

## 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  
Editor and Publisher,  
*Velo Vision*

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### Small print

I don't much like copy protection and legalese, but a few things need saying:

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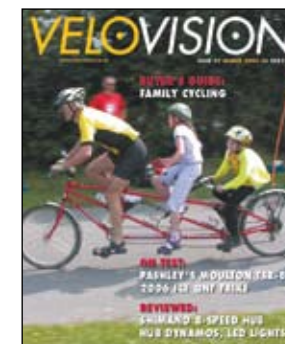
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VELO VISION AND VELO-VISION We weren't first with the name. Velo-Vision (note the hyphen) is a progressive HPV-friendly bike shop in Körten, near Bergisch-Gladbach, Germany, who also make their own recumbents. *Velo Vision* magazine is working in friendly harmony with Velo-Vision in Germany.

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



#### COVER PHOTOGRAPH:

Guy Chapman and son Peter, plus an unknown middle rider, enjoy the fun races at the last Cyclefest. Photo by Peter Eland.

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### DYNAMO DOUBTS

It was great fun doing the dynamo test this issue – one way to liven up a dreary winter commute is to fiddle with the switches, watch the lights shine out and make mental notes on the results. Driven no doubt by the German market, where for all except racing bikes a dynamo system is mandatory, the technology is now extremely good. It's light-years away from my first dynamo, a cheap bottle type which slipped, seized and finally drove me to build a home-brewed rechargeable system to replace it.

That's what I used for many years until it finally gave up the ghost and I switched to a simple LED battery front light. Then with this review I finally got round to doing what I'd intended for years – fitting a hub dynamo and a decent front light. Or rather, three of them!

As you'll see there are some excellent lights out there,

with the new Solidlights extending the technology well beyond the utility cycling market.

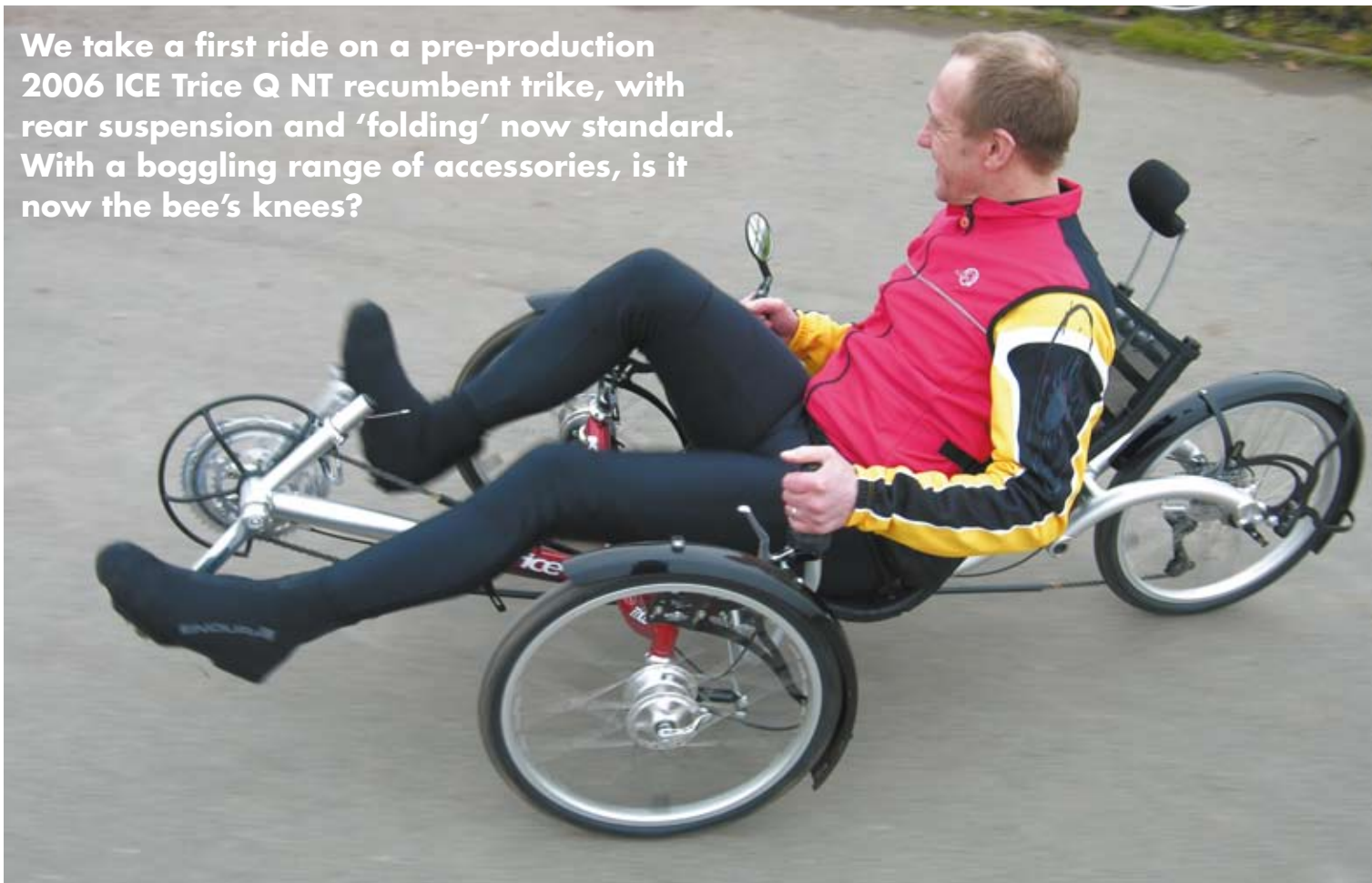
But space didn't permit a wider discussion of lights, and how far rechargeable battery technology has also come. While I appreciate the benefits of a dynamo system – always there, fit and forget – I also love the steady, full beam of a battery light, especially when stopped. With new lightweight batteries and LED bulbs, brightness and burn times have increased enormously, so that the extra 'bother' of batteries is less and less of an issue.

So both systems have their strengths and weaknesses, and like so much else in cycling you have to choose your compromise. Just remember to keep an eye on the 'other' technology, even once you've made your choice.

Peter Eland

# NEW YEAR'S REVOLUTION?

We take a first ride on a pre-production 2006 ICE Trice Q NT recumbent trike, with rear suspension and 'folding' now standard. With a boggling range of accessories, is it now the bee's knees?



While I was doing some photography around York's Knavesmire racecourse this chap (LEFT) came by on a fixed-wheel upright bike, guessed it must be Velo Vision I was writing for, and asked for a go! Happy to oblige...

## BACKGROUND

Back in 2004, recumbent trikes suddenly switched from an emphasis on custom building to more affordable mass production machines. Greenspeed started turning out large batches of their folding GT3 (reviewed in Issue 13), and ICE shortly after launched their 'standard' range of single-letter trikes (we tested the 'T' in Issue 15). And KMX were soon to launch their even more affordable adult trike.

Now for 2006 comes a completely revamped range from ICE, ready to fend off new Greenspeeds, the HP Velotechnik Scorpion and more. There are three models, the Q (in standard and narrow track), the S (lower and faster, with hard-shell seat) and T (for touring, more

upright). The ICE custom machines remain available, but at elevated prices.

We tested a pre-production Q narrow track (NT), and a number of design details will change for production. In particular many quick-releases weren't the right length or had improvised spacers, there are some cosmetic colour differences in the anodising of the rear section, and the carrier rack was a heavy steel prototype rather than aluminium. The quick-release rear mudguard was also rushed to us as an early sample.

Production machines are expected to become available from April this year, although there's already a waiting list as we go to press. Contact ICE direct or via dealers

**ABOVE:** The QNT's quick-release boom means it's easy to adjust for different riders. But as I'd set the chain length for my size, when a shorter rider tried the machine (RIGHT) the chain is clearly too long.

for latest delivery times. It's worth noting by the way that the standard Trice models are only recommended for riders up to 18 stone (252 lb, 115 kg) and between approx 5'2" (1.57m) and 6' 2" (1.88m) tall. For what it's worth I'm 6' 2" and had no problems.

Prices start at £1599 inc VAT and delivery, but it'll be hard not to be tempted by some of the accessories! We'll list some of these later.



## FIRST IMPRESSIONS

The QNT looks smart and functional in pearlescent deep red for the cruciform, while front boom, handlebars and rear end are in anodised aluminium. The cruciform is finished with ICE's usual neat brazing and includes a pair of bottle bosses on the front beam. The seat is a familiar ICE model, with mesh stretched over an alloy frame and tensioned by individual adjusters down the back.

The handlebars are adjustable for angle and width, and you'll want to set them about as wide as you can without fouling the front wheels.

In this narrow track machine, that's the only way to make use of the full steering range. I didn't find the cockpit cramped, but obviously it'll be worth a test ride to try standard and narrow machines before buying.

Up front there's a nice alloy triple chainset (Campag Veloce), with the optional chairing guard (see later). Larger big rings or smaller

inner rings are available to raise (to 97.5" max) or lower (to 15.6") the gearing, but not both at once, as the derailleur can only handle so much difference. Standard gear range is from 18.2" to 92.2", controlled by 'Microshift' twist-grips. Short cranks (152mm) and bar end shifters are options.

The wheels are 20" (406) all round, built with stainless spokes. The front ones use Sturmey-Archer drum brakes (there are parking locks on the levers), while the rear has a standard nine-speed Shimano Deore hub and cassette. Kenda Kwest tyres are fitted, and work well.

On then to the rear end. This alloy assembly slots into the rear of the cruciform, meaning it can also be fitted to many older Trices (contact ICE for details - cost is £350).

The frame-mounted part includes fixings for the seat back support (with three slots to set the seat angle) and the lower mounting point for the touring rack. The swingarm itself

pivots on a large hollow stainless-steel sleeve, and is cushioned by an elastomer 'puck' – actually the same unit as is used on the Birdy folding bike. Three grades are available to suit rider weight and taste. There are also three positions in which the elastomer can be fixed via a screw-in pin – the closer to the pivot point, the softer the ride.

There's plenty of clearance for a wide tyre: ICE say you can even fit 2.25" knobbles if you really fancy some off-roading, or Big Apples for more comfort. If you can find some 20" studded tyres (see elsewhere this issue) this extra clearance could be a very useful feature, extending the trike's capacity on snow and ice.

On the left-hand stay there's a dynamo bracket. So to the dropouts, where ICE have incorporated disk brake mounts (for use as a parking or drag brake), a replaceable gear hanger, threaded holes for mudguards and the necessary fittings for Rohloff hub gear compatibility.

No front mudguards are included as standard, but a quick-release rear clip-on one is (not pictured here). No pedals either, so I fitted my own Bebops. Other standard equipment includes a Mirrcyle mirror and flag.

**THE RIDE**

Two things struck me when riding the QNT – the smooth ride and the responsiveness to pedal input.

The elastomer suspension at the back really does make quite a difference – but with some subtlety. With the narrow Kenda tyres pumped up hard you'd expect to rattle around a bit, even with the mesh seat, but instead it's just uneventfully smooth. And it doesn't make its presence felt in bobbing or diving. In fact, it was only towards the end of my first proper ride that I remembered there was suspension at all, after going over an obvious pothole and thinking it wasn't as much of a shock as it should have been...

As to responsiveness, I'm sure the rigidity of that alloy back end made a difference here, resisting side-to-side pressure as you pedal, and providing a solid platform to work on. At speed, too, it's good to feel the trike stiff and solid below you while you move your upper body into the turns.

One of the compromises you make when you choose the narrow track version is to sacrifice some stability in cornering, but the seat's low enough that I never came close

to the limits. The other sacrifice is turning circle, but in normal use this won't be a real problem. Just a few times I had to three point turn on narrow roads – or just get out and pick it up. More often the narrow track was convenient: it went through most doors easily enough.

As usual with ICE, braking is set up so each hand controls one front wheel. The Sturmey drums did have plenty of stopping – don't tell ICE, but I lifted the back wheel a few times for fun – and as usual the vehicle's tracking is hardly affected even when braking hard with just one hand.

Just one more mention of the accessories, which do add much to the pleasure of using this machine. It's great to be able to reach into those Radical bags as you ride along, and then just to whip them off at your destination. The mirror gives a nice view behind. The mudguards keep you clean. Nothing rattles, and it all looks good together. It all adds up to a very satisfying experience.

**FOLDING**

Disassembling the QNT is straightforward but not trivial. I'd

say it would be a five or ten minute job for most mechanically minded people, less with practice, and assembly is similar. ICE say just over three minutes, but this will depend on how many accessories are fitted, and how long you spend packing each bit carefully away! With the optional quick-release kit, the entire process can be done without tools. This certainly makes things quicker and easier in itself, as there's no fumbling around locating Allen keys etc.

The procedure is certainly acceptable at the start and end of a weekend, for example. But remember it's one thing to take a trike apart and reassemble, as I did, on a relatively clean surface and in the dry – quite another to try it with muddy, cold hands on a rainy roadside. In any case, if you're transporting it by car, do take along an end of old carpet to protect the paint from the concrete as you work. It's also good to help keep dirt out of mating parts, threads and the chain.

I've shown the folding sequence about as far as you'd want to take it for most occasions. If you did need to go even smaller, you'd detach the chain tubes, remove

just where you hand falls, and I found it quite easy to open one a little, pull the camera out, and then close it again all with one hand while riding.

And as they simply lay on the seat, removal and fitting is instant – no buckles to undo – just lift them off as you go into a café and plonk them on again when you come out.



But that rack can be saved for heavy-duty tours! For day rides it would be a shame to cart it around – instead just sling the Radical side bags (just under £70) over the back of the seat (right), with the top strap hooked behind the headrest (if fitted, else around the top seat rail). Weighing 480g per pair, they offer 12.5 litres each side – plenty for coats, cameras, food etc. And the best bit is that they're accessible as you ride. The zips start at the bottom,



**LUGGAGE CARRYING**

There are two main systems for luggage carrying: the large rear rack for heavier touring, or Radical bags slung over the seat back for day rides or shorter trips.



The rack itself (top right) is a rigid and bulky affair, with the sides splayed widely to give clearance to the suspension swingarm. Panniers can be mounted nice and low on the rail a few inches down on each side, leaving the flat top unobstructed for strapping down tents etc. Weight capacity is 25 kg, more than enough for most touring. A large plate at the back provides welcome mounting locations for two or three rear lights, reflectors etc.

**THE FOLDING SEQUENCE**



1 First, undo the two quick-releases on the plastic seat clamps and wiggle them off.



2 Undo the back support quick-release, and remove the seat



3 Now remove the rear wheel. Like any derailleur bike, it's easier if you change to the smallest ring and cog first.



4 This Velcro strap prevents the rear swingarm flopping under – release it now.



5 That lets you fold the rear swingarm under. You need to hold the chain tubes up as you do this so the chain doesn't get caught up.



6 Undo the front wheel quick-releases, and unscrew the lock nuts from behind the kingpins. The axles can then slide out, freeing the wheel and also releasing the drum brakes. Take care that the spacer doesn't go astray.

7 Now unhook the brake cables – this releases the drum brake mechanism entirely. Best now to pop it back into



its wheel and push the QR axle through, and thread on the spacer and lock nut, so it's all held neatly together.

8 At this point, stop and see if it's small enough yet! If you do need it smaller, undo the QRs and withdraw the front boom until it comes out. There's a plastic sleeve so it slides reasonably easily in the frame, but pulling it right out and avoiding scratching the frame on the ground as you do so is a bit awkward. It also loses your leg-length adjustment, so it's best avoided if you can. You may also need to unhook the front derailleur cable and swing the left-hand handlebar forward to create enough slack.

9 At this point (and with handlebars folded down) the trike looks like this – it would make a less imposing collection with fewer accessories of course.



10 Pile all the bits up and it goes impressively small. With a bit more effort no doubt I could have slotted the rear rack into the pile, too. If you're going to pile it up like this, you may as well leave the handlebars in their upright, riding position to keep it all together.



the entire alloy rear end, undo the front derailleur cable and certainly swivel that mirror out of the way.

So how small does it go? Dimensions aren't really meaningful with so many loose pieces, but Mike Hessey of [www.foldsoc.org.uk](http://www.foldsoc.org.uk) managed to get a folded Q NT, plus a Brompton, into the back of a Smart car – a very small car indeed. You can see the video of this via the ICE website. Indeed, in many cars you'll be able to get away without much folding at all, perhaps just seat removal, especially if you don't also have to fit in too many passengers.

Car transport is certainly more practicable than public transport. There are plans for carry bags to keep all of the bits together, but it'll be an ungainly package at best.

It might be useful to compare with the Greenspeed folding trike range – we tested the GT3 in Issue 13. With a single bolt to remove the seat and a quick-release frame hinge, it folds in half probably a bit faster than the ICE, and you don't have to risk dirty hands removing the rear wheel. But then it's still quite a large package, and further dismantling takes longer. If you car boot is a big one, it's well worth a look as an alternative.

Other folding trikes to consider include the Trilite from Aiolos in Berlin and possibly the new JM Recumbents folder from the USA. And of course many trikes from various manufacturers will, with a little time and tools, separate into smaller pieces for transport.



**MUDGUARDS**

For the front, it's simple: buy the optional set (£55, 755g per pair) or do without! They're adjustable to fit tyres up to 50mm wide, and bolt onto the headset using an Allen key.

At the back, there are several possibilities.

- The trike comes with a clip-on mudguard, which is lightweight and does apparently keep dirt off the rider – but won't do much for your riding companions.
- The large rear rack has a mudguard built in, but to allow for suspension travel it's necessarily not terribly tight to the tyre.
- You can attach a close-fitting 20" mudguard using standard stays if you're sure you won't want to fold the trike. All the appropriate holes are in place on the swingarm.
- The final option is the quick-release rear mudguard (£40). This is a clever, one-side-supported guard which attaches to the left-hand dropout via a quick-release and a little notch which engages a bolt head.

The support curves round to give clearance for any disk brake you may have fitted, and wraps closely all the way round the wheel. Very neat. If you use this and the big rear carrier, you should remove the carrier's guard so they don't clash.



**QUICK-RELEASE KIT**

Quick-releases are provided as standard for rear wheel and seat, so that the trike can be 'quick-folded' without tools. But removing the front wheels and mudguards, or adjusting the bars, requires Allen keys and a little more time. To speed things up this kit of extra QRs comprises QR clamps for front axles, mudguards, front boom and handlebar adjustments.

The front axle QRs do somewhat increase the overall width of the trike compared to the flush Allen key fitting. It's possible to fit them with the lever behind the kingpin instead (it's a bit more fiddly) but that doesn't make much difference to the width.

Another possible niggle is that they can look untidy! The nature of QRs

is that they need to be threaded in a very particular amount to get the right 'bite' – and that means the levers can end up pointing in random directions, as you'll see on some of the pictures. In particular it's unlikely the front boom QRs will be neatly parallel, or that the front mudguard QRs levers will be symmetrical. But most people should be able to live with that...

**HEADREST**

I didn't find much use for the headrest (£50, 224g): it was sometimes nice when stopped and relaxing in the seat, but it shouldn't be in contact when you're riding anyway. It does make taking the Radical bags on and off easier, and includes a seatpost-size light mount on one 'leg'.



**CHAINRING GUARD**

I liked the chainring guard (£30, 120g). It clamps around the bottom bracket and both protects the chainrings and anyone who might come in contact with them. Especially in a trike you'll be folding and manhandling, this is very useful. It's sturdy and not too heavy.

**CONCLUSIONS**

With just a slight price increase over last year's popular budget models, ICE have come up with a trike which offers considerable extra versatility – not just in its separability for storage and transport, but also in the number and range of accessories which you can 'mix and match' to suit your riding requirements. I particularly liked the elegant minimalism of the Radical bags for day luggage.

It's also a fine ride, solid in handling and responsive to effort. I couldn't help but be impressed with

the level of design effort and detail which has gone into the machine, and into every one of the optional extras – although the price does start adding up if you choose too many.

If you're tempted to try recumbent triking, this is about as good as it gets.

**Peter Eland**

**AVAILABILITY**

From ICE or via dealers – see our advertising section for details ICE: Tel 01326 378848 or see [www.ice.hpv.co.uk](http://www.ice.hpv.co.uk)

