

TANDEM TRANSPORTERS





The Hase Pino Porter and the Circe Morpheus Omnis+ go head to head in this tandem-length review. Both of these formidable bikes can convert between tandem and cargo modes in minutes, but how do they compare?

'Half recumbent tandems' is possibly the most elegant way I've yet come across to describe this type of bike. They've also been called up/down, recumbent/upright and semi-recumbent tandems – but however you describe it, the front rider sits recumbent, while the rear rider steers and pedals from an upright position. The advantages include comfort and a great view for the front rider (neither strong points for conventional tandems), a compact layout with plenty of room for luggage, and the two riders' heads are close together, making for easier conversation or supervision if the front rider is a child. Disadvantages include the amount of attention it attracts!

In the modern era at least, I think it was Counterpoint in the USA who first popularised the format with their 'Opus' design in the mid 1980s. But it was Hase Bikes in Germany who first brought this type of bike to Europe. Way back in 1994, a Pino-like bike was one of the models which launched the company, now one of Europe's largest recumbent manufacturers.

The Pino has evolved considerably over the years, changing from steel (and titanium!) to an aluminium, separable frame which we first reviewed in Issue 33. Now, for the 2014 model year, Hase have launched this 'Porter' version, with extended cargo carrying capacity, some of which quickly removes if you want to use it in tandem mode. It'll be available via their dealers early next year.

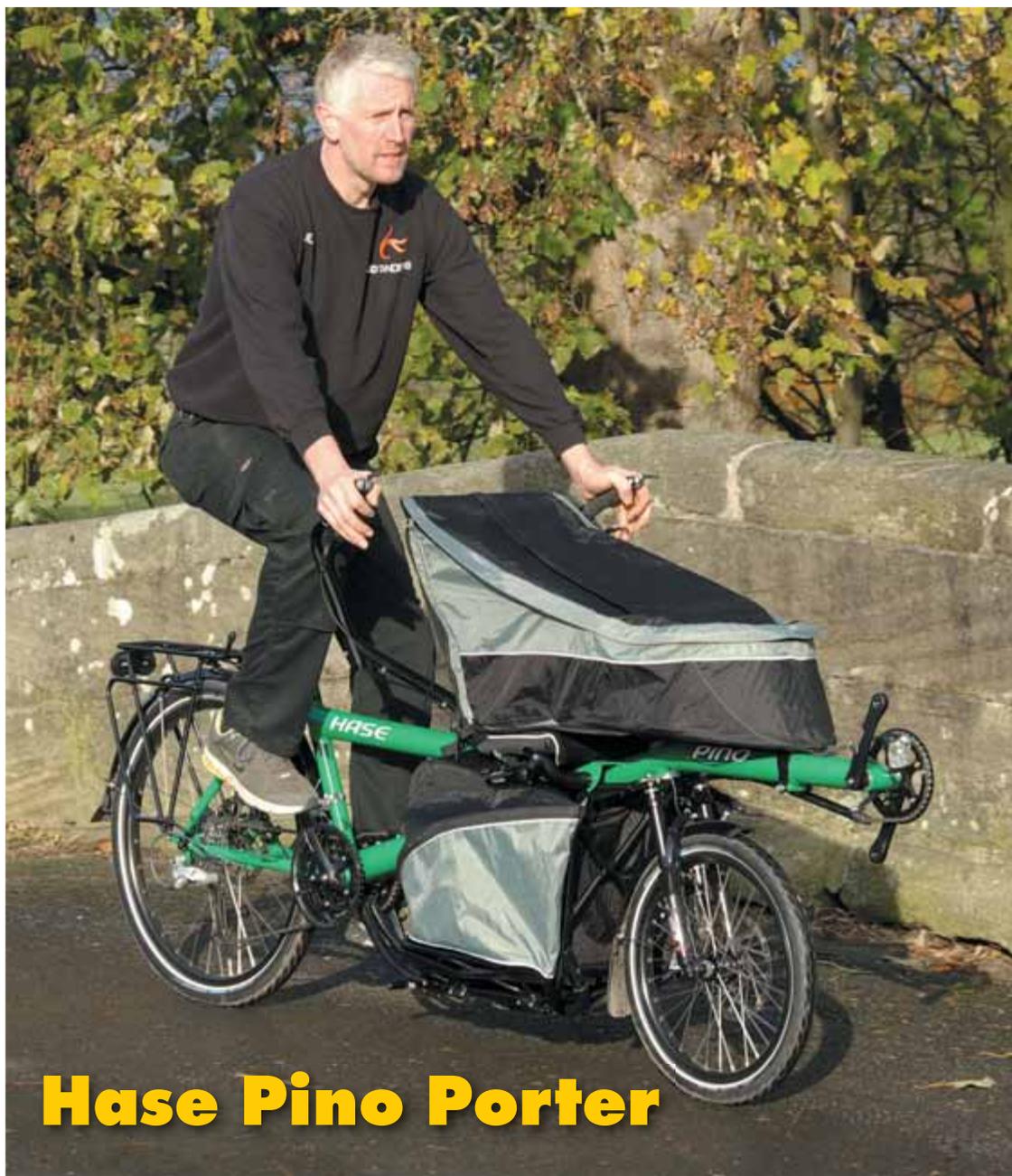
The Pino has enjoyed a long spell almost free from direct competitors.

Across the Atlantic, custom makers Bilenky did one for a while, and a similar design is still sold by Angle Tech Cycles as the 'Harmony' tandem. But neither has made it to Europe as far as I know. In Europe a few other makers have attempted the format, such as Wolf (see our SPEZI report in Issue 26), but none has seriously challenged the Pino.

Now there's a new rival, though, in the form of the Circe Cycles Morpheus, the latest tandem from the same Cambridge-based company which brought us the versatile Helios upright tandem, reviewed in Issue 38. Like the Helios, the Morpheus uses 20" wheels all round and a chunky aluminium frame. To 'morph' the bike between tandem and cargo modes, the front seat can be removed and replaced by a substantial cargo rack. Although relatively new to the market, the Morpheus comes with a good range of accessories, and our review bike arrived pretty much 'fully loaded' direct from Circe Cycles.

The review Pino Porter was delivered to our nearest Hase dealer, JD Tandems of Gargrave in the Yorkshire Dales, where we did some riding and took photos before bringing it to York for further riding. Many thanks to Ruth and John Hargreaves at JD for their assistance.

We'll first take a look at each bike, as a tandem and in cargo mode, then make some observations and comparisons to draw out some differences. Many potential buyers will inevitably want to compare these two machines, so that's what we'll do too!



Hase Pino Porter

BACKGROUND

The Hase Pino Porter joins a line-up of Pinos which all use the same aluminium frame. The base model is the 'Allround', while the 'Tour' adds the stand, more luggage racks and higher end transmission. The Pino Porter completes the list of standard models, and these are usually available from stock via dealers. If you're prepared to wait for a special build then the specification is much more open on the 'Custom' Pino, which offers a slew of options such as Rohloff hubs, a hand crank system for the front, suspension

fork upgrades, electric assist, SON lighting and more.

Of course, even the standard models can be fitted with a wide range of accessories. These include 'double grips' for the upright rider to offer alternative hand positions (€119, about £99), the folding fairing to provide weather protection for the front rider (€699, ~£584), and child cranks for shorter pedallers (€69 ~£58). Also available are a huge range of special needs adaptations: many special pedal and crank systems, seat belts in two styles, extended seat backs, and more.

Owners of existing Pinos may be interested to note that the Porter top bag is also available separately, and it will fit even older steel models. The underseat rack (needed for the rack bag) only fits 2014 Pino frames, though. Enquire with a dealer to check compatibility and prices.

The Pino Porter is rated to carry 225 kg (riders and luggage).

The base price for the Pino Porter is €4999, or about £4180 in the UK, and this includes everything seen on our review bike. Ours was a well-used pre-production demo bike, so forgive any slight imperfections!

FIRST IMPRESSIONS

The fully kitted-out Pino Porter is a big bike, but one which has a certain aerodynamic elegance to it, as the frame-fitted bags give a sort of nosecone effect. The frame is reassuringly massive, with tube size reflecting the possible loads two tandem riders can generate. It's also compact, leaving masses of height adjustment for the rear rider. Seat angle can also be adjusted, as can the height and angle of the rear rider's handlebars.

Wheel sizes are 20" (406) at the front and 26" (559) at the back, both fitted with wide, tough Schwalbe Marathon tyres. The front wheel hosts a compact SP hub dynamo powering bright LED lights front and rear. The suspension forks, reinforced apparently for tandem use, support a substantial adaptor for the disk brake calliper, which has to be mounted a fair way out to suit the huge 200 mm diameter rotor.

These brakes are Avid Code R hydraulics, a high end model favoured by downhill MTBers it seems. At the back the disk is 180 mm, with the calliper fitting neatly within the triangle of seat and chainstays.

The transmission is a classic triple-ring derailleur system, using Microshift bar end shifters and a Stronglight 28-38-48T chainset. With the 11-32T cassette I make that gear ratios of 22" to 112", a respectable range for any touring bike.

The Pino does of course have another stage to its transmission, and that's the drive from the front rider to the rear rider's cranks. To permit the front rider to stop pedalling at any time, there's a freewheel built into the left-hand chainring at the rear rider's pedals, so the connecting chain to the front doesn't move unless the front rider pedals.

Also, note how the chain to the front is almost completely protected by chain tubes as it passes over the

RIGHT AND BELOW RIGHT: Much cleverness is built into the transmission to the front rider. There's a chain take-up 'dogleg' under the seat, and a freewheel in the rear crank.



underseat cargo bay and past the front forks, with a little diversion roller at the back to help keep it clear of luggage. A chain length compensation device is also very neatly built in: under the seat you'll see the lower run of the chain doubling back on itself. This ensures constant chain tension as the boom is moved in and out.

CARGO CARRYING

So to the Pino Porter's speciality: cargo carrying. Even before this version arrived the Pino was pretty good with luggage: as well as two panniers on the rear rack there are optional underseat racks which will carry two more panniers each side, for a total of six!

The Porter replaces these underseat racks with a new cargo bay, and this also has a built in stand to replace the separate item available for other Pinos. As you'll see from the photos this 'Porter Rack' is a thing of beauty, curving down from the back and embracing the space available. The mounting points form a rigid triangle, and it all feels superbly solid (it's rated to carry 40 kg).

On each side 'wings' can fold up for a narrow profile or down to support wider loads. The German publicity shots show a beer crate strapped on each side, of course, but anything boxy and heavy will go well here. The opening is around 50 cm long and 30 cm tall – and of course the width of load you carry is only limited by common sense (consider grounding on corners).

The two-legged stand built into this rack is operated with your foot, via a spring-loaded lever at the back. You just push down and roll the bike backwards, and the splayed legs deploy to hold the bike very securely upright. To disengage, just roll forwards. The stand is even strong enough to use while front riders get on board, and it'll cope with any

load of cargo too, of course.

That concludes the 'heavy engineering' part of the Pino Porter's cargo adaptations, but a good part of the functionality (and ingenuity) is in the lightweight bit – the bags.

Let's start with the underseat 'Porter Rack Bag'. It weighs just a few hundred grams, yet holds 80 litres. The fabric is light yet tough, and it's strategically reinforced at contact points and with stiffeners and springy wires to keep its shape. A fine quality zip runs all the way around for easy access. It fits to the rack by hooking round the 'wings' and then with two removable press studs each side towards the top of the bag: fitting and removing it is

the work of seconds, and it'll fold flat for storage too.

The top bag is a little heavier (1.6kg) and even more elaborate. Again there's zips, stiffeners and reinforcing patches: the quality is undeniable. The basic idea is that it slips down over the seat back, and you hook the front over the stop on the boom. That gives you a bag stretching forwards from the seat with 80 litres of capacity and rated for 40 kg. The stiffening in the base gives you a flat load bed, and there's a divider half way along if it's needed. A zip runs all round, so getting to the entire cargo area is straightforward.

The lid of the bag is gusseted, and a waterproof zipper allows it to

expand for extra 40 litres of capacity, for 120 litres in total.

The detailing really is superb – at the top edge, the fabric wraps over so rain won't run into any of the folds. I'd be very confident of the waterproofing here. Hase also point out that it's dustproof – not all that essential in Yorkshire, but in dry climates it could be.

But we're not finished yet! The Porter Bag's most ingenious trick is that it folds away into itself, zipping round the edges to leave a flat package which can be stored behind the front seat using the same elasticated back that slides over the seat to fit it. The folding process is a little fiddly at first but oh so clever.

As with the rest of the Porter adaptations, there's a certain pleasure in using kit which has so evidently been well designed and engineered – and built to a quality rather than a price.

The weight as tested, with both bags in place and all the racks, was measured at 30.7 kg but remember this was a pre-production machine, and the final version may well trim some weight.

AVAILABILITY

Pino Porter: manufacturer Hase Bikes, Waltrop, Germany. Tel +49 2309 93770 or see www.hasebikes.com to locate dealers worldwide.

Review bike kindly arranged via JD Tandems, Gargrave. Tel 01756 748400 or see www.tandems.co.uk



Circe Cycles Morpheus Omnist+



BACKGROUND

There are five Morpheus models: the range starts with the Duo (the tandem) and Brut (the bike in cargo mode), both of which have a good basic specification, and prices from £1999. The Omnis version adds hub gearing with Alfine 8 or 11 speed transmission, while the Omnist+ as reviewed here is the touring model with wide range SRAM Dual drive gears and 'heavy duty' wheels. Finally the Aurora model uses the Rohloff hub, and with its premium specification this starts at £2999.

All of the accessories are available separately. These include the rear 'Titan' rack (£150, max load 40 kg), mid racks (£70 each side, max load 15 kg per side), front platform (£150), mudguards (£32.99) and front stand (£150). All of these were fitted on our bike. Also available are lights (several options, to order) and a Thudbuster seatpost for the rear rider (£182).

The Morpheus is rated to carry a total payload of 170 kg, with additional limits of 100 kg for the rear

rider and 90 kg for the front rider.

The UK base price for the Morpheus Omnist+ is £2399, but with the accessories fitted the price for the review bike as tested came to £3021.

FIRST IMPRESSIONS

The one-piece aluminium frame of the Morpheus uses massively oversize tubing for strength and rigidity, and backs this up with diagonal reinforcing pieces for seatpost and handlebar supports. The frame is long and low, making easy step-through for the rear rider.

Both wheels are 20" (406) size, with robust Schwalbe Marathon tyres. The front's supported by a rigid steel fork, and both front and rear wheels are fitted with Shimano Deore mechanical disk brakes working on 160 mm rotors. I'd like to see larger ones fitted ideally, and indeed the frame does have clearance for this.

The transmission comes via the SRAM Dual-Drive system, which pairs a nine-speed rear derailleur with a three-speed hub gear. All

of the shifting is done via your left hand, with a twist-grip for the nine speeds and a lever for the three. I make the gear ratios around 19" to 102", plenty for most purposes. It's interesting to note that the rear drop-outs are clearly the same as used on the hub geared versions of the Morpheus, with a very tidy sliding dropout system for setting the chain tension. A good thing to have for any owner who might live in hope of being able to afford a Rohloff conversion one day.

The chain to the front rider runs up the right-hand side of the bike to a crankset at the front which incorporates a (silent) freewheel: the front rider can stop pedalling at will. The chain will keep moving whenever the rear rider turns the pedals, though.

Note the joggle on the lower run of the connecting chain: this is a tensioning device. Once you've adjusted the front boom, you just undo the quick release and tighten the chain by changing the angle of the lower idler. It works very well.

The seat for the front rider is actually made by Bacchetta for their range of recumbents – that's not a guess by the way, as the name is moulded into the seat base. It's not a bad idea to use a well proven seat design, and this model works well for the fairly upright range of seat angles possible on the Morpheus – angle is easily changed via the quick-release which holds it to the frame. Circe also point out that a number of alternative seats from Bacchetta and others can be fitted if customers request.

The steering for the rear rider has plenty of possible adjustments: you can alter the angle at which the 'spreader' is clamped in the stem, and hence the reach (how far the grips are from the saddle). The final extensions up to the grips are then clamped to this spreader (which is reinforced with a substantial alloy plate) so their height and angle are easily adjusted too.



Below the frame, the linkage to the front wheel is solidly made, with a big shiny elastomer fitted to the push-rod to prevent any damage where it hits the frame and, I assume, to provide a nice soft limit to steering lock.

Our Morpheus came with the optional stand. This is a rigid structure of aluminium tubes which triangulates solidly off the frame and provides rock solid support when you've parked the bike. It's easy to operate – just knock it down with your foot and pull the bike back to deploy it, then roll forwards and it'll snap up as you set off again. It worked an absolute treat, and the stability of the bike on its stand was also reassuring for front riders settling into position for the first time.

In cargo mode, too, it makes a huge difference to the ease of loading up to have the bike stand securely.

CARGO CARRYING

The Morpheus is no mean cargo carrier! First there's the 1.3 kg 'Titan' rear rack, which lives up to its name with perhaps the most chunky and rigid-looking construction I've ever seen on a back rack. This is reflected in the 40 kg rating, which is more than most. It's length is such that even with the largest panniers and the biggest feet there'll be plenty of heel clearance, and it's a great



platform for a childseat too (Circe recommend Bobike). Not forgotten is a mounting point for a rear light.

Next, the underseat racks. These attach solidly to bosses on the frame and tuck a full sized pannier behind the stand on each side, providing good support to the bottom of the bag too. And you can really load these panniers – nothing gets in the

way if the pannier lid is bulging. Circe say these racks add just 200 g of weight each side.

All of this capacity is fully available in both tandem and cargo mode. But to use the Morpheus as an all-out transporter, you need to add the front load rack. As a minimum the seat needs to be removed, and then you can fit the rack via one quick-release and two bolts. This leaves the front rider's transmission in place. It only takes a few more moments to remove the chain and boom, though, leaving the bike both shorter and lighter in full cargo mode.

The rack has a load area of around 79 x 48 cm, and is rated to carry 70 kg. It's constructed from aluminium tubing which is just the right diameter to hook bungees or ratchet

straps over, so tying down loads is a doddle. Two little 'legs' help stabilise it, bearing on the front rider handlebars.

The combination of rack and stand did make this a real pleasure to use for cargo errands, especially for cycle courier type use or when carrying generally box-shaped bundles to and from the office. For 'domestic' use or shopping I found panniers more convenient, but it would also be easy to fit a large weatherproof box to the rack semi-permanently. Circe have other users who fit a child-seat here, facing the rider. It's a hugely versatile load space, and about the only limit is the need to see over what you're carrying!

Note incidentally that our Morpheus arrived without pedals, so we fitted MTB ones at the back and, for the front, the Moto super-flat pedals which we reviewed in Issue 43. These are not standard issue!

Weight as tested in cargo bike mode was 21.5 kg. Adding the boom (1.16 kg), chain (824 g) and seat (2.54 kg) to convert back to tandem mode (and removing the 1.7 kg rack) gives a weight of 24.3 kg as a tandem, not including front pedals.

AVAILABILITY

Morpheus: manufacturer Circe Cycles, Cambridge. Tel 01954 782020 or see www.circycles.com to locate dealers worldwide.



Comparisons and conclusions



RIDE COMPARISONS

With their longish wheelbase and wide handlebars, both of the review bikes had stable, steady handling. When ridden solo and unladen the steering is easy but positive, and nobody who tried the rear rider position had any problems getting the hang of the bike solo. Even in tandem mode there were no difficulties – it just takes a good push on the pedals to get you going. Then both bikes handled easily, and it's an advantage of this format (compared to a full recumbent trike) that the rear rider can easily dab a foot down for balance if it's needed, or for starting and stopping.

The bikes seemed to have very similar steering locks and so turning circles, and it was rare to run into the steering limits in normal riding. Instead I was impressed by just how nimble these bikes are, especially in lightly laden cargo mode. The wheelbase is modest compared to a full tandem, and this means you don't

have to swing so wide for corners. In tandem mode the weight of the front rider shifts sideways as you steer the front wheel, though, so it's a little slower, but still very predictable.

The rear rider's handlebars are set well apart on both bikes, and the long tubes needed to position them around the front rider's seat do give a certain suspension-like effect. This was perhaps more noticeable on the Pino; while both bikes' handlebars are solidly built the Circe's seemed a touch more rigid overall, perhaps due to its braced construction and the longer support tube holding the headset bearings. I preferred this more positive feel, although John of JD Cycles, whose views I rate highly, says he would opt for the Pino: on a longer ride the lack of vibration through the hands is most welcome.

In the braking department the Hase was clearly out in front. The hydraulic disk brakes stopped it superbly with little finger pressure.

On the Circe the mechanical disks were good too, but there just wasn't the same power. It did seem surprising that the Morpheus didn't use larger disk rotors, especially on the front, to boost this power and also heat dissipation on longer descents. Perhaps they're going for better modulation over sheer power, and indeed the current set-up is fine for most riding. Circe say they do fit bigger rotors, or hydraulic disks, on request but at additional cost.

Front riders have a different perspective on ride quality, of course. Most preferred the seat on the Hase, as it seemed to more positively locate them 'in' the bike rather than 'on' it, although one did mention the front of the seat fabric possibly digging in a bit. The Bacchetta seat on the Morpheus didn't have this issue, as the cushioned base has a gentle curved edge. It also provided a good level of shock absorption; despite the rigid forks I don't recall any front rider complaining about bumps.

The Pino's front suspension clearly worked too, as there were no complaints here either. As well as cushioning the front rider, the suspension does also improve control and road-holding somewhat, and I found it earned its place mainly at higher speed. Hitting a heavy pothole on a fast descent is not the easiest thing to tackle on any bike, but I think the suspension helped the Pino handle it with rather more assurance.

Finally, I have to mention weight. The Morpheus did consistently feel more lively and nippy than the Pino when ridden solo or lightly loaded with cargo, and I'm fairly sure this is down to it just being a lighter machine. In tandem mode or with heavy cargo there really isn't a significant difference: the bike's own weight is such a small proportion of that of the whole vehicle.

STORAGE & TRANSPORT

These are two substantial bikes, you'll need to figure into any ownership calculations the space for storage, and the options for transport. The main issue may be the overall length; the Morpheus is just a tad shorter, thanks to its rear wheel, at around 220 cm instead of 230 cm for the Pino. That's with both set for the same (not all that tall) front rider. Both are also fairly wide at the handlebars; again there's some variation according to adjustment but work on at least 60 cm.

In each case, though, the bikes can be made much more compact. Remove the front boom (as you do for cargo mode) and the Circe becomes close to 200 cm long, and you can twist the steering to make it flatter. Then remove either seat or load bed and you have a manageable long, thin package.

The Hase, meanwhile, can split into two pieces thanks to the frame joint under the front seat. It's not entirely straightforward, as you need to remove the under-seat rack first (as it spans the joint), release the rear seat support, detach a brake lever and the steering linkage, and finally unhook the cables which run from the dynamo to the rear light. Not something you'd want to do regularly, but the capacity is there if needed.



CONCLUSIONS

We have two very versatile machines here, and even in this extended review we haven't been able to fully cover all they can do. What both manufacturers are aiming to create with these machines and their accessories is complete 'car substitute' transport solutions. They're bikes to buy once and then use flexibly as family circumstances dictate over a decade or more.

So you could start with pure tandem mode, then add childseats front and rear as children arrive. Change the front to kiddy-crank as the offspring get old enough to pedal, and use the cargo carrying capacity throughout for shopping.

And you could go touring too, using the massive luggage capacity for tents and gear, while keeping the whole family on one bike.

This sort of long-term use puts the significant up-front price into context: the cost should be spread over many years, perhaps with just relatively minor spending on further accessories as your needs change.

Of the two, the Morpheus is both simpler and lighter, and it costs significantly less too (in the UK at least). That'll suit many riders who want the bike for its sheer utility, or for whom the cost and high spec of the Pino are overkill.

But I think the Pino, with its lovely build and sophistication, can justify

the extra for customers who need what it offers. The separable frame alone will be a deciding factor for some, plus there's the front suspension and higher payload capacity to consider. And those very clever and practical bags. A further factor is that Hase offer a modified version of the clever folding fairing used on the Klimax trike (see last issue) to provide weather protection to the front rider, and no ready-made equivalent is available on the Morpheus. In some climates that could matter: the front rider can feel very much exposed to the elements in the recumbent position.

Reviewing the two bikes side by side does reveal some difference in emphasis, too, when it comes to the general design philosophy.

On the Pino, the full cargo-carrying is definitely easier to integrate into a daily routine; it's simply a matter of sliding the top bag down over the seat and you're in cargo mode. So it might be easy to ride in tandem form to school and drop off the passenger and then, unfolding the top bag from its stowed position behind the seat, carry a massive load of shopping home. Weatherproofing is built into the bags: your shopping or touring luggage won't get wet.

The Morpheus, in contrast, requires a little spannering to remove the seat and add the rack. With this done, though, the Morpheus is in a different league to the Porter when it comes to really big and bulky cargo. That big flat

load bed is just better at carrying huge boxes, reversed child seats or awkward loads which don't sit well on the Pino seat or fit into the underseat rack. It's easy to strap loads down, too, using the rail around the load bed edge. And it's a wonderfully light, agile cargo bike.

Either way, it's worth remembering that both bikes have masses of cargo capacity even before adapting the front seat area. The Porter has the underseat bag plus space for two big panniers on the back, and the Morpheus has capacity for four full panniers in both tandem and cargo modes. It'll be a rare shopping trip that really requires more.

Both felt like solid, well designed machines for practical use, with differences in handling more a matter of personal preference than 'better or worse'. Myself, I give the nod to the Circe for its low weight and more rigid steering assembly and to the Hase for the brakes and suspension, but I'd be happy to take either touring. Front riders seemed to generally prefer the Hase seat, but there wasn't really much in it. And both makers have dealers spread across the UK for test rides (but do check what they have in stock before you travel!), and worldwide too. Hase has rather more, perhaps, but both bikes will have plenty of backup even on a world tour.

Before we finish I must mention one notable aspect of these bikes which we couldn't review. This is the wonderful opportunity this layout gives for cyclists of all abilities. Hase in particular have built up an array of adaptations for front riders with special needs, including seat belts and a hand crank system. Many of the adaptations (to pedals etc.) will also fit the Circe, but it's fair to say Hase have a lead here.

As usual with our reviews, there's no 'winner'. The two bikes have differing strengths and features, and if you're pondering such a machine I hope this review has offered some insight. Either is a big investment, but with the potential for huge returns in cycling utility and pleasure.

Peter Eland

