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Calfee Adventure

Summary

The Calfee Adventure is a capable racing bike, well-suited for racing, weekend rides or supported tours. Its tire clearance and dropout eyelets remind one of a classic racing bike from the 1960s or 1970s. There are no provisions for luggage or lights, so the “Adventure” is less suited to unsupported “real-world” riding.

Introduction

Mainstream culture often likes to present two options. About politics, many people ask whether you are a Democrat or a Republican. If they find out that you ride a bicycle, the question often is: “Do you ride a road bike or a mountain bike?” These two “options” have diverged more and more in recent decades. Most mountain bikes now have suspension that renders them next to useless on the road, while most racing bikes are ill at ease on the rough roads and unpredictable weather of the

real world. The only bikes offered for “everyday” riding are hybrids and commuting bikes that do not offer the performance many avid cyclists want.

Decades ago, this used to be different: Racing bikes were more versatile machines with wider tire clearances. While few Tour de France-winning machines had eyelets for fenders,¹ almost all bikes sold to amateur racers were so equipped. Especially in Britain, many riders rode their racing bikes to work during the week. On weekends, they stripped off the fenders and went racing. The Calfee “Adventure” reminds me of these classic, versatile machines.

Calfee has been making carbon fiber bicycles since 1987. The company now offers all their racing models with the “Adventure” geometry for a \$225 upcharge. This includes slightly longer chainstays. Longer fork blades increase tire and fender clearance, while also

Below: Delivered with fenders as shown, the Calfee came into its own once the fenders were removed and 32 mm-wide tires were installed.

Right: The Calfee’s predictable handling inspired confidence during fast descents.





Photo: Tim Schlecht

slackening the head and seat angles slightly. The rear brake bridge is set higher to accommodate bigger tires. Final touches are dropout eyelets, threaded to accept fenders and/or racks. There also is a fender eyelet on the back of the seat tube.

Our test bike was based on Calfee's "Tetra" tubeset. This is Calfee's middle-of-the-line model, which is based on their original 1990s carbon-fiber bicycles. In addition to the "Adventure" geometry, our test bike featured a 2 cm head tube extension (\$ 100 upcharge). A full custom geometry is a \$ 500 option.

First Impression

Among modern racing bikes with their swoopy shapes and glossy paint, the Calfee stands out with its unpainted matte finish, relatively slender, round tubes and gusseted lugs. The tubes are uniform in color, while the lugs show the typical weave of carbon fiber. The transitions from tubes to lugs have been sanded smooth, but the different patterns show how the bike was constructed. This reminds me of the pure functionality of a modern race car.

I was surprised to see the rear brake cable housing run continuously from the brake lever to the brake. Most modern bikes use cable stops along the top tube to eliminate the weight and compression of about 50 cm of cable housing. At first, it appeared that the Calfee has no provision for carrying a pump, which was a strange omission for an "Adventure" bicycle. However, Craig Calfee pointed out that a Blackburn FP-1 frame pump fits perfectly between the webs of the rear seatstay (see photo on p. 19).

The test bike was completed with SRAM's mid-line "Force" group. The components have a glossy black finish, which is matched by the plastic fenders. The silver Velo-Orange brakes provide nice accents. I found the bike's appearance harmonious and appealing.

Fit

We tested the 58 cm frame size, which comes with a 57 cm top tube. With its optional 2 cm head tube extension and an upward-sloping stem, the Calfee placed the handlebars about 25 mm (1") below my saddle height. This is a little higher than on my own bike, but it pro-

vided a comfortable position that allowed me to use my back and gluteus muscles to put out all the power I had in me.

While the Calfee's top tube and stem lengths were only slightly shorter than those of my own bikes, the Ritchey WCS Curve handlebars had an ultra-short reach of only 73 mm. This is a full 40 mm shorter than the handlebars on my bike. As a result, I felt a little cramped on the Calfee. It would be easy to replace the handlebars, which also would improve the comfort of the bike by providing more hand positions.

Riding the Calfee

For many Seattle-area cyclists, the Redmond Cycling Club's RAMROD (Ride Around Mount Rainier in One Day) exemplifies everything that makes the Pacific Northwest a great place for cycling. During my first decade in Seattle, I rarely missed this 250 km (156-mile) annual ride. It combined challenging terrain with spectacular scenery and superb support.

As I rode the Calfee around Seattle during the spring, I kept thinking how it would be a great bike for RAMROD. Whether I was doing hill intervals or climbing the infamous "Zoo Hill" on Cougar Mountain, the bike offered excellent performance. It responded well to my pedaling inputs. When I was racing my friend Ryan to the top of a hill during our all-out interval sessions, the Calfee enabled me to tap into resources I did not even know I had, eking out an extra ounce of speed. It was exhilarating.

Perhaps most remarkably, the Calfee felt wonderful at any power output. Even spinning along at moderate speeds, the bike felt lively and pleasant.

The natural speed of the Calfee would make the first 100 km of RAMROD go by quickly, as the ride skirts the western flanks of Mount Rainier on roads with rolling hills. The test bike's 50-34 "compact" chainrings would be perfect here, allowing me to stay in the big ring over most rollers and on the long "false flat" up the Nisqually Valley. At Longmire, the "real" climb to Paradise starts, for which the 34-tooth chainring would be perfect. Perhaps the biggest challenge would be not to overdo it here. I would have to keep my enthusiasm



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- 1 Continuous brake cable housing adds weight and flex.
- 2 Lugged carbon construction shows off clean workmanship.
- 3 Arundel bottle cage worked well, but Calfee's mounting studs were too long.
- 4 "Tour de France-proven" frame dates back to the days of Greg LeMond, who rode a Calfee in the Tour.
- 5 No pump pegs are provided, but a Blackburn FP-1 frame pump fits well along the seatstay.

Photo: Michael Moore (Calfee)

in check as I soared up the long climb to Ricksecker Point, while the outwash gravel from the Nisqually Glacier in the valley below became smaller and smaller below me. The last hairpins on the denuded slopes below Paradise always seem the steepest of the entire ride, and I would be covered in sweat as I crested the top.

Not wanting to get cold in the frigid mountain air at 1645 m (5400 ft) elevation, I would take a quick glance at the snow-covered peak of Mount Rainier, and then start the long descent to Stevens Canyon. Here the handling

of the Calfee would be on my side. During my test rides, the bike handled like a good racing bike. It was stable at speed, yet willing to change line with immediacy. While I prefer a light touch to guide the bike, I realize that many riders hold the handlebars in a much firmer grip. Even when holding the handlebars tightly, the Calfee's handling lost little of its predictability.

Only during a very fast S curve did I notice a funny over-center action as I transitioned from leaning leftward to rightward without a straight section in between. I remembered that

over-center action from my racing bike, where I enjoyed the sensation of speed it conferred. Now I prefer the more settled feel of my randonneur bikes. On Ramrod, there is only one such spot, and since there often is gravel on the road, I would not be going fast enough for this to be noticeable.

The 180° turn at Bench Lake would pose no problems on this bike. On the long, almost straight descent to Box Canyon, I would get into the aero tuck, only to notice a very slight instability at high speed. Perhaps better to keep my hands in the drops and look at the magnificent scenery on this descent...

Box Canyon used to be the place for a rest stop, where chocolate croissants provided the energy needed for the short climb up Backbone Ridge. Leaving the stop, my foot might touch the front fender, because the Calfee displays some toe overlap when fenders are mounted. (On a sunny day, I would have taken off the fenders.)

Diving into the cool forest of the Grove of the Patriarchs, I would pull up my arm warmers, even on a sunny summer day. On my first RAMROD, I encountered two trenches in the road here, with sharp edges. With the light-and-shade of the sunlight filtering through the trees, I did not see the first one until I hit it. Fortunately, my tubular tires remained intact, but I dented two lightweight Mavic GL-330 rims. The Calfee's 28 mm-wide tires would be appreciated here. The greater rubber footprint also would be helpful as I negotiate the super-fast, long corners of this descent.

The long climb up Cayuse Pass always is a bit of a slog, as it doesn't have many features. On a hot day, I would be tempted to stop at one of the waterfalls that cascade off the cliffs next to the road, and cool off my arms and helmet. On my very first RAMROD, I slowly caught up to a tandem on this long climb. Their speed gave me a first taste of what tandems can do. On the long downhill toward the finish in Enumclaw, our group of drafters was whittled from a dozen to only two. Even drafting a tandem, the Calfee's largest gear (50-11) would have been sufficient without risk of spinning out the gear. By this point, my arms would be tired from the buzzy carbon

fork with its straight legs. I probably would have considered this normal on a long ride, but I now know that more flexible fork blades can offer appreciably more comfort.

After more than seven hours on the road, I would appreciate the SRAM "double-tap" brake-shift levers. At first, they felt awkward: You push the lever inward one stop for a shift to a smaller cog. Pushing it further, to the second stop, results in an upshift instead. Pushing even further allows up to three upshifts at once. When I started riding the Calfee, I found this confusing, and sometimes shifted up instead of down. However, during longer rides, I appreciated how easy it was to move the lever. Contrasting this, Shimano's STI requires awkward wrist movements. The SRAM levers always were easy to use. Having met riders in Paris-Brest-Paris who no longer could use their shifters because their fingers had lost their strength, I can see this being useful. The down side of this arrangement is a slower shift, because the downshift occurs not when the lever is pushed, but when it is released. And for the upshift, the first part of the lever movement does not do anything. For racing, Campagnolo's Ergopower (or downtube shift levers) would provide more immediate gear changes.

During the final, curving descent at Mud Mountain Dam, the test bike's excellent Velo-Orange dual pivot brakes (see p. 46) would allow me to brake late and deep into the corners. This fast drop into the valley would cap an exhilarating, challenging and beautiful ride.

After the ride, I would chat with new-found acquaintances and old friends, before the Calfee would go onto a roof rack for the drive into the setting sun on our way back to Seattle.

Racing

On the way home, I would think about using the Calfee in my next road race. (Back then, I still raced.) The advantages of the wider tires – improved speed, traction and safety – apply to road racing as well as other events. The Calfee's exemplary performance would make it a great companion in the stage races that I preferred, and its geometry would handle criteriums just as well.

1 Fork blades are longer, but the fork crown is a standard-width model, which limits tire and fender clearance.

2 No provision for fender mounting on the rear brake bridge. The fender has to be mounted with a clamp.

3 Fender boss on the seat tube, even though there is enough space for a fender between the chainstays. BB30 uses larger bottom bracket shell with bearings pressed directly into the frame.

4 Rear dropouts are equipped with fender mounts.

5 Good clearance for tire and fender between the chainstays.



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Fenders

The Calfee achieves its extra tire and fender clearance simply by lengthening the fork blades and the chainstays. This works to a degree, but it crowds the fenders at their natural attachment points, especially between the fork blades at the crown. The narrow fork crown prevents mounting the fenders directly to the frame for a lightweight, well-supported connection. Similarly, the rear brake bridge is not prepared for fender mounting, and there is no chainstay bridge at all.

All this presents little problem with the SKS fenders mounted on our test bike, which hang from brackets. However, the brackets and the plastic fenders themselves are flexible, so the fenders resonate on rough roads. The plastic fenders also are significantly heavier than aluminum fenders, while providing less coverage. The rear fender ends above the bottom bracket shell. When riding in the rain, water sprays onto the bottom bracket and chain.

For some reason, Calfee mounted the fender “safety releases” on the rear fender. They are intended for the front fender, where they release the fender stays if an object gets caught between tire and fender. Otherwise, the plastic fender can collapse and get jammed into the fork crown, causing the front wheel to lock up. The “safety releases” tended to come loose on coarse pavement, causing the rear fender to rub on the tire.

Riding the Calfee with its plastic fenders made me appreciate the aluminum fenders on my own bikes. They are lighter, quieter, safer, and don't require frequent adjustments.

Tire Clearance

With its SKS plastic fenders, the supplied 27.5 mm-wide tires were about the maximum that could fit safely. After removing the fenders, I could mount 32.5 mm-wide Grand Bois “Cypres” tires. Tire clearance on the rear was sufficient, with about 7 mm separating the tire from the chainstays and brake bridge. On the front, the standard racing bike fork crown results in the fork blades being spaced closer than is ideal, and the tire came within 3 mm of the fork crown. A broken spoke probably would cause the tire to jam in the fork crown.



On a bumpy road with potholes, taking the best line (arrow) requires a bike with precise handling. With 32 mm-wide tires, the Calfee excelled on this descent.

Wider Tires

The 32.5 mm-wide Grand Bois “Cypres” tires truly transformed the bike. The extra air volume and more flexible sidewalls eliminated the buzzy vibrations on coarse pavement that always had been present with the narrower Continental “Grand Prix 4 Season” tires. Getting rid of the resonating plastic fenders increased my confidence in the bike. The wider tires also improved the handling ever so slightly, getting rid of the “over-center” feel when transitioning from left- to right-hand curves or vice versa.

However, the slight wobble when cornering hard in the aero tuck remained. Clearly, the bike appreciated a firmer hand than I could provide when holding the bars next to the stem, with little leverage over the steering.

With the wider tires, the bike could be placed with absolute precision. On one of the hills I used for intervals, there was a pothole near the center of the road. To line up well for the next curve, I needed to go to the left of the pothole. There was about 10 cm (4 in) between the pothole and a large metal “turtle” lane marker. Placing the Calfee at high speed in that space during my repeated runs down the hill never was a problem. It was fun to ride a bike that was so easy to direct exactly where I wanted to go.

With the wider tires, the Calfee felt incredibly fast on most surfaces. It rolled over small cracks that had the wheels hopping with the narrower, stiffer tires. With the wider tires, the Calfee became one of my all-time favorite bikes, and I found myself using it even for

Right page: Adding 1.2 kg of gravel to the Calfee did not blunt its performance.

Specification

Model tested: Tetra Adventure

Frame size: 58 cm

Cost (frame/fork): \$ 3695

Cost (complete bike as tested): \$ 6395

Weight as tested: 8.2 kg (18.0 lb)¹⁰Standardized weight: 8.7 kg (19.1 lb)¹¹

Test distance: 795 km (495 miles);

longest ride: 190 km (118 miles)

Tires: Grand Bois Cyprés 32 - 622 mm (700 C); 4.5-5 bar (70-75 psi)

Crank: SRAM Force; tread (Q factor): 150 mm

Luggage: None

Country of manufacture: USA

Availability: (+1) 831.728.1859,

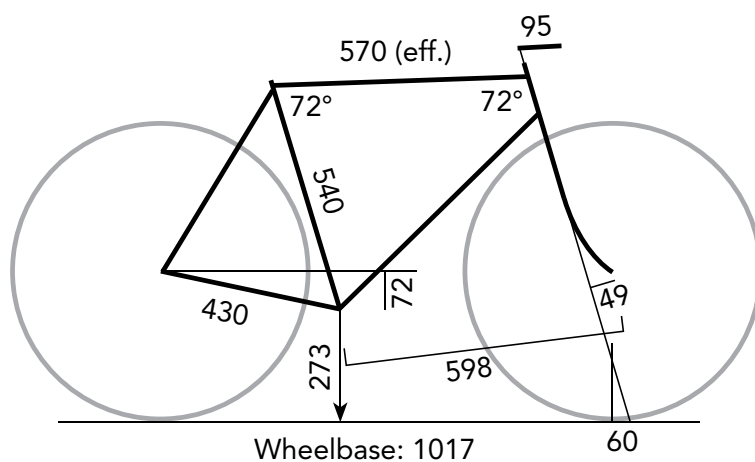
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Photo: Hahn Rossman

urban commutes – as long as it was dry, I was sure to be back before dark, and I did not have to carry much.

Steering Geometry

Interestingly, the bike felt like a low-trail bike. I would have guessed that it had about 50 mm trail. Only after measuring the geometry did I realize that the slacker head angle more than compensated for the extra fork offset, resulting in a relatively long trail of 60 mm. On a racing bike, the extra trail adds stability while the increased wheel flop decreases it, resulting in similar handling with different geometries. Most of all, the wider tires added just enough stability to make the bike entirely predictable. This supports the hypothesis that the inadequate stability of modern racing bikes is due to their narrow tires and insufficient rotational inertia, rather than inherent flaws in their geometry.²

There was a minor drawback to the long trail, however: The Calfee was affected more by crosswinds than my favorite bikes. Sudden gusts of wind caused it to veer off-course.

As a side effect of the longer fork blades and bigger tires, the bottom bracket of the Calfee “Adventure” geometry is relatively high at 273 mm. This made it difficult to put a foot on the ground while in the saddle, but it had no discernible effect on the bike’s handling.

Components

The BB30 bottom bracket uses large bearings that are pressed directly into the frame’s oversized bottom bracket shell, similar to the custom bottom brackets used by French constructeurs (see also p. 53).³ This is more elegant than “external” bottom brackets that use screwed-in extensions for the bottom bracket shell to make room for extra-large bottom bracket spindles. The BB30 offers a more precise alignment of the bearings. The test bike’s bottom bracket worked without flaws. In the long run, I suspect it will prove superior to “external” bottom brackets that sometimes fail after a season of riding or two.

The HED “Ardennes” wheels use a 23 mm-wide aero-section rim to improve the aerodynamics of wider tires. Instead of the tire bulging above the narrow rim, the wider rims

enable a smoother transition between tire and rim. As a side effect, the wider base of the tire also increases the tire’s width. The Ardennes front wheel is equipped with 20 bladed spokes, while the rear wheel has 28 spokes.

When coasting in the aero tuck next to my friend Ryan, I was surprised by the relatively high wind resistance of the Calfee. On my own bike, I coast at exactly the same speed as Ryan, yet Ryan dropped me on every downhill when I rode the Calfee.⁴ The Calfee’s handlebars are a bit higher than those of my Singer, which probably increased the drag.⁵ Furthermore, the Calfee’s plastic fenders may be a bit less aerodynamic than the aluminum fenders of my bike, and my bike’s slender top tube allow my knees to move closer together, which reduces the frontal area of bike and rider. Even so, it was surprising that this racing bike with aerodynamic wheels was less aerodynamic than my own bike with lights, rack, handlebar bag and 36-spoke wheels with box-section rims. Clearly, any aerodynamic advantage of the HED Ardennes wheels is so small that it gets lost among the many other factors that determine a bike’s aerodynamics.

The featherweight Arundel carbon-fiber bottle cages held my bottles securely on all roads. The bottles were a bit harder to insert than with metal cages, but not excessively so. The Calfee uses studs and nuts for mounting the bottle cages, instead of threaded holes and bolts. With the thin mounting surface of the carbon cages, the studs protruded too far, and deeply gouged my bottles. Placing washers under the cages may cause them to rattle loose. A better solution might be to file down the studs.

With the exception of the fenders, all the components of the Calfee worked together seamlessly. After removing the fenders, I felt that I could rely on the bike completely in every situation. Too many bikes are assembled from parts that don’t always work well together, but the Calfee presented a unified whole.

Weight

The Calfee is a lightweight bike. Even equipped with heavy plastic fenders, it weighed only 9.1 kg (20.2 lb.) with a pump. Removing the fenders and swapping the steel Brooks Professional saddle for a titanium-rail version

dropped the weight to 8.4 kg (18.6 lb). This weight is about average for a modern carbon-fiber racing bike, but it makes the Calfee one of the lightest test bikes we have ridden.

The light weight undoubtedly contributes somewhat to the bike's performance. However, even when we added a water bottle full of gravel, weighing 1.2 kg (2.6 lb), to the bike, it still climbed exceptionally well for our testers. It appears that the frame's flex characteristics ("planing") mostly were responsible for the bike's excellent performance. Based on comparative tests with other bikes, the Calfee performs as well as the best steel bikes we have ridden. That is very high praise indeed.

Conclusion

I really did not expect to fall in love with a carbon-fiber racing bike, but I liked the bike so much that I used it for cross-town rides, even if it meant carrying a messenger bag. (I very much prefer to have my bike carry the weight of the luggage over having it on my back.)

As more and more research finds that wider tires offer not only better comfort and safety, but also better performance,⁶ I consider the Calfee "Adventure" the racing bike of the future. It combines the clearance for wide tires and fenders with the light weight and performance of the best modern racing bikes.

For racing, weekend rides or supported events, the Calfee's exhilarating speed is on par with the best bikes I have ridden. Perhaps even more important, the bike felt good at all speeds and effort levels. With its quality construction and assembly, the Calfee was a bike that always felt on my side, ready to bring out the best in the rider. —JH

Disclosure: Bicycle Quarterly Press' sister company Compass Bicycles Ltd. sells Grand Bois tires.

This article was reviewed by Craig Calfee and Michael Moore (Calfee Design) and Mark Vande Kamp.

Notes:

- 1 Heine, J., 2008: *The Competition Bicycle: A Photographic History*. Bicycle Quarterly Press, Seattle, 176 p.
- 2 Heine, J., H. Rossman and A. Wetmore, 2010: Wheel Size and Bicycle Handling. *Bicycle Quarterly* Vol. 8, No. 3, p. 14.
- 3 Heine, J., 2007: Project: Making an Alex Singer Bottom Bracket. *Bicycle Quarterly* Vol. 6, No. 2, p. 8.
- 4 Heine, J., 2008: Randonneuring Basics: Testing Your Bike's Aerodynamics. *Bicycle Quarterly* Vol. 7, No. 1, p. 50.
- 5 Hale, J., J. Heine, M. Vande Kamp and A. Wetmore, 2007: The Aerodynamics of Real-World Bicycles. *Bicycle Quarterly* Vol. 6, No. 1, p. 1.
- 6 Heine, J. and M. Vande Kamp, 2006: The Performance of Tires. *Bicycle Quarterly* Vol. 5, No. 1, p. 1.

Mark on the Calfee

If you simply added up the number of things I liked about the Calfee, and compared the result to the number of things I didn't like, you wouldn't expect me to want to ride it.

But I did want to ride it. I rode it to work, I rode it on test rides (even on rides testing other bikes), and I rode it around the neighborhood when I was just out rolling along. I rode it because one big thing I liked outweighed all the things I didn't like. That thing was how the Calfee felt when I pushed on the pedals. A very small number of bikes might have felt as good, but I can't remember a bike that felt better.

It was like having rose-colored glasses for my legs – good legs or bad legs, I was always having a good day on the Calfee. This frame worked so well for me that it had me daydreaming about a version of the bike that would preserve its pedaling response while offering the range of features that would make me really want to own one.

"Could it have clearance for the fenders **and** the Cypres tires?" "Could they make a fork with the geometry and hardware for a front rack and handlebar bag?" "I know I could do better than those handlebars."

In a way, those daydreams sum up my experience of the Calfee. It was so great at one thing that it made me wish it was great at everything. —MVK

Mark rode ca. 200 km (124 miles) on the Calfee.



Mark is cornering hard on the Calfee with 32 mm Cypres tires.

Carbon Randonneur Bikes

Traditional randonneur bikes from the 1960s and 1970s really were racing bikes with added tire clearances, as well as integrated racks, fenders and lights. In this vein, the Calfee could be the first step toward a modern randonneur bike.

To become a true randonneur bike, Calfee would need a new mold for the fork crown, both to increase the tire and fender clearance and to increase the fork offset to provide the same predictable handling with a handlebar bag. The fork and frame could be made with the internal wiring for a generator hub already glued in place during the production process.

A lightweight front rack could be made from carbon fiber, similar to the test bike's bottle cages. The bike could be equipped with cantilever brakes, and the rack could be attached to the fork crown and to the cantilever posts. Both locations already are designed for high bending loads, reducing concerns that a fall could damage the carbon fiber.

Carbon fiber fenders could be mounted directly to the frame. The end result would be a truly modern high-performance randonneur bike. Let's hope that the "Adventure" model turns out to be so popular that Calfee finds it worthwhile to make the investment for these next steps!

Craig Calfee Responds:

Nice to see this review! The Adventure bike has always been an option for our customers in the form of special requests. Now it's been developed as its own model in response to the demand that seems to have risen in the past years.

I would like to address the point about integrating racks and even how non-integrated racks are affixed to a carbon frame. With a carbon frame, the failure mode of the material must be taken into consideration when designing for things like rack mounts. The brittleness of carbon needs to be considered when unfortunate things happen to bikes. The "dreaded" rubber coated P-clamps that are often used to convert racing bikes for luggage duty are actually a better solution for carbon frames than a permanent, fixed rack mount.

During a solo fully-loaded bicycle tour of the Big Island of Hawaii, I had the unfortunate experience of having my loaded bike fall over when parked "just for a sec" while I took some photos. It landed in a way such that the rear rack torqued against the upper mounts bad enough to bend the struts and rotate the P clamps around the seatstays a bit.

I studied the situation, and I am convinced that if I had attached permanent rack mounts, that fall would have damaged the seatstays. Keep in mind that our seatstays are quite thin, which is why they absorb road buzz so well. While we could design a very robust rack mount (and upper seatstays), I feel it would detract from the ride quality and aesthetics when racks are removed.

That bent strut may well have experienced enough force to damage an integrated carbon rack. In metal, it was easy to just bend it back. In carbon, if a fracture appears on the surface, you can't go very far before needing to have it properly repaired. For these same reasons, we stay with the smaller diameter, thicker wall tubes on our frames. And our frame repair business stays plenty busy with all the thinwalled carbon out there! ●

