



I DON'T CARE WHAT THEY SAY, I WON'T STAY IN A WORLD WITHOUT LUGS



We get a constant influx of worrisome support. Thank you, but things are not as terrible as they sometimes seem in the Progress Report; especially this issue's. I'd probably prefer you not even read it, but it's deadline time and it's too late to just pull it. Improvements are happening weekly, in all areas, mainly because we're developing systems for the daily tasks, so we're more consistent and accurate. We should have done that from the start, but I didn't know. Also, we hired Debashis. You'll read about him in here.

One way you can help is to order by part number. It eliminates two steps in the order entry procedure, and two chances to mess up. The new catalogue has part numbers, so it's easy.

Peter's working more on the web site, and has time to do that. He reports on that inside here, and is always open to suggestions for improvement. He's good at it. I'm spending daylight hours on the Reader, Joe's doing most of the buying, so we'll have better stock, and Allen is coordinating the frame order details and communication between you, us, and the builders.

Frame delivery is now down to 3 months. The arrangement with Match is working, and Joe feels less pressure, too. We want to give both of them enough business to survive. The frames are gorgeous but even at \$1500 or so, they're unprofitable, and if you're wondering why we don't raise prices (not to suggest you had time to wonder), it's because we're afraid that if we do, orders will drop off and we won't be able to send enough work to either Joe or Match. It quite a predicament.

Our digs would still make Martha Stewart and any feng shui person uncomfortable, but we, ourselves, are looking sportier and more together in what passes here for uniforms. The dark blue polo shirts with Rivendell embroidery are slimming, so we can eat

more, and I, for one, do. Uniforms aren't required, but The Firm buys or subsidizes. It depends on how many clothes you need.

Membership (subscriber base, whatever) is up to 3,800, not enough. But 54 of you, or roughly 1.4 percent, have signed up for life, and that paid for half our lug tooling—thanks. Lugs are a big part of life here, and we're going to start promoting our lugged frames more. We have a lot to say about lugs in this and future issues. Future issues will be better than this one, by the way. This one has some good things in it, but is tainted (for me) by the Progress Report. I think it's gone too far, and is affecting other things and other people too much. People read it and criticize what they see as my incompetence, and it hurts my feelings. The Progress Report is ostensibly a business diary, but has evolved into a beast with a life of its own, and it needs a strong sedative for a while. I'll still write it, because I want a record, but I'll keep it private, at least for a year or so.

We're going to start advertising and promoting more—small ads in affordable publications. But starting in the next issue, I think we're going to have a regular page titled "Ads We'd Like To Run But Can't Afford To, Except Right Here."

I think we need to sell direct to people in bike clubs. COMPANIES LIKE TREK can't do that, because they have dealers, and aren't set up for it, and the dealers would cry foul. Local bike shops often have affiliations with clubs, but they can reach only two or three clubs. We may not be a real threat to local shops anyway. Nobody bike shopper is considering either a Rivendell or a Cannondale; and Duluth-Acme-Carradice bags sure don't go head-to-head with Beelzebubesque zippered/compartimentalized Cordura wedge packs that swing like an old bull's scrotum when

Continues on page 36

IN THIS ISSUE

EDITORIAL	1
LUGS	3
WHY PEOPLE WHO LIKE LUGS LIKE LUGS	4
OUR NEW LUGS	8
RIVENDELL FRAME ORDER FORM	14
THE HAPPY HUMAN	15
WHY MOM AND POP HATE THE BIKE BIZ	16
INTERVIEW WITH ALEX MOULTON	20
LETTERS	27
PETER'S WEB UPDATE	28
NEWTHING REVIEW: RITCHEY 2 x 9	29
HOW TO TIE AND SOLDER	30
THE TC FACTOR	31
PROGRESS REPORT	32
DEBASHIS	35
SUMMERFLYER	37
READER SURVEY	38
ORDER FORM	39



THE RIVENDELL READER

1561-B Third Avenue
 Walnut Creek, CA 94596
 Phone: (925) 933-7304
 Fax: (925) 933-1305
 The Web things:
www.rivendellbicycles.com
 &
www.heronbicycles.com

email

For Grant, letters to the RR,
 or manuscripts,
Rivgp@earthlink.net

For orders: please phone or fax
 For general/technical questions:
Rivbici@earthlink.net

Note:

**Due to the volume, we can't
 answer all email. We'll try.**

Editor:

Grant Petersen

Layout:

Craig Dawson
 Media Solutions, San Francisco

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 unless satirical.*

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THE FIRST PAGE OF A SECTION ABOUT FRAME-THINGS THAT RHYME WITH "RUGS." NAMELY,

LUGS

IMAGINE THAT LUGS DON'T EXIST, BUT NOW SOMEBODY INVENTS ONE.

"It's a what?"

"A 'lug'."

"Okay, it's a 'lug.' What's it 'good' for?"

"Joining tubes by brazing."

"What's 'brazing'?"

"It's where you melt a skinny rod made of a silver or brass-based compound in the general region of the frame joint, and by capillary action, it gets sucked into the gap between an external reinforcement (the lug) and the tube, sort of gluing it together."

"Yeah, I heard of capillary things before...why do that?"

"Well, brazing heats the tube less, so the steel retains more of its strength. The tube doesn't melt, so if you ever buckle it in a crash you can replace it and make the frame as good as new. And, since a lug is an external sleeve, it distributes stresses and makes a stronger joint. Besides that, you can design or make lugs any way you like."

YOU'D THINK SUCH AN INNOVATION would cause a revolution, and that every maker's best frames would be lugged. You'd think every maker who wasn't starving to death would create unique lugs, so its frames could be identified forever. Each model could have its own lugset, and if not every model, every category (road, mountain, recumbent, track, BMX). Every few years they'd have new lugs, or maybe every season, along with the beaujolais. Brands would compete with each other for the prettiest lugs. New lug styles would be kept top secret until the unveiling, and new lug introductions would be black tie affairs attended by fancy and famous people, and the press. There would be lugs commemorating a company's milestones, or honoring political heroes. Children's bikes could have cartoon lugs. Pooh! Arthur! Hello Kitty! Henry Pootel! Lugs could be as unique as stamps or coins.

But this is 1999, and lugs have had their day, and it lasted almost a century. Bicycle construction is being taken over by faster building methods that are quicker to learn, cheaper to do, and require less capital investment. And work really, really well. That's a fact. Look at Lance's bike, for crying out loud. It ain't slowing him down. As an aside that has nothing to do with lugs, I used to race and follow racing, but don't give a hoot about it anymore, except for Lance. I know he's drug-free, and I want him to smite them all.

Lugs are still breathing easy in England, but not in Italy. At the big bicycle shows in Italy, where everybody who's anybody in Italy displays their latest and greatest offerings, you won't see a lugged frame. Retired racers who rode their entire careers on lugged frames are putting their decals on lugless ones. It is not heinous, it's just business, and if lugs weren't so rare and getting rarer, it would be easy to overlook this and everything else that conspires against lugs and has brought us to the point where most of the current new generation

of riders will go their whole lives never having ridden a lugged bicycle. Something has to be done to stop the decline, and now's a good time. Buy a lugged frame sometime in the next five years. Any brand (the next two pages list a few), so long as it's made by someone who's still making them. That part matters. Recycling is good, collecting and restoring and riding old nice bikes is fun and is important because it preserves history! But the future matters, too, and your patronage ensures it. Don't just scour the globe for the \$200 killer deal of a lifetime on a Henri 3. Pompadour "Regal Select" frame built just before he went blind, that some guy bought and never even built up, then he died and his widow sold it too cheap. Pay an honest price to a guy who makes a small fraction of what a plumber makes, and needs your business to survive. (The last plumber I paid worked an hour for \$80 and was worth it.)

Lots of riders are concerned with getting the most "performance per dollar" when they buy a bike. You can buy performance in a motorcar or computer, but not in a bike, because in a moving vehicle, performance is the engine and on a bike the engine is you. Anyway, the whole "maximum function for minimum expenditure" attitude shouldn't apply to everything. What would your home and your wardrobe look like if you applied those values to everything in it? Aunt Jeanne's placemats would have to go, because they don't wipe clean with a sponge. Your silverware would be imported fake Lexan, because it's cheap and strong and light. We'd all be wearing belts of nylon webbing, with Fastex buckles, because they're lighter and more efficient (two-finger release!) and are micro-adjusting. Too many features, dubious benefits, elusive quality.

It doesn't make sense and it costs too much to go head over heels artsy on everything, so go cheap on stuff that doesn't matter to you. Then pick things you look at, handle, use a lot, enjoy using, and actually care about, and get good ones of those. Otherwise, you end up with cheap-to-mediocre everything. Eventually you die and you haven't grown old with anything, because wasn't well made to begin with and as soon as it showed signs of wear, you tossed it out. ("Grampa died and everything he owned was crap. It woulda been nice to have a nice old bone-handled pocketknife or something to remember him by. Dang.") Apologies to vegans!

In the next issues of the Reader, and as a regular feature from now on, we'll examine lugs from different lug makers, and lugs from different companies. Old ones, new ones, familiar ones and weirdos. They're all neat, even in their humble crudeness. We're kicking off the series with our new ones, which we'll call the Butterfly lugs.

In the meantime, on the next couple of pages are a few words from other builders who like lugs, and why they like 'em. We aren't the only ones, you know, and we weren't the first, by far.

—Grant

WHY PEOPLE WHO LIKE LUGS LIKE LUGS

MARC MULLER, WATERFORD PRECISION CYCLES

I still believe the best way to joint most steel tubes is with silver brazing; and lugs facilitate this. They provide adequate surface area to offset silver's low tensile strength, and provide a mold for the silver (since it doesn't readily form fillets). Weight isn't an issue with lugged frames. Lugged bottom bracket shells are generally lighter than TIG shells, and lugs can be designed to be as light as weld filler.

In world that readily accepts TIG joints as part of the look of a bicycle, lugged frames are definitely on the endangered species list. Thankfully, many riders still consider lugs an aesthetic respite. The design and execution of a lugged joint is still a signature of pride and can be savored by both the builder and bicycle owner. This isn't to say that TIG welders have no pride; it's just that their palette is more limited relative to the final appearance.

With lugs—at least proprietary ones—tooling expense is the issue hardest to justify. The range of angles needed to build a modern line of frames is quite extensive, requiring a major capital investment. I hope the market for lugged frames will remain strong enough to encourage the making of new lugs, though.

Marc is Waterford's head designer.

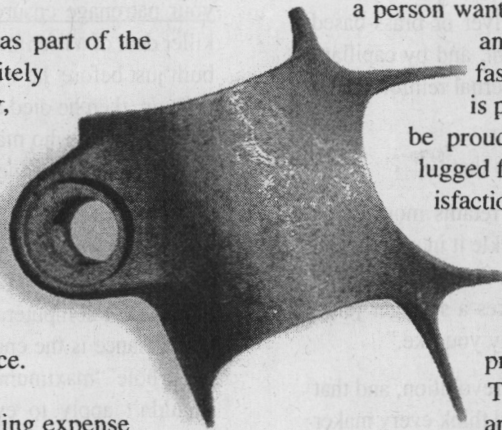
Waterford Precision Cycles
816 West Bakke Ave Waterford, WI 53185
ph (414) 534-4190 fax (414) 534-4194

MIKE BARRY, BICYCLE SPECIALTIES (MARIPOSA FRAMES)

We build almost all of our Mariposa frames with lugs. The only time we use any other method is when lugs are not available in angles that will accommodate the design of frame that we are building. This is usually a low profile pursuit bike, a tandem or a bike for a person with special needs. For these bikes we use filet brazing.

The primary reason for using lugs is aesthetics. To me a good bike is more than a bunch of tubes welded together. I take pride in the final appearance of our frames. The clean lugs, carefully finished drop-outs and the shaped and engraved fork crown are all very important. These features add nothing to the performance of the bike but they make the frame something that I, and hopefully the purchaser, will be proud of for years to come.

I am sure that a good TIG welded frame performs no



differently to a good lugged frame but to me there is no comparison in appearance. A lugged frame gives builders the opportunity to show off their craftsmanship. The good TIG welder will, I am sure, say that is true in their frame too, but I find it very difficult to distinguish any difference between the joints on one of the expensive custom TIG frames and those on an inexpensive chain store bike. Some of the nicest ones I have seen have been from the mass producers in Taiwan. If a person wants a good bike that is going to perform well and he is going to change it as soon as the next fashion comes along then a TIG welded frame is probably fine. If he wants a bike that he will be proud of for years to come then a hand built lugged frame, I am sure, will give him much more satisfaction. Lets face it 99% of the people that buy bikes cannot see beyond the decal. If that decal is the name of some famous Italian builder/supplier then to them the bike must be good even though the frame probably came out of the same factory in Taiwan as the chain store bike. Many buyers are willing to pay hundreds of dollars more for a name. It is sad to say but that is what marketing is all about.

There are still a few of us around here who love bikes and love to build good bikes. We hope that years from now people will look at them and recognize the craftsmanship that went into them.

Mike Barry builds Mariposaframes in Toronto.

Mike Barry
Bicycle Specialties
852 Millwood Road.
Toronto, Ontario, Canada M4G 1W6
ph (416) 423-0456 fax (416) 423-3987

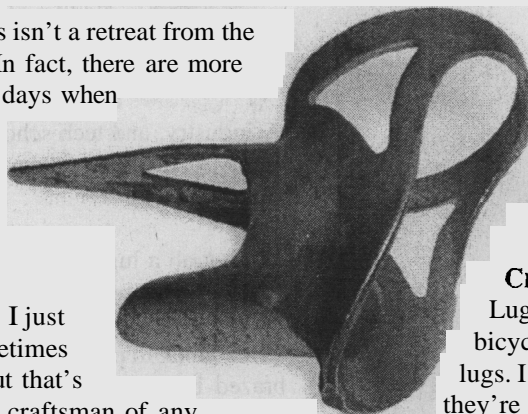
JOE STARCK

One day at work I walked by a row of frames in for repaint, and one caught my eye because of an unusual appendage jutting out from the lug. "Damn! Somebody beat me to it!" I said. "The boot-like shape of Italy, cut right out of the lug!" After closer inspection and a bit o' research, that "somebody" turned out to be Ernesto Colnago, and the frame was one of a style built 13 years ago with special "Arabesque" lugs. The appendage isn't Italy, after all, but a stylized shape resulting from lines borrowed from Arabesque architecture. So I'm not beat yet; I can still be the first kid on the block with my favorite shoreline cut into the lugs, right? The best of the best coastline on the West Coast? East Coast? Bays, inlets, peninsulas, lakes, and ponds are all candidates for my frame.

Perhaps I'll go global and airbrush on longitude and latitude lines. A Tropic of Capricorn model. Hey, lugs are supposed to move you. I'm leaning geographic here, but my musings can take me elsewhere.

I'll always love Nervex lugs. They're simple but perfect classics. I think Rivendell lugs have set a new mark—I like how they elicit both hard and soft feelings with their unique blend of art nouveau-medieval lines. And nobody does better out-of-this-world designs than Glenn Erickson with his moons, stars, and comets.

These days, my obsession with lugs isn't a retreat from the rise of non-steel frame materials. In fact, there are more and better steels today than in the days when steel frames filled the peloton. Steel's strength, ductility, and resiliency make for a reliable, repairable, and beautiful frame to last a lifetime.



It isn't that I just like lugs, either. I just like lugs that are evocative. Sometimes all that means is "nice details," but that's the highest praise one can give a craftsman of any object.

Joe Starck builds full-time for Rivendell, and is as good a framebuilder as anybody, ever.

PETER WEIGLE

There's nothing wrong with TIG welded this or bonded that, but to keep my interest, a frame has to look as good from twelve inches away as it does from twelve feet. Lugs make closer inspection worthwhile.

But just because a frame has lugs doesn't mean it's special. And, there are many levels of participation with lugs. Peugeot used Nervex Pro lugs on its PX-10 frames. They were thick and chunky, slapped on right out of the box. Schwinn also used the same lugs on Paramounts, and on some (not all) years they cleaned them up and gave them a nice look. Brian Bayliss took the same lugs and thinned them, reprofiled the edges, and drilled and filed cut-outs until the lugs looked like lace. The same lugs as Peugeot used, but with shockingly different results.

Production frames vary in their quality of lugwork. Some are built to high standards consistently, others vary from year to year. Just because it's a Paramount, Cinelli, or Raleigh Pro doesn't guarantee the lugwork will be good.

As good as some production frames are, they can't match the look of spirit of a frame built by an individual with a passion for the craft; someone who can take the time. You won't walk into a production shop and find the builder holding a lug up to

the light, turning it slowly so he can decide what to do next time to get that nice flow of line.

To me, a lug doesn't have to be fancy to look good, although I do like a well-proportioned "flame-style" lug. I enjoy creating a less showy style where subtle line changes lead to voluptuous curves that swoop and flow and beg the eye to follow.

Lugs are a place to show your style, imagination, your signature and passion. Try doing that with a bead of TIG weld, or some glue and carpet fiber!

Peter Weigle trained as a framebuilder in England and has built knockout frames in Connecticut for more than 25 years.

Peter Weigle
410 Town Street
East Haddam, CT 06423
ph (203) 873-1671 fax (203) 873-1079

CHRIS KVALE, CHRIS KVALE BICYCLES

Lugs are what I grew up with and learned to love. The bicycles we rode, and all good bicycles back then had lugs. I like lugged frames because (despite their image), they're highly evolved. They've been around for such a long time that there's no news or excitement about them, but the problems have been worked out, empirically, over decades. They frames have been refined, and they work.

TIG-welded frames can be strong, of course. But lugged frames are exceptionally so. I once hit a motorcycle broadside as I was going 25 mph. It was a Honda Gold Wing. I stopped instantly, flipped over, and only my fork was bent. I'm still riding that bike. I think the market for lugged frames is growing, but really slowly. People who couldn't afford a really fine one years ago are coming back to them. There isn't the range of prices there used to be, and the very best ones cost more now, but many people who couldn't afford the best back in the '70s or '80s can afford it now.

Chris Kvale (ku-wah-lay) is a manytime Minnesota state champion and has been building fine lugged frames for 25 years. Years ago, it was a trip to Chris's small shop that convinced Curt Goodrich (now at Match) to take up the craft. Although I've never seen a Chris Kvale frame in person, I've heard from so many that his frames are superbly crafted and well designed.

Chris Kvale Cycles
3105 East 42nd St. Minneapolis, MN 55406
(612) 724 8843

HANK FOLSON, HENRY JAMES BICYCLES

You don't see brazed lugged aluminum or brazed lugged titanium frames. The true reason is that you can't braze aluminum or titanium like you can braze steel! Brazing is

simply an optimum way to build high quality steel frames that look great.

!WARNING!

You will only enjoy your hand brazed lugged steel bike if you can live with these limitations:

- You won't have the most expensive technology
- You won't have the latest hot marketing rage
- Your bike won't go out of fashion tomorrow so you can buy again
- Your bike won't look like all the others
- Your bike will only be good for getting outdoors and doing the kind of riding you want to do

Henry James (Hank Folson) is as strong, and committed, and nice, and sincere a lug advocate as it is possible to be. He is also a lug, fork crown, and bottom bracket shell designer and manufacturer with impeccable taste and keen eye. Many smaller builders use his designs exclusively, and it is fair to say that without his efforts, lugs would be even rarer and harder to come by than they are already.

Henry James (Hank) Folson

Web Site: www.henryjames.com

E-mail: lugs@henryjames.com

Redondo Beach, California Phone: 310-540-1552

ROLAND DELLA-SANTA, DELLA SANTA CYCLES

Since 1970 I have used lugs from various manufacturers—Prugnat, Haden, Nervex, Cinelli, Boccama, and many more unknown. Most of these lugs were stamped from sheet steel, then rolled and welded into shape, and they ranged in quality from passable to very crude. They took hours to prepare and finish to get the desired results.

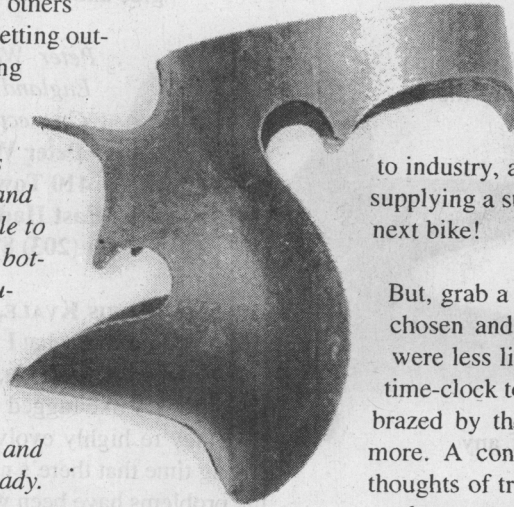
Then in the late '70s and early '80s came investment cast lugs. They were more precise, better finished, and required a lot less work. I prefer lugged construction because I can make a more precision frame that can be repaired in case of a bent or dented tube. And, with lugs, a bicycle frame has character, and style.

Roland Della-Santa builds beautiful frames out of his Reno, Nevada workshop, and there are plenty of them on the local mountain—and they're always a relief to see among the usual fatonsteels. The first Della-Santa I saw was Greg LeMond's. Greg lived in Reno when he was a Junior, and his yellow and blue Della-Santas were the bikes on which Greg rode to stardom and a pro contract.

Roland Della Santa

36 Kohlepp Ave.

Reno, NV 84509 ph and fax (702) 322-2305



RICHARD SACHS, RICHARD SACHS CYCLES

Any comments regarding the use of lugs must take in to account the primary task at hand—to join two steel tubes to each other. Deciding which method to employ involves either economics or emotion. Sometimes both. But rarely.

There are those who embrace the process of melting steel together with a bead, TIG welded. This group may also accept an environment in which everyone wears matching outfits.

Maybe similar caps, too. Perhaps color bars on some shirt pockets to denote and differentiate status. TIG welding is a uniform, androgynous, style-less look. In fact this is the current aesthetic of the bicycle. Welding works. It does the job. It is the fastest technique available

to industry, and tech schools routinely graduate welders, thus supplying a steady stream of workers for the assembly of your next bike!

But, grab a lug and use it and you pay homage to a process chosen and perfected when the streets of time and money were less likely to intersect. And when you wouldn't find a time-clock to punch at the local framebuilders. Lugs are often brazed by the hands of a person who thinks less and feels more. A concern with quality and integrity will override thoughts of trends or market share. When you coast down the road on your frame brazed with lugs, its maker is riding with you. And will for decades, maybe more.

My decision to use lugs is not made to bring along the past or to venerate it. Lug assemblies are the most rational way to make a frame superbly well, to ensure the optimum ride characteristics, to maintain the quality of the steel, and to maximize its service life too. Add to this mix some clean brazing, artsy

design elements, unique embellishments, cool cutouts....and your cake has icing ready to taste!

Richard Sachs is known in some circles as the husband of renowned basket maker and weaver Debra Paulson, but you probably know him as a framebuilder. He lives and works in Chester, CT. I've spoken with him too much over the years to deify him, as some do, so I merely like him a whole whole whole lot, and continue to be under his influence. He designed the original Rivendell Road lugs, which we would still be using if I hadn't been under the false impression that we were almost out. He is the only builder who we let use them. When our new lugs arrived, I sent him a set, and am relieved and proud to know he likes them a lot.

Richard Sachs Cycles

9 North Main Street

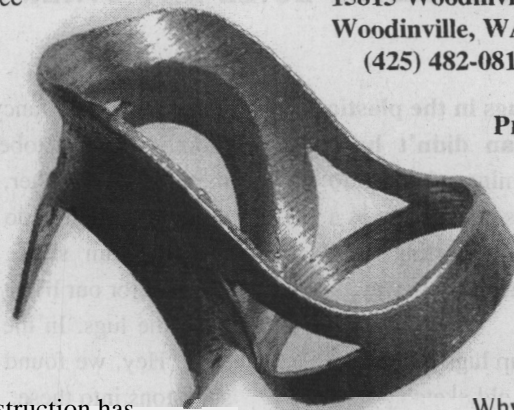
Chester, CT 06412

(860) 526-2059

JOHN MURPHY, COLUMBINE CYCLE WORKS

I prefer building frames with lugs because lug and sliver braze let me eliminate warpage, preserve all the strength of the tubing, and join dissimilar metals like stainless steel to steel. Although making frames with lugwork is generally more time consuming than other methods, our results are strong, lightweight, and durable. Columbine frames are also well known for their artwork. Although my major consideration when building is the superior ride and safety of our frames, the art work is eye-catching. Lugs can be used as a vehicle for beauty and individual expression. Face it, one fillet braze looks just about like any other fillet braze. But lugs? Now there's an opportunity to customize the custom in "custom bicycles."

Columbine Cycle Works
P.O. Box #338
Bellvue, Colorado 80512
Ph/fax #970-224-1168
johncolumb@aol.com

**TIM ISAAC, MATCH BICYCLE CO.**
(MAKES RIVENDELLS)

Bicycle frame making with lugged construction has always brought together three important elements for me—esthetics, craftsmanship, and function. The unlimited possibilities of design unite the frame geometry with the shape of the lug, forming the frame and the bicycle. That little joint that requires such care and skill to braze to the tubing, conveys the talent of the frame maker to the rider, a statement of confidence, art and security wrapped up into a simple and pleasing package.

I have been able to design several complete bicycles using investment cast lugs. Each project was unique from the start, and each effort resulted in a series of special working relationships with product managers, casting companies, tool makers and frame builders. The bicycles produced carried thousands of bicyclists on thousands of tours, training rides and races. At the heart of each was the lug, holding it all together.

The lug forms a compact overlapping joint that adds some degree of strength to the joint simply by virtue of its shape. The result of brazing produces a lamination of steel and filler metal, either brass or a silver compound, and a joint that is unsurpassed in its strength to weight ratio.



Today's economics and crack advertising intentionally ignores the craftsmanship of frames made this way, concentrating instead on the hype of colors and clever phrases that distract the consumer and convince him of his wisdom to select "their brand" of cookie cutter bicycles. Remove the paint and graphics and bicycles built without lugs quickly fall to the side as ordinary and mass produced.

Tim Isaac owns Match, and was interviewed in RR15.

Match Bicycle Co.
15815 Woodinville-Redmond Road
Woodinville, WA 98072
(425) 482-0811

PETER MOONEY, BELMONT WHEELWORKS.
(PETER MOONEY)

Did you know that the price of a high quality lug set, bottom bracket, and fork crown can be close to the price of the entire tube set? It's no wonder why so many frame builders are happy to so greatly reduce production costs.

Why do some of us persist in making bicycle frames the "old way"? Lugs reinforce high stress areas on a frame. They provide extra thickness where headstays cups and seat post clamps can distort thin walled tubes or require the use of heavier tubing. Lugs can **also** facilitate tube replacements. The main reason for choosing a lugged frame may not be performance related, however.

Many popular frame materials must be bonded or welded, eliminating lugs as an option. My frame choice picks steel for its ride-handling characteristics, and lugs, for their aesthetic contribution. If steel gives the frame its ride-handling personality, lugs compliment it with a visual personality that makes me feel good about my bikes and the bikes I build.

Peter Mooney is part owner of Belmont Wheelworks, and has built lugged steel frames since the '70s.

Belmont Wheelworks
480 Trapelo Belmont, MA 02478
6174893577

THESE GUYS ARE NOT OUR COMPETITORS

Even the ones who don't build Rivendells. The world is 5 billion years old and is a mere spec in the universe, and not only are we living on it at the same time, but we even like the same kinds of bicycles. They're friends, kindred spirits, and inspirations. Each has his own ideas of what makes the best bike, and many of those ideas may conflict. But each was chosen because of a strong preference for steel joined with **lugs**, so we all have that much in common, and these days, that's a lot.

OUR NEW LUGS

LUGS ARE THE ANCHORS THAT WILL SINK RIVENDELL.

LUGS ARE CASH FLOW NEGATIVIZERS.

IF RIVENDELL GOES AWAY, SOME PUNDITS WILL SAY,

“T’WAS LUGS, WHAT *DID* IT! SUNK ‘EM GOOD!”

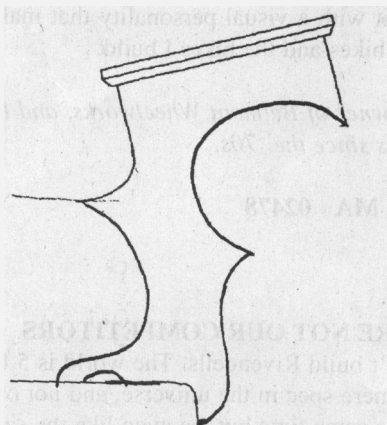
LUGS ARE IRRESISTABLE, THOUGH, AND WE’LL NEVER STOP BUILDING LUGGED FRAMES AND WILL NEVER BUILD ANY OTHER KIND. SO ON WE GO.

We were down to ten road seat lugs in the plastic bin, and the caster in Taiwan didn’t have anymore. We wanted to make minor changes to the entire lugset, just small things, and so it was a choice between modifying existing tooling, or starting from scratch with new tooling (new lugs). We went the new way.

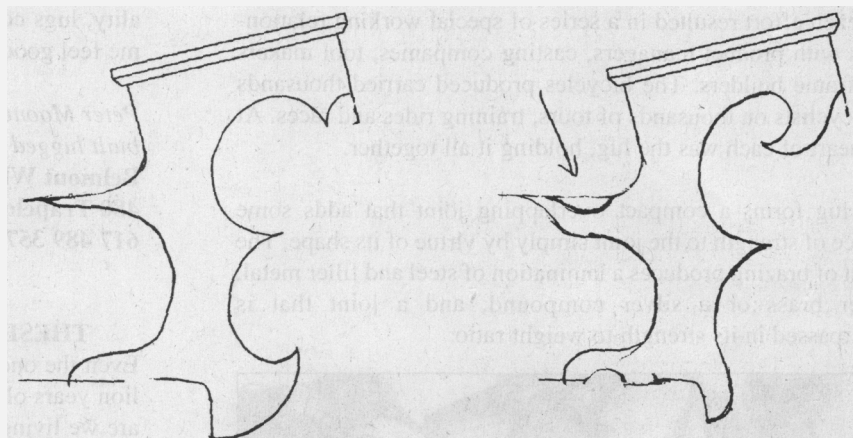
Tim at Match was thrilled to help. Drawing up lugs is high on his list of favorite things to do. I had lots of old sketches and new ideas of things I wanted, and knew the look I wanted. What I don’t have are CAD skills, but Tim has those. Tim also had ideas about details that would make the builds better and more efficient. The cast-in head tube extension was obvious. I’d anticipated Tim arguing for minimalist lugs, but he didn’t want those any more than I did, and we both set out to make

them good and fancy, but way shy of Mae West. For four months, from October ‘98 through about January ‘99, we put these things together, and it was a good four months. It’s not as though we didn’t do anything else during that time, but this was the fun stuff. Twenty-thousand dollars later, we’re fighting for our lives, frame sales are skidding to a halt, but we have the lugs. In the middle of this process, the other caster said “Hey, we found 120 seat lugs!” Too late—we’d already sunk tons into these.

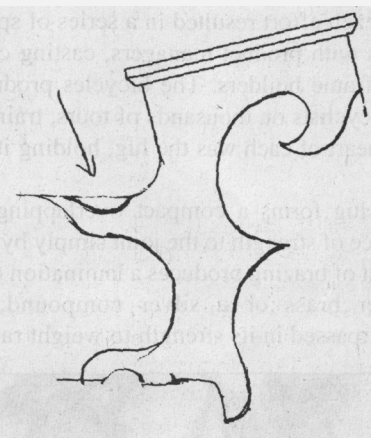
It’s presumptuous to assume you care about the evolution of them, but the fact that you’re reading this lumps you in with extremists, so maybe it’s a safe presumption. Following are hand sketches and cad drawings of various versions along the way. I’m pretty sure of the order, but not a thousand percent.



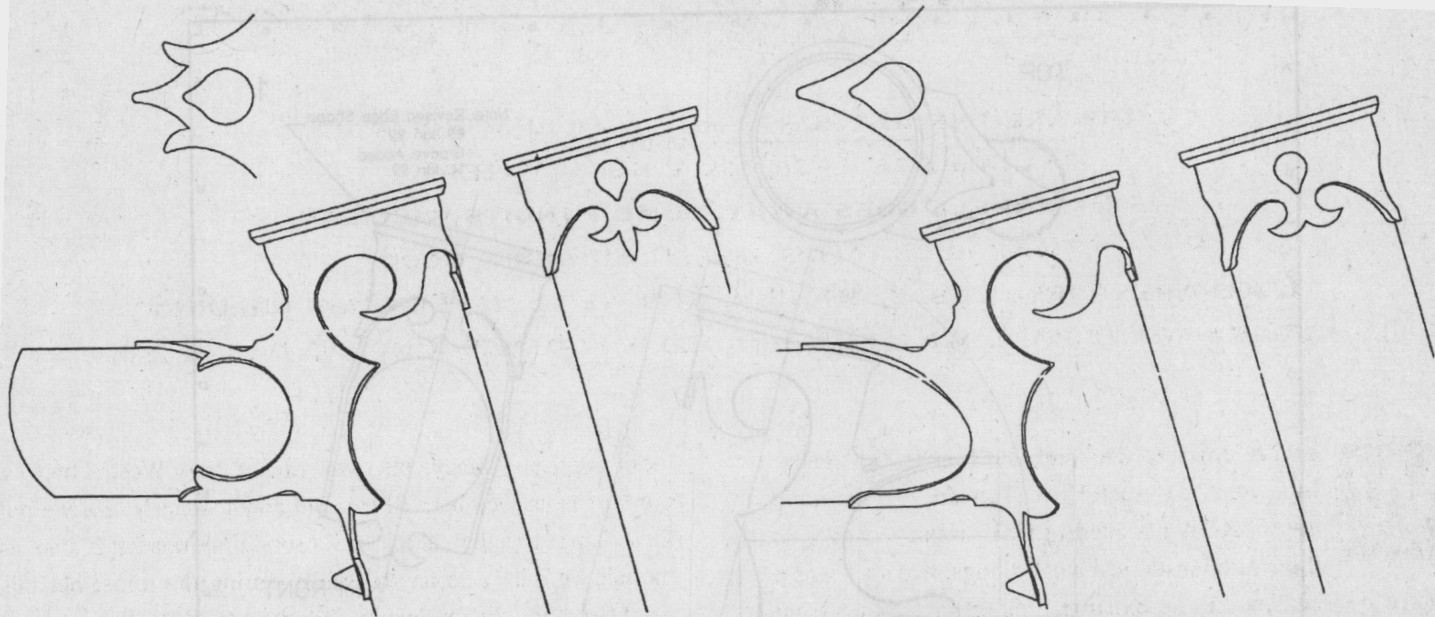
a. Too simple. Clean and tidy, yeah-yeah, but not much fun.



b. Better, but what’s with the chef’s chopper?

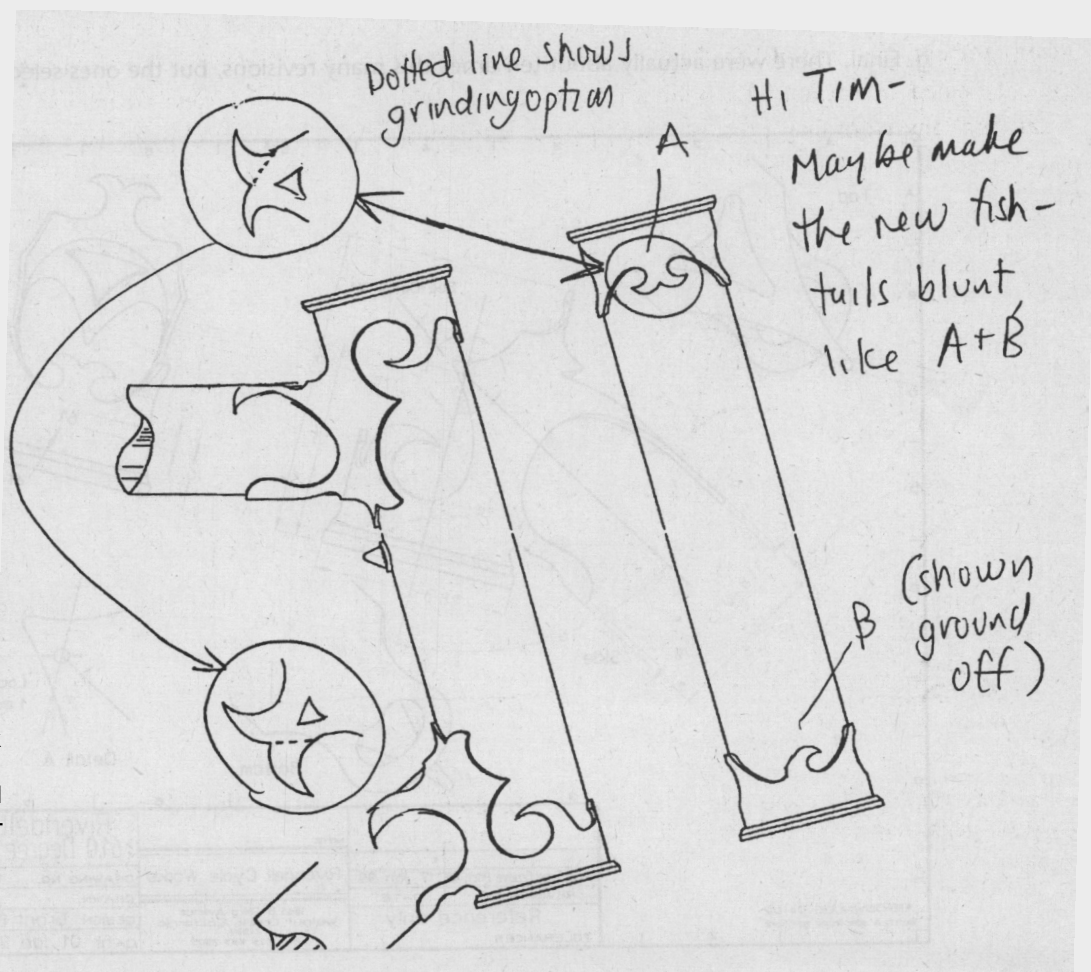


c. Chef’s chopper gone, fanciness added.

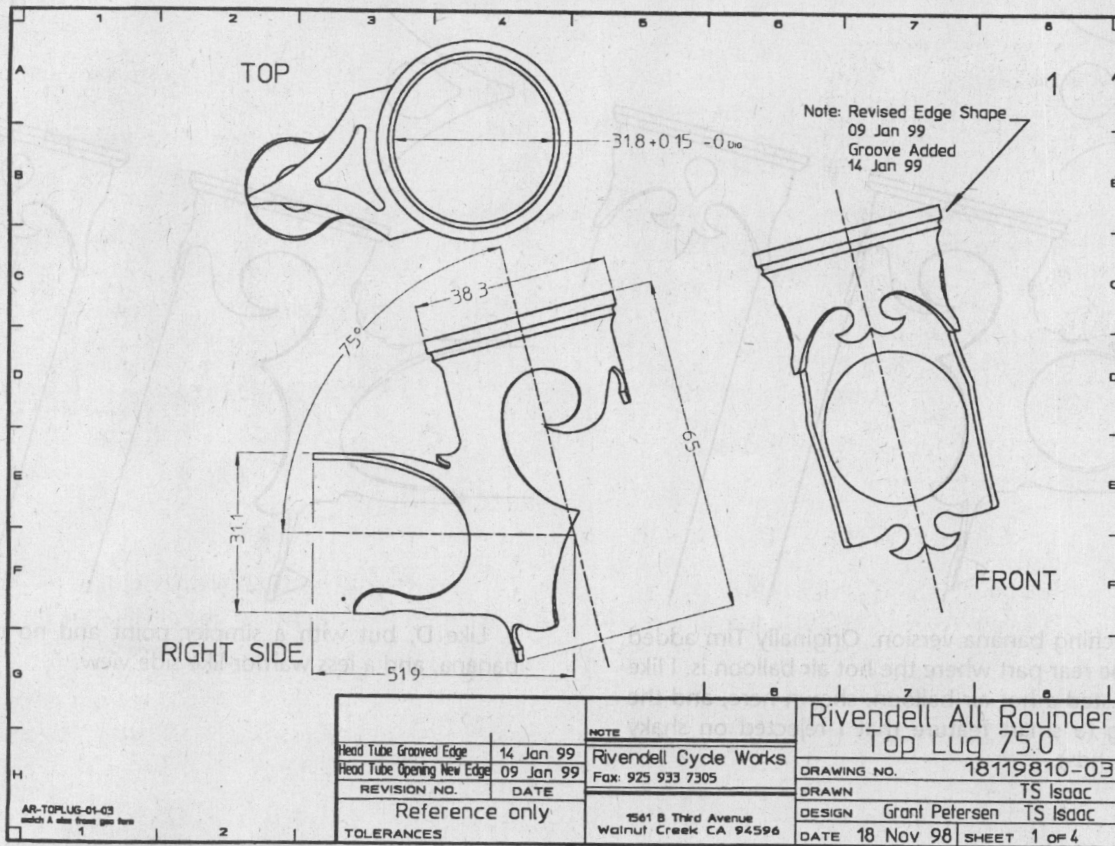


d. Our Indian/hatching banana version. Originally Tim added a star on top of the rear part where the hot air balloon is. I like circles. Tim suggested a hot air balloon, shown here, and the cabin pump peg (a smart feature that I rejected on shaky philosophical grounds).

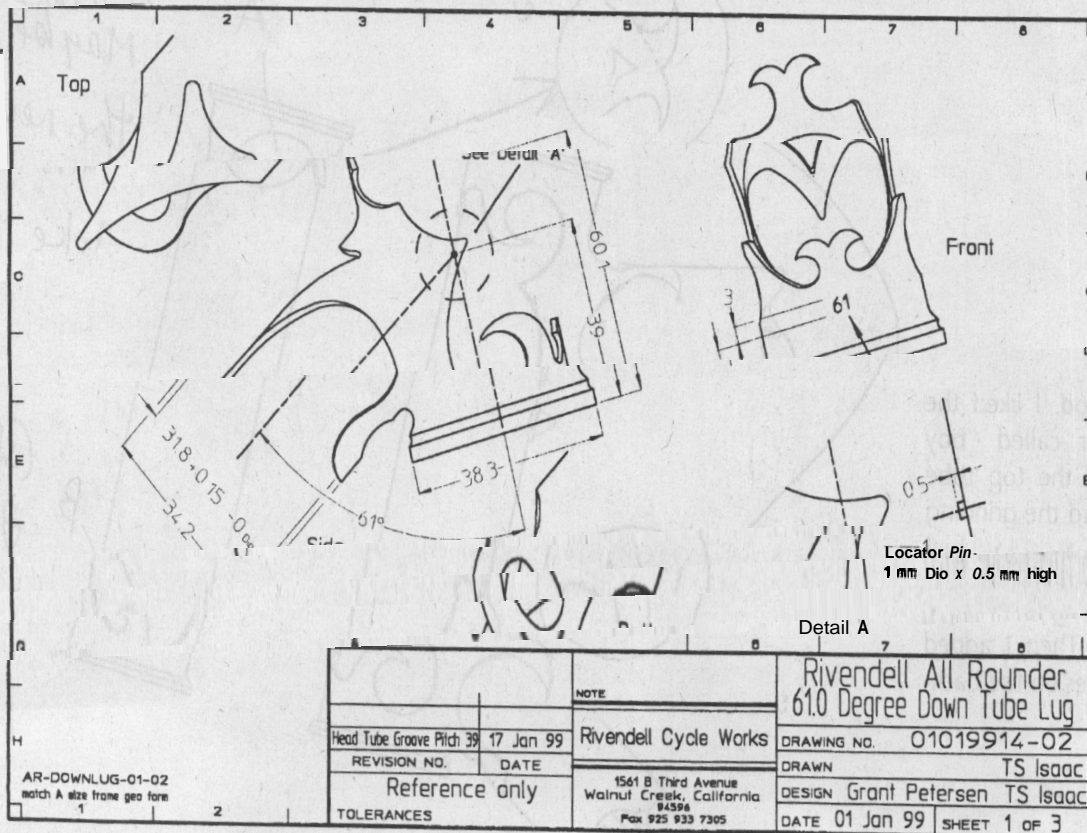
e. Like D, but with a simpler point and no more hatching banana, and a less warrior-like side view.



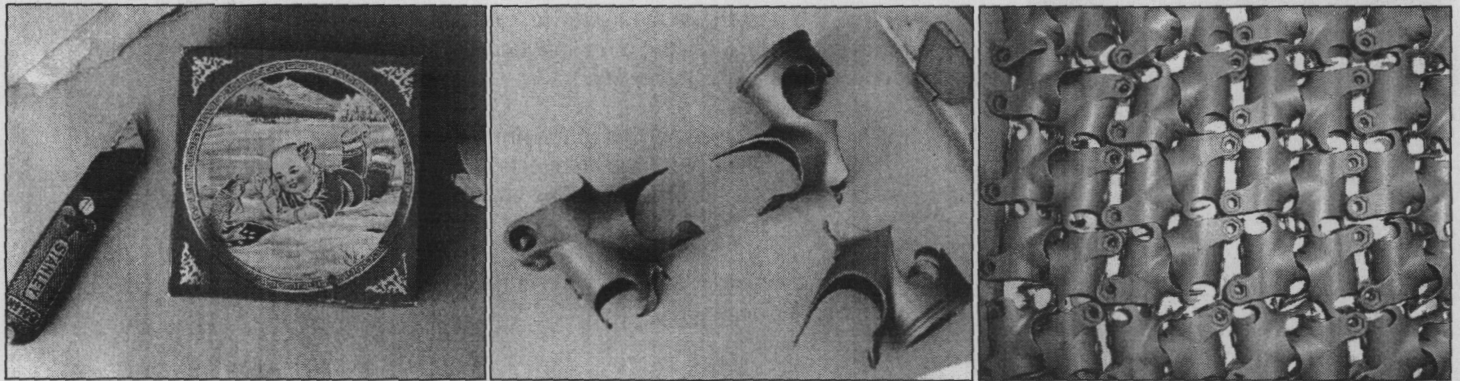
f. Shaping up good. I liked the split waves (later called "boy scout leaves") on the top tube and head tube, and the grinding (single leaf) possibilities they offered. Tim thought it was dumb. I wasn't comfortable with the small window on it, so I think Tim suggested a long point and a big old window. Then I added the boy scout leaves on the back-sides.



g. Final. There were actually about ten times this many revisions but the



THE DAY THE SAMPLES ARRIVED



Here's the box they came packed in. That's Rex and "Goldie."

This be them.

A month later... we got lots of them. Nice packing!

THREE GOOD WAYS TO JUDGE LUGS

FIT. They should fit the tubes they're designed for. If a lug bore is too big, it won't be good for brazing; if it's too tight, the builder has to hone it out with an abrasive wheel to make the tube fit. These lugs fit perfectly. No hammering, no tapping, and no scratching.

SURFACE FINISH. The lugs come out of molds, and where the molds come together, there are often parting lines. (Multiplied a hundred times, it would be "flashing." You see it a lot on cheap metal or plastic toys.) Our builders say about these lugs: "They're ready to braze right now."

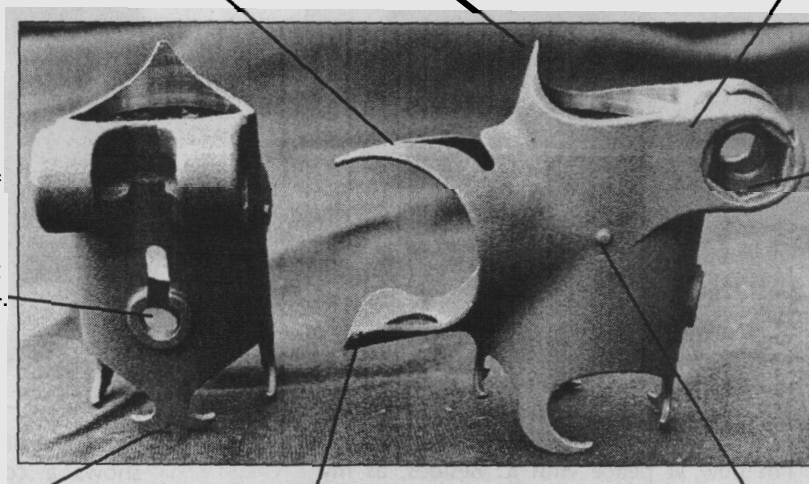
EDGE QUALITY. The edge should be perpendicular to the tube. The squarer the edge, the cleaner the brazing. If the edge isn't square, there's more of a fillet (swoop) between the lug edge and the tube, and if that happens, it's hard to mask it well. According to Joe Bell, perfect masking "stops at the corner, or as close to it as possible" and if there's no corner, there's no guide. Then, after all the layers of paint and clear coat, the line between the two colors looks arbitrary, like plucked and painted on eyebrows. And, like p & p eyebrows, it's not a fantastic look. These lugs have good, square edges and give Joe Bell a fine opportunity to show off his skills.

The topside window curves a bit down onto the side. It looks good.

The forward top point is beautifully tapered, requiring no filing at all. The radius at the top tube is large (French and Japanese style).

The seat binder wraps around the midportion in a beefy sort of way, insuring that no heavy-handed seat post tightener will ever bend the ears.

The overgrown stress relief hole at the bottom of the binder slot makes cutting the slot easier. You just cut down until the blade reaches the hole, and then you're done!

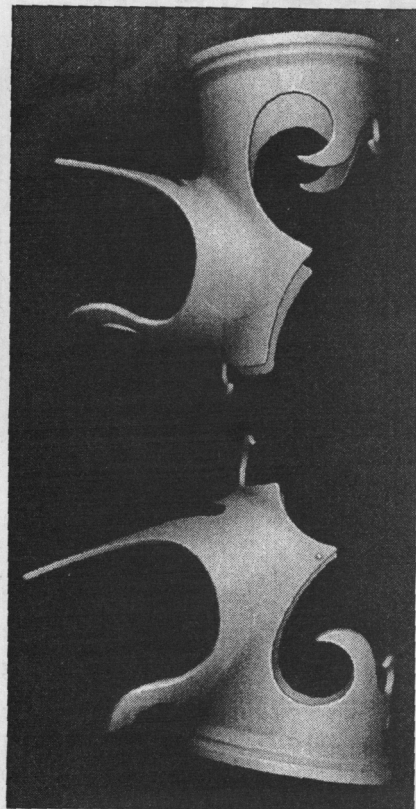


The binder's left ear is cast to accept a standard hex nut. I first saw this on some Bstone lugs, and it's made sense ever since. Now, if you ever break a binder bolt (unlikely, but it can happen), you can get another at any hardware store in the world.

The bottom side, front, and back are ornamented with curves and split leaves (formerly "fish tails").

The peekla-boo lower spoon, inspired by Alex Singer lugs, creeps up onto the side of the top tube, rather than hiding completely underneath it.

The "pip" on the side is all Tim's, and he'd rather I not talk about it. It's a secret.



THE TOP HEAD LUG

a. The most notable feature is the cast-in head tube extension. In the early days of investment cast lugs, the casters weren't able to cast such intricacies reliably; and besides which, nobody was asking for them, mainly because bikes were sized much larger than they are today, so it was less necessary.

b. The "rim" is a more stylized version of the rim found on Nervex Pro lugs. It looks more like an architectural column, although architects might disagree. Can Joebell fine-line the circumferential groove? Is his brush that fine and his hand that steady? If he can't do it, nobody can. He says "I can."

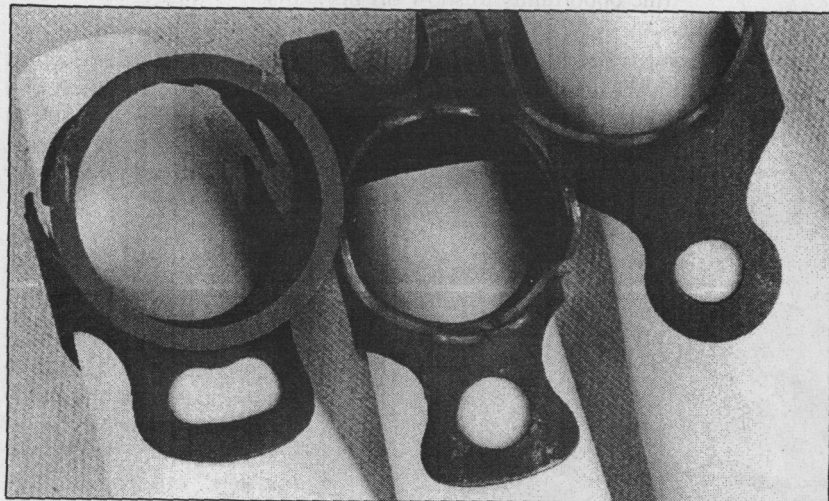
c. The boy scout leaves on the top and the curves on the side match the same features on the seat and lower head lugs.

THE BOTTOM HEAD LUG

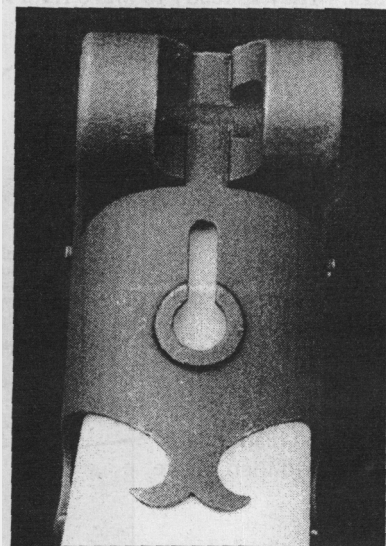
a. Nearly a mirror image of the top one. The reinforcing rim strengthens the head tube immensely. The head tube won't go oval in a million years, as opposed to merely hundreds of thousands in our previous lugs.

b. We needed three different bottom head lugs to cover the range of sizes and models we offer. Bottom head lugs are distinguished by their head tube size (all our bikes use 31.8mm there), their down tube size (we use both 31.8mm and 28.6mm), and their head tube-to-down tube angle. This one happens to be 61-degrees. We also have another version of this lug in 63-degrees x 31.8 mm downtube, and in 59-degrees x 28.6mm downtube.

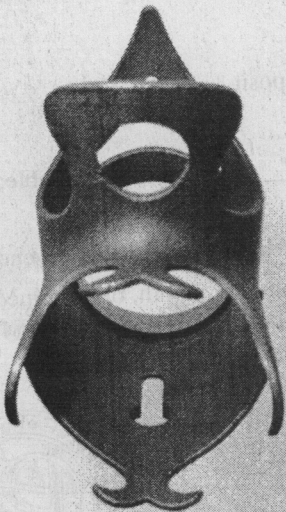
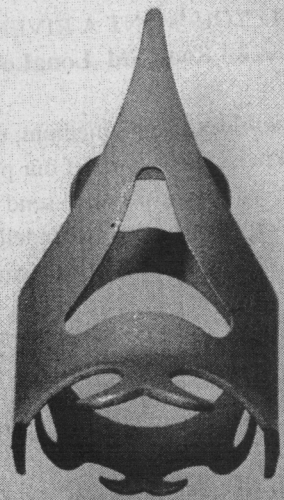
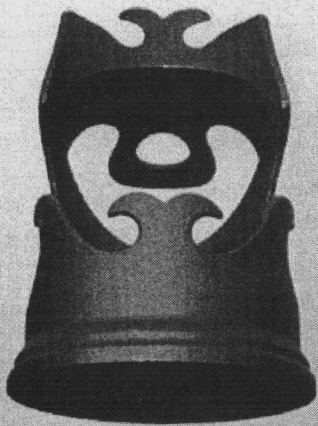
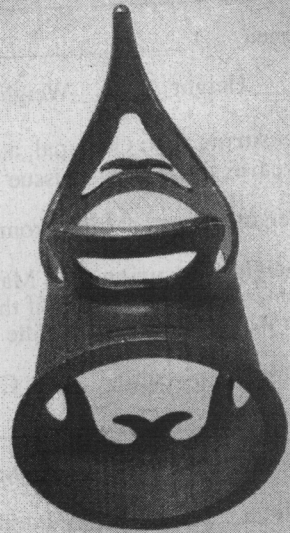
ARE THESE LUGS PERFECT? NAH.

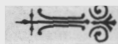


The lower spoons and windows shoulda-oughta been as identical. But as you can see, Shadrach has an oval spoon and window; Meshach has an ovalish spoon and a round window; and Abednego has a round-round spoon. It was not stupidity, merely neglect. **I'm** now at peace with it. Besides, as my Richard Sachs T-shirt says, imperfection is perfection,

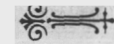


The underside of the seat lug ears shows a corner where the ears meet the body. If I could do it over again, I'd put more of a little radius in there.





RIVENDELL LUGGED FRAME ORDER FORM



Date submitted: / / 99

Name _____

Address _____

City _____

State _____ Zip _____

Day Phone () _____

Fax () _____

email _____

Age _____

Height _____

Weight _____

Pubic BONE height (PBH) in bare feet _____

In cycling shoes _____

PBH measuring tips: Get a pal, a thin book, and a metal tape. Hook the end of the tape over the edge of the book, and pull it up until it weaves through your tissue and strikes BONE. Have pal take the reading on the floor.

Saddle height on current bike, from center of bottom bracket to top of saddle: _____ cm (inches x 2.54).

Saddle height measuring tips: Make sure the bike is vertical. Have Pal place the end of the tape/yardstick on the center of the crank (center of the dustcap, or if the dustcap is missing, on the center of the crank bolt). Measure to the top of the saddle, and have your eye level with the saddle when you read the measurement.

Years riding as an adult _____ Current favorite bike (model, size, comments) _____

Type of riding you will do on this bike: _____

Approx. yearly miles: _____

Typical tire: _____

Largest tire: _____

Percent time riding on that thar largest tire: _____

What style handlebars will you ride? Drops _____

Moustache _____

Both? _____

Other? _____

WHY DO YOU WANT A RIVENDELL? _____

Model(circle) Road Std LongLow All-Rounder Size (c-t): Rivendell's choice _____

No. Please build a _____

COLORS

3 metallic blues: Light, medium, dark. **3 greens:** Grey-green; Coleman Stove; Dark Green (metallic). **Orange:** Burnt.

____ **Surprise me** (on or off our palette), but stay away from (list your fears): _____

When we get a deposit, we'll send out photos or color chips with your first receipt; then you have a month to decide. **Or** you can see them on our website: Rivendellbicycles.com. **If you pick without us sending chips (in other words, if you do it now), we'll take \$20 off the price of your frame.** If you later change, we'll silently add that \$20 back.

DELIVERY

With good luck, 2-3 months. With medium luck, **4-5** months. It shouldn't be longer than that, and at the time you order we'll give you our best estimate, which isn't a guarantee. Call anytime for updates. A Rivendell will probably last you the rest of your life, but if you need a bike fast, for a special ride or a high school reunion, this isn't the one.

PRICE AND PAYMENT

(note: Price includes prepping, anti-rusting inside the tubes, two water bottles, water bottle bolts, seat binder, and a cap.)

	1999 price	Y2K price?	
Road\$1500.....	\$1 750	
LongLow	\$1 525.....	\$1775	A deposit locks in the price at time of deposit.
All-Rounder	\$1575.....	\$1800	

Other: Bottom bracket: Phil Wood (to fit your cranks): \$135 installed. Want it? _____ (other bbs available; ask)
Headset: Tange Rollerball (we love it): \$50 installed. Want it? _____

Deposit: \$300. Check or credit card. Balance before shipping. If you cancel after 60 days, we refund as Rivendell credit.

Layaway Plan: \$100 deposit locks the price, and you can then chip away at the balance month by month, or as you come up with the money. Refunds as credit. If you want to lay-away a frame, check here _____ and send us \$100.

Freight: UPS Ground is \$35 per frame, **\$50** per complete bike. International, \$200. For faster methods, call.

Payment Enclosed: Visa or MasterCard: _____ expires / /

Other comments?
Photocopy this and write
on the back, or submit a
separate page.

Your Signature: _____

Rivendell Bicycle Works / Frame Dept.
1561-B Third Avenue, Walnut Creek, CA 94596
ph (925) 933-7304 or fax (925) 933-7305



THE HAPPY HUMAN

A COLUMN WE USED TO HAVE, A COUPLE YEARS AGO, AND ARE NOW BRINGING BACK.
IF YOU LIKE SOMETHING WITHOUT RESERVATION, TELL US WHAT IT IS AND WHY YOU LIKE IT
AND WHERE SOMEONE ELSE CAN GET IT. IT DOESN'T HAVE TO BE BIKE-RELATED,
BUT IT DOES HAVE TO BE AVAILABLE, AND YOU HAVE TO SAY HOW MUCH IT COSTS, TOO.

BOSTON RANGER 55 PENCIL SHARPENER

Six years ago a friend and Japanese Bstone employee asked me if I could get him one of these. This is a guy who likes mechanical watches, so I was curious about his taste in pencil sharpeners. I was also curious how he even knew about this pencil sharpener, but apparently it has a following in Japan. I went to a stationery store in San Francisco that had several Boston products, but they didn't have these. I asked the proprietor if she knew about this one, and her face lit up. "That's my pencil sharpener! No—we don't carry. Nobody buys." (I can vouch for that. They didn't carry it, and I didn't buy it there.) I finally found one through a school supply catalogue. This model has the familiar, fascinating grinding wheels we all grew up with, and has the same puttyish taupe color. It has holes for six different diameter pencils, and point settings for blunt, normal, and fine. The settings are stamped in really small, and with the puttyish taupe paint over them, you can barely read them even with a magnifying glass and a flashlight, but they are there. Maybe a braille guy could. I wanted to sell this in our catalogue, but several phone calls and an inquiry to Boston discouraged me. The wholesale price is around \$27, and we'd have to buy 400 of them to make the minimum dollar initial purchase, and even I'm not that dumb. Anyway, you can get one through your stationery store, price will be around \$49, and you'll probably have to be pushy to get them to order it.

—Grant

FROG PEDALS

Upon middle-aged re-entry into biking a few years ago (yep, part of that demographic), I quickly found that toe-clip pedals and my knees were no longer compatible beyond about 25-30 miles. Having been told that clipless pedals with "float" were the ticket for the type of knee problem I was having, I started the search for clipless pedals. After trying a few different models and systems, I stumbled onto Speedplay Frogs.

These pedals are a triumph of "the simpler, the better" philosophy - a true marvel of low-tech engineering. Aside from the movement of the pedal around the spindle, there are no moving parts on the pedal and exactly one moving part on each cleat. To hold the cleat on the pedal, there is a very small, hinged piece of metal with a small piece of rubber (maybe 2mm thick) between it and the shoe. When engaging the pedal, this piece of rubber compresses, allowing the metal piece to slide over the ring on the pedal. Once the edge of this piece clears the pedal ring, the rubber decompresses, pushing the piece of metal into a position that locks the cleat to the pedal.

This is so gloriously, elegantly, low-tech that a folded piece of rubber band would work for an emergency repair with no loss of pedal function (not that there's much to break in the first place).

The pedals are double sided, engage and disengage extremely easily, and gives the rider 20 degrees of the smoothest float heretofore know to (hu)man. The float on most SPD pedals is against spring resistance, which is the same spring resistance that you push against to disengage the pedal. The Speedplay float is against no resistance at all. To disengage, you twist your foot until a notch in the pedal disengages the cleat - no spring tension to deal with at all, but far enough to the side that you won't do it accidentally. A few people find the free float of these pedals disconcerting - most who have tried them take half a ride or so to adapt and then love them. My knees have never been happier. The cleats are fully recessed and use the same two bolt pattern as SPD cleats, so you can use them with just about any shoe that'll take a SPD, most of which are fully walkable. The cleats cover a larger area than SPD cleats though, so the SPD "hotfoot" is not a problem with Frogs.

These pedals are great for fast road rides, touring, commuting, fixed gear riding (the easy engagement and disengagement is even more important with a moving pedal), and mountain biking. The simplicity helps them handle mud and other elements very well. They are very light and simple to maintain (a single allen bolt covers a grease port into which new grease can be injected once or twice a season). I can't imagine any way I'd improve them. If Speedplay ever offers a pedal similar to Shimano's 323, which has a SPD mechanism on one side and a flat pedal on the other for the occasional quick ride in street shoes, I'd buy that too. This is not a complaint about these pedals, just an idea for another product I'd like to see. I can't imagine why I'd ever change to another pedal. Frogs are about perfect.

NAMIKI VANISHING POINT FOUNTAIN PEN

I'd always been a pencil sort of person, but the Namiki Vanishing Point fountain pen has changed that. I now use a fountain pen for virtually all of my notes and doodling. It writes smoothly, lays down a nice fine line (I have the fine tip) when you're writing lightly, but it can give a bolder line when needed. The "Vanishing Point", it's a retractable fountain pen, part is interesting and convenient but the real joy is the writing. Available from Levenger (www.levenger.com) for about \$90. Probably good stationery stores offer them, too.

—Ken Stagg

WHY MOM AND POP HATE THE BIKE BIZ



RAMBLING, DISJOINTED, BUT GENERALLY ACCURATE OBSERVATIONS ON WHAT MAKES THE BIKE LIFE A HARD LIFE FOR THE INDEPENDENT BICYCLE DEALER

Within eight miles of Rivendell, six bicycle shops have closed in the last five years. Quantum, Diablo, Walnut Creek Cyclery, Octopus, Lafayette Cyclery, Monument Cyclery, and Orinda Spoke and Pedal were well established dealerships managed by experienced, dedicated, good, bicycle people.

The changes that have occurred in the bike industry make it almost impossible for the independent bicycle dealer (IBD) to thrive, and just plain hard to exist at all. Actually, “independent” is a misnomer, “All alone with nobody to help, but totally dependent,” is more accurate. The survivors are the ones who happen to have a grand location in a building they own and owe nothing on in an upscale college town with lots of bike trails and good weather; or have lots of money acquired in a way that has nothing to do with bikes, and don’t really have to work; or are super-good business people who know how to survive in a tough environment; or by chance are just one of the last survivors of the local bike shop carnage, and so have much less competition. Sometimes they’re good bicycle people, too.

Wouldn’t it be nice if it were enough to care about bikes and know how to size them, fix them, assemble and fine-tune them, and help your customers figure out which one is best for them? That and a certain amount of business sense or experience.

Rivendell is a bicycle dealer (we deal in bike stuff), and we’re more independent than most. But usually we’re not lumped together with IBDs because we sell by mail. And, because our approach is different, we escape many of the problems that hound normal IBDs. We have our own set of challenges, but they’re self-imposed, and that’s a better deal than the typical IBD has. This is sort of an overview of the problems facing IBDs. It’s the stuff your local bike dealer thinks about every day but doesn’t talk about.

One big problem for IBDs is “dating” and it’s closely related to another one, called “front-loading.” “Dating” refers to the bike wholesaler (or manufacturer/MFR) shipping your bikes in the fall and letting you pay for them months later, in the spring (a later calendar date). It’s not pure generosity. MFRs push this because they need to make sales projections, and they can’t afford to have bikes sitting around in the warehouse.

Dating may seem like a good deal, but every year the same thing happens: You sell some of the bikes, but not all of them, and the money you make pays immediate bills like rent and payroll and utilities. Then, by the time the bill comes due, no money. The money is in your inventory, or has just evaporated

(spent and forgot about). Dealers hate dating like recovering dope addicts hate dope pushers.

If a dealer goes into the new season with the idea of not getting himself into a jam again and says “Nah, I think I’ll order on an ‘as needed’ basis this time around,” then the sales rep loses commissions and looks bad, and his boss, always under the gun, pressures him (or her) to make up the lost sales by opening another dealer in the area. There are all kinds of ramifications to that. Long time relationships suffer, a shop loses a **good** part of its identity, customers ask, “Why did you stop carrying GT?” and the answer isn’t comfortable; and so forth.

“Front-loading” is when the manufacturer gets you to fill up your floor and storage area with its bikes, so there’s no room for a competitor’s bikes. Obviously, it is closely related to dating, but has a slightly different emphasis. To make front-loading seem attractive, the MFR give you better prices the more you buy. The “pre-season pricing” offered in the fall and winter has different pricing categories for different volumes. If you order 100 bikes, you get them for \$X. If you order 250 bikes, you get a 5 percent discount off the bill (and often longer dating); and if you’re a big bad boy and order 500 bikes, you get 8 percent off, another 60 days to pay, with early payment discounts thrown in. In this way, the high volume dealer has a great advantage over the smaller dealer. The 80/20 rule (“eighty percent of your sales are from twenty percent of your dealers”) becomes reinforced, largely because the twenty percent are getting bikes a lot cheaper than the other eighty percent. Any attempt at a flat rate for all gets squashed; big dealers demand lower prices on principle alone.

Another consequence of dating/front loading is that, when you can’t pay the bill, your credit goes bad, and future shipments go out C.O.D. until you’ve made a dent in your bill. Meanwhile, you pay extra in C.O.D. charges, and it hurts cash flow. You buy less stuff because you’re on C.O.D.. Soon you get a reputation for not having stuff in stock, and you lose sales that way. You might think, “But that shouldn’t be a problem if the dealer has a warehouse full of bikes,” but it’s always a problem, because they’re always the wrong bikes. If Trek-for-instance has 45 models and more than 350 variations, you can count on always being out of several popular models and sizes, even if your popularity predictions have been pretty good (and if they were bad predictions, you might as well get out that noose right now). Here at Rivendell, we go through the same thing. We’re sitting on \$120,000 in inventory, but are constantly ordering more stuff because we hate saying, “Sorry, we’re out of stock.” We’re afraid of getting a reputation for not

having stuff in. "Yeah, Rivendell has neat stuff, but they're always out of stock."

Usually, if you pre-season a bunch of bikes, you try to chip away at the bill before all of it comes due. On a pre-season order of 500 bikes at an average wholesale cost of \$350 each, the whole bill is \$175,000. If the entire amount is due in April, but you're \$50,000 short (common), then you, as the dealer, have the manufacturer over a barrel. If the manufacturer quits selling to you or threatens you with **COD**, you can just string him out longer and longer, and he may never get his money. Or you work out some kind of payment plan over the next several months. Situations like this put the sales rep in an awkward position. Reps are paid by the manufacturer, but spend 90 percent of their time talking to and trying to help their dealers. In the course of business, close relationships are formed, and those relationships are strained to the limit when money comes between them.

Small dealers who don't pay are a smaller problem. Less money's at stake, and they're more easily replaced. It's hard to replace a shop that pre-seasons 500 bikes, though.

The root of the money problem stems from manufacturers serving as a bank for the dealer. They should have to finance bikes for dealers. Dealers should use credit cards for that. Many dealers don't like this idea, because the interest rates are high. Manufacturers usually have a policy that overdue accounts get charged 1 1/2 percent per month, but nobody ever enforces it, the thought being that there are so many uncollectible debts out there, and they (the manufacturers) are lucky they're getting paid at all. In the case of a small dealer, if the bills don't get paid, bikes don't get shipped.

These events repeat themselves every year. Dealers beg for No Dating, saying it's not dealer-friendly. Manufacturers totally understand, but still have to front-load them, because if they don't, another manufacturer will, and they don't want to be the nice guy who finishes with a warehouse full of unsold bikes, and has to blow them out at below cost in the spring and summer, to make room for the new models in the fall. And somehow, figure out a way to do that and go into the new season with no bills, so he can take advantage of the tempting dating programs for the next year.

This brings up another perennial issue in the normal IBD market: Spring discounts. If the manufacturer hasn't sold enough

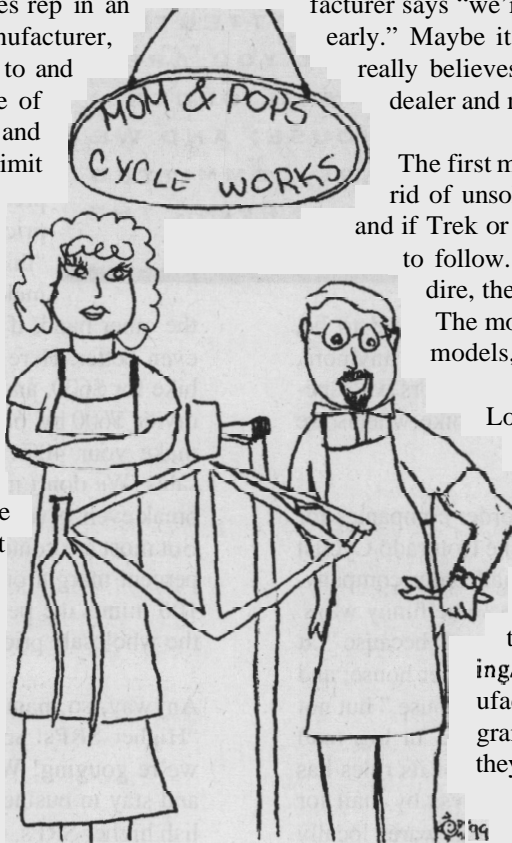
bikes by April, it's going to start discounting them in May. It has to, because its warehouses have to be empty in the fall to make room for new models, and if they head into August with lots of room, they'll have to give the bikes away.

Spring discounts start a bad ball rolling: The dealers with unsold inventory bought at the pre-discounted prices demand rebates on the bikes they still have in stock. But who counts them? Often, it's the sales rep's job. Yuk. And, with springtime discounts as predictable as gas after a soybean dinner, there's not much incentive to pre-book bikes in the fall, during front-loading season. So to create the demand back then, the manufacturer says "we're going to be short on this model, so buy early." Maybe it's true, maybe it's not, but nobody ever, really believes it, and it just increases tension between dealer and manufacturer.

The first manufacturer to offer spring discounts to get rid of unsold bikes is the scourge of all wholesalers, and if Trek or Specialized starts it off, others feel forced to follow. Even if their overstock situation isn't as dire, the street price of all bikes has now lowered. The more similar your bikes are to the discounted models, the more pressure there is to discount.

Lower prices are not all good. There's a lot of work that goes into bikes, and super low prices just mean a lot of good people can't make a living selling them, and dealers can't afford to hire experienced sales help, and you end up with lots of poor people in the bike industry. **You** can trace most of the problem back to the dating/front-loading thing. Theoretically, a manufacturer can present a dealer-friendly program with no dating or front-loading, but they're afraid their bikes will be used as fill-ins throughout the year, as opposed to being a bread-and-butter brand. If that happens, whoever pushed through the program will surely get fired, so why take the risk?

The IBD bike market is dominated by five or six brands (Schwinn/GT, Trek, Specialized, Giant, Cannondale, and Raleigh/Diamondback), and among other things, that means these companies have more dealers than anybody else has. So they probably have dealers close together in any well-populated area. If there's a big dealer in that area, who can pre-season 500 bikes, and a smaller dealer who can pre-season only 100 and is stretching funds at that, the smaller guy will get clobbered in price by the bigger guy. You may like the small guy more, and you may like the idea of patronizing that shop, but few people willingly spend \$50 more for the same bike. The dealer knows this, and doesn't want a reputation as a "gouger," so often prices bikes too low. It helps cash flow, but ultimate-



ly leads to losing money. (Sort of what we here do with frames. If we price them at \$2,000, sales plummet even more, Joe and Match lose their only/major sources of income, lugged frames become rarer, and people who don't know our costs scream "Rip-off!")

The way the bike industry is these days, and especially the way bikes are, it's hard to sell things like technical expertise and good assembly. Bikes are delivered almost completely assembled, and the single hardest job in the past—adjusting a cup and cone bottom bracket—isn't necessary, because the bikes all come with preadjusted sealed cartridge bottom brackets. A mechanic who can lock in a perfect adjustment on a cup-and-cone bottom bracket on the first try is no great asset if all the bikes come with factory-installed, non-adjustable cartridge models. In the old days, the best shops used to strip down bikes and build them up from scratch, using plenty of fresh grease in areas that always seemed short of it, and adjusting the bearings in the headset, bottom bracket, hubs, and pedals. Even a good wheelbuilder isn't the asset it used to be, because few shops actually build their own wheels anymore, and you can get really good wheels built by vendors who specialize in them. And even crummy mountain bike wheels are pretty strong.

More and more dealers are blaming mail order companies for their problems. I think they mean places like Colorado Cyclist and Nashbar and Performance, but as a mail order company, we get lumped in there, too. It hits home in some funny ways. One of our long-time suppliers recently cut us off, because "...it has come to our attention that you are a mail order house; and we are committed to serving the IBD." I like "house," but not really. This same company is well-represented in big mail order company catalogues, so the consistency of its rules has to be questioned. And, besides, they do business by mail for the same reason we do. They can't sell enough wares locally to stay in business, and neither can we. Yet we're a "house," and they're just IBD loyalists. From now on, we're going to call ourselves a mail order bike shop.

There's even more irony, though. The vendor who doesn't want to supply us because we're a Mail Order House—it's products are widely available in big mail order company catalogues. You might wonder how that happens, and one way that happens is this: Large domestic bike manufacturers buy huge quantities of parts for original equipment (OE) use. That means, to put on their bikes. If they end up with surplus, they sell it off to whoever can buy huge volumes of it. Dealers can't do that, and the OEs want to unload huge heaps to two or three buyers who are set up to sell huge quantities all over the country. They sure don't want to start another business distributing

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to dealers. That would increase their customer base tenfold and position them as competitors to their core customers. But the twist on this surplus-unloading is that it didn't take long for the big OEs to figure out that unloading surplus Deore XT derailleurs and Sachs chains to Nashbar can be a profitable business. So to get repeat business, they just have to make sure they overorder OE parts year after year. No manufacturer is going to turn down the huge orders, even if they know they're unrealistically huge, and even if they have an idea that the surplus will wind up in warehouses owned by those they're too holy to deal with directly.

Dealers want good margins, but they can't agree on how to go about getting them. Some dealers pressure manufacturers to raise suggested retail prices (SRP), the idea being that if the mfr says "this bike should retail for \$999.95," it will make it easier for them to sell it at that price and on

the other hand, if they sell it for \$975, the perceived value is even better. Here's about margins: If you, as a dealer, buy a bike for \$600, and you want to make a 40% margin on it, you divide \$600 by .6 and get \$1 000. So you sell it for \$999.99 and make your 40%. Forty percent is considered high on bike sales. We don't make that. Most dealers need to make that to break even, given the high cost of freight and assembly and all. But most are content with 37 percent. ($\$600/63 = \952 , or a 37 percent margin on that same \$600 wholesale bike.) You take 100 minus the percent margin you want to make, and divide the wholesale price of the bike by point that. That's how.

Anyway, so manufacturers have half of their dealers saying, "Higher SRPs! so we can raise our prices and not look like we're gouging! We need the higher margins to make money and stay in business!" And the other half saying "If you publish higher SRPs, the other brands will look like better values, and you'll be scaring customers away from my store! Besides, it's MY business, let me set MY prices!"

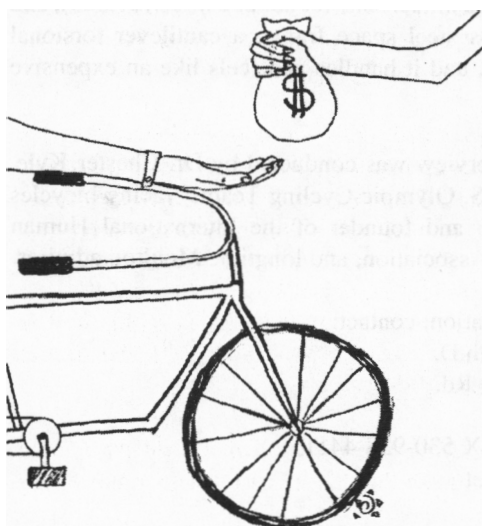
The deal with margins and SRPs and that whole mess, is that if bike manufacturers and dealers weren't so locked into selling the same old bikes, differing only by decal, then they could charge and get more for their bikes. But they don't want to risk it. They'd rather ride the wave. Cannondale is an exception. I personally do not love Cannondale bikes, but for what they are (fat unattractive aluminum bikes), they're very good. And as bikes, they're pretty good. The style isn't the issue; Cannondale does a good job.

Since everyone uses the same Shimano & SRAM parts, bike makers try to differentiate their brand with wackier and wack-

ier frames. Triangular shaped tubing. Square tubes. Triple triangles. Terrible paint. Anything, no matter how dysfunctional, to scream "I'm not LIKE those other bikes!!!" And as a result, everybody's trying to out-ugly the other guy in the name of identity.

Rivendell recently paid \$250 or so to join the NBDA—the National Bicycle Dealers Association. It has annual meetings in Palm Springs, and acts as a clearing house for IBD issues, and works on behalf of the IBD to improve life for the IBD. It's an old, well-established group, and even though I don't see any real, actual, practical, benefit to our being a member of the NBDA, but I wanted to support an organization that supports the bicycle dealer. The NBDA cashed the check and sent the normal membership packet, which included the statement, clearly aimed at pleasing its membership, that they don't allow mail order companies to join. I haven't gotten around to asking for a refund, and I don't want to do that in a reactionary way, but it bugs me. That there's so much anti-mail order sentiment out there. What if the NBDA couldn't conduct business by mail? Could it survive? The NBDA itself is a mail order business.

One problem people have with mail order is bad service, bad advice, and no product knowledge—things any good bike shop prides itself on. Since we do business by mail (and phone) people who apologize for taking up so much time. Have you been rushed by other mail order HOUSES? I hope never here. Take your time. Also, if you're holding a cranky child while you're talking, don't be nervous about that, and don't you be if I am. I used to work out of the converted garage, and had a baby in my lap a lot of the time. Now I get a visit once every other day, and Anna always runs up and jumps on my lap and pretends the phone isn't there, and it's okay with me. Anyway, nobody here ever, ever feels rushed to get you off the phone.



Another stigma is the "fly-by-night" mail order company. I haven't experienced that personally, and I don't know anybody who has. If you do business by mail, you're held to higher standards than if you don't. The

government frowns on messing with people though the mail. If a hood steals your potted plant and gets caught, he gets his wrist slapped. If he steals your mail, he goes to the pokey for a long, long time. We play fair and are honest by nature, but even if that weren't the case, federal laws regarding mail order businesses require us to be clean.

IBDs are afraid of the "Big Boxes," the name they call department stores and sporting goods chains. Big bike makers try to grow at least 15 percent per year, in an overall market that's not growing at all. They know they can't do that with their current dealer base, so they open more dealers in territories that were once protected, and they open the Big Boxes. It's the only way they can grow. Whenever they do it, more IBDs close up. Nobody feels neutral about this issue, and it's the biggest issue, the most talked about one, at least, in the bike industry today.

Sometimes I wonder if we'll ever try to sell Rivendells through dealers; and if we do, I wonder how we'll go about that. I have a plan on virtual paper, but nobody has seen it yet, and I'm not sure anybody ever will. The first thing we need to do is work out the bugs in our current customer-direct program. The second thing we need to do is get faster, predictable delivery at the same quality. The third thing is become more profitable, so we can actually afford to include a middleperson without the price of the bikes skyrocketing. The fourth thing we'd need to do is cull the best dealers and tell them how we want the bikes sold, how to fit people, how to do it right. Then, I wonder how we'd find those dealers, and I wonder how many Rivendell members are dealers, and whether or not they'd be interested.

Besides the Big Boxes, and maybe even more, because it's foreign-er to them, IBDs fear and loathe the internet. The internet is like a big sieve with specially shaped holes, and if you don't fit in one of the special shapes, you

You don't need to know any of this. It doesn't help you get healthy, or enjoy cycling, and it doesn't serve anybody's interest. Nevertheless, it's pretty accurate.

We have at least thirty dealer-members. All are in the small, independent category. This is a note to them: I hope you don't see us as your enemy. If you'd like to write a column in the next RR, feel free. Even if you don't write the column, send us your name and address and hours, and maybe some of our local members will pay you a visit.

BY CHESTER KYLE, PH.D.

INTERVIEW WITH ALEX MOULTON



GRANT'S INTRODUCTION TO THE INTRODUCTION TO THE MOULTON INTERVIEW

There have been two famous bike Moultons, both frame builders, both English, one Dave, one Dr. Alex. This is an interview with the latter. Most riders who have been involved with bikes for 20 years or so are familiar with Alex Moulton by name, but know him only as a designer-builder of highly regarded, yet seemingly complicated, suspended, small-wheel, one-size-fits-all bikes that inspire followings that fall a hair shy of cultish. One of our subscribers owns 6 Moultons and rides no other bikes. Another owned 5, but still rode other bikes (Judas!), and may be down to 4 now (double Judas!). Moulton riders rave about Moultons. The bicycle is among the top three inventions of all time, and Alex Moulton is one of its seven smartest guys. As a bicyclist, you ought to know something about him. Ninety percent of what I know I learned from reading this. —Grant



Alex Moulton, manual designer, works on something newer and better.

REAL INTRODUCTION TO THE MOULTON INTERVIEW

Nearly everything about Alex Moulton, one of the most remarkable of today's bicycle designers and manufacturers, is surprisingly unique. What other manufacturer has a bicycle factory in a 17th century carriage house, on his estate, surrounded by the rolling hills of Wiltshire, with the Avon River flowing by? What other bicycle company would think of introducing a new model at the Royal College of Art in London and have Lord Snowdon and other dignitaries, obviously quite remote from the bicycle industry, attend the "launch"? In fact, what bicycle designer has ever been awarded an Honorary Doctor of Arts degree from the Royal Academy of Arts, for his elegant designs?

Moulton, an engineering graduate of Cambridge, initially honed his skills in the aircraft industry, designing engines for Bristol during World War II. He became personal assistant to Sir Roy Fedden, Chief Engineer of Bristol. After the war, he designed gas and rubber automotive suspensions which have been installed on 7,000,000 automobiles and are still used on the Morris Mini. This was a natural extension of the Moulton family rubber business, established during the Victorian era by Moulton's great grandfather, Stephen Moulton, who was one of the pioneers of the rubber industry in England. Moulton still actively consults on the design of rubber products.

After the 1956 Suez war, with the ensuing fuel crisis, Alex became intrigued by the simplicity and efficiency of the bicycle and set out to improve it, introducing his revolutionary Moulton bicycle in the 1960's. He abandoned the traditional 27 inch wheel and combined a small 16-1/2 inch wheel with a high pressure, low rolling resistance tire. He used a universal frame which would fit cyclists from five feet to over six feet in height, and his ingenious suspension system smoothed out the ride. The Moulton bicycle company sold 150,000 bicycles before being acquired by Raleigh in the early 1970's, in what would now be called a hostile takeover. Moulton was enjoined against producing bicycles for the next 10 years as a condition of the sale.

By the 1980's, Moulton was back with a unique space frame bicycle which could quickly be taken apart in two pieces for portability. His criteria was, that it must fit in the boot of a Morris Mini, which it will do with room to spare. The Moulton AM7 was light, portable and handled like a fine road bicycle, but it still used his signature universal frame, small wheels and smooth suspension.

His latest design, introduced in London in April 1998, is elegance itself. The top model sells for about £4,000 (\$7,000), and features a stainless steel space frame, a cantilever torsional rubber suspension, and it handles and feels like an expensive road bicycle.

The following interview was conducted by Dr. Chester Kyle, designer of the U.S. Olympic Cycling Teams' racing bicycles in 1984 and 1996 and founder of the International Human Powered Vehicle Association, and longtime Moulton admirer.

For further information, contact:
Chester R. Kyle, Ph.D.
9539 N. Old Stage Rd.
Weed, CA 96094
530-938-3127, FAX 530-938-4411
kyle@snowcrest.net

ALEX MOULTON

DESIGNER AND MANUFACTURER OF MOULTON BICYCLES

Age 78

CBE (Commander of the British Empire),
MA (Master of Arts Cambridge, Engineering)
RDI (Royal Design of Industry)
FEng (Fellow of the Royal Academy of Engineering)
Hon D Science, Bath University
Hon D Arts, Royal Academy of Art,
Hon D Science, Cranfield University (Formerly
Cranfield Aeronautical Institution)

Education

Public School - Marlborough
University - Cambridge, Kings College, 1937, 38, 39,
1947 Honors.

THE INTERVIEW

CHESTER KYLE: I feel that people do what they do because of a variety of things: their family history, their occupational history, their educational history, their avocational interests, or perhaps their friends. I thought I would ask some questions about your background and history, it is quite interesting. The Hall was originally built in 1620, by John Hall, is that correct? And in 1846, it was purchased and restored by Stephen Moulton?

DR. ALEX MOULTON. That's right. Stephen was my great grandfather.

KYLE And it was restored by you in 1981?

MOULTON: Yes it was re-roofed in 1981, and that was a major thing. I have lived here all my life except for the war (WWII). Then I came back after the war. I'm very set about living and working in it, which of course means conserving it.

KYLE: Would you say that one of the inspirations or driving forces in your life might have been the desire to continue living here?

MOULTON: Absolutely. It was a difficult thing to define, but it could have been nostalgia, having lived as a child here. It could also have been a duty. My eldest brother, who was a soldier, didn't feel he could take on the responsibility. It fell to my lot, and I have been very happy to take on the burden of doing it.

KYLE: Your elder brother wasn't interested in the property?

MOULTON No, not at all. It was left by my grandparents to us three grandchildren, their **two sons**, one having been killed in the first World War, and my father, who died in **1926**. It was divided among us three grandchildren equally. I that decided to assume responsibility for the property, and in due time I bought the others out, **not** that it was a very high value in those difficult days just after the war (WW II).

KYLE: The family business itself, the Moulton Manufacturing Company, what is the sequence there?

MOULTON It is typical **of** a lot of the English industrial history. The company was pioneered by Stephen Moulton, and the interesting thing **is** that, from his visit to the United States, he brought back the license **from** Charles Goodyear. Goodyear was in New York State, struggling, if you like. Goodyear made this brilliant invention, sulfur and heating, vulcanizing, which changed the whole molecular structure of rubber. He used the term "curing," analogous to leather curing.

KYLE: They also used to cure natural rubber and **other** things by smoking, perhaps it was an extension of that?

MOULTON: Perhaps. Stephen Moulton **was** an entrepreneur and a law stationer. He traveled to the United States several times, to New York in the 1830's, and the 1840's, when I imagine England was feeling very entrepreneurial and expansionist. He left part of his family in the United States, and Alfred, his oldest son, became a ship broker in New Orleans. Stephen brought back the invention of Charles Goodyear to England, I would think in the early 1840's.

KYLE: So this estate was purchased just shortly after he returned from the USA?

MOULTON: That's it exactly.

KYLE: What was the relation of Stephen with Dunlop (inventor of the pneumatic tire)?

MOULTON: There were really two streams **of** the vulcanized rubber industry in England. One stream was Moulton, under the license of Charles Goodyear. The other stream was Hancock, a great inventor in that period. Moulton showed Goodyear's sample to Hancock, who declined to license it, but we believe that gave him the clue, and he developed the process himself. **So** Hancock, was picked up by the North British companies, a number **of** companies in the North West of England, which ultimately flowed down into Dunlop. Patents were running left and right over time, the Hancock one, which went to North British companies, eventually through amalgamation and **so on** became Dunlop.

KYLE What would you say the major product **of** Moulton was to begin with?

MOULTON: Railway applications. The British were very active in the burgeoning railways at that time. **So** the applications were hoses, rolling rings for vacuum brakes, draw springs and buffer springs which were the core business for 100 years.

Railway applications primarily, also a slightly odd one or interesting one, during the Crimean war, which was 1856 I think, the capes for the soldiers were made here from rubber. Moulton also supplied rubber parts for the great steam ships designed and built by the famous railroad and ship engineer, Isambard Kingdom Brunel.

KYLE: The sequence then is that the company went from your great grandfather, to your grandfather then to your father?

MOULTON: No, typical of industrial history, there was an amalgamation between the designing and selling part of the activity, which was George Spencer, in London. In Victoria Street in London, they were consulting engineers, and very active in designing applications for railways throughout the World. He used Stephen Moulton, Bradford on Avon, for the manufacture. So in the run of time, Spencer and Stephen Moulton, joined together in 1896, in George Spencer, Moulton and Co. Ltd., which was a public company.

Jumping forward, this company existed until the acquisition of Spencer/Moulton by the Avon Group in 1956. I would make a remark which is historically relevant, again typical of the industrial history of this country, both the sons of the Spencer family on the one hand, and the Moulton family on the other hand in the person of my uncle Eric, were killed in the first war (WWI). The first war was a tremendous sweeper away of that generation.

There is no doubt that the lack of continuity in the family, made both the older members of the family careless. There were some foolish commercial undertakings in the 20's, and the company was very much indebted to the bank for a long time. It had a very big debenture thing, and when I entered it (after the War, in 1947), the Moultons were a very big share holder, but we weren't controlling it. It was very weak, but with potential.

I was a young man determined to start innovating rubber springs for automobiles. I was instrumental in getting the research laboratory built in 1948, and therein I did the funda-

mental research on rubber-to-metal bonding, and rubber springs.

KYLE How did you start or continue your relation with Dunlop?

MOULTON: When our own company was acquired by the Avon Group in 1956, we sold out to the neighboring Avon Group. It was much stronger, and it has been an enormous success, because it gave synergy and modern management. It was the right thing to do, it was neighborly, and it gave strength to our company.

KYLE: Did you continue to do research for them?

MOULTON: At that point (1956) it was offered, but I said "No, I want to pursue my own inventions of the ones which you would let me have." They, the Avon Company, said "well, this invention, and that invention, they are of no particular interest to us, so you can have them, you take over the patents",

(which came from me anyway). That was very relevant, because the Avon Company was relatively small in global terms and Dunlop was a big one. When the British Motor Corporation, which was Austin Morris if you like, were starting on the range of new cars, which was the typical wondrous little Mini, by Alec Issigonis that great designer, they wanted to use my suspension, and in no way would they have used Avon, because Avon was too small. They

said, no, it must be Dunlop, Dunlop are our big suppliers, our sole suppliers, and are enormously bigger than Avon, so it was inevitable. I formed a relationship with Dunlop as a consultant to develop my springs, my suspensions.

Now, 40 or 50 years later, I am back into consultancy with Avon.

KYLE: How many patents do you hold?

MOULTON: I should think over 100.

KYLE: What would you say are your most important or key-



The most recent Moulton, with the airplane-style handlebars and rubber torsion linkage front suspension.

stone patents?

MOULTON: The fluid interconnection, fore and aft in the suspension, which gave birth to the Hydrolastic, and hydragas suspensions on the British Motor Corporation cars which were used on about 7,000,000 cars. In your country (USA), it was used on the MG sedan in the 1960's. At the same time, 1956, the patent I did on the new bicycle was also important.

KYLE: What College did you attend in Cambridge, and when did you graduate?

MOULTON: Kings College. I went there in '37 and did '37, '38 and a bit of '39, and then the war. I went back after the war and graduated in 1947 with honors.

KYLE: Now if you would briefly review your work at Bristol Aircraft. Am I correct in saying Bristol made radial aircraft engines?

MOULTON: Absolutely. They made radial engines used primarily for bombers.

Of course they were also used in other aircraft. There were really three engine makers in Britain, Rolls Royce, who made the Merlin, Napier and Bristol. Bristol engines were used on the Wellington, the Halifax, the Sterling, the Beaufighter - a night fighter of course, the Blenheim, and even the little Walrus—a funny little thing that scarcely moved. And well known now days was the Sea Fury, it was a naval aircraft.

It was the last of the piston engine naval aircraft. It is used nowadays in racing. The navy got rid of a bunch after the war, and they were bought by enthusiasts in the United States and they are still used very much in racing. When I was in Minneapolis for the delightful HPV event, there on the airfield was a lovely Sea Fury.

KYLE: The P51 will go almost 500 mph with cut down wings, improved streamlining and boosted engine power.]

MOULTON: The Sea Fury will not quite do the same, 480 mph.

KYLE: When did you start to get interested in bicycles?

MOULTON: In 1956 I bought a very expensive bicycle, a Hetchins, from a friend, Geoff Warren. It was a chrome plated, and I started riding the thing. It was a natural thing, with the lack of petrol and with rationing, one does two things, one has the most economical car you could, and I think I had an Austin, and one tries to eke out the fuel allowance by using a bicycle. I started to ride this bicycle and I thought what a marvelous thing it was. My only experience with a bicycle had been with a sort of clunker thing, and I couldn't believe how well this light weight bike went, and I fell in love with the thing. And, I resolved, which was very much in my nature, to try and improve it.

So I reflected on what would one do to improve it. I dismissed components, which had been very ably evolved in England and France and Italy. Then I checked the riding position. I bought a pre-war, F. H. Grubb, a long wheel based recumbent, which

was made I am sure from a French design. I rode this thing, and was quite impressed by the acceleration, by being able to get a big thrust from your back. On the negative side, the difficulty in control and balance was evident, and above all I tired easily from holding up the femur, I didn't have anything on the pedals to support the foot. Being so low, I also got wet from the splash of the lorries. I rejected the recumbent for reasons which are not still valid in today's recumbents.



This is Rivendell Bicycle Works, in Walnut Creek, CA. Moulton's bicycle factory, a former carriage house built about 1640.

I am sure I was very much influenced by the design theory of the Morris Mini by the great designer Issigonis. He was a great genius. He had pioneered an ever so small wheel on that vehicle. I was influenced by the enormous effect of the wheel on the architecture. It saved weight, it allowed compaction, while maintaining a reasonable inside space. So I immediately saw that if the size of the bicycle wheel could be reduced, it would have an enormous effect on the architecture of the bicycle. You could have an open frame, a universal frame, you could carry things in the center line of the vehicle, it could be more compact etc. At the time, I was working with Dunlop on the

suspension of motor cars, which was an enormously valuable business to Dunlop, and because of this they supported my research on small bicycle tires and wheels.

KYLE: Did you receive a royalty from Dunlop for your work on suspensions?

MOULTON: Yes, a tiny one, but the amount of business the suspensions brought to Dunlop was enormous. They saw that I could be helpful to them, so supported my research.

In the 1960's, Dunlop was a World class car tire maker and also a large manufacturer of bicycle tires. They were still maintaining a test fleet of bicycle riders, which they had done from the 1890's when Dunlop invented the pneumatic bicycle tire. They had a nice fleet of riders going out every day from Fort Dunlop (named because the 'bloody' building looks like a fort in Birmingham) and doing all of the durability assessment. When I came, I said I wanted to do fundamental work on the influence of tire size on the rolling resistance, because I wanted to make a smaller tire. I made it clear that, "In no way am I interested in a junior tire (for children's sidewalk bikes). I want the highest class materials you are using on your sports bicycle tires". They were all terribly interested. I think they had been excited by the success of my new suspensions on the new cars. They thought, it was a bit of a giggle, and said, "Well, let's have a go at a bicycle".

We made molds, we made rims, we had all of their best engineers on it. We changed rubber chemistry, anything to make a better tire. The first obvious thing to work on was pressure. We found that the thing that dominated it all, besides the quality of the materials and construction, was pressure. That **fixed** the tire **cross** section and construction. It was a 16 inch tire. Dunlop got the molds made, and then we were worried about wear, so we conducted a lot of wear tests. We were also very concerned with spoking. And because of the small high pressure tire, we needed a suspension.

KYLE: Your design method seems to include very rapid and profuse use of prototypes. Do you use stress analysis on your

frames?

MOULTON: Yes, very much on the space frame. It is exactly like analyzing a bridge or building truss. I use a Bow's notation, a graphical method.

KYLE Do you use a Computer analysis to solve your stresses?

MOULTON: No, computers are not necessary. On a finite shape, an organized shape, a skeletal shape, like my bicycle is, the first order calculations in which one looks at stability, the Euler column relations on the compression members, the calculations will get you into the right order. Then it is quicker to build an actual model element of it, full size, and you can very often do it in an afternoon. One then does a load-deflection diagram, very much looking for the lack of linearity, when the load-deflection goes over the elastic limit, and whether the deflection comes back again to zero. It was just exactly like I did this little test this morning (a test of the suspension for

deflection versus load, 9 mm deflection on each, bicycle suspension with the same applied small load). If it is going to buckle it will. All the time one feeds back to the Euler relations, fundamental relations such as the thickness to diameter ratio of the tube, and so forth.

I prefer then to go to a real model which may be a real bicycle. All of my life I have maintained a strong group of skilled prototypers.

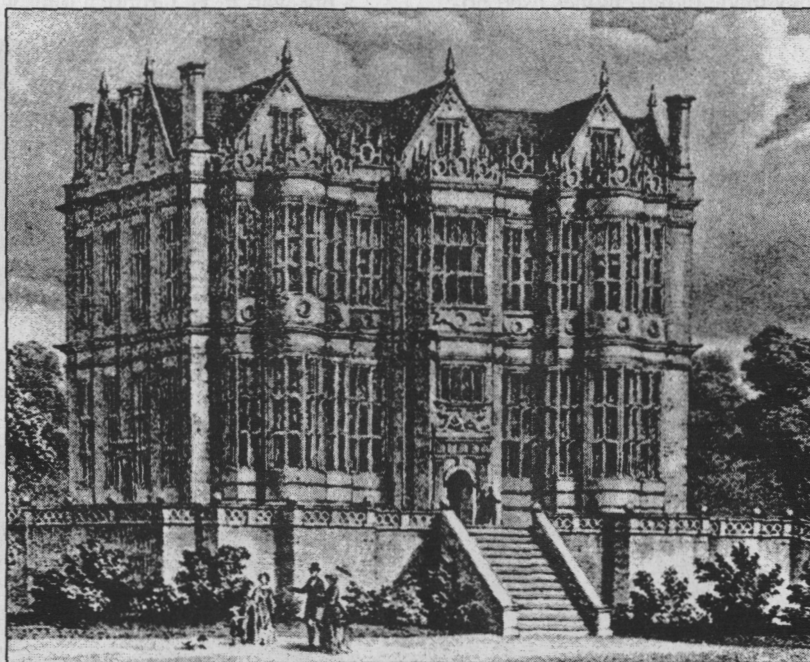
KYLE: You may have been able to do this, where a larger operation in which manufacturing may not have direct contact with design, would not be able

to react so fast. You were like a research laboratory. You have an immediate connection with the prototypers.

MOULTON: Exactly so. I tremendously love and covet the skill and artistry of a small team of prototypers.

KYLE: In this small Wiltshire community, you have some very skilled people?.

MOULTON: Exactly so, some of them might now dye their hair, but they may have been with me 25 years. They very much appreciate the work atmosphere, because every day it is new. Let me make the point that they are of artisan background. But luckily they all have had first order training. They



This is where Grant Petersen Alex Moulton lives and works.

are thoroughly numerate, and all of them can draw well, formally. They have had in days past, day release (like a work/study on the job training program). Engineering is about reality, and reality is about making things.

KYLE: To what would you attribute the skill in marketing your first model bicycle in the 1960's?

MOULTON: We had offered it for manufacture to Raleigh, the World's largest bicycle manufacturer (at that time). They turned it down in about 1961. So I then decided to do it myself.

In doing it myself, I was actually taking on Raleigh. I had the good fortune to hire a splendid man, David Duffield, a great big tall man who is now a TV sports commentator. He was a great cyclist, and who had been in the cycling industry, who had worked for Raleigh and Phillips, and he had a great flair for publicity. He fell in love with this opportunity. He arranged for the publicity and the advertising. We used a tiny silhouette form, we went to this big London show, we had a whole test rig (a bumping rig) at the show to demonstrate the suspension, and it was his flair that was responsible for the success of the first model.

KYLE: How many of the first models did you sell?

MOULTON: We sold about 150,000. Out of our Bradford factory we made about 60,000. They were also manufactured under license to the British Motor Corporation, who produced the rest.

Raleigh was absolutely incensed that we had gone ahead in this manner, which was attracting so much attention to the device that they had turned down. They were furious because of NIH (Not Invented Here), and so they came out with the RSW 16 ("Raleigh Small Wheeler 16").

KYLE: You said you were protected by patents on the bike, so how did Raleigh market a competitor?

MOULTON: They didn't have any suspension, and they didn't have the same frame, so they got around the patents. The

Raleigh was a very heavy little thing with balloon tires, but it was wonderfully marketed. They copied our advertising and said that they had invented this new method of personal transport. They did everything bad that a big corporation can do.

KYLE: trying to drive you out of business?

MOULTON: Absolutely so. So I simply recognized the futility of continuing and sensibly, I decided to yield to them, because they spoke of doing a Raleigh/Moulton collaboration.

It was somewhat of a distressed sale, but I got something out of it, I cleared all debts, and cleared stock and so on. I think it was about 75,000 pounds or something at the time.

KYLE: Did they enjoin you not to produce bicycles for 10 years?

MOULTON: Yes they did. We did a nice little research collaboration with them (Raleigh). I have all of the books on that, I did all of that work on rolling resistance, aerodynamic resistance and all of that basic research work under the sponsorship of Raleigh when we were together. I took the outage, as it were, to say, am I right about the superiority of the small wheel? I got confirmation of that and became satisfied that I wasn't wrong, because one can very readily be wrong. I began then to say to myself, that in no way will I take anyone else on, I will do something that no one else will be willing to do. That was the 1983 AM series Moulton.



Author Chet Kyle (L) with Alex and the original Moulton. (1960)

KYLE: I have looked at your progression of prototypes and they proceeded through several varieties of monocoques and steel tube frames, and then suddenly there was a space frame. What happened? Why were you willing to do something that nobody had ever done before?

MOULTON: It was just an invention. I have been in love with the thing ever since, particularly with the cheaper way of doing it. Look at the APB bike. It is a practical way of doing it (a strong and simple space frame). Now {pointing at the new series Moulton}, that is not a very practical way of doing it. It

has about **70** brazed joints in it, versus 12 joints for an ordinary bicycle.

How many joints does an automobile have? When you improve an automobile, what do you do? You put more spot welds in. They are very proud of the fact that “our latest model automobiles have increased the number of spot welds to 4000”. And how many are there in an airplane? There are millions of rivets, tens of millions of rivets. **So** one shouldn’t judge on numbers. Certainly in this game, where manufacture is done by hand, it is bad news. Our production is not automated, but it could be automated.

KYLE The pricing of your machine is not aimed at the mass market. You wanted to stay away from that market? You wanted to stay in your own little niche where no one would want to copy you?

MOULTON Absolutely.

KYLE: Could you describe the principal features of this APB bicycle that are different from the original **AM7**?

MOULTON: It is evolutionary but with a jump change on the suspension front and rear. The jump change has been the leading link front suspension, and the rubber plus fluid damping one at the rear. The “Flexitor”, rubber in torsion front suspension, gives maintenance free, lubrication free, frictionless service. The hinges, with the rubber in torsion, provide the springing and damping in the front. That in turn gives a silkiness of ride. And by the design of the linkage to place the instantaneous center behind the center of gravity, it gives anti dive on front wheel braking. The suspension in the rear is Hydrolastic, which is my old trade mark expression, meaning a water damped, rubber spring. The suspension is at the apex of the rear triangle, the rear triangle being the unified type. The bottom bracket is integrated with the same structure as the rear spindle, *so* that there is no torque from the chain trying to lift or compress the suspension. The Hydrolastic suspension provides springing by rubber and damping by fluid through an orifice.

Those are the main features. There is another one which I call the “Mosquito” handlebar. It **is** a very simple shape, but it was inspired by the control column of the Mosquito aircraft in the war, which is of a similar shape. It **is** ergonomically very comfortable and suitable for the hands. It is of course fully adjustable in height and angle for different attitudes of riding. As you alter the position to get your comfortable attitude, the brake and the shift remain always in the same position (relative to the bar and the hands). This gives finger tip control. The finger tip shifter controls a nine speed rear derailleur which has a **3.2** to one range, from 10 to **32** teeth (it has a single front chain wheel) in nine speeds. I pioneered the 9 speed in 1989, when I introduced the *so* called “Speed model into the States.

We had a Rohloff chain, which is German, and it wasn’t satisfactory, so it wasn’t until these last years, now that Shimano has gone into the 9 speed, has there been a satisfactory chain. I very much like the 9 speed with a single chain wheel. It is entirely adequate with that range of gear ratios. Of course, one chooses the size of chain wheel, to your taste. This particular one, a 52 tooth, gives a high gear of 93.6 and a low gear of 29 inches. I myself, a weak rider, would use a smaller chainring.

So those are the essential features, and they add up to 22 pounds weight, complete with mudguards. The bicycle, of course separates for portability. It will fit in the rear boot of the Mini (the sub-compact Morris Mini auto). It separates easily into two pieces, and with more difficulty and trouble it goes into four pieces for a long shipment. One detaches the front fork and the rear triangle. In so doing you don’t have to disturb the wheel, the chain or the brakes. The bicycle is also universal, it will fit anyone from 5 foot 3 inches to 6 foot 3 inches.

KYLE: As you know, it is very unusual for someone at the age of 75, who has had a successful run with a product, to undertake a redesign. What inspired you to do this?

MOULTON: After December 94, after seeing a Pederson racer of 1898, I was tremendously impressed, and that inspired me. I did a sketch of what might be a Pederson front fork. I was just groping around, with linkages, suspensions, pivots, and calculating girder strength, static deflection, all of the fundamental things. We studied the new BMW suspension which uses a pivot and a ball joint in order to guide the top, it was a telescope at the top. I very much studied this, and in the end, I was frightened of the ball joint. To make it in scale to a bicycle, it might have failed, I became frightened of it, it was too small, a death part.

My method is, always to draw the thing. On the 16 of April 1996, after about three years, I had the final design.

KYLE: Did you acquire any patents on the New Series Moulton?

MOULTON: Do you know what a German once said to me? “Dear Dr. Moulton, Would you please let me know your patent numbers, because it would save me time to get around them”. The New series is laden with patent applications and registered designs. There is one thing, in our industry, where there are shows nearly every afternoon, there is still a little bit of shame about copying something.

For more information about the Moulton New Series bicycle, in the USA or Canada, please contact:

Doug Milliken (bd427@freenet.buffalo.edu)

Tel: 716-632-6710 (10:00 AM to 9:00 PM, Eastern Time)

Fax: 716-633-9283

LETTERS

WE CAN'T PRINT ALL LETTERS OR ALL CONTRIBUTIONS, AND BUT IF YOU SEND IN A STORY AND IT DOESN'T FIT IN THE READER TEMPLATE, WE MAY RUN IT IN THE LETTERS COLUMN. I WANT OUR LETTERS COLUMN TO BE INTERESTING AND VARIED, AND THE LETTERS DON'T HAVE TO PERTAIN TO ANYTHING IN PARTICULAR. EMAIL LETTERS TO RIVGP@EARTHLINK.NET — GRANT

ADVICE FROM AN INVESTMENT SPECIALIST

I'm a great fan of yours, i.e., your philosophy validates what I ride. I'm a suntour guy who has been forced by the market in the last two years to add a Shimano crank, front derailleur, and now freewheel to my bike. I differ with you in that I think bikes should be affordable, however, but I don't hold that against you, since you are trying to make money. I found a stash of Shimano 14-28 freewheels last weekend for \$14.99 each. I'm very happy because my vxgt and campy rally are happy with the 5 speeds. I would never pay over 200 dollars for a crankset, maybe not over 125. There is a point where retro gets snobbish and I don't want to be there. It's OK for me if that's you, and I don't expect you to be me, just let's meet somewhere.

I feel your cause is worth supporting, as are used bike stores which handle the same stuff. I recently sent in my 15 buck membership. I also run a business and appreciate the need to raise capital. However, I am also an investor and you should be able to figure out that a lifetime membership of 200 dollars amortized at 10 percent over 13 years equals 729.91 dollars. Why would someone pay that when they could pay 15 dollars per year? You need to sweeten the pot. How about jump the line on a frame order? Copies of all the Rivendell Readers? Free Carradice's? You have to admit, 729.91 dollars is worth something. You should get your act together and figure out how to attract 2500 or 25000 dollars. I promise I won't sent it in at your rate of return. How about a custom frame? Get creative. I love your niche.

—Will Marks

Dear Will, our family cat just got hit by a car (June 12, 1999). Broken tooth, tom up gums, \$425 and I've already written the check. Kate and Anna love this cat, I don't even like it, and I'm a cat person. Anyway, how much did it cost in AD. 2013 dollars? How about my \$30 Converse? See? You can't go by that stuff, Mark. You'll drive yourself nuts, tabulating on your investment calculator before every purchase. In this particular case, the lifetime memberships have raised \$10,000, which is half the cost of

new lugs and tooling, and I am deeply, eternally grateful for not just the money, but the message that came with every payment. Thanks to all. —G.

PROPER SADDLE FITTING

I am in need of advise for selecting a proper fitting saddle. I am a big fellow (6' 8" tall 220 lbs). I had my "sit bones" measured by my physical therapist and they are 7" apart point to point. I immediately came home and measured my Specialized body geometry sport saddle and it was only 5" wide. I just got that saddle a while back and it was even wider than the one I was replacing! I have not had exceptional luck with the Specialized. It really chews up the back of my legs/buttocks muscles on the down stroke and it is really, really padded which I am not sure I like as I am used to a firm saddle. I have had all the classic symptoms that are in the news lately, Numbness, impotence, and a nasty bout with prostatitis that took almost eight months of antibiotics to get rid of. Obviously this is a big issue for me. I currently ride a Cannondale road race bike. When I am fully conditioned I usually manage a 18-20mph average pace and enjoy trying to "push myself". Other times I just motor along at 12-14 and enjoy the scenery. I would like to start doing a few rides with the local racing club and do some pack and pacerline riding. Also another goal I have set for myself is to do a organized century ride. The farthest I have rode in one stretch is 75 mi. Hope this is enough information if not let me know.

—Thanks...Sam R.

Sam, for years we've recommended the B17. It is 170mm wide. It is no guarantee, but do the arithmetic and you'll see why it might work. As for riding with the local racing club—that's a good way to bum out and get depressed. Racers train fast. They have to, if they want to ride fast. They'll see you and think, "Man, I hope this guy's fast so I can draft him." You already enjoy riding, so why change so drastically? If you want to push yourself, do it with a stopwatch. That way you'll see improvements come naturally, which will be far more encouraging than

getting dropped by guys already in racing shape and riding at racing speeds. You can always try it, but I thought I'd cast out this warning-advice, anyway. —G.

BRAKE CONVERSION

I am thinking of converting the Superbe brakes on my Rivendell Long-Low from nutted to allen head. I cannot use the short reach Cyclones on the Long Low because they are short reach. So, my plan is to measure the length of the mounting studs of the Cyclones that fit my Road Standard, and assume that this length stud will work just as well on the Long-Low. Then, cut off the threaded stud on the long-reach Superbes to the same length, and get two allen head sleeve nuts (or whatever you call them) and put my newly modified Superbes on the Long-Low. But I remember the old measure twice-cut once advice, and thought that I'd ask if there are any problems with this approach before I take hack saw or Dremel cut-off wheel to Suntour's best. I do not want to write the next stupid mechanic story for RR #16. I could of course just buy some of the Shimano RX 100 standard reach and not wony at all, but what kind of fun would that be?

—Best-Ned

Ned, if you swap rear for rear, front for front, the threaded portion won't be long enough. You can use nutted rear for allen front, but then you have a nutted front that's too long for anything, and you gotta thread it, and it's chrome-plated, so that's hard. Another issue is centerbolt interchangeability. Superbes are basically Campycopies, but Cyclones aren't, so I'm not sure if the center bolts will swap over. You can disassemble the brakes and compare them, see for yourself. You could just stick with nutted brakes. There's no disadvantage! They make fenders easier. It's easier to tell by looking when they're loose. It's not a common problem (loosening centerbolts), but the point is, there are zero disadvantages and two microscopic Advantages to nutted centerbolts. —G.

LOOSE SCREWS

I was reading your reader# 15 and noticed that someone was looking for tire savers. My neighbor recently loaned me a copy of his Third Hand / Loose Screw catalog and I saw them in there, \$2.00. Their phone number is 541-488-4800. I remember being smart enough to use them years ago and going for long periods without flats. They eventually wore down to being very thin and I was concerned that they would break and cut the tire. I am considering trying them again. I usually try to wipe off my tires if I know that I have ridden through glass. I know of a guy, used to ride 20K miles / year, that was in the habit of using his glove to wipe off his tire. While riding down a steep hill he put his hand on his tire in back of the fork, his hand got stuck into the space and locked up his front tire. He flipped over and landed in the road with a serious back injury. A pickup truck came by and the guy slowed down long enough to yell at him about getting out of the road. I wonder if he knows about tire savers?

—Jon Ault, Seattle WA.

HERE'S TO ANOTHER 20

I'm 48 and have been riding for the last 20 years because it was an easy and practical way to get back and forth to work. It wasn't always easy, with Oregon's winter rain, Washington D.C.'s summer heat, Alaskan spring break-up, and uncooperative bosses, but I kept at it. Several months ago I was diagnosed with a large cancerous tumor in my stomach cavity. It

was too big to successfully remove, they told me. Send him home. People can't survive the trauma of that extensive a surgery. I convinced them to try. Because of my overall fitness from cycling, they decided to give it a go, and after a six week hospital stay, I'm home and making a speedy recovery. I still have radiation treatment to go through, but the overall outlook is positive, and I'm looking forward to another 20 years of cycling.

—Kevin Nienabor Beaverton, OR

CUSTOM FIT

I want to build a touring bike suited to my size (6'4" and a not fat 240 lbs) and terrain I'll be riding on (a LOT of riding on former East Bloc country roads, and improved surfaces) self-sufficient (lots'o gear). Contacting the Phil guys, they said a 135mm freewheel hub for a 7-spd dishless, 40 hole would be no problem. What do you have that would accommodate me on 700 X 38 tires w/fenders? I require a 25" c-t frame and would like a long (at least 17.5" chain stay), at least minimum 43" wheelbase. I would like to get a frame from an American builder and not have to resort to British (although the quality was quite good) frame makers again. Due to the nature of the roads (or lack of) and the amount of gear I'll travel with, I really require heavy gauge tubing, a single butt tube in the seat and down tubes are no problem for me. It's not that tubes in the 9-7-9 range are "girlie", I just want an absolutely reliable, not stress fractured after the first trip, send it back and wait for repairs,

keep it for at least 20 years (as I have done with my '78 Mercian) bicycle. Can you help me or at least put me in touch with some one who is willing to build a bike ready for extreme self sufficient touring? Your assistance is appreciated.

—Bob Cohen

Bob, A slightly modified version of our standard All-Rounder will do it. In that size, the downtube is a custom-for-Rivendell Reynolds 31.8 x 9-6-9 853 tube. It's heavier than any stock 853 tube, and we got it just for situations such as yours (which are common). You won't break it. The top tube is another CFR Reynolds 28.6 x 1.0 x 0.7, and we can use that same tube for a seat tube. Then your main tubes would all be the strongest steel tubes available. The fork blades, Reynolds 531 in 1.2 x 0.7, really monstrously stout. The seat and chainstays, about normal, although we'll eventually have (probably by the time your frame came up) some slightly heavier chainstays. We currently use the heaviest chainstays available, in Reynolds 725. I could look at 853 stays, and if they are available we could use them, but the upcharge would be \$80. When you decide to GO on this, let me know and we'll make the plans. We can do it—that's not even a question. You just have to decide whether to go with a Rivendell or shop around for a better deal. —G.

PETER'S WEB UPDATE

For those of you who didn't like the frames - well, they're gone! (For those of you who don't know what "frames" are in a web context, rest assured they have nothing to do with bicycle frames, which are still here. —Grant) The look is about the same, but the non-frame layout solves some navigation problems. I hope you like the new set up.

The On Line Catalogue is up - finally. I will continue to add items as necessary, and take down discontinued items, but the basic layout is complete. If you have any suggestions on items you would like to see appear, let me know, and I will see what I can do. In terms of content, the On Line Catalogue roughly matches the printed version, but items that have delivery problems, or items that we don't have enough stock on will not make the Page.

The On Line Catalogue is also now run on a secure server. So, any of you who were worried about credit card fraud, worry no more.

WHAT'S COMING

An On Line Frame order form. You'll have the option of filling out the form on line. We will be getting a little tougher on frame buyers to fill out the form and return it to us. We are working hard at smoothing out the frame order process, as well as shortening the delivery. Right now, it's about 2 months.

Pictures of the new lugs will be up shortly. I am sure many of you have heard the talk about the new lugs. Well we have them now. We are now even building frames with them. They're no better or worse than the originals, but they look great, and soon you'll be able to see for yourself.

The long neglected Reader Article section will be updated soon. It has been neglected, because I was finishing up the On Line Catalogue. Now that's finished, so I can put more effort into the Reader section. Look for articles from RR14 and RR15, as well as, articles from old readers. If you think an article should be posted let me know. Don't expect the whole Reader though. We will simply put up articles to give a sampling to encourage people to subscribe. We need to keep getting your \$15 to keep the ship afloat. So, if your all-time favorite article is not up on the web page, that may be why.

That's it for now. There are more changes planned, but I do not want to let the cat out of the bag all at once.

—Peter

NEWTHING REVIEW: RITCHEY 2 x 9

BIAS GOING INTO IT:

1. TOM'S A FRIEND, I WANT HIM TO THRIVE AND DON'T WANT TO DO ANYTHING TO HURT HIS COMPANY. NOT TO IMPLY THAT A TEPID REVIEW IN THIS MEASLY RAG COULD DO THAT.

2. I HATE THE NOTION THAT 9-SPEEDS ARE AN IMPROVEMENT OR AN UPGRADE.

I RIDE 6 SPEED FREEWHEELS WHEN THERE'S A CHOICE. SEVEN OTHERWISE. I DON'T RIDE MORE THAN THAT.

3. RITCHEY SENT ME FRONT AND REAR WHEELS, COGS, SHIFTERS, DERAILLEURS, BOTTOM BRACKET, AND MY CHOICE OF CHAINRINGS AND CRANKARM LENGTH. WHEN I GET STUFF FREE, EVEN IF I HAVE TO GIVE IT BACK (NOT SURE ABOUT THAT), I HOPE I LIKE IT.

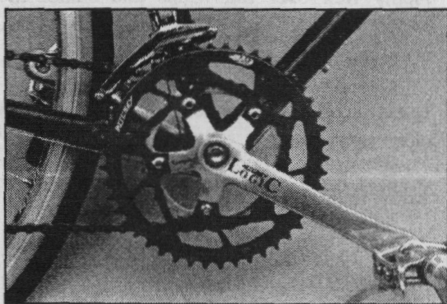
4. I PREFER FREEWHEELS TO CASSETTES, AND THIS IS A CASSETTE

I didn't use the twist-shifters, because I like friction and love SunTour's XC thumbshifters and was looking for a bike to put them on. I didn't use the rear derailleur, because I didn't need it to index, so any rear derailleur would work. All front derailleurs work well, so I didn't switch that, either.

So this is really a test of the 9 speed wheel, and the shifting pattern and quality on a 2x9, as opposed to the familiar 3x6/7. I think it's fine that I'm not testing the full system. I hate flat bars, and they'd sway me against it right off the bat. I think twist-click-shifting is from another planet, and I'd be focusing on that.

So I hooked it all up to a Heron Touring frame with Priest handlebars and the SunTour XC thumbshifters (from 1985). Friction only.

FUNCTIONAL LIKES: It shifts nicely, as well as anything I've used. The wheels have



The compact-drive 2x9 crank. This one is set up with a 46 x 30 combination. It's what I requested, so if you think it's a dumb combo, don't blame Ritchey. With the 11t small cog, it gives me a higher high than I ever need (113-inches). Q Factor is the same as it is on a sadly discontinued Ritchey Logic triple—150 to 151mm. The 30t inners are hard to come by, I hear. Most people get 28t or 29t—just as good, maybe better. A 28x33 on a 700c wheel is a 23-inch gear, and that's in the loaded touring range.



This isn't the rig Tom had in mind when he developed the 2x9 system, but my other available bikes had on them a Ritchey triple with a recently repacked bottom bracket, and a near-fresh TA set-up, and I didn't want to take those off. It's not like I have a lot of time to do that. And I had this Heron Touring bike I wanted to put Priest bars onto. So it all worked out, and this is a delightful bike.

been off-road enough, on really bumpy stuff, to give them a sufficient test, and they're still perfect. The Q-factor is the same 151mm as on our favorite-but-discontinued Logic triple crank. It felt fine, but going into it, I assumed the Q was higher, and then I felt terrible that I didn't feel it. I thought I was losing my finely tuned, well-honed Q-Factor identification radar. I finally measured it and found all's well.

FUNCTIONAL DISLIKES: None. If there were anything I hated or disliked, I probably wouldn't have reviewed it here.

AESTHETIC LIKES: It looks pretty good, overall. Smooth crankarms, rounded corners, the nice look of a Japanese cold forging.

AESTHETIC DISLIKES: I don't love blue chainrings, but they're better than black; I've never loved the Logic decal on the arm, but I've gotten used to it, and my one attempt to chemicalize it off was semidisastrous, so I leave it alone these days.

Would I ride this on my own bike?

I am. It's on a Heron Touring, and I'm not going to switch it back until Ritchey needs the stuff back. But leaving it on a bike it's already on, and putting it on a bike from scratch are two different things. I get a plenty wide range of gears, and plenty good shifting with a triple up front and 6 or 7 in back, and if I had that, I wouldn't switch.

Other and final words: I think, just my opinion, that if you want 9 speeds in the back, this is a good way to go. There's much less wheel dish than with conventional 9-speed set-ups, so the wheels are stronger. The 2x9 gives you 18 theoretical gears, probably 15 of them are actually usable. So: Strong wheels...plenty of usable gears for any situation....good shifting. It's a smart way to do 9-speeds.

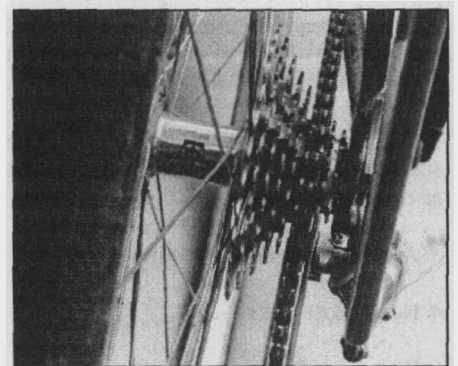
We don't sell it yet, and maybe we won't ever, but that doesn't mean it's not good.

Prices: Crank with rings: \$279

Bottom bracket: about \$60

33t steel cog for rear: \$20

Crankarms only: \$189



Lots of gears back there, but part of the system is a Ritchey OCR (off-center rim) and newfangled Ritchey "Zero" hub, which combine to dramatically reduce the dish in the wheel. So you get the 9 cogs without the crummy weakness that usually comes along with them. Smart!

BY JOE YOUNG

HOW TO SOLDER AND TIE SPOKES



In *The Bicycle Wheel*, by Jobst Brandt, you'll read that Jobst doesn't think tying and soldering wheels makes any appreciable difference in the wheel's performance. But in Gerd Schraner's new *The Art of Wheelbuilding*, you'll read that he thinks it does. Gerd is Europe's wheel-builder to the stars. He built wheels for Eddy Merckx and is widely considered to be Europe's foremost wheel expert.

In my experience, going on 30 years now, a wheel that is correctly tied and soldered just "feels different". Not too technical an analysis, I realize, but on closer look, here's what's happening: When you tie **and** solder spokes, they move around less. Minimal movement prevents work hardening—the action of bending **and** rebending metal - like you do when you work a paperclip back and forth to break it. So the final purpose here is to **minimize** spoke breakage.

Tying and soldering is not difficult to learn. It requires patience, practice and **focus** on the details.

MATERIALS

1. Bee-keepers wire (iron pre-tinned wire, about 0.5mm) You can order this wire from any shop that sells DT spokes. Most do.
2. Acid core solder (assuming you're using stainless spokes). Get it at hardware and electrical supply stores.
3. A **small flat blade screw** driver.
4. Needle nose pliers.
5. Wire cutter.
6. Soldering gun.

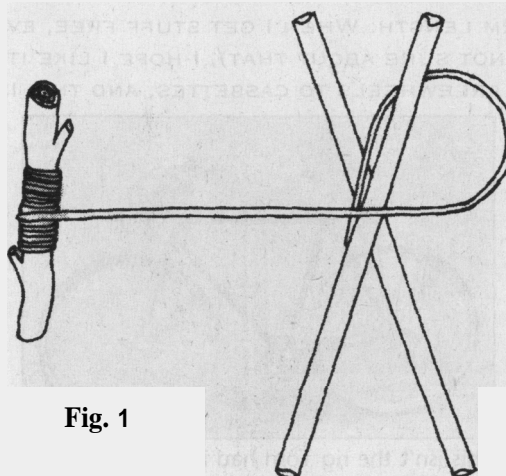


Fig. 1

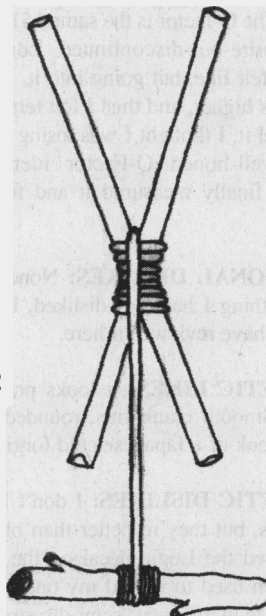


Fig. 2

PROCESS

Start with folding about 5 mm of wire over the out-facing spoke, crossing closest to the rim (fig #1) and lay it along the outward spoke.

[As your wire **spool** is too large to go through and around the spokes, take a chip of wood, or something small, wrap a generous portion of wire around it, and use that to navigate your way around the spokes.]

Wrap the wire tightly 5 to 7 times around the interlaced spoke crossing (fig #2).

After the last wrap, bring the wire under the spoke crossings and pull up sharply to break off the wire. [If wrap the wire over your finger when you **pull** up, the fine wire will cut it.]

Use the flat blade screw driver to compress wraps on both sides of the crossing.

Apply flux over the wraps and solder the wraps. Use the screw driver handle to knock away the excess solder before it cools.

Use a scotchbrite pad, detergent, and water to clean away flux.

Allow to dry.

Lube - to prevent rust. I use WD-40. (Ed.—Boeing T9 is a better choice, and not just because we sell it.)

Joe Young is Joe Young of Joe Young Wheels, Dover, New Hampshire
Contact: 603-740-4539
(joe@youngwheels.com)

Illustrations by Pal Jeff

ANOTHER DARN FACTOR!

THE TC FACTOR

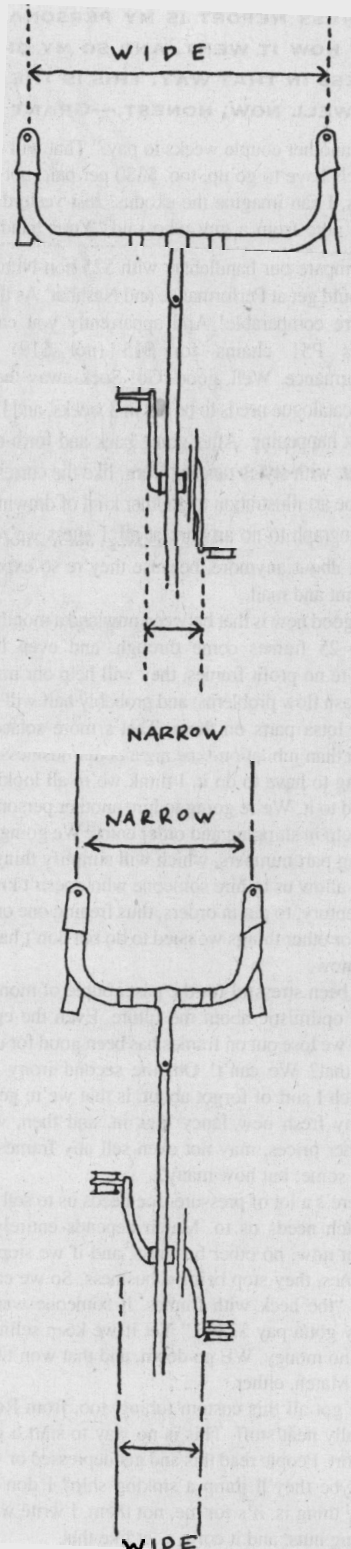
Back in the '60s and earlier, drop bars were designed for skinny European racing cyclists. The bars were generally 38 to 40cm wide. Forty-twos came to the United States sometime in the early '70s, I think, and quickly became the favored width. Forty-fours are even more popular now, and for good reason. These days, 40s are sold mostly for girls, although there are good reason for them to ride wider, too.

TRADITIONAL FITTING RULES tell you to get bars about the same width as your shoulders, and as much as we pride ourselves on blindly following tradition, that's one tradition rule you can throw into the garbage can and lock the lid on. If you ride 42s just once, you won't go back to 40s. Ride 44s and it's hard to go back to 42s. And the real scary thing is (sit down and hold onto your hat), once you ride 46s or 48s (if you can find them), you'll probably like those, too.

There's a good reason for wider bars even if you're Clarista Flockart. It has to do with the relationship between Q-factor (how far apart the cranks are), and handlebar width; which in these parts we call the Tilt-Control (TC) Factor. The idea being that if you bars are skinny and your cranks are wide, you won't have much tilt control.

The higher the Q-factor, the more leverage each pedal stroke puts on the frame, and the harder it is to control the bike (resist the pedaling forces) from the handlebar. Wider bars give you more leverage to counter the bad-bad effects of wider Q-Factors. More tilt control.

The narrow bars of yore worked well with yore's low Q-Factors. Now, if you ride 40cm bars and your Q-factor is 168mm (typical triple territory), then the bike feels hard to keep in line when you climb or sprint out of the saddle. Especially if you have strong legs. You can get used to the feeling, but either widen the bars and shrink the Q or both, and you won't need the sensitivity of a snail's antenna to tell a huge difference immediately.



If this makes any sense, then Kate Moss and Clarista Flockart and that skinny D.A. on The Practice would benefit from wider bars than what most books and bike shops would recommend for them. They of all people need the added leverage a wider bar provides, just to counter the leverage of the high-Q cranks they're pedaling.

Track bikes have narrow bars and low Q-Factors. They balance each other out. Track riders usually have strong arms. Which came first, the chicken or egg?

Tandems need wider bars even more so than do singles. Tandems almost always have high Q-Factors, and when you combine that with hefty person on the back, shifting their weight shifting on a different frequency than you do, and you've got to be Jack LaLanne to control the bike. Wide bars make it easier.

Touring with heavy loads are still another place for wide bars.

When your bike-n-baggage weighs 67 pounds or more, it's just hard to wrestle into submission. One reason mountain bikes do okay touring, is that they have wider bars (usually) to help you fight the load. I think all loaded touring bikes should have bars at least 42cm wide, and 44 is better, and 46, better still. I think the worst Hollywood combo imaginable would be a high-Q cranked, loaded tandem captained by the skinny pale D.A. and stokered by the large sensitive bald & black lawyer who cries easily whenever he starts to feel crummy about sending scum back out onto the street.

These ideas are not facts, just opinions based on experience. You may like the feel of 38cm bars and a 169 Q-factor on a heavily loaded touring bike. You may actually enjoy the feel of each pedal stroke wrestling the bike from you, pulling it downward, as your entire upper body flexes in defiance!

Illustrations by Pal Al.

PROGRESS REPORT



IF YOU HAVEN'T READ THIS BEFORE: THE PROGRESS REPORT IS MY PERSONAL JOURNAL OF STARTING AND MAINTAINING THIS BUSINESS. IT'S MOSTLY SO I HAVE A RECORD OF HOW IT WENT, AND SO MY CHILDREN WILL, TOO. THERE ARE UPS AND DOWNS, BUT IT'S NO DIFFERENT THAN ANY OTHER BUSINESS IN THAT WAY. THIS IS THE LAST OF THE PUBLIC PROGRESS REPORTS. IT MAY BE THE MOST FRETFUL. BUT THINGS ARE GOING WELL NOW, HONEST.—GRANT

April 29. We've got to start doing stuff better, and stop doing other stuff. We're messing up so many places. For years we've been selling frames at no profit, and they're sucking money. Rivendells, Herons, it's all the same. We've added up the costs and it's so obvious. I don't know what we're going to do there. Is it better if we don't sell them? Yes, but that's no fun. Frames are what we're about, mostly. Well, I'm not sure what that means, other than they're the big thing around here, but they're also moneydrainers and timesinks, so something has to change. Wheels, too. We've been selling wheels for break-even, and that means "break even" only if we have no rent, payroll, utilities, insurance, or bills. The new lugs will be here soon—we have one set of samples, and it'll be shown on the catalogue cover, along with some rope and nameplates and a stone tool—and we've spent thousands of dollars and months of time on them, all so we can sell frames for nada de lugumbres? I don't like the idea of selling "trophy frames" to people who just want to collect them, and I don't want to sell frames I can't afford myself, but it's dragging us down selling frames so cheap. The irony is that—well, there are two ironies at least. One, our customers assume we're making money on them, and who wouldn't? At \$1500 or so per frame, only an idiot would assume that there's no money in them, because only a major idiot would put in all the time and money on something like that and sell it for no profit. It helps when someone buys all the parts from us, but still it makes no sense to sell the frames so cheap. I shouldn't even put this in here. I don't want to spoil it for anybody who bought a frame and got a little satisfaction from thinking they were helping us. They were, they are, but not in a money way. Our frames are getting well known out there, and that's because people are seeing other people riding them.

The Robb Report will be out soon, and in it will be our \$1500 frames. They should be \$2000, and will be within a year. Maybe with the new lugs. Maybe that's how we'll do it. Old lugs, \$1500 to \$1600; new lugs, \$2000. I don't know.

The Herons aren't helping. We all really love those frames, those bikes, too, but it's not working out. There's no profit. Wford would like us to sell more of them, and thinks (justifiably) that I've failed in trying to promote them; T has put plenty of money and time in on them and I don't want to fail him, and I'd like him to recoup his investment; and meanwhile, they're another anchor holding us back and pulling us down. So all this is kind of depressing me. Our bills this week are high, and Mary says "our cushion is gone. our line of credit and credit cards are tapped out. I don't know what we're going to do." So I told her "send partial payments with notes. Tell them we've had lots of expenses lately, and we'll

need another couple weeks to pay." That will help. Wheels have to go up, too. \$380 per pair, not \$300. Yikes, I can imagine the exodus. Just yesterday we got a note from a guy who said "Your handlebars cost too much, and so do your chains." And went on to compare our handlebars with \$25 non-Nitto bars he could get at Performance and Nashbar. As though they're comparable! And apparently you can get Sachs P51 chains for \$15 (not \$19) from Performance. Well, good. Go! Sock away the savings! We can't DO that!

The catalogue needs to be out in 3 weeks, and I don't see it happening. After going back and forth on the cover, with styles ranging from, like the current one to line art illustration to another kind of drawing to a photograph to no artwork at all, I guess we're desperate and finally have something, but it's not fun to think about anymore, because they're so expensive to print and mail.

The good news is that between now and a month we'll have 25 frames come through, and even though they're no profit frames, they will help our immediate cash flow problems; and probably half will go out with lotsa parts on them. That's more solace-and-balm than jubilation-type news.

I'm taking a class in making a better business. We're going to have to do it. I think we're all looking forward to it. We're going to hire another person or two to help in shipping and order entry. We going to start using part numbers, which will simplify things a lot. It'll allow us to hire someone who doesn't know our inventory, to put in orders, thus freeing one or two of us for other things we need to do but don't have time for now.

It's been stressful for the past couple of months, but I'm optimistic about the future. Even the epiphany that we lose out on frames has been good for us. Why do that? We can't! Oh, the second irony in that, which I sort of forgot about, is that we're getting so many fresh new fancy lugs in, and then, with the higher prices, may not even sell any frames! We'll sell some; but how many?

There's a lot of pressure. Joe needs us to sell frames. Match needs us to. Match depends entirely on us right now, no other business, and if we stop selling frames, they stop being a business. So we can't just say "the heck with frames. if someone wants one, they gotta pay \$2300." Yet if we keep selling them for no money, WE go down, and that won't be good for Match, either.

We got all this custom tubing, too, from Reynolds. Really neat stuff. This is no way to start a progress report. People read this and get depressed or worried. Maybe they'll jump a sinking ship? I don't know. The thing is, it's for me, not them. I write when I'm going nuts, and it comes out like this.

The last headline, in #15, meant nothing. It was a

parody of past headlines. I shouldn't have written it. It's too self-conscious. The next one will just be about Tang, or Tonsils Getting Taken Out, or something.

Apr 29 eve. A lousy money day today. The credit card batch was \$280 until Peter charged Jones' complete bike parts, and got it up to \$1200 or so. The phones were so slow, and that always throws me into a panic. Allen was off, and he's off tomorrow, too, so I expected it to be hectic, but no.

Peter and I were talking about why we're so broke now. He thinks it's because I'm buying too much stuff, and that's part of it, no doubt, but I have been better. A lot of it is the tooling and new lugs, and he knows that, too. It's just so expensive. The frames have me really bummed. What's the point, if we make nothing? If we make nothing, but spend lots of money and time, they pretty much kill us. If we raise the price to \$2,000, they'll be in the same price league as the most expensive lugged steel frames (Sachs and Weigle), and that's where they ought to be; but I'm chicken to do that because if our orders take a dive, what happens to Joe and match? Those guys depend on us to sell frames, and we have to consider them, too. So what's the answer? Are we doomed to run ourselves into the ground losing money on frames just to support Joe and match?

There are worse causes, but in the end, if we go down the tubes, it doesn't do them any good, either. I wish I knew what to do. It seems like one good boost, like a feature story in one of the bike bike mags, would go a long way. We are important to the industry. We are news! The lugs we have are beautiful, and the new ones should be a Bicycling cover shot! But it'll never happen. Advertisers love cover shots, and it's always reserved as a perk for them. Way back in the old, original Bicycle Guide days, one year T took out 47 pages of ads, and demanded but didn't get a cover shot. So the next year, no ads, and that was the year it folded. Well, just an in-depth story on the frames and the lugs and the lugged stem. THAT seems like it ought to be able to take off and keep us alive. Thank goodness we've already sold SO futures at \$100—that's five grand we wouldn't have had otherwise. We're testing almost 18 of them though, so we'll still have to pay for those SO, but at least we had the money.

Herons are a worry. Something's going to change there, I can feel it, and we all know it's not working out. Good frames, but nobody's happy with the money in them. There's just too many fingers in the pie, and it takes tons of time. But we need a \$700 to \$900 frame, don't we? It seems.

The custom Reynolds tubes are in, good. I may have sold the nearly new 52 A/R today. The guy will call back tomorrow.

Apr 30. Well, if you combine Match's bank account

with ours right now, it comes to minus \$40 plus or minus a couple. This is amazing. They're doing the groovy thing making lugged steel bicycles, we're doing the groovy thing designing and selling them, we've got all this knockout stuff the world should be beating a path to our door to get, and yet that's the money fact. Match needs more customers. Maybe Match needs to make its own brand and compete (or whatever) with us. But Tim's sort of stuck there. He can't use the Paramount lugs and stuff, because Schwinn bought them. He can't use ours, because we bought them and they're a calling card son of deal with us. Plus, it's not easy going from a manufacturer to a manufacturer-distributor/dealer. You need the staff for it, you need more telephones, it's a whole different deal, and it costs money, and it's not what he's into ANYway. There is so much money around. Not here, but somewhere. People spend millions and hundreds of thousand on stuff; there's a lot of wealth out there, and you'd think one of those people could plunk down \$50,000 to help preserve the Great American Lugged Steel Bicycle Frame. Match can tig-weld, but even tho it takes just 30 minutes to tig a frame, they probably do it even faster in Taiwan, and nearly as good, and for a tenth the price—so Tim's efforts to get tig business haven't succeeded. I feel like we're reborn sort of in denial. Curt up there, and his wife, are expecting their first baby in a month. It's a drag and not fair. Nobody should have to worry about stuff like that. Nobody doing such good stuff, in America and all, in 1999, should have to worry about food.

It even has me thinking WHAT IF all the bad stuff happens, how many people can Rivendell employ? Can we get by selling just the stuff we have, not buying any new stuff or replenishing our inventory, and can we survive largely on subscriptions alone? Rivendell Newsletter Works? It seems like our big hope is with bike clubs. We sent 680 queries to clubs last month, asking "how many members do you have, and may we PLEASE send you that many new catalogues next month so you can pass them out at meetings?", but the response hasn't been so good. I think club mail openers are "protecting" their members from us, or something. I included a return postcard, said it was stamped, but forgot to stamp it, so maybe that's the problem—they didn't want to provide the stamp. One guy, a club president, wanted to strike a sneaky deal with us, where we'd order tires and sell to him at our cost, so he could sell to club members. I said No to that, and his attitude was "then why should I help you?"

I'm going to write to some of the magazines and beg for coverage. I hate that. I'll stick my neck out there, and if they don't come through I'll feel stupid and really regret groveling. Who even cares about this stuff, anyway? And who knows what they'll even say about it? "Retro piper Grant Petersen, formerly of the now defunct Bridgestone, founded Rivendell Bicycle Works, and has attracted a near-religious band of followers who disdain ALL TECHNOLOGY in favor of leather saddles, cloth bar tape, and steel bicycle frames. While not the lightest frames on the planet (jab), the frames are undeniably unique in appearance (trying hard not to offend Cannondale), and have a certain blah blah blah." Or something like that. The leader/follower angle, the quirky-and-just-for-freaks angle, the charming-but-outdated-and-impractical-for-the-new-millennium angle. A little corner photo, a web address, and on to the three page

pictorial of the latest in spine-based water carry systems. Maybe I should just send a press release.

We got an email yesterday saying that in the Tim interview, Tim sounded "angst-ridden." Well, no more than I am! I'm getting a home equity loan, but all we qualify for is \$15,000, and we owe \$11,000 of that to family credit cards. Can the remaining \$4K do any good? Tim has a Leica he's selling now. I wonder how low he'll go. That's a great thought, a real happy opportunity to buy one cheap. So I can take catalogue cover photos for all those catalogues we won't have?

I have never been so wowed about work and my future, ever before. Not even just before Rivendell started. I was naively optimistic then.

The stems could save us, if we can get the word out about them. Definitely need to do that. We need final testing results, then get some plated and sent to the mags. THAT may be the way in there. It's 7:30 am now, the kids are up and I've got to get Kate off to school. I want them oblivious, but they always know when something's up.

May 2, Sunday. Good ride with Jeff today. It was drizzly but pretty, and the drizzle kept all other riders off the mountain. Ordinarily we'd see at least 30; today, none. It's a funny thing, I think.

I got a fax from the caster asking for another \$6400 in tooling; not a good time for that, yet I'm so eager to get the lugs made. This weekend another 12 stems will be tested, and if the results are as good as the first test, then we can go ahead and start making them. I should be really jazzed up about it, but when I think stems and lugs and tooling, all I can think of is money we don't have to do it. And to think that Mongoose is spending something like \$3 million promoting its titanium frames; and a single page full color ad in *Bicycling* is \$20K. It must be nice to regard real money as funny money.

I am so afraid that the catalogue won't get out on time. There's an even in Chicago around the 17th of May, and that's what I'm shooting for, but it's still being laid out, may not even have been started by now, and so it looks gloomy. I used to think I'd like the cover, but now I'm not sure. It's a good photo, but I want to try other stuff, and if I don't take the picture myself, it makes it hard.

May 11. The phones are scarily slow these days. About a dozen bikes are in paint right now, and when they arrive we'll be able to charge the balances and actually get some money in here. The daily batches are about \$2,000, which would have been great in the old days, but here it is a Tuesday and we need another \$15K by Friday to pay the bills. Last week for the first time ever we had to pay a couple bills late; not a good feeling. The lug tooling has taken all our cushion away, and we're down to the bone. Match needs more work and Seems down to the bone. They must be, with four employees and we're their only customer. Somehow we need to get them more work. Tim and I talk several times a day, and lately I've noticed he sounds a bit down, and I can understand it. Still, we're forging ahead with little projects that cost loot but will pay off down the road—all stuff a financial advisor would advise against, I'm sure. But the lugs are so fun, and it's so ironic that here we are doing them in an age when almost nobody gives a hoot. It's tragic and funny at the same time.

We've got to get a more profitable frame. Something

we can sell in volume, so maybe an \$850 All-Rounder type. It won't be a Rivendell by name, and it won't be a Heron because that's part of the joint venture. We've looked at tree names and fish names and star and bird names, but they all sound so ephemeral. Heron is perfect, but I got another one, too. Bstone owns the rights to it in Japan, but as long as we don't sell them in Japan, should be no problem. I've asked Masa to look into it and ask Watanabe at Bstone.

My business training stuff, the course, so far, pretty okay. There's a lot of work to do on it in the next two weeks. I hope the guys at work are supportive and go along and help out. I think they will. There's a lot of work ahead, but we've got to transform this thing and get solid.

The new lugs look great, and in a week or so we'll have enough to build road frames. I can't wait. I've begged *Bicycling* for some coverage, and they'll do what makes sense for them and their new direction and all. I think we just need to sell to bike clubs directly. We sent out some notices and the response has been fair. I think most clubs have local shop loyalties, and many are even based out of shops, so I wouldn't be surprised if our offers to send free catalogues was tossed right out. The catalogue—late as usual, but it'll be good, I think. I hope the cover photo turns out okay. I expected to see it today, but maybe tomorrow.

I'm tired of hanging on by my fingernails, but the mood at work has been pretty good lately. Peter's really upbeat and helpful, and probably has no idea how his mood sets mine. Allen's going to be production coordinator from now on—no more headache for me, and he'll do a much better job. I'm not sure if Joe is going to stay or go. I hope he'll stay, but he has some idealistic differences he has to reconcile, and I just don't know. We have a full-time summer timer coming in, starting in June. He'll put in orders and ship a lot. Debashis.

May 25. Peter's on vacation, the phones are really slow, but we've gotten lots of frames in lately, so as they're being paid off we're getting some money. I'm on my second session of training/biz training, and I think it's going well. I'm getting a good picture of where we are, where we're strong and weak, and what we have to do to get better. It's going to be a slow process, but necessary and good, and I hope we can hang in there long enough.

I wrote an I Love Lugs column for *Bicycling*. It started when I sent Bill S., editor a plaintive plea to review a frame/bike, and he liked one of the parts of my p.p. enough to have me expand it into a column, a guest editorial. I hope it helps, not just us, but other lugged builders. I don't think it'll hurt, but I'm sure somebody will find offense to it and the follow-up rebuttal will be published in a future issue, and I'll be bummed out for a couple weeks.

The lugs are turning out really great. We still need two more. Joe likes them, Richard S. likes them, Kirk and Curt and Martin at Match like them. They're making the cover of the catalogue. That's sort of a funny deal. At first it was going to be a collage of a bunch of stuff we sell, a crisp photo. It looked interesting. Peter said, "It looks like the area around your desk!"

The Heron project is not a thousand percent satisfactory to everybody involved. The frames are good, but we aren't Gelling enough of them, and the amount

we're making on them is so incredibly little that it's not worth it. So we're talking with Wford about the possibility of them being a contract builder, rather than a partner in the joint venture. That might ease the pressure and make things better. I'm also starting to wonder if there's even a market for a \$700 frame. It seems like there ought to be, and I know there are almost none, so I thought we'd sell about 400 Herons a year. They're good, but maybe just not marketed well, and that makes me feel like a failure. Anyway, we've got to do something with Herons, and nobody is really comfortable talking about it. It's just sort of understood that it never came close to living up to the hopes we all had for it; meanwhile, the frames are great deals.

The long delivery for Rivendells has hurt. By now we've had close to 30 cancellations, and with Match building a lot of the bikes on the list, we no longer have 9 months worth of bikes for Joe. I hope the new catalogue helps. The prices have gone up a bit, but they'll go up at least another \$200 to \$300 within a year, because we're still not making money on them. Incredibly expensive to build. That's why nobody does it. Well, Serotta and Davidson, but they're both building more and more non-lugged frames, and I'll bet a million dollars it's to subsidize their unprofitable lugged ones. Same with Wford.

We've got to sell to bike clubs. Sometimes it seems like our best hope. All those clubs, all those riders. We have to get our subscription and memberships up. We're just getting by, week by week, and the fact that we've been doing it so long doesn't make us any more stable. The catalogue will help. More frequent Readers will help. Will the new lugs help? I doubt it—everybody already liked the old ones, May 28. Man, slow. It's Friday and I told the guys we'd close Monday for the memorial, but it's not usually a retail holiday, just a government-type holiday, and I know people will be home and maybe wanting to order. Maybe I'll offer to switch another day next week, or maybe either Joe or Allen can work Monday, and then take off another day, like next Friday. That would be best. We're way behind this week, Mary is asking, "Are you going to have a great Thursday and Friday?" and Thursday was so-so, and today's not shaping up well. Most of the orders are out, mail doesn't come until almost 4 o'clock, things not looking great.

We're talking with Tim about a low-priced lugged frame based on our A/R. It wouldn't be Rivendell brand, just Rivendell design and our own sort of Heron-version of it. Match might not be able to do it cheap enough, and we have a plan B with Toyo in Japan. They make Ritchey frames, and they're a cut or two above standard Japanese brand frames in quality. That might be the only way. It would be fine if Match can do it, but it's no good if they have to lose money on it, and we sure don't need another unprofitable frame. So if we can get it relatively cheap out of Japan, we can make something on it, and that'll help subsidize the no-profit Rivendells. Not a great situation, but what can I do about it? If we can just get a frame that we can sell for \$800 or so and make money on, and sell 300 or so of them a year—that's what we need. We'll have a Match quote in a month, and a Toyo quote in a couple weeks, maybe a month. What lugs will Toyo use? If they use the non-new Riv lugs, will that spoil it for anybody who has a frame with them? What are the other options? I like the idea of proprietary lugs, but we can't just tool up again for another new set. These frames should be ONE color.

Six sizes, maybe five. Can they install the headsets over there, so we don't have to? Aaaagggggghhhhhh!! Drives me nuts.

Memorial Day. We were going to take the day off, and I called for that, but then I thought it might be a good phone day, with people home from work and all, so Joe and I are here. It's spookily slow and quiet, and my pessimistic nature has me telling myself it's the beginning of the end. We're ordering company uniform-type clothing, and that just seems to seal it. We get the uniforms in, we go upside down. On the other hand, we do have fifteen frames coming in the next 3 weeks. I wish we made money on frames, but at least it's money coming in, and the more that are out there, the better it is for us.

The lug story in Bicycling might help, too, and I notice our Tool and Tube Tote is listed in the current issue as one of the best deal products, and they give our website, too. The catalogue, this Reader, maybe going to Ragbrai and other events, just generally more promotion stuff ought to help us. Still, man, it is dead here. If we'd been closed today I'd be fretting about the phones ringing and nobody there to pick them up. Now we're here (Peter just came in), and it's dead. Well, people are doing family things, as they should. That's all. This is depressing. Four hours later, been here all day, three phone calls. I've been rounding up photos for the Pino story, shooting some of the bikes, feeling messy and hot. I need to go home and shower and have a good afternoon. I'll make a ropeswing at the park. I have a good system for impromptu, quick-release ropeswings. I'm gone! Man, spooky here. Yikes.

June 1. I came in early to collect stuff for RR16. Marc and Joe faxed me their lug blurbs, Roland and Richard and Chris K. haven't yet, but maybe today. I need a break from the office, and I need to get cracking on stuff that helps bring in the money. The Readers, events, some grinder ads in the back of Bicycling and VeloNews, things like that. I sure hope the catalogue gets finished this week so we can get it out next week. The next lower head lug samples should be here in a few days. I'm having doomsday thoughts about Rivendell, and last night I found myself thinking what else can I do if this flops? Go to the trade show and try to get freelance jobs writing ad copy and catalogues for other companies? There's a yikes for you. Maybe just stop ordering inventory, sell what we have, try to grow the Reader's circulation and make a go of that; then, raise frame prices so at least when we sell a frame, we make a little money. Right now it's just exchanging money for money. We pay Joe or Match, then Joe Bell, that wipes us out, and then we collect the money for it to fill in the hole again. I think a couple more years of that will have me hating the frames. New frame prices with the next catalogue. Raise them \$200 at least. Our time is won't something, isn't it?

June 2. Dang. Men's Journal had selected us to represent High Style in the bicycle department, and Curt and Kirk and Martin at Match put in special hours building a frame with our new lugs, and within ten minutes I got a call from MJ saying "sorry, we decided to go with a mountain bike instead," and a call from Curt saying "We finished it! It looks fantastic, and went together beautifully! They're gonna love it!" The replacement will surely be a Cannondale. Cannondale always gets in on those deals—I think they must have a full time department in media relations and insider deals. I was really looking forward to that, though. The last time they did a Rivendell

story, we got tons of phone calls.

June 5. We got seven stems back from the plater. They don't fit into the steerers. The tube itself is 22.2 (perfect), but after plating, they're up around 22.28 to 22.3, and they don't go. Well, it's not a complete surprise. I thought they would go, but the plating adds more than I imagined, so we (Tim, actually) is going to ask Reynolds for some 22.1 quills. That'll solve it. Also, the lugs need more polishing before plating. The plating just accentuates the graininess in the casting, and it's not a great look. It's not a bad look, and I personally could easily live with it, but a stem like this will be examined closely, and it should look better than it does now. Paint would solve it, but we want these plated, not painted. I wish I could just hand off this project to someone else and have it happen good. I hope we have stems by July, but something tells me September is much more likely.

On the afterwork ride tonite Allen said he thinks it would be good if we had a complete bike we could sell for \$1300. How's that possible? We'll investigate. Our frames are going to go up in price, and I think it would be good for everybody if we could offer a nice lugged frame bike for \$1300 or so. It would have to have some cheap stuff on it, but nothing crummy, and at least the frame would be worthy of upgrades. So, I'll investigate that. I think \$1500 is more do-able.

June 26. I got some catalogue covers yesterday and this morning I was reading the inside cover and noticed a dumb typo, and it really bugs me. The first sentence, even—what a great start. Anyway, the catalogues will be in the mail in a week, and that should help matters. I'm concerned about frame orders, but all we can do is make them good and try to get the word out and hope there are still people out there who want and can afford one. RR16 is about wrapped up, too, and then we have an ad coming out in The Ride, and VeloNews, and Adventure Cyclist and Cycle California.

June 30. Hmm. Somebody called us Yuppie Trash on the internet. What a fine global community that is. How empowering it is to the average person. Man, that's so mean. Why?—because our frames are lugged? Because they cost a lot? Do they think the prices are artificial? Do they even know we make less money on these than someone else makes on a \$500 complete bike? Should we go to China, lower our quality, let our builders find other jobs? We have the cheapest rent in town. Because we don't supply free bikes to the homeless? It's like that talking-song: "A lot of people don't have much food on their table/But they got a lot of forks...and knives/And, they gotta cut—somethin'." I need a week to get over that one. "Yuppie Trash"? Man, I'll dig deep for some words that hurt and sling them at Rivendell. After all, I know them so well, I'm so qualified to say that, and the 'net is forum, and I'm just being a fine citizen exercising my right to free speech, and anybody who suffers for it must be against free speech, and why do people have to be so sensitive, anyway?—is that his logic? He needs a little dose of Louis Armstrong and less of whatever's gotten into him. He'll read this and attack. Temfic. It makes me want to hide away, but Rivendell has got to be out there. Most people are nice, and we've been really lucky. Someone else complained that deliveries of the Reader and catalogue aren't timely, and suggested that the \$15 yearly fee was too high. Well, okay, we'll refund it. It's not worth it, then don't do it. Fifteen bucks. I bought three 7' x 9" photo

grey cards two weeks ago, just grey cardboard, and it was \$10.95. I spend that much on a telephone interview, and tons of hours getting stuff together, and we're trying to put out a publication, and we include coupons in it, and still someone complains about the price. We aren't trying to rook anybody. This is so discouraging. We're a topic on the IBOB on the net. I don't want to be. I feel like I can't say anything without someone making something of it. If I even say "it bothers me," then someone will fault me for being bothered. They say I'm taking it the wrong way and blame me for that. They'll read this and say I'm whining and blame me for that. If I head them off at every pass, they'll find something wrong with that. If we make improvements they'll take credit for inspiring it. It makes me think I shouldn't even do the progress report. It's just fodder for hindsight experts and arm-chair managers. The IBOB talks too much about Rivendell. I think we've benefitted from it in a commercial, but it seems we can't do anything, or say anything, without someone misreading it, twisting it, and turning it against us (or me). I'm not supposed to fight back, and I'm supposed to have thick skin, but I don't. The latest chats are that we're late with Readers, and

are sometimes rude on the phone. I've never gone out of my way to give the impression that Rivendell publications department exists and is a well-oiled machine, but man, if they have a gripe, why can't they direct me? On the rudeness thing, I'm surprised, I've moped a lot about it, and I may have an explanation. We consider our customers our friends. We're relaxed, and maybe the relaxedness is coming across as rudeness. I think having boy-voices is something of a disadvantage in this way, too. Most companies have women answering the phone, and that's an advantage. Last week we sent out an invitation to our Oregon and Washington members to tour Match. We have to limit the turnout, so it was natural to stipulated that it was for Rivendell members only, and someone wrote a loooooong thing on the IBOB, saying we're bad or something because what if it's a 5-hour drive and he wants to bring his 85-year-old dad? A little extra twist, and the next thing you know, Rivendell wants elderly folks baking in cars in parking lots. Sheesh—why can't people stand tall, be honest, talk to us direct? The computer turns people into gossips. It's technology fighting back insidiously. It's reaching the point where even this will be commented on and twisted. 1

think this is the last progress report. I want to do my work, I don't want to feed that whole yak-yak machine. I can feel my whole attitude and outlook changing. I feel public and vulnerable, and it makes me want to hide and put more people and stuff between me and out there. Someone will figure I'm fare game and should just take it. They don't know me, they just talk and think it matters and assume I'm not hurt by it or that I just don't care. That is so wrong, I can't stand it. I think they just don't care. They're so unlucky to be so cool and judgemental and to have the time to spend that way. GP

Note To Prog Rep Readers

I hope this wasn't too whiny or a downer, but it's the last one for a while, and please don't yak about it on the net. What started out as a personal-yet-public journal has gotten out of hand, and it's my fault, and I'm just going to reel it all back in. G

MEET DEBASHIS

He need help here. Up the stairs came Debashis Bhattacharya. We'd never met or spoken, he found us on the web (I think), and wanted to know if he could work here starting in June. He was extraordinarily polite, and that's what struck me the most. Mostly, he'll be shipping orders. He'll probably enter orders, too, and he may get the phones when we're busy. We need him. His being here will free up me and Peter and Joe and Allen to do other things that we dearly need to do but often have no time to do. Here's a short interview with Debashis, pronounced DE-BAW-SHIS, accent on BAW. Bhattacharya is phonetic, not as hard as it looks, with the accent on CHAR.

Q: Tell us about your name.

A: My grandfather named me. Debashis mean's God's blessing, and Bhattacharya has various meanings, but one of them is "teacher of teachers."

Q: Do you speak Hindu or read and write Sanskrit?

A: I speak Bengaly (or Bengali). That's my mother language. It's probably the third most spoken language in India, well behind Hindu. It has a unique text. I used to be able to read it when I was young, but

I thought it wasn't cool, so I ignored it, and just now I'm trying to learn it again.

Q: How old are you, and are you in school?

A: I'm eighteen, and I will be going to Diablo Valley College in the fall. I'm taking math, physics, and drafting (for my physics major); and history for my own curiosity; and swimming, for exercise.

Q: What do you want to do when you grow up and graduate?

A: I want to teach high school, probably physics. Maybe math, too.

Q: You want to teach? That's refreshing. I thought the ultimate goal of education was an IPO. Your resume says you do "traditional Indian dance." What's that, and do you still do it, or was that just a way to make your resume unique?

A: It's a pre-modern dance originally practiced as a form of pleasing the Gods (worship). I don't take formal lessons anymore, but I still practice



on my own, and perform when asked.

Q: How did you become interested in bicycles, and why did you want to work for Rivendell? Be honest. Is it because you like bikes and here we are, a bike company right in your home town? It's okay if that's the reason.

A: I became interested in bikes in 8th grade, when my best friend bought a GT, and we used to take turns riding it up and down a hill near his house. {As for why I want to work for Rivendell} the reason you give is perfectly true, plus I am curious about the manufacturing process. I want to learn more about bike design and maintenance.

DEBASHIS BHATTACHARYA

Favorite Books

Fiction: Brave New World (Aldous Huxley)

Non-fiction: Down These Mean Streets (Piri Thomas); The Man Who Knew Infinity: A Life of the Genius Ramanujan (Robert Kanigel)

Favorite Movie: All The King's Men

Favorite Non-Cycling Activity: Writing and listening to music. Rock, classical.

Continued from page 1

you ride out of the saddle. But we mailed 600 postcards to bike clubs around the country, asking if we could send them catalogues (as many as they have members). Response was 5 percent. I think the mail openers tossed them, because what bicycle rider would say *NO!* to a free catalogue? If you're in a club and are willing to hand out catalogues, say how many and where to send them. It would be such a nice thing for us!

Remember in RR15's Prog Rep, hearing about customer N, whose bad friend rooked him out of a lot of money by using his credit card to put a down payment on a house? And how he couldn't get his Rivendell because he had to pay the credit card companies? And then we sort of took some donations to help him get it, anyway? Well, stop sending in the loot, because between what you've sent and what we're matching, he'll get his bike. There are lots of nice people out there. Thanks to all who contributed and all who would have if their situations were different.

The VeloNews 1999 Tour de France guide lists the bike specs for the 22 pro teams competing in this year's Tour. Only one team, Kelme/Costa Blanca, is riding a steel (Gios) bike in all stages. The TVM team will use both steel (Gazelle brand, Reynolds 531) and aluminum frames. The Festina teams simply says "Peugeot," without listing material. All 19 other teams are on aluminum or carbon fiber. I used to think that for this greatest of all races, the riders would be on the most special and beautiful bicycles—like matadors wearing their best Mickey Mouse caps and fancy costumes on Bull Day (apologies to many). The decal might say DeRosa on it, but it would be a took-twice-as-long-to-make DeRosa, with special adornments to please the pro rider. I don't imagine Eddy Merckx rode a stock frame, and I figured the other top pros back then didn't, either.

Stock or custom, it's unnerving to see so few steel bikes. I wonder if any are lugged. The guide didn't say, but I can guess.

What do you make of this? That steel is dead? And why no titanium? I'll bet it's because lugged steel and (non-lugged) titanium frames cost more to make. Once the process has been determined, carbon fiber frame making can be taught in a couple of weeks; and aluminum is cheap to buy and weld. If that weren't the case, you wouldn't see welded aluminum Mongeese—complete bikes—down around \$500 at WalMart.

The days when pros rode the best stuff are gone. It's important that they be gone, because if they rode fine, expensive bicycles, then wannabe racers would want the same, and from a

manufacturer's perspective, why create a demand for craftsmanship and expensive details when you don't have to?

I think modern pros ride high tech, high performance frames that cost relatively little to make. Support cars are there with backup bikes in case of a failure. I'm not saying the bikes aren't safe and efficient or well made within their context, just that they're works of science, not *art*. They're fashionable in a bold and shocking way. They're unbound by traditional rules of craftsmanship and style, and they're enjoying the party! Well, good for them.

If you replace your bike every few years, you can ride what modern pros ride and not sweat it. But if your idea of a good time is to buy a very fine bicycle and develop memories and a history with it, and even grow old with it, then you need a better bike than the pros ride.

The catalogue has a couple wrong prices. The Carradice Super C front panniers are \$100, not \$60; the Acme Ankle Reflector is \$5, not \$45, and the MKS Platform Pedals are \$25, not \$45. The word "thorough" is misspelled on the inside cover, and there *are* a few other minor bugs, but it could be worse and at least it's out.

RR17 is all tilled up and should be mailed by September 15. The headline in RR15 was kind of a spoof of past headlines. Rest assured that "hearts of romaine" has never (to me) meant anything more than salad stuff. What could it have meant—integrity, fortitude, valor? I crossed the line on that one.

As we go to press, three things. You know those Sidi shoes on page 67 of our blue catalogue? Discontinued. "Not enough demand," as usual. **But** wait—Sidi is willing to make one last batch of 500 shoes, but the price has increased (so now they're **\$130**). I've told them I think we can sell 350 of them in a year, but I could be way off. We gonna try, though.

You also know those MA2 rims on page 74—the last of the classic, box-section, double-eyelleted Mavics? Discontinued. Mavic has stock, and we have enough for a several months. The "replacement," called the MA3, is skinnier, heavier, single eyelleted, and has a cheaper joining method. It may be fine, but waaaaalzh! anyway. Also, our supplier is all out of Regina 6-speed 12 x 26 freewheels. I'll beg SunRace to make some. If I could just transform myself into Harry Spehar of Trek, for just one day, I know I could pull it off.—Grant

Lugged Stem Update

We got several samples back from the plater, and they didn't fit into the steer tubes. Plating added 0.1mm, which is just enough to make it not work. So Reynolds is making us 22.1 quills, and they ought to work after plating. Also, the castings need to be a little smoother, or else the roughness shows up under the plating. Paint doesn't require this, but these stems will be plated, and so...we're having the caster do that. We aren't sure whether we'll go with chrome or nickel. Whichever looks best. It seems to go on forever, but only because we're letting you in on all the steps. We'll update you on the web and in RR17; or you can always call. —Grant

PHONE-ORDERS WITH PART NUMBERS - PREFERRED FLYER

Things we don't have enough of to put into the catalogue, and things that may indeed be in the catalogue, but we still want to remind you about.

Phone orders preferred, as we may run out fast. Sorry for the fine print.

Shimano Dura-Ace single-pivot sidepulls. One bikesworth, \$80. Maybe the best sidepull brakes ever made. No levers. Super cheap at this price, and we have just 12 left. (#15-045)

Nitto Rear racks. \$115. Tubular CrMo, pretty, strong, and available in two sizes to fit most frames. If your frame is 58cm or smaller, order a medium (#20-022). If bigger, order a large (#20-021).

SunTour XC Expert mtn bike brake levers. \$25/pair. Designed for cantis, also work with sidepulls. (#15-033).

Shimano Deore DX front hub. \$20. 36H, with q/r. Silver. (#18-045).

SunTour XC9000 rear hub. \$20. 126mm space, 36H, good for 6speed or older 7speeds. with q/r. (#18-053).

Banana Bags! \$70. Fits five medium bananas, tube and patch kit, a couple allens, and that should do you. Beautifully made, smart design, looks and smells great, will last 25 years, and fits any saddle. (#20-041)

Nitto Bottle Cages. \$30. Makes almost any bike you put it on look positively unworthy. Unworldly beautiful, and priced accordingly, but it's still a deal. (#20-030).

SunRace Silver chains. Grant's favorite, owing to its shiny silverness, cheap price, and reliability. (#13-031) \$10

Sachs Centera rear der. \$26. Shifts up to 32t as well as any derailleur, made in Germany (well made/ugly), and the only reason it's not in our new catalogue is that we ran out. Then we found more, real cheap. A fantastic deal at this price. Indexes like Shimano (not to imply that you eschew friction). (#99-999).

MKS Platform pedal. Mispriced in the catalogue! It's only \$25, not \$45. Sneaker-compatible with no loss of efficiency, and supremely comfortable. (#14-030) \$25

Clarks Cable sets. Brake and derailleur. English, exc quality, white only, brake and ders. (#15-009) \$2.

Rivendell Long-Sleeve Making-Fun-of-Turtlenecks. \$16. Unbleached cotton. Great shirts, but they take up too much space, so we're clearing them out. (M 22-028) (L: 22-017) (XL 22-018) (XXL: 22-019)

Chainring 110 x 34 silver. \$17. Japanese, exc quality. Silver.

Clement poster. \$18. The famous one from a decade ago, with the semi-sexy non-supermodel-type woman playing tug-of-war with the ranch hand in the barn-type structure. B/W. 27" x 39". Titillating enough to satisfy, yet artsy and bikey enough to not get you in trouble with the PC police cadets. (#

Sugino 144bcd x 54 black chainring. \$8. Big mean ring for time trials and low-glare wind chimes. (#12-026)

SunTour Cyclone Mill derailleurs! Rear, 28t max, silver, super deal, beautiful, \$35 (#17-063). Front, \$20 (#17-033)

Shimano Dura-Ace front der. \$25. From the mid to late '70s, but naturally brand new. Good! Cheap! (#17-012)

SunTour XC Cornpe Cantis. \$17 per bikesworth! Black. Perfect for any bike that accepts black cantilevers. (#15-031)

Hurry and Hurray for Huret Sub-Jubs! Downtube shifters, clamp-on. One notch below Jubilees, but excellent, well-finished, smooth, pure friction but no slipping (better than Campy by far), w/ cables! \$15 cheap. (#17-056)

ACME Wallets! Still have them! Low prices! Quit yelling! Checkbook style, \$14 (20-0004); Normal, \$10 (#20-005)

OUR BLUE CATALOGUE WITH THE LUG ON IT IS OUT. IF YOU HAVEN'T REC'D IT, CALL!

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AS USUAL, RESTRICTIONS APPLY. NOT GOOD TOWARD FRAMES

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NINE

RIVENDELLARS



MINIMUM \$160 PURCHASE



Good Through September 30, 1999

Members only, not combinable

READER SURVEY

Thanks for answering the last one, those of you who did. This one is about a fictitious bike. We're thinking about a basic, Heron-like version of our All-Rounder that would sell either as a frame/fork for about \$850, or as a complete bike for more than that. A decent & highly functional bike, but they're out there by the hundreds of thousands already. We're interested in this bike only to the extent that we can make it unique, special, a great value, and lugged. The foundation of it is a classic frame that will endure and is worth keeping and upgrading as you can afford it or as it becomes necessary. There will be some compromises, but there will be some places where we won't cave in. Your honest answers will help us decide the blurry-fuzzy issues. Please answer for you, personally-don't try to play marketeer extraordinaire!)

1. Are **YOU** interested in a Basic (Heron-grade) All-Rounder type bike?

Yes Maybe No

2. What's the most you'd spend before you'd start thinking, "If I'm going to spend that much, shoot, I might as well get a whole-hog/full blown/no holds barred Rivendell (or whatever)"? (Keep in mind that a Rivendell frame costs about \$1500 to \$1600 now, and will be close to \$2,000 in a year; and a full-blown Rivendell with groovy parts costs around \$3,000 now, and maybe \$3,500 in a year. And tons of lesser bikes cost a lot more.)

Frame and fork:	750	800	850	900	950	1000	1050	1100	
Complete bike:	1200	1300	1400	1500	1600	1700	1800	1900	2000

3. Handlebar style (flat bars are not an option): Moustache Drops Undecided

4. In the case of drops, what kind of shifters? Bar-end Kelly Takeoffs Downtube

5. Saddle: Brooks None (I'd rather save the dough and use one I already have)

6. Pedals: Included Leave them off. I either have some or ride clipless

7. Rear cogs: 7 0 8 Sorry, must have 9

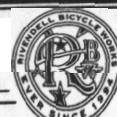
8. Color: _____

9. Tires: 26 x **t.5** or smaller (roadlike) Bigger, for bumps and trails

10. Comments _____



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BACK ISSUES/RR, \$2 EA: 2, 3, 4, 5, 7, 8, 10,11,12,13, 14, 15 (CIRCLE WHAT YOU WANT; WHOLE SET IS \$18)

ATTENTION NEW MEMBERS!

If **you** are joining now and already have the catalogue , please put an X here _____

If you already have a sample copy of the RR, tell **us** which issue it is (12? 14?) and we'll start your subscription with the next one. I have _____ . Thanks.

First Subtotal: _____

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US	\$5	\$12
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INT'L	\$25	\$45

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