

## Velo Vision Sample Article



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If you have any problems or suggestions about the magazine in general, or this PDF article in particular, please email me at

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I hope you enjoy the read.

*Peter Eland*

Peter Eland  
Editor and Publisher,  
*Velo Vision*

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VELO VISION AND VELO-VISION  
We weren't first with the name. Velo-Vision is a bike shop in Körten, near Bergisch-Gladbach, Germany. *Velo Vision* magazine exists in friendly harmony with Velo-Vision in Germany.

*Velo Vision* is printed on paper produced from sustainable forests to Nordic Swan standards.



**COVER:** Riding in suspended comfort on the Pirol Street Vario trike.

**OPPOSITE:** Daffodils mark an early spring ride for the Pino.  
Both photos: Peter Eland

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## SPRING HAS SPRUNG

Bounce galore this issue – and not just thanks to the Pirol trike, with its double-wishboned air suspension. I'm also feeling bouncy at seeing the first signs of spring, and a return to riding for pleasure alongside just cycling for transport – as I seem to have been doing through much of this winter. And there's a full schedule of events to look forward to this year as well – see page 9 for the listing.

There seems to be a spring in the step of

the cycle industry too, despite the current economic woes. As this issue shows, the flow of new models and innovations hasn't dried up at all, and in the UK at least, climate concerns and a new spirit of frugality are keeping cycling in a more positive media spotlight than for many years. I'm hoping it's a good time to launch a book, as you'll see on page 7!

I hope you all enjoy this issue, and here's to tailwinds in 2009!

Peter Eland



# FLYING CHALLENGE

**Challenge's latest three-wheeler, the Alizé, has a folding frame and plenty of luggage carrying options, but does the ride match its looks? We rode a pre-production trike to find out.**

**BACKGROUND**

Almost exactly two years ago (in Issue 25) we reviewed the Challenge Concept trike, the first three-wheeler from the well-established Netherlands manufacturer of recumbent bikes. While impressed by the styling and design details, I had some reservations about the very direct steering.

By the following year Challenge had added accessories (mudguards, racks etc.) to their original Concept design, and also offered underseat steering to tame the handling.

And now, two years on, the Alizé

folding trike brings together all of these developments, plus a few additional refinements, as we'll see. Our review machine was a late pre-production prototype, and the component specification is very much provisional.

It should be available via dealers by the time you read this. Prices (in the Netherlands at least) will start at €2690 with 27-speed derailleur transmission. As with the previous trikes, a range of transmission options, brake upgrades and accessories are available – contact Challenge or dealers for full details.



**FIRST IMPRESSIONS**

Striking red powdercoating does the Alizé no harm at all in the looks department, but it's the swoops of the frame which define its appearance. The angled, aero cross-section beams to the front wheels define the direction of travel in a very visual sort of way. It drew admiring comments not just from the various recumbent enthusiasts who tried it, but also from 'general public' onlookers – to an unusual extent for a trike. If you're wary of the attention being on a recumbent brings, it does help if reactions are more positive than not.

The aluminium frame folds in the middle, with a large and solid central pivot between the two sections. A quick-release locks the mechanism, but it's safe to ride even without this done up, as the rider's weight acts to keep the trike unfolded.

The rear suspension swingarm doesn't use the frame folding pivot, but a second one a few inches back. The shock unit is linked to the frame via a linkage, designed, say Challenge, to both look tidy and to offer the correct response characteristics. It certainly allows

**BELOW: Rear suspension linkage.**

**BOTTOM: Angletech's AeroPod.**



the lines of the frame to continue in an uninterrupted curve.

The hard shell seat attaches via QRs top and bottom, with a slotted top bracket providing angle adjustment between 31 and 38 degrees. The seat cover hooks over top and bottom, and Velcro pads hold it in place. A number of holes in the seat back puzzled me at first, but they're for attaching the small carrier rack – which has space for two small panniers, and a rating of 12 kg.

The large carrier rack has four well-spaced anchor points on the frame, and looks and feels very solid. It's designed for two large panniers or large recumbent side-bags, and the 25 kg rating should be more than adequate for most touring riders.

The final luggage option is the 'AeroPod' tail bag from Angletech in the USA, which simply slips over the back of the seat. Our seat wasn't sized to suit, so it sat a bit low over the rear wheel (to be fixed for production bikes). It's a neat luggage solution for day riding, and even has some aerodynamic benefit. It's also super-easy to lift off and take into a shop or café with you.

The transmission is a triple-chainring derailleur system. The components for production bikes weren't finalised as we went to press, so I won't detail them here: check the Challenge website or ask their dealers. The standard disk brakes are still the excellent mechanical BB7s from Avid (hydraulic upgrade options are available).

With that all out of the way, let's look at a few of the design details which Challenge have developed since the first version we tested two years ago.

First up is the steering. Rather than attach the bars direct to the kingpins, the folding trike uses a more conventional underseat steering arrangement. It's neatly executed with black-anodised clamps providing angle adjustment for the handlebars (but no width adjustment on ours).

Connecting the bars to the kingpin assemblies are some very pretty aero-section track rods. As you can probably see, these have two internal chambers. One accepts the threads for the sleeve into which the rod



**ABOVE CENTRE: Chain pulley and underseat steering.**

**ABOVE: Aero-section track rods and quick tracking adjust system.**



**ABOVE CENTRE: The new front hubs use conventional bent spokes.**

**ABOVE: The small pannier rack attaches to the seat back.**

end ball joints are, in turn, threaded. This double thread arrangement gives easy tracking adjustment. The other hollow is for the brake cable – it enters a few inches from the kingpin end, and exits at the trike centreline.

This really contributes to the 'clean' appearance at the front of the trike. The rest of the cables coming off the handlebars are also tidy, running in wide loops below the bars. These cable loops are the closest thing to the road surface below the trike, but this caused no problems in use.

The front hubs on the previous version were already pretty but, with hard-to-obtain straight spokes, perhaps less than practical. The

new version employs 'normal' bent spokes, and the slotted design lets you replace even the inside spokes without taking off the brake disk. The new design also incorporates threads for the extractor sleeve – see later.

All three wheels are the 20" (406) size. Our machine was fitted with the very fast and light Schwalbe Kojak slicks.

Weight as tested (without any carrier rack fitted) was almost precisely 18 kg – rather more than most people who rode it would have guessed. Challenge say that the current frame is 'bombproof', and they do have plans in future for further weight reductions.



**Folding sequence:** First remove the seat; the trike then folds up with wheels in place. To go smaller, use the screw-in wheel extractor and a 5 mm Allen key to remove the front wheels, and the standard QR for the rear. Adjust boom and handlebars if you want it to go smaller still.

**THE FOLD**

The 'Smart Car boot' test seems now to be *de rigueur* for recumbent trike manufacturers keen to prove the transportability of their trikes. Challenge duly produced a picture of the trike in one (not shown here).

There are two 'levels' of fold: wheels on, or wheels off. Either way, you first need to remove the seat – just undo the quick-releases and wiggle it a bit, and it'll come away. Then, loosen the frame joint QR (quick release), lift it a little and the frame will fold in the middle, tucking the rear wheel under.

The package is noticeably smaller if you remove the wheels first. The rear one is just a standard QR, and for the front wheels Challenge now offer an extractor tool – screw it into the hub, then unscrew the retaining Allen key and the wheel is pulled off. You need to ensure that the brake carrier comes with the wheel as you do this, or you risk a bent disk. Just wiggle the brake carrier as you undo the Allen key.

With wheels out, the package is noticeably smaller. You could gain more inches by adjusting the boom in, and changing the handlebar angles.

While this folding functionality

is very welcome, there are a few caveats. It can be quite awkward actually doing the fold or unfolding: you really need to lift the trike which takes some strength. With the wheels off, it's difficult to keep the chain or chainrings from touching the ground – not something you really want to do if you're folding it up in a muddy lay-by. Take a bit of old carpet with you for such occasions...

Mudguards attach to the brake carriers, so they'll come off the frame with the wheels, but remain attached by the cables – and mudguards flopping around are perhaps not the easiest things to wrangle if space is tight. You can always put the carriers back on the axles, as we've shown, which keeps things tidy, but the mudguards would then be vulnerable. Best, perhaps, to keep the wheels on if at all possible. To be fair, all folding trikes struggle with mudguards.

If you've fitted the large rear carrier rack, then the fold doesn't achieve much size reduction. But it works well with either the small rack or the slip-on tailbox, as these come away with the seat.

**THE RIDE**

This is a well-behaved trike, quite a contrast to the almost skittish direct-steered Concept we tried two years ago. The steering is light and stable, as it should be, and it was easy to relax even at some speed.

It's worth noting that at around 83 cm overall width, the folding Challenge is just a touch wider than, say, an ICE QNT at 78 cm, but nominally exactly the same width as a HP Velotechnik Scorpion or Greenspeed GT5. This sort of value is clearly at the 'sweet spot' between stability and the ability to squeeze through narrow gaps or doorways. Seat height is around 26 cm, and the bottom bracket is around 40 cm off the ground (it varies slightly as you adjust the boom).

The other noticeable impression was one of speed and efficiency. The Kojak tyres were major contributors I'm sure, helped by a new, clean derailleur system with just a single chain pulley. The frame felt rigid and solid against pedal pressure, too.

The brakes were brand new and needed a little wearing in to reach full power, but would stop the trike



as hard as you dared after that – in the wet at least I could lock a wheel easily enough, or in the dry risk a 'stoppie'. Braking from speed with just one hand (so only one wheel was being braked) resulted in a pull over to that side, but it was gentle and easily controlled. The parking

brake buttons on the levers rattle when not in use... but that's about the only niggle.

The rear suspension was unobtrusive, and evened out harshness without any noticeable bounce from pedalling. Challenge also suggest a 'passive suspension' effect from those cantilevered, aero-section cross beams: they measured just 5 mm or so of movement at the kingpin in their tests, but perhaps that's enough to soak up some vibration. It's quite possible, and indeed the high-pressure Kojaks didn't rattle riders' teeth too much. But how much of that was the seat cushion and how much the 'spring' effect is very hard to say.

Loading up some panniers and fitting them to the large rear rack had little effect on the handling, as is fairly typical for trikes. Clearly you feel the weight when accelerating or climbing, and if anything the trike feels even more 'planted' on the corners. I couldn't detect any sway or flex from the rack, anyway.

**CONCLUSIONS**

To a degree, the folding Alizé sees Challenge catching up with the competition. Greenspeed, HP Velotechnik and ICE have had folding or separable trikes for some time now, so the one-piece frame on the Concept was starting to look limiting. As transport and storage can be a real issue for trikes, adding the folding feature was near essential to remain competitive.

The rear suspension and predictable underseat steering are also now almost 'standard' on the other current trikes. Challenge's versions work well, as do the load-carrying options. With the mudguards (not tested, but as pictured) it's now a fairly complete system.

The price, at €2690 for the base model, is for UK buyers at least a rather imposing £2470 at current exchange rates (official UK prices not yet set). This is a step up from ICE prices (starting at just under £2000 currently) and Greenspeed

(from £2100) but broadly comparable with HP Velotechnik (from £2400). Prices have risen in the UK recently for all brands – those importing from Europe are being clobbered by the strong Euro, and manufacturers buying parts from abroad are hit by the Taiwan dollar rate. Prices are still changing, so take this as ballpark only.

In any case, it's not massively out of line with the competition, and technically and aesthetically the Alizé

looks like a really strong offering. It performs well, and just looks superb, to me and most of my friends at least.

If you're not completely price-driven, there are so many good trikes out there now that looks and styling may be the deciding factor for more than a few buyers. There are still material differences between the various machines, and I'd always urge test-riding a selection before you buy, if at all possible.



**ABOVE:** the optional front mudguards attach via the brake mounts.

But if a particular model thrills your heart, then by all means go for it. The Alizé's looks and performance will steal a few hearts I'm sure.

**Peter Eland**

**AVAILABILITY**

Challenge Bikes: Tel +31 55 521 2405 or see [www.challengebikes.com](http://www.challengebikes.com) The trike is now available via Challenge dealers worldwide.

**Second Opinion**

**Ian Coulthard is looking to buy his first trike, after riding two-wheeled for some time. He tried the Alizé trike on a short, very wet ride around York.**

Firstly, it looks gorgeous! The aero section cross beams stand out, as does the rear fork. I especially liked the front hub design from an aesthetics point of view. The downside was the brake callipers; these being non-mirrored, they looked wrong with the cables pointing in different directions. This is a minor issue, but it just looked at odds with the lines of the rest of the machine.

Speaking of the brakes I found the trike had a degree of brake steer, although I can't imagine this ever being a big problem. Much more annoying was the brake squeal. Whether this was down to newness or the conditions I'm not sure. They did feel more than powerful enough, though.

I couldn't detect any pedal steer at all, although I didn't get to really mash the pedals. In the big ring it all felt good to me. Handling felt really good, hands off was no problem, no handlebar wobble, it just followed the camber of the road. I did expect it to lift a wheel, cornering reasonably hard without leaning, but it never happened, the trike just tracked straight with no fuss.

Comfort felt excellent, I'm a fan of hardshell seats and this was one of the best I've tried, no complaints. Bottom bracket height felt perfect in relation to seat height. Neither did I notice any rear end harshness so the suspension must work – although something this light deserves an air shock, I think.

Despite a puncture, I was impressed with the tyres. The trike seemed to have very low rolling resistance, due in some part no doubt to the low overall weight.

As a buyer, if I wanted a no-compromise machine for fast day rides I'd definitely buy this. As a touring rider I had only one reservation – about mudguard availability, now resolved – and honestly, if the price was competitive I could find a way to make my own if I had to. I'd compromise because it's just so stunningly pretty!

**Ian Coulthard**

