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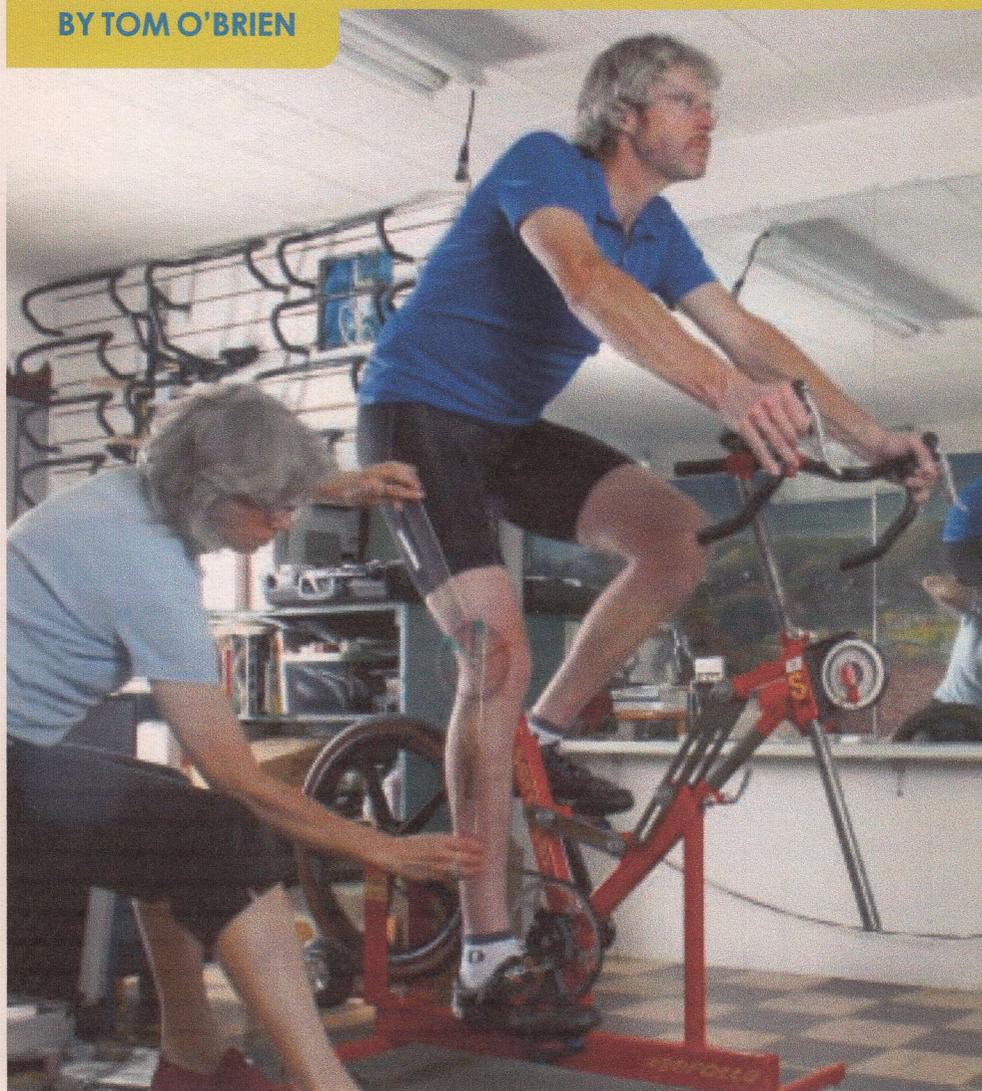
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GETTING A PROFESSIONAL BIKE

BY TOM O'BRIEN



Road cycling is booming these days. And it's not simply because of Lance, or even \$3 gas. It's also a demographic thing. As millions of athletic baby boomers discover that their once-youthful bodies no longer tolerate contact sports or high-impact activities such as running, more and more of them are turning pedals to stay in shape and satisfy their adrenaline cravings.

Newcomers are drawn to bicycling for its low-impact aerobic benefits; but few of them understand that fitting a bike is a far more complicated procedure than fitting a pair of shoes. The human body contacts the bicycle at three points: pedals, saddle, and handlebars. How smoothly the rider's body interacts with each of these components directly affects handling, pedaling efficiency, and comfort.

A properly-fitted bike becomes an extension of the rider's body, much like a good pair of skis. A poorly-fit bike, besides being no fun to ride, can unleash an assortment of maladies — back problems, knee injuries, neck pain, carpal tunnel syndrome, just to name a few. Serious riders who spend long hours in the saddle on a bike that doesn't fit properly might have been better off if they'd stayed on the rugby team.

FIT

FITTING ISN'T FREE

As with a home improvement project, there are two ways to fit a bike: do-it-yourself, or hire a professional. When you buy a new bike — even a very expensive one — you don't get fitted; you get sized. Typically the salesperson will pull two or three bikes off the rack and ask you to straddle each one. Whichever frame provides the "proper" clearance between crotch and top tube is most likely what they'll recommend. (The standard rule of thumb calls for at least 1-in. clearance for a road bike, 3-in. for a mountain bike; nowadays with sloping top tube bikes you have to visualize a horizontal top tube).

An experienced salesperson — who's well aware that the *length* of the top tube is a more significant consideration than it's height — might very well put you on a bike that can be made to fit. The better shops will help you adjust the seat height; many will

even swap stems to modify the reach to the handlebars. But working through all of the tedious adjustments that ensure the bike fits your body as well as it possibly can? That part's up to you.

THE DO-IT-YOURSELF APPROACH

Bike-related books, magazines and web sites offer plenty of instructions on how to dial in an acceptable riding position. The mail-order firm Colorado Cyclist has a straightforward set of guidelines that's easy to download from their web site (www.coloradocyclist.com/bikefit). If you want more information, a Google search using the words "bike fit" will turn up dozens of sources for fitting advice. Read more than one of them, however, and you're bound to get confused. Various authorities generally agree on some procedures, such as how to establish proper saddle height and setback (the position of the knee over the peddle), but disagree strongly on others — most notably: How do you determine the correct "reach" to the handlebars?

The truth is that there are no absolute truths when it comes to fitting a bicycle to a human body. The most

widely-accepted formulas are simply rules-of-thumb, based on typical physical proportions and normal flexibility.

"There's a wide range of positions that people ride in," says bike fitter Ian Buchanan of Fit Werx in Waitsfield, Vermont (www.fitwerx.com). "If the way you hold your body isn't taken into account, you're going to have to make compromises as to how you're riding. My goal is to help the bike fit the body and not to make the body fit the bike."

Using a tape measure and a plumb bob you can certainly improve your position by yourself — and if you're a perfect size 10 without knee problems, back surgery, or a leg-length discrepancy (and you're not interested in maximizing your power output) that might be all you need to do — but an experienced bike fitter can make your position as efficient and comfortable as possible.

SKILLED BIKE FITTERS RELY ON EXPERIENCE MORE THAN CALCULATIONS

"I was uncomfortable for all the years I was riding and I just thought that was the way it was supposed to be,"

FIT THE BIKE
TO THE RIDER,
NOT THE RIDER
TO THE BIKE

Figure 2 The R.A.D.™ (Rotational Adjustment Device™) system from Fit Kit (www.bikefitkit.com) is used to ensure optimum cleat placement for clipless peddles. The cleats are correctly positioned when the red and white poles align themselves as shown in the photo.



says Chris Schiron of Southbury, Conn. Years earlier, Schiron had purchased his Litespeed from a shop owner who believed that the flat-back, aerodynamic racing position was gospel. The stretched out riding position that might have suited Greg LeMond left Chris with nagging pains in his back and neck; it also aggravated a previous elbow injury.

His search for relief brought him to Robin McCahill, owner of Intuit Bike Fit in Thomaston, Conn. (www.intuitbikefit.com). Whereas many shop owners might have given him a shorter stem and sent him on his way in 15 minutes, Robin's fit session lasted more than four hours; and she started with the saddle, not the stem. "After I put his bike in the trainer and observed his position," she says, "I could see that he was too far forward over the peddles, which put too much of his weight on the handlebars."

Robin ended up making four changes to Chris's setup: First, she swapped his saddle for one with longer rails that enabled him to move back on the bike to more evenly distribute his weight. Then she adjusted (and shimmed) his cleats to achieve a more fluent peddle stroke (Figure 2, 3). Only after the saddle/peddle relationship was nailed down did she fiddle with the reach

to the bars, eventually settling on a shorter, high rise stem. To minimize the strain on Chris's damaged elbow, she also raised the brake hoods slightly higher on the handlebar.

For Chris, the benefits of Robin's efforts were immediately apparent: "She allowed me to be comfortable on the bike," he says.

"I believe in comfort first," says Robin, "If you're not comfortable and don't look forward to riding your bike, you're going to find something else to do." For those riders who only care about going fast, she adds: "If you're not comfortable, you're wasting energy trying to *get* comfortable or supporting your body in an awkward position."

LISTEN FIRST, MEASURE LATER

Besides riders like Chris, who want to improve an existing fit, other clients use bike fitters to help them design their dream ride, or simply to find out what stock frames might be appropriate for them (before they shell out thousands of dollars). Still others appreciate the opportunity to try out various components, such as handlebars, pedals, or saddles. "For many people their worst problem is the saddle," says McCahill, who keeps a variety of popular saddles

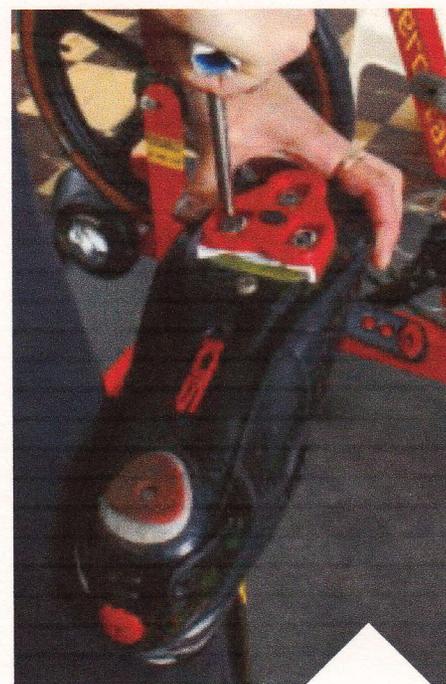


Figure 3 A plastic shim, LeWedge from LeMond Fitness (www.lemondfitness.com), is placed between the cleat and the sole of the shoe to correct a misaligned peddling stroke, which can cause knee injuries. Many cyclists can also benefit by replacing their shoe liners with orthotics or cycling-specific footbeds.



Figure 4 A bike fitter's tools of the trade. Robin McCahill of Intuit Bike Fit (www.intuitbikefit.com) keeps her adjustable size stem (in foreground), cleat-fitting system, and collection of demo saddles in travel cases. This allows her to pay house calls on local bike shops who use her fitting services.



Figure 5 The Fit Werx shop in Waitsfield, Vt. (www.fitwerx.com) includes a huge assortment of stems and handlebars, so nobody should have to wait for parts to be special-ordered.

on hand for clients to test drive (Figure 4). "In my experience, if a saddle doesn't feel comfortable in the first 30 seconds, you're going to feel the same way after 30 miles. I have no problem trying a half-dozen types of saddles with someone to help them find the right fit."

Skilled bike fitters like Ian Buchanan and McCahill begin their fitting sessions with a detailed interview. They ask questions such as:

- What type of rider are you (racer, competitive recreational rider, long distance tourist, daily commuter)?
- What are your goals (ride a century, upgrade to Cat3, or perhaps just ride pain-free)?
- Do you have any physical issues (surgeries, injuries, leg-length discrepancies, or other mobility issues) that affect your ability to ride a bike?

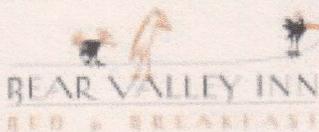
Once they've gotten a good understanding of the individual that they're working with, they'll take a variety of physical measurements using a specially-designed system such as the Fit Kit (www.bikefitkit.com).

Next, the fitter will use all of this information, filtered through his or her experience, to set up a basic riding

position on an infinitely-adjustable stationary bike such as the Size Cycle from Serotta (www.serotta.com). Then they'll observe the rider's position while peddling — not just soft peddling, but also putting in hard efforts, peddling out of the saddle, simulating real world conditions as much as possible — and ask how it feels. They'll probably make a series of incremental position changes, each time asking: "Is this better? Worse? No different?" It's a time-consuming process that should not be rushed.

Besides changing saddles, saddle positions and stem sizes (Figure 5), a meticulous fitter might also change crank arm lengths and experiment with various shapes of handlebars and shifters.

As additional tools, the well-heeled bike fitters have video cameras and monitors (Figure 6) so you can evaluate your form for yourself. Some also use computers or power monitors to provide data on how specific position changes affect performance.




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Figure 6 Video monitoring capability gives clients the ability to see their exact position on the bike. Most importantly it enables the bike fitter to point out areas of concern, and, afterward, compare the new position to the old one.

FINDING AN APPROPRIATE BIKE FITTER TAKES RESEARCH

A comprehensive bike fit session often takes as long as four hours, or more; with costs running from a low of \$200 to as much as \$400. Some bike shops have experienced bike fitters on staff. Other fitters work independently. Some fitters are better suited to serving the needs of racers, whereas others specialize in helping cyclists with injuries or medical issues. Since anyone with a tape measure and a plumb bob can claim to be a bike fitter, it's important to get to know the person you're considering working with, especially if a custom-bike design is involved.

Serotta, Fit Kit, and other manufacturers offer seminars to train people on the nuances of bike fitting (and using their products to do it). Certification from Serotta's Advanced Fitting Class may be the best paper indicator that an individual knows his or her stuff. But experience, an open mind and a good pair of ears are more important than a few days of training.

Word-of-mouth is the best approach to finding a bike fitter. Seek recommendations from fellow cyclists whose abilities, interests and infirmities, are similar to yours. Interview your prospective fitter; make sure he or she is sympathetic to your needs, and is willing to take a methodical approach to meet them. ●

Tom O'Brien is a writer and a bicyclist (pain-free for two years now, thanks to his bike-fitter) who lives in New Milford, Conn.

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