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THE BICYCLE CAR

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TRICON**

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**BICKERTON
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AZUB TRICON

We review the AZUB Tricon, the flagship folding three-wheeler from the Czech recumbent makers. Our trike came fully equipped and complete with its purpose-built transport trailer.

BACKGROUND

This year, AZUB is celebrating 15 years of operation. They sold their first bikes in 2001, and have built up the business ever since: they now employ 12 people and are still growing. They first entered the tricycle market in 2010 with the 'ECO Trike'. Soon after, a new version with folding and rear suspension, the Tricon, was launched, and it's been tweaked with further evolutionary improvements ever since.

For this review we tested the 2014 Tricon, but our current biannual publication rate means that news of their 2015 models is already out. We've described some of the changes and new options later in this report.

As we noted in our SPEZI report last issue, AZUB have produced a touring trailer into whose capacious bag the whole folded trike, plus trailer wheels and drawbar, will fit. In this form, trike and trailer just look like a large but well-padded 'suitcase', suitable for shipping with relative ease.

AZUB have been keen for us to review their Tricon for some time, and they kindly offered to build a trike to our preferred specification, which we chose working from their standard 2014 options list.

The main decisions were to go with 20" wheels, giving a trike base price

of € 2780, to which the folding frame and handlebars add € 240. I chose 90 mm drum brakes (€ 60 extra, compared to 70 mm drums), on the basis that this would be a robust choice on a folding trike. I was also keen to try out the 90 mm drums on a trike.

We chose the standard Alivio derailleur gearset, partly because I very much like bar-end shifters on a trike (€ 103 extra, not available for some other options), and partly because a derailleur set-up seemed more appropriate than hub gears on what is primarily a day-ride or touring machine. Other options added either by us or AZUB were quick-release wheels (€ 170), an upgraded Suntour Epicon rear shock unit (€ 150) and of course the bag and trailer (€ 175 and € 320 respectively).

Most of the rest was left standard. AZUB also specified the non-standard colours (€ 150), and provided a full package of accessories, as we'll describe later.

As tested, our trike (inc. trailer) would retail at € 4197, so around £3209 in the UK at current exchange rates as we go to press, but remember prices may differ for 2015. Shipping is normally free within Europe. AZUB have dealers in many countries: again consult the website for full details.





The full options list for these trikes is massive: if something on this machine's specification doesn't suit you, chances are there's another option. A higher seat adapter and other adaptations for riders with disabilities are also available. A visit to the AZUB website, or to a dealer, will reveal the full range of possibilities, including electric assist.

Finally, AZUB are proud to note that their full production process, from the raw tube stage to final assembly, takes place in the EU, specifically the Czech Republic. The few items which are not Czech are made in the neighbouring state, Slovakia.

FIRST IMPRESSIONS

Built around imposingly large aluminium tubes, the Tricon has a very distinct design aesthetic: a successful one to my eyes. It's modern and 'engineered', and the proportions work really well. I also came to love the colour scheme: white's not the easiest colour to photograph, but it does look great with the black bike parts and red 'trimmings' on seat rails and the like. The finishing touch is the intricate details, such as the QR levers, which are picked out in an even more intense red.

The main frame of the Tricon comes in a single size (rated to carry up to 125 kg), and a mass of adjustments are available to fit the rider: AZUB call it their 'Ideal Position System'. There are adjusters both for the seat and for the telescopic boom, so between these you can not only set your leg length, but also (within reason) set how far forward or back you sit on the trike. All the way back means better traction but poorer stability in corners (because more of your weight is over the single rear wheel) and all the way forward is the reverse. 'In the middle' is usually good! If you tell them your vital statistics, AZUB will set the trike up at the factory for your height and weight.

The slider for the seat base is especially nicely done: the large plastic clamp slides smoothly along the frame, with a metal rail set into the top of the tube, so it can't rotate. No less good is the seat angle adjustment: the two support tubes are threaded externally, so you can



run the nuts down after adjusting them to completely rule out any slip. The scales marked on the rods is another nice touch, especially on a folding trike. As part of the fold the seat is removed, so it'll need frequent resetting, and it's good to be able to return quickly to your favoured position.

The handlebars too have a very clever and effective adjustment system. Fine adjustment is via Allen keys in the stem, but for rapid release when folding there's an ingenious spring-loaded castellated clamp design, secured by a quick release. This means they're easily returned to exactly the same angle after folding, and the system is also super-solid and rigid, with a really reassuring feel.

Given that we specified most of the components ourselves, I won't go through those in detail: we'll move on next to the accessories, so numerous they deserve their own section I think!

But before that, this section is 'First Impressions' and I think the design quality of this trike deserves a few more words. Build and design quality

standards on all of the leading trike makers' products are now incredibly high, and on this evidence AZUB is up there with the very best of them.

It has many lovely design touches which add real functionality – and there was literally nothing on this trike, including the accessories, which to me looked awkward, wrong or even just over or under-engineered. And that really doesn't happen very often.

ACCESSORIES

Our Tricon came with a full set of accessories appropriate for a touring machine: we'll go through these and also look at a few of the major alternatives.

Two rear racks are available for the Tricon: the 'Lower Carrier' (€ 59) as fitted to our test trike is designed to accommodate Ortlieb (or similar) front panniers, while the larger 'Standard Carrier' (€ 129) can hold both a pair of rear panniers and a pair of smaller front ones. The disadvantage of the larger rack is that it needs to be unbolted before folding the trike – not so convenient.

But the smaller rack is very good! As

you may see on some of the pictures, it is possible to fit full-sized rear panniers on it too – ground clearance gets a little slim, but it works. The luggage is carried neatly tucked up under the seat in this position, good for the handling, and there's room on top for a large stuffsack as well if necessary. If your touring isn't too heavy, you could get away with just this neat, light rack I think.

For your valuables on tour, AZUB have a side-mounted handlebar bag system (€ 139). The bag is well placed just by your hip, and it's relatively easy to flip up the bag's lid (it has a magnetic closure) and reach in, even as you ride if you're careful. Perfect for on-the-go photography. The bag itself, a waterproof Ortlieb model, detaches in an instant via a lockable quick release.

Mudguards (€ 139) are another touring (or commuting) essential, and AZUB's are neatly done. The front ones mount onto short tube stubs off the top of the kingpins, and stayed secure throughout.

My favourite accessory, though, was the perfectly placed bottle cage (€ 25). Fixed to the kingpin it's never in the way, but it's in easy reach at all times. We had just the one – but it's so good I'd order two!

The 'multi holder' kingpin mounting hardware (€ 25) for the bottle cage can also be used to hold computers or the like. But also fitted on our trike was an accessory bar on the top of the front derailleur post, another suitable mounting point for anything from a GPS unit to a front light.

Other notable accessories not fitted to our trike include the headrest (€ 89) lighting systems, mirrors, clothing and more.



LEFT: The seat back supports are clamped by the quick-release, then the nuts screw down to prevent slip. The markings make for easy re-setting after folding.

BELOW: The top quick release secures the seat, and the bottom locks the seat base. Note the rail on the top of the frame tube, keeping the seat upright.

BELOW RIGHT: The clever and rigid castellated nut quick release system for the handlebars.



THE FOLD

There are several levels to which you can fold the Tricon.

First is the 'quick fold' which would typically be used to fit the trike into a car. First you remove the seat (quick-release top and bottom); the seat mount stays fixed to the main tube so your positioning isn't lost. Next you need to swivel one side of the handlebars down: just undo another quick-release for this. Now the main frame hinge can be opened: you need to push the locking pin down as well as undoing the quick release for safety. At this point you can swing the rear of the trike up and over, raise the handlebar again and that's it.

Both the small rack and mudguards can stay in place for this level of fold, and it does take just seconds. The only thing to watch is that the folded



ABOVE LEFT: The basic fast fold leaves all wheels in place.



ABOVE RIGHT: With the rear wheel removed, the swing-arm folds too, making the package noticeably shorter.

trike rests on the chain protector ring on the crankset, so it's best not to let too much weight rest on it.

For the next level, the 'Extreme' fold, both front and rear mudguards, and the back wheel, need removing first. The significant extra stage is that with the rear wheel gone, the swing-arm can be tucked under before the main frame is folded. The front wheels, quick-release on our trike, come off too to leave a really quite compact package (but lots of loose pieces, as well). In time terms, you're a few minutes in, but nothing to worry about at, say, the start and end points of a tour.

The final stage of folding would allow the trike to pack away into the bag on the trailer, but with freezing fingers on the day of the photo shoot we conceded defeat at this point! For minimal size you need to push in (or even remove) the front boom and remove the small carrier rack. That done, all that remains is to figure out how to tuck all the parts in around it...

THE TRAILER

A trike that packs into its own trailer is a very appealing concept. Padded for transport, and not obviously a bicycle at all, it should be a great way to ship the machine to your destination unharmed – or back home, at the end of your tour. And on the road you can use the trailer to carry as much luggage as you have the legs for, without over-burdening the trike itself.

The only real downside, clearly, is some extra weight and bulk – and complication if you need to carry this 'road train' over obstacles or into hotel rooms, or the like.

The trailer itself is sturdily built on a square-section alloy frame which also

supports the base for the bag. The tow-arm (with hitch attached) slides into this frame where it's secured by a quick release. The wheels, too, have quick-release locking axles, which slide easily into sockets on the frame. In seconds, the wheels and the tow-arm can be removed without tools and placed inside the trailer's bag.

The bag is made from heavy padded fabric, with a separate lid which secures via a multitude of straps and reflective strips on sides and back. Wheel bags and a rain cover are also provided.

The trailer attaches to the trike using the standard Weber hitch system, a proven design for which spares are easily available – so using the trailer behind other bikes should be easy, and it shouldn't mind being pulled behind bikes with larger wheels.



As you'd probably expect with a trike as the towing vehicle, the trailer tows very well. Lightly laden it's easy to forget it's there; it's quiet and easy rolling. Loading it with 40 kg of magazines to represent a very substantial cycle camping load, it remained well behaved although you definitely know it's there, especially up the hills! Also on really rough surfaces the extra rolling resistance and vibration could feed through the hitch back to your pedals; not a problem in normal use. For longer term use on bad roads I'd try Big Apple tyres on the trailer wheels.

With the trailer's wheels placed quite well back, any significant load in the trailer did add to rear wheel traction by putting 'nose weight' onto the hitch – a welcome side-effect on slippery hills.

The trailer does work well, but I'm still not sure just how many riders will really need it. Unless the extra cargo capacity on the road is really important to you, surely a few hours spent sourcing (or disposing of) a pile of cardboard and tape at the start and end of your tour would do the job instead, and save a bit of weight when you're actually riding: most people can get away with just panniers on tour. That said, it is good to be self-contained, even as far as the packaging goes, and you might be hard pressed to jury-rig a box as protective as the one the trailer makes.

THE RIDE

Howard Yeomans says:

As a regular trike rider myself, I never tire of the sensation of forward thrust from the first pedal push. The Tricon gives that feeling immediately, and probably as a result of the stiff frame and careful pulley placement the power transmission to the back tyre feels smooth, firm and without any unwanted oscillation. With firmly inflated 1.5" wide Schwalbe Tryker tyres fitted as standard, the ride is certainly firm and feels very rigid through the corners, at least with just my 140 lb (62.5 kg) bodyweight and minimal cargo on board. Our test riding included ascents and descents on not-too-extreme hills and the response of the steering felt quick but natural and relaxing, exactly what you need on a machine capable of a long distance tour.

While the front end was firm and gave good feedback from the road surface, those characteristics are not usually desirable at the back. We barely took our machine off road, but on normal potholes and broken tarmac the absorption of shock and the damping from the suspension was superb. At speed on a damp road I had no fear of hitting a lump or a hole: it was reassuring to know there was going to be no need to swerve to avoid obstacles when riding along for photos with Peter on

a Brompton alongside me.

The transmission we'd specified gave a gear range which must have been about right, as we used the full set of ratios. The 88" top gear is not beyond the range of an averagely fit cyclist, and we soon found ourselves using the 18" bottom gear uphill. Bottom gear could perhaps be even lower for heavy touring. AZUB offer plenty of options if you do need more gear range.

I was impressed with the steering lock on this machine: only on narrow single lane roads was a multi-point turn required.

Everything on the machine was virtually noiseless, including the transmission, and that definitely adds to the feeling of quality.

Bringing affairs to a stop are a pair of 90 mm Sturmey-Archer drums, controlled via braided cables which run to each brake independently. Testing for brake steer by braking hard on one side from speed, the trike did drift gently to one side, but it was entirely correctable. Bite and power was by no means lacking, and I expect that the brakes will get even more powerful as the brake shoes bed in. Drum brakes have the reputation for lasting tens of thousands of miles before wearing out, so this should be a really good low-maintenance braking setup.

Peter Eland says:

After enjoying an easy time transporting Howard's whippet-like frame, the Tricon endured my 95 kg bulk with equanimity. Like him I found it rigid, smooth and with no obvious flaws. The handling was delightfully light but stable, and the handlebars placed the controls just where I like them – quite high up, so your hands aren't far from where they might be on a very wide car steering wheel, perhaps.

I also appreciated the handlebar rigidity: on several trikes I've tried before, with the bars angle adjustment secured only by a quick-release clamp, they've slipped, sometimes in tight turns near full lock, pulling back straight in a hurry for example. I should perhaps be more delicate – but in any case, the Tricon's bars remained rock solid.

Howard's covered most of the other

areas, but I'll add a little on the 90 mm Sturmey drums. These are quite widely used on velomobiles these days: they offer noticeably more stopping power and heat dissipation on longer hills than the previous 70 mm models. I too had no complaints about the power and modulation: they could haul the trike to a stop from speed abruptly enough; perhaps with more finger pressure than you'd need with some hydraulic disks, but I didn't feel as if I was ever close to not having stopping in reserve. Also noteworthy is that they were essentially silent throughout –

unlike many disk brakes!

Where I think disks do have the edge, though, is in the feel of a decisive bite point: it's hard to tell when the drums start slowing you, until your finger pressure increases and you can feel the deceleration. Not a big deal either way, and as Howard says they will bed in.

AZUB, of course, offer plenty of disk brake options if you prefer!

CONCLUSION

As you can probably tell from this review, we were both rather impressed with the AZUB Tricon.



CHANGES FOR 2015

For 2015, most of the Tricon trike remains unchanged. But AZUB have made ordering more flexible: you can have a 20" or 26" rear wheel. For the 26" model there's a through-axle option for extra rigidity. You can also choose between a lighter and cheaper separable (bolt together frame) version with just the Allen key handlebar adjustment, or a 'fast fold' version with hinge and quick-fold handlebars.

The 2015 hinge is the most interesting change. Rather than being an integral part of the frame, it's bolted to flanges on each half. This lets AZUB make it from an alloy (7075) which is harder than any weldable type, and it can also be 'PTFE hardcoat anodised', which reduces sliding friction as well as protecting from scratches and corrosion. It's easily adjusted, and there's a large easy to operate lever.

2015 trikes will also all have disk brake mounts for a rear parking brake, and numerous component upgrades – check the 2015 price list via the Azub website.

The hinge is made of high-strength alloy, PTFE hard anodised.

The 2015 Tricon is available with either 20" or 26" rear wheel.

The new hinge is bolted between flanges on the frame and has a large operating lever.



The engineering is stylish and thoughtful, with little touches to make it a very easy trike to adjust, fold and accessorise. And the 2015 hinge will make it even better.

The ride doesn't disappoint either. The steering is spot on, the suspension very effective and it coped well with a variety of rider weights and surfaces.

All in all, it's a very polished and complete package, and one which is the equal in quality and performance of any trike I've seen – and that's quite a few.

The trike-in-trailer concept does work well, but I was less convinced that it's a 'must have' for most riders.

That leaves price and value to discuss. It's getting difficult to make meaningful comparisons of trike prices these days: so much of the cost depends on your choices for options and accessories, and besides, each trike has different features, strengths and weaknesses. I'm pretty sure, though, that the AZUB comes in around and likely below the 'going rate' for a flagship trike of this quality.

Unless cost is critical, I now advise buyers just to follow your instincts and get the trike which (after a test ride, ideally) appeals most, emotionally. They're all good at this level, and as a proportion of the considerable total price, how much does any small difference really matter? Just get the one with the highest 'want' factor for you.

That factor is quite high on the Tricon: I liked its fresh approach, with the big bold tubes and bright colour highlights, but above all the design details that make it a pleasure to use. I'd certainly add it to any touring trike shortlist!

Peter Eland

AVAILABILITY

AZUB cycles are sold through dealers across Europe, the USA and beyond: phone them on +420 776 292 846 or see the website for the full list: www.azub.eu

Currently, there are two UK dealers: Bikefix in London: Tel: 020 7405 1218 or www.bikefix.co.uk
Laid Back Bikes in Edinburgh: Tel: 07981 430159 or www.laid-back-bikes.co.uk