others have championed over the years (and which I too find an attractive alternative).

I remember watching last year's Vuelta a'Espana in which the peloton had to survive a fearsome climb called the L'Angliru. For that stage alone, many riders switched to triple chainsets (I could not have even climbed it with a triple). I recall the TV commentators mentioning that: (a) they had never seen a triple crankset used in a pro race before, (b) that some team directors specifically forbid their riders to use a triple, and (c) that many riders had troubles with their newly installed gear.

I could not help but have wondered then how much easier it would have been for all concerned if the "standard" crank was a 110mm instead of a 130-135mm BCD. Tyler's efforts have helped to bring some interest and attention to rationality in cycling equipment. From this, we all benefit. —David White

Letter From Famous Guy. Don't Skip To the End To Find Out Who (Scot Nicol/Ibis Cycles)

I'm with you on the point of view about clothing in RR30. Although I own enough lycra to fill a Lincoln Nauseator, your point is right on. I see it as part of a bigger problem with our hobby, that bicycling is exclusive. I mean that in the sense that it excludes people. The "need" for special clothing is often a deterrent to people.

There are lots of potential deterrents to getting people interested in bikes. One is the mere act of getting people into bike shops. A lot of people in our industry bemoan the existence of bicycles in mass merchandisers, but I think our industry desperately needs bikes there. Most of us want value when we shop. When a consumer walks into a Costco—if there are bikes there, great. Every time a Costco shopper sees a bike in a store like this, it adds familiarity, which helps legitimize cycling.

Trying to change peoples' buying habits is too big of a job. Let's get people on bikes any way we can, even if the bikes aren't perfectly put together or the right thing for regular bike shops. Let's make the barriers to entry go away. We do that by making bikes familiar and easy to buy.

I'm interested in developing a line of bikes for

Costco. The genesis is this: Every year I go to Burning Man—a huge, temporary city of 30,000 people with NO CARS, but more than 70 miles of roads. That's too far to walk, so many of the 30,000 people, most of whom don't ever ride other than this one week of the year, jump on a bike. The problem is, they put their bikes away when they go home. I want to change that, at least a little bit.

BM encourages creativity, participation and humor; so many people decorate bikes or build them from scratch. They're often fun and whimsical and cool. but they don't look like the bikes you can buy. We in the industry might think there's all sorts of creativity and thinking outside the box or whatever you want to call it, but the box is small. Granted, we are designing high performance machines with a narrow window of what works well, a window we've perfected in over a century of building. But so many people outside our range don't care about running an errand on the fastest or most comfortable bike. Many people want a bike that looks cool to them, even if it looks crazy to somebody with tradtional or modern taste in bikes. And if that's what it takes to get people on bikes, let's make those kinds of bikes.

It seems everyone at BM made choppers. This is yet another niche marketing opportunity, just like Rivendell. Neither are right for everybody, but both are legitimate. You've identified your niche. OK, it's where your heart and your passion is, so I'm sure you bristle when you hear me say Rivendell is a niche marketing opportunity. But it is. As was Ibis. And as choppers and other bikes that most cyclist think are nuts. I applaud Kona for making a chopper this year—that's forward thinking. But I think that the Kona bike needs to be in Costco, not normal bike shops. See, there actually was a point to this part of the ramble... And I want to make cool bikes like this, but not preach to the choir, not sell into the IBD(independent bike shop). Blasphemy!

Oops, I got off track there. Another problem with the clothing is that we look like aliens to people in cars. That makes car drivers uncomfortable. Which can lead to drivers feeling like we don't belong there, because we're not like them. We're different, and different is bad.

My job today, like yesterday and the day before and the day before that, is to get on my bike and enjoy these last few days or maybe weeks of eighty something degree Indian Summer weather, on glorious Sonoma County roads. Today I'll wear some subdued non-logoed clothing. —Scot

The Skinny Militia, and Yet Another Fan of Square Cotton Shirts That Fill Up With Air, For Hot Weather

Comments on hot, muggy weather clothing: In my experience, the best shirt for wearing in this weather is khaki, army surplus, heavy cotton, short sleeve with a lay flat, open collar. Stiff like canvas but with a smoother hand. When it is pressed, the shirt sort of hangs from the tops of your shoulders and hardly touches anywhere. Because the sleeves are stiff, the catch the slightest breeze and funnel it into the shirt. Untucked has the best ventilation but tucked looks better and because the fabric is stiff, it blouses such that the cloth doesn't touch the lower two thirds of your torso. I've never found a commercial shirt to quite match. The problems with them are first finding them and then finding them that fit. People in the army tend to be young and skinny. This means lots of mediums and no extra larges. —Larry Sanford

Are you a woman?

We want to know how many female subscribers we have. By subscriber, we mean actually paid-up under your own name. If the subscription is under your husband's name but you ride a bike and read the Reader too, that'd be good to know as well. But full points for getting it under your own name.

We want to know because there are some things we'd like to develop that might be right up your alley if you're a female rider, but we can't be sure. Wool clothing is one. Right now our it's a strongly held belief, based on hard data, that women don't wear wool cycling clothing. We know of a few exceptions, but for the most part, whenever we've made something in a women's size, it's sat, sat, sat. If we know how many women members we have, we can contact you before we throw loot down the loo, so to speak. We can ask before we do anything.

If you are a female subscriber, fill out this form and send it in and you'll get a $10 gift certificate if you're a member under your own name, and a $5 one if you're on there with a guy of some sort (Jack and Jill Lastname, for instance). Thank you for letting us know. The deadline for this is March 1. That's when we'll issue the credits.

Yes, my name is_____, and I am, indeed, a woman.

My subscription is: ___ under my own name; ___ under/part of a guy's name

My member number is:

I live at:

Age: Years riding:

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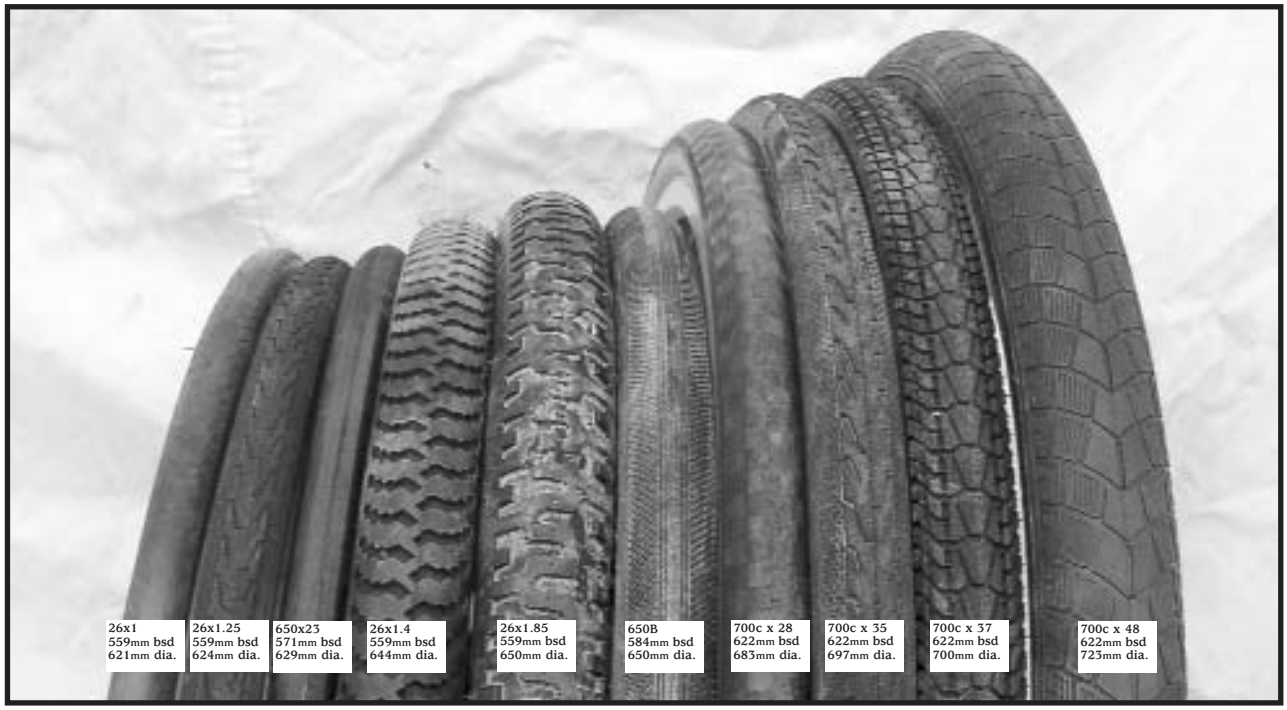


The ten tires above represent four different bead seat diameters and ten different overall diameters. I just thought it would be interesting to see the range—there's nothing more to the lineup than that. Note the 650B in the middle. It's a currently available Michelin "Megamium" model. Aside from it being a living dinosaur that's hard to find replacements of and rims for, it's a neat size. It looks good and seems right, there's just something about it. Too bad it's such an odd duck, because it's a good size. As you can see fourth from left, the 26x1.4 is nearly as tall, but is harder to fit with sidepulls. Far right: the Schwalbe Big Apple. —Grant

Sorting Out Tire & Rim Sizes

by Mike Barry

Sutherland's handbook—a thick, expensive listing of nearly every bicycle part dimension, covering old parts and new ones—a valuable resource for the trade— lists 79 different bicycle rim sizes ranging in size from 12 inches to 28 inches. In addition there are numerous tires of different widths made to fit each rim diameter. The most common are 700c and 26". What do these sizes mean and how did they become the most common sizes in the industry?

Most modern 700c tires don't measure 700cm and most 26 inch tires don't measure 26 inches. So what's going on? To find the answer we must go back a few years before the globalization of the bike industry, to the time when most countries had factories that produced bikes for their own domestic use. Each country had, over the years, developed bikes that were most suited to the local road and weather conditions and riders preferences.

Most French bikes came with 650B tires with large *demi-balon* (half balloon) tires—large section tires, intended to be ridden at fairly low pressure, because almost every French town and village had cobblestone streets.

But in Britain the roads were smoother, so the popular tire there was smaller—26" x 1-3/8 iinch.
In Holland where big utility bikes are the most popular the 28 inch x 1-1/2" is the most popular.

Every country had its preferences and developed its own tire dimensions.The French and the British devised logical and similar systems. Let's look at these sizes, for example.

Bead seat diameter	French	British
640 mm	700A	28 x 1-1/4
635 mm	700B	28 x 1-1/2
622 mm	700C	No equivalent
630 mm	No equivalent	27 x 1-1/4
597 mm	No equivalent	26 x 1-1/4
590 mm	650A	26 x 1-3/8
584 mm	650B	26 x 1-1/2
571 mm	650C	26 x 1-3/4

I don't know why the British went with 27-inch instead of the 700c. It doesn't make sense, especially since 700c tubular wheels were in already common in the UK in the '30s, when they introduced the 27-inch tire.

Why 700c Tires Have That Designation

Originally all 700 tires had an overall diameter of 700cm (about 28-inches) but, as you see from the bead seat diameters listed on page 6, the rim diameters were smaller on the B and Cs. The difference was the volume (puffiness) of the tire. So:

Designation	Approx Diameter	Approx Width
700A	28-inches	1 1/4-inches
700B	28-inches	1 1/2-inches
700C	28-inches	1 3/4-inches

Notice that the overall diameter of them all is the same 700cm, or 28-inches. The A is skinny, the C is fat. You're probably thinking that the 700c tires you know aren't that fat, and you're right. I'll talk about why later, but for now look at the chart and consider how much sense it made.

The same relationship applied to the 650 (26-inch) tires, the 600 (24-inch), the 550 (22-inch) 500 (20-inch) 450 (18-inch) and 400 (16-inch).

Things went haywire when manufacturers started making skinny, medium, and fat tires to fit on the same rims. (We now have "700C" tires in all sections from 20mm to 52mm—all with the same 622 mm bead seat diameter.)

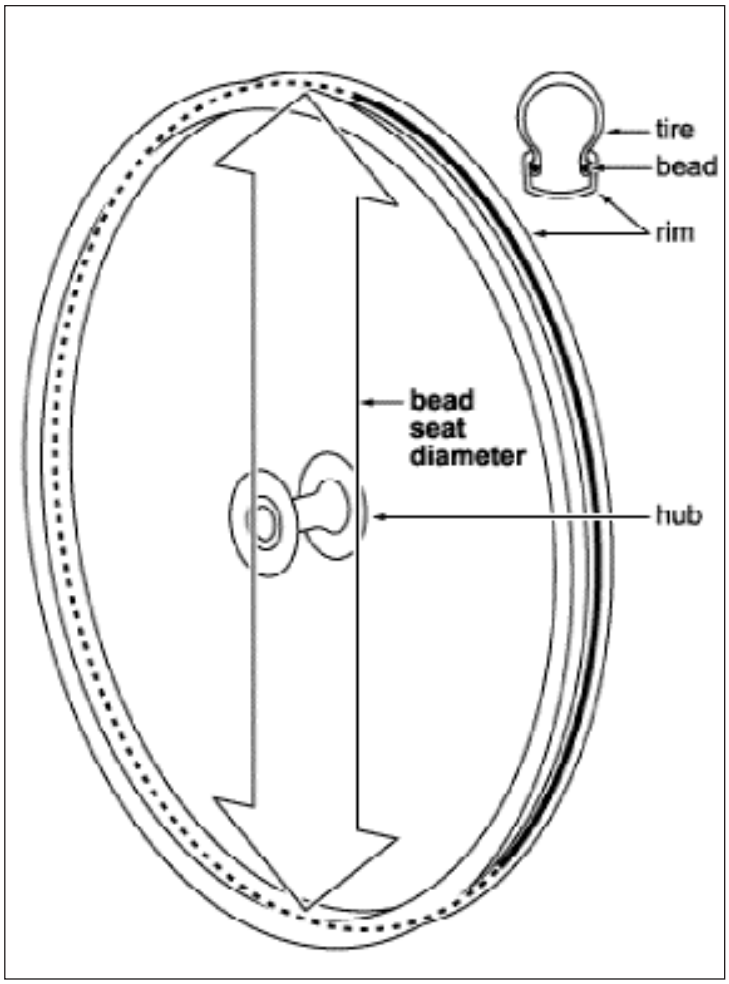
This made nonsense of the whole system. So the European tire makers got together and devised a new sizing system for all bike tires. Tires were designated by the bead seat diameter and the tire width. So a 700c tire with a 23mm section would be marked 622-23, with 622 being the bead seat diameter and 23 being the width in millimeters. This system was adopted as the international standard (ISO). Most tires are marked with this designation (look carefully, it's molded into the rubber above the sidewall) but few normal people refer to them that way.

To add to the confusion different countries used different designations for the same size tire. In Canada a 28x1-1/2" tire is the same as a British 28x1-3/4" and therefore smaller than the British 28x1-1/2". The US 26x1.75-inch bears no relationship to the British 26 x 13/4 inch. It's rather a mess, actually, but it's not the end of the world.

Tire Names: *Clincher* versus *Wired-On*

Most tires today, the ones that aren't "sew-ups" or "tubulars," are called clinchers. But the *proper* name for them is *wired-ons*. Whether you change your speech is up to you, but if you call up your local bike shop and ask about "wired-on" tires, you'll either be thought a snob or you won't be understood. Pick your battles wisely!

Originally, "clincher" tires sizes were expressed with decimals, and "wired-ons" with fractions. Technically, a clincher tire has a rubber molding at the edge of the cover which "clinched" to hook-edged rims. True clincher tires are no longer made. What we refer to today as clinchers are in fact wired-on tires which are secured to the rim by a non extensible steel wire, or more recently, Kevlar bead.



The tire BEAD is the tire's wire or kevlar inner perimeter, the part that nestles under a clincher rim's hooked edge. *illustration by Jon Grant*

My Suggestion

Get rid of the mixed up and incosistencies, and use ISO tire designations. It's nonsense that a 261.25-inch and a 26x1-1/4 inch aren't the same size, or that a Canadian 28x1-1/2 inch is smaller than a British 28x1-1/2 inch.

Recently, in some circles, there has been a renewed interest in 650B tires. As I mentioned above many French bikes were built with this size as many French roads were cobbled. The large section 650Bs were ideal for these roads and also ideal for heavily loaded touring bikes and tandems. However, with the globalization of the bike industry the American 26x1.75-inch has taken the place of the now almost obsolete 650B.

In recent years good quality road tires have been made in the American 26-inch size so why bother with the almost impossible to get 650B? The 26-inch rim is 25mm smaller in diameter than the 650B but this has no effect on the performance of the bike. The only reason I can see to keep the 650B size is to keep those lovely old French bikes on the road. That is not a bad reason, but it is the only one I can think of.

In recent years the industry has more or less standardized to 700c (622 mm) and 26-inch (559 mm) for adult bikes but we still have triathlon and smaller racing bikes designed with 650C (571 mm) wheels why not use 26-inch (559 mm) for these too?

The chart to the right is my suggestion for the complete range of rim diameters needed to cover the needs of the whole industry.

That is nine rim sizes to replace the 79 listed in Sutherlands. There will of course be a need for replacement rims and tires in the old sizes for those who wish to maintain vintage bikes. But for the industry in general, a reduction number of rim sizes has to be a huge benefit.

Type of Bike	Bead Seat Ø	Call it
Sport & lightweight:	622mm	700c
Mountain, city, commuter:	559mm	26-inch
Small adults & child's:	507mm	24-inch
Child's:	457mm	22-inch
Child's and folding:	406mm	20-inch
Child's and folding:	355mm	18-inch
Child's and folding:	305mm	16-inch
Child's and folding:	253mm	14-inch
Tiny child's:	203mm	12-inch

Mike Barry was interviewed in RR29 He currently operates Bicycle Specialties in Canada, and is as qualified as all get-out to write about tires. The plan is for him to contribute a few articles a year; but we'll see.—GP

More Things To Think About Tires and Rims

1. Suppleness and air pressure: When you take a supple tire casing and fill it with 140psi, it's no longer supple, it's hard. A hard tire smacks into bumps and holes and jars you. If the casing were still supple when the tire was hard (an impossibility), you'd get pinch flats. If you want a supple casing, put less air in the tire. Higher volume tires have a wider range of rideable pressures. For more comfort, ride at the lower end of the range. If you get pinch flats, add air until you don't, or ride a fatter tire.

2. The bargain of air, and How To Use It: It costs nothing, weighs virtually nothing, and adds cushion, comfort, safety.

3. How big should your tires be? Unless you're racing, it makes sense to ride the biggest tires your bike and your brain can handle. If the largest tire your bike fits is 700x25 and you use it for other than racing—wrong bike.

4. Tread life versus sidewall life: You tire's tread may last 2,500 or more miles, but if the sidewalls aren't strong to begin with, and if you expose them to ozone by storing your bike outside, they'll get unsafe long before you wear out the tread.

5. Listed dimensions versus actual: The ONLY maker we know of who has it figured out is WTB, which lists both the casing width and the width of the tire at its widest point (47/52, for instance, on the Nanoraptor). To that we'd add one more: diameter.

6. Tire and frame compatibility. Wouldn't it be great if all bike makers listed the maximum with and diameter tire its bike could take? Buying a bike without knowing which tires will fit is like buying a camera without knowing which lenses it'll take, or buying a pickup truck, without knowing how much junk it'll carry. But bike buyers do it all the time. Manufacturers should be up front with this information, even if it's not asked.

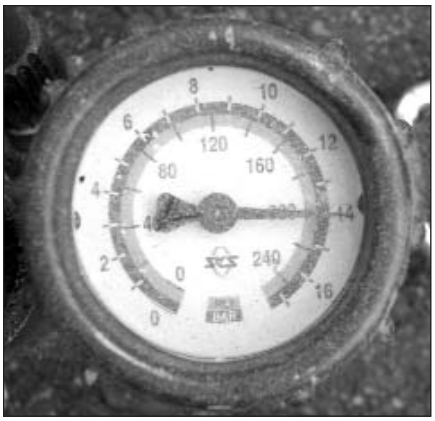
7. Directional/non-directional tires: Directional patterns usually suggest that water will be drained outward, but bike tires are so skinny to begin with that it's doubtful that makes any difference. If you accidentally mount a directional road tire backwards—well, it would be imprudent for us to suggest you leave it that way, but that's what we'd do.

8. Tire tread and gription: The purpose of tread on off-road tires is to grab more of the riding surface and increase traction. On road tires, the tread doesn't dig into the pavement; the pavement digs into the tread. Any pattern just lessens the contact area. So to increase traction, it makes sense to ride no-tread (slick) tires. But "slick" has slippery connotations, so most riders see them as special purpose tires. Since the tire is always softer than the road, the tread can't bite into it. The only thing is, on wet roads, a little tread seeeeeeeeeems to help some. Maybe it's psychological, but that matters, too.

9. Technique versus Tires: Technique makes about ten times as much difference.

10. Road tire shape: Rounder tires corner more predictably. Tires with a ridge or cone point of some sort that puts more rubber in the middle sacrifice cornering for tread life. Sometimes it's a good thing to do that (distance touring).

11. Kevlar beads or Wire beads? Jobst Brandt has said that there's no difference in how well they stay on the tire. Panaracer, our maker, concurs, and says that on Kevlar-beaded tires, they make the bead slightly smaller, for a tighter fit. In an upcoming issue, we'll experiment. —GP



After the Ruffy Tuffy held at 200 psi, we snipped the kevlar bead in 10 places around its perimeter. Would it matter? See below.

It held fine up to about 120 psi, then the cut casing ripped and all heck broke loose. The moral: Don't snip the bead.

How well do kevlar beaded Ruffy Tuffy tires hold onto a Bontrager Fairlane (touring-style) rim? We wanted to know. We could just as easily tested it on any other rim, but Random Picks are allowed here. **Right:** Rich puts his mettle to the pump and manages to get it up to 200 psi (see above) before threatening a worker's comp claim, so we stopped the test. The tire held just fine, and yes, he was wearing ear plugs.
We've discovered that one tire is not a statistically significant sample, but it was nevertheless reassuring to see that it held. Not surprising, just reassuring. *Photographic note: Most of the pix in this Reader were taken with an Olympus Camedia 4megapixel camera or a Canon G-1. We're not saying they're the bee's knees of digital cameras, but they work fine for our purposes*

In Which We Try To Blow a Tire Off a Rim Twice, and Succeed Once

The tire-to-rim interface is one you bet your life on every time you ride. That's okay, because reputable rim and tire makers take care to ensure that their rims hold, and their tires stay on.

But up to and as late as about 1986, rim makers and tire makers didn't always build to the same specifications. Back then, it was safer to use a Japanese/Japanese combination or a European/European combination than it was a Japanese/European combo. The shape of rim beads—the thing the clincher tires clings to—has changed over the years, too. If you have a 20-year old Japanese rim, for instance, it may not hold a modern tire.

These days, road tires and rims are generally compatible. There are no "secret, deadly combinations" out there that I know of, and it's safe to attribute blow-off problems to operator error. In order of commonness, the most common mistakes tire installers make are:

1. Not making sure the inner tube is fully tucked inside the tire. If it isn't, the tire bead won't seat, and the tube won't be contained, and will rupture and make a loud bang when you're inflating it, or maybe a few minutes after inflation. It's what happens when you're hasty.

2. Well, for the most part, number one there covers 99 percent of the blow-off problems. But one time in a hundred, the rim strip has slid around and interfered with the tire seating under the bead. Make sure your rims strips are on straight.

Tight Tire Mounting Tips

Some tire and rim combinations result in a tight fit, some in a looser fit. Tight fits are psychologically more comforting, but can be frustrating when you get a flat in the rain, or when you don't have tire levers. To make tight combinations work better:

1. Use the thinnest rim strip possible. The traditional favorite is the Velox, and good it is, but thin it's not. Rox and Ritchey and no doubt others make superthin rim strips, and they're the way to go if your tire fits too tightly to your rim.

2. Talc the inner tube. Inflate it slightly and push it into place, and get as much of the tire bead as possible onto the rim. Then, when you can go no further, deflate the tire and try to create as much slack as possible by grabbing the tire opposite this final section, and using both hands to stretch the tire toward the last part. Is that clear? Well…then either get a friend with strong thumbs to help, or use a tire lever. For tight fits like these, we prefer the ex-VAR lever, a "bead-jack" style.

Head designer, builder, and son-of-founder Tetsuya Ishigaki brazes a Rambouillet. Sometimes he wears dark glasses.

An interview with Tetsu Ishigaki from TOYO

How did Toyo start—as a bike-maker, or did it evolve into one, and when did this all happen?

About 30 years ago, the president, my father, was working for a bearing factory in this area. He then quit his job and started his own business as a subcontractor for the National bicycle company. It is just a coincidence that it was a bicycle business when he started.

What were those early bikes like?

They were Japanese-style lightweight utility bicycles. They had lugged frames. Almost all bikes were lugged back then.

How many employees did Toyo have then?

About five people. I was only a little boy then, so I don't remember the first year, but I know we had five employees.

How did he make the transition from working for National/Panasonic to going on his own, and how did you (or they) get employees?

Basically, we acquired National's equipment, their knowledge in engineering and their standards, and we hired mostly locals. Our president, my father, was originally an engineer for bearings so he had to get trained in welding at National Bicycle Company.

When did the Toyo brand start? I mean, when did you start making bikes under that name?

It hasn't been long, maybe 20 years? Yes, probably 20 years, because I was in junior high and I'm in my mid-30s now.

That seems like a long time to me. I mean, you're only about 34 or something, and I don't know more than a handful of 34-year olds who've been working at the same place for 20 years. Who were Toyo's customers 30 years ago? Did you build just for National/Panasonic?

No, we not for them exclusively. They were our biggest customer back then, but we built custom frames as well. In the early '80s we built some bikes for Haro and Ross, early mountain bikes. Do you want me to get the President to find

out, since I wasn't there then?

No, that's okay. It was just a general question, and I think I got the picture. Compare those early bikes to the ones you make now.

Well, there weren't any aluminum frames 25 years ago. Back then it was all steel frames. The TIG frames came out around then and soon after, the aluminum TIG frames came out as well. We simultaneously produced lugged frames for sports bicycles. It isn't that different now…except for the aluminum and carbon. When we build for customers, we build to their order, as we do for you.

How much of your business is exports, and when did that really start to take off?

Hmm. About 20 years ago it was close to 100% in exports, mostly mountain bikes and non-road bikes. Five or six years ago our export business was down, because many of the American companies took their business to Taiwan. Now thanks to Rivendell, it is about half. Of course, we enjoy making nice lugged road bikes.

How did you get interested in bicycles yourself? I mean, when you were little, riding—not making them? And what kind of bike did you ride when you were little?

Utility bicycles are the common type here in Japan, so that was my first bike, too. Like all kinds, I started off with a bicycle with training wheels and later learned to ride without them. I got my first road bicycle was when I was ten years old, in the third grade. The famous builder, Mr. Nagasawa had moved close to our factory to start his frame building business. He made me a 22-inch wheel road racing bicycle. I raced occasionally, and rode a lot until I was 16. But then I started to have other interests and didn't ride for about 10 years. But later, when I was about 26 years old, I started again and have been riding mountain and road bicycles since.

How did that get you into building them? Did you feel any pressure, because your father owned the company?

No, I didn't feel pressure. It just sort of happened naturally. I would play at the factory when I didn't have school, and I came to the factory after school. The Toyo shop was my playground, and I gradually came to understand that this is what I would be doing. I will be here as long I can.

What would you do if you weren't building bicycle frames?

I can't think of anything. This is what I have always wanted to do.

How old were you when you learned to build bikes, and did you learn from Mr. Nagasawa?

I started welding and brazing when I was 15 years old, and I learned here, at Toyo. Mr. Nagasawa was a close neighbor. His workshop was next door to my home. He was influential, to me and to Toyo. He's the one who got us to move away from high-tensile steel and start building with more CrMo. At the time, almost all Japanese bikes were made from high-tensile steel, which isn't as strong or as good for bicycles as CrMo is. But he had been to Europe, and was influenced by the Europeans, who of course used thin-gauge CrMo. So he taught us to braze with that, which was a big step toward making fine bicycle frames. It's not like I was really taught how to do braze, not in that way, as a classroom or school. I had an opportunity to be around his workshop, to see him work, so I picked up the processes and practiced myself, and developed the good skills that way.

Toyo founder and president Masaki Ishigaki. He's been called the "St. Francis of Assisi" of Japan for his love of animals—particularly birds. In front of Toyo there are chickens and pigeons.

I remember that he became well-known for building the bike for Koichi Nakano, who won the World Pro Sprint Championship for ten years straight, ending sometime in the late '80s. Is he still building?

Yes, he still builds keirin frames. I see him often, he's still a good friend.

Okay, got it. Now, in the other direction, do you still build bikes for Panasonic?

Sometimes, yes, if they have a special bike that's more suitable for our methods and abilities, we'll build for them. We have a good relationship, still.

How long have you been in this location? It seems almost like a residential neighborhood.

There are houses around us, yes. It is not all factories. We have a small shop, as you can see, and we've been here for 20 years.

Who are your other U.S. customers, besides us?

We have made many bikes for Ritchey. [note: Ritchey has now moved production to a fine maker in Taiwan.] We have made bikes for Rocky Mountain, a Canadian customer, and some for Terry, but not all of Terry's bikes are ours. And we make bikes for other small makers sporadically. But besides your bikes, now we mainly make our own brand, called Testach. It is supposed to sound Italian.

How do you get new customers? Do you seek them out?

No, and we don't advertise. They come to us when they want something we can do. It is all word-of-mouth.

How does somebody get a job at Toyo building bikes? And how do you train them and ensure that the quality is up to your standards?

All of our current employees love bicycles and are here because they want to make bicycles, and if they don't have experience, I train them. We have our own way, our own process that works so well, and I train them in that way, so the quality is always high, and every bike is consistent. We have to maintain the quality and consistency. We demand it, and our customers expect that, because of course there are less expensive makers who are able to build nice bicycles. In the end, the bicycle we make may look quite a lot like a bike made by somebody else, but if it is Toyo-made, then I know everything about how it was made, and I can trust it, and I know it will be good for our reputation.

How many employees do you have?

We have five—the same as we did 30 years ago! This is the best size for production in Japan. It is easier to supervise and make better products, and maintain the consistency and the quality.

What's the breakdown by type of the bikes you make, including yours and your customers' bikes? I mean, all of them.

About 10 percent cyclo-cross, 20 percent mountain bikes, 20 percent touring or non-racing road, and about 30 percent road racing. The rest, I don't know—maybe you can say "other."

Do you make custom frames, one-of-a-kinds?

Yes, we can do it. It is more work, because it isn't as efficient, but of course, yes.

With your current staff of five, how many frames can you make per month, about. Let's say, if they were all lugged, like the Atlantis and the bikes you make for us.

About 400-500.

That many? It seems like a phenomenal number. I've seen you build them, and it looks like any other small/custom frame shop—and that figure seems outrageously high, even when you divide it by six. So…really?

No problem.

How long does it take to make a frame?

If we make one frame—I mean, if we get an order for one

One of 3 brazers, Inoue-san…who also generally wears dark glasses, we hope.

This is exactly what Shibuya-san looks like as he's brazing. Intense, particular, meticulous.

frame, like the one I made for your daughter, it takes about two days. We work ten hours per day, so that's about 20 hours.

Wow. Thanks for the frame, by the way. But I don't understand this. I understand that one frame can take 20 hours, because that's how long it takes our builders to make a frame, too. So, I'm okay with that, but how do you go from making one frame in 20 hours, to doing 400 to 500 per month with only five builders.

Well, of course it is more efficient to build the same kind of frame. Our fixtures are designed for that, and that is what we do, most of the time. If we have all the materials, we can plan the production to be efficient. The frames are just as good as a frame made one at a time, but in this way we can build more of them. We have not built that many of your frames in any month, but if we build only those frames, it is no problem to make 400 frames in one month.

Okay. Well, if we order 100 Rambouillet or Atlantis frames, how long does it take to build them?

For 100 frames—if we can focus on that production run only, it might take 20 days. But usually, it's hard to focus on only one project. For one frame? We usually work 10 hours a day, and usually each frame is built (brazed) by a single builder, from start to finish. That is not how it is done in the big companies, of course. Our frame jigs are designed for the way we build bikes, to be more efficient. We make some of the fixtures ourselves. The higher quantity, the more efficient it becomes. It is not a simple calculation.

Who does what?

Everyone can do the basic work. There are only four of us who can weld, including myself. Among them, only three can braze lugged frames.

How does the training go? Let's say, when somebody starts to work here, has an interest in making bikes, but doesn't know how to make them. What's it like?

We start with basic work, like drilling holes. Even that is important, to do it right and be consistent, but it is basic. After that and other "light duty" work, I'll teach them to braze on outer stoppers [brake cable stops, on the top tube, for instance]; and after that, tacking TIG welding frames, then tacking brazed frames. Tacking just holds the tubes together to prepare for the final welding or brazing. It does not require the skill of welding or brazing, but it is a step that way. As you get more comfortable with the tacking and the other basic processes, we teach you to braze on the lugs. That is the hardest. But it is important to learn tacking first. You learn little by little, by constant observation. You are not allowed to braze until you are ready.

Tetsuya Ishigaki brazing the first joint on a frame—the lower head tube to the down tube. He feels that this is the most critical joint for maintaining the specified geometry.

What's the hardest part of making the frame?

When dealing with a lugged frame, the angles vary according to the various frame sizes, creating a gap between the pipe and lug. It is the most difficult to fill the gap with brass—just brazing it. It's not difficult, but compared to welding, I think it is more difficult. I know it takes more time.

The tubing you use, at least on our bikes, is made by Tohoku-Miyata. You've used tubes from all of the well-known European makers, such as Reynolds, Dedacciai, and Columbus. And from True Temper in the U.S. How does the Tohoku-Miyata tubing compare? And how does it compare with Tange Prestige tubing? (The best-known Japanese tubing, no longer made because the market for steel tubing mysteriously dried up.)

I prefer the Tohoku-Miyata tubing. The quality is high, and the consistency is so good. Tange was popular because it was so common when so many frames were steel. It was the top tubing. Now, with so few steel frames being made, it is much harder to become well-known. But compared to Prestige, the Tohoku-Miyata tubing keeps more of its strength after brazing, and has more elasticity. Our tubing situation is good, with Tohoku-Miyata. Even if there is a bad one, they respond quickly and exchange it, if necessary.

What other tubes do you currently use, besides Tohoku-Miyata?

Only Columbus and Dedaccai. It is at the customer's request, or for marketing reasons. The Italian tubing has a bigger reputation, of course.

Is Ishiwata still in business? I'd heard they went out of business years ago.

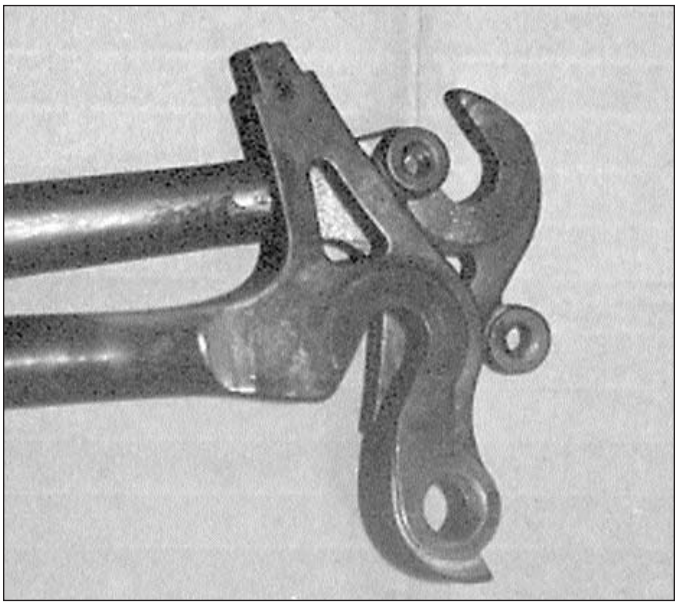
Yes, we use it sometimes. But now the company is known as Kaisei. They do the final tube finishing for Tohoku-Miyata.

Checking a frame for alignment. Toyo frames are always straight.

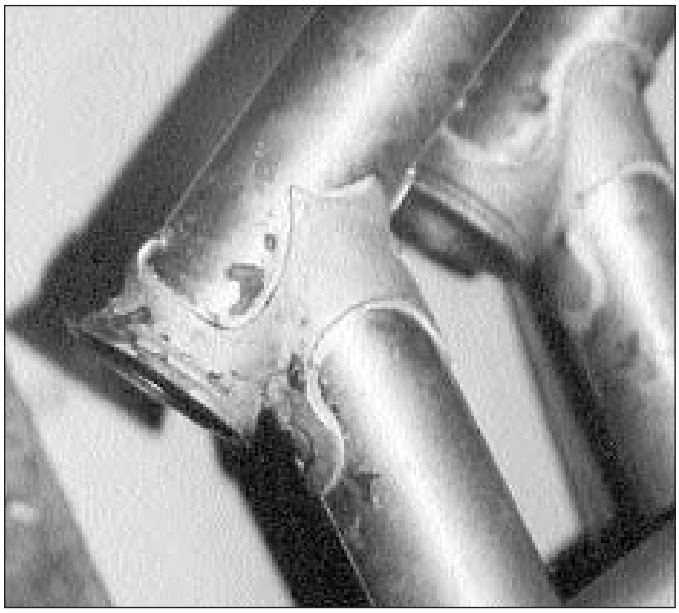
These chickens enjoy life in Toyo's front yard. Nobody eats them.

That sounds complicated, but it's okay. Who are your competitors in Japan?

I think we don't have any. There are small workshops with one or two builders, but they are not competitors, and they cannot make bikes as efficiently. Some of the smaller builders can make comparable frames, but as custom orders only. TOEI is a good maker. They have probably two or three



Rambouillet rear dropouts still needing the seat stays attached.

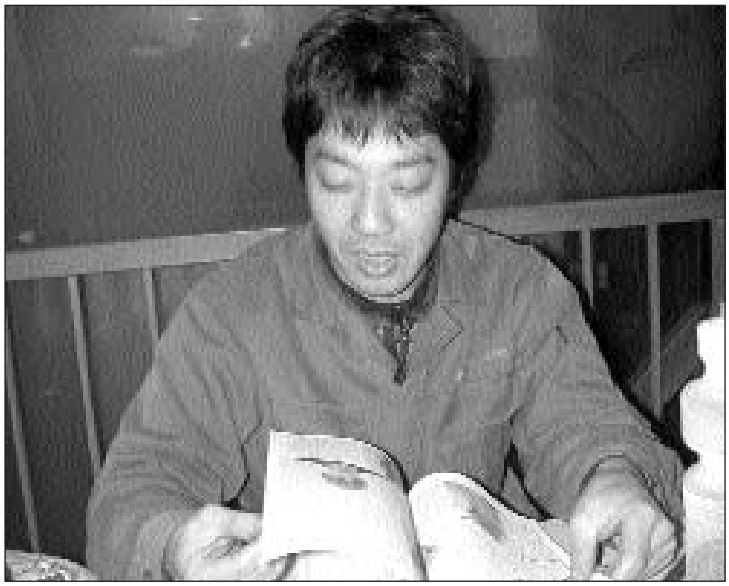


Freshly brazed Rambouillet joints with the flux soaked off.

builders. And of course, the larger makers are not as flexible as we are, and they generally don't make sporting bicycles, just commute type and utility bikes.

Do you get a chance to ride? You must, because when you were out in Walnut Creek, we took that ride with the group, and then I took off by myself on the trail, and you were right with me the whole way. So I know you ride…but talk about that a little.

I work a lot and have a family, but I ride road and mountain bicycles, maybe a little less than 100km a week. I prefer the road racing type. I commute to work on my bicycle and ride home at night with a light on.



Tetsuya (or "Tecchan" as he goes by) catching up on his favorite reading and envying the wool beanie on Andrew's head. We gave him one, too...and then we had to cover the rest of the crew, as well.

When your frame business is slow, do you do other kinds of work?

In the past, we have, but no more. We did a rack for military heavy armor vehicles. The government ordered them.

A rack? For what?

I think it was to hold a machine gun.

Whoa. That's a question I wish I hadn't asked. The good kind of machine gun, I trust; perhaps props for the movie industry.

And we made some chairs for barbers. But we are done with that. The Rivendells take a lot of time! We make only bicycles now.

What would be your ideal bicycle ride?

Somewhere along the coast, nice weather, no wind, the country. It doesn't matter. Close to the sea, about 20 degrees Celsius, not any particular place. Just with many women. I haven't ridden much outside of Japan. One time last year I rode some in San Francisco.

What do you think the future of bicycles is, and how will Toyo, a small frame shop, adapt to it?

It is a difficult question. There is a large gap between what we produce and the mainstream market. We have the chance to learn about this through orders from customers like you.

Well, I've heard that line before, and it always makes me feel funny. We are not a good "window to the market," or a barometer for bike trends, so you won't learn anything valuable from us. It seems as though you'll probably have to build with other materials and other methods, too.

This is Toyo.
Front row from the left: Naoto Shibuya, President Masaaki Ishigaki and his wife Yoshie, Kazue Nishino; Back row from left: Ryoichi Inoue, Tetsuya Ishigaki, Tomohiko Maezawa, Kenikichi Yamamoto, Manabu Shimizu.

Yes, I think so, too, but we want to pass our methods on to the next generation. Of course, we need to build with various materials—carbon fiber, aluminum—to respond to the needs of the times. I don't think that there are restrictions as to what we can do, like we should do it this way and not that way. We want to make bicycles for everyone to ride.

Sure enough, but we'll do our best to keep you behind the times with lugged steel. Anyway, what is the hardest thing about making bicycles and having your own company?

The worst thing is having to deal with complaints from clients. It's the worst thing, yes.

I hope we are low-maintenance. You know, we like the bikes a lot. What's the best thing?

The best thing is understanding the customer and to be able to make something that fits perfectly to what they want. It is our mission.

How long do you expect to be building bicycles, and do you have any hobbies?

As long as I can, I want to build bikes. I like to build them! Yes, I have hobbies. I also like fishing, golf, and especially surfing.

And your family?

I got married seven years ago, in 1996. My daughter, Rui, is now five years old, and my son, Yuri, is almost two years old. My wife is named Yuki, and is a homemaker. She wants to go to Hawaii and San Francisco, but we are busy, of course.

Well, maybe something will work out next year, so she can come over here. The yen is killing the dollar, driving bike prices up, so she'll be able to buy more stuff cheap.

How Good Is a Toyo-Built Frame?

It is as straight as a frame can get. It is strong. The bridges are in exactly the right spot. The fork rakes are consistent and beautiful. When we order the rear spacing at 132.5mm, that's what they measure, exactly. Because of our reputation, our customers (that would be you folks) expect perfection from us, and that makes me nervous. But we couldn't be more confident of our Toyo-built frames. Frankly, they're superior in so many ways to many frames that cost even twice as much. I don't know how they can be made better. Joe Bell paint? Well sure, but that's an 8.5-hour paint job. The paint on a Toyo-built frame is NOT up to JB standards, but is excellent and appropriate for a bike that costs less than half what a Rivendell costs, and the underlying frame is superb, made with great care by skilled builders. It will likely last you the rest of your life. I don't think any production frame on the market is in the same league as the frames Toyo makes for us.

We've sold close to 1,600 of them so far, in the past five years, and if you have one, you've got a great bike, and our deepest appreciation. Of all the things we do here, probably the most satisfying is bringing frames of this extremely high quality down to prices that most employed people who like to ride bikes can afford. This coming year we'll introduce a few others—the Saluki, the Glorius, and maybe even a Bombadil. *—Grant*

Help! We need some bodies...

Over the years, we've made a point of not trading the names of our members with other groups who want to sell you things, and we don't intend to start now without your permission.

Here's the deal, though: our membership is stuck at about 6,000, and nothing we have done to boost that has worked. Lots of you have been great about sending names of people who might like a copy of the *Reader* and buying memberships for unsuspecting friends and family, but still the number stays about the same. Rich here has sent off thousands of catalogs to rides and tours. We get members that way, too, and yet, the number is still Six Thou or so. At 6,000, about 16.5 memberships expire every day.

Every once in a while, we get a call from a good, solid, like-minded company or non-profit organization that would like to trade member/subscriber names with us. We say no, because of The Promise of No Trading.

We need 10,000 members. Finding new people interested in our kinds of bikes would help tremendously, and trading names is a no-cost way to reach them.

So, here is the question: if we traded some names and addresses (but no personal info like phone numbers), would it be terrible? You might end up getting three or four catalogs a year. They might even be interesting.

Could you live with that? If you absolutely don't want that to happen, contact me (john@rivbike.com) and it won't. In the topic bar list NO TRADE, and then just list your name and member number if you have it; and otherwise, your address. We're just trying to get new members, and this will make that easier. No matter what your answer, we appreciate your ongoing support.

—John Bennett, Membership Guy

Is This The First *Rivendell Reader* You've Seen?

Well holy mackerel! and please give it a good looking over and consider subscribing. You've already missed out on 30 other issues, and it's time to stop the madness.

The *Reader* will expose you to things that may change your whole approach to riding for the better, and never, ever, for the worse. You learn things in it that you won't learn in any other cycling publication. You'll read lengthy interviews with interesting people, points of view and opinions, and technical information that all cyclists ought to know, but few do. That's a promise.

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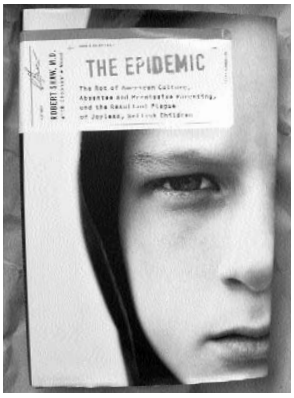
3 years, 15 to 18 issues, at least 600 pages: $35

With either subscription, you get our catalogues, too, and $10 off your first order. That is so, so cheap.

Good Things Review

The Epidemic (a parenting book)



Written by a guy named Robert Shaw, who runs a family health group in Berkeley. If you are a parent and want to prevent a bad relationship before it happens or repair one that's already far gone, get this book. Mainly, you won't feel so helpless. You won't be so quick to accept sullenness as an inevitable phase that all teens must go through. You'll know what to do to prevent that. You won't throw up your hands so readily, and you won't be afraid to talk to your teen for fear of breaking the peace. This book is incredible. If you read it, you wouldn't wipe out its lessons for $25,000, and it's almost inevitable that you'll push it onto your friends. That's okay—if they don't read it, they wouldn't have, anyway, but if they do, they'll be glad for the tip. This book offers hope for happy times, and tells you how to raise kind, empathetic, communicative children. It's not always easy to read without getting defensive for past infractions, but if you can get beyond that and want a good tool to help you repair or prevent damage, get it. About $25. Published October 2003.

Vitruvian Running Shoes

They're designed by two guys who used to work for Famous Running Shoe Company but got tired of designing super-techy shoes that made you pay for buzzwords, promotions, too many overlapping models, and technology that justified a higher price without helping the shoes. These fellows know shoes inside out. They know what works and what counts, and all they know goes into these.

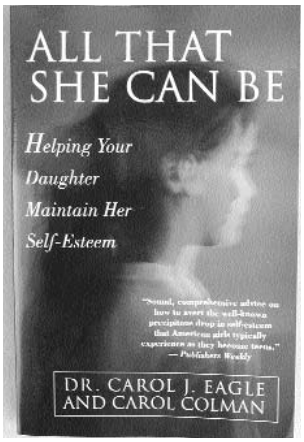
There are two models: one for narrow to medium feet with medium to high arches, and one for fat flat feet. That's an oversimplification (read the details online), but they don't dazzle you with selection, so choosing is easy. I think by now most thinking folks have figured out that, given Abibi Bikela's barefoot gold medal in the 1960 Olympics, and the 2-day run-and-kick-the-leather-ball-around games of the Tarahumara Indians and the shoes Billy Mills and Frank Shorter and Bill Rodgers seemed to do okay in, that the days of epoch-making technological advances in running shoes are gone, if they ever existed at all. But you still want good running shoes that'll support, feel good, and last decently. And, you don't want to be duped into paying for an $85,000-a-year guy born in 1979 to drum up and put a good spin on a new marketing gimmick. But often, no choice. Well anyway, these seem to be the no BS answer. Mark (see the feet) likes his.

www.vitruvianrunning.com

Wilson Pee-Wee Football

The footballs we played with as kids were never as balanced as the real Pro balls, but they were cheap and good enough, and that was that. But now Wilson has a series of cheap footballs that, if you can get over the fact that they're made 90 miles northwest of Shanghai in what used to be Panda heaven before the clear cutting (I don't know that for a fact), these knock those old balls out of the stadium. They come in different sizes. I like the small Pee-Wee, made for ages seven to nine, because it makes me feel like my hand is huge and I can chuck it a mile. The surface feels like real leather (though I doubt it is), but it's been "tackified" as it says on the box. My first reaction was, "holy downfall of civilization, they're making things too easy for today's sissy-boys!" but I quickly fell under the spell myself, and I like it. This ball is modeled after a pro ball—same graphics and all—and it's super well balanced. It's small enough to fit into a Little Joe. You can take it places you wouldn't take a bigger ball. It's really remarkable. I got mine at Target for $17. If you used to play when you were a kid, get this ball. It feels so good in your hand, and it's easy to throw and catch, even indoors.

All That She Can Be (another parenting book)



Another book review. This book is about raising daughters, which again eliminates a lot of you, but not all, and it stands out above all others I've read in the considerably gigantic field of How To Raise Daughters books. It's subtitled *Helping Your Daughter Maintain Her Self-Esteem*, but I suspect the decision to give it that subtitle happened at the start of the self-esteem movement, about ten years ago. Anyway, it tells you how to talk to her about the changes she goes through during adolescence, and about boys and dating, and what to do if you don't want her hooking up with creeps and sleazeballs. It talks about early, normal, and late-bloomers; and appearance, peer pressure, drugs and alcohol, and how the experiences you had as a child affect how you react to things she does; and how to let go of that when it's not good. It's easy to read and not clinical. Honestly, a page-turner.

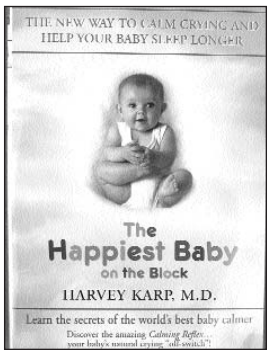
If you have a daughter or know somebody who's looking at daughtering books, give this one a try. Written by Dr. Carol Eagle and Carol Colman. About $12.

Russell Lace-Up Oneidas

Oneidas, left (on the right foot); and country oxfords, right (on the left foot). Wear one on each foot as shown, and you're ready for anything.

If you spend much time outside on unpaved ground, just milling around looking for things or doing chores, and you like really nicely made things and boar hide, genuine Russell Oneidas are the best moccasin-shoes on earth. Russell is an old, old company from Berlin, Wisconsin, and makes shoes today just as good as they made them 70 years ago. All Russell shoes are moccasin style, with the raised seam around the toe box; and they make models suitable for country-woodsy pursuits. Ninety percent of what they sell are custom-made for your feet: you send a tracing and take several measurements, pick a model and tell them what sole and leather (or go by their recommendation), pay between $125 and $400, wait about 2 months, and the next thing you know you have the best pair of shoes within 20 miles. MOST RUSSELLS HAVE NORMAL, HARD SOLES, but these Oneidas have a triple-thick sole of boar hide, and let me tell you—nobody can make a monkey out of you when you strut around the forest in your boar hide moccasins. The sole is thick enough to protect your foot from even sharp rocks, and soft enough to let you feel the ground's contours. This pair of shoes is the most comfortable I've ever worn—it almost beats barefoot. (I put an arched insole in mine, but I do that in all my shoes). Whether you like this style or want something else, don't go buying any leather woodsy shoes or boots without looking into Russells. To get a free catalogue, call (920) 361-2252. Or visit online: russellmoccasin.com.

The Happiest Baby On the Block (video)

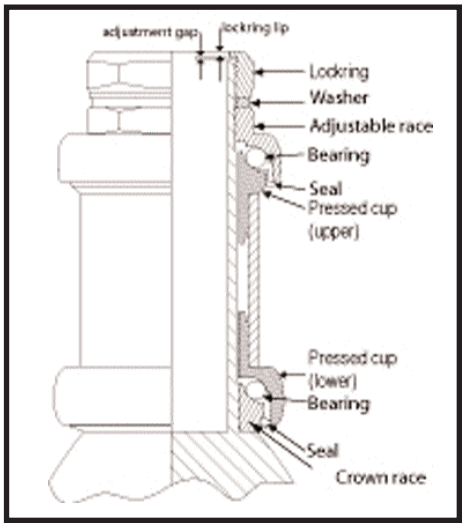


Baby doc Harvey Karp should be on a coin, and if you have a newborn, are planning on getting one, or know somebody who falls into one of those categories, you need this 72-minute movie. It's also a book, but a movie makes more sense—new parents can watch it together, and who knows when they'd get around to reading the book. According to Doc Karp, humans are born too early, because they'd never make it out if they were in there another three months. But the first three months of life, they aren't ready for the real world, so you should treat them as fetuses in the fourth trimester. Example: when they're in mom's tummy they're used to being confined, bounced around, and hearing the swooshing of blood, and lots of external noises to boot. Then they get born too early and cry a lot because they're not used to the strange new environment. PLUS, and this is a biggie, there really IS a "calming" reflex, and he tells you how to trigger it. He got his ideas by studying baby-tending techniques in other cultures, where babies wail so much. Anyway, it's important to have happy babies and happy and confident new parents, and this book will go a long way toward that end. Every new parent should get one of these free. If you are about to become a parent or grandparent, and you're a Riv member, we'll send you one free, postpaid. Limited to the first 50 faxed or mailed-in requests. Specify DVD or VHS, English or Spanish. If you don't make the first 50 and you want to buy one and can't find it locally, the price to Riv members is $10 for the VHS, $13 for the DVD (about 48 percent off the normal price). We just want to get this potentially life-saving hour-long movie into the hands of parents. Contact us the usual way, and don't squawk if you don't make the freebie cut. In either case, please use part numbers. And add $5 freight, unless you tack it onto another order, which wouldn't be the worst thing in the world.

ENGLISH VHS (31-378, $10); SPANISH VHS (31-379 $13); ENGLISH/SPANISH COMBO DVD (31-380, $13)

Horner 'Splains Headsets

Bill Horner is not only one of the smartest bicycle people I know, but also quite a) the artist; and b) meticulous. Since headsets styles are changing so rapidly, I thought it would be good to have a few pages about the different styles, and Bill agreed to do that for us. —Grant



Threaded (traditional) Headsets

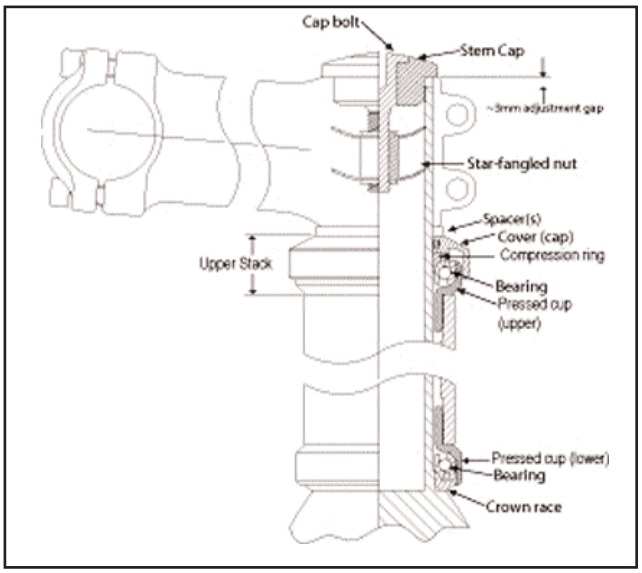
Less than 20 years ago there was only one basic headset design readily available, and it had dominated since the 1880s: the threaded headset. It generally uses ball bearings (usually in retainers) running on cups and cones pressed onto the head tube and fork crown, and also threaded onto the steerer tube below the locknut. You secure the adjustment by a locknut threaded onto the fork steerer tube.

This design didn't evolve, succeed, and survive by accident. There's a certain genius behind this design. The idea of having balls which can ride up and down the slopes of the cups and cones as the fork is turned makes the system inherently tolerant. The accuracy of machining and facing can be off a little and the balls still roll smoothly. What we have essentially is a simple, reliable and inexpensive way to get adequate or better function and life. This is why it's so common in hubs and all sorts of other rotating parts like bottom brackets. It works well and is smart.

Its Achilles heel is that eventually it will pit. The bearings do not go around in circles (as on a hub) but move over a very narrow track as you make small corrections in steering, and over time—several years, usually—all the road vibration creates little dents on the cups/cones. When you rotate the bars (say on a bike repair stand) and you notice the headset 'locking' in straight ahead, that's what it is. It is not a safety concern, but is the chief reason for headset replacement, something which is not overly expensive, time consuming or complicated. Using more balls (i.e. loose balls), or changing to a ball retainer with a differing amount of balls, are strategies to delay pitting or to avoid existing pits on the cups and cones, to get more life from your headset. Some 'heavy duty' headsets use larger balls, but the headset must be designed for these. Some threaded headsets use roller or needle bearings in an effort to create more contact area and less denting — but tolerances will need to be closer in the machining of the frame/fork to avoid loose and tight spots when the headset is adjusted, as now the slopes must be 'straight' instead of with a curve. They aren't as tolerant. You might think, "Well, just make the interfaces perfect!" But perfection is never possible, and tolerance that allows a part to function in an imperfect environment is always good.

The other great thing about the traditional threaded headset is that its adjustment doesn't impinge on other parts of the bike. You can add brake hangers, light brackets, etc. where space exists—under the locknut. You can remove or adjust stem height without touching the headset at all. Those are no small things.

During the mountain bike boom of the 1980's, designers started playing around with tubing dimensions, which encouraged a rethink of the basic threaded design; and once Pandora's box was open, it could not be closed again. We now have 1-1/8 inch, 1-1/4 inch and 1-1/2 inch fork steerer sizes in addition to the familiar old 1 inch (not to mention kids or BMX sizes) and various of these are found used both with the "traditional" threaded headset and the newer types.



Threadless Headsets

From this background arose the now dominant Ahead® threadless design, which afforded the promise of lighter weight but at the price of restricted stem height adjustment. Threadless headsets have a compression nut at the top of the fork steerer, and a stem which is clamped to the outside of the steerer. For mountain bikes with high rise stems the substitution of a direct clamp stem (over the heavier traditional quill type) was no big issue in terms of rider position, which tended to be less critical than on road bikes (generally speaking). But over time this design has come to dominate, and virtually any of the newest headset designs in the last three to seven years derive from it—directly or indirectly.

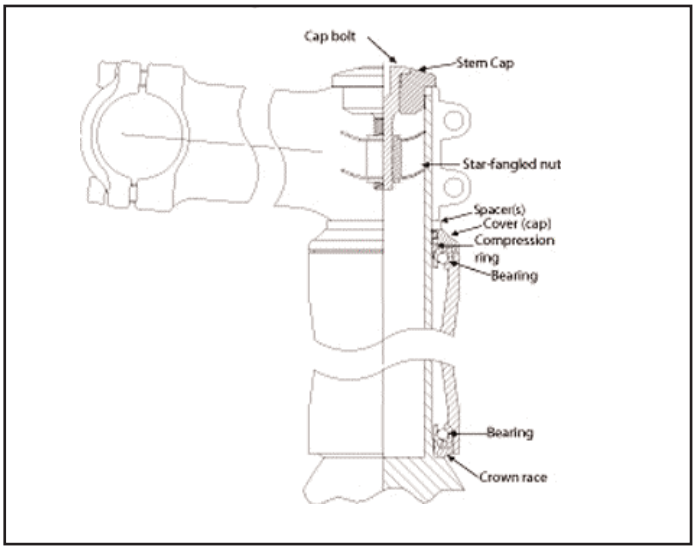
Quite honestly, this system is about as reliable in service as any comparable threaded headset and combined with a front-opening stem, makes it easier to change stems or handlebars.

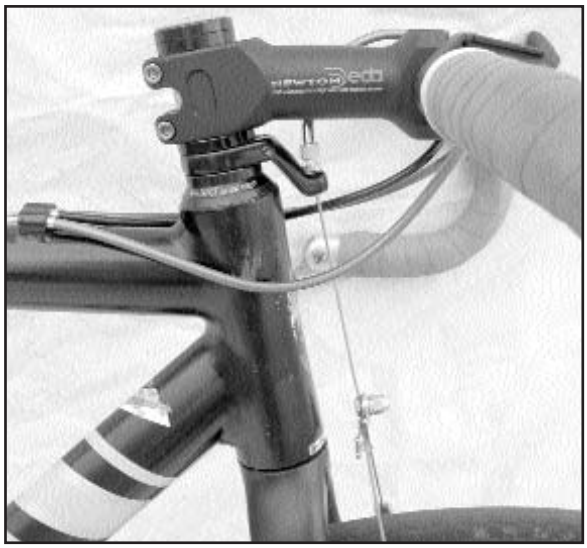
The Ahead® threadless system is generally a cup/cone system so shares the same kinds of overall function and longevity issues as the threaded headset and yes, the some kinds of tricks can be applied to extend its life. Also as with the threaded headset, versions are available using roller or needle bearings — with all of *their* pros and cons.

Rivendell's Position On These Two Styles

(Not that it should be yours too, but just for the Congressional Record)

We prefer the traditional threaded headset, because it makes stem adjustments easier, and that's a big deal here. But even without the stem adjustment, it's a simple system that works. Anybody who says the threadless way is a huge advancement—well, it's just not so. Threadless has advantages for manufacturers, and it is a smart way to go also, but it's foolish to go that way unless you can get your bars up where you want them. You shouldn't "go threadless" just because it's popular any more than you should listen to profane rap because IT'S popular. Don't do ANYTHING just because it's popular—basic stuff, there. In any case, we're going to have a threadless bike next year, but we'll have worked out the bar-height issues ahead of time. Threadless can be good. There can be more than one good.—GP

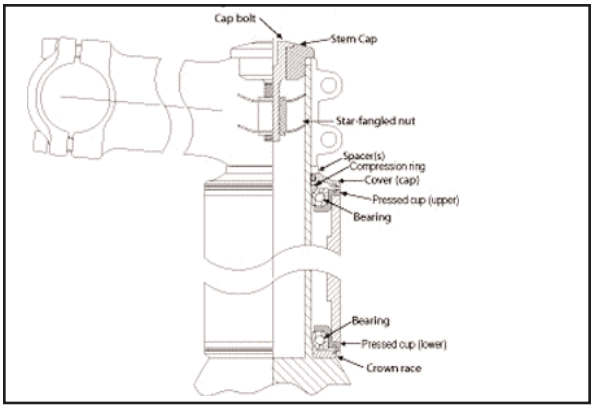




Integrated Threadless Headsets

The first 'non-traditional' Ahead® design to get real use was the **integrated** type, which instead of using bearings on cups pressed into the head tube, dispensed with the cups altogether, and pressed cartridge bearings directly into the head tube. This can create a 'cool' looking installation with the headset being hidden inside the frame, but practical problems resulted from the headset working loose (tolerance and surface contact problems, at least on the earlier designs).Integrated headsets use the Ahead® system of adjustment but require a bigger head tube to bury the bearings inside the head tube to create a flowing look. Bigger usually means heavier, and bigger usually means the other tubes of the and bikes now look disproportionate and must also be ramped up in size to create a harmonious whole. The fork crown is also adjusted upward in size to match the other tubes, and this creates yet more weight—all other things being equal.

Two Competing Standards: Cane Creek vs Campagnolo



Cane Creek integrated headsets use cartridge bearings (newest being "angular contact" type whose balls take the loads both vertically and horizontally, somewhat like traditional cup/cone bearing systems). Campagnolo's *Hiddenset* uses balls in a retainer. In either case the head tube machining and headset fitting must be done precisely, to get a good non-binding adjustment.

One Big Integrated Con

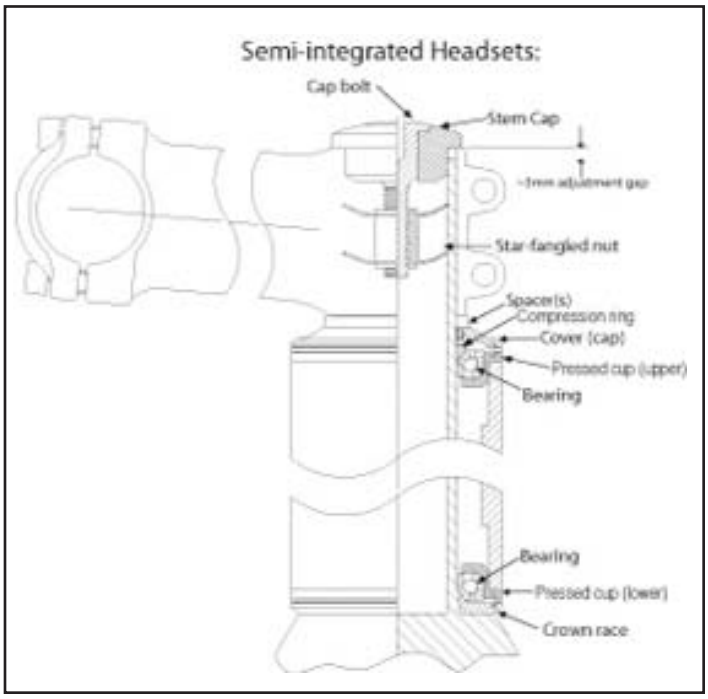
When an Integrated headset wears out, you replace the whole frame—because the head tube is part of the headset. This is the strongest argument against integrated headsets. Manufacturers recognize this, and it lead to a new design, the "semi-integrated threadless" system, shown on the next page.

Our Position On Integrated Headsets

They're foolish, and the fact that fast riders ride them is irrelevant. It is dumb to support a bearing on a shouilder inside the head tube, then stress the shoulder to the point where it deforms. Eventually it will. PLUS, with handlebars being too low already, what's the benefit to a sunken headset—which only keeps them lower? Aerodynamics? Holy smackerel, at what cost, for whom, and who cares? You often hear the integrated headsets described as "sexy." *What?* That's awful. Bike parts should not be described that way, but to me they look ugly & malproportioned. New doesn't *mean* good, and drop the "sexy"!—GP

Semi-Integrated Threadless Headsets

This style uses compact cups partially buried into the head tube—to keep a semi-flush look. Overall you could say it is a marriage of integrated (looks) with traditional Ahead® (construction), trying to extract the best of both. This design is getting a lot of play right now on road and mountain bikes and is being pushed by Cane Creek in particular as preferable to integrated, which it is. Most of the features resemble integrated (big head tube, big fork crown), but headset replacement (and frame life) will be more like that of the traditional Ahead®.



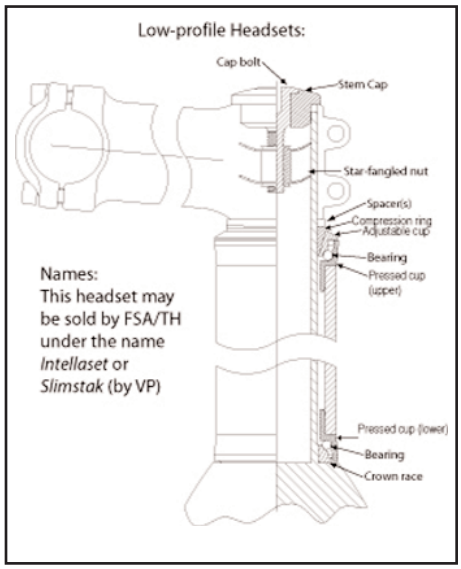
Rivendell's Position On This One

(And whose wouldn't it be?)

They don't look good and they make it harder to raise handlebars, but anything that takes business away from fully integrated headsets derserves a standing ovation and our full support. Go, semi-integrated!

Low-Profile Threadless Headsets

This is yet another attempt to milk the benefits out of the Ahead® system and create a newer look. This uses conventional (but slim) external cups on the head tube, but the head tube is sized slightly up and the cups slightly down (relatively speaking) so the appearance is fairly flush. In reality it can be considered a subset of the traditional Ahead® except that some of the fit dimensions (in some of its incarnations) are just a little off-standard. Some Taiwanese companies are pushing this, but it is unclear whether it will crop up much on better bikes, especially given the other choices — and where the other headset makers, Rose-like, are placing their bets.



What We Think

A low profile threadless headset is a fine-enough design mechanically, but I don't get the point of the sunken look. It's not as though headsets are inherently ugly—so what's to hide? All sinking them does is make it harder to raise the handlebars. You shouldn't do something stupid unless you have a good reason to.—GP

Notes:

The Threaded, Semi-Integrated Headset

This is the true mongrel of headsets. It's intended for legions of trekking and comfort bikes in the far reaches of Europe which need maximum stem height adjustability. With this type, you use a quill stem and a threaded locknut (as in a tradtitional system). But in other respects it is just like a semi-integrated system (big head tube and semi-flush cups). I feel it is mainly intended for Europe, on less expensive aluminum framed bikes on which oversized tubing is desirable especially for marketing reasons.

Rivendell's Position…

Not worth a picture and we needed the space to make room so the other articles could flow. If you absolutely must see it, send a blank CD-R to us.

Recycling-based Innovation

Bike makers often have overstocks. What do you do with 20,000 excess 1 inch forks when you have frames needing 1-1/8 inch forks? Well, to save money you pressure headset makers to make a 'bastard' headset, whose head tube cups fit 1-1/8 inch but whose fork race fits 1inch but still mates up with the bigger cups. This has happened more than once. There are still other non-standard combinations, and it is a matter of opinion whether you should shudder or consider them inspired design.

Looking Back

Bianchi had a threaded headset with built-in cups in the 1950s. Today's integrated headsets are resurrecting the same problems. And Klein had a flush headset years before the latest integrated designs. So, headset design hasn't been exactly static since the first bike, although those "alternative" designs have shouldered their way into the mainstream. If we were to read the tea leaves today, what should we say?

1. Well, the standard threaded headset remains an excellent design with many benefits. It may weigh a little more but offers easy height adjustment. But it won't be mainstream anymore because it isn't compatible with carbon forks (the quill stem will split the weaker carbon steer tube), and that's about 98 percent of the market. Steel fork fans don't care.

2. The now-ubiquitous threadless Ahead® is also a good system if you can live with the stem issue, now substantially minimized, and with extended steer tubes, spacers, and clamp-on stems in a range of angles. I don't consider it a major advancement, but if you can get around the stem-height issues, it's a good way to go. If you want to ride a carbon fork, it's *the* way to go.

3. The semi-integrated is a better design than the fully integrated headset, but offers no advantages not covered by the now-standard threadless style. Makers like to tout its "sexy" looks, but that's a matter of opinion. Some folks think it looks hideous and ill-proportioned.

WHAT DOES THIS ALL MEAN?

Well, designers and product managers want to be leading-edge, create trends, and give you a reason to "upgrade" from whatever kind of headset you had on your bike last year.

We shouldn't begrudge change, but neither should we consider it a panacea for all that ails us, and this certainly is as true with headset "progress" as anywhere else.

If you want to know more about headsets or about other parts, the upcoming *Sutherland's Handbook for Bicycle Mechanics, 7th Edition*, will be out this spring 2004 and will cover dimensions, standards, identification, interchangeability and other useful technical data pulled from a huge number of sources into one master reference book suitable for any diehard techie.—BH

Bill Horner rode around Europe one summer in the early '70s, worked in bike shops during college, and in 1977 he ended up at the original Schwinn factory in Chicago,where he worked in the product division. In 1981, after 3.5 years at Schwinn, he left to work for Bianchi, where he worked until 1992. At Bianchi, he developed the first modern hybrid, the "Volpe", and "Advantage." His Project 7 tires (700c mountain bike tires) predated the modern 29-ers by many years, but the timing was wrong. Bill also designed the first production 'top pull' front derailleur, anticipated top tube cable routing with a soon-to-be-popular guide system, made soon-to-be copied tire designs, and so on. Next, the Bianchi licensee in Chile beckoned, and Bill was soon running the product side down there. Stints at Wheeler and Felt followed, and currently Bill is working on a major revision of Sutherland's Handbook for Bicycle Mechanics, a $250 book that every bike shop in the country has, or at least should never admit to not having. On a personal level, I know Bill to be humble in inverse proportion to his knowledge.—Grant

The Ballyhoo-worthy QuickBeam

After conceiving it two and a half years ago, refining the design during the past year and a half, and ballyhooing it only now and then, we are proud and relieved to announce that one whole hundred QuickBeams will ship out of Japan the last week in February and land in the port of Oakland the first week in March. They'll all be green.

The QuickBeam is the best and most useful derailleurless bike we've seen. It looks like a one-speed, a fixed-gear bicycle, but there's twice as much to it than that, at least. It's a two-speed, and with an easy addition, could be four in a flash.

The QuickBeam has two chainrings, a 40t and a 32t. It comes with an 18t rear single-cog freewheel, resulting in a decent gear for flat to rolling roads, and a lower gear for uphills. Outside the two chainrings is an aluminum chain guard, which ought to be called a pants guard. The photo-bike in the photo doesn't have this, but the real bike will.

We were able to make the QuickBeam a two-speed with fairly wide range gearing because we designed a rear dropout with the right angle and length. It's not easy to design this sort of a bike properly, and have all things work out. For instance, if the rear dropout slot were horizontal, then as you moved the wheel back and forth to tension the chain as you changed gears, the rim would move out of alignment with the brake pads. So we made sure the slot was angled just right.

The QuickBeam is quite useful, because it has two brakes (cantilevers) and clearance for tires up to 700x40. So, you can ride it on the roughest of all roads and many trails. You can tour the worst streets in Kansas on it, and maybe Iowa, too.

As a commute bike, the QuickBeam is perfect (as long as your commute is reasonable!). It is easily fendered, and with eyelets for racks and baskets or panniers. It comes with Noodle bars (the drops shown above), but we expect many riders will retrofit Moustache or Albatross bars right off the bat. During the wet season, this is the bike you want to commute on. During the dry season, it's always a fresh change of pace. Not having the quick-shift option takes the pressure off of performing. The QuickBeam will take you for a ride, and you'll follow its pace.

Creative riders will find many ways to modify it for special uses. The quick-release rear hub is threaded on both sides for a single-cog freewheel, so even lower gears are easily had. The chain, as it comes, can handle any front + rear tooth combination from 50 to 58.

The QuickBeam is made just for us, to our specifications, by National/Panasonic, Japan's second biggest bike maker. The quality is superbe. It is lugged, butted CrMo, and will likely last you forever.

Bicycles: $1,300. Framesets: $900. 54cm to 68cm. Availability: Starting March, but they'll likely be sold out by then, so if you want one, please call and be prepared to deposit $200 toward yours.

To order: 1 (800) 345-3918. Thanks.

Lower Back Pain

—The Pain You Won't Live Without—

by Riv member first/Mayo Clinic doctor second, John Reach

John Reach, M.D. is a second year resident in Orthopedic surgery at the Mayo Clinic in Rochester MN. He received his undergraduate and medical training at Yale and at Georgetown. Ultimately he joined Rivendell a few years ago, and has agreed to write a few medical columns for us, this being the second of them.

If you have a back, ride long enough, and live long enough, you'll get at least one case of can't-tie-my-shoes back pain. To understand it, you need to know something about your back. I can make that happen.

The lumbar spine is made up of five vertebral bones connected by six cushion-like disks that house and protect the spinal cord. Muscles around your spine provide support, stability, strength and power. They're active stabilizers. The ligaments are passive restraints. If you move radically, they'll pull your spine back into place, or signal you with pain that you're not moving right, so please stop. Musculoskeletal back pain may arise from any or all of these structures.

How Bicycles Fight the Drawbacks of Walking Upright

Non-primates are so lucky—they walk around on all fours, which is good for the spine and explains their lack of back problems. We, on the other hand, spend most of *our* lives standing, with the maximal force of gravity pushing down on our spines. Not so when we ride a bikes, though. Then our vertebra become less vertical, and the gravitational loads are distributed among our hands, legs, and bottom. That's why riding is one of the few activities that may actually relieve back pain.

But obviously something's going on, because back pain is common among cyclists. Sometimes people get into cycling with pre-existing pain, and cycling also has more appeal to older folks who come by their sore backs honestly. But we've all experienced pain after longer than usual or harder than usual rides, too, because cycling stresses backs in non-gravity ways—mainly road vibration and hyper-extension and flexion from a bad riding position.

There are three main types of back pain.

1. Lower Back Strain and Sprain

In active and healthy people, the most common pains are caused by muscle strains and ligament sprains.

A muscle strain happens when you overwork a muscle and create micro tears.

Ligament sprains are micro (small!) tears in the ligaments. They happen when you move forcefully beyond the ligament's normal working range. That won't likely happen on a normal bike ride.

There's no way to aggressively treat sprains and strains, but you can relieve some of the pain with anti-inflammatories (ibuprofen and others). And you can give your back the best chance to recover quickly with RICE. Before you macrobiotic types pump your fists and shout "I knew it!", bear in mind that in this case, RICE is an acronym for **R**est **I**ce **C**ompression **E**levation.

Unconventional treatments include ultrasound, deep massage, chiropractic and osteopathic manipulation, magnets, acupuncture, and moxibustion. You're probably familiar with all of them except moxibustion. You aren't missing anything. They all have their place, but they'll do nothing for strains and sprains. If these treatments feels good, employ them. It can be comforting to get somebody else in on your pain, and to feel proactive. It is a harmless way to fool yourself. With micro-tears in your muscles or ligaments, your body has to heal itself, and the good news is, it will.

Degenerative Disk Disease, Bone Spurs, Inflamed Joints and Arthritis

These are age-related "wear and tear" injuries, common in older people. As we age, our joints produce less lubrication and heal and replace themselves more slowly. Normal aging, coupled with genetic predisposition, leads to characteristic low back stiffness and nerve irritation. In most people, these changes are a gradual process and cause little direct loss of function.

Osteoporosis and Fractures

Trauma can lead to back pain. As part of a macroscopic injury, vertebral fractures, ligament and muscle tears, and direct nerve trauma lead to acute pain and loss of function. Traumatic injury accelerates normal wear and tear, as does age. Our bones reach peak strength early in adult life. Bone mass decreases every year after our 18th birthday, so old bones are easier to damage. You can drink milk and so on, but age will take its toll.

Treatment of fractures can entail anything from full-

blown 18-hour surgery (with implanted titanium cages, rods and plates) to benign neglect (no treatment).

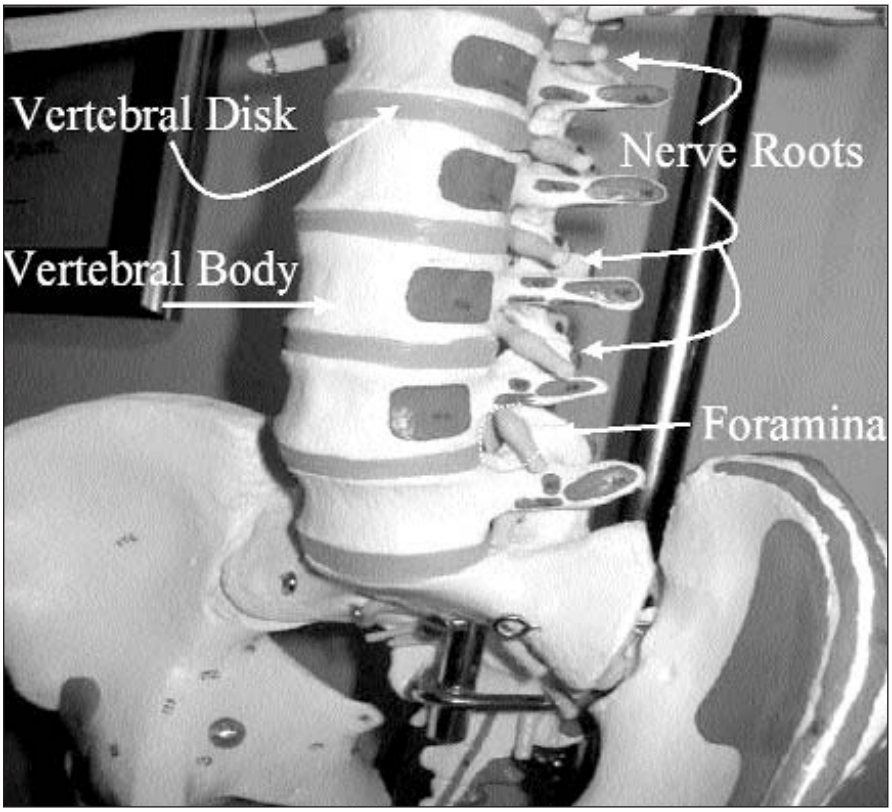
Slipped (Herniated) Disks

The cushion between the vertebrae are like a jelly donut with a soft center (nucleus) surrounded by a tough rind (annulus). As we age, the annulus develops cracks, and sometimes the jelly seeps through a crack and crowds a nerve, causing exquisite lower back pain. A herniated disk tends to produce pain "referred" down the leg.

More than 90 percent of normal 40 year olds who don't have back pain still have at least one herniated disk. So even if you have back pain and your radiologist shows you a herniated disk on your MRI, it doesn't mean that disc is the problem.

Back Pain That Starts Somewhere Else

Lots of things can cause back pain. It could be kidney stones lodged in a urinary pipe. Or shingles, which is nothing more than the chicken pox virus reactivating in a peripheral sensory nerve. Or problems with your pancreas or aorta. Heart attacks can masquerade as back pain, as can appendicitis.



This photo, which was *not* taken mid-surgery, shows somebody's lower back, the disks, and nerve roots.

Preventing Normal Back Pain

1. Don't ride too hard, too much too soon. Work up to it.

2. Don't lift heavy objects with your lower back.

3. Don't smoke. It decreases blood flow around the vertebrae.

4. Be light. The extra weight of a protrubing tummy is supported by your back, which isn't made for it.

5. Stretch properly and stay stretchy. No bouncing. Work on your hamstrings and hip flexors.

6. Strengthen your stomach. Do it before you're in pain, by the way. If your back is killing you, crunches are the last thing you need.

7. Ride more upright. It doesn't have to be straight up, but certainly get the bars up close to the saddle height; and if higher feels better, go there.

Yes, But What If My Back Hurts Now?

Get an examination. Your doctor will likely prescribe anti-inflammatories and will suggest a recovery program. Statistically, you have a 50 percent chance of total recovery within two weeks, and a greater than 90 percent chance of that happening within six weeks.

Beware of Bed Rest

Moderate activity actually speeds healing and recovery. In a study of 200 patients with musculoskeletal back pain, more than two days of rest quadrupled the recovery time.

Cut Your Doctor Some Slack

Don't be upset if your physician can't diagnose the exact cause of your pain. The exact cause of back pain is found in only 12-15 percent of sufferers. The other 85 percent generally get better without our knowing for sure why they had pain in the first place..

John S. Reach, Jr., M.D. is a third year Resident in Orthopaedic surgery at the Mayo Clinic in Rochester MN. This information is not meant to replace the advice of the physician who cares for you. All medical advice should be considered incomplete without a physical exam, which requires a visit to your physician. Contact the author at ortho_doc1@yahoo.com if you wish to make copies of this article.

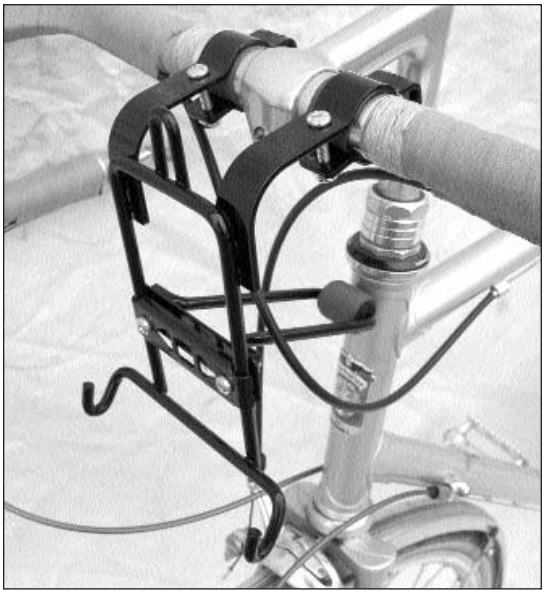
Wald's New Bike Basket

Wald is one of America's oldest bike-part makers, but maybe you haven't heard of them, because they're in Kentucky.

But if you rode a sub-$100 American-built bike between 1905 and 1990, you've likely ridden with Wald part. They've been making hubs, cranks, stems, handlebars, pedals, racks, and baskets for 98 years, and have been in the same location in Maysville, Kentucky, since the '20s.

Wald makes inexpensive parts for inexpensive bikes, and that being the case, and we being who we are and you being who you are, you may not have heard of them. On the surface, they're cheap bike parts. But there's an integrity to them that belies their low price, and what's more, Wald has always made available small parts for the hubs, pedals, and so on. You'd expect that from a high-end parts maker, but these days you wouldn't find it so often. You wouldn't expect it from a manufacturer of inexpensive parts, but Wald is good that way.

Top and directly above: The new wide version Wald basket mounted onto a road bike with Nitto 46cm wide Noodle bars. There's enough hand room for me, but if you might prefer the smaller basket. Note the wrap of bar tape on the brace, to cushion the head tube.



Here's the genius-ish part, the mounting bracket. We wrapped the stabilizer with bar tape so as not to wreck the head tube. Comes with clear instructions.

This, I believe, is the smaller of the two baskets—the #3114—on Albatross handlebars. The integrated handle (appearing on the far side as a double rim) locks the basket to the rack. Hard to 'splain, but easy to do.

But where Wald truly shines is in baskets. Before the influx of Taiwanese and Chinese bike accessories, if you saw a basket on a bike here, it was probably a Wald. From huge delivery baskets to clever collapsible pannier-style ones, Wald makes it, and they make it out of steel wire right there in Kentucky.

In the past, Wald front baskets were made just for one-speed bikes with coaster brakes. You could rig them on bikes with hand-brakes, but the basket got in the way of the cables. But Wald has just introduced two new models, the small-sized 3114 (at 11-3/4 x 8 x 9) and the large-sized 3113 (at 14-1/2 x 9-1/2 x 9). These models, with their mounting bracket, get my vote as the niftiest accessory since the LED light.

Baskets are popular the world over because they're handy. You can throw things in them and take off. The bigger one here will take a basketball. They're a better shape and structure for groceries than most bags are, and that statement doesn't exactly roll off the tongue, here in Bagland. But it's an undeniable fact, and we've gotten happy with it.

Baskets weigh more than bags, generally; and they don't keep rain out, and things can bounce out of them if you don't put a lid on them, or a strap or two across. But that's easy to rig up. For recreational use and touring, we prefer bags. For commuting, it's a toss-up, depending on what you're taking and how far you're going, baskets might be the way to go. For short rides in town and shopping, heavens to Kentucky-born Betsy, baskets slay the whole world.

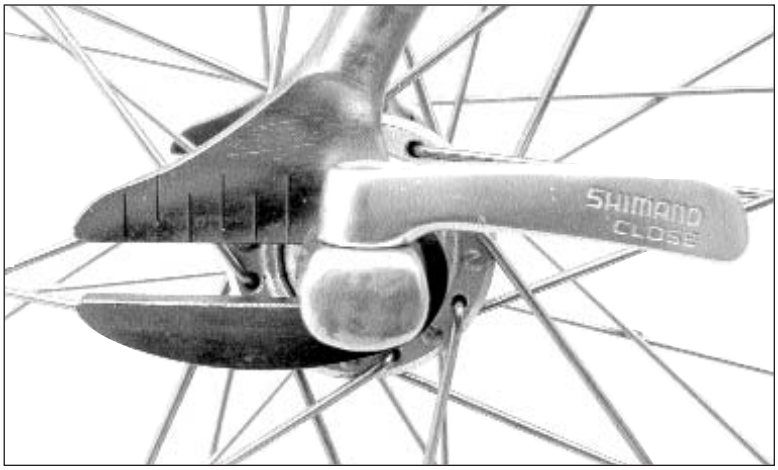
The magic of this new Wald basket is the mounting system. The bracket goes easily onto any bike, with almost any kind of handlebar (not Moustache H'bars, unfortunately—but it works great with drops or Albatross bars). The patented locking/attachment system is as simple as pie. It takes one second to install or remove a basket. If this basket were made in Germany, Japan, or Switzerland, it would cost $90. The quality is superb. The welds are clean, no rough edges. In Black or White only, and we stock just the black.

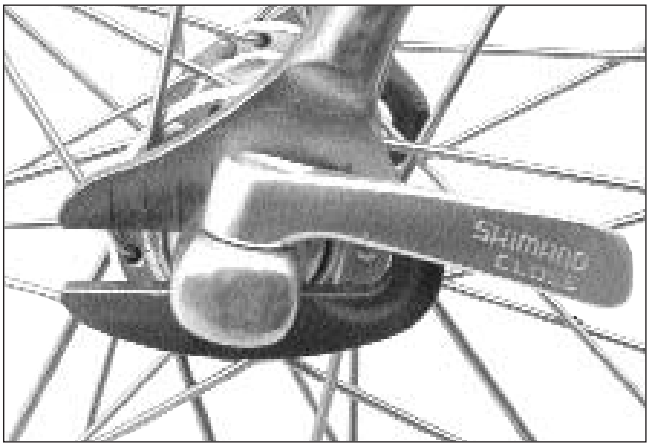
Everybody who's reading this now has at least one bike that could be made way more useful with a basket. This is the best one out there, and we're so excited about it that we've started carrying it. Maybe your local bike shop has it, too. Certainly any Rivendell-affiliated bike shop ought to. We're carrying them now, too.

The big one weights 2lb. 7oz, and if you use it on drop bars, they should be 46cm or wider. What's wider, you ask? Well, it's lil' known fact that we have Noodle bars in 48cm (#16-128, $52) For use on drop bars narrower than 46cm, get the small one (2lb 5oz). On upright bars, either goes. They don't mount on Moustache H'bars, though. *Shoot!*

Small basket and bracket: Wald part no 3114, our part no, 20-097: $20

Big basket and bracket: Wald part no 3114, our part no, 20-097: $20





We should have shown it with the quick-release on the other side, but you can figure it out. Upper left: special dropout we had made just for this project. Then clockwise from top right: All the way back, simulating 30mm of trail; all the way forward, and 65mm; and in the middle, so about normal (60 or so). After this, we just had fixed-rake forks made with no rake and with 65mm of it. Read the text for more…

Experiments With Rake & Trail

Fork rake is how much the front wheel is offset from the steering axis—a straight line through the center of the head tube. The aspect of the bike's steering geometry that's affected by fork rake is called trail. Don't confuse it with a trail you ride on.

Road bikes typically have between 2-inches (50.6mm) and 2 1/2-inches (63.5mm) of trail, and bike journalists who've written about trail have said 2 1/4-inches (57/58mm) of trail makes a bike not too quick, not too slow, just right.

Trail theory says that more trail makes a bike easier to control at high speeds and over rough ground. Mountain bikes typically have between 2 3/4-inches (69.8mm) and three inches 76.2mm) of trail.

Less trail, according to theory, makes a bike easier to control at slow speeds, but harder to control when you're going fast, hitting bumps, or both.

Trail is affected by: (1) the wheel radius; (2) the head tube angle; and (3) the fork rake (offset).There are three ways to increase trail:

- **Bigger front wheel.**
- **Shallower head tube angle.**
- **Less fork rake.** Most folks who start thinking about trail temporarily get confused at least three times, and think more rake makes more trail. *Nupe*.

To calculate trail using arithmetic:

Trail = Wheel radius/Tan. of head tube angle minus fork offset/Sin. of head tube angle.

If that's Greek to you, we should be in the same club. I have it programmed on my computer here, so I just plug in the numbers and there you go…

How Trail Affects Our Frame Designs

When I design a Rivendell, I find the typical tire the rider will ride, and then the biggest. For all-purpose road riding, I shoot for 60-61mm of trail with the most common tire. That's more than what "experts have said" results in neutral handling, but they are not the boss of me. Nor should they be of you!

Then I see what the trail is with the largest tire. Normally a customer will say, "I'll ride a 700x28 most of the time, but there are some fire roads here, and I'll ride 700x35s when I go there." Well, that works out just fine, because the bigger tire will increase the trail, making the bike better for the fire road (so goes trail theory).

Most frame designers have a trail figure they're comfortable with, depending on the bike's intended purpose. But some copy other manufacturer's geometries—not a bad thing to do, and I hope we haven't reached the point where somebody out there considers Xmm of trail to be intellectual property. Finally, some builders just know from experience what works, and don't think about trail. That's fine, too!

Trail Variations Ridden On the Romulus Bikes Used For This Test

Rake	Trail
0mm	105mm
30mm	73mm
42.5mm	**60mm***
65mm	37mm

* stock and normal

In Italy in the '80s it was common for the top makers to put 45mm of rake on each fork, regardless of the frame's head tube angle. The big bikes, which almost always had steeper head tubes, didn't have much trail, but the little bikes (with slacker head tubes) had more than plenty. I wouldn't say that's all that fine; in fact it seems odd to me. But these same Italian frames were ridden to many prestigious victories, which will impress those in the "results speak for themselves" camp. I'm in the "trail doesn't win races" camp.

When you first learn about trail, you may find yourself getting obsessed. It happened to me and I've seen it happen to others. Trail is interesting, but it is not the sole 'splainer of bike handling, something nobody knows better than Waterford's Marc Muller (more on him later).

The Educational-Type Fun Begins

FOR ABOUT SEVEN YEARS I'VE WANTED to experiment with trail by getting some forks with adjustable rakes, so we did. We also got non-adjustable forks with no rake, and with 65mm (whopping lot) of rake. You can do that when you have your own bike company and a publication to get out, but it takes more than snapping your fingers.

The bikes are 59cm Romuluses. The Romulus is a road bike with what I think is a perfect geometry for all-around road riding. Pertinent to this story, it has a 73-degree head tube with 42.5mm of rake, which, with the stock Ruffy-Tuffy tire (343mm radius), results in 60mm of trail. It is as familiar to me as it gets.

We equipped three bikes with different forks—adjustable rake, 0mm rake, and 65mm rake; and of course we have a normal one, too (42.5mm rake), so really, four. I rode it up and down Mount Diablo and the local streets and roads. I rode it loaded and unloaded, on smooth and rough ground, holding onto the bars like you're supposed to, and no hands; over speed bumps (with hands and no hands), with a heavy basket, and at different speeds.

The Problem With This Test

It combines objective numbers and subjective feelings, and what *I* feel may not be what *you'd* feel, because maybe we're used to different bikes, or one of us is more sensitive than the other. Also keep in mind that describing bicycle handling with normal language isn't always satisfactory. What I call "quick" might not feel so quick to somebody who's used to a 1987 64cm Ciocc (rhymes with "poach") Italian racing bike, for instance.

Then this: I headed into this test knowing it would make a *Reader* story, and I found myself looking harder for things that I might not notice normally. I went out hoping to find hugely noticeable differences, and any nuance of the bike that suggested that got pounced on promptly and may be overplayed. I'm not saying I couldn't tell a difference, I'm just saying there's a natural tendency to overstate the differences for the sake of a good story, even when I'm aware of that phenomenon.

But After All That, Here's What I Think

I could get used to any bike here. Off the bat I'd say I'd have a harder time getting used to a bike with too much trail than I would to a bike with too little, but bikes are fun to ride no matter what, so I'd get over it.

Also, I suspect the differences in the extreme versions tend to get neutralized when you're on the bike manhandling it. I think this because the biggest difference came out in no-hands riding—the low-trail bikes were easy to ride at slow speed, where the tons-o'-trail bikes were hard; and at high speeds it was just the opposite. But at slow or high speed, as long as I had my hands on the bars, it didn't seem difficult either way.

As a bike designer, I find that quite comforting, but I still work hard to thread the needle. (Go to the next page now.)

Straight forks, eeek! Not a good look in my book, and with no offset (rake), it resulted in a world record 105mm of trail. The bars are tilted too much here. I didn't ride it thataway...

How This Bike Rode

Slow, no-hands: Too hard, I couldn't control it..

Fast, no hands: Easy. No tendency to wiggle. Felt more secure by far than a normal bike.

Flat road, cruising: Okay, but it didn't tilt nicely, and so it felt like a bike with a high bottom bracket (to me).

Flat road, sprinting: Smooth, not floppy side to side. You know when you sprint, how you can keep the bike vertical if you muscle it? This bike didn't take any muscling.

Steep climb, no traversing: Felt fine. I'm used to more tilting than this, but I didn't hate it or anything.

Steeper climb, traversing: Bad. At the turns, the bike felt funny, like once the wheel was turned maximally, it wanted to turn even more. I think that's called *wheel flop*.

Fast descent, straight: Good, really secure, no problem.

Fast ddescent, twisty: I'm accustomed to more tilting and easier leaning. It would be good for New Descenders.

Bumpy dirt climb: Felt fine. I expected it to be hard to control, but it wasn't.

Bumpy, twisty muddy descent: It felt fine. I had to be alert, but no less or more so than usual.

Flat road extreme slalom: Yuk. During the turns, the bike seemed to rise up weirdly, and with one turn after another, it was irritating. Not good slalom geometry.

Pushing bike up bumpy hill with hand on saddle, no hands on the bars: No problem; at least no more than the other bike. It felt normal. I expected it to be hard to control, but no.

Just to keep things lively, we built up this bike left-side drive, right down to the decals. 65mm of rake, only 37mm of trail. I quite like the look of lots of rake.

How This Bike Rode

Slow, no-hands: Easy, no problem, like a normal bike.

Fast, no hands: Too wiggly. The bike didn't shimmy, but the front wheel felt too light, ready to flop and crash me.

Flat road, cruising: Great! I want one. Really light feel. I think maybe too light for a rookie, but if you're used to riding a lot, you wouldn't mind at all.

Flat road, sprinting: Not so bad. Really tilt-y, but I've ridden bikes that seemed to tilt as much, or even more.

Steep climb, no traversing: Good and normal. Maybe even a hair better than normal. Nice tilting!

Steeper climb, traversing: No problem here. The steering is lighter than what I like, but easy to get used to. Way better than the Too Much Trail bike.

Fast ddescent, straight: It felt too light to me, but Pal Jeff rode it and didn't notice anything odd at all. Then I tried it again and it seemed okay. Sorry.

Fast descent, twisty: It felt too quick for me, but again, Pal. Jeff rode it and couldn't tell anything unusual. Then I tried it again and agreed. I want to be like Pal Jeff?

Bumpy dirt climb: Light steering, good control.

Bumpy, twisty muddy descent: I'm ashamed to say I couldn't tell much difference.

Flat road extreme slalom: Felt good. You want a road slalom bike? Come to us—we're the experts (now)!

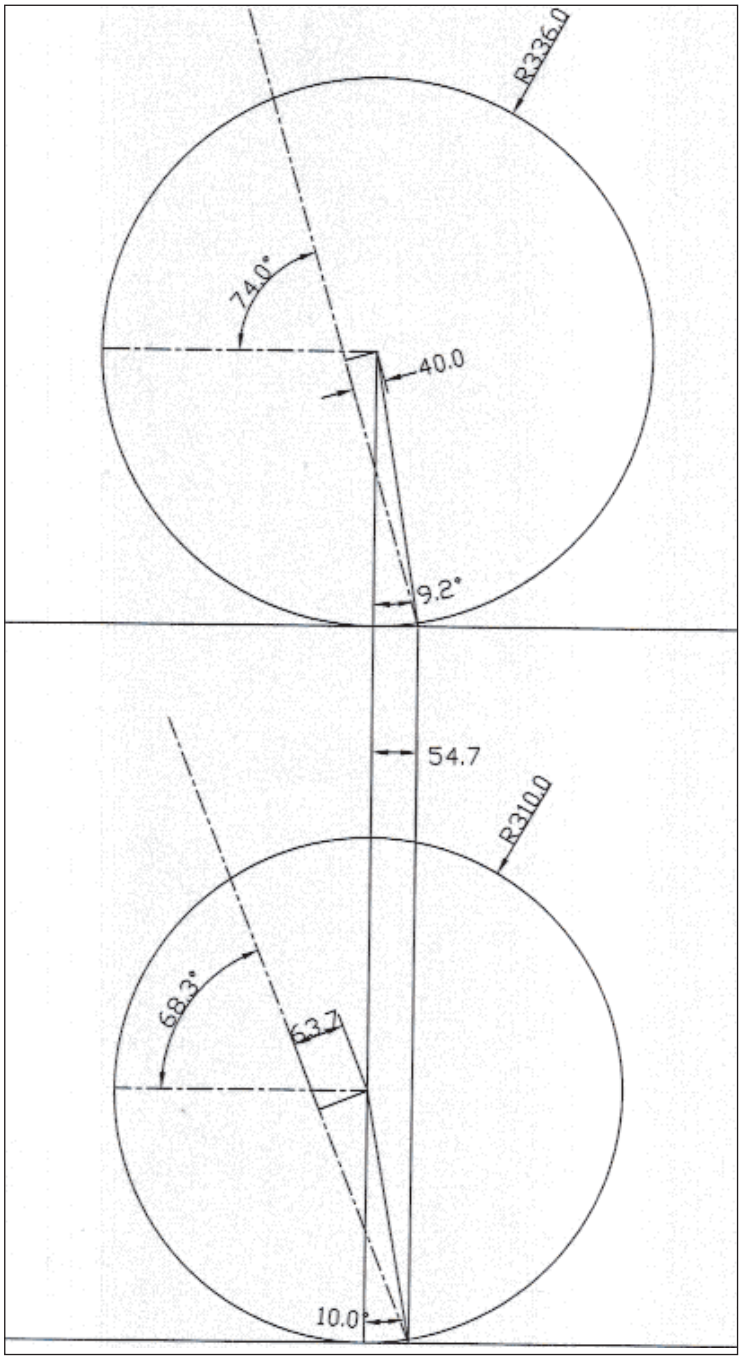
Pushing bike up bumpy hill with hand on saddle, no hands on the bars: Same as the other bike.

And Just When You're Getting All Settle With Trail, In Comes Marc Muller

In the mid-'90s Waterford made lots of bikes for us, and during that time I spoke to Marc Muller, Waterford's designer and a good friend, an average of 2.77 times a day for 3.2 years. When we weren't talking about Bob Dylan, we talked about bikes, and we talked a lot about geometry and handling. Marc may well understand trail and bike handling better than anybody, and in an ultra-fine world, he'd have written this article, not me. But he didn't have the time, so I'll recall as best I can what Marc has to say about trail and bike handling.

Marc said (though the quotes are mine): "I used to think trail determined handling, but when I was at Schwinn and experimenting with geometries for our hybrid bikes, I discovered that two bikes with identical trail figures could handle completely differently. I experimented until I found out why, and *why* is something I call "steering angle." It's not head tube angle—pray don't get it 'fused with that. *Steering angle* is something I don't want to go public with, but I'll tell you what it is as long as you don't go public with it. What steering angle amounts to is leverage on the bike's trail, and *steering angle* explains why two bikes the same trail often handle differently; and why bikes with different trails may feel the same."

On this page is a line diagram of what Marc's talking about. I don't quite get it, so I'm going to take the liberty of mentioning it (done) and teasing you with the picture that has no explanation. Maybe we'll go more into this in a future issue, but right now I'm reluctant to write a lot of words about something I don't exactly grasp.—GP



First: This diagram shows how two bikes with different head tube angles, fork rakes, and wheel radiiiiiiuses can both have the same trail. The "steering" angle is shown in both, as 9.2-degrees (top wheel) and 10 degrees (bottom). Marc's goal at Schwinn was to design bikes with different wheel sizes and geometries that shared the same handling characteristic—that felt the same despite their diffs. That lead him to this steering angle thing, which you mathemaphysicists No Doubt unnerstan' bettern I can. Marc thinks steering angles below 9.5 degrees are twitchy. But you might likem!

AFTERTHOUGHTS

(now that it's over, what I really think)

I was surprised that the low-trail bike really was manageable in circumstances that it was supposed to be unmanageable in—high speed and bumps, mainly. It makes me think maybe I shouldn't sweat so much about whether a fork has 42.5mm of rake, or 45mm. On the other hand, it seemed the bike with too much trail did behave the way I'd expected it to, except on the no-hands uphill push test, but you'd never do that in real life, anyway, so no matter.—*GP*

The Catfish Kid

by Sam Draper

Reprinted from an early '70s *Bicycling!* magazine. Sam, if you're still with us, please contact. (And that agoes for you too, Catfish.)

FRENZIED WINDS RAKED MIMOSA BRANCHES across the garage siding in sluggish whiplash. Rain spit through the open garage door. I could feel the commotion as I stretched to place a gallon jug of muriatic acid on the uppermost shelf. Rainheads were clashing violently in the atmosphere, causing me to feel uneasy. I was trapped in the garage until the storm slackened. Outside, stacked neatly on my pickup, ten sacks of brick mortar were being ruined by the downpour. The storm continued. Lightning bolts hammered in sharp percussion and stabbed at the city. Atmospheric electricity played from cloud to cloud and from cloud to earth in weird and disoriented zigzags. I crouched to keep away from the open door. From out of the alley, a small human form ducked swiftly through the garage opening. His sudden appearance was like the flick of a television picture. I stiffened from surprise.

"Say, mister! Can I come in out of the wedder for a minute? I'm wet clean through."

"You're already in," I exclaimed "Come on over here and get out of the doorway. Heavens! You're drenched."

My visitor was a frail youth and he resembled a miserable wet pup. Water dripped from his khaki coat as he stood shivering in the semi-darkness. He wore an oversized orange hunting cap decorated with a gold Army insignia.

"You live around here close?" I asked.

"Who me? Oh! I live around first here and there. Sometimes I stay over with my Ma on Payne Street. She's loaded up just now."

"What do you mean loaded up?"

The lad looked nervous and I thought for a moment he was preparing to bolt. I gave him a friendly smile like when you mean to make friends and then he seemed to calm. He answered timidly.

"We ain't got no more room at Ma's."

"Where do you sleep?"

"First here and there. In garages sometimes. There's an old open garage up in the alley 'hind Cherokee Road. I go up there most of the time. I've even slept in your garage once or twice."

"Seems like you're kind'a having a rough time. What's your name, son?"

"Everybody calls me 'The Catfish.' 'Catfish Kid' that is. My real name is Gerome Ray, but don't nobody ever call me that. Reason I got that name is 'cause I fish for cats in the river ever chance I get. My Ma says they call me the 'Kid' 'cause I'm 'tarded."

"You're what?" I asked.

"I'm 'tarded," he exclaimed indifferently.

"You mean 'retarded.' Who says you're retarded?"

"All my people been saying it for a long time. Ma and the kids at school keep saying it. But the social worker says ain't much wrong with me, though."

He began to fidget and look a little uneasy. I decided to let up on the questioning. We just stood and watched the fat raindrops explode on the concrete garage apron. Wanting to know my visitor a little better, I broached another subject.

"September sure is a rainy month. Bet it rains ten times before the month's up. Hurts my brick business, too."

"You a bricklayer, mister?" he asked, looking in my direction.

"Yes, I am. I'm a masonry contractor. We brick veneer homes and additions. Build fireplaces and do landscape masonry and such. It's hard work and all masons hate rain. You can't get mortar to set when the humidity is up."

"Humigidity. Humigity. Say! That's a hard word," he laughed for the first time as he tested the word.

The lad pulled a corncob pipe from his inner pocket and tamped Long Green chewing tobacco into its scorched bowl.

"Got a light, mister? I know mine's all wet."

"Sure, here," I said. "Isn't that chewing tobacco you're smoking?"

He lit up in big puffs and the aroma was stiff and hung

like fog inside the small garage. I choked and coughed. The Catfish Kid howled in genuine glee.

"That's what it is alright. Been smoking this when I can get it, ever since they pput me in Ornsby Village."

He returned my light and I noticed his hands were dirty. His fingernails were long and looke to me as though they needed immediate attention.

"How long did you serve in the Village?" I asked nonchalantly.

"Me? Well, I guess I was there about eight or nine years in all. I went to foster homes but all them foster homes wanted was for me to work for them. One old man took me home and gave me a whippin' with a rosebush. I didn't do nuthin' for to get sent up to the Village for. I just didn't have no other place to go. I'd still be there except I got to be 18 and you have to get out when you're 18."

"That's why you sleep in garages? Because you've no home?"

"That's right, mister. I ain't got no home yet," he answered dejectedly.

"Where do you get your chow?" I asked.

The kid let that question roll around in his head and looked puzzled. It was clear he did not understand.

"Chow means food," I explained. "I'm talking about your grub. Something to eat."

"Now I get it. Sometimes I work on the vegabill wagon sellin' vegabills. I eat 'nanas and fruit when Paul ain't lookin'. He's the man who runs the wagon. Most of the time, he's lookin' though.

He paused to puff on his pipe. A heavy flake of burning tobacco fell from the bowl. Catfish smothered it with his wet boot.

"You know what I do when I get real hungry and can't get nuthin' to eat?"

"No Catfish, what do you do?"

"I just go up to Voelkers Drug store and sit down at the counter. I order up and when it comes time to pay…I just up and tell 'em I ain't got no money. Most of the time there'll be some fellow standin' there and he'll up an' pay for it. That ain't stealin', 'cause I just eat 'nuff to fill up my little belly. Is it?

I wasn't expecting that one. I stammered and hawed. It was easy to tell he was lagging for his years. Probably one of those borderline cases, institutions like to throw on the mercy of the world.

"It's not exactly right to do that son. You should try to pay for everything you get."

"I ain't got no regular job, though. Can't hardly make it on the vegabill truck. Sometimes I sell pop bottles. Say! Can I have them bottles over there?"

"Sure. I've got lots more up at the house. Must be a hundred or more. Soon as the rain lets up, I'll load you down with bottles. You can get three cents for the bottles and a dime for the jugs. That will give you a grub stake."

"That's swell," he said. "I'll sell these here bottles and go right down to Voelker's and get me a double cheeseburger and strawberry milkshake."

"Now you're making me hungry, " I said.

The storm grumbled goodbye to the city and went rumbling down the Ohio River Valley. Rain turned to mist and Catfish gathered up a burlap bag and started stuffing bottles inside.

"Say, Catfish! How would you like to have supper with me and the missus? It's just about ready now."

"I guess," stammered the surprised youth.

With that, we headed for the house. Brenda held the door open and we wiped our feet and entered.

Brenda is a good wife and she didn't ask any questions. She is also a good cook and a good sport. She hit it off fine with Catfish and easily enticed him to scrub his hands. She served him a hot meal of meatloaf and potatoes. He went along with us to a point, but he steadfastly refused to remove his orange hunting cap with the gold insignia. He kept his hat on after we started the meal.

"Catfish, you can put your cap over there by mine on the rack," I hinted.

"Naw! I just keep it on, 'cause that's my way." He lifted the cap momentarily and pushed at his hair. His hair, stringy, sticky, came undone quickly and he raked it back again with his cap. Brenda looked at me and shook her head as though warning me not to push him. We settled into the meal. Catfish forgot about everything and finished two large helpings. He gave Brenda a satisfied grin.

"How much you weight, Catfish?" I inquired.

"I weigh about 136 pounds and I'm 5 feet 4 inches tall," he answered rapidly, as though he had it memorized.

"How would you like to help me a little this winter? I do some repairing fireplaces and boilers during the cold weather. I shut down most of the operation during the winter, so there will only be the two of us."

It didn't take Catfish long to understand my proposition. His face lit up.

"Gosh! I'd like that fine. A real job and real pay. I'm ready to start anytime you are."

"Good. Brenda will fix you a place to sleep in the garage. It's warm in there and we'll start in a few days. In the meantime, you can trail along with me and get the feel of your new job. You can eat here in the kitchen with us and I'll take your chow out of your pay."

During the long winter months, the Catfish kid helped me repair fireplaces and build indoor fireplaces. He learned to mix mortar and dissolve fire clay. The Kid

was always at my elbow and saved me many steps. Brenda's cooking caused him to swell out. His weight shot up to 175 pounds quickly and he commenced to smile easily. Brenda gave Catfish a used television set for the garage and a transistor radio. When we were not busy, the Kid would go down to the river or browse around the inlets. We could tell he was a great fisherman. He moved an assortment of fishing paraphernalia into the garage alongside his bed. On rainy days, Brenda and I listened to Catfish practice on his harmonica. We heard some weird tunes and strange notes.

Rakish March winds clawed in the gutters and rattled windowpanes and loose weatherboard in childish gambol. The playful gusts tired and ceased their prankish tare. Springtime tiptoed across the land, leaving a garish wake. Crocus and jonquil spears split the soft loam. The warm sun grinned on our back lawn and the golden dandelions grinned back. Pansy violets and clover blossoms cavorted in the swaying grass. The Catfish Kid sat in the garage door and whistled and played his harmonica. Occasionally, he removed his shoe and wiggled a bare toe in the sun. In April, he sniffed at the lawn and fingered the buds.

The Kid held up an unraveled bud.

"Buds bustin' now. Channel cats is runnin' wild," said the Kid wistfully.

For days I had noticed the green buds. I could not help but think of the various reactions people presented in the early spring. There is a freshness about springtime that makes most everybody feel a little gay and a little frisky. Normal kids shout merrily and shake off the effects of winter in constant jiggle. The planting of crops and outside work creates more jobs. A man can be jobless and starving but his face will brighten with the bursting of the buds. Even old folks quicken their pace and smile through wrinkled faces as though everything was going to be all right. Ask the senile how they feel and they grip the handle of their cane and reply: "Tolerable." The Catfish Kid was a little gay and a little frisky. He smiled often because he had a job and the buds were bursting.

The Kid spent most of his idle hours at fishing. After work, he walked the two miles to the Ohio River bank to fish. At times, he walked three miles to Harrods Creek, and he would sleep on the riverbank until dawn. Then the Kid would beat it back to the garage in time for work.

Brenda tried unsuccessfully to get the Kid to buy himself clothing. Finally, I took some of his pay and bought clothes and ushered him to the barbershop. We tried time and again to get him to brush his teeth, but he would always say, "That's not my way."

Catfish wanted desperately to learn to drive a truck. A bad eye ruled out this possibility. Next, he wanted a motorcycle. He did not have enough money and I was afraid he would kill himself. We abandoned the idea. Brenda came up with the perfect idea that was to ultimately solve Catfish's problem. She suggested a bicycle. We approached Catfish with our idea.

"I know just the thing for you to get around on," Brenda said.

"What's that? A boat?" answered Catfish.

"No. It's better than a boat. A bicycle. A bicycle with a basket and a light and a pouch on the rear for your bait."

His brown eyebrows arched high as he pondered our suggestion.

"Why not?" he grinned.

It had all been so amazingly simple. All boys need transportation and Catfish was very much a boy at heart.

The next morning, Brenda and I took Catfish to the Highland Cycle and Sport Shop. We let him pick out the bike he wanted. He selected a three-speed, lightweight English racer and we added the accessories.

Nowadays, the Catfish Kid smiles big when he straddles the Robin Hood bike. He chuckles to himself like he's got a real big secret. After working hours, when it's time to fish, the Kid starts loading up. He takes four rods, a lantern, a telescope, and a transistor radio and straddles the Robin Hood. Brenda hands him a box of fishing tackle, his bait, a fish net, canteen and a knife. Then he's off with his load.

On most any moonlight night, you can find the Catfish Kid coming or going over the great Second Street Bridge. About daylight, when the city sleeps, you can watch his English bike race under the moon and the moonlight glints from the spinning spokes. City policemen know the Kid. They wave or sometimes stop for a chat concerning his fishing exploits. The Kid likes the friendly policemen and readily spills his tale about the mud cat that got away or the carp that broke his line. Then, he laughs lightly and pedals on his way. The English racer has made him forget about being 'tarded, foster homes and whippings with rosebushes.

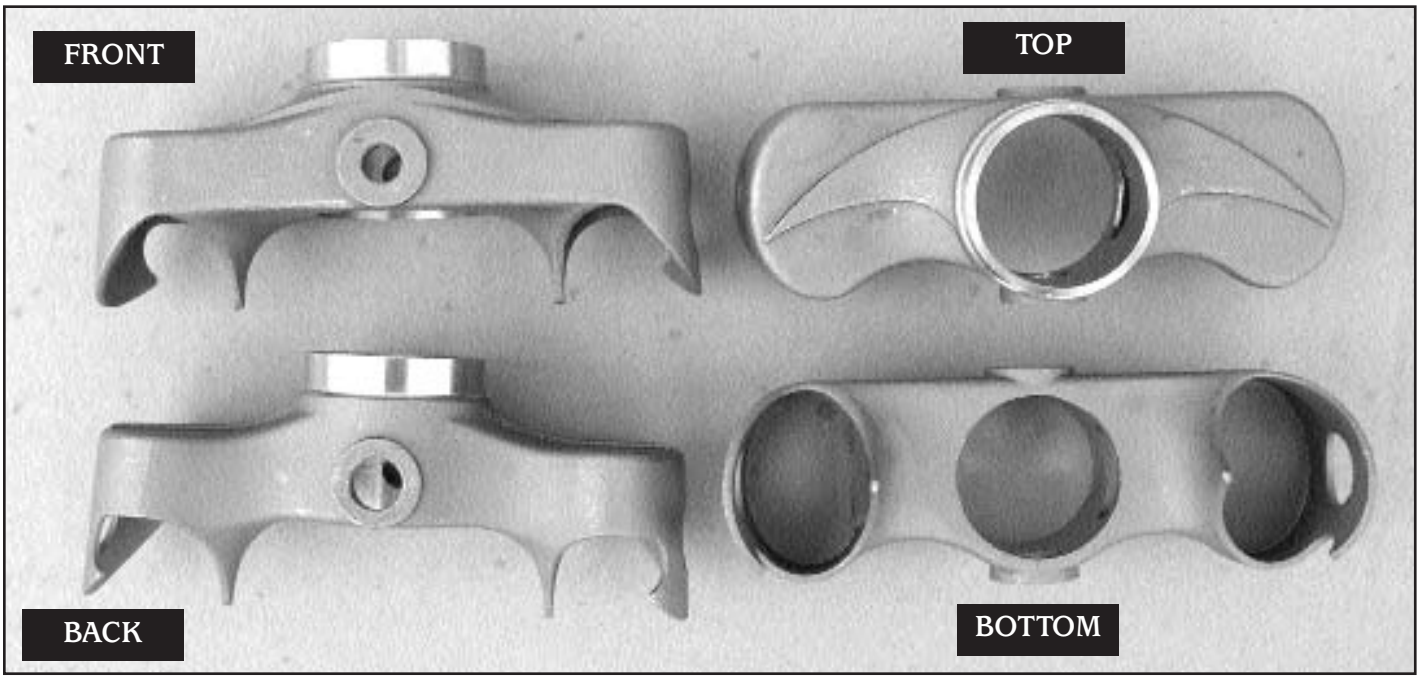
He gives his day's catch to the poor and needy along the river. It's unusual for a kid to play the part of the giver when most everyone else plays the part of the grabber.

The Catfish Kid spends long hours sitting quietly along the rocky river bank. He smokes his pipe and has time to think. He is not worried about why nature tossed him a curve ball in the beginning. Nor is he worried about the pill or politics. Probably, he is not worried about protesting or pot. Here, by the river, he can listen to the music of the ripples as they chuckle to one another. He is at peace with himself and the world.

That certainly is a rare breed nowadays. **END**

A Look At Lugs, p XI

This time, it's a fork crown. A fork crown is a kind of lug, after all....



Our RC-03 Fork Crown

INTERNALLY, WE CALL IT THE RC-03, because that the was the working name on the design drawing. *RC* means Rivendell Crown, and *03* means it's the third one the maker, Long Shen, has made for us. This is trivia, but the RC-03 crown here is the topic of this issue's A Look At Lugs, so it makes sense to call it that on these pages.

We use the RC-03 on Rivendell frames designed for tires up to 700x38, and all the Romulus and Rambouillet frames. And on cyclo-cross frames. It's a good all-around crown for roadish bikes, and there's more to it than meets the eye.

I think the things I like most about it are the things some people might like least about it. But they don't see it the way I do. I like that it looks strong. It is strong, but I like that it looks it, too. I didn't want to show any excess femininity. I wanted to emphasize its strength, and the best way to do that—this was my thinking, anyway—was to keep simple the parts of fork crowns that generally get doilied-up. I like doily crowns, but I wanted a muscley look.

So rather than having a traditional double-waist (see fig 1, next page), I kept the front edge flat, like a fortress against the stress from braking or running into something. The rear of the crown has a waist, for looks and to reduce the weight, and because this portion isn't stressed as much.

The cost of the straight front is weight, since there's more material. But it's not that much more material, and it's well-placed. I also like it because it makes the RC-03 (and its brother, the slightly narrower RC-02) the only crowns in town that are straight on one side and waisted on the other.

The inner tangs are super short. Ordinarily, or at least commonly, nice fork crowns have long tangs with voids for the painter to fill in with a contrasting color. That's a good look, but on this crown, I kept the inner tangs super short because it's functionally as good, and gives the crown a more masculine look.

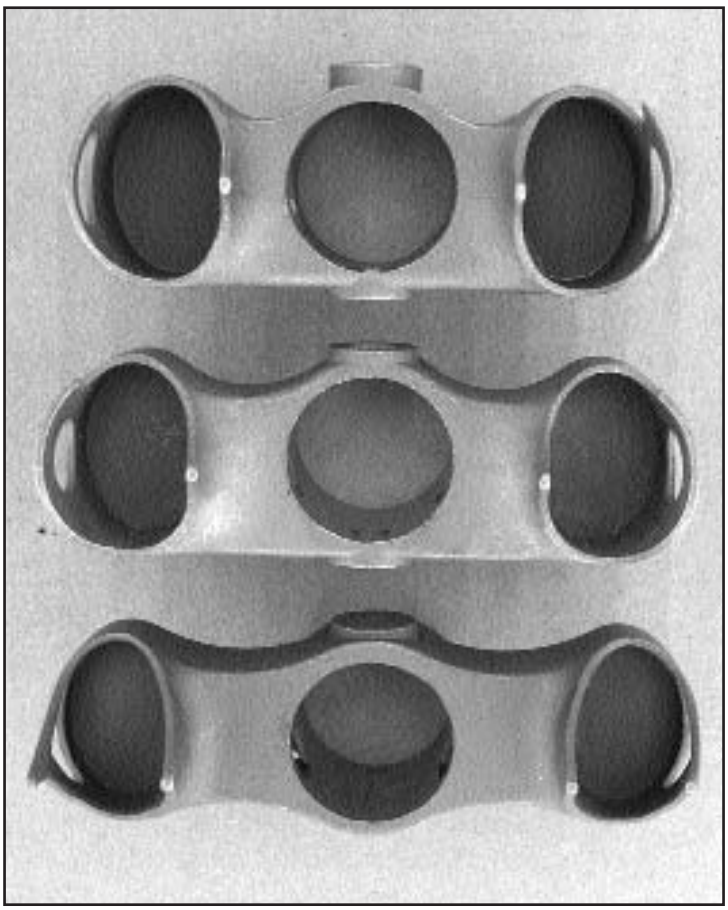
Here's a Rambouillet with the RC-03. Here we just paint it and fill in the cut-out with contrasting paint. It looks good.

Our own Rich Lesnik's custom touring bike with a carved-up fancy RC-03. The painted "batwing" is unique, and according to Joe Bell, something of a pain in the neck.

Likewise, the outer sleeves, which you can actually see on the finished fork, have a simple circle and a blunt wave. The obvious choice would have been something longer and more delicate, but that wouldn't have been in keeping with the strong look I was shooting for. On Rivendells, we often add fanciness to this part of the crown (see the photos), but that's more to differentiate them from the Romulus etc. crowns, than for looks. We purposely left enough material in the right places to be carved and drilled away.

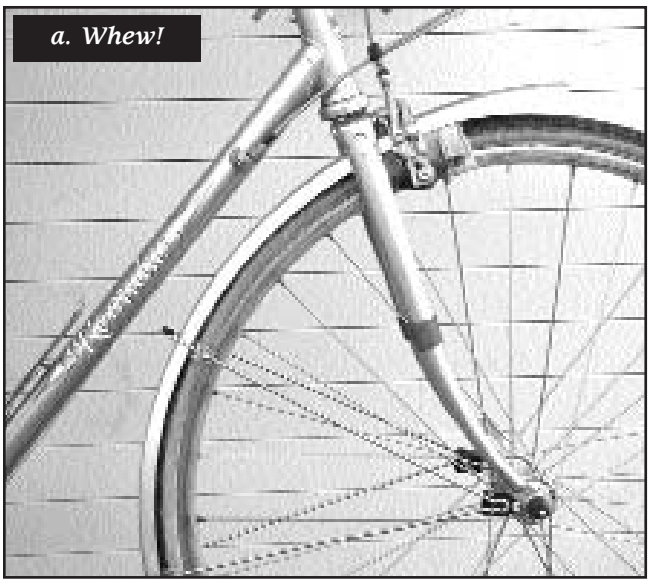
One functional impetus for this crown is that we wanted to be able to make forks for slightly wider tires, and with an ideal blade separation for mounting cantilever studs. So, we made the center-to-center blade dimension 71mm, up 10mm from the RC-02's 61mm, and down 10mm from our Atlantis/All-Rounder crown's 81mm. This added width is perfect for cyclo-cross and rough-stuff forks. When you make the blades the right length, there's nearly equal clearance between the tire and the bottom of the crown, as well as the tire and the fork blades. I always look for clearance in both places, and this fork lets us even out the clearance nicely.

Fork crowns are neat things in so many ways, and they're dying out fast in the mainstream, because carbon forks are crownless. What a shame that is, to replace a distinctive hunk of steel with a featureless curve of carbon fiber. It's more than that, though. The carbon forks don't have good clearance for either fenders or wider tires. And fewer and fewer frame builders are willing and able to make a nice fork. It's not a good trend, and we won't be going that way anytime soon.—Grant



Here's the RC-03 (middle) shown with its 10mm narrower cousin. the RC-02, and our All-Rounder/Atlantis crown, which is 10mm wider and is the only double-waisted crown. They're all good!

Fender Mounting Do's/Dont's



PROPER, NORMAL, SAFE. Look at the lower attachment point. These fenders, SKS brand, have a quick-release. The stays have pulled out of the plastic retainers, and the fender is loose, but nothing jams up, buckles the fork, and pitches you on your head.

Most European fenders have quick releases built into them. Not all, but most. Not all Japanese fenders do. The fanciest fenders out there, the Japanese and French aluminum ones, don't. We're not saying they're dangerous, but that they'd be safer with a quick release is undeniable.

In any case, all fenders with quick releases are relatively safe from the perspective that, if something jams between the tire and fender, the stays will break free of the fender, and the object won't be as likely to jam.

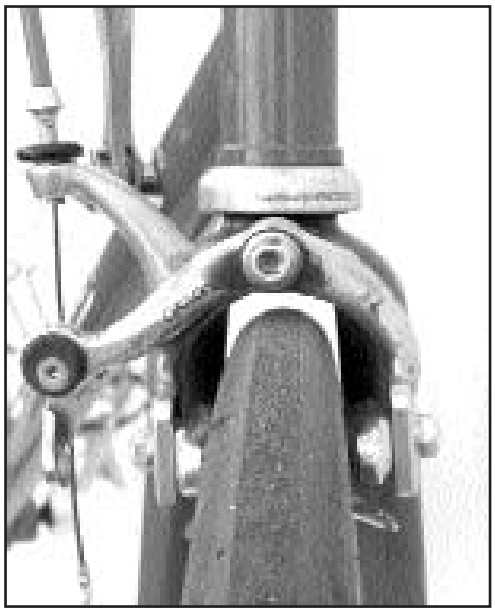
On fenders without a quick release, it's probably best to mount them high on the fork blades, as shown

THE DEADLY WAY: Fenders mounted to the lower fork without using a quick-release. An obstacle caught jams between the tire and fender, buckling the fender and pulling it down onto the tire, locking the wheel. At high speed, the fender would continue to fold, like an accordion, and you'd be pitched forward. Aluminum fenders are probably less likely to fold than are plastic ones, but the physics don't care what the fender's made of, and if the object is big enough and you're going fast enough…

THE BRITISH WAY: Fenders mounted to the fork's midpoint without using a quick-release. Usually this is done with a braze-on, and on our customs we put a braze-on there if you request it. But as long-time readers know, we're enamored with zip-ties, and here's yet another reason why. As you can see, the jamming forces the fender away from the tire, just the opposite of the photo to the left. The fender does NOT accordion, and this is not nearly as likely to send you over the bike. This is not officially called "the British way," but most of the bikes I've seen with high-mounted fender have been British, so there you go.

Fendering a Race Bike

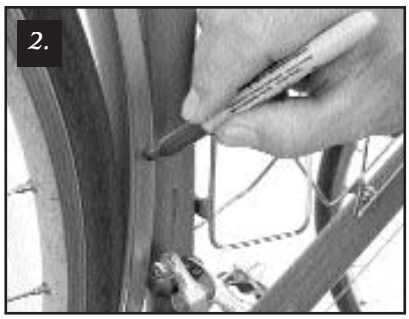
Racing bike owner Andrew stopped by to get fenders. We noticed that his bike had no eyelets and no clearance, so we said if he bought the fenders and waited around for about an hour and hand us a tool now and then, we'd put fenders on his basically un-fenderable bike. Here's how we did it. Note: SKS now makes special fenders for racing bikes, and although they're slicker to look at and mount faster, they don't cover as much as these here modified normal fenders.



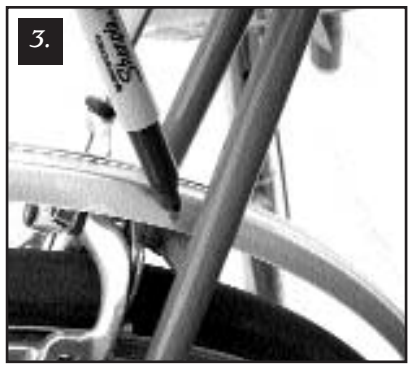
Not much clearance here. Son-of-a-gun!

Same thing here, but this is easier to deal with, as you'll see...

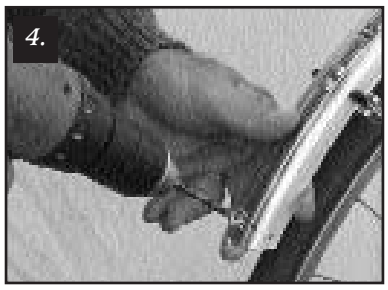
Put the rear fender in place, and over the brake.



Using a Sharpie, mark a good spot for a hole for the zip tie, which will pull the fender off the tire. On race bikes with short chainstays, you gotta do this. Make two marks, one on each side.



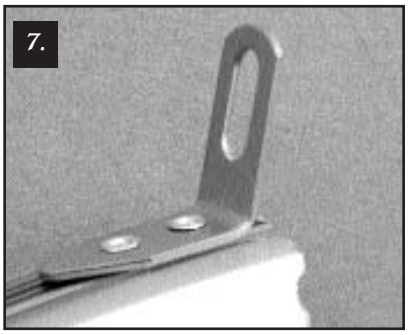
Same thing up top, another two marks. zip ties here don't save the day, they just keep the fender from wiggling.



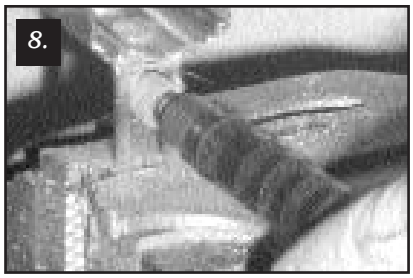
Make four holes near the bottom of the fender to attach a mudflap. Use a drill or a hand reamer, or a pocket knife. After much experience, you'll develop a feel—almost a sixth sense—for when the drill is about to bore a hole in your finger.

Zip-tie the fender stay to the seat stay, if there are no eyelets. This one here is padded with scrap of Naugahyde scrap. You'll find that Zip-Ties + Naugahyde were made for one another!

Now that's a lousy look! But it's way better than spraying gritty water all over your bike, your back, and the hapless chap behind you.

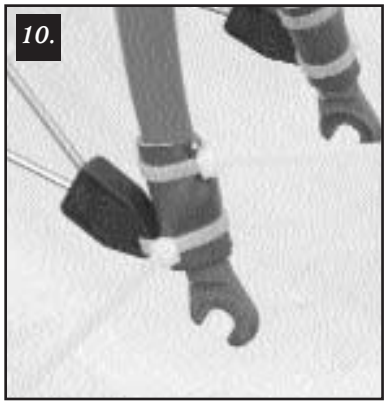


Major surgery: cut the front fender off at the mounting tab. Note the high slot—something known in fender-surgery circles as a "fixable bummer."



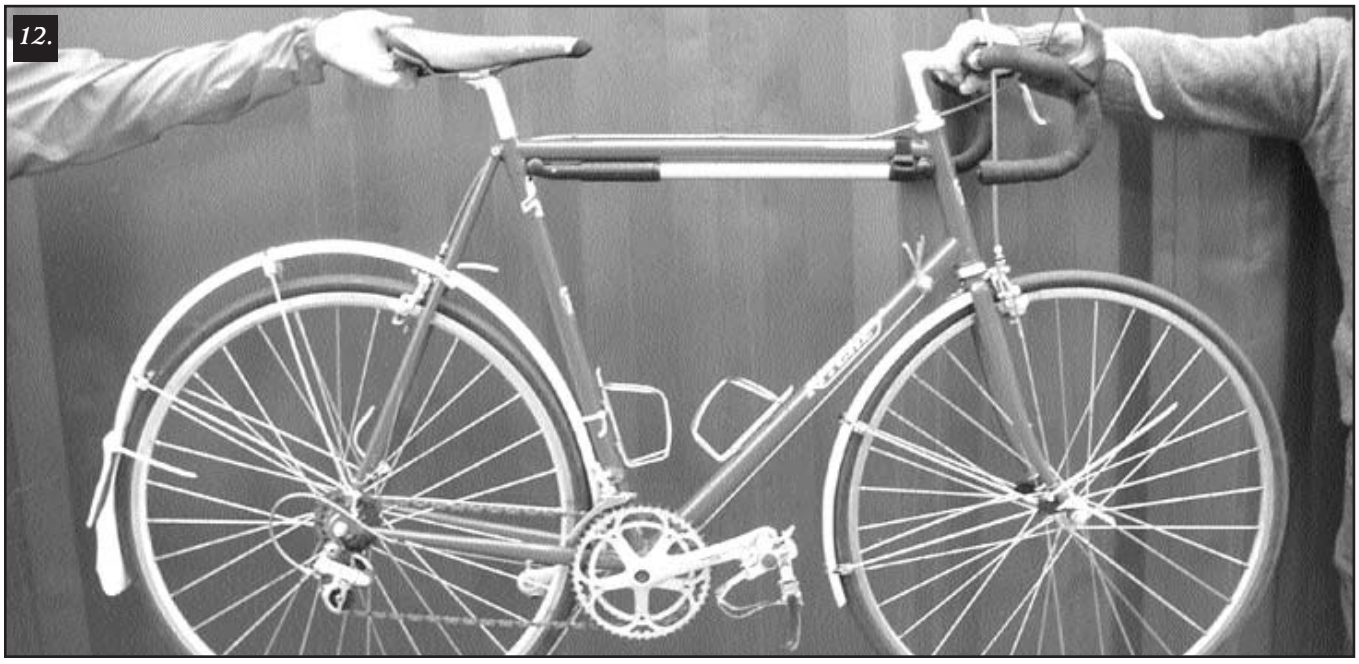
To fix it, you widen the slot to accept the 5mm allen nut for your brake; and you file the slot down to the fender; and then (NOT SHOWN), you nip off the top third of the tab so it doesn't run into the headset when you push the fender up and away from the tire.

Tighten the 5mm nut so it holds the fender on.



No fender-eyelets is no problem, as long as you have zip-tIes. Note again the marriage of Naugahyde & zip ties.

Not much is actually going on in this photo, but you can see how the front fender-mount is shaping up. The stays have been zip-tied to the fork. There's no reason not to attach them in the High British Position as shown two pages back—the fender stays easily bend to accommodate that; but since these SKS fenders have the quick-release anyway, there's no need to do that for safety. Anyway, you'll notice that the stays are too long. They're tough to cut, but figure out a way to do that. We use bolt-cutters, but a good squeeze with some dykes will do; then wiggle to break off the remaining nub.

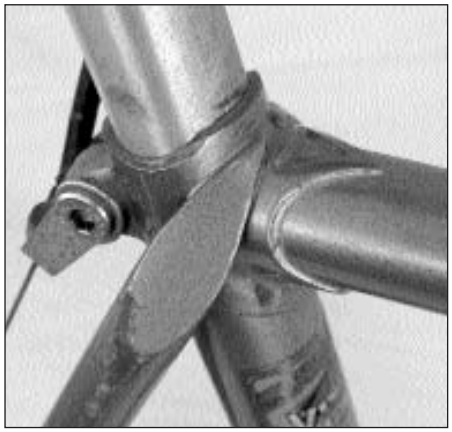


Ready for the Prom! Snipping the long ends of the Zip-Ties is optional, but we prefer to keep them out of our burgeoning land fills, or however that expression goes. Last minute mudflap alternative: duct tape. Also note: brake levers need to scoot down some.

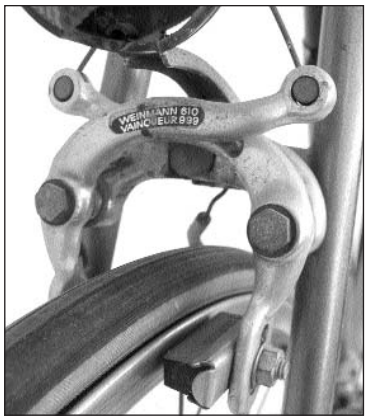
Bicycle Makeover:

Most of us have a bike that needs a makeover; sometimes even an extreme makeover. Usually it's an old bike that was decent in its day, but nobody rides it anymore. It could be a mountain bike that's too low tech for you now, or too small. Here's how we did up one local fellow's bicycle.

This Motobecane cost the owner $280 new in 1978 and got him through college and grad school. But now he's 50 and hasn't ridden it for 12 years. It's too small. It's not worth selling, because nobody would appreciate the frame details, and it wouldn't likely fetch $60 (well, maybe $230 on eBay). But it's worth saving (see the details below) and getting back on the road. Here's how we did that.



Semi-wrap style seat stays are rare these days, and we like 'em. Nice lugs, nice cut-outs. This is a good-looking seat cluster,

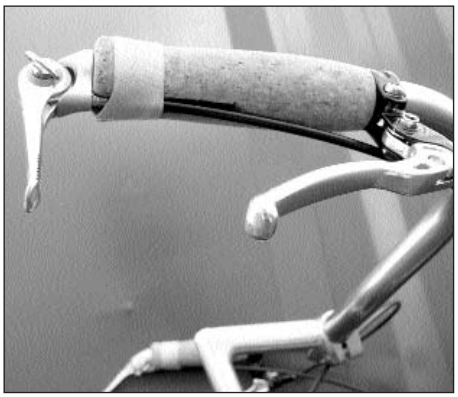


Hey hey hey…we're suckers for good clearance, and there's plenty here. Note the Weinmann 610 centerpulls and the flat 27x1-inch tires.

Head tube and fork detail, showing a real metal head badge, painted head tube with pinstriping, contrasting triangles on the fork crown—also pinstriped, cut-out lugs, and although it's not super obvious here, the fork rake is pretty decent, with a nice curve going. And if you look way down there at the bottom (or in the big picture up there), you'll see chromed fork tips. We're not chrome-fans, but you can't say it's not a nice touch. It looks great.

New, 27x1 1/4-inch tires with Kevlar belts to fend off flats. Fenders for you-know-what. Albatross bars and a Nitto stem (had to sand it down to fit the French headset). Cork grips, which you can read all about right down there. Plus, the old seat post was way too short for the rider, and the skinny saddle was shot, so we put in a longer seat post and a cheap new saddle. He ought to get a B.72, but this one here was free, so that's that. And we took off the toe clips, because for this kind of bike, forget it. Now he ought to put on a Sugino XD triple. Then the bike would be good for the mountain.

We sell this in our catalogue—it's a really handy clamp-on cable stop, which made it easy to remove the downtube shifters and put on the bar-enders. It's just a hinged, silver aluminum piece with two cavities for cables. This one here fit the 28.6mm downtube, but we have them for 31.8mm tubes, too.



Bad photo (Grant took it on a shiny Saturday), but at least you can see Robert & Mark's latest and greatest way of blending bar-end shifters with cork grips. They punched the end out of the grip (using a road chainstay, which is the same diameter as the handlebar). Then they cut a slot about halfway up the grip to recess the cable that much. The tape isn't necessary. There are easier ways to do this. I/Grant usually just cut off the plug end of the grip, then cut the grip in half, glue (Gorilla Glue) the half-grip on the top of the bar, and tape over it and the cable. But this way is nicer, no doubt.

Here's that nice-looking front end again, spiffed up with fenders. What a comfy, useful bike it is!

Who Rides a Rivendell?

Name & age: Deborah Caplan, 39.

Job: Lawyer, cycling event promoter (Planet Ultra).

Hobbies: Long-distance cycling, triathlon, reading, scrapbooking.

Favorite books or author: Author: Nelson Demille; book: *The Prince of Tides.*

Favorite Movie: Field of Dreams.

Favorite Food: York Peppermint patty.

Years riding a bike: Five, as an adult.

Typical ride: Rolling up and down the canyons in the Santa Monica mountains.

Dream ride: All the stages of the Tour de France..

Other bikes: Bianchi Eros, Serotta Legend Ti, Specialized Stumpjumper.

Why this bike?: I'm small of stature and I wanted a bike that fit me perfectly and rode correctly; and it's beautiful, timeless, and has soul.

Anybody Else?

Name & age: Rich Lesnik, 58

Job: Rivendell customer service & wheelbuilding. Retired UA mechanic.

Hobbies: Reading and music. I play the saxophone in a jazz band.

Favorite authors: Doris Leasing, Nevil Shute

Favorite Movie: Harold & Maude, Baghdad Cafe

Favorite Food: Indian

Years riding a bike: 50

Typical ride: 50 to 80 miles in the S.F. Bay Area

Dream ride: Across the U.S. I've done it once and want to do it again.

Other bikes: Ritchey tandem, Bianchi road bike ('85)

Why this bike?: I wanted a comfortable touring bike. It is.

Wish List For 2004-2005

Not in any particular order. They all matter!

1. A super fancy 110/74 triple crank. A perfect one. Unimprovable and lovely in all ways. CHANCES IN 10 IT'LL HAPPEN: 10 (we'll show you in the next issue.)

2. A new brake with maximum reach of 63mm, good fender clearance, light action, and a quick-release and barrel adjuster that allows you to remove and install a 700x38 tire inflated. It's not a racer's brake, and it's not a mountain bike downhiller's brake, and it's not a high-tech commuter's brake, and it's not a nostalgic's brake. It's pure function, and it ought to be the standard brake on 80 percent of the bikes out there, but brake makers make what the big bike makers ask them to make, and nobody's asking for this. CHANCES IN 10 IT'LL HAPPEN: 3. What it'll take for it to happen: Money and interest from big makers like Trek, Specialized, and Giant.

3. A Shimano Alpine group. Imagine 7-speed wide-range cassettes, road triples with much lower lows and highs (more usable gears), and redesigned front derailleurs that would work with this gearing. I'm not saying existing front derailleurs don't work, but there are compromises that could be wiped out in half a minute if Shimano felt there was any market for such a group, but it doesn't. CHANCES IN 10 IT'LL HAPPEN: 1

4. New Centerpulls. From Dia-Compe or anybody else, but most likely Dia-Compe, since we've asked them to make them, and no other brake maker is going to just up and do it on their own. My wish is that these come out the way I want them to, which means: Super finish, light action, braze-on pivot option, with adjustable spring tension. CHANCES IN 10 IT'LL HAPPEN: 6

5. A 700x32 Ruffy-Tuffy. All this takes is money for the mold—about $4,500. CHANCES IN 10 IT'LL HAPPEN: 5

6. A 26 x 1.25 Ruffy-Tuffy. Another $4,500 for the mold. This would be lighter than the current Pasela, which isn't that heavy; but this would be lighter, anyway. It would be an ideal size for 26-inch wheel road bikes and sidepull brakes CHANCES IN 10 IT'LL HAPPEN: 5

7. SpeedBlend gets popular. I got $9K into this patent, and I'm riding around on SpeedBlend Ruffy Tuffy tires, but we haven't gotten in our big shipment of them yet. When we do, I want people to ride them, and THEN I want to license the patent to a car tire maker. The American dream, and all. But I don't have time to put a lot into making this happen. CHANCES IN 10 IT'LL HAPPEN (the licensing): .02

8. The Glorius, Wilbury, and Saluki to actually happen. We've been working on these. There are hiccups (hiccoughs?), but no big ones. I just can't wait till they're actually here. CHANCES IN 10 THEY'LL HAPPEN by July: 3, 3, and 5, respectively.

9. Acceptable Shimano Delivery. The big news behind the scenes this coming year is that Shimano got unexpectedly monstrous orders for 105 and Ultegra parts, and consequently won't be able to deliver them to the bike makers who didn't get their orders in until after October…until Summer. The Rambouillet has lots of that stuff on it, but we may have to switch it in order to get the bikes here on time. We won't downgrade anything, but I'd like not to have to incur a lot more expense (by means of more expensive yet more available parts) just to get bikes in time. This, actually, is my biggest wish. The most important to our success. Our only hope is that our volume is low, and some Japanese connections we have. CHANCES IN 10 IT'LL HAPPEN: 4

10. Finish the year with RR-36. We took a survey, and the overwhelming preference was for more frequent but shorter RRs. So we'll try to alternate between 32pp and 40pp after this issue. I don't feel good about our timeliness, I'm really slow at it, but I want to do better so I feel better about myself. CHANCES IN 10 IT'LL HAPPEN: 4

11. Membership up to 7,777. We're at 6,119 today. CHANCES IN 10 IT'LL HAPPEN: 5

12. I'd like to lose 10 pounds. Why not? If that happened, and I wouldn't have to grunt so hard up the mountain. That'd be good. CHANCES IN 10 IT'LL HAPPEN: 5

One Centimeter

by Maynard Hershon

Once upon a time, my friend Judy ordered a bicycle from a fine shop here in Tucson. It was her dream bike, a frame built just for her by a local builder, assembled with new top-level parts. The shop measured her and studied her position on her old bike. They ordered the frame and parts, including the appropriate bar, stem and saddle, so the new bike would fit her perfectly.

There was no package price. The bill reflected charges for each item at full price. This part is this much, that part is that much. Assembly is included. Here's the total...

When she went in to pick it up, it was glistening, lovely, worth every penny. She'd brought cycling shoes and shorts so she could sit on the bike and clip into the pedals for a last check, to ensure the bike was indeed perfect for her.

When she was in the saddle and clipped in, the store's bike-fitter looked long and hard at her position, especially her reach to the bars. He decided Judy would be better off with a stem one centimeter longer—so her handlebars would be just a bit further from her new bike's saddle. The setup was one centimeter from perfect—in his view.

In the days before threadless steerers and handlebar clamps that unbolt, switching stems was a lot of work. You had to unplug and untape one side of the bar, remove the brake lever from that side and probably undo the tape holding the brake cable to the bar.

You had to loosen the stem binder and remove the stem from the steerer without kinking the brake or shift cables, then loosen the clamp and wiggle the bar out of the stem.

At that point, you could reassemble with a shorter or longer stem, hoping that the one you'd just removed hadn't become scratched and hard to sell. Lotta work.

With that in mind, the shop guy told Judy they intended to charge her ten dollars for the stem-swap. The ten bucks wasn't payment for the new, longer stem. That, they'd exchange. They just wanted to cover the labor.

Judy was stunned. She'd just spent hundreds of dollars for a bike designed and made just for her. The good bike shop had fussed and fretted over small stuff so her bike would fit her perfectly from the first pedal stroke. Somehow it didn't. Now they wanted to charge her to make it fit the way they'd assured her it would. Is that fair? She didn't think so.

I don't believe Judy said anything at that time. I know she took her bike back to that shop for post-sale services and re-truing of the wheels. Stuff that was part of the deal.

She never spent another dime there. It's been more than ten years since that bike sale and stem change, when the shop lost her forever. Let's look at what happened.

No doubt the guy who suggested the stem change was sincerely looking out for Judy. He must've felt strongly that she needed a longer stem, because he wasn't going to make friends in the repair shop, asking them to partially dismantle a slick new bike they'd just built.

When he told Judy the stem change was not part of what she'd already paid for, he didn't ask her if the $10 charge was going to spoil an otherwise fine bike-buying experience. If he DID ask, Judy must've brushed off the question, not wanting to sound cheap or overly demanding.

By the way, some shops today (in the age of production pro-bikes) not only charge for labor to change the factory stem, they sell you the new stem and hand you the original one. Hey, it's not new anymore. Hard to sell. YOU keep it.

My feeling is, the shop that sold Judy her bike had a right to charge her for that stem change. It's not assembly labor, it's RE-assembly labor. They didn't try to charge her for the new part, only for the time it took to install it.

Bike fitting, despite all the technically advanced systems available to shops, is not an exact science. You can design and build up a bike as painstakingly as you have time to do. Still, when the customer sits on it the first time, you often see where you might have done things differently.

You might see that someone like Judy needed a slightly longer stem. But the salesperson should've asked Judy if that $10 charge seemed unreasonable or insulting. Evidently he didn't. He figured she'd understand that the store had to pay someone to do the work. He hoped she'd gracefully accept the extra charge.

On her part, she didn't speak up, telling him it did indeed seem unfair. She just went away—permanently.

Because the salesperson tried so hard to do a perfect job, he unwittingly cost the store a previously loyal, happy, high-end customer. Had the guy never said he felt the bike needed a stem change, Judy surely would've ridden contentedly off into the sunset on her new bike.

And bought a few others from the same store since then.

What would you tell that guy?

Would you tell him to keep his mouth shut about last-minute changes, even if he believes they'd be beneficial? Would you tell him never to ask for payment for unforeseen changes—although the repair guys will resent his giving away their labor?

Would you tell him that he should be more attuned to his customers' responses? How attuned is attuned enough?

The salesperson has to be super knowledgeable about all aspects of cycling, metallurgy, musculature, marketing and manufacturers' suggested retail prices. He has to deal with sincere shoppers and utter time-wasters. He has to keep the Oakley cases dust-free. And he has to read minds.

All for $8 an hour. Sound good to you? Me neither.

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