

Mega SOLO Brochure

SJSC's prices, in the accessory pages, are for guidance only.

The current online prices in the **THORN MENUs** are **CORRECT**.



PART 1

If a printed version.

PARTS 1, 2 & 3

If viewed online

Issue 16.00
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Stuffed full of detail about all sorts of things related to choosing a SOLO touring bike.

Photo courtesy of www.davidmyersphotography.com



Christine Engert, on her early Thorn Nomad, on the Carratera Austral in Chile. (Christine now has a Nomad S&S.)

Our Current Prices are shown in PART 1 on pages 14, 15, 48 to 53 and throughout all of PARTS 2 & 3



THORN MEGA BROCHURE





**NOMAD
Mk2**

MERCURY



**CLUB
TOUR
Mk4**

It's not necessary to read all of this brochure in order to buy a THORN BIKE!
The streamlined individual model PDF brochures can be viewed online, by clicking the link to them, from the overview section on pages 14 and 15 of this document.

You could go there now and skip the rest of this.

For those customers who want as much information as possible - this is for you!

If you're reading this online, this document contains PART 1, PART 2 and PART 3. If this is a hard copy please note that PARTS 1, 2 and 3 are separate brochures.

PLEASE ALSO NOTE:-

I designed this publication to read like a magazine - once it's printed. I could've used a different format, which would've made it easier to read online. Unfortunately such a format couldn't be printed into a brochure - well - not using kit that we could afford to possess!

I've optimised the photos for viewing online - you can zoom right into them. I'm sorry that some pics look a bit dark, when printed but, if I was to adjust them so that they printed well, they'd be much too bright when viewed online.

I hope that it's evident that the attention to detail, in this brochure, is indicative of the attention to detail present in our Thorn Bikes.

The development of our bikes was a labour of love, rooted in first hand experience - I believe that it shows!

Thorn bikes aren't "blue sky" concepts, aimed, by a committee of accountants, at a poorly market-researched demographic, where 90% of design time is concerned with decals and paint colour.

Neither do we allocate 50% of the budget to be spent on advertisements, which contain precious little, apart from:- Pictures of beautiful bronzed people, with gleaming, polar white smiles, a few clever buzz words and the "artistic" use of blank space!

Our bikes aren't cheap but we believe them to be excellent value for money. Unless you're a serious mountainbiker, or actually race, we're confident that we've the perfect bike for you.

When deciding which Thorn would best suit you and your pocket, it's important to decide how much you plan to carry. Many cyclists carry more weight than they realise, whilst others overestimate the weight they carry.

I suggest actually weighing your bags! At the top of page 23 I give the weights that the bikes can carry and still perform brilliantly. I also give the weights that the bikes will "cope" with, if occasionally required to do so.

Perhaps you occasionally need :-
To make an extra big shop?
To take a short camping trip?
To drop camping kit off at base camp?
To carry sufficient extra water to cross a dessert?

You'll be much happier and you'll be much more efficient, at such times, if you choose a bike which will carry whatever you're likely to require, whenever you're likely to require it!

Beware, many touring bikes won't carry as much as you'd think; most only just cope with moderate loads, no matter how exotic their name sounds!

If you've dreams of exploring our planet by bicycle, a Nomad Mk2 would enable you to fulfil your dream, with the least possible chance of experiencing a mechanical failure.

You're most welcome to visit us; please ring to make an appointment, we can then have one of our experts available, to give you the time you need, when you arrive. Please note that it's not necessary to visit; we've supplied 1000's of perfect machines, all over the world, by telephone and email. You're always welcome to 'phone or email our knowledgeable sales team.

Next time you purchase a new bike, or a friend or colleague asks you, as an experienced cyclist, for advice - please remember, a "proper bike" is nice to ride and a bike that's nice to ride actually gets ridden!

Money may be tight, at the moment but possibly not that tight?

If you settle for second best now, you'll soon need to make a second purchase. Buying right means buying once, checkout one of our superb THORN touring bikes!

We're passionate about our bikes and about our customers' satisfaction with them!

We put a huge effort into developing our machines.

We put a huge effort into helping cyclists select the most appropriate Thorn for their requirements.

Our mechanics then put a huge effort into individually building these bikes to the highest standard.

Customers tell us that their Thorn is the "finest bike they've ever ridden" - we think so too - but it's nevertheless always a delight to hear it! I sincerely hope that you enjoy reading the Mega Brochure.

*Andy Blance
July 2015*

*P.S. I'd like to apologise for this brochure not being fully finished, before publication, consequently I'm aware that I've made "un-artistic" use of blank space!
My plan is to fill in these blanks over time. Having blank space ready means that I can make accurate cross references and my colleagues can familiarise themselves with the location of the various topics and matrices.*

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Can GEOMETRY affect a bike's performance?

Geometry can have a profound effect upon a bike frame's qualities, in very specific areas, especially when the frame tubes have been correctly selected for optimum performance, with regard to the intended function of the bike.

Can perfect geometry actually make me go faster?

Generally no but there are a few specific examples where it can make a difference.

A team time trial bike, which is as short as possible, yet still controllable, allows the riders in the team to get closer to each other, which certainly gives an aerodynamic advantage. Such bikes are no longer made from steel.

A bike which **handles superbly** can be allowed to reach greater velocity on descents.

A bike which **carries its load well** and doesn't flex horribly, when you push hard, will waste less of your energy than a bike which ties itself up in knots. The energy thus saved can be used to increase speed.

A bike which is **comfortable** can be ridden for longer periods at a time, thus its average speed could be higher.

To what degree do AERODYNAMICS affect a bike's performance?

The faster you go, the more energy it takes to overcome air resistance. In fact the power required to push you, your bike and your luggage through the air increases as the cube of the velocity.

If it took 50Kw to push yourself along at 10Kph, it would take 200Kw to push yourself along at 20Kph and 800Kw to push yourself along at 40Kph.

If there was no air resistance, it would only take double the energy to double your speed.

AIR RESISTANCE is the largest single impediment to rapid progress on a bicycle. What can you do to reduce this?

If you're a road racer you can strive to obtain a more aerodynamic position and, at the speeds you're likely to achieve, making bicycle components more aerodynamic will also help to gain a few seconds.

As a touring cyclist you probably have the following choice; either to have a comfortable riding position, or to suffer back and neck pain stoically - content in the knowledge that you're going slightly faster.

You can try and avoid flappy clothing - of course you may not want to do this if you're riding in the tropics!

You can try and pack your kit into smaller and more aerodynamic panniers.

Traditional saddlebags have stood the test of time; they carry the weight inside the wheelbase of the bike; they're very aerodynamically efficient, they sit in shelter, behind the rider's thighs and backside; they're also easy to access and use.

Can incorrect or unsuitable geometry actually make me go slower?

Clearly the reverse of the examples I gave before will make you go slower - a long wheelbase team time trial bike, a bike which handles badly, a bike not designed correctly to carry a load and an uncomfortable bike will all be slower to ride.

A bike which is so poorly designed, that it's grossly unsuitable for its purpose, can be much slower, in fact it could be infinitely slower - it could kill you!

So head angles and fork offsets make no difference?

Apart from the examples given previously, NO, they can't actually make you faster, that's down to heart, lungs, muscle, technique, concentration, determination and, above all else, aerodynamics.

Head angles and fork offsets are most certainly very important - in fact, I'd say they were critical.

For any given head angle, there's an optimum fork offset. However the optimum offset varies, when considerations such as chain stay length, top tube length, wheel size and intended purpose are also factored in.

I don't give information about head angles. We've spent years of R&D and thousands of £££s acquiring this knowledge for the benefit of our customers, we back this up with money back guarantees. (Please see page 59 for full details). Our customers frequently post superlatives about Thorn bikes on the world wide web - which draws attention from large manufacturers.

I'm not prepared to provide such an easy short cut for our competitors. Of course they can buy some of our frames and measure them themselves but that's work and expense - although not on the same scale as our original investment!

You can try and avoid using front panniers wherever possible. Compared to the small load that they carry, front panniers take a disproportionate amount of extra effort.

NOTE: NEVER compromise stability in the quest for improved aerodynamic efficiency.

A purpose-designed touring bike, with its longer chainstays (which allow a moderate load to be carried entirely at the rear of the bike) is more efficient, when loaded, than a short wheelbase Audax-type bike, which may require 4 panniers to be used to carry the same moderate load safely.

CONCLUSION

The micro differences between tyres' rolling resistances, or marginal increases in energy consumption, brought about by small weight penalties, incurred by having a more comfortable saddle, frame or fork are of no real concern to me. They are nothing, compared to losses caused by the poor aerodynamics of the rider and their luggage.

Other than the points I've raised above, not much can be done to make a touring bike more aerodynamic - when you disregard luggage, all touring bikes are approximately as aerodynamic as each other - the same can not be said for the tourists though! There's often a lot that cyclists can do themselves, to reduce width, in order to achieve a more aerodynamic position.

LESS is MORE

You could simply slow down and relax a little and enjoy the scenery even more, content in the knowledge of how much energy you're saving. Such a strategy will increase the likelihood of you being able to ride long distances day after day. Many long distance cyclists cover significantly greater distances every day than many sports-oriented leisure cyclists can manage in a one off event. The late, great Neville Chanin was very modest about his ability to tour at 200 miles a day. Nev is the only cyclist (so far) to have documented a lifetime total in excess of 1,000,000Km. (Yes, one million!) Whilst Nev could never have been called slow, most cyclists could have caught up with him easily but few were able to sustain his pace - and fewer still were able to hold an intelligent conversation at the same time. Comfort and reliability were the most important attributes of a touring bike to Nev - he owned 2 identical machines - a red one and a green one. Nev rode one, whilst he serviced the other, in readiness for his next adventure.

Does weight matter?

Steel racing bikes weigh more than alloy racing bikes, which weigh more than carbon racing bikes.

We make steel touring bikes; these bikes weigh more than steel racing bikes. There are many reasons for this:-

[1] Customers seeking to purchase touring bikes are generally looking for a bike that's built to last. Our touring bikes use tubes with thicker walls, to ensure a long life. Touring bikes also require more substantial and more durable components, especially saddles - these add weight.

[2] Touring bikes generally carry some luggage, this requires carriers and a frame with attachment points for them. It's also beneficial if tubes with a larger diameter are used, to produce a stiffer frame - this also adds weight.

[3] Touring bikes require wider, longer lasting, more puncture resistant tyres - these are obviously heavier than racing tyres.

[4] Our bikes come complete with securely fitting mudguards - adding any accessories to any bike always adds weight.

A high quality steel racing bike, with good quality kit, wheels and tyres, costing around £3000 may weigh around 9Kg. This would give several seasons' service. A state of the art, carbon Tour de France bike may weigh around 6.5Kg and would cost around £8000. This would need a major overhaul every year. A new cassette could cost over £350.

One of our Audax bikes, costing under £1300 weighs just under 11Kg, including mudguards and the frame should last a lifetime. A more exotic version of our Audax, costing under £2000, would weigh under 10Kg. One of our Rohloff equipped expedition touring bikes, with a full house of upgrades, could cost £4000 and may weigh around 17Kg - we'd expect one to last at least one lifetime.

If you race, you need a racing bike and, if you're any good - not only will someone buy it for you - they'll also pay you to ride it!

If you don't race, why on earth would you want a racing bike? Would you buy a, twitchy and demanding track day car, such as a Caterham, as an everyday vehicle?

It rains in the UK - why would you be prepared to suffer a wet bum and tolerate tyres which puncture easily - or do you stick to smooth but busy, "A" roads?

In the real world, what is the cost, in terms of energy expenditure, of riding a slightly heavier bike?

If you disregard rolling resistance and aerodynamics (which I discuss elsewhere) the equation used for calculating energy is:-

$$\text{Kinetic Energy (KE)} = \frac{1}{2}MV^2$$

Thus, a 75Kg cyclist, with 5Kg of luggage on an 11Kg bike, would use on average 202W of power to accelerate from 0 to 24Kph (15mph) in 10 seconds - if the same cyclist, wearing the same clothes and riding in an identical position, had a 6.5Kg bike and carried no luggage, they could reach 24Kph in 9 seconds, from a standing start, for the energy expenditure of 204W.

If you used all the bits from a 6.5Kg Tour de France bike on one of our medium sized Audax frames, you'd swap a 1kg frame for a 2.1Kg frame - you could use the same carbon fork. This would mean that our Audax bike would weigh 7.6Kg. The fact that the components would be unsuitable for use as reliable transport, is irrelevant to this comparison.

Let's see the difference in energy expenditure between a 75Kg rider, with no luggage, riding from 0 to 24Kph in ten seconds on each of the above bikes.

I will disregard rolling and air resistances, because they will be virtually identical in both cases.

A 75Kg rider, on a 6.5 kg bike, would use **181.1W**.

A 75Kg rider, on a 7.5 kg bike, would use **183.5W**.

That's less than a 1.31% difference. Once up to speed, given identical riding positions and identical tyres, there's virtually no difference whatsoever in the amount of energy required to maintain this speed - on a flat road - apart from the aerodynamics of the frame itself.

A nice, slim steel frame is almost certainly more aerodynamic than a mid range, fat carbon frame - now there's a thought!

In some years, a 1.1Kg penalty might've been enough to decide The Tour's sprint finish, on the Champs-Élysées but, in the real world:-

Q. Could it be that a small increase in weight wouldn't make much difference to *your* cycling?

Q. Do you agree that saving a small amount of weight isn't worth the many real world costs?

If you can answer:-

"YES", "POSSIBLY" or "PERHAPS" to either or both of the above questions, it may be of interest and/or to your advantage to read on.

"I'm old school and I believe that many cyclists still seek a bike that's made to last. I continue to believe that being durable is a positively good thing!"

Andy Blance.

Which wheel size Should I Choose - 26" or 700c?

We manufacture 2 different ranges of touring bikes.

26" wheel (ETRTO 559) and **700c wheel** (ETRTO 622). There are advantages and disadvantages with each wheel size. How do you know which would be the most suitable for you, for the kind of cycling you're planning?

In the following comparisons I've applied the following 4 caveats:-

[I] I assume that identical width and quality tyres are chosen for each wheel size*

[II] I assume that identical gauge, quantity and quality of spokes are used.

[III] I assume that rims with identical profiles and wall thicknesses are used.

[IV] I assume that identical hubs are used.

*Tyres have a major impact on comfort and performance. The quality of the tyre can make more difference to comparisons than the actual tyre size. I've dealt with various tyre choices and issues in pages 32 to 35.

Below are 11 facts that I know would withstand the most rigorous scrutiny. Please note that the caveats above apply to facts prefixed with #. Please also note, the reverse of these facts is also true (e.g. [#6] 700c wheels are heavier than 26")

[1] 26" tyres and rims are more widely available globally than 700c - especially in Central and South America, Africa and Asia.

[2] 26" wheels can be built into smaller bikes and/or have more toe clearance than is possible with 700c wheels.

[3] Increasing the tyre width increases the diameter of the wheel*.

*A really fat 700c is also known as a 29er; whereas a 26" wheel, with a really skinny tyre, may actually only measure 24" in diameter.

[4] Rotating weight is more noticeable when cycling than non-rotating weight*.

*Increasing the weight a bike's wheels, increases the effort required to accelerate it, more than increasing the weight of the frame by that same amount would.

[#5] 26" wheels are stronger than 700c

[#6] 26" wheels are lighter than 700c.

[7] In order to make a 700c wheel as strong as a 26" wheel, more spokes are necessary and a more heavy duty rim is also required, this combined with the larger diameter rim, increases rotating weight considerably*.

* At the time of writing, there are no 700c (or 29er) rims available which are heavier duty than the rims we use for our 26" wheel expedition touring bikes. So you can't have a 700c wheel which is as strong as one of these.

[#8] Increasing tyre width, adds weight.

[9] lighter wheels require less energy to accelerate.

[#10] Smaller diameter wheels require less energy to accelerate.

[11] The further it is from the centre of the hub, the greater the effect that an increase in weight has*.

*e.g. A 100g increase at the tread cap requires more effort to accelerate than 100g at the rim and considerably more effort than 100g at the hub.

Here's a series of considerations, which I believe to be factual.

I've put my reasoning (in blue) to support these contentions - the previous caveats still apply to points prefixed with #

[a] On rough road surfaces, fatter tyres, at the correct (lower) pressures, roll more easily than skinny tyres. The rougher the road surface, the fatter the tyre can be and the lower the pressure can be and still roll more easily. In such conditions these tyres are also considerably more comfortable and feel safer.

This is heresy to some cyclists - nevertheless it doesn't stop it being true! I've observed this myself, on Audax rides, when freewheeling downhill. I've overtaken and dropped other cyclists, of similar weight and greater weight, who were using narrow tyres.

In his thesis "Road Rolling Resistance" sports scientist Peter Nilges, was able to demonstrate, through meticulous measurements with SRM cranks (which record power input) that fatter tyres and lower pressures used significantly less energy in extreme conditions - even though they weighed more!

[b] On really smooth roads skinny tyres, with supple walls, at the correct (high) pressures roll more easily than fatter tyres at lower pressures.

Track cyclists ride on the smoothest surfaces available to any cyclist. Their times are measured in milliseconds - gold medals are proof enough.

[c] On a mixture of road surfaces, such as we find in the UK, where some B roads can have excellent surfaces and some country lanes can be very poorly surfaced. I find that 700 x 35c tyres, (Or moderately fat 26" tyres at moderate pressures) provide the most efficient and most comfortable compromise.

This is not just my opinion, generations of cyclists came to a similar conclusion and used 27 x 1 1/4" tyres - which were actually a very similar size to many modern 700 x 35c tyres.

[#d] The larger a wheel, the more easily it rolls over bumps and the more comfortable it is.

A larger wheel attacks the bumps at a shallower angle and thus rides over them more easily. A test ride will confirm this.

[#e] The fatter a tyre is, the more easily it rolls over bumps - provided it is at the correct pressure and the more comfortable it is.

Lower pressures are possible with fatter tyres, the tyre can deform more easily around the bumps. A test ride will confirm this.

[f] Changing pace on a climb, as a result of changes in gradient, or simply riding up steep hills always involves acceleration.

Clearly, any change of pace is acceleration. If the hill is steep enough, the bike slows down appreciably after every power stroke and has to be accelerated back up to speed with every half revolution of the cranks.

[g] The heavier a wheel is, the easier it is to maintain a constant speed on the flat. This is known as the flywheel effect and the ability of a flywheel to store energy and smooth out power strokes is well documented.

[#h] The thicker the sidewalls of a tyre, the worse the ride quality. It takes more energy to flex a thicker sidewall than a thinner sidewall, which means that smaller bumps are not absorbed by the tyres and larger bumps are not absorbed to the same extent. The rider has to absorb more bumps within their own body.

[i] The stronger the sidewalls of a tyre, the less likely it is to suffer impact failure. Obvious to me.

[j] The thicker the tyre's treadcap the less comfortable and the slower it will be. The same reasoning as [h] above applies.

[k] The thicker the tyre's treadcap, the more difficult it is for sharp objects to penetrate. Obvious to me.

[l] The more high tech the tyre's casing, the more difficult it is for sharp objects to penetrate. Obvious to me.

[m] A high tech casing can be more resistant to penetration by sharp objects than a thick tread cap.

Sorry, this is according to Schwalbe but it's supported by significant anecdotal evidence.

OTHER CONSIDERATIONS

Are fat tyres necessary for expeditions or for adventure touring?

On soft sandy surfaces you need really fat tyres to be able to cycle at all. The softer the surface, the more you weigh and the heavier your kit, the fatter your tyres need to be. On some of our trips, Fiona and I have managed to carry on cycling on sandy tracks, with more than 35Kg each in our panniers. On these same tracks, others have had to walk and push, or turn back. This has been entirely due to us using 2.25" tyres. Of course, you could walk and push. It may not sound a big deal to walk, if there's only a short section of sand - but if there are 50Km of such conditions, it can take a day of hard effort to cycle but it could take between 2 and 4 days of even harder effort to walk and push. The narrower the tyres, the more difficult it is to push the bike - too narrow and you'll probably have to carry the bike and panniers! You may not have sufficient water for this. What happens if, after you've cycled 200Km down a remote gravel road, you find a long stretch of sandy track and you don't have fat enough tyres to be able to ride - do you walk or do you turn back? I bet that you'll walk, because you'll say to yourself "How do I know if it's a long section or not - unless I carry on?" The few people, you're likely to meet on such roads, are unlikely to know if the route is negotiable by cycle - most find it incredible that you've got where you already are by bike! Others may perhaps think that you've already done the really hard bit (the long, hot, steep but grippy climb?) and won't understand that a bit of sand - which isn't a problem for a vehicle, or horse - could affect you so much!

Don't fat tyres cause wasted effort through frictional losses?

There's helpful friction and there's unhelpful friction - attempting to cycle on ice, with ordinary bike tyres, quickly makes this point! **When upright**, and travelling at a constant speed, a skinny, high quality road tyre, at the correct pressure, will only have a slightly narrower contact area with the road, than a high quality, fat touring tyre at the lower (but correct) pressure recommended for road use. This can be demonstrated easily. Ride through a puddle and onto some smooth dry tarmac, with another cyclist, who is using the other tyre size. If you've never done this before, when you stop and examine the widths of the wet tyre tracks, I'm sure you'll be surprised. The weight of the bike and rider exert a force through the tyres and into the road surface. A smaller contact area means that there's a greater force per unit of area - I'll use square inches. This increased force increases friction per square inch. The fatter tyre has less friction per square inch - but there are more square inches of contact area. In practice these 2 factors almost cancel each other out. There's only a small overall advantage, in terms of effort required to reach and maintain a particular speed, with skinny tyres, on smooth road surfaces, compared to fatter tyres.

However, under hard braking, the force being applied into the road increases and the fatter tyre's lower pressure allows more of the tread to squish and to come into contact with the road. (Remember, I'm assuming that these are both high quality tyres and that the tyre compounds will have similar coefficients of friction.) A larger contact area allows a greater rate of deceleration - before the tyre breaks rolling friction - and skids.

Under hard braking on a **DRY** road, with a high friction surface, tyre width may not make any difference - you may endo the bike (cartwheel) before either of these tyres break traction. That said, a well designed touring bike ought to have longer front centres* than a road racing bike and thus be capable of far higher rates of deceleration before it cartwheels. A well balanced load will actually shorten potential stopping distances - assuming you have top quality brakes.

(*The front centres are the distance between centre of the BB and the centre of the front hub)

It's under hard braking on a **WET** road when the difference in braking capability between the fat tyres and the skinny tyres really shows up - and it's alarming - if you ride skinny tyres!

When cornering hard, a well designed fat tyre will lay down significantly more rubber than a skinny tyre. This may scrub some speed off the bike, when cornering but you'll be less likely to wipe out.

The difference in grip, between skinny and fat tyres, when **cornering in the wet**, is also alarming - look how many crashes there are on wet stages of the Tour de France. The Pros, in their pursuit of seconds and glory, have to risk skin and bone - you probably don't have to!

The smoother the road, the drier the road, the faster you go, the steeper the climbs, the tougher you are, the more confident you are, the more support you have - the more likely you are to benefit from skinny tyres.

The rougher the road, the more comfortable you wish to be, the steeper the descents, the greater the safety margin you wish to have, the worse the weather, the more self supported your trip - the more likely you are to benefit from fatter tyres.

OBSERVATIONS

If you tried to incorporate all the factors which makes a bike comfortable [a], [d], [e] you'd arrive at the following:-

[BIKE X] A 700c wheel, with a 65c tyre made with a strong but supple sidewall, with a high tech casing.

Such a bike gives the most comfortable ride on flat roads.

It would be desperately hard work on climbs, even though it used high quality tyres.

If you tried to incorporate all the factors which makes a bike accelerate quickly [4], [6], [9], [10], [11] and [b] you'd arrive at the following:-

[BIKE Y] A lightweight 26" wheel, with top quality skinny 1.0" or 1.125" tyres accelerates the quickest and is excellent for climbing steep hills but the small diameter (around 24" with 1.0" tyres) gives a very uncomfortable ride on all but the smoothest of surfaces.

Neither of these extremes, **BIKE X** or **BIKE Y** would make a particularly nice bike - unless you had very unusual and very specific requirements. It's clear that, as in almost every area of our lives, in order to achieve the best outcome - some compromise between different factors has to be made.

In my experience, the best wheel size for a comfortable, load carrying, touring bike, which could go anywhere, is 26". You can have comfortable tyres, which are wide enough for sandy tracks and mega strong wheels - without the massive rotating weight you'd have if you went for strong wheels and the same width tyres on a 29er. You can then select the appropriate tyres for your destination, these may range from 1.75" to 2.25" or even wider.

It's also clear that racing cyclists have chosen the best compromise of wheel and tyre size for road racing - 700 x 23c (or 700 x 25c at times)

Choosing the correct wheel size, for either an expedition bike, or a road racing bike is easy. The closer you get to the middle ground, the more difficult it gets to choose between 26" and 700c wheel sizes.

When cycling on the often poorly surfaced back roads and country lanes, which I enjoy so much; I find strong middleweight 700c wheels with 35c tyres to be very comparable with lightweight 26" wheels and 1.75" tyres, in terms of comfort, speed, and reliability.

The determining factor for choosing one of the above sizes in preference to the other, may be to consider what you may wish to use the bike for, in the future.

I suspect most of us have goals, which we hope to achieve one day; perhaps they only manifest as dreams, or wishes, at the moment? If your future aims involve cycling to remote places, on self-supported trips, or riding long distance off road routes - I recommend that you choose 26".

If you dream of summer-long, mile-eating touring in Europe, arriving at pre-booked hotels, or of getting fit enough to ride a 600Km Audax, or even the PBP - I recommend that you choose 700c.

If you're already having such adventures, you probably know which wheel size you want for your next bike. If you wish to participate in both extremes of extreme touring, to the best of your ability - without being constrained by your kit - you'll eventually need 2 bikes.

CONCLUSIONS

I've talked about compromises; all 7 listed below work harmoniously.

In the text below, I frequently use the words **"could", "may", "should" and "ought"** However, if you choose the appropriate **THORN TOURING BIKE**,

I'm supremely confident that you can substitute these words, with the words **"will be" or "does"**

[R] An ultra-lightweight, short wheelbase 700c bike, with close clearances for 23c or 25c tyres and ultra-lightweight wheels, is the longstanding and classic recipe for a road racing bike. In my opinion, such a bike is **only** suitable for racing.

SORRY NO THORN AVAILABLE - WE'RE TOURING SPECIALISTS, WE ONLY MAKE TOURING BIKES.

[A] A lightweight 700c bike, with lightweight wheels and sufficient clearance for 25c or 28c tyres, with mudguards, could be ideal for an experienced cyclist for **Audax rides**, race training and ultra-lightweight touring, on a variety of road surfaces.

THORN AUDAX MK3 with forks 1 or 2, or MERCURY with forks 2, 5 or 7

[B] A fairly lightweight 700c bike, with reasonably lightweight wheels and generous mudguard clearances for premium quality 32c or 35c tyres and super comfortable forks, could also be ideal for Audax rides. It would be especially suitable for Audax rides, if poor surfaces, wet weather and/or longer distances are involved. Such a bike could also be the **ultimate bike for fast touring** with moderate rear only loads, on back country roads.

THORN MERCURY or CLUB TOUR with the MER853VC FORK. Fork 5

[C] A 26" wheel bike, with lightweight wheels and clearances for 1.6" tyres could be the ultimate bike for **brisk, assertive city cycling**. It could accelerate well and could withstand numerous and often unavoidable potholes. It could stop much more quickly, especially in the wet, than skinny 700c tyres. With the right tyres, it could also be a superb machine for very hilly rides on rough surfaces, especially in greasy conditions.

This could also be the -

Ultimate, left field, winter training bike. THORN RAVEN, or SHERPA Mk3, with RAV853VC fork. FORK 10

[D] A reasonably light 700c bike, with clearances for high quality medium width 32c or 35c. Such a bike's tyres could have an excellent balance of strength, comfort and performance. Such a bike should **excel in its versatility** - it should perform well at everything - except expedition cycling and high performance sporting events.

THORN MERCURY or CLUB TOUR with ST700 FORK. Fork 4

[E] A 26" wheel bike, with lightweight wheels, clearances for 1.75" or 2" high tech tyres could make a superb bike for leisure cycling and **general touring**, including cycle camping. If fitted with heavy duty wheels, it could be used for expedition cycling or kitchen sink camping.

THORN RAVEN or SHERPA Mk3 with ST26 fork. FORK 9

[F] A robustly built, 26" wheel bike, with generous clearances for high quality fat tyres (2.0 to 2.25") ought to be the strongest and most reliable bike you could own. It should be easier on hills, carry more and be more reliable than would be possible with 29er (Fat 700c) wheels.

This is what we recommend for expeditions and world touring.

Occasionally we recommend it to those seeking a "bomb proof" bike for general use. We've even sold some as "gym equipment" to really big guys (usually heavyweight powerlifters) who seek non weight bearing cardiovascular exercise, in the fresh air.

THORN NOMAD Mk2 and NOMAD FORKS

MATERIALS used to make MODERN BIKE FRAMES.

In my opinion, high quality steel is the best possible material for a strong, comfortable, well equipped, and long lasting frame.

I can remember the thrill of owning my first high quality frame - steel of course - all frames were steel then and my new frame was the best available - it was Reynolds 531.

I remember being delighted to find that all that I'd been told about 531 was true, it was lighter, it felt stiffer and yet - it was more comfortable - it was a quantum leap forward from my gas pipe bike.

It was many years before I had the opportunity to ride anything better. When Reynolds applied a radical heat treatment to 531, they produced Reynolds 753. This was a noticeably superior material to 531, it wasn't the quantum leap between gas pipe and 531 - but it was noticeable.

The trouble was that 753 had to be silver soldered into lugs, or fillet brazed, using 50% silver.

When Reynolds devised a method of giving 4130 Cr-Mo a radical heat treatment, they produced Reynolds 725 - this has all the qualities of 753 but it can be TIG welded. According to Terry Bill, who was Reynolds' development engineer at the time, Bernard Hinault was riding a 725 frame, when he became the last rider to win the Tour de France using a steel frame.

Nowadays all the pros use carbon but, at the most, there can only be a handful of riders who could use the small weight advantage possible with a carbon frame to equal the performances of "the Badger" on his steel frame.

Team Sky had 250 frames in its warehouse, for use during Wiggo's 2012 campaign; whereas Hinault would've been given 2 new steel frames each year - I feel this says it all!

Andy Blance.

All THORN FRAMES use high quality, Heat-treated steel.

I wouldn't wish to build our bikes with anything else and I don't want anything else for my own bikes!

The final heat treatment process can double the cost of a steel cycle tube. Heat treatment raises the UTS (ultimate tensile strength) significantly - this makes the tubes stronger and more resistant to cracking. Heat treatment also makes the tubes more resistant to denting and greatly enhances the frame's **resilience**.

Resilience can be defined technically as, the ability of a material to absorb energy when it's deformed and then release that energy upon unloading. In a high quality bicycle frame, it manifests itself to the cyclist as a tight, springy sensation.

Because heat treatment is such an expensive process, the steel tubes used in most cycles are not heat treated. Unless a frame says that it's "heat treated", or has a decal from a tubeset, which is known to be heat treated - e.g. Reynolds 725 and Reynolds 853, you can be certain that the tubes won't be heat treated.

LOOK AT THE FRAME TUBE DECAL CAREFULLY.

Most decals simply say "Butted Frame Tubes", this means that the stays (which are also known as the rear triangle) are made from a different material.

Most manufacturers of steel frames use a lower grade material for the chainstays and seat stays.

Some manufacturers use reasonable quality, non heat-treated, seamless Cr-Mo stays. Other manufacturers are even more cynical - they use carbon steel with welded seams as stays - such steel is also known as "gas pipe".



Why do some manufacturers use lower quality stays - and does this matter?

The reasons why are simple:
**misrepresentation, greed
or incompetence!**

That is, they may be trying to obtain an unfair competitive advantage, by appearing to offer the same thing for less money - where else might they have scrimped or compromised quality?

They may be very greedy and want a premium price for a low quality product - doesn't that sound all too familiar these days?

Or maybe they don't have a clue how a really good frame should ride - what else might they not know about?

When considering top quality tubing, it's more expensive to make one top quality heat treated stay, than it is to make one top quality heat treated frame tube - yet there are 4 stays in each frame and only 3 frame tubes.

Does having gas pipe stays matter?

I can assure you that, if I had to choose between having a frame with top quality stays and gas pipe main tubes, or a frame with top quality main tubes and gas pipe stays, I'd always choose the frame with the top quality stays. It would weigh slightly more but it would be more comfortable and give a superior ride -

The stays are your rear suspension.

Obviously the best solution is to use top quality frame tubes and top quality stays - unsurprisingly, this costs significantly more!

If the frame tube decal says "Reynolds 725 butted frame tubes", it's easy for dishonest (or, perhaps ill-informed) sales people to say: - "This is a Reynolds 725 frame and it costs £xxx" and not even mention that the all important stays are made of gas pipe.

**I'll state the following very clearly:-
"Every frame tube and every stay in
our Thorn 858 and 969 sets is heat
treated. When we use 853 or 725
frame tubes, we specify 725 stays -
our decal makes this very clear."**

For each and every particular touring application, whatever your level of ability, you'll benefit from having a genuinely top quality steel frame. Such a frame, if well designed, will be more comfortable than any other frame and, even if you're only reasonably strong, its resilience will allow you to turn more of your effort into forward motion.

All **THORN** frames are well designed-
they also handle superbly.

We guarantee this - see Page 59

**If you're contemplating a purchase
from another source, ask some
pertinent questions e.g. "Is every
tube 725, including the stays?"**

**Yes? Then make certain that the
vendor is prepared to state this fact
very clearly on the invoice"**

**No? Then walk away - unless you
need to save money so desperately,
that you're prepared to accept a
vastly inferior bicycle.**

OTHER MODERN FRAME MATERIALS.

Aluminium frames.

Cheap (thick-walled) aluminium frames

These frames are very strong, they could have the fittings required on a touring bike and they should last a lifetime but they are heavy, very uncomfortable and they have a "dead" feel. Have you ever heard of an Aluminium spring?

Expensive (thin walled) aluminium frames

These frames are less uncomfortable and they are quite light but they can't have the fittings required for touring and they break! Dealing with a broken lightweight aluminium frame is easy - recycle it into bottle tops!

CARBON FRAMES

Carbon makes a perfect spring;

Carbon fibre frames can be very lightweight and very durable - as long as you don't scratch them - a gouge in a carbon frame is a catastrophic failure waiting to happen. I'd have no hesitation using one for racing - **if I raced** - and of course, if somebody else was paying for it!

Try Googling "cracked carbon" and see what pictures you get!

It's difficult to manufacture a carbon frame with luggage carrier bosses - I don't know whether to laugh or cry, when I see a "cool" carbon road racing frame being used for lightweight touring - I see rattling mudguards, held on with cable ties, which have been known to suddenly jam in the wheel, precipitating an instant cart wheel, followed by a face plant. I see mega heavy alloy seat post-fitting (seat post breaking?) carriers with loads being carried, which are too high and too far back for stability. Alternatively, I see no provision for luggage at all; as the day warms up, the rider end up looking like a cricket umpire, with clothing tied around their waist - how cool is that - in both senses of the word?

With most of these adapted road racing frames, I frequently see the dangers and difficulties associated with toe overlap.

TITANIUM FRAMES

I hear it said that Titanium frames ride *like* steel frames. That's true - in my opinion, a top quality Ti frame is *almost* as nice to ride as a top quality steel frame!

It can be argued that Titanium can be used to make springs but until Samurai swords or GLOBAL kitchen knives are made from titanium, I will continue to believe that steel is a superior material for many applications. Titanium is two-thirds of the weight of steel - but even the top quality, cycle-specific tubes are much less stiff. To make a frame which is as stiff as a good, high quality steel frame, requires a larger volume of material, which erodes most of the weight saving! The majority of customers however want and expect, a weight saving with a Ti frame, therefore they end up with a frame which isn't stiff enough - this not only wastes energy - it can sometimes give a scary ride down steep hills!

Low grade Titanium.

Most of the titanium tubes used in frame building today are not only very low grade - they're also "plain gauge tubes" which have been manufactured from a sheet of rolled and welded material i.e. it's not butted at all and it most certainly does have a seam!

If low grade steel is nicknamed "gas pipe", these tubes ought to be called "cooling pipe". Such tubes may be an improvement on "gas pipe" steel but they're far inferior to top quality steel, unless, of course, they are actually being used in the cooling system of a reactor!

If a new Ti frame costs less than £2000, then low grade, plain gauge, rolled and strip welded Titanium is, almost certainly, all that's being offered! Spending lots of money is no guarantee of quality either - there are some unscrupulous people around!

Such frames remind me of Hans Christian Andersen's Classic fairy tale; "The Emperor's New Clothes".

Top Quality Titanium.

Cold drawn, seamless, double butted, 6-4 grade Titanium is very, very expensive, it makes a very fine road racing frame - I'd prefer such a Ti frame to a Carbon frame - but once again, only if I actually raced and of course, only if someone else was paying for it!

I don't race, I want and need, a touring bike and it's either impossible, or ridiculously expensive, to make a touring frame, with the required fittings, from high quality butted Ti.

Furthermore, all high quality Ti frames, that I've known, have also broken! Titanium has a much higher scrap value than steel, which could be good news, because it's usually impossible to make a repair, which has lasting structural integrity, to a cracked Ti frame.

Try Googling "cracked titanium" and see what pictures you get!

Perhaps there are some proper titanium road racing frames, being made today, or which may be made in the future, that won't break - but I doubt it.

It's even less likely that anyone would commission a (heavier) cold drawn, seamless, double butted, 6-4 grade Ti tube set, with the slightly thicker walls necessary to make it less likely to crack, when it's subjected to touring loads and forces.

I certainly wouldn't want to risk such a huge sum of my own money - when steel is almost as light, is much more durable and could be easily repaired if necessary. Steel rides better, is relatively inexpensive and a steel frame can have all the fittings you require - no wonder we say:-

STEEL IS REAL!

How to look after your STEEL FRAME

Much but not all, of the following advice also applies to bikes with Alloy, Carbon and Titanium frames - Alloy corrodes in salt and all bike chains and many components are steel, such as bearings, bearing shields, BB axles, screws & pins

All our steel frames have tube walls which are thick enough to enable them, if cared for, to give a lifetime of excellent service.

Our EXPEDITION FRAMES have even thicker walls, as I've assumed that they'll have an even tougher job to do.

Our fittings are stainless steel, I've used stainless because I know that, in the real world, the cables will eventually chafe the paint away from the guides and I don't want rust to get a hold there. Similarly, the bosses are stainless steel because a thread cut into carbon steel will eventually rust. Our mechanics apply cavity wax when the frames are prepared. I've put a lot of effort into designing our frames - but this **DOES NOT** mean that you can neglect them.

SERVICING YOUR FRAME

Whether your frame is Steel, Alloy or Titanium, all Aluminium Alloy seat posts and shims should be removed, re-greased and replaced before and after every winter. (Or monsoon season!)

This will prevent the post from seizing into the seat tube. If you don't do this and your seat post does seize; please **contact us** for the correct advice on how to free it.

If any frame is submerged, or if you cycle with your BB submerged (as may happen during floods) you should, at the earliest opportunity, remove the BB and let it and the frame dry.

Don't leave your bike outside in the rain, if you can avoid it - when you can't avoid it, try and give it some shelter, or at least treat it to extra thick chain lube and more regular greasing.

Consider a reapplication of cavity wax at regular intervals - these intervals will depend upon where you live and whether you choose to ride in the worst of the weather.

Grease is an essential component in the following areas:-

BB threads on derailleur frames, the eccentric and the eccentric threads on our Rohloff frames and the seat clamp screw threads.

It's not possible to paint the forks' steerer tubes (the headset couldn't be fitted due to the increased thickness). Steerer tube walls are thick enough, for surface rust to only ever be an issue in extreme circumstances - such as prolonged exposure to salt water.

You may apply thick grease to the steerer if you wish.

BUT NOTE that extra care must then be taken, to ensure that the handlebar stem can be tightened sufficiently. A serious incident could occur, as a result of the stem not being sufficiently tight.

Avoid letting a scratch turn rusty. You should apply some lead oxide paint to any scratches as soon as possible - certainly before rusting occurs. You can touch them in with suitable paint, or apply a patch, when it's convenient.

If you let a scratch go rusty, you'll need to remove the rust with fine wet and dry paper, before applying the lead oxide primer. The process of sanding is likely to increase the size of the area which needs to be touched in.

Andy Blance Summer 2014

THORN SOLO OVERVIEW

Select and spec your THORN bike in 11 steps

[1] START

Do you want
**DERAILLEUR
GEARS**
OR
ROHLOFF?

See pages
19, 20 & 21
of this
Brochure.

[2] How much
WEIGHT do you
wish to be carry?
See pages 11, 13,
23 & 45
of this Brochure.

[3] Choose the most
SUITABLE WHEEL SIZE
For your specific needs.
See pages 6 & 7
Of this Brochure.

SHORTCUT!

Please check out the
**THORN BIKE
RECIPES**
pages 81 onwards
in **PART 3**
of this Brochure.

[4] Choose the type of
HANDLEBARS you want.
See pages 26, 27 & 28
of this Brochure
and the appropriate
THORN BROCHURE

[10] Choose
the appropriate
gear range for
**YOUR
ABILITIES**
and **NEEDS**
See pages
38, 39, 75 & 76
Of this Brochure.

[11] FINISH

Choose accessories,
See pages 48 to 53
of this Brochure,
pay a £100 deposit,
wait a short while
and then
Enjoy your bike!

[5] Choose the **MODEL**
which is appropriate to
your needs
See pages 13, 14 & 15
(+ page 57 for Tandems)
of this Brochure; then
check out appropriate
THORN brochure.

[6] Choose the
FRAME SIZE appropriate
to your needs.
See pages 22 to 25 of
this Brochure; then check
out the appropriate
THORN BROCHURE

[9] Choose
BRAKES which
work with
selected fork
and handlebar
options.
For 700c
options see fork
matrix on page
17 page 64 is
also useful.
Now look at
pages 29, 30,
31, 73 & 74
Of this Brochure.

[8] **CHOOSE YOUR
WHEELS;**
(i) Start with **HUBS**,
see pages 49, 67, 68 and 69
(ii) Choose **RIMS** next* -
pages 35, 36 and 69 & 71
(iii) Then choose **TYRES*** -
pages 32, 33, 34 and 70 & 72

*Depending upon your priorities,
you may wish to choose tyres
first and then rims. In either
case, choose items which will fit
in your selected frame and fork
and which will also fit with the
brakes you plan to select.
Re-check frames, forks and
brakes if necessary.

[7] **IF** your favoured
model offers a choice of
fork, **CHOOSE** the **FORK**
which is appropriate to
your needs
See pages 16, 17 and 18
of this Brochure; then
check out appropriate
THORN BROCHURE

How to choose the perfect Thorn solo bike for your requirements.

Do you want drop bars?

Bar end shifters can be chosen but Road STI gear shifters are currently used on the majority of our drop bar derailleur builds. They're more ergonomic in use, than the shifter, which must be used, when drop bars are used with Rohloff.

But drop bars can certainly be used with Rohloff.

Do you want *straight* bars?

Rohloff gear shifters are much nicer to use and much more trouble free, than the MTB Rapidfire shifters, which are generally chosen with derailleur gear straight bar bike builds.

Do you want to use derailleur gears, or a Rohloff hub?

Derailleur geared bikes cost less to start with but a Rohloff equipped bike will cost much less money over a few years, if you actually use the bike.

Rohloff bikes are much more reliable, require less maintenance and are much easier to adjust than derailleur systems.

The transmission in Rohloff bikes lasts much longer. You can change gear whilst stationary with Rohloff.

Do you want to carry...

Light loads?

Moderate loads?

Moderately heavy loads?

Heavy loads?

Very heavy loads?

Do you want to use 700c wheels or 26" wheels?

700c wheels are often quicker on smooth roads than 26" wheels. This is especially true when light tyres are used on both sizes.

Skinny 700c tyres are much more comfortable than skinny 26" tyres. 26" wheels are stronger than 700c wheels.

Touring tyres for 26" wheels are currently more readily available throughout the world than touring tyres for 700c.

26" touring wheels usually have lower inertia than 700c touring wheels, especially when fat tyres are used on both - this makes them easier to accelerate and therefore less tiring on long climbs.

Must you have a bike with at least a rear disc option?

Must you have the option of fitting a steel disc fork?

Must you have the option of fitting a suspension fork?

The **Thorn Audax** is a **700c**

derailleur equipped bike, it's intended primarily for use with drop bars and light to moderate loads.

Sizes not suitable for straight bars

The **Thorn Club Tour Mk4**

is a **700c** derailleur equipped bike, it is intended for use with drops or straight bars and, depending upon fork, for light to heavy loads.

S sizes are suitable for drop bars

L sizes are suitable for straight bars

The **Thorn Sherpa** is a **26"**

derailleur equipped bike, it is intended for use with drop bars or straight bars and depending upon fork, with light to heavy loads.

S sizes are suitable for drop bars

L sizes are suitable for straight bars

The **Thorn Mercury** is a **700c**

Rohloff equipped bike, it is intended for use with drops or straight bars and with light to moderately heavy loads. It has a rear disc mount.

S sizes are suitable for drop bars

L sizes are suitable for straight bars

The **Thorn Raven** is a **26"**

Rohloff equipped bike, it is intended for use with drop bars or straight bars and, depending upon fork chosen, with light to heavy loads.

S sizes are suitable for drop bars

L sizes are suitable for straight bars

The **Thorn Nomad** is a **26"**

Rohloff equipped bike, it is intended primarily for use with straight bars and with heavy to very heavy loads. It has a rear disc mount and although supplied with a steel V brake fork, it will take suss forks.

Sizes unlikely to be suitable for dropped bars



THORN BIKE COMPARISON MATRIX.

This matrix shows my assessment of our bikes' suitability (in different specs) for different purposes. The scores, which are out of 5, do **NOT** take price, or transmission service life into account. *Andy Blance 2014*

THORN BIKE	Specification Details. (Assumes optimum tyre width and quality for the purpose unless specified)	Short distance commuting WORK CLOTHES and SHOES	General leisure riding, country lanes, tow paths etc.	Assertive CITY Commuting On Busy, Broken and Pot-holed streets	Longer distance commuting with Cycle specific clothing & shoes	EXCELLENT				5	ACCEPTABLE				2
						VERY GOOD				4	UNSUITABLE				1
						GOOD				3	SHOULD NOT BE USED FOR THIS PURPOSE				
		A	B	C	D	E	F	G	H	I	J	K	L	M	
THORN Audax Mk3	1 THORN special spec with rear carrier	1	3	3	5	4	5	4	1						
	2 THORN special spec with front and rear carriers	1	3	3	4	2	3	4	3	1					
	3 With 853 fork and upgrade wheels no carriers	1	2	2	3	5	2	1	1						
	4 With 853 fork and upgrade wheels Titanium carrier	1	3	3	5	4	5	4	1						
THORN Club Tour Mk4	5 THORN special spec with rear carrier	4	5	4	5	3	4	4	2						
	6 THORN special spec with front and rear carriers	4	4	3	4	1	3	4	5	4	3				
	7 With 853 fork and upgrade wheels no carriers	3	3	3	3	4	2	1	1						
	8 With 853 fork and upgrade wheels Titanium carrier	4	5	4	5	4	5	5	2						
THORN SHERPA Mk 3	9 Lightweight wheels ST26 fork rear carrier	5	5	5	4	2	3	4	4						
	10 Ultra lightweight wheels 853 fork, rear carrier	5	4	5	5	3	4	4	3						
	11 Heavy duty wheels ST26 fork front and rear carriers	4	4	4	3	1	2	3	3	4	3	2	2		
THORN RAVEN	12 Lightweight wheels ST26 fork rear carrier	5	5	5	4	2	3	4	4						
	13 Ultra lightweight wheels 853 fork, rear carrier	5	4	5	5	2	4	4	3						
	14 Heavy duty wheels ST26 fork front and rear carriers	4	4	4	3	1	2	3	3	5	4	2	3		
THORN NOMAD Mk2	15 Lightweight wheels rear carrier	5	4	5	4	1	2	3	4	2	2	2			
	16 Lightweight wheels front and rear carriers	4	4	5	3	1	2	2	3	3	2	2	1		
	17 Heavy Duty Wheels Rear carrier	4	3	4	3	1	1	2	3	3	2	4	1		
	18 Heavy Duty Wheels Front and rear carriers	4	3	3	2	1	1	2	2	5	5	3	5		
	19 Suss fork Heavy Duty Wheels Rear carrier	3	2	3	1	1	1	1	2	2	3	5			
THORN MERCURY	20 With Fork 2, Light rims + 28c tyres No carrier	3	2	2	4	5	2	1	1						
	21 With Fork 2, Light rims + 28c tyres Titanium carrier	4	3	3	5	4	5	4	2						
	22 With Fork 7 Light disc rims, F+R discs no carrier	3	2	3	3	4	2	1	1						
	23 With Fork 7 Light disc rims, F+R discs Titanium carrier	4	3	3	4	4	4	3	2						
	24 With Fork 5 Top quality rims + 32c tyres Titanium carrier	5	4	4	5	3	5	5	2						
	25 With Fork 5 Top quality rims + 35c tyres Titanium carrier	5	5	4	5	2	4	5	2						
	26 With Forks 4 or 6 strong rims + 35c tyres Front and rear carriers	4	4	4	4	1	3	3	5	4	2				

You'll see, especially in the different options given for the Mercury and Nomad, how having a rear carrier, front and rear carrier, or no carrier, makes such a difference to the bike's suitability for specific purposes.
A rider's height and weight also influences suitability - as does shoe size - which affects pannier position.
Tyre width and fork choice also have a major impact.

To help show how tyres, forks and carriers affect suitability for purpose, I've shown more options with the Mercury. However these factors affect all bikes. I can't give all the permutations or categorise every possible type of cycling because I could literally fill up thousands, if not millions, of pages with the resulting matrices.

Thorn Audax Mk3 700c

Derailleur equipped, ultra-light touring bike.

Available in
5 colours and 6 sizes
Complete bikes from
£1239

Bike shown is THORN special spec @ £1299
(frame and fork kit only £425)

Size 570



The Mk3 represents two decades of work, manufacturing and developing, what many people tell us are the finest frames for sporty, lightweight touring, that have ever been built.

The Audax frames and steel forks run with tyres which measure 30mm and mudguards. Several owners of exotic racing bikes have reported that their Mk3, which was purchased for training, is practically as fast and handles better than their race bike - as well as obviously being able to carry a load!

We say that, for occasional use, the Mk3 will cope with 30Kg of luggage, spread between the front and rear, including 3 cages and a small bar bag. But it's much happier to carry up to 8Kg at the rear and 3Kg at the front.

If you regularly carry more than 8kg, we strongly advise that you look at the Club Tour.

Size 495



WARNING!

The Audax Mk3 is aimed at experienced cyclists, wearing "proper" cycling shoes and system pedals. With such shoes, there's clearance for "larger than average sized feet". There's also clearance for average sized feet, in cycling shoes, with steel clips. There's unlikely to be clearance between "trainers" and the front mudguard.

Thorn Club Tour Mk4 700c

Derailleur equipped
TRADITIONAL TOURING BIKE

Available in
2 colours and 8 sizes, with 3 steel forks to choose from, including a steel disc fork.
Complete Bikes from:-
£1349

Many spec options are available



Available in **Gunmetal** (Above)
Or **R&B** (Below)



DROP or STRAIGHT BAR BUILDS AVAILABLE

The Club Tour Mk4 is very competitively priced, many customers told us that, with the recommended upgrades, the Mk3 was:-

"The finest traditional touring bike available, regardless of price!"

We know that the Club Tour Mk4 is an even better bikel

The **Thorn Club Tour Mk4**, was designed without compromise, to show exactly how good a **Traditional British Touring Bike** can be. It may be used throughout the week to commute to work, it can complete a 200Km Audax (or CTC reliability ride) at the weekend, yet be ready to carry 28Kg on your annual summer cycle camping holiday. (If necessary it will cope with up to 40Kg). You're guaranteed a high quality ride, with superb handling. The Club Tour Mk4 can even take 40c tyres with mudguards.

Thorn Sherpa Mk3

Derailleur equipped
From **£1299**

10 different sizes

1 very small size with medium top tube,
4 sizes with long top tubes,
4 sizes with short top tubes,
There's also a step through size!

Choose **MATT BLACK**
or **BLOOD RED**



Choice of **Drops** or **Straights**

We've been honing the design for over 15 years, yet the Sherpa could accurately be described as the **New traditional touring bike.**



The Sherpa can be used for day to day transport, or it can literally travel the world.

The Sherpa's very stable and it handles superbly. There's no possibility whatsoever of accidentally overlapping feet and mudguards.

The Sherpa makes light work of 28Kg loads and the larger sizes will carry up to 40Kg. On an occasional basis.

26" wheels are the best possible choice for heavily loaded touring.

The 26" MTB wheel has a vast variety of different tyres available and tyres for this size are obtainable in every country in the world!

The Sherpa has clearance for 2" tyres

Some 26" tyres are for MTB use, some are heavy duty for expedition use, whilst others are very quick indeed! We love to cycle on B roads and country lanes. These roads are in worse condition today, than anyone can remember. On these roads, **fat tyres**, which are

zero-maintenance suspension, make great sense. They make just as much sense in the pot-holed streets of today's cities!

CLICK HERE For

AUDAX Mk3 pdf Brochure.

It may take time for the file to open, please be patient.

CLICK HERE For

CLUB TOUR Mk4 pdf Brochure.

It may take time for the file to open, please be patient.

CLICK HERE For

SHERPA Mk3 pdf Brochure.

It may take time for the file to open, please be patient.

THORN RAVEN

26"



From £2169

10 different sizes

1 very small size with medium top tube,
4 sizes with long top tubes,
4 sizes with short top tubes,

There's also a step through size!

We're very proud of the RAVEN,
it is one of the very finest

Rohloff equipped bikes

on the planet; yet it also manages to be
the least expensive!

The RAVEN makes light work of 28Kg
loads and the larger sizes will carry up
to 40Kg, on an occasional basis.

The Raven has clearance for 2" tyres.

Currently there are several Ravens
undertaking the "American end to end",
Alaska to Tierra del Fuego. There are also
over a thousand Raven Tours delighting their
owners, as they go about their day to day
business, with the least possible fuss.
The RAVEN is wonderfully stable; city streets
tow paths, bridleways, mountain passes,
desserts and continents can all be tackled in
confidence.

**The NEW RAVEN is designed to
provide a lifetime's transport, as
well as keeping the dream of that
"big cycling adventure" well and
truly alive!**

Choose **MATT BLACK**
or **BLOOD RED**



DROPS or STRAIGHTS



[CLICK HERE](#) For
THORN RAVEN pdf Brochure.
It may take time for the file to open, please be patient.

Thorn Nomad Mk 2

26"



From
£2299

10 different sizes,
5 sizes with long top tubes;
5 sizes with medium length top tubes

The Nomad Mk2 is the **ULTIMATE**

EXPEDITION TOURING BIKE it can
carry up to 30kg at the rear*, without the
need for front bags. It will cope with
over 60Kg including 20Kg at the front.

These bikes are built for **great strength and
reliability.** *assuming a conventional riding position.

**The Mk2's stays have sufficient
clearance for 2.4" tyres.**

The Steel fork will take 2.25" tyres

It has **stainless fittings**, including
oversized (6mm) carrier bosses.

**Mk2 Nomads
are compatible with
80 to 120mm suss forks.**

All Nomad Mk2s have **rear ISO
disc mount** and V brake bosses
and the perfect cable routing for the

EX box

Size
565L

Choose **matt black**
or **Tonka yellow**

Also available with
S&S couplings

**NOMAD
Mk2 frames**
are available with
S&S couplings,

These allow bikes to be transported easily.
Sizes up to 565L can, with extensive disassembly,
even be fitted into a 26" x 26" x 10" case - providing
the steerer of the steel fork isn't longer than 235mm.

SIZE 620L

**A bike for
Giants!**



[CLICK HERE](#) For
NOMAD Mk2 pdf Brochure.
It may take time for the file to open, please be patient.

Thorn Mercury 700c

from **£2669**



Available in 8 sizes and in 6 colours.

Long top tube frames for most men
with straight bar options.

Short top tube frames for most men with drop
bars or most women with straight bars.

The Mercury frame can accept 35c tyres with
mudguards but not all fork and brake options work
with this size tyre.

ROHLOFF SPECIFIC



DISC BRAKE OPTIONS



DROPS or STRAIGHTS



BOLD or DISCRETE



The Mercury can be focused
precisely into your dream bike -
from a seriously quick sport touring
bike to a middleweight tourer.
(For much more detail, please see our brochure)

[CLICK HERE](#) For
THORN MERCURY pdf Brochure.
It may take time for the file to open, please be patient.

700c FORKS for RIM BRAKES

[2] THORN 853c 700c FORK, for deep drop calliper brakes. Fits Mercury and Audax Mk3

These are the lightest weight steel forks ever made with a lifetime warranty- they're also, without exception, the most comfortable forks I've ever ridden. They may be light and comfortable but they're also very strong and reliable. Unlike carbon forks, if you're unlucky enough to hit a big pothole, you'll be able to inspect them for damage. Reynolds made the 853c blades and lightweight 853 steerer especially for us. Reynolds even made the tooling for the tight-radius bend that I'd requested. These are a premium product offered at a premium price. **THORN 853c FORKS** are available in 7 colours:

Gloss BRG for green retro frames, Gunmetal Imron for gunmetal frames, Matt black for stealth, black retro or matt black, Audax frames, White team for white team frames, Sky blue team for sky blue team frames, Red powder and blue powder for Audax Mk3 frames.

(2a) 46mm offset is perfect for **Long** Mercury frames and for most Audax Mk3 frames.

(2b) 52mm offset is perfect for **Short** Mercury frames and size 495S and 555S Audax frames.

NOTE 853c forks allow direct fitting of mudguards but they don't have lo-loader bosses. As reliable as they are, you must never try to fit a front carrier to them.

The tight-radius bends flex beautifully and I didn't want a mudguard boss brazed on the bend, therefore we recommend that you use an SKS Secu clip. Max tyre size with mudguards 28c - although 32c Schwalbe Marathon Supreme tyres will fit - provided you're prepared to partially deflate front tyre to remove wheel. **Weight 805g with steerer cut to 300mm.**

L1 = 378mm (Axle to crown race)

(Steerer weighs 0.71g per mm and is 380mm at full length)



FORK 2

[4] Thorn ST700 Fork Reynolds Super Tourist steel touring fork with V brake bosses and Lo-Loader bosses. Fits Mercury or Club Tour Mk4

This comfortable fork must be used with a front V brake (or cantilever brake). On a Mercury it must be used with a rear disc brake. On a Club Tour, it can be used with a rear V (or Canti brake) or rear disc.

There are 3 different offsets:-

(4a) 46mm for all **Long** frames.

(4b) 50mm for all **Short** Mercury frames and 580S and 610S CT Mk4 frames.

(4c) 55mm for CT Mk4 sizes 520S and 550S

The Blades are Reynolds Super Tourist blades.

These forks are offered in all 7 different finishes to match the Mercury or CT Mk4 frames. Such a spec will make a super commuting bike, which will avoid excessive rim wear, when chosen with rear disc. These forks may be used with straight bars or Drops.

With these steel forks, I believe that the Mercury and Club Tour Mk4 are the definitive modern touring bikes; provided some of the weight is

carried on the fork, the Mercury could carry up to 36Kg and the CT Mk4 40Kg (Please see page 23).

A full mudguard with its own dedicated bosses, can be fitted with this fork. Ideal tyre size 32 - 35c.

Max tyre size with mudguards 40c semi slick.

Weight 1055g with steerer cut to 300mm.

L1 = 387mm (Axle to crown race)

(Steerer weighs 1.03g per mm and is 380mm at full length)



FORK 4

[3] Carbon deep drop road fork. Fits Mercury and Audax Mk3

These are reasonably comfortable forks; they must be used with a front deep drop calliper brake (Such brakes are standard equipment on an Audax Mk3)

These forks provide a lightweight option for a Thorn Mercury or an Audax Mk3 and work with these bikes' geometries, to provide razor sharp handling.

A full front mudguard can be fitted. Full carbon blades with alloy steerer.

Weight 630g with 300mm steerer.

Max tyre size 25c with sufficient mudguard clearance. Some 28c tyres can be fitted with very close mudguard clearance.

FORK 3



[5] 700cThorn MER853VC 853 steel "V" brake fork. Fits Mercury or Club Tour Mk4

These are the lightest weight steel V brake forks ever made with a lifetime warranty- they're also, without exception, the most comfortable forks I've ever ridden.

They may be light and comfortable but they're also very strong and reliable.

Unlike carbon forks, if you're unlucky enough to hit a big pothole, you'll be able to inspect them for damage.

Reynolds made the 853c blades and lightweight 853 steerer especially for us.

Reynolds even made the tooling for the tight-radius bend that I'd requested. These are a premium product offered at a premium price.

MER853VC forks are available in 5 colours:- gloss black for black retro frames, gloss BRG for green retro frames, gunmetal Imron for gunmetal frames, matt black for stealth frames, white team or sky blue team frames and R&B for R&B CT Mk4 frames

All colours of **MER853VC forks** are available in 2 different offsets:-

(5a) 46mm offset, are perfect for **Long** Mercury Or Long Club Tour Mk4 frames.

(5b) 52mm offset, are perfect for **Short** Mercury or Short Club Tour Mk4 frames.

NOTE the 853c blades allow direct fitting of mudguards but they **don't** have Lo-Loader bosses.

As reliable as these forks are; you must never try to fit a front carrier to them.

The tight-radius bends flex beautifully, I didn't want a mudguard boss brazed on the bend, therefore we recommend that you use an SKS Secu clip. **Weight 850g with steerer cut to 300mm L1 = 383mm (Axle to crown race)** (Steerer weighs 0.71g per mm and is 380mm at full length). Max tyre size, with generous mudguard clearance is 35c.



FORK 5



(1b) 50mm offset suits **Short** Mercury frames.

MATT BLACK ONLY

(1c) 55mm offset is perfect for size 495S and 555S Audax frames.

NOTE Mk3 forks allow direct fitting of mudguards and also have lo-loader bosses. You must never carry more than 2.5Kg on each side of the Mk3 forks. Max tyre size with mudguards 28c - although 32c Schwalbe Marathon Supreme tyres will fit - provided you're prepared to partially deflate front tyre to remove wheel.

Weight 960g with steerer cut to 300mm. L1 = 378mm (Axle to crown race)

(Steerer weighs

1.03g per mm and is

380mm at full length)

FORK 1

700c

FORK MATRIX

Current prices are in PART 2 on page 64

By choosing the most suitable fork, for the type of cycling you plan, you can fine tune and focus your THORN 700c bike to suit your precise needs and your pocket. In the case of the Club Tour and The Mercury; the appropriate choice of fork can fundamentally change the bike's capabilities.

NOTE: * indicates various offsets available to suit the geometries of our different sizes.

FORK	BRAKE TYPE	MATERIAL	L1 (axle to crown seat mm)	Max tyre With M/G	Max tyre NO M/G	AUDAX	CLUB TOUR	MERCURY	Lo-Loader	Mudguard fittings?	COMFORT out of 10
1*	Deep Drop CALLIPER (Twin pivot side pull) at full drop	REYNOLDS Competition weight Cr-Mo Steel	378	28c	32c	YES	X	YES	MAX 2.5 Kg Per side	YES Direct fit	9
2*	Deep Drop CALLIPER (Twin pivot side pull) at full drop	REYNOLDS Competition weight 853 Steel blades and steerer	378	28c	32c	YES	X	YES	X	YES Direct fit	10
3	Deep Drop CALLIPER (Twin pivot side pull) at mid drop	Carbon blades Alloy steerer	380	25c	28c	YES but NOT 49SS or 55SS	X	YES but best on L sizes	X	YES Nuts and bolts	7
4*	V brake (Or cantilever)	REYNOLDS Super Tourist Cr-Mo Steel	387	40c	44c	X	YES	YES	7.5 Kg Per side	YES Direct fit	8
5*	V brake (Or cantilever)	REYNOLDS Competition weight 853 Steel blades and steerer	383	37c	40c	X	YES	YES	X	YES Direct fit	10
6*	DISC	REYNOLDS Heavy Duty Cr-Mo Steel	383	37c	40c	X	YES	YES	5 Kg Per side	YES Direct fit	4
7	DISC	Carbon blades Carbon Steerer	380	28c	32c	X	?	YES but best on L sizes	X	Shorty only Nuts and bolts	5
8	DISC	TITANIUM Uni-crown blades, Titanium steerer	393	37c	40c	X	?	YES but best on L sizes	X	YES Nuts and bolts	4
TYPICAL 700c DISC FORKS as used by other manufacturers for comparison only.		STEEL UNI-CROWN	??	??	??	X	??	??	??	??	3
		ALLOY UNI-CROWN	??	??	??	X	??	??	??	??	2

700c FORKS for DISC BRAKES

[6] Thorn Reynolds steel disc brake 700c touring fork with lo loader bosses.

Fits Mercury or Club Tour Mk4

The Blades are extra heavy duty and have larger than usual diameter tips. There are no V brake bosses - this fork **must be used** with a front disc brake.

We resisted designing a steel disc fork - because we knew that a reliable disc fork could never be as comfortable as our Reynolds Super Tourist V brake fork - and it's not!

However, it is as comfortable as any other reliable steel disc fork and it's more comfortable than most!

There are 2 offsets:-

(6a) 46mm offset, are perfect for **Long** Mercury or Club Tour Mk4 frames

(6b) 52mm offset, are perfect for **Short** Mercury or Club Tour Mk4 frames.

These forks are offered in 4 different finishes for Mercury frames:-

Gloss black, Gloss BRG, Matt Black and Gunmetal Imron - they may be used with straight bars or Drops.

With these steel forks, I believe that the Mercury and Club Tour Mk4 are the definitive modern touring bikes; provided some of the weight is carried on the fork, the Mercury could carry up to 36Kg and the CT Mk4 40Kg

As you can see, a full mudguard with its own dedicated bosses, can also be fitted with this fork.

Max tyre size - 40c (38c with mudguards)

Weight 1168g with steerer cut to 300mm.

L1 = 383mm (Axle to crown race)

Steerer weighs 1.03g per mm and is 380mm at full length)

DUE to the EXTRA STRESSES INVOLVED with using DISC BRAKES, the Max weight allowed per side is 5Kg



FORK 6

[7] 700c Carbon road disc fork. Evo A647 For all sizes of Mercury.

This reasonably comfortable fork produces a cutting edge, disc brake sports bike.

It could have drops with AVID cable operated discs.

Or, with straight bars, it could have a variety of 160mm disc brakes - either cable operated, or hydraulic.

This short fork, works with the bike's geometry to give razor sharp handling.

Only a shorty mudguard can be fitted with this fork. It has full carbon blades, with a carbon steerer.

Ideal tyre size 28c.

Max tyre size is 32c with shorty guard.

Max tyre size without guard is 35c.

Weight 660g with 300mm steerer.

FORK 7



[8] 700c Ora Ti cyclo-cross disc fork, suitable for Long Mercury or Club Tour Mk4 frames.

This is a more expensive alternative to the carbon disc option and a lighter alternative to our steel disc option. It will appeal to anyone who is worried by the thought of using carbon forks.

This fork produces a cutting edge, disc brake, lightweight

sport touring or trekking bike.

It could have a variety of 160mm or 183mm cable operated or hydraulic discs.

This is a longer fork and it works with the bike's geometry to give a more relaxed ride.

A full mudguard can be fitted with this fork.

Weight 770g with 300mm steerer.

Ideal tyre size 32—35c

Max tyre size without mudguards, or with very close clearance, is 40c semi slick - see photo on left.



FORK 8

The design of the crown and steerer precludes the fitting of a PLUG 3 USB device.

26" FORKS for RIM BRAKES

Of our 26" wheel bikes,
only the
SHERPA and the **RAVEN**
have a choice of fork.

FORK 9, the **ST 26**, is the 26" equivalent of the ST 700 fork (fork 4). It has Lo-Loader bosses with an 8 Kg per side limit and a comfort rating of 8/10. Choose this for loaded touring, for a day to day bike, or if money is tight. L1 = 370mm
Steerer is 400mm long when uncut.
Wt. of fork with 300mm steerer = 1067g

FORK 10, the **RAV853VC**, is the 26" equivalent of the MER853VC fork (fork 5) It does **NOT** have Lo-Loader bosses but, although expensive, it's supremely comfortable (rating 10/10) and saves around 250 grams. Choose this fork for a sporty bike, for moderate loads on rough roads or city streets. L1 = 370mm
Steerer is 380mm long when uncut.
Wt. of fork with 300mm steerer = 813g

For the sake of interest, the **RAVEN TWIN** fork and the **THORN NOMAD Mk2** fork are shown at the foot of this page. Also shown is the **Mt. Tura fork**, which is a Thorn product made to replace suss forks on other manufacturers' bikes.



**FORK 9
ST 26**



**FORK 10
RAV853VC**



**Raven
Twin
Fork**



**Nomad
Mk 2
Fork**

The **Mt.-Tura forks** are made using world famous, top quality Reynolds blades, with stainless steel fittings and a military grade, malleable steel "twin plate" fork crown. There are fittings for a lo-loader carrier, direct fitting mudguards, a bottle dynamo and crown-mounted dynamo headlight.

The 28.6 mm dia Mt.-Tura steerer tubes are a whopping 400 mm long!
The forks have an Axle to crown length (L1) of 430 mm.

(This compensates perfectly for either 80 mm or 100 mm travel forks, either of which actually rides at around 430 mm in neutral conditions).

**Mt. Tura
Fork**



Derailleur Geared Bike Options 2014

In 2012 Mr. Shimano changed the cable pull ratio, of the NEW 10sp MTB groupsets.

The consequence of these changes is that the ONLY ITEMS of 10sp ROAD groupsets, which are compatible with 10sp MTB groupsets, are the CASSETTES.

NOTE: MTB chains should be used on MTB cassettes.

To be clear; the following items are

NOT INTER-COMPATIBLE:-

**The FRONT mechs,
The REAR mechs,
and the SHIFTERS.**

If anyone tells you otherwise - sorry but they are mistaken - you ignore this advice at your peril!

Under certain circumstances, it's possible to use a 10sp MTB CHAINSET with 10sp ROAD Shifters - please see "The Good News" below.

There's still no Shimano touring groupset. In fact, nobody makes a drop bar groupset (10sp or otherwise) with gears which are anywhere near as low as I need, for loaded touring - do you need such low gears too? Shimano have a road 10sp straight bar STI shifter but this is of little use to the tourist. The lowest gear possible with 10sp road STI is 50/39/30 chain rings with an 11-30 cassette.

THE GOOD NEWS

9sp MTB REAR MECHS have the same pull ratio as 10sp road shifters and can be used with 10sp road shifters. A 9sp MTB mech can shift over a 10sp 11-36 cassette.

We've managed to purchase Shimano chainsets (Deore equivalent quality) with **48/36/26** rings; when combined with the **11-36** cassette, this gives an awesome range of gears on

ANY of our DERAILEUR BIKES.

A 48/36/26 10sp MTB chainset can be used with 10sp Road STI - PROVIDED a 10sp MTB CHAIN is used and PROVIDED a 10SP ROAD Front Mech is also used.

EXTRA LOW GEARING.

The **SHERPA** can use a **42, 32, 24** size Deore MTB chainset

BUT CARE MUST BE TAKEN TO SELECT the CORRECT GEARING OPTION

(See the box at the top right of this page)



Shimano DEORE RAPIDFIRE 10sp Pods

This year (2014) Deore is the highest quality 9sp MTB groupset that Shimano offer. As a 10sp Deore groupset, was introduced in 2013, we believe that one day Deore will also become 10sp only - we hope that we're wrong!

This year DURA ACE is available in 11sp!

No doubt somebody will suggest that, putting the cables in the clamps in different ways, will allow X to work with Y. That's great, believe them if you like but please don't ask us to make it work, when it wears a bit and stops working.

Our policy is that, like it or not, when Mr Shimano says what works with what, we believe him - he does make the stuff after all!

10sp MTB groupsets can be specified with straight bars on our Club Tour Mk4 and Sherpa bikes. The upward sweep of the chain stays, limits the 700c Club Tour to the 48/36/26 chainset. The Sherpa's 26" wheels mean that its chainstays won't foul the front mech, if a Shimano 10sp MTB 42/32/24 chainset is used.

Q. What can you do to future proof your knees and ensure that you can have even lower gears when you get older?

- A.** (1) Buy high quality spare parts now.
(2) Consider straight bars and a "straight bar-specific" frame for your new bike.
(3) Choose drop bars with Rohloff.
(4) Best of all, choose Rohloff + straight bars.

We have 3 BIKES in our DERAILEUR range.

[1] Thorn Audax Mk3

Our Audax Mk3 is a 700c bike, designed for fast day rides, carrying a small amount of luggage at the rear. However the Mk3 has forks with lo-loader bosses. With small front panniers, the Mk3 can carry medium sized rear panniers and can manage ultra-lightweight camping. It's **HIGHLY UNLIKELY** that these frames would prove suitable for use with straight bars.

[2] Thorn Club Tour Mk4

Our Club Tour Mk4 is a 700c "Traditional British Touring Bike". It makes a pleasant bike for pottering around our lanes, it can be focused to make a superb bike for fast lightweight touring, or it can be relied upon for a full-on camping trip.

S frames are most likely to be suitable for dropped bars, whilst **L** frames are most likely to be required for use with straight bars.

[3] Thorn Sherpa Mk3

Our Sherpa Mk3 is a 26" wheel bike, designed as an alternative to the Traditional British Touring Bike. The Sherpa is equally at home, whether commuting in badly surfaced city streets or on big adventures in remote places.

S frames are most likely to be suitable for dropped bars, whilst **L** frames are most likely to be required for use with straight bars.

We offer a choice of different types of SHIFTERS on our DERAILEUR BIKES

Please see this column and **PAGES 65 + 66** in **PART 2**

If **STRAIGHT BARS** are chosen on a SHERPA Mk3, you've a choice of MTB gearing options M1, M2, M3, or M4, (page 76) all of these use **DEORE RAPIDFIRE** pods.

You may change straight bar specs to Thorn Shimano Dura Ace thumb shifters but, as they're made from 10sp road bar end shifters, they'll **only work with Road Gearing Options** (10sp ROAD rear mech or a 9sp MTB rear mech - please see page 76).

If **DROP BARS** are chosen - standard Road options R1 or R2 can be specified - these use **TIAGRA STI** levers.

Shimano Dura Ace Bar End Shifters work with any of our Road options, they'll increase the service life of your transmission. These make particularly good sense on Drop Bar SHERPA or CLUB TOUR specs, see options **R3** and **R4**.

We have option **R5 - 20sp** compact double chainset.

NOTE: We don't recommend R5, unless you're super fit and strong!



THORN Shimano Dura Ace 10sp "THUMB SHIFTERS"



Shimano TIAGRA 10sp STI



Shimano Dura Ace 10sp Bar End Shifters



ROHLOFF

INTERNAL HUB GEARS

Rohloff first introduced their revolutionary 14 speed geared hub in 1998.

I was interested in the hub at the time of its launch but (like many others, I expect) I didn't want to buy something which I felt may not work properly and which I knew I wouldn't be able to mend.

I could see the attraction of being able to change through all 14 gears using just one shifter; being able to do this - without even needing to pedal, was more attractive still!

I could see that maintenance *could* be much simpler and the wheel *could* be much stronger.

We were persuaded by some strong-willed customers into building a few custom bikes equipped with Speedhubs and hearing much positive feedback from the happy owners, I decided to contact Rohloff myself in spring 2002 - I reasoned that, with the passing of the years, Rohloff would have identified and cured any problems during this time. After introducing myself, I got straight to the point and asked:-

"What problems have you had?"

and "What's the service life?"

The reply from Rohloff's product manager, Carsten Geck, was:-

"No joke, Andy, but we have never had a hub fail, so we can't tell you the service life but some of our customers have covered 70,000km of world travel!"

There followed more emails and my design for a Rohloff-specific frame was approved.

This is equipped with an eccentric bottom bracket to adjust chain tension, whilst using socketed vertical drop outs, which we know produce the most reliable rear ends for touring bikes.

Whenever we get the opportunity Fiona (my partner) and I like to travel on dirt roads, over high mountains, with medium-weight camping and cooking kit and up to 1 week's supply of food. I built two "Adventure Touring" bikes with Speed hubs and Fiona and I set out in Feb 2003 to ride as many unsealed mountain roads as we could find in Tasmania - there were plenty!

The bikes were better than good - they were sublime - we liked the Rohloff hub so much, that these bikes were soon joined by lightweight, sporty bikes with Speedhubs.

Fiona and I have covered more than 160,000Km between us, on our stable of Rohloff bikes. We've crossed the Andes, with full camping kit 28 times, sometimes on the roughest roads imaginable.

We've never had any problem whatsoever with our bikes.

The only servicing and adjustment I've ever had to make, on one of our trips, is to wipe muck off the chain and apply new chain lube - which takes a couple of minutes!

The strength and durability of the bikes, which we took to Tasmania (and the Andes) has been built into the THORN NOMAD bikes and the lighter weight bikes have now evolved into the THORN RAVENS.

We now also offer our Premium quality Multi-functional 700c bike - the THORN MERCURY.

**A High Spec,
stealthy looking
THORN MERCURY
in SIZE 580L**



Internal gear cables or Ex Box?



Above and Left, the original and still current, Rohloff Hub, with **internal gear cables**. We fit this to our Ravens. The Rohloff-specific gear wire, below the quick release bayonet fittings, is 0.9mm stainless steel. From the bayonet to the hub, this cable is sealed from the elements by concertina tubes. Above the bayonet fitting, the cables are conventional 1.1mm stainless steel gear wires, which run in brake outer above the adjusters. Between the bayonet and the adjusters, the gear wires are unprotected from the elements, which is why the perfect cable routing for this hub runs under the top tube.



Below, the Ex Box Hub, this was introduced when disc brakes became popular. The internal gear cables precluded fitting a rotor and the External transfer box solution was developed. It is connected to the central selector shaft by a gear train. Many cyclists, who have no intention of ever fitting a disc brake, still want the Ex Box Hub.

Conventional 1.1mm gear wires run, from the gear shifter to the Ex box, using conventional brake outer.

Both gear cable runs are thus sealed.

The perfect cable routing for the Ex Box goes under the chain stays, which also minimises the number of bends required, resulting in smoother operation and a longer service life for the cables.

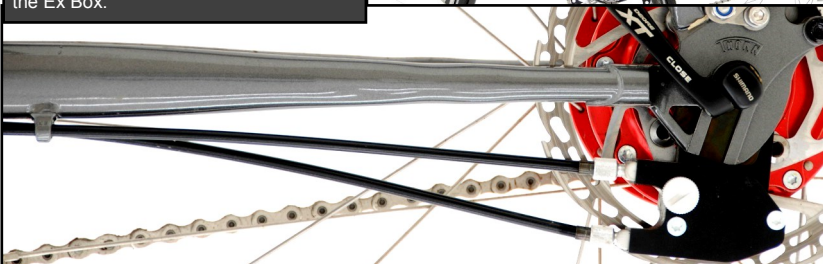
(If the same cable routing was used for the Ex box, as is used for the internal gear wire hub, the Ex box would be pointing upwards and water and thin liquid muck could then run down the outer casing and into the Ex box - which could eventually cause trouble.)

The Ex Box can be removed from the hub in seconds, by using the thumbscrew.

PLEASE NOTE: Our **Raven** bikes use the **internal gear cable hubs**, except the **420 ST** which needed to have either under the BB cable routing or lots of tight bends in the cable - I chose the under the BB routing.

Our **Nomad, Mercury and Raven Twin** Tandems all use the **Ex Box hubs** and have under the chain stay cable routing.

To use an Ex Box on a bike designed for under top tube routing, or an internal gear cable hub on a bike designed for under chain stay routing will **reduce the service life** of the cables and/or the Ex Box.



In May 2009, Rohloff wanted to find who had covered the greatest distance using a Rohloff hub -

Thomas Longin's claim was the highest - he claimed 145,000km.

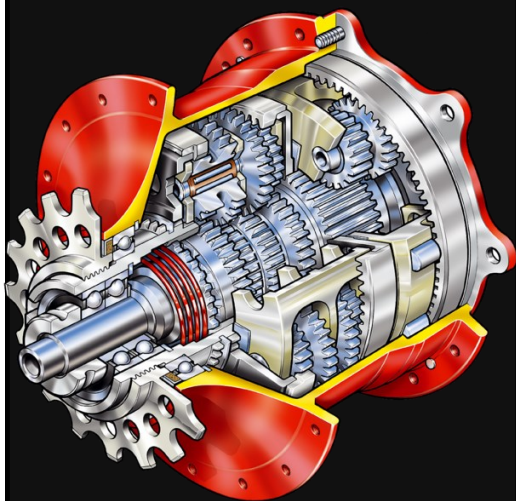
In 2013, apparently, Rohloff stripped several hubs which had covered more than 200,000Km. They tell me that wear on critical components showed that these hubs were still; "Nowhere near the end of their service life".

Nobody has yet worn out a Rohloff internal gear mechanism - apparently no hub, which has had regular oil changes, has ever had a catastrophic failure of the internal gear mechanism.

We know of one Rohloff hub which seized - because it had never had any oil in it! We know of another, which seized 1000Km after being totally submerged, for hours in a sulphur thermal spring - and this was after having been ridden for 17,500Km - without ever having had an oil change!

Nobody has a clue what the actual service life will turn out to be.

We offer a range of touring bikes with derailleur gears and a range of bikes with the **Rohloff Speedhub**



"It might look complicated but of course I know exactly how it works - you just turn the shifter and you're in the gear you need!" Andy Blance 2008

The Raven Tour and the Raven Sport Tour were first introduced in 2003.

The interest was immediate and it was intense.

We were the first to produce an off the peg touring bike, designed specifically & sensibly for the Rohloff Speedhub. Our bikes had much praise lavished on them.

Many testers said (and I have to agree) that our bikes were better thought out, better built and were better to ride, than custom built bikes costing more than twice as much. I'm amazed that, considering the way these bikes have been received, we still appear to be the only manufacturer who is determined to produce bikes that are optimised for using a Rohloff hub, in real world situations.

You can read more about the history of our Rohloff-specific frames in my document "Living with a Rohloff hub".

CLICK HERE For "LIVING WITH a ROHLOFF HUB"

This is a 19mb file; it may take considerable time for it to open, please be patient.

Optimising a bike for use with a **ROHLOFF SPEEDHUB**

We'd been considered to be innovative manufacturers of touring bikes and tandems for very many years, when a customer persuaded me to build him a touring bike with the Rohloff Speedhub.

The customer had asked us, because our bikes had an excellent reputation. I raised all the objections that I could think of and eventually the bike was built. I'm embarrassed when I think of the "solutions" the customer and I arrived at, for this first bike - it even had a torque arm.

We owed a debt to this customer! We contacted him a couple of years later and offered him a free Sport Tour frame and a free conversion of his hub to the OEM1 axle plate, which dispenses with the torque arm. (Needless to say, he accepted!) Our second Rohloff bike was an improvement on the first.

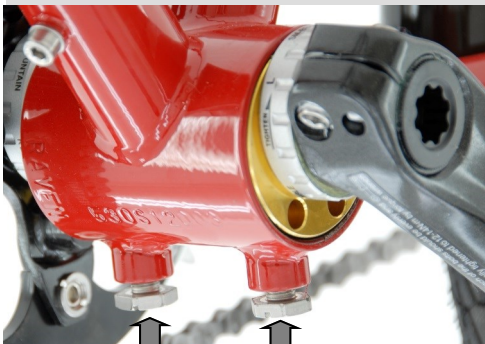
I soon decided that I wanted Fiona and me to have Rohloff equipped touring bikes and a period of intense testing took place.

I've always believed strongly, that you can't improve the design a bike - unless your whole life revolves around riding them - even then, it's essential that each new idea is tested in isolation, in a true scientific manner.

I was determined that an eccentric bottom bracket (EBB) offered the most reliable way of adjusting chain tension. After all it's been the method of choice on tandems for years!

I handmade our own Rohloff specific vertical dropouts and eventually Fiona and I had Thorn Rohloff bikes numbers three and four.

These bikes performed really well on tour, **we both knew that we'd never want to ride with derailleur gears again** but it was obvious that the cable routing deserved much more attention. The cable routing issues were sorted and proven and I then concentrated on getting the first 300 Raven Tours and Sport Tours made.



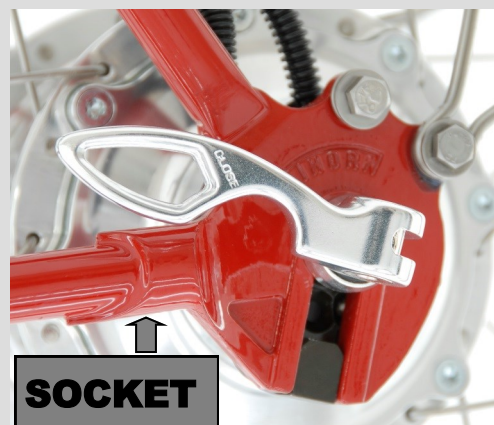
M8 x 0.75 Thread but with 15mm Flats to allow adjustment with pedal spanner.

Our eccentric bottom bracket (EBB) is crude but fool proof - just what you want on a bike which is designed for a lifetime's use.

Once I'd decided to use an EBB, I was able to get Rohloff specific, stainless, socketed, vertical dropouts made. The weakest point of a bike was always the joint between the RH chain stay and the RH dropout. This is where most frames used to fail first. I've been able to make this joint very strong, by using socketed dropouts. The standard practice used to be to cut a slot in the chain stays and braze the dropouts into the slot. The slots are stress risers.

Once you've owned a Rohloff equipped bike, you're very unlikely to ever want to use derailleur gears again.

I've heard criticism of our "ugly dropouts" (I actually think they look really nice). The main thing is that we've never had one fail!



Things to avoid when purchasing a Rohloff equipped bike.

I'm sad to say that I've seen some really silly things.

I can't believe that anyone thought that it would be a good idea to have sliding dropouts on any bike - especially a touring bike. Who'd want the rear end of their bike secured with some small screws? Who'd want to have to adjust brake blocks every time they adjusted the chain? Well some people obviously haven't thought about it enough, because such bikes exist. The reports coming through now, indicate that sliding dropouts are becoming very difficult to adjust as the frames get older.

I have to say that some of the cut away dropouts that I've seen, which require a slot in the stays, are lighter and do look prettier, perhaps this will help mitigate the empty, sinking feeling when they fail?

Any form of bare-wire routing for the gear cables, will soon result in a heavy feel to the shifter and require regular replacement of these cables.

Some bikes are being sold as Rohloff bikes, which are actually built, using frames designed for derailleur. Chain tension, on these is achieved by using a device like a rear derailleur. Some frames even require a torque arm.

If you rely on a chain tensioner for tensioning the chain, you'll have the problems associated with derailleur chains - i.e. a short service life and the chain will skip and fall off the chain ring and/or sprocket.

Apart from these annoying issues, you'll also have a significantly less efficient system. I didn't know whether to laugh or cry when I looked at the prices being charged for such monstrosities.

None of these frames compare with our own derailleur geared touring frames - never mind being comparable with our Rohloff-specific range, which comprises of:-

Nomad, Mercury and Raven.

THORN SOLO BIKE GEOMETRY

All dimensions are given in mm, except seat angles, which are in degrees.

Frames include high quality FSA aerospace bearing headset and nice quality 27.2mm micro adjustable seat post.

MODEL	SIZE	FRAME TUBE DIAMETERS	SEAT TUBE C to C	SLOPE	HEAD TUBE	VIRTUAL TOP TUBE C to C	BB Drop	SEAT ANGLE In degrees	CHAIN STAY	FORK OFFSET	MIDTUBE Standover HEIGHT	S/O at front of top tube
AUDAX Mk3 700C THORN 858 Seamless, Double butted Heat treated Cro-Mo frame & stays	495S	LIGHTWEIGHT OVERSIZED FRAME TUBES 28.6 top tube 28.6 seat tube 31.8 down tube 16mm seat stays .8/5/8 gauge	375	120	93	518	72	74	425	55	701	761
	525		425	100	110	550	72	73.5	430	46	738	788
	550		480	70	133	565	72	73	430	46	772	807
	555S		415	140	156	530	72	74	430	55	742	812
	570		510	60	156	575	67	72.5	430	46	801	831
	600		545	50	188	595	67	72	435	46	833	863
CLUB TOUR Mk4 700C REYNOLDS 725 Seamless, Double butted Heat treated Cro-Mo frame & stays	520S	STANDARD OVERSIZED FRAME TUBES 28.6 top tube 28.6 seat tube 31.8 down tube 16mm seat stays .9/6/9 gauge	440	80	125	540	70	73.5	439	55	755	785
	520L		440	80	117	580	70	73	444	50	755	785
	550S		480	70	154	550	70	73	442	55	785	825
	550L		480	70	144	590	70	72.5	447	46	785	815
	580S		520	60	188	560	65	73	445	50	820	842
	580L		520	60	179	600	65	72.5	450	46	820	842
	610S		560	50	214	575	65	72.5	448	50	850	865
	610L		560	50	205	615	65	72	453	46	850	865
MERCURY 700C REYNOLDS 853 Seamless, Double butted Heat treated frame & REYNOLDS 725 stays	520S	Special O/S FRAME TUBES 30.2 top tube 30.2 seat tube 31.8 down tube 16mm seat stays .8/5/8 gauge Inc shim to fit industry standard 27.2 seat post	440	80	125	555	70	73.5	431	50	755	785
	520L		440	80	117	580	70	73	431	46	755	785
	550S		480	70	154	565	70	73	431	50	785	825
	550L		480	70	144	590	70	72.5	431	46	785	815
	580S		520	60	188	575	65	73	431	50	820	842
	580L		520	60	179	600	65	72.5	431	46	820	842
	610S		560	50	214	585	65	72.5	431	50	850	865
	610L		560	50	205	615	65	72	431	46	850	865
RAVEN and SHERPA 26" THORN 969 Seamless, Double butted Heat treated Cro-Mo frame & stays	475M	Std SIZE tubes 25.4 top tube 28.6 seat tube 28.6 down tube 9/6/9 gauge 16mm seat stays Xtra O/S tubes 31.8 top tube 28.6 seat tube 34.9 down tube 16mm seat stays .9/6/9 gauge	415	60	123	550	55	74	432	52	715	750
	500S		445	55	150	540	55	73.5	432	52	740	770
	500L		445	55	144	575	55	73	438	52	740	770
	530S		480	50	180	550	55	73.5	438	52	780	805
	530L		480	50	170	590	55	73	445	46	780	805
	565S		520	45	217	560	50	73	438	52	815	835
	565L		520	45	210	605	50	72.5	445	46	815	835
	600S		560	40	248	575	50	72.5	445	46	850	870
	600L		560	40	242	620	50	72	451	46	850	870
THORN NOMAD Mk2 26" THORN 969 Seamless, Double butted Heat treated Cro-Mo frame & stays Suspension fork compatible Geometry*	420S-T	Std O/S tubes	450	N/A	210	555	55	73.5	438	52	690	N/A
	510M	Std O/S tubes	355	155	85	545	50	74.5	447	48	728	785
	510L	MEGA O/S tubes	370	140	85	570	50	73.5	453	48	735	790
	540M	Std O/S tubes	380	160	113	560	45	74	453	48	753	810
	540L	MEGA OVERSIZED FRAME TUBES 31.8 top tube 31.8 seat tube 34.9 down tube 19mm seat stays .9/6/9 gauge	400	140	113	590	45	73	466	48	760	815
	565M		400	165	139	575	45	73.5	453	48	768	840
	565L		415	150	139	605	42.5	73	466	48	775	845
	590M		445	145	166	585	42.5	73	466	48	800	865
	590L		460	130	166	620	40	73	466	48	810	870
	620M	Inc shim to fit industry standard 27.2 seat post	505	115	198	595	35	73	472	48	847	895
	620L		520	100	198	635	35	72.5	479	48	855	900

PLEASE NOTE these changes to NOMAD Geometry when 120mm suss forks are fitted.

*PLEASE ALSO NOTE that the head tubes on 620M and 620L are too long for any suss fork that we're aware of.

-30mm
BB Drop

-2°
All angles

+40mm
Mid S/O

+65mm
Front S/O

THORN SOLO BIKE LUGGAGE CARRYING CAPABILITIES The weights given are in Kg. They include pannier bags and ASSUME 3 FULL BOTTLES PLUS a BAR BAG with UP TO 2Kg

MODEL	FAIRLY GOOD QUALITY SEALED ROADS			ROUGH DIRT ROADS/OFFROAD With due care and attention		
	MAX POSSIBLE on FRONT AND REAR RACKS. Care may be needed out of the saddle.	RECOMMENDED MAX on FRONT and REAR RACKS for RELAXED, SWEET HANDLING	RECOMMENDED MAX REAR ONLY loads for RELAXED, SWEET HANDLING	MAX POSSIBLE on FRONT AND REAR RACKS. Care may be needed out of the saddle.	RECOMMENDED MAX on FRONT and REAR RACKS for RELAXED, SWEET HANDLING	RECOMMENDED MAX REAR ONLY loads for RELAXED, SWEET HANDLING
AUDAX Mk3 700c	30	20	12	NOT RECOMENDED	NOT RECOMENDED	6
CLUB TOUR Mk4 700c	40	28	18	22	18	14
MERCURY 700c	36	25	16	20	16	12
26" RAVEN and SHERPA Std Size	32	20	16	24	16	12
26" RAVEN and SHERPA Std O/S	40	28	20	30	24	18
26" RAVEN and SHERPA Xtra O/S	45	32	22	35	30	22
26" NOMAD Mk2 Std O/S	45+	35	26	38+	32	25
26" NOMAD Mk2 MEGA O/S	60+	40	30	50+	35	27

FRAME SIZING - Women's frames.

We don't make frames specifically for MEN or for WOMEN but, as we make so many different sizes and models, we're confident we can supply 97% of the adult population, with the frame, for a perfectly fitting machine from our stock.

I know several female cyclists who are stronger and/or quicker than almost any male cyclist. (In my opinion, the 2 greatest cyclists of all time were Eddy Merckx and Beryl Burton.)

Generally however, women are not as heavy or as strong as male cyclists. There's a popular misconception that, on average, women have longer legs than men of the same height. This may appear to be true, when looking at people in the street but it's not true of people in bare feet. High heels can't be used to advantage whilst cycling.

Why has this misconception arisen?

[1] Women generally have less upper body strength

than men - they can't support a sporty position as well as, or for as long as, most men.

[2] Many women suffer from discomfort in the genital area, whilst adopting a low position.

[3] Women usually have smaller hands than men.

The result of any or all of the preceding points, is that women are frequently told that they require a bike position, with a significantly shorter reach than that of a man with identical body dimensions.

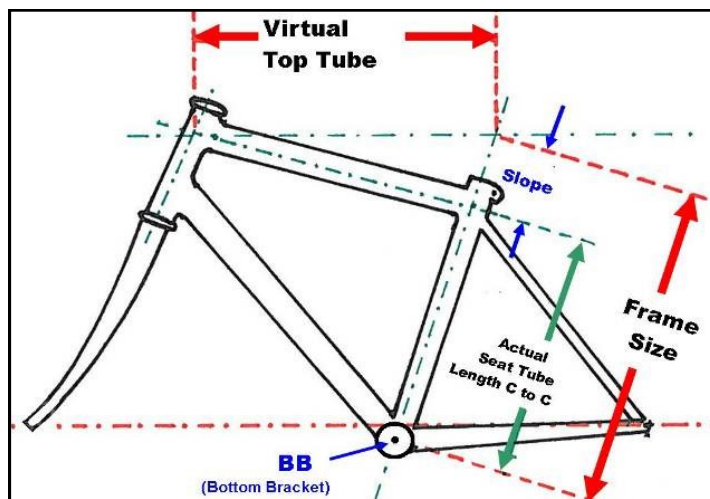
It's more likely, in my opinion, that a slightly shorter reach, combined with a higher handle bar position would be even more comfortable.

It's true that more than 90% of our customers are male but we've always made sizes suitable for women.

(And for short men, who want a relaxed position).

Many of our frames are also suitable for short women - Ravens and Sherpas in sizes 475M and 420S-T and Audax Mk3 size 495S.

The 555S Audax is unique - it's a sports bike with a medium sized frame, a short top tube, no toe overlap and excellent handling.



PLEASE SEE PAGES 54 to 56 for INFORMATION regarding YOUR POSITION on a BIKE



A larger copy is on page 54

HOW WE SIZE OUR FRAMES

(Please refer to the Matrix on previous page)

All our frames have sloping top tube. This slope is beneficial in providing the rider with more clearance when standing over the top tube, at the middle of the tube. We call this mid tube stand over height.

It's essential that you can stand over your bike at this point.

Long legged riders ought to be able to straddle the bike at the very front.

I shall do my best to explain what the dimensions in the matrix mean.

OTHER METHODS OF SIZING FRAMES

for interest (?) only

If you measure to the top of the actual seat tube, it won't tell you much about the frame.

[1] The current MTB convention of calling things an, apparently random, measurement in inches only works, as long as all frames have a similar shape and as long as all manufacturers agree to this convention. I expect that we could call our frame sizes something like:- 14", 16", 17", 18", 19" and 21"

On the other hand, traditional touring bike manufacturers used 2 conventions.

[2] Frames were measured from the BB centre to the top of the seat tube. Measured this way the frame sizes above could be called:- 19 1/2", 20 3/4", 22", 23", 24" and 25 1/4"

This makes some sense, provided that the top of the seat tube is almost level with the top tube but often they're not and then the convention becomes nonsense.

The way that we size our frames is to measure the seat tube, from the centre of the BB, to the intersection of where the centre line from the top tube would intersect with it, IF the bike had a horizontal top tube - this is the "SIZE" in the matrix. This is our modern take on convention [3] please see "Other methods of sizing frames." in the box below. We also provide a dimension, which we call "SLOPE" - the difference between the size and the actual seat tube C to C.

You'll also see, in the diagram above exactly how we measure the "VIRTUAL TOP TUBE"

On a sloping frame, the Virtual Top Tube is different to and much more informative than, the actual top tube C to C dimension. The greater the slope, the more meaningless the actual top tube dimension becomes.

[3] Alternatively frames were often measured from the BB to the intersecting centre lines of the seat tube and horizontal top tube. This made sense because both conventions measured top tubes between centre lines. Measured this way these same frame sizes could be called 18 1/4", 20", 21 1/4", 22 1/4", 23 1/4" and 24 1/2"

(We favoured this convention, until it became normal to have a sloping top tube)

I hope that I've explained why we don't use the MTB convention or either of the old touring bike conventions, a 19" touring bike would be ludicrously small for someone who thought that they wanted a 19" MTB and a 21" MTB would be monstrously huge for the shorter than average height men, or taller than average height women who may ride a 21" touring bike!

Although it may seem complicated at first, we consider our method of sizing touring bikes, to be a sensible system.

Which FRAME SIZE? Part 1 - MOST MALE CYCLISTS

And some, probably younger, Female cyclists, requiring sportier set ups.

YOUR IDEAL FRAME SIZE depends upon whether you want **drops or straight bars** and, usually, **your age and gender**. Most cyclists could ride 2 and, in the case of some models, 3 different sizes.

For most bike/bar combinations we've given 2 alternatives, based upon **BFSO (bare foot stand over height)**. We also give **BFH**, which is the **AVERAGE Bare Foot Height** of a person with this **BFSO**.

We assume that your **cycle shoes will increase your BFSO by 20mm - please don't add this**.

MEASURE YOUR BFSO, (page 23) Read down **BFSO** column, choose frame size from appropriate row.

If your **BFH** is **SHORTER** than **AVERAGE** for your **BFSO**; choose the **SMALLER** of the sizes given.

If your **BFH** is **TALLER**, than **AVERAGE** for your **BFSO**; choose the **LARGER** of the sizes given.

The **FRAME SIZES** in **BLACK PRINT** will give you **crotch clearance**, even when you straddle the bike at the **very front of the top tube**.

The **FRAME SIZES** in **RED PRINT** only give you clearance, when you stand over the mid top tube - they **WON'T** give sufficient clearance at the very front - this may be unavoidable, if you've very short legs.

L sizes in **RED BOXES** occasionally very tall cyclists, with **exceptionally long arms and legs**, require these sizes with drops.

BFSO Bare Foot Stand Over Height in mm	BFH AVERAGE Bare Foot Height for this BFSO in mm	AUDAX Mk3 700c		CLUB TOUR Mk4 and MERCURY 700c				RAVEN and SHERPA 26"				NOMAD Mk2 26"	
		DROPS ONLY		DROPS		STRAIGHT		DROPS		STRAIGHT		STRAIGHT ONLY. With STEEL FORK Deduct 35mm from your BFSO with ease fork.	
709	1555							475M		475M			
716	1570	525						475M		475M			
723	1585	525						475M	500S	475M	500L		
730	1600	525						475M	500S	475M	500L	510L	
737	1615	525		520S		520L		475M	500S	475M	500L	510L	
744	1630	525		520S		520L		475M	500S	475M	500L	510L	
751	1645	525		520S		520L		475M	500S	475M	500L	510L	
758	1660	525	550	520S		520L		475M	500S	475M	500L	510L	540L
765	1675	525	550	520S	550S	520L	550L	500S	530S	500L	530L	510L	540L
772	1690	525	550	520S	550S	520L	550L	500S	530S	500L	530L	510L	540L
779	1705	550	570	520S	550S	520L	550L	500S	530S	500L	530L	510L	540L
786	1720	550	570	520S	550S	520L	550L	500S	530S	500L	530L	510L	540L
793	1735	550	570	520S	550S	520L	550L	530S	565S	530L	565L	510L	540L
800	1750	550	570	520S	550S	520L	550L	530S	565S	530L	565L	540L	565L or M
807	1765	550	570	520S	550S or 580S	520L	550L or 580L	530S	565S	530L	565L	540L	565L or M
814	1780	550	570	550S	580S	550L	580L	530S	565S	530L	565L	540L	565L or M
821	1795	550	570	550S	580S	550L	580L	530S	565S	530L	565L	540L	565L or M
828	1810	570	600	550S	580S or 610S	550L	580L or 610L	530S	565S	530L	565L	540L	565L or M
835	1825	570	600	580S	610S	580L	610L	565S	600S	565L	600L	565L	590L or M
842	1840	570	600	580S	610S	580L	610L	565S	600S	565L	600S	565L	590L or M
849	1855	570	600	580S	610S	580L	610L	565S	600S	565L	600S	565L	590L or M
856	1870	570	600	580S	610S	580L	610L	565S	600S	565L	600L	565L	590L or M
863	1885	600		580S	610S	580L	610L	565S	600S	565L	600L	565L	590L or M
870	1900	600		610S	610L	610L		565S	600S	565L	600L	590L	620L or M
877	1915	600		610S	610L	610L		565S	600S	565L	600L	590L	620L or M
884	1930	600		610S	610L	610L		600S	600L	600L		590L	620L or M
891	1945							600S	600L	600L		590L	620L or M
897	1960							600S	600L	600L		590L	620L or M
904	1975											590L	620L or M
912	1990											590L	620L or M

Which FRAME SIZE? Part 2 - MOST FEMALE CYCLISTS

And some, probably older, Male cyclists requiring more relaxed set ups.

YOUR IDEAL FRAME SIZE depends upon whether you want **drops or straight bars** and, usually, **your age and gender**. Most cyclists could ride 2 and, in the case of some models, 3 different sizes.

For most bike/bar combinations we've given 2 alternatives, based upon **BFSO** (bare foot stand over height). We also give **BFH**, which is the **AVERAGE Bare Foot Height** of a person with this **BFSO**.

We assume that your **cycle shoes will increase your BFSO by 20mm - please don't add this**.

MEASURE YOUR BFSO, (page 23) Read down **BFSO** column, choose frame size from appropriate row.

If your **BFH** is **SHORTER** than **AVERAGE** for your **BFSO**; choose the **SMALLER** of the sizes given.

If your **BFH** is **TALLER**, than **AVERAGE** for your **BFSO**; choose the **LARGER** of the sizes given.

The **FRAME SIZES** in **BLACK PRINT** will give you **crotch clearance**, even when you straddle the bike at the **very front of the top tube**.

The **FRAME SIZES** in **RED PRINT** only give you clearance, when you stand over the mid top tube - they **WON'T** give sufficient clearance at the very front - this may be unavoidable, if you're very short legs.

The **Raven and Sherpa 420ST** (Step Through) and **Audax 555S frame sizes in blue print** are an appropriate size for this **BFSO** - despite apparent limited clearance at the very front - because they're designed for standing over at the mid-tube position.

BFSO Bare Foot Stand Over Height in mm	BFH AVERAGE Bare Foot Height for this BFSO in mm	AUDAX Mk3 700c		CLUB TOUR Mk4 and MERCURY 700c				RAVEN and SHERPA 26"				NOMAD Mk2 26"	
		DROPS ONLY		DROPS		STRAIGHT		DROPS		STRAIGHT		STRAIGHT ONLY. With STEEL FORK Deduct 35mm from your BFSO with suse fork.	
674	1480									420ST			
681	1495	495S								420ST			
688	1510	495S								420ST			
695	1525	495S						475M		475M	420ST		
702	1540	495S						475M		475M	420ST		
709	1555	495S	525					475M		475M	420ST		
716	1570	495S	525					475M		475M	420ST		
723	1585	495S	525 or 555S					475M	500S or 420ST	475M	500L or 420ST	510M	
730	1600	495S	525 or 555S					475M	500S or 420ST	475M	500L or 420ST	510M	
737	1615	495S	525 or 555S	520S		520S		475M	500S or 420ST	475M	500L or 420ST	510M	
744	1630	495S	525 or 555S	520S		520S		475M	500S or 420ST	475M	500L or 420ST	510M	540M
751	1645	495S	525 or 555S	520S		520S		475M	500S or 420ST	475M	500L or 420ST	510M	540M
758	1660	525	550 or 555S	520S		520S	520L	475M	500S or 420ST	475M	500L or 420ST	510M	540M
765	1675	525	550 or 555S	520S		520S	520L	500S or 420ST	530S	500L or 420ST	530S	510M	540M
772	1690	550	555S	520S	550S	550S	520L	500S or 420ST	530S	500L or 420ST	530S	510M	540M or 565M
779	1705	550	555S or 570	520S	550S	550S	550L	500S or 420ST	530S	500L or 420ST	530S	510M	540M or 565M
786	1720	550	555S or 570	520S	550S	550S	550L	500S or 420ST	530S	500L	530S	510M	540M or 565M
793	1735	550	555S or 570	520S	550S	550S	550L	500S or 420ST	530S	500L	530S	540M	565M
800	1750	550	570	520S	550S	550S	550L	530S or 420ST	565S	530L	530S	540M	565M
807	1765	550	570	520S	550S	550S	550L	530S or 420ST	565S	530L	565S	540M	565M
814	1780	550	570	520S	550S	550S	550L	530S	565S	530L	565S	540M	565M or 590M
821	1795	550	570	550S	580S	550S	550L or 580S	530S	565S	565L	565S	540M	565M or 590M
828	1810	570	600	550S	580S	580S	550L or 610S	530S	565S	565L	565S	565M	590M
835	1825	570	600	550S	580S	580S	580L or 610S	565S	600S	565L	565S	565M	590M or 620M
842	1840	570	600	550S	580S	580S	580L or 610S	565S	600S	565L	565S	565M	590M or 620M
849	1855	570	600	550S	580S	580S	580L or 610S	565S	600S	565L	600S	565M	590M or 620M
856	1870	570	600	550S	610S	580S	580L or 610S	565S	600S	565L	600S	565M	590M or 620M
863	1885	600		580S	610S	610S	580L	565S	600S	565L	600S	590M	620M

Please read the following 3 pages carefully. Your choice of bar determines which frame size you need.

PLEASE NOTE:-

The Thorn Bars described in the following pages all have 25.4mm diameter centre swells - apart from our new eXp bars, which are 31.8mm. Currently there is a considerably greater choice of stems, with different lengths and/or angles available for 25.4mm diameter bars, than are currently available for 31.8mm diameter bars.

If you're cycling in any country and you see a loaded touring bike with drop bars, it's very likely that the rider is from the UK, or from West coast USA.

The rest of the world tends to use straight bars for loaded touring!

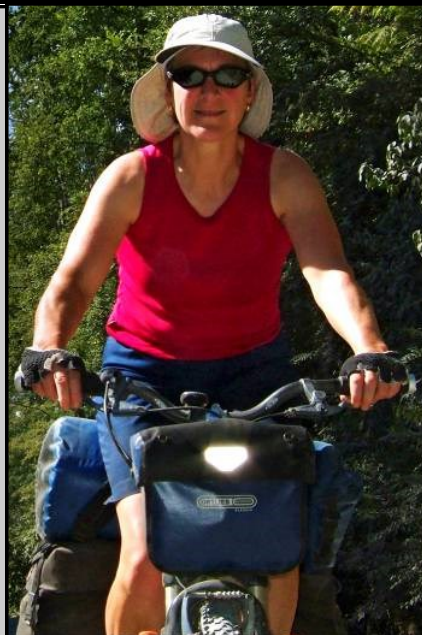
The two most useful positions (with drops) can be duplicated and even improved upon by using "straight bars" and bar ends.

If you know which bars you want on your new bike - fair enough but if you're undecided, the following may be useful.



Fiona using straight bars with bar ends (left) and the comfort bars, that she helped us develop (right). Fiona and I have used Thorn comfort bars with Ergon grips, extensively for cycle camping, mountain biking and for general cycling. During these activities we do have different hand positions - these are cycling and not cycling!

(Activities best undertaken off the bike, include eating, making tea, resting, looking at maps, examining flora and taking pics of beautiful scenery)



DROP BARS offer 3 different positions:- the brake lever hoods are, beyond doubt, the most frequently used position, accounting for about 90% of usage. The position on either side of the stem (usually referred to as "the tops") accounts for about 9% of usage, whilst the actual dropped section, (often called "the hooks") are used very rarely by touring cyclists, usually only to get more leverage on the brake levers than is possible from "the tops".

STRAIGHT BARS with BAR ENDS

We have several different "straight" bars. Our standard bar, the **Thorn straight bar** is 580mm wide and has a 5 degree bend; these suit many cyclists. Some prefer a narrower bar and we also offer our Thorn Narrow bars.

Thorn Narrow Bar, this is 550mm wide and, thanks to laser etched marks can conveniently be cut down to 510mm, it has a 5 degree bend and has a very short centre swell, which allows us to get the brake levers sufficiently inboard to be able to use bar ends at this width. **This provides a very aerodynamic position.** Unlike the "tops" of the drops, which use bar tape, the straight bars can have very comfortable anatomical handlebar grips (such as the Ergon GP1-L). This position also offers a great view of the road and surrounding

scenery, whilst also offering instant and easy gear changing and/or very effective braking. We use this position for perhaps as much as 75% of our riding.

The Thorn Narrow bar is highly recommended for sporty use.

BAR ENDS

Bar Ends are available in many different configurations and materials, the rubber covered, "ergo control" bar ends are very comfortable. Bar ends are biomechanically efficient - particularly when climbing out of the saddle. Compared to the primary position, bar ends allow a 90 degree rotation of the wrists, which not only gives relief to the palms, the change also re-orientates the elbows, which then in turn re-align the shoulders, which then use different muscles in the cervical spine. Simply rotating your wrists through 90 degrees provides a completely different position, which helps greatly, especially if you ride for hour after hour without a break.

SJSC Ergo control bar ends. These are very comfortable, being covered in thick, soft rubber.

ZOOM Ski Bends. These are very durable and make an excellent choice for an expedition

touring bike. They can be covered with Grab On foam sleeve, if required.

THORN J bend Bar Ends, complete with Blackburn Mirror and Grab-On closed cell sleeve.

Thanks to their upward curve, these offer the facility of having the most effective rear view mirror yet seen on a bike with bar ends.

The Ergon GP5-L grips, with the built in "L" shaped bar end are exceptionally comfortable. They offer 4 different positions and the rubber inlays give exceptional grip - even when wearing woolly gloves.

THORN J bend Bar Ends, complete with Blackburn Mirror and Grab-On closed cell sleeve.



Ergon GP1L grips



Ergon GP5-L grips



THORN COMFORT BARS

are 620mm wide and are available polished or anodised black, they were developed by us with input from a senior physiotherapist. They are supremely comfortable, especially when used with Ergon grips, because they have an 18° bend, which puts the wrists into perfect alignment with the forearm and thence with the elbow.

PLEASE NOTE:- only one hand position is available with comfort bars.

The bends take up a lot of the width and there is not physically enough room to fit bar ends and average sized hands, onto the relatively short straight section.

COMFORT BARS CAN NOT be CUT to REDUCE THEIR WIDTH.

In my opinion, these bars are the perfect width for the "hands on the grips position". Comfort bars "sweep back" around 45mm which means that they need a much longer stem, to get a specific reach, than would be used with 5 degree "straight bars."

Comfort bars gain around 50mm of height, which makes them an excellent choice, where a very relaxed and thus fairly high position is required.

THORN Mk3 FLAT TRACK BARS

Straight bars and comfort bars, need to be used with frames with long top tubes.

I've recently redesigned these bars, which are essentially "straight" bars with a 10 degree bend, immediately after the stem. The centre swell has been reduced to a minimum, in order to keep as great a length of the straight 22.2mm diameter section as possible. These bars are now **hard anodised black** and 580mm wide, which is wide enough for most applications. They have a numbered scale etched every 5mm into both ends of the bar, to facilitate shortening them to individual requirements.

UPDATE:- Many customers had the earlier Flat Track bars fitted to their bikes and the feedback has been very positive. I can certainly recommend 550mm-580mm Flat Track bars for both relaxed and sporty/relaxed set ups..



NEW!

THORN eXp EXPEDITION HANDLEBARS.

**12.5° BEND - 31.8mm CENTRE
680mm to 590mm WIDTH**

I designed our NEW THORN eXp bars for seriously heavy duty use. They are 680mm wide but have scales for cutting them down, in 10mm increments to 590mm. As the bars are not designed to be used shorter than 590mm, I've been able to keep the centre swell sufficiently long, to enable bar bags, lights, cycle computers etc. to be fitted to it. Unlike all other Thorn bars, the centre of the bars is 31.8mm therefore an oversize stem is required.



Thorn comfort bars silver or black



Thorn Mk3 Flat track bars.

Triple butted AL7075

NOW HARD ANODISED

The scales on both ends of these bars makes it easy to cut them from 580mm to 570mm, 560mm or 550mm

The centre swell width has been kept to the minimum to give as much useful bar space as possible



**FLAT TRACK BARS + GP5-L GRIPS
= 4 Different, comfortable positions.**



Fiona getting her breath back after cresting yet another long steep climb, into a raging headwind on Ruta 40, in Argentine Patagonia.

Fiona's FLAT TRACK bars were 640mm and were fitted with Zoom ski bends. We would now fit Thorn eXp bars to Expedition and/or Adventure Touring bikes.

The eXp bars have been polished and then hard anodised, to give them the best possible protection against corrosion. Materials experts have told me that Al 7050 is the best possible alloy, for making a bar, with a long service life, that can survive big knocks. At 330g, these bars are certainly not light weight but I've done everything that I can do, to make them the most bombproof Expedition Touring bars available.

Q. Why do I say that our 5° Narrow bars are so comfortable, when our Flat Track bars are 10° and our eXp bars are 12.5°?

A. For different size cyclists, with different styles of cycling, with different levels of ability, on different types of terrain, there's an optimum handlebar width.

Big guys, with very heavy loads, on dirt roads are best off having very wide bars, possibly 680mm.

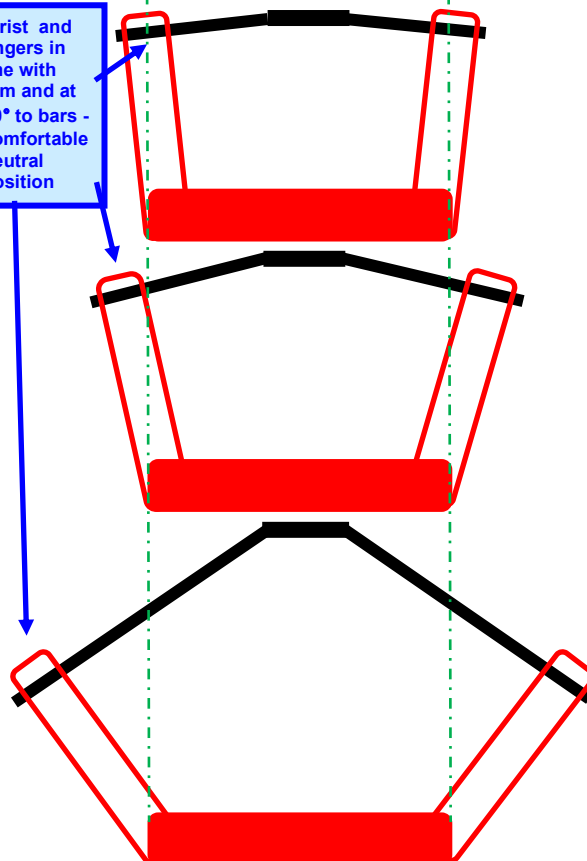
Small, experienced cyclists, with very light loads on smooth tarmac, are best off with very narrow bars, possibly 510mm. The vast majority of cyclists need something in between.

Let's accept that, as individuals, we need different width bars.

The wider your bars are, the greater the angle of the bend needs to be - in order to position your wrists in a comfortable neutral position.

The angles required in the diagrams on the right are highly exaggerated because the hands and arms are so short. I believe that this serves to emphasise the point, as well as save space.

Wrist and fingers in line with arm and at 90° to bars - comfortable neutral position



"Butterfly" Bars.

These are very popular in Northern Europe. They appear, at first, to offer many different positions. The most important position, the one that gives you access to the brakes, is a very narrow position. I find that riding for any distance, the outsides of my hands press against the inside curve of these bars, I find this very uncomfortable.

When filtering through urban traffic, narrow handlebars are an advantage but **butterfly bars are not narrow themselves**, only the riding position, on the brakes is narrow.

Butterfly bars are made from a very long length of tubing, consequently the bars flex significantly, when the "access to brakes" position is used.

Flexing is a positive thing, when riding slowly on flat cycle paths, it enhances comfort. At high speed, down mountain roads (or hilly country lanes) I find the flexing of the bars alarming; yet the bars must be held here, **because this is where the brakes are!** Butterfly bars bend deeply, back towards the rider, therefore the stem must be long enough (at least 120mm but 130mm would be better) to place the brake position, forward of the "centre of steering".

If you ride with your hands behind the centre of steering, you run the risk of, not only being unable to control a speed wobble but of actually precipitating one in the first place!

Given the absolute necessity of using a long stem with butterfly bars, if you select a frame which is ideal for you with butterfly bars, the frame will be too short, if you decide that straight bars with bar ends, or comfort bars, are a better idea. It is almost ironic that butterfly bars, which *appear* to offer such a wide choice of position, are usually unable to provide comfort, in the position that you have to use, for much of the time, in order to operate the brakes!

GEAR SHIFTERS for ROHLOFF

Rohloff only manufacture a twist grip shifter this only fits onto 22.2mm dia. bars.

ROHLOFF BIKES with STRAIGHT BARS.

You may choose any of our Thorn straight handlebars, combined with Herrmans grips with SJSC ergo bar ends, or Ergon GP1L grips without bar ends for zero extra cost.



The upgrade to Ergon GP5-L grips (see page 26) is very highly recommended - except where comfort bars have been chosen.

The shifter is normally fitted to the **RIGHT** side of the bar but it's now also available to fit onto the **LEFT** side of the bar.

If you wish to have the shifter on the LHS, please make this very clear when ordering.

The Rohloff shifter is round in section, it is easy and comfortable to grip and easy to rotate. The indexing of the Rohloff hub takes place within the hub and the shifter is very easily turned. Don't confuse this excellent piece of German engineering with the horrible derailleur Gripshift system.

The relationship between handlebar choice and frame length.

I feel that a frame alleged to be suitable for all types of bar, is unlikely to be satisfactory with any type of bar!

A bike, designed for drop handlebars, needs a shorter top tube than a bike which is designed for "straight" handlebars. The reason is simple...drop bars have a pronounced forward throw, straight bars have no such throw (they usually sweep back, towards the rider.) When cycling on drop bars, using the brake hood position, the rider's hands are even further forward. The designer of a well designed drop bar bike, will know that this is where a rider's hands are, most of the time and will have taken this into account, by providing a suitably short top tube.

When drop bars are used on a bike which has been correctly designed for straight bars, they will grossly overstretch the rider. I have found that generally, the stem length needs to be reduced by at least 55mm - when moving from straights to drops on the same frame. **BUT PLEASE NOTE**, this could be as much as 90mm when moving from comfort bars to drops. As most straight bar bikes are designed for use with a stem of from 100 to 120mm, drop bars would generally mean fitting a stem between 45 to 65mm. This is far from ideal.

Conversely, a frame which was fine with drop bars would need a 60-70mm longer stem to achieve a comfortable position with straight bars. Really long stems, used with straight bars, have a terrible effect upon the steering, making it feel like a tiller!

I hope that I've been able to explain why we believe that it's so important to choose your bars before you choose your frame.

NOTE:- Despite whatever the diameter the centre swell may be (25.4, 26.0 or 31.8mm etc) -

ALL drop bars are 23.4mm in diameter and all straight bars are 22.2mm in diameter.

ROHLOFF BIKES with DROP BARS.

French engineer, Gilles Berthoud has

introduced a shifter which works on drop bars. This shifter is manufactured in 3 sections, which can be manoeuvred around the bends of drop bars and assembled in situ onto 23.4mm bars. Gilles worked in close collaboration with Rohloff, who've given their approval for its use.



We've had our own THORN DROP BARS made for Rohloff, with a very short centre swell.

Look how close we've managed to get the GB shifter to the stem! This creates sufficient room "on the tops" for a comfortable hand position.

Sorry, the pics of the bars show the first Gilles Berthoud shifter mounted to our bars.

DISC BRAKES versus RIM BRAKES

I've no doubt whatsoever that HYDRAULIC DISC BRAKES are preferable to V BRAKES, in the deep, muddy conditions, so often found when mountainbiking in the UK.

I've also no doubts that I prefer V BRAKES for Expedition and Adventure Touring.

Disc rotors are easily damaged in transit and a bent rotor is much more difficult to straighten than an out of true wheel. Indeed, if the rotor is warped enough, the wheel won't even turn! I wouldn't want to have to deal with leaking hydraulic lines in the middle of nowhere. I could make V brakes work with a bit of string.

For every day use and especially for touring, we prefer the simplicity, ruggedness and easy maintenance of V brakes.

We have 26" rims available, with tungsten carbide braking surfaces, (CSS) which provide exceptional longevity.

As there are no CSS rims available in 700c size, we think that it's a good idea to use a cable operated rear disc brake on 700c touring bikes. There's the option to have cable operated rear disc brakes on our 700c Mercury and Club Tour Mk4 bikes.

We use raked blades, these are exceptionally comfortable, they will withstand the forces of cycling (and have done so for generations) but comfortable raked forks won't withstand the forces generated by a disc brake, which are very different to the forces generated by rim brakes - even at the same rate of retardation. There's 2 ways to accomplish the fitting of a front disc to a steel fork.

(1) Use conventional fork blades, fit a disc mount and hope for the best - simple - but this approach doesn't work. We've had customers complain, that a well known custom builder's raked steel forks have bent permanently under braking. You can see below what happened when I brazed a disc mount onto tandem forks, on an unloaded solo bike!

(2) Use oversized, heavy duty fork blades - such forks don't fail, but I fear that I'd injure my hands and elbows!

In 1999, Fiona and I had a short holiday, on our tandem, in Australia. (We had just 14 days in Australia). Our tandem had Columbus Max, Nivacrom steel, unicrown forks, which I was testing - these would be fine with a disc. During our first week, we stopped frequently, taking in the sights on the Great Ocean Road. This meant we'd left ourselves 600 miles to ride in a week, to catch our flight and I can still feel the injury to my elbows, that these forks caused.

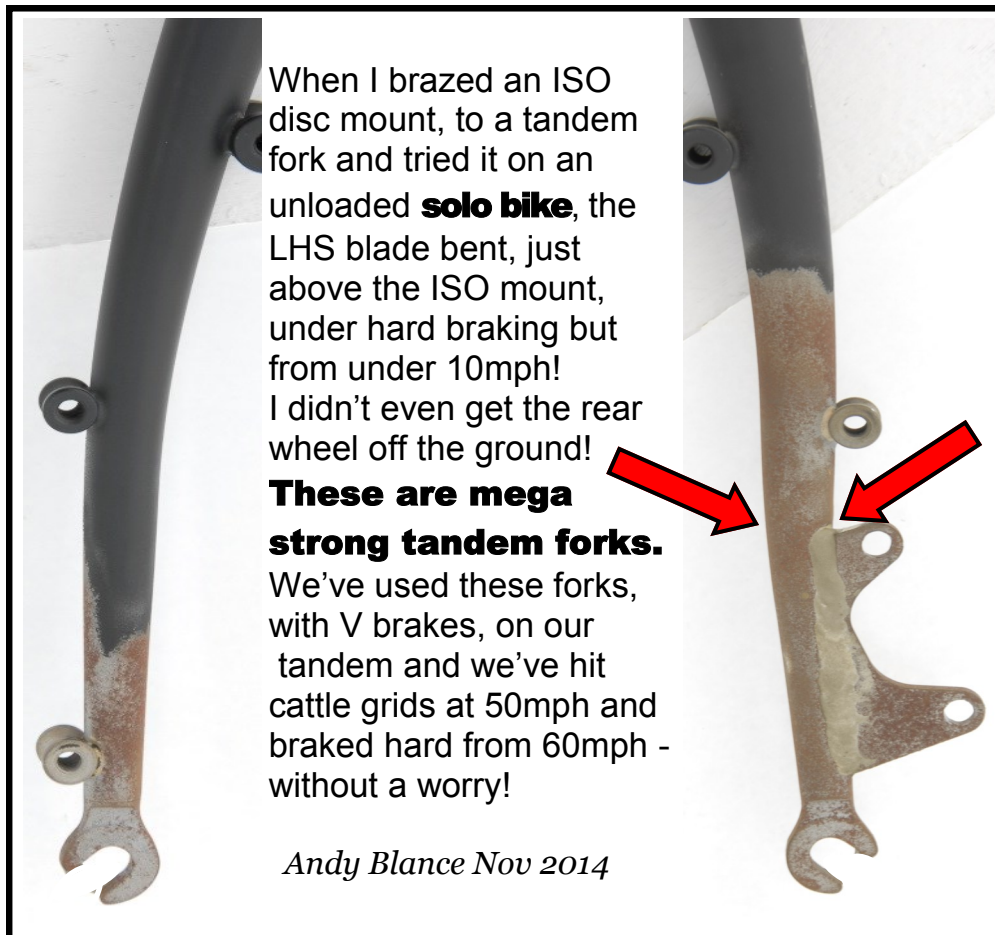
Isn't hitting bumps comfortably and safely the main function of a bicycle's fork?

Why compromise comfort and safety?

Thorn Reynolds steel disc brake touring fork with lo loader bosses. The Blades are extra heavy duty and have larger than usual diameter tips. There are no V brake bosses - this fork **must be used** with a front disc brake.

We resisted designing a steel disc fork, because we knew that a reliable disc fork couldn't be as comfortable as our Reynolds Super Tourist V brake fork - and IT'S NOT!

However, it's as comfortable as any other, reliable steel disc fork and it's more comfortable than most!



V Brakes

Shimano Deore V brake



Choosing your brakes with "straight" bars is easy. **Shimano Deore V brakes** have nice levers, they're very powerful and they're also very well made. I wish we had brakes this good 20 years ago!

Shimano Deore 2 finger



Default Option With straight bars

Shimano Deore 3 finger



sjscycles



Our XT brakes are now **BLACK**

Shimano XT V brakes and V brake levers take brake performance to a whole new level.

XT V brakes pivot in bronze bushings and have longer, forged arms to provide more mudguard clearance.

XT levers have a superb feel

We have several upgrades which include XT V brakes and/or XT levers. These are worth considering.



Shimano XT V brake levers

V Brakes for drop bars

If you choose to have drop bars, on a bike with V brakes, you must choose the **Tektro drop bar V brake levers** - these levers pull the necessary amount of cable, to enable V brakes to be fully applied, before the lever touches the bars.

Ordinary drop bar levers will hit the bar, before maximum brake force can be applied.



TEKTRO Drop Bar V Brake Levers

Calliper Brakes

Shimano R 451 Callipers



Our Audax frames are designed for use with deep drop (47-57mm) calliper brakes. Our Mercury frames and some of the Mercury fork options, can also be specified with these brakes.

Shimano BR-R 650 Callipers



sjscycles

Calliper brakes have been used on road racing bikes for decades, they have the most precise feel (modulation) of any bicycle brake. Road racing brakes are shallow drop and it's impossible to fit mudguards, with adequate clearance with tyres wider than 23mm.



Shimano BL-R400 Levers

Deep drop

calliper brakes are powerful enough to be used on sports touring bikes. The maximum tyre width, usable with deep drop brakes and mudguards, is 30mm.

These brakes work with drop bar STI or with Shimano drop bar levers on drop bars.

Using CALLIPER BRAKES with STRAIGHT BARS

When straight bars are chosen with calliper brakes, **BL-R550 straight bar levers must be chosen** - V brake levers mustn't be used as they **DO NOT** provide sufficient leverage to operate calliper brakes.

Shimano BL-R550 Levers



Cantilever Brakes



sjscycles

Cantilever brakes have been superseded by V brakes for straight bar use.

They do still have a valid use, they work with drop bar levers.

It's sensible to choose V brakes and Tektro drop V brake levers, with drop bars, which use bar end shifters.



Shimano ROAD STI lever

When drop bars are required with Shimano STI integrated brake and gear levers, there's a choice between fitting cantilever brakes, mini V brakes or of adding a widget to alter the cable pull

ratio of the brake lever. We find that the widgets cause hassle, the mini V brakes don't work perfectly with STI and really narrow tyres have to be fitted when mudguards are required. We believe that it's best to specify Cantilever brakes - certainly at the front - if you must have road STI, on a medium to heavy duty drop bar touring bike.

The best Canti brakes that I've ever seen have recently been introduced by Avid. These are a recommended upgrade with drop bars, on our Sherpas and Ravens and on the front of Club Tours or even drop bar Mercuries with Shimano drop bar levers.

AVID SHORTY ULTIMATE CANTILEVER BRAKES



Avid

Hydraulic Disc Brakes

Hydraulic disc brakes are, without doubt, the perfect choice for serious MTB use but we no longer make a mountain bike.

Our Nomad Mk2 could be built into a bike for serious off-piste Alpine touring, with a suspension fork - a role it excels in! The very best brakes we could currently use for such a bike would be a Hope EVO

X2 rear brake (Above) with a 160mm rotor on the rear and a Hope EVO M4 front brake with a 183mm rotor.

SHIMANO DEORE HYDRAULIC DISC BRAKES with 3 FINGER LEVERS.



We've imported sets of these brakes and, if you must have a pair of hydraulic disc brakes on a touring bike, these work well and are excellent value for money.

We can also offer one of these for a rear brake and fit a Shimano 3 finger front V brake lever and a Deore front V brake.

On page 29, I've given reasons why I wouldn't want to use hydraulic discs for expedition touring.

Fiona and I do have Hope 160mm hydraulic discs on one of our own Thorn Mercury bikes - which have carbon forks. We use these bikes for Audax rides and as our very special summer bikes.

Our other Mercury bikes have a cable operated Avid BB7 rear disc and XT front V brake.

Having each covered thousands of miles on both bikes, we're in a good position to make comparisons.

We now can't see any valid reason for having hydraulic discs on road-going bikes. The BB7 brakes offer all you could need and, unlike hydraulic discs, are so easy to look after!

Cable operated Disc Brakes

Cable operated disc brakes don't usually get good reviews in MTB magazines. I believe that this is because most of the brakes on the market are build down to a price and are rubbish! **The Avid BB7** cable operated disc brake has been around for over a decade - it's really well made, very easy to work on and it's more than powerful enough on a touring bike!

Fi and I have ridden our other Thorn Mercury bikes throughout the Autumn and early winter of 2012. We've used them in hilly terrain, we've ridden many Hors

Cat Alpine and Pyrenean passes on them and we've taken them on two 4 week tours in the mountains of Northern Thailand. These bikes have straight bars, steel forks, front V brakes and Avid BB7 cable operated rear disc brakes.

We've been seriously impressed by the Avid brakes! They have great modulation; we can avoid locking our rear wheels - even on slippery Autumn road surfaces - although the brake could easily lock the wheel, if we chose to do so. The Avid brake has 2 easy-to-use adjusters, which allow both the fixed pad's and the moving pad's distance from the rotor to be precisely and separately set.



Avid make 2 different versions of the BB7 - they make a version with the correct cable pull ratio for MTB brake levers - this version is dark anodised. They also make a version with the correct cable pull ratio for drop bar brake levers - this version has platinum coloured anodising.

The downside of cable-operated Disc brakes is that the callipers are quite bulky. This can cause interference problems with rear carriers.

Some manufacturers have fitted a disc mount above the chainstays, yet below the seat stays of their bikes. Placing the calliper there seriously compromises the brake cable run.

It either causes tight bends, or requires the cables to run under the down tube, which rules out running V brakes as an option. In both these cases, the cables must pull from underneath, allowing muck into the housing - necessitating frequent maintenance.

I've approached the issue from a different perspective and, on our Mercury and Club Tour Mk4 frames, I've mounted the rear calliper behind the carrier.

In this position, the Avid BB7 rear disc brake has perfect cable routing and feels superb.



WHICH WHEEL SIZE 26" or 700c?

For more detailed information, please see Pages 6 and 7 - if you've already read pages 6 and 7, you'll see that some of the information is duplicated, sorry if this is annoying but I wanted each section to be able to stand alone as a document. Andy B.

Both 26" wheels and 700c wheels have their advantages and their disadvantages.

To make valid comparisons, we need to consider these wheels when fitted with appropriate tyres.

Provided all the components are of the same quality, including tyres of identical width, the following two statements are true:-

[1] 26" wheels are lighter and stronger than 700c wheels - consequently 26" wheels are much quicker to accelerate - which is as noticeable on climbs, as it is at traffic lights.

[2] 700c wheels roll better and are more comfortable than 26" wheels - consequently 700c wheels require less energy, at constant speed on the flat and encourage you to spend longer in the saddle.

BUT THIS ISN'T THE WHOLE STORY!

Different weight rims and different tyres make a huge difference to the above two statements.

When comparing rims, with the same quality of materials and design, light rims are quicker to accelerate and are more comfortable than heavy rims - which are slower but more durable.

Of course not all heavy rims are well designed, or made of sufficiently high quality material - therefore weight is not an automatic guarantee of longevity.

NOW WE COME TO TALK ABOUT TYRES.

Please remember that I'm talking about "ordinary people" riding touring bikes on real roads, for personal satisfaction and pleasure - without the benefit of a team car, with an ace mechanic, carrying spare bikes and wheels.

I certainly wouldn't want racing wheels and tyres, on my touring bike - even if they would be perfect for riding the Tour de France - let me explain why.

The tactics in Pro bike racing boil down to sheltering team mates, whilst making rivals work as hard as possible and then outsprinting these rivals to the line.

Professional cyclists can save 40% of their energy, if they can "follow a wheel". When a gap opens, if the following rider can't close the gap, they have to use the same amount of energy as their rival in front. The sooner the chasing rider can regain the shelter of their rival's wheel, the sooner they can continue to save energy. Every other consideration takes second place, to the ability to accelerate road racing bikes' wheels quickly - especially at the finish! Rolling resistance is kept low in genuine racing tyres, despite being such narrow tyres by using an ultra fine carcass and a very thin tread cap.

Puncture resistance isn't as important to a pro cyclist, who has a following team car, as it is to me - especially when I'm cycling in the wind and rain and particularly when I'm only just managing to keep warm by pedalling.

Longevity, which can hardly be a consideration in a race, certainly matters to me - high quality tyres aren't cheap! Comfort, which, as a mere mortal, is at the top of my agenda, isn't considered important - pro's are not only super tough - they're much younger than me.

CONSIDERATIONS FOR TOURING TYRES.

When comparing fat tyres with narrow tyres, **of the same quality**, it may surprise you to hear that, on the rough road surfaces that most of us cycle on, fat tyres have the lowest rolling resistance. This is heresy to many cyclists - nevertheless, it's true. Please note that most but certainly **not all**, fat tyres are made of lower quality materials. Fatter tyres weigh more, especially fat 700c tyres and are much slower to accelerate.

Fatter tyres, at the correct pressure, are more comfortable than narrower tyres at their correct pressure.

Fatter tyres are superior in protecting rims from damage, than narrower tyres. Fatter tyres may offer more grip, in a greater variety of situations, than narrower tyres.

Narrower tyres can be accelerated more quickly than fatter tyres.

Narrower tyres are more aerodynamic than fatter tyres.

At the **START PRICES** ALL THORN BIKES are fitted with your choice of width of Panaracer Pasela tyres

The sizes available are:-

700 x 25c...320g

700 x 28c...330g,

700 x 32c...380g,

700 x 35c...465g,

700 x 37c...500g

26 x 1.5"...460g

26 x 1.75"...500g



Paselas are nice tyres.

They roll well, they're not too heavy, they grip well on wet or dry tarmac, they're reliable and fairly long lasting. Folding Pasela tyres are also available but as an off menu upgrade - at extra cost. (They save between 50 and 60g per wheel.)

PLEASE NOTE

For specific situations, we've much better tyres available as upgrades - please see the next page.

UPGRADE 700c TYRES

For road use, I have 4 favourite 700c tyres; they're all Schwalbe tyres and they are all folding tyres.

Schwalbe folding tyres not only save weight; they have a higher specification, especially in puncture resistance and the quality of the rubber compound, than their rigid counterparts.

(This isn't because they can fold - it's simply because Schwalbe chose to incorporate all their premium options in the folding tyre and all their budget options in the non-folding tyre.)

I shall list and explain briefly the pros and cons of each tyre. I hope that this will give you enough information to enable you to decide which wheel size will be best for you.



**SCHWALBE
ULTREMO**

[1] Schwalbe Folding Ultremo ZX 700

An identical tyre, with a new name, is being phased in - the "Schwalbe ONE" The 25c version weighs 210g and can use the 65g ultra-lightweight tube. The 28c version weighs 235g and the lightest tube it can use weighs 105g. Both these widths are a good fit on DT Swiss RR440 rims.

The 28c tyres are more comfortable than the 25c tyres.

On good roads, these are the quickest tyres that I'd dare to use - without a following team car! Being such high quality, I feel fairly confident that the Ultremo 28c tyres wouldn't let me down on long Audax rides or a special event, such as an End to End on summer B roads. I wouldn't risk riding them on the slippery Autumn roads, that take me through the hilly country lanes that I enjoy so much. These tyres are comfortable enough, given a supple frame, when pushing hard and the adrenaline is flowing.

**SCHWALBE
MARATHON
SUPREME**



[2] Schwalbe Folding Marathon Supreme

700 x 28c...310g
700x 32c...375g
700x 35c...440g
700x 40c...495g

The 28c will fit with mudguards and deep drop calliper brakes.

The 32c is noticeably more comfortable than the 28c. It's as comfortable as, but a little slower than, the 28c Ultremo.

It does however, inspire much more confidence with regard to durability than the Ultremo.

I'd be happy to use 32c Supremes for all my Audax rides and Sport Touring.

The 32c Supreme fits well on the DT Swiss RR440 rim

The 35c Supreme is an excellent choice - it's slightly slower than the 32c on good roads but slightly quicker on poor surfaces. It's also slightly more comfortable than the 32c.

I prefer to use DT Swiss TK540 rims with the 35c Supreme.

I notice that 40c tyres absorb more of my limited energy. I find them a bit too tiring to make me feel that it's worthwhile trying harder but, on the other hand, they are super comfortable!

[3] Schwalbe Folding Marathon Dureme 700 x 35c...475g

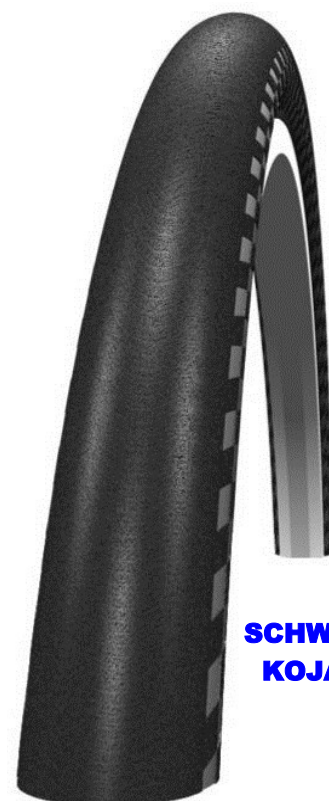
(Please see next page for pic.)

I prefer to use DT Swiss TK540 rims with the 35c Dureme.

Whilst the 35c Dureme is slower to accelerate than the 32c Supreme and a bit slower than the 35c Supreme, it inspires unrivalled confidence when riding at speed in mucky lanes.

They're the best 4 season tyres I have ever used!

I'd have no hesitation in riding fiercely hilly Audax rides, in filthy weather with these tyres, although I'd feel at a slight disadvantage riding the same event in dry conditions with this combination. Fiona and I will use these on TK540 rims for our End to End - when the time comes. I'd be very happy to use this reliable, sure footed combination for lightweight cycle camping. It's hard to describe, or overstate, how good this combination feels in the real world! The use of super high tech materials keeps the weight down, without compromising puncture protection or durability.



**SCHWALBE
KOJAK**

[4] Schwalbe Folding Kojak 700 x 35c...330g

Kojak 35c tyres are very lightweight and they have supple side walls. Whilst the slick tread grips clean, wet tarmac well, in my opinion, they're best considered as a **super quick summer tyre**, on a bike that normally runs on 35c Dureme tyres for the rest of the year.

UPGRADE 26" TYRES

I have 3 favourite 26" tyres, each of which is excellent in specific situations. (I'll number them 5 to 7.)

[5] 440g Schwalbe Folding Marathon Supreme

26 x 1.6" ...440g

(Please see previous page for pic.)

26 x 2.0" ...565g

Both these sizes can use the 95g XX LIGHT tubes and both will fit onto any of our 26" rims.

The 1.6" is especially nice on the DT Swiss XR 425 rims, although the Grizzly rims may be a more sensible option. These are very lightweight and strong combinations. In my opinion, they're a perfect combination for brisk, purposeful cycling in urban streets. The lightweight tyre and small diameter rim combine to give almost race bike acceleration. Unlike a race bike; you have little to fear, if you're forced through a pot hole. You'll have a much greater chance of keeping the bike upright, if you hit diesel or a slippery drain cover.

Being a grooved slick, the Supreme tends not to pick up debris and, in any case, it has excellent puncture protection.

On a heavier duty rim, the 1.6" tyre is the perfect tyre for brisk tandem rides. The 2.0" Supreme is also an excellent choice, it's as above in every department - except that it weighs more but, if you can live with a 550g tyre (and you probably can!) you may as well go the whole hog and specify the 2.0" Dureme, which is in my opinion, the best tyre ever made.

[6] 590g Schwalbe Folding Marathon Dureme

26 x 2.0"

This tyre really could take you anywhere. The 26 x 2.0" Dureme rolls really well, it grips really well, it has a little bit of off road capability, it's exceptionally comfortable and it doesn't take too much energy to accelerate. It's one of the most puncture resistant tyres ever made.

It's also a very durable tyre - 12,000 mile (20,000Km) rides have been covered by several of our customers on a single pair of 26 x 2.0" Duremes. Along with the 700 x 35c Dureme; this is my favourite tyre of all time.

It's an excellent tyre for pottering around the lanes, looking over the hedges, on a Summer's evening. It's an excellent tyre for heavy cycle camping and it will do anything in between.

[7] 865g Schwalbe Folding Marathon Mondial

26 x 2.00" ...740g

26 x 2.15" ...865g

Currently, in my opinion, these are the ultimate tyres for Expedition Touring. My advice is, if your frame and fork will accommodate them, go for the 2.15".

(Please see; "Are fat tyres necessary for expeditions or for expedition touring?" On page 6)

Fiona and I have vast experience of riding with the Mondial's predecessor - the 2.25" Marathon XR.

When you're miles from civilisation, carrying a week or 10 days' supplies and full camping kit, this is the tyre to have. When you're heavily loaded, especially on poor roads, the Mondial really comes into its own.

NOTE: without such a load - the Mondial is unnecessarily hard work.

I love and hate these tyres. I love them because they are the **most reliable, "bomb proof" tyres available.** I

hate them because some people insist on fitting them, even though they have no intention of traveling where such tyres are needed and then they blame the bike for feeling sluggish.

There's no quality, that I can design into a frame, that can affect performance and enjoyment, as much as choosing the right tyre!

I've mentioned "acceleration" several times, this is really important. When the gradient changes, or the wind drops, the ability to change pace accordingly requires acceleration.



Unless a bike responds and rewards my efforts, for me, the experience and pleasure of cycling, is diluted.

It's not necessary to purchase environmentally unfriendly frames, with unreliably light components in order to experience such pleasure - simply choose the right tool for the job.

Old time cyclists used to say that, "Saving an ounce on the wheels is worth saving a pound on the frame."

(That's 28.5g compared to 454g)

This is undoubtedly an exaggeration but, although I can't prove it yet, I believe that the true ratio may be in the order of 1:5



WARNING!**IMPORTANT NOTES on TYRE PRESSURES****Pressures are in psi.**

It may be necessary to over-inflate the tyres, in order to get the tyre beads to seat correctly on the rim.

Once seated, the pressure should be immediately dropped to suit.

Tyres must not be ridden when inflated to higher than MAX pressure - otherwise the rims may be permanently damaged, or fail catastrophically.

The MIN pressures are the lowest pressures that the tyres ought to be run at. Such pressures may be used to enhance comfort or for improved grip on tricky surfaces.

When running at the MIN pressures, extra care must be taken to avoid large stones, and potholes - this is especially important if heavy loads are carried.

At my recommended pressures, you should find the perfect balance, for most road conditions, between comfort, efficiency and reliability.

Andy Blance July 2014

SOMETHING for NOTHING?

On the previous page I said; "There's no quality, that I can design into a frame, that can affect performance and enjoyment, as much as choosing the right tyre."

I'd like to add to that:-

"There's nothing that can make as much difference, to the way a tyre performs, as the amount of air you put in it!"

Currently air is free; this means that the biggest difference that you can make, to the way your bike rides, costs absolutely nothing! 25 years ago, in 9 out of 10 tyres didn't have enough air in them - nowadays I'd say 3 out of 4 tyres have too much air in them.

Why's this? The answer's simple; these days, a functional track pump is a fraction of the price of a track pump 25 years ago.

What difference does having too much air make? There's several differences that pumping too much air into your tyres can make. Using higher pressures than necessary, causes an increase in rolling resistance, the rougher the surface, the more noticeable this is.

Using pressures which are too high can cause rim failure.

Please see the WARNING opposite and our tyre pressure matrices below it.

I've chosen to give tyre pressure in pounds per square inch, because it makes it clear that that a unit of area is involved.

There's lots of square inches in a fat tyre's carcass.

The pressure is acting on every one of these square inches - which is just like having a long lever, to prise the sides away from the base of the rim!

Tyres have a maximum and a minimum recommended pressure; you should consider the implications of different pressures.

At the maximum pressures, tyres are less able to squirm around on rims and consequently quicker changes in direction can be made and big, out of the saddle efforts, result in more immediate forward propulsion.

At lower pressures, tyres roll more easily on uneven surfaces, this fact comes as a shock to many cyclists - perhaps the more uncomfortable the ride, the faster they think that they're going?

Tyres running lower pressures are usually much more comfortable to ride.

I've frequently used 30psi front and 36psi rear, in order to be able to continue to pedal through soft sand, on a bike with 2.25" tyres and 35Kg+ of luggage. Even though I've hit rocks at speed, with these pressures, I've never had a pinch puncture!

PLEASE NOTE: For reasons, known only to themselves, tyre manufacturers often quote higher maximum pressures, for fat tyres, than any rim can withstand.

RIMS 700c

We offer 4 different RIM BRAKE rim options on our 700c bikes.

(Rim brake rims may be used with disc brakes; in fact we **HAVE** to fit them if 36 spokes are required)

Mavic Open Sport rims 32h only (Weight 490g) For tyres up to 28c or 32c Schwalbe Supremes.

These are inexpensive, good quality but relatively unexciting rims, which build into a nice pair of wheels.

The start price specifications use these rims.

DT Swiss RR440 24h, 28h and 32h only (Weight 440g)

For tyres up to 28c or 32c Schwalbe Supremes.

There are 2 versions of this rim; there's a version with asymmetric spoke drillings, which reduces dish in a rear derailleur wheel, this is only available in 28h and is only suitable for ultra-lightweight, high-performance cycling. There's also a conventional version which is for front rim brake wheels and Rear Rohloff wheels.

RR440 rims are true high performance rims, they're lighter than the standard Open Sport rims, yet they build into an even stronger pair of wheels.

Of course such high quality is more expensive.

Lighter weight rims make a huge difference to how quickly you can accelerate a wheel, which is as noticeable when the gradient of a climb changes, as it is when pulling away from a standstill.

If you're after the ultimate hand-built wheels for a high performance Audax Mk3, for ultra-lightweight use, we offer wheels using the **28h asymmetric rear rim** and a **24h conventional front rim** built onto Hope hubs.

Mavic A719 rims 32h and 36h

(Weight 570g) min width tyre 28c

These are very high quality and exceptionally strong touring rims. Having double eyelets means that they build into a super strong pair of exceptionally long lasting wheels.

DT Swiss TK540 rims 32h and 36h

(Weight 540g) min width tyre 25c

These are high performance rims, with double eyelets. They build into a pair of mega strong wheels, particularly suited to tyres which are 32c or wider. They're our highest quality option, of super strong 700c rims.

We offer 3 different DISC BRAKE rim options on our 700c bikes.

(Disc brake rims must NOT be used with rim brakes)

DT Swiss X470 disc specific rim

32h only (Weight 470g) min width tyre 28c

These are also high performance rims and also build into a super pair of wheels.

These rims are **disc specific**...they must only be used with a disc brake - because they do not have a brake track. Not having a brake track means that these rims benefit from superior looks and from having several fewer processes in manufacture, which is why they are less expensive than the RR440 rims.

Mavic TN319 Disc specific rim

32h only (Weight 540g) min width tyre 28c

These are also high performance, disc specific rims, they have **double eyelets** and consequently build into a super pair of very strong wheels.

DT Swiss TK540 disc-specific rim

32h only (Weight 540g) min width tyre 25c

These are also high performance, disc specific rims, with double eyelets. They build into a pair of mega strong wheels, particularly suited to tyres which are 32c or wider. These rims are 70g heavier than the DT X470 rims and are the highest quality option, of super strong 700c rims, that we offer.

Several of the fork options on our

MERCURY and CLUB TOUR Mk4 bikes

use a rim brake on the front wheel and a disc brake at the rear. Having a rim brake at the front and a disc at the rear presents no technical issues at all and makes a great deal of sense.

NOTE: Whilst a disc rim **MUST NOT** be used with a rim brake, there's no problem in using a conventional rim with a disc brake.

We can, however, build the bike with a conventional rim at the front and a disc rim at the rear

PROVIDED YOU HAVE 32 SPOKE WHEELS.

700c TYRE SIZE**SOLO**

Recommended Pressure

ABSOLUTE Pressures

FRONT

REAR

MAX

MIN

23c

108

118

130

85

25c

100

110

120

75

28c

88

95

105

65

32c

75

82

92

55

35c

66

72

85

45

38c

63

68

80

40

40c

60

65

75

35

26" TYRE SIZE**SOLO**

Recommended Pressure

ABSOLUTE Pressures

FRONT

REAR

MAX

MIN

1.35"

66

72

85

45

1.60"

60

65

75

35

1.75"

57

62

70

32

2.00"

53

58

66

30

2.10"

48

52

62

28

2.25"

45

50

55

26

2.35"

40

45

52

24

RIMS 26"

We've chosen 4 different 26" rim brake rims to offer with our bikes.

All of these rims are black anodised and the 26" Andra 30 and 26" Grizzly rims have the option of having a super-hard tungsten carbide brake surface (CSS).

CSS BRAKE SURFACES.

CSS stands for Carbide Super Sonic; tungsten carbide is (apparently) fired at the rim, in a plasma jet at 5 times the speed of sound! Such an impact speed fuses the tungsten carbide to the aluminium. The brake surface is ground smooth and the rim is ready for a really long and hard life. There are two downsides, apart from the extra cost;

[1] Sometimes when new, these rims can make the brakes (particularly the front) squeal loudly. **In a short time, the squealing will diminish and then disappear, provided you continue to use the brakes!**

I tell you this now, so that you can decide for yourself whether or not, you can cope with this noise. Not all the rims squeal but it is best to assume that yours will. A paste of sandy mud, applied to the brake surfaces and some steep hills, will hasten the return of harmony.

[2] Although it would possibly take decades to wear through, eventually the brake surface will become polished smooth. If you ever have to descend in freakish weather conditions - through slush, or through deep running water with polished smooth CSS rims, you'll find that the brake performance changes from exceptionally stunning to almost non-existent!

It's a truly terrifying experience, to plunge downhill, with the brakes full on and the bike gathering speed, whilst waiting for the brakes to bite!

For the above reason; I now recommend that you have a CSS rear rim and a plain front rim. You can then modify your riding style, to allow you to make the most of a rim which is slow to wear out, whilst retaining the ability to stop quickly, no matter what freakish weather conditions you encounter.

You need specific brake pads for CSS rims. These are included in the upgrade price if you choose this option. Once a CSS rim is worn smooth, conventional brake pads may be used as they no longer wear particularly quickly.

HEAVY DUTY RIM OPTIONS

ANDRA 30 rims (Weight 735g)

32 and 36 spokes available, so suitable for all of our 26" wheel bikes.

These are too heavy for many of our 26" wheel touring bike specifications but they do build into the strongest wheels that we have ever sold. They even stand up to tandem expeditions. Andra 30 rims have been very popular on our 26" wheel Rohloff expedition touring bikes. Rohloff hubs have a very large flange diameter, which means that the spokes are at a more acute angle to the rim. We have a "Rohloff version" of the rear Andra 30 rim. These are specially drilled for us for our Rohloff builds. The spoke holes are angled, so that the nipple protrudes through the rim in perfect line with the spokes.

MIDDLE WEIGHT RIM OPTION

Ryde (was Rigida) ZAC 19

(Weight 560g)

32 spokes so only suitable for Rohloff or for lighter duty Sherpa builds.

Lighter weight rims can make a huge difference to how quickly you can accelerate a wheel.

The ZAC 19 rims have the advantage of having double eyelets, which means that they build into exceptionally strong wheels. For some applications these rims would be the preferred option on a Nomad.

If you don't use your brakes much, you ought to get good service from the ZAC 19 rims - they're certainly not ultra lightweight rims, which would be a liability on a heavy touring bike.

Many cyclists use their bikes, almost exclusively, on good road surfaces and their trips may never be far enough away, from civilisation, to require a week's shopping for a hungry cyclist! Others may plan to drop off the camping kit, establish "base camp" and then go for a series of day rides. Later they may perhaps move on to a new base camp. (Fiona and I enjoy these methods of cycle touring too.) If this is what you seek and, as long as you are not exceptionally heavy yourself, you'll be delighted by the extra zip that lighter wheels, tyres and tubes can offer you.



LIGHTER WEIGHT RIM OPTIONS

RYDE GRIZZLY (Weight 470g)

32 and 36 spokes available, so suitable for all of our 26" wheel bikes.

These rims save more weight than the ZAC 19 rims and offer small performance benefits but at the expense of overall wheel strength.

There's a **CSS** version of the Grizzly, which may be worth considering for some applications. The CSS brake track ensures that these lightweight rims don't lose any more weight, which offers the possibility of a vastly extended service life. It's for this reason that we say that the **Grizzly CSS** rims could be an excellent choice for ultra long distance touring with moderately heavy loads.

Please note that the caveats about squealing and freak weather conditions still apply.

LIGHTEST WEIGHT RIM OPTION

DT SWISS XR 425 (Weight 425g)

32 spokes so only suitable for sporty Rohloff or sporty Sherpa builds.

These rims are really light weight, yet build into a strong wheel. When combined with some light, quick tyres and ultra lightweight tubes the increase in potential performance is stunning. Obviously the weight saving has to come from somewhere and the sidewalls will wear out more quickly than heavier rims - these rims would not suit cyclists who do a lot of braking.

SAPIM STAINLESS DB SPOKES

We only use the finest double butted spokes when we build your Rohloff wheels.

We use a mixture of spokes - double butted and plain gauge, when we build wheels for derailleur bikes - this helps to reduce the consequences of wheel dish, which is inevitable, with derailleur wheels.

The MOST IMPORTANT INGREDIENT in a WHEEL

The "best" hub, the "best" rim and the "best" spokes are items which are often talked about by cyclists. The most important "best" ingredient in a wheel, is the person who built it! Top quality builders cannot make a superb wheel out of dodgy components but they can make a sound wheel which would last well. However a dodgy builder can make rubbish, out of top quality components. **We have the exclusive services of a master wheel builder and that's why many of our customers have travelled continuously, for years, without ever needing a spoke key.**

INNER TUBES

We only use top quality tubes in our bikes. There are 2 valves which are used on modern bikes. The Presta valve was designed especially for bicycles and it is much easier to inflate tyres, using a hand pump with this valve. The Schrader valve was designed for motor

vehicles. It is always more difficult to inflate a tube with this valve, using a hand pump and sometimes it becomes impossible to do so without a compressor. It is dangerous in the extreme to use a compressor to inflate cycle tyres - you could lose your eyes. The trouble is that in some countries only tubes with a Schrader valve are available. This fact has led to some very bad advice on forums. The quality of tubes available in these countries is invariably very poor - the rubber does not stretch enough and the valves often pull out. You really do not want to rely on using such tubes. The best advice is to take 2 spare high quality **Presta valve tubes**, plenty of patches and 2 tubes of rubber solution. Fiona and I get almost no punctures and when we do, I always mend the tube and replace it, unless it is dark or severe weather has closed in, in which case I use one of the spare tubes and mend the punctured tube later, when it is more convenient to do so. If you take my advice and have Presta valve tubes, I believe that you'll have few problems - I'm equally sure you **will** have problems with Schrader valves.

If you are cursed by bad luck, you can always have your rims drilled locally, for locally available tubes.

SADDLES

There's one question that I can never answer, "Which is the most comfortable saddle?"

This would be an easy question to answer - if only somebody made a saddle which was the most comfortable for everybody - but nobody does - and nobody could! Our anatomies are unique to us.

Customers come to the showroom and press their thumb down into saddles and suck their teeth. If that was a valid test, most cyclists would choose a gel saddle. In fact I believe that almost everybody would find a gel saddle very comfortable, for a short period of time. I've yet to meet the person, who's happy to ride on one, for any great distance. We sit on our "sit bones" which are a part of our pelvis called the **ischial tuberosities**. To protect the overlying muscle and skin from pressure, the tuberosities are covered by a fat pad, the "bursa". By supporting the weight of our bodies on these bones, we protect the delicate structures between and in front of them (our perineum) from pressure, which could cause bruising, numbness, pain and could possibly lead to problems of swelling and infections.

Men's Velo



The bursie can be conditioned to become used to supporting weight, on a bicycle saddle, by gradually increasing the duration of the exercise. If too much is done too quickly, the bursie can become painfully inflamed, (bursitis). With a gel saddle, your bones sink further and further into the gel and you end up supporting your weight on your perineal area. Add to that the absence of fresh air and you get sweaty too, which does nothing to alleviate the problem. With a firm saddle your sit bones take your weight and prevent it from being borne, by the area of your anatomy least capable of doing so.

Our **Thorn Velo saddles** have a firm, but yielding plastic base and dense padding, you don't sink too far into them. We think that they are excellent saddles to find as original equipment on any bike. Many cyclists find the **San Marco Rolls** saddle very comfortable, it is beautifully made with leather "upholstery" over dense foam. The Rolls is one of a small number of saddles which have remained fundamentally unchanged for decades. We buy the Classic saddle for use as OEM on our bikes. This means that the Classic finish costs you considerably less than the myriad of other finishes available on the San Marco Rolls.

If you get on with a Rolls - you'll have a good friend for a very long time.

Why are women's saddles shorter than men's?

Neither Fiona, who's a senior physiotherapist, nor anyone else I asked, could offer an anatomical reason. Shortened ladies saddles first appeared in Holland, where it was commonplace for women to ride in cycling skirts. Dutch Womens' bikes have a very short reach and, upon dismounting, cycling skirts often became hitched up on the saddles. Obviously women needed shorter saddles! Few women now ride in skirts but designers have remembered that women need short saddles, without remembering why and so the myth persists. Does it matter? Yes - the rails of top quality saddles are actually springs. Springs provide comfort. **Short springs are stiffer than long springs.**

Short saddles are therefore far less comfortable than regular saddles.

Ladies, don't assume you need a short saddle. Female sit bones are generally further apart than male sit bones - In all probability, you simply need a wider one.

Brooks leather saddles.

Brooks saddles have two reputations:- they're famous for being extremely comfortable - they're also infamous for being excruciatingly uncomfortable - I find them very comfortable! The firm hide supports the sit bones, gradually you break the saddle in, to your shape and you gently condition your bursie to the shape of the saddle. A great many people find their dream saddle with a Brooks - but usually only once it's broken in.

Why try a Brooks?

If you like your Brooks saddle, you'll not only be very comfortable, you'll also have the most robust saddle possible and it'll last ages. If you bond with your Brooks, I advise breaking in a second one, on short journeys, because even Brooks saddles don't last for ever. With a back up Brooks saddle, you'll never be faced with the prospect of a big ride, on an unbroken saddle. Once you're happy with your first Brooks, you could consider a lighter Brooks saddle, with **titanium rails**; which have even more spring.

Women's Velo



SEAT POSTS

Can the humble seat post really merit space of its own in this brochure?

The alloy seat post that we fit as standard issue is a very nice quality item, it's micro-adjustable and it does its job well and has proven to be reliable. There's little reason for choosing anything else.

If you need a **suspension seat post**, we've found the **Cane Creek Thudbuster** to be the best suss post on the market, its parallelogram movement means that the distance between your saddle and your pedals doesn't vary much, even when the post takes out a really big bump. We supply them with the neoprene cover, which keeps muck out of the pivots. Fiona and I use Thudbusters on our Sterling MTBs and we think they're great! **BUT we've never felt the need for a suspension post on any of our touring bikes!**

As I said, the standard issue post is a nice quality item. You could spend more money and choose a "sexier looking" seat post - such posts may give good service, or they may fail, possibly with severe consequences.

You could save a little weight with a variety of "designer alloy posts". You may even wish to have a high quality carbon post; theoretically this would have much more merit to it as an upgrade.

Carbon is significantly better at absorbing "road buzz" (small high frequency vibrations) than an alloy post. Carbon flexes slightly, so it tends to iron out small bumps. The trouble is that, whilst carbon can flex an infinite number of times, without breaking, it's quite easily crushed yet, because it's very slippery, carbon posts need firm clamping. Our THORN seat post clamps are powerful, if you're clumsy, you could crush a carbon post. Any high quality carbon post will be expensive but not all expensive posts are high quality.

We've decided, as a policy, NOT to offer designer posts, alloy or carbon, as upgrades.

If you wish to retrofit one of your own choosing, yourself, please feel free to do so, we may miss the opportunity to make a small profit but we'll also avoid the hassle and risk that we know is associated with these items.

Brooks B17 Honey



San Marco Rolls Classic



We can sell you a bike, equipped with a Brooks B17 saddle upgrade, for significantly less, than it would cost you to buy a B17 later. Ride it only for short trips to start with and see if it suits - you can't know unless you try - if you waste money, sorry, but at least you tried one.

If you can't get on with a Brooks but you manage to find a saddle that you really like - **if you take my advice** - you'll buy a load of them immediately. These days, very few products remain unchanged for long, very soon there will be a "new super whizz bang version", which may not be as good for **YOU** and the long search for a comfortable saddle will begin again.



THUDBUSTER LT
Suspension Post
& Neoprene cover

CRANKS and CRANK LENGTHS

A crank is simply a lever - a lever to which you attach the chain ring and the pedals. The ideal length of the crank depends upon the length of your legs. If your cranks are too long, your knees will have too much of a bend in them, when the pedal is at the top and you're more likely to suffer injury. If the cranks are too short, you may not be making power as efficiently as possible.

On easy, flat terrain, a touring cyclist may perform 300 reps, with each leg, for every mile covered. (about 190 per kilometre) That's a lot of reps over a lifetime of cycling. It's crucial to look after your knees!

The old "rule of thumb" was that the length of your cranks should be around 20% of the length of your legs. Some rules of thumb are more helpful than others, unfortunately this isn't one of them.

Men of above average height, or with above average length legs, should use 175mm cranks, as should women with legs this long.

Men of average height, with average length legs, should use 170mm cranks, as should women with legs this long.

Women of average height and leg length (and men with shorter than average length legs) will benefit from using 165mm cranks. This length is only manufactured for the premium end of the market (Ultegra or XT and above) so you may never have tried 165mm cranks. Off the shelf derailleur bikes, which do have a premium chain set rarely offer 165mm cranks. They use the premium chain set either because of:- fashion, the need to hit a "price point" or, because they really need the complicated shaped teeth, cut outs and ramps found on expensive chain rings, in order to change gear slickly, with a chain which has become too narrow to perform this task properly, because it now needs to operate on a 10 or 11 speed cassette!

GEARING with ROHLOFF HUBS

With Rohloff gears, you can sidestep cycling madness altogether, you simply need one long lasting chain ring! This means that we have been able to have some fairly nice quality cranks made for us and we have been able to have these drilled in 160, 165, 170 and 175mm lengths.

We couldn't get 180mm cranks made and, if you've exceptionally long legs, you'll benefit greatly from using this length. The best option for 180mm cranks is to have Shimano XT cranks - but due to Shimano changing the design of the spider, you'll now need a very special chain ring.

Customers with very short legs should choose 160mm cranks.



Chain rings.

We've had 3 complete ranges of chain rings made especially for us. These rings are exclusively for hub or single geared bikes. They have very special shaped teeth - long deep teeth, designed for maximum service life! These rings would be useless on a derailleur bike.

The 3 types are 110bcd, which fits our original Thorn cranks and Shimano (and other) MTB cranks of the 80's and 90's.

We also have 104bcd rings, which fit current Thorn chainsets and the later Shimano cranks as well as the current external bearing MTB cranks. (But not 2014 XT) In addition we had rings made for our (and Shimano's) 130bcd road chain sets but these are not as sensible an option on an expedition bike as the others.

Our chain rings are made from 7075 series aerospace alloy. You couldn't find better!

They're also double sided, that is, you can wear them into a hook shape, then turn the ring around and get some more wear out of them. You'll see that we offer a huge range of sizes, you can choose the range of gears that will suit you and your cycling.

Gearing.

I've written a lot about gearing, which you can read in our "Living with a Rohloff" brochure. (Please see the link on page 21) The Rohloff hub has an overall range of 526%. That is; the bottom gear gives more than 5 times the leverage of the top gear. Or think of it like this, at the same speed you have to pedal more than 5 times faster in bottom gear than you do in top.

The old "Ordinary" bikes (Penny Farthings) used to have the cranks connected to the front wheel, without gearing - one rotation of the cranks was one revolution of the wheel. Riders use to talk of the size of the wheels in inches (taller riders could pedal a bigger wheel). The single geared safety bicycle was invented when chain technology allowed a chain ring to drive a sprocket. The safety aspect was that the rider was not way up in the air and now had brakes which worked. Riders used to calculate the gearing and refer to it as if was the actual size of a wheel. i.e. a 2:1 gear ratio on a 26" wheel produced the same gear as a 52" Penny Farthing. In much of the native English speaking world, we use this system today.

A	24	32	42
11	X	75.6	99.3
13	X	64.0	84.0
15	41.6	55.5	72.8
17	36.7	48.9	67.3
19	32.8	43.8	57.5
21	29.7	39.6	52.0
24	26.0	34.7	45.5
28	22.3	29.7	39.0
32	19.5	26.0	X
36	17.3	23.1	X

A modern 30sp MTB derailleur set up and also highly recommended as a straight bar set up on our 26" Sherpa. The X combinations must not be used and the combinations in small print should be avoided.

B	26	36	48
11	X	88.4	117.8
13	X	74.8	99.7
15	46.8	64.8	86.4
17	41.3	57.2	76.2
19	36.9	51.2	68.2
21	33.4	46.3	61.7
24	29.2	40.5	54.0
28	25.0	34.7	46.3
32	21.9	30.4	X
36	19.5	27.0	X

Our ultra wide ratio gearing offered on all our derailleur touring bikes. This table is correct for 700 x 35c. The X combinations must not be used and the combinations in small print should be avoided.

C	26	36	48
12	X	81	108.0
13	X	74.8	99.7
14	50.1	69.4	92.6
15	46.8	64.8	86.4
17	41.3	57.2	76.2
19	36.9	51.2	68.2
21	33.4	46.3	61.7
23	30.5	42.3	56.3
25	28.1	38.9	X
28	25.1	34.7	X

Our wide ratio gearing offered on all our derailleur touring bikes. This table is correct for 700 x 35c. The X combinations must not be used and the combinations in small print should be avoided.

D	34	50
12	X	112.5
13	X	103.8
14	65.6	96.4
15	61.2	90.0
17	54.0	79.4
19	48.3	71.1
21	43.7	64.3
23	39.9	58.7
25	36.7	X
28	32.8	X

Many modern sportif bikes use this typical compact double set up...you get lovely close ratio gearing but you certainly need to be very fit for hilly events! The X combinations must not be used and the combinations in small print should be avoided.

GEARING with ROHLOFF HUBS continued.

CALCULATING the GEAR RANGE of YOUR ROHLOFF

11th gear on the Rohloff is 1:1 direct drive. Therefore if you divide chain ring teeth by sprocket teeth and multiply by the actual wheel diameter (including tyre) you get **11th gear in inches.**

If you multiply this by 0.279 you'll get **bottom gear in inches.**

If you multiply this by 5.26 you'll get **top gear in inches.**

E.g. 40t chain ring and 17t sprocket with 26" wheel is

11th gear = $40/17 \times 26 = 61.18"$

Bottom gear is $61.18 \times 0.279 = 17.07"$

Top gear is $17.07 \times 5.26 = 89.8"$

A modern MTB may have a 22/32/44 chain set and an 11-34 cassette it therefore has a bottom gear of

$22/34 \times 26 = 16.8"$ and a top gear of $44/11 \times 26 = 104"$

A modern sports bike may have a 34/50 chain set and a 12-27 cassette with a 700c wheel, it therefore has a bottom gear of $34/27 \times 27 = 34"$ and a top gear of $50/12 \times 27 = 112.5"$

With Rohloff, you can have pretty much whatever gearing you require but top will always be 526% higher than bottom.

My recommended gearing.

I frequently get asked by customers, what I'd recommend. I then ask if the customer is happy with their current gearing, they say "yes" or no, they'd like it to be different in some way. (Higher or lower)

I then ask what gears they are currently using and most people just don't know. I do know that cyclists' ideal choice of gearing varies hugely, from person to person, how am I supposed to know what would suit this customer?

It's simple to work out what gears you currently have, turn the bike upside down, be prepared to get your fingers dirty and count the teeth, then check again.

Sometimes customers don't have bikes, so here are my rules of thumb.

If you generally try and avoid carrying huge loads. If you try and avoid cycling up really steep hills but are prepared to walk up them if necessary. If you want to pedal down hills but are prepared to freewheel down really steep hills, **48 x 17** should be a good gear for you with a Raven or Nomad - you'll need to use **47 x 17** with a Mercury.

If you're looking to cycle over, whatever hills you come across and you cycle in hilly areas, and you wish to do this, with whatever kit you have on the bike and you are prepared to freewheel down steep hills my advice is to **gear low - 40 x 17** is low and should be a good gear for you with a Raven or Nomad - you'll need to use **39 x 17** with a Mercury

If you are used to having very low gears and pedal with a high cadence, or if you're looking to cycle over, whatever hills you come across and you cycle in hilly areas, at high altitude and you wish to do this, with whatever kit you have on the bike and you need to be able to do this, no matter how ill you may feel - my advice is, **gear even lower - 40 x 19** is very low and should be a good gear for you with a Raven or Nomad - you'll need to use **41 x 19** with a Mercury

It really doesn't matter if you get the gearing wrong when you buy the bike - it's very easy and relatively inexpensive to raise or lower the gearing.

We like to send our bikes out with a 17t, or even better a 19t sprocket - because the chain will last longer than if you use a 16t sprocket and much longer than if you choose a 15t sprocket! This is a very silly place to try and save a very small amount of weight! Even if money is no object, you're better off with the bigger sprocket - you'll save time by not having to adjust and replace your transmission frequently.

Rohloff won't give a warranty on the hubs, if a gear, with an input ratio smaller than 2.1:1, is used on a solo bike.

Minimum gear ratios, for solo riders under 100Kg, which are acceptable to Rohloff are:- 32 x 15, 34 x 16, 36 x 17 or 40 x 19.

For heavy riders (100Kg+) or for tandems, Rohloff say that the minimum input ratio should be 2.5:1

Minimum gear ratios, acceptable to Rohloff, for solo riders heavier than 100Kg, or for tandem crews are:- 38 x 15, 40 x 16, 43 x 17 or 48 x 19.

However Rohloff say that even "world class athletes" are warranted to use such a gear.

It's the input ratio and not the actual gear ratios produced which is critical.

In our opinion 40 x 17, or even better 45 x 19 is an ideal gear ratio for general touring. Some may say that it is too low but if you're fit enough, or can get fit enough, to pedal at a knee saving 96rpm and if you can keep this up for one hour you will travel 25 miles, in that hour, on 700c wheels.

You may feel, as I do that, when carrying huge loads up steep hills, you could benefit from significantly lower gears - especially if you're my age, or older and you feel that you will never develop the pedalling force of a world class athlete (!!!).

As a 78Kg chap, in his mid 60s, I would need to stand on the saddle and jump onto a pedal - in order to achieve the same peak loads on the hub's internals, as a 99.9Kg Olympic rower could be expected to produce!

You're welcome to be pro-active and to choose forbidden gears, as long as you take personal responsibility for your decision.

I've had some 19t sprockets made for us. These give a significantly longer service life, there are more teeth for a start but the greatest benefit is that, as the chain doesn't have to perform such a tight bend, there's less opportunity for grit to get behind the side plates. The chain lasts significantly longer and therefore there's less wear on the sprocket. I believe that the difference may prove to be, the difference between the cube of the number of teeth of the smaller sprocket, compared to the cube of the number of teeth of the larger sprocket - for example, 17³ compared to 19³ (To save you reaching for your calculator) this is 491 compared to 685, or about 40% more miles for the whole transmission. There's a small upcharge - if you choose the 19t option - but it's nevertheless, a real bargain!

I've shown some derailleur gear set ups at the bottom of the previous page, so that you can compare the ratios available with derailleur gears with those available with Rohloff. If you're moving from derailleur gears to Rohloff it's an advantage to decide which chain ring and which sprocket will be most suitable for your intended application.

Confirm that the cassette and chain ring combination, that you think you have, is what you actually have! You can only be certain of this if you actually count the teeth accurately.

It's also a good idea, if you're perhaps contemplating your first long, self supported tour, to consider that you'll need gears which are much lower than anything you've previously required. Having such low gears will almost certainly mean that you don't have gears high enough to pedal, when you are descending long or steep hills. This shouldn't matter, you'll probably be glad of the rest, as you freewheel along at speed. Not having low enough gears, when you are tired and have to ride up a long hill, when you still have some distance to travel, really does matter. If you're looking at a sporty bike with Rohloff gears, to replace an existing sporty bike, it's sensible to make sure that your top gear is as high as the one you're currently happy with - achieving this shouldn't be a problem and, because of the huge range of the Rohloff hub, you're almost certain to gain a few lower gears - which should be considered as a bonus.

The Evolution of THORN Touring Bikes

I'm sorry but there are many threads running through this page. I've had to compromise between following overall time lines and following the development of each model.

I know that it may be difficult to read and one day I may be able to reorganise it.

Please Note: it really isn't necessary to read this page, in order to purchase a New Thorn bike.

I've written it as much to give some provenance to owners of our older and superseded machines, as to demonstrate the development, evolution and pedigree of our current range of bikes.

Andy Blance Autumn 2014

THORN 26" wheel HEAVY DUTY TOURING BIKES

It's very easy and incredibly cheap, to construct a bike which can carry large loads reliably - simply use lots of mediocre quality metal - witness the ubiquitous "Hero" bikes at work, in India!

It is much more difficult to construct a bike which can carry large loads reliably, in great comfort. Enough steel must be used to support and steady the load and absorb large bumps but not so much that the frame can't absorb multiple small impacts.

The only way to be certain of achieving this perfect balance, is by trial and error and much actual road testing.

In 1983 I embarked on the long process of improving the design of touring bikes.

I live close to the edge of Exmoor (an area of severely pitched hills; there are many 20% gradients, a sprinkling of 25% gradients and a couple of 33% gradients for good measure!) I've always enjoyed descending at high speed on my bicycle. It was important to me, from the outset, to have the best-handling bike that I could possibly have. I soon realised that, if I really wanted this, I'd have to design my own! Initially I concentrated upon high-speed handling but (in 1984) upon riding the newly introduced mountainbikes from the US, it was brought home to me that, having the ultimate in high speed handling (a quality, MTBs had in abundance) was detrimental to low speed manoeuvrability (a quality of which they had little!)

It's somewhat ironic that mountainbikers wax lyrical about the "sweet handling" of their mounts on singletrack, when actually a well designed touring bike would, literally, run rings around them!

By 1990 I believe that I owned and was riding, the very finest 700c touring bike to have been made (up to that time) the frame was made to my exact and specific design from Columbus SPX (Paris - Roubaix) tubing by Argos Racing Cycles of Bristol. Shortly after this bike was built, my interest in riding tandem intensified and I became aware of the advantages of using the, newly available 26" MTB road-going tyres, for tandem use, on severely hilly and twisty Audax rides. I soon built myself a road-going, drop bar solo, from a Cannondale Cad 3 MTB frame, for winter "Wednesday evening club bashes". Whilst the benefits of 26" tyres, on a solo, weren't as earth shattering as they'd been on tandem, the ferocious grip did inspire confidence on dark, hilly, twisty, mucky, poorly surfaced lanes. The Cannondale's handling left much to be desired and, whilst it was unbelievably stable at very high speed, it couldn't be steered accurately around road debris, on the steep climbs regularly used for training.

I enjoyed the grip, comfort and responsiveness of the Dale and the 26 x 1.5" Nimbus tyres but I missed the handling of the Argos that I'd designed.

The next step was predictable and the Thorn Nomad was born. It had a parallel top tube and a 1" threaded steerer. At this time the 1 1/4" threadless headset was starting to appear on MTBs but there were insufficient different lengths and angles of handlebar stems available to enable us to achieve comfortable positions for most customers. After a couple of years, the supply situation of such stems improved and we decided to introduce a new fillet brazed Nomad. This had a sloping top tube and threadless 1 1/4" headset. This frame continued in production for many years.

This version of the (derailleur gear) Thorn Nomad soon became the benchmark for expedition touring bikes.

Soon after this, I experimented with lighter weight versions, with tighter geometry, which I called the xTc. These often had lavish paint jobs; they caught the mood of the times and we were embarrassed, after a rave review in Cycling Plus, meant that our lead time went from 6 weeks to 6 months overnight. In the year 2000, Fiona and I completed a very hilly 500Km Audax ride on our xTc machines. I was convinced that these lightweight 26" machines had many advantages over our 700c Audax bikes.

We began to see poorly conceived and poorly executed, copies of the Nomad appearing and we eventually decided to "copy" our Nomad ourselves!

We sought the finest frame builders in Taiwan, I tweaked the frame design a little and we called the bike the "Sherpa". We were truly astonished at the high quality of the work, yet it took a little time to realise that, if we were to give it the same quality tubes as the Nomad, the Sherpa would be a superior bike (to the Nomad) for most customers, yet cost significantly less money. Well, we gave the Sherpa a top quality tube set and with a couple of minor tweaks along the way, we've arrived at the current (derailleur equipped) Sherpa Mk3.

Sherpas are available in exactly the same sizes, as the Rohloff equipped Thorn Raven.

The Raven and Sherpa **don't** share the same frame, each of the frames is specifically focused for its respective transmission system.

The Raven and Sherpa **do** share the same geometry, frame tubes and forks.

For a while we had 4 families of derailleur equipped, 26" wheel heavy duty touring bikes.

[1] The Sherpa frames were made in Taiwan.

[2] The Nomad 2000 frames were made in the Midlands.

[3] The Some xTc frames were made in the Midlands and others, including ultra-short wheelbase (Nemesis) and lugged variants (xTc Classic), were made in Bridgwater.

[4] The eXp family, which were even heavier duty derailleur bikes, were made in our own frame shop, here in Bridgwater.

In 2001 my love affair with Rohloff gears started.

Between 2002 and 2005 we introduced the Rohloff eXp, eXp R and the eXxp frames being made in Bridgwater. Meanwhile, our friends in Taiwan built the Raven Tour frames (which were like a Rohloff specific Nomad) and Raven Sport Tour frames (which were like a Rohloff specific xTc). The Raven Tour and Raven Sport Tour have since merged and evolved into the THORN RAVEN, which is sportier than a Raven Tour and a bit more general purpose than a Raven Sport Tour.

When we closed our Bridgwater frame shop, I used the knowledge gained from the eXp, combined with the iconic "Nomad" name, to introduce the affordable Nomad S&S a Rohloff specific, expedition frame made in Taiwan. Later, when I made it suspension compatible, like the eXxp, it became the **Nomad Mk2**. I have to agree with those who say that the Nomad Mk2 is the finest expedition bike available in the world today.

The Sherpa, Raven's and Nomad Mk2 geometries vary sensibly and precisely, with each frame size.

The smallest two Raven and Sherpa frames have top and down tubes which are "standard size" (1" top tube and inch and 1/4" down tube) this produces a more comfortable ride for riders who usually weigh considerably less than riders of the larger frames.

Medium sized Raven and Sherpas use "standard oversize" 1 1/4" top tube and 1 1/4" down tubes. The largest frames' top and down tubes are made from extra oversize tubes (1 1/4" top tube and 1 1/2" down tube). When you also consider that a small frame is inherently stiffer and stronger, than a larger frame and yet is significantly more likely to be ridden by a lighter rider, I hope that you can see that this is a sensible approach.

The geometries, combined with 26" wheels have enabled us to offer bikes, which have no toe overlap, even with 26 x 2.0" tyres and wide mudguards - not even if you cycle in walking boots! Each size of Sherpa, Raven or Nomad Mk2 handles perfectly, whether on tow paths, country lanes, city streets, twisty, alpine descents, on the diabolical surfaces found in South America - known as "Ripio", or Himalayan dirt roads.

The Raven and Sherpa are an absolute joy to ride, whether they're lightly loaded, loaded at the rear only, or if they have the luxury of the weight being perfectly distributed in 4 panniers. They're available in 10 sizes, including an "X" framed step through.

The Nomad rides nicely without a load but it's too much bike, for it to be a sensible option (unless you're really heavy) for those who have no intention of ever loading it up. The Nomad can carry huge loads on the rear carrier alone and it is the best choice for prolonged heavy touring. Its ability to take a süss give it the potential to take on serious Alpine tours.

The Nomad is now available in 10 sizes. 2 new sizes 510M and 540M have just been added (July 2014).

Having dedicated brazed on bosses for rear carriers, front lo-loaders and 3 sets of bottle bosses, means that almost all of the weight which is carried, is able to be secured directly to the bicycle frame, this is obviously superior to and safer than, using cable ties or hose clips to secure such carriers.

Nobody can be comfortable - unless they're relaxed. It's impossible to relax, unless you have confidence in your abilities. No matter how accomplished a cyclist you are, you can only compensate so much for a bike that simply doesn't handle properly, or one which doesn't carry a load without wobbling.

SAFETY

Because our 26" wheel bikes handle a load perfectly, they're clearly safer than bikes which don't!

They're particularly stable in strong crosswinds, even on bumpy high speed descents and they're obviously safer to ride in such demanding situations, than bikes with twitchy steering. Yet our bikes' steering is precise enough to allow them to manoeuvre accurately around road debris, whilst climbing a 1:4 slope.

It's exceptionally difficult to design bikes which can excel in all these areas - because changes to the geometry, which enhance performance in one of these areas, can have an adverse affect on performance in another.

It follows that bikes which excel in all of these requirements, will be safer to ride, in everyday situations, than bikes which fall short, in any one of them.

THORN 700c BIKES

At the same time as I was developing 26" wheel touring bikes, I was also developing two different 700c derailleur equipped bikes. In fact the Thorn Audax was the first bike to bear the name Thorn.

[1] One of these bikes was for fast touring, training and Audax rides. The first of these frames were made, to my specific design in Italy, a project overseen by Argos Racing Cycles. Very soon after this Robin (THORN) created a frame shop on our rapidly expanding site. He employed a succession of qualified frame builders and we started making what I will call our **Original Thorn Audax**. This bike was well received by the Cycling Press and it and its many variants (Audax 853, Brevet, Cyclosporitif and Audax Classic) have now evolved into one bike - the **Thorn Audax Mk3**. We continue to receive many unsolicited testimonials from delighted customers.

[2] The other 700c bike was a Traditional Touring Bike. I wanted to make an affordable bike, which would be regarded as

THE definitive Traditional Touring Bike.

As mentioned earlier, in 1990 I had such a frame built for myself and the **Club Tour**, in its various incarnations, has pushed towards and beyond the benchmark set by this fantastic bike.

In April 2014, the **Club Tour Mk4** went on sale. This is an absolutely superb machine for sealed roads - it's a very competent bike that's ideal for fast touring and for heavy touring or anything in between. It incorporates many of the features (but not the hub!) found in the Thorn Mercury. It's available in the same 8 sizes as the Mercury but its geometry is slightly different to the Mercury for 2 reasons

(a) Because it's likely that 60% of the Club Tours will be specified with dropped bars.

(b) Also, because the majority of cyclists with derailleur gears, have more than one bike, which is likely to include a sporty number, I felt that I should keep as close as possible to the original Traditional Touring Bike brief.

The challenge in 2010 was in developing the most versatile 700c bike possible, for use exclusively with the Rohloff hub.

The **Thorn Mercury** went on sale in late 2011. I wanted the Mercury to be our flagship model and whilst I didn't want to waste money, I was prepared to spend what was necessary to achieve my objective. I wanted the highest possible quality steel frame. I wanted it to be able to use deep drop calliper brakes, like the Audax Mk3 but I also wanted it to be able to take 40c tyres, with mudguards and a rear disc brake if required.

To accomplish this, without it looking like a back street bodge up, I chose to design a choice of forks.

(Please see pages 16 and 17)

I'm delighted with the result of such hard work. The Mercury feels very sporty - when it's built into a sports touring bike - Fiona and I have one for our Audax riding. I've also loaded one with 40Kg - spread between 4 panniers and a bar bag and I've ridden it around the hilly local lanes - it feels "OK"; it feels great with 25Kg in 4 panniers. To get this into perspective, 25Kg is enough of a payload to allow cycle camping in Europe - where it's usually possible to buy provisions every day and water is not generally an issue. The Mercury is at its absolute finest, in my opinion, when it's built as a light middleweight, for fast touring (with around 12-14Kg of luggage - all carried at the rear) using hostels, hotels, B&B etc. The most recommended thing, if you want the utmost versatility, is to have 2 steel forks, so that you can optimise it for light touring or for cycle camping.

RELIABILITY

A touring bike is a proper vehicle, genuinely capable of providing an alternative transport solution and, as such, it must be reliable.

If your bike isn't reliable, at best you will "let the side down" by being late for work. More seriously, you could have your meticulously planned (and eagerly anticipated) holiday ruined.

In some remote parts of the world, a mechanical failure can have much more serious implications; if a bike can't be pedalled, you must walk and push, which is between 4 and 6 times slower than cycling! This is a nuisance if you are an hour away from home, it's rather more serious if the nearest water is already a 2 day ride away!

In order to be able to offer the frame and fork with a genuinely meaningful lifetime guarantee, we've used the finest steel and we have not only specified the most appropriate gauge for each tube, we have gone the extra mile and also designed and specified our own Thorn tube sets!

For (much) more detail please visit page 8.

S&S Couplings

The Thorn Nomad Mk2 and (from Feb 2015) the Club Tour are offered from STOCK with the option of having S&S couplings. Any Thorn solo, apart from the Mercury, can have S&S fittings retro-fitted before purchase - this is more expensive and the delay may be 10 weeks.

There are many upsides to having S&S couplings and for Expedition and Adventure Cycling, I'd always suggest that you consider a coupled Nomad frame.

I expect the Club Tour S&S will have great appeal as a sporty bike to take with you if you go on family holidays.

(1) You will fit the bike into a smaller box than it is possible to use, without couplings.

(2) You can separate the bike into 2 manageable chunks...with the wheels still installed! The frame protects the wheels and the wheels prevent the frame from being crushed. This is particularly useful if you wish to use the cargo hold of a bus, other cyclists will have to remove their wheels, which puts their frame at risk.

(3) You can fit the bike in 2 chunks into the back of a really small car, or the boot of an LPG taxi, or the hold of a light aircraft.

In my opinion, there are only 3 downsides to having couplings, these are:-

(1) You have to check them every day, which is no big deal, as it doesn't take long.

(2) They add about 500g to the frame, including the special cable guides and joiners, this isn't a problem for me, with an expedition touring bike.

(3) Couplings do considerably more damage to your bank account, compared to the uncoupled Nomad or Club Tour - but, in the case of these bikes, it's much cheaper to have them now, rather than retro-fit them. One day it may be absolutely necessary, to make your bike into as small a package as the couplings would allow, in order to avoid surcharges, or to fit it into a small vehicle.

This will certainly save you money and may, in extreme cases, allow you to save the bike!

We've never had, or heard of, a single failure of S&S couplings. The frame is stronger with them, than without and they will outlast even one of our frames!

S&S couplings and S&S specific cable routing.



PLEASE READ THIS Particularly if you believe all S&S bikes will fit into a 26"x 26" x 10" box.

A Club Tour S&S won't fit into a 26 x 26 x 10 box - 700c wheels are simply too big.

A Nomad S&S may, or may not, fit into a 26 x 26 x 10 box. This depends upon the size of the frame and, more particularly, how long the THORN fork's steerer is. If the steerer is longer than 235mm, the fork won't fit into the box. NOTE: 235mm leaves almost no room for spacers, or accessory bar, with a size 590M or 590L frame. WRT 26 x 26 x 10 box; every 26" wheel S&S frame ever made requires the forks to be dropped out and the following items to be removed:- wheels, bars and stem, carrier (s), mudguards, saddle (+seat post?) and pedals + at least one of the cranks. Assume that the carriers will require packaging separately. We recommend using a cut down cardboard box and all Nomad S&S bikes can fit into a 1200mm x 800mm x 250mm box, with much less fuss. We supply the bike in a high quality box - which can be cut to suit.

Look at the extreme high quality of the machining of the S&S couplings.

Nomad frames have a choice of 2 positions for the lower bottle cage. [1] Above the couplings, for quicker separation. [2] Straddling the coupling allows a larger bottle - but this increases the time taken to separate.



Club Tour Mk4

S&S

700c

SIZES

550S, 550L, 580S, 580L, 610S and 610L

IN STOCK in GUNMETAL

Touring Advice:- Transporting your Bike by Air

In the following text, I assume that you'll be travelling "cattle class", I've heard it said that things get easier if you travel first class, or business class - I wouldn't know!

Firstly and Foremost This bit of advice sounds obvious but you'd be amazed at the number of people who don't do this.

Shop around and check each airline's policy on flying with your bike before you give them a penny! It doesn't matter if you've used the same airline, for the same flight recently - check because airlines constantly change their policy and excess baggage could cost more than your actual flight!

Make certain that any agreement is written down, keep a record of the names of who said what and confirm that the information will be flagged up when you check in.

Make certain that any onward flights (which may turn out to be with the airline's partners) also include your agreed baggage. This is especially important if you have to travel between international and domestic airports, as we've done several times, when flying into Buenos Aires. Be aware that, if you leave booking onward flights until you arrived in the country, it may cost considerably more because internal flights usually have lower baggage limits. You may be able to agree a stopover, when you book your flights.

Currently (most?) flights to the USA and often those via the USA, have a generous baggage limit 2 pieces of up to 32Kg each - but note the size restriction:-

Height + Length + Depth must be less than 62", which in practical terms means 26"x 26" x 10" - you'll probably get away with slightly larger boxes unnoticed - but you may not - and it ramps up the stress of air travel.

Currently flights to South America, from Europe, have a low sounding limit but there's usually a generous hand baggage allowance. There's often provision for paying extra for your bike - expect to pay IRO £80 out and £80 back. Your bike can then travel as a second piece of hold luggage, with an additional 23Kg baggage allowance. Again make certain that any onward flights are pre-booked.

Flights to the Far East can be difficult for the cycle tourist, due to hold luggage restrictions and often ambiguous information.

At the time of writing, Thai Airways offer 30Kg of hold baggage, this is 7Kg more than their competitors. Our recent flight with them was smooth, friendly, relaxing and we had those vital extra centimetres of knee room.

If we can't make the baggage allowance, we get as close as we can (within 2Kg of the absolute limit) and take a chance - we've never had to pay excess baggage charges. We arrive early for check in, we make eye contact and we smile, we're polite - we never lose our cool, or let the smile drop. We know what our bike boxes weigh and we put the lightest one on the scales first - the other box often doesn't get weighed.

Packing your bike for the flight.

Pre 9/11, I used to keep the bikes whole, turn the bars, remove the pedals, deflate the tyre slightly and cover the frame in pipe lagging. This worked well - baggage handlers could see it's a bike, they could wheel it around and we didn't have to squander much of our baggage allowance as packaging. Some airlines may still allow you to do this.

Tyre pressures for flying.

There's absolutely no need to deflate your tyres, when travelling in a modern jet - they all have pressurised holds. Have you ever had, or heard of, frozen luggage? No? It proves my point.

However - the necessity of deflating tyres for air travel is a good example of a *Zombie Myth* (A myth that will not die) and there always seems to be someone who wants to deflate our tyres. We've had bikes arrive without any air in the tyres and the tyres have become unseated. My advice is to deflate the tyres beforehand yourself, you can make them soft enough to satisfy any prodding thumb, whilst leaving enough air in them to protect the rims and keep the tyres correctly seated.

Bike Boxes.

Hard cases, with built in wheels are available these days, some look super and I'm sure they'd protect a professional's road racing bike well. Apart from the initial cost - up to £500 - there are 3 problems with these:-

[1] They won't take touring bikes with mudguards and carriers.

[2] They're a bulky item to store, whilst on holiday.

[3] They weigh up to 15.9Kg! You'll always have to travel business class, or pay for excess baggage.

Soft cases won't protect bikes anywhere near as well as hard cases. These weigh around 5 to 6Kg. They're too bulky to take with you on tour but they are easier to store until your return.

Cardboard boxes offer great protection, especially if given Duct Tape corners and combined with bubble wrap and strategically placed pipe lagging.

Cardboard boxes cost very little - **flat screen TV boxes** are free!

They can be easily cut down to the minimum size required. They are no more difficult to store than hard cases.

They allow A to B type trips, as you can abandon them if necessary. A heavy duty, full size box weighs around 5Kg - a cut down box weighs around 3 - 4Kg.

Fiona and I don't always take our S&S bikes - but we always use cardboard boxes.

Unless instructed otherwise, I drop the front wheel from the forks and remove the forks from the bikes. I secure the handle bar assembly, using toe straps to the bike's pipe-lagged top tubes. I remove the pedals and the seat post. We don't often use mudguards when travelling by air, when we do, I remove the front guard and cable tie it to the front tyre.

(We live in the UK and we see rain too frequently to want to choose a wet destination for our holidays!) I make the boxes as small as possible. I use clothing, protected by thick plastic bags, to wedge everything tight - chaffing is a more likely cause of damage than knocks. On circular tours, we use hotels for the first night or so and for the last night or two. Before we book the hotel, we get confirmation that they'll look after our boxes until we return - this has always worked - they've always been there.

Getting from the Airport to Town.

Consider how you'll get from the airport to the start of your tour. When we first started touring, we used to assemble the bike at the airport and start and finish the tour from there. I used to find it very stressful assembling a bike, in a busy public space, especially when tired. These days we find a cost effective way of getting into town, having some local currency, before you arrive, makes this first transaction easier.

Once we've arrived at our hotel, we generally chill out, catch up on sleep and wait until the next day before sorting the bikes out.

Mountain weather.

Dramatic changes to weather conditions can occur rapidly in high moorland and in mountains.

A sweltering alpine climb can be followed by a sub zero descent. Even in Wales, I've known the climb out of one valley to be in blazing sunshine and the descent into the next to be in torrential rain.

In my opinion, it's irresponsible to cycle in unpredictable environments without carrying suitable extra clothing. Every Thorn Touring bike has the luggage-carrying potential, to allow you to carry such items, without affecting the ride quality in any way. Does this sound soft? Remember Tour de France riders are tough professionals, they are much younger than me and they also have the luxury of being followed by their team cars!

Touring Advice



Quick Release Skewer - A QR skewer is a shaft, which runs through a hollow wheel axle. The shaft has a serrated *nut* on one end and a cam action lever on the other end - almost invariably the LHS. The *nut* and lever sit on the outsides of the dropouts.

Note: in the case of the **front hub**, it's sometimes best to have the lever on the RHS if it aids clearance with disc callipers or lo-loaders.

Although it is permissible to rotate the nut to get close to the required tightness, the final closure must be made with the lever. The lever must fold in tightly but it must not be forced, as this could cause it to fail - remember this is holding your wheel in the frame.

Touring Advice

**Sorry this
page has yet
to be
completed.
AB Sept 2015**

Touring Advice

**Sorry this
page has yet
to be
completed.
AB Sept 2015**

Loading your bike for a tour.

Fiona and I enjoy many different styles of cycle touring. We're fortunate enough to have a stable of bikes each.

Apart from our 26" wheel expedition bikes and our 26" wheel heavy touring bikes (which you can see on the following pages) we each have a pair of 700c Thorn Mercury bikes.

You can see both of my Mercury bikes at the bottom of this page. The White Team Mercury is focused for ultra-lightweight touring and Audax rides. It has Hope hydraulic discs, 28c tyres and carbon forks.

The Stealth Mercury has 35c tyres, full mudguards, a Tubus Airy Ti carrier, Son dynohub with Edelux light and Thorn lo-loader carrier, it's focused for medium weight touring, or ultra-lightweight cycle camping and, without the front lo-loaders, it's perfect for lightweight touring. (This bike is now red and has a MER853VC fork. I have the ST700 fork with lo-loaders in the loft.)

You can see pics of the rare dry moments of a very wet holiday we had in early Autumn in Mid Wales. We took my Vito van, the big tent, table and chairs and set up base camp, from which we explored the surrounding mountain roads. One day we ventured further afield into Snowdonia, where we spent the night in an hotel, before returning to base camp the next day. We each managed to fit all we needed, for this adventure, into our large saddle bags. Younger, tougher cyclists could undoubtedly fit enough kit for a week, staying in hostels or B&Bs into our saddlebags. A large saddle bag carries the weight inside the wheelbase and the bike handles just like an unloaded machine. We also use these bikes with smaller saddle bags on 200km Audax rides.

Saddlebags don't necessarily require a rear carrier - this saves weight.

Without the lo-loaders and with large saddle bags, our Stealth Mercury bikes are perfect for us on long Audax rides, which usually involve night riding.

They're also perfect for long hostel, or B&B based tours - such as the End to End. We use our large saddle bags, some front pannier bags on the rear carrier and a bar bag. The saddlebags make the panniers difficult to access but, as we keep our over-night things in them, we only need access to them at the end of each day.

We keep our "civvy" clothes to a minimum but we're still able to present ourselves neatly, if we spent a night in a nice hotel. The Edelux allows us to see where we're going at night and we may charge a GPS, if and when we get one, by connecting a **Cinq5 PLUG 3** into the wiring of the Son dynohub.



Fiona just about to plunge down a really steep descent. Is it New Zealand? Is it Patagonia? No - it's Mid Wales!

With the lo-loaders fitted, we use a conventional 4 pannier set up, along with saddlebag and bar bag. This set up is perfect for lightweight cycle camping in the Alps - or for taking appropriate clothing for a hotel-based cultural tour of Europe. I hate wandering around in cycle clothing - unless I'm actually with my bike!

You can read about the bikes and the kit we take on our big adventures, on the following page. I'd just like to say that, if you want to take B&B tours and also wish to ride unsupported for 10 days in mountain wilderness and you only want 1 bike to do both - you must compromise. But you must compromise by having a, heavier than necessary, bike for the B&B tours - for to compromise on the strength of an expedition bike, is to invite disaster. Using 2 different pairs of tyres makes it much more pleasant to ride B&B tours, on an expedition bike.

Be honest with yourself, do you really plan on genuine expedition cycling?

If not, it's easier to make the compromise between a heavy touring bike and a bike suitable for B&B tours. The bikes Fi and I used for our cycle camping adventures in the French Alps are examples of such machines.

Andy Blance Spring 2014



Fiona and I still use our prototype Nomads for our adventure touring holidays - and for any cycling, which involves flying with the bike. They've taken us on the biggest adventures of our lives.

Fiona and I still use our prototype Nomads for our adventure touring holidays - and for any cycling, which involves flying with the bike. They've taken us on the biggest adventures of our lives.

You could never accuse these bikes of being lightweight but I'm convinced that they weigh significantly less than any other bikes of comparable strength! We love these bikes so much that we've given them names, my bike is called Hector - Fiona's bike is called Bertha. Bertha was the final prototype for the Nomad Mk2.

These bikes have long chainstays, having extra long chainstays means that we can carry (almost) all of the load at the back and it will sit inside the wheelbase, therefore we have bikes which handle superbly with medium/small to ultra heavy loads.

With suspension forks, I really don't want to be loading up the front of a bike - otherwise it nose-dives into every hole! This is not advertising hype, we actually ride these bikes hard!

We've crossed the Andes 28 times during our 7 trips. In doing so, we've climbed some of the biggest, wildest and most remote passes in the world. Many of these crossings were 7 days between sources of supplies - the longest was 10 days. We're not superhuman or even super athletes, we are simply very stubborn and determined and we have the best kit in the world for these adventures. The finest kit is no substitute for determination but knowing that your bike can carry sufficient food and water, without wasting your effort and without breaking, helps inspire confidence. Determination is born out of confidence and self awareness; survival also depends upon preparation and luck. The weather can change suddenly in mountains and having emergency water, several extra days' food and fuel, sufficient warm clothes and a strong tent, is literally the difference between having a good travel story to tell or never being able to tell a story again. On one of our trips, Fiona and I climbed out of the Atacama to 4,800m+ whilst carrying 50Kg each (mostly water) and, apart from 2 litres on the forks and our bar bags, all the weight was at the back.

I can't say that the relentless climbing, in blazing sun, was easy but the bikes felt efficient and totally stable.

We've also descended many of the most exhilarating trails in South America. The descent, on the old "road", from Uspallata to Mendoza, has 365 hairpin bends, many of which are off camber, the surface alternates with every bend in the road between:- sand, gravel, corrugations, loose rocks or slick rock. . On one really steep section, on the outside edge of every second hairpin, there was a sheer, unfenced drop of hundreds of meters.

As usual, there was a little room for error but the consequences, of any major misreading of the trail, were severe! It was sublime to be "right in the moment" and to carve a line through the obstacles, with 30+Kg of camping kit on the back, at speeds of up to 60Kph.

Yes, such behaviour may appear crazy but I prefer to think that I'm a skilled rider, who was lucky enough to be riding the finest adventure touring bike ever made, on the most exhilarating "road" to have been encountered during a lifetime of cycling!

As I explained to Fiona, whilst some may think that I am on holiday, it is obvious that, as "designer and test pilot", I have to make absolutely certain that the bikes are up to their advertised job!

Please don't try this on a conventional touring bike, or on a racing MTB, with your camping kit in a backpack, or in a trailer!

With their rigid steel forks fitted, H&B (Hector and Bertha) become "conventional" expedition touring (or travel) bikes and can carry any amount of weight at the front, that may be required.

In 2008 we went on a (cheap) hotel based tour of Southern India's Western Ghats. H&B used their steel forks and 2.0" Schwalbe Marathon Supreme tyres to negotiate the broken tarmac. H&B certainly felt very comfortable - yes of course they were totally overbuilt for such a trip but we had no worries about these bikes being damaged in transit and of course, we didn't have to send the forks off to be serviced when we returned!

Riding at 4500m towards the 4767m Paso San Francisco. Fiona has the world's highest volcano, the 6891m Ojo de Salar, on her right.



Riding at 4200m towards the Paso Pircas Negras in 2010, Fiona and I were, at the time, two of only a handful of cyclists ever to have ridden this pass unsupported - you can't see the 100kph headwind in the photo!



Sitting on the low parapet of a bridge in Chile, for a bite to eat. On the ripio (gravel roads), the bridges usually offer some respite from the dust and reveal a previously hidden view to distant mountains.



Hector on smoother road surfaces in Southern India, with a relatively light load and steel forks.



Possibly our all time favourite wild campsite. It didn't even have water but we had finally managed to leave the oppressive 47°C February heat and near 100% humidity, of the badlands to the west of the Pampas, far below us.

For the record, 55°C was recorded that January and the pass we were heading for (Pircas Negras) closes at the beginning of March - talk about a narrow window of opportunity!



Fiona and I love to go cycle camping in the mountains.

We're really fortunate because each of us has a pair of heavy duty Thorn Rohloff equipped touring bikes. Our S&S coupled bikes go on the big trips and they have the heavy wheels, fat 2.25" tyres, super tough powder coat paint finish and suss forks. (See page 46) Our other bikes were also prototypes and we've built them up for lighter weight camping trips, closer to home. As they travel on better roads (and tracks) they have lighter rims and tyres and straight bars with bar ends.

I take pride in our bikes' strength and dependability. These bikes use the conventional Rohloff hub.

Most of what we've learned from these bikes has been incorporated into our current Thorn Raven Bikes.

Whilst you could never accuse them of being lightweight, I'm convinced that our bikes weigh significantly less than any other bike of comparable strength!

These bikes haven't been on our big trips but we've certainly used them. We've had many long camping weekends in Wales, we've followed the "Route des Grandes Alpes" with camping kit and we've had several one way trips, catching the train to either Cornwall or Wales, then cycle camping home.

We've even completed several hilly 200Km Audax rides, including the "Dorset Coast", on them.

Cycle camping in the French Alps.

In September 2009 we drove down to Grenoble, from where we embarked upon a self supported, cycle camping trip in the French Alps. We completed an 800Km circuit, taking in 14 big cols, including the Bonnet, Galibier and Izoard.

It was truly a great adventure!

The bikes were absolutely delightful.

The French were as polite as ever.

The scenery was stunning.

The weather was mixed.

But for me, the most enormous pleasure was in catching a group of French racing cyclists, who'd sped past me, on a short climb before the second part of the descent of the Croix de Fer. I was riding my Rohloff equipped touring bike (with 26 x 1.75" tyres) loaded with full camping kit. Whilst I was closing the gap on them, I was scanning the road below for approaching traffic and there was none. The group approached a left hand hairpin at speed and grandpa out-braked their exotic carbon racing machines, cranked his bike over and then, using all the road, rode up the "inside" of them and plunged on down the descent. The look on their faces will stay with me for the rest of my life! (Obviously they sped off, into the distance, as soon as the road levelled out again).

The advantages of camping.

We like the freedom of finding a camping pitch for the night. We're consistently happy, that we don't have to spend the end of the day searching for an hotel.

We can stop when we want to stop cycling for the day, rather than having to ride on (or stop early!) because an hotel or pitch has been pre booked. If we ever need to, we can camp wild. Although camping means that we have to haul

camping kit over mountains, we find it less stressful than having to maintain a schedule. When the snow unexpectedly closed our planned route over the Bonnet to all traffic, we were able to alter our plans. We found a cheap hotel for 2 nights and the next day, we were able to ride up the Bonnet, with just our saddlebags. If we'd booked everything ahead of us, we'd have had a problem getting back on schedule. Camping is also considerably cheaper than supported rides and we couldn't afford to travel as much as we do, if we didn't camp!

Why the bikes are so good.

Having fairly long chainstays means that I can carry (almost) all of the load at the back and the weight still sits inside the bike's wheelbase, which gives superb handling, with small loads, medium loads or very heavy loads. The long wheelbase allows massive but drama-free braking when required. Having a super stiff frame makes it easy for me to control the bike and the load, whether I'm flying down hill, or choosing the best line between obstacles, on steep climbs. When I stamp on the pedals - the bike responds.

Unlike most "touring bikes", my Thorn doesn't feel like a jelly, with big loads and out-of-the-saddle efforts. Despite being so stiff, the frame is super comfortable, resilient and compliant.

In short these bikes inspire confidence, reward effort and exude quality!



White out! The final few Km on the ascent of the Bonnet were above the September snow line; the final 500m was un-rideable! But we did get to the top and quickly put some warm clothes on!

The ride down was very scary, the CSS brake surfaces have been polished by years of riding. In the slush, the bikes kept gathering speed - even with the brakes on full! I now recommend that a CSS rim is only fitted to the back - if you intend to, even occasionally, ride in severe conditions.



UPGRADES and ACCESSORIES

SJSC's prices, in the accessory pages, are for guidance only.

The current online prices in the **THORN MENUS** are **CORRECT**.

FRONT HUBS. All Thorn Bikes have a Shimano Deore front hub as standard - this is a nice piece of kit and it does the job well. Our wheels are so well built that it is worth specifying an even longer lasting front hub, at the time of purchase.

Below are our recommended upgrades and charges, which are the same on every Thorn Bike.



For RIM BRAKES

You can choose from Anodised Silver, Anodised Black or Anodised Red all at **£65**

HOPE REAR

HOPE front hubs are available for rim brakes or disc brakes - in 32h or 36h drillings.

They have a 7075 machined body and use superb quality bearings. We recommend this upgrade very highly.



For DISC BRAKES £57

REAR DERAILLEUR HUBS. All Thorn

DERAILLEUR Bikes have a Shimano Deore rear hub as standard - as with the front hub, this is also a nice piece of kit and it does the job well. Our wheels are so well built that it is worth specifying an even longer lasting rear hub, at the time of purchase. Below are our recommended upgrades and charges, which are the same on every Thorn Derailleur Bike.



For RIM BRAKES

HOPE DERAILLEUR HUBS

are available for rim brakes or disc brakes - in 32h or 36h drillings. They have a 7075 machined body and use superb quality bearings. We recommend this upgrade very highly. You can choose from Anodised Silver, Anodised Black or Anodised Red all at

£145



For DISC BRAKES £140

The hub shell is produced from a single forged billet of 2014 T6 aluminium and uses a 7075 aluminium rotor body. Both these are now machined to allow fitting of the new generation of 11 speed cassettes from Shimano, but still allow for use of 9 and 10 speed Shimano and SRAM cassettes by means of a removable spacer. These hubs also use Hope's new 40 tooth ratchet, with 4 pawl engagement, giving quick, dependable drive. If you're looking for a reliable, light, smooth running hub which will stand up to daily use on British roads this is the ideal hub.

PLEASE BE AWARE that the ticking noise, made by the precision engagement of the pawls, when freewheeling, is sweet music to some and a source of annoyance to others.

We can fit **PITLOCK "anti-theft" skewers** to your bike, in place of the QR skewers if you wish. Please note that this doesn't mean that your wheels

£35.



can't be stolen - a professional bike thief can defeat these in seconds. Please also note that it may mean that you can't mend a puncture on the proverbial wet and windy night, because you've forgotten your

Rohloff Hubs only.

Rohloff hubs don't come with a skewer, of course we supply a nice one on our bikes but these **XT skewers** are the best ever - super smooth with a very light action.

£10

Upgrade. This is a bargain!



DYNO HUBS. An upgrade to a front dyno hub ought to be a serious consideration for many cyclists. Schmidt are the only manufacturer that I'd recommend, the hubs are top quality and run on top quality sealed bearings. They're the most efficient and reliable dyno hub on the market. When it's not generating electricity, the wheel spins almost as freely as a "normal" front hub, even when it is generating power, it's difficult to notice the slight increase in drag.



The NEW Schmidt SON 28

is the best choice if you wish to use it to recharge GPS batteries. As a front for a Rohloff bike it makes sense to have 32 holes.

The New SON 28 disc version has 6-bolt rotor mounts.



The SON NEW 28 is available in a choice of 4 colours.

Polished alloy £160

Anodised silver £170

Anodised black £170

Anodised red £180.

The above prices are for a hub with SON A/K Nuts.

Dynamo Headlights.

Schmidt Edelux II

LED This 2.4w front light is simply awesome!



It's awesome in terms of the quality of light output, it's awesome to think that one is producing such a light, without batteries and without noticeable effort! **The beam produced is superior to some 15w halogen rechargeable systems I've owned.** The Son 28 is very well made - the casing is CNC machined from a solid billet. The Edelux has a magnetic switch with 3 positions; on, off and sensor. The sensor position automatically switches on the light when light levels fall. The Edelux has a built in capacitor, which will produce several minutes of good light after the wheel stops turning. The LED has a copper heat sink to ensure a very long life and the lens is a superb example of optical technology.

The Edelux II is available in silver or black at £120

or red at £130

The price includes installation using a substantial stainless bracket.



Busch & Muller Lumotec Eyc N Plus this is a budget LED front light, which has made halogen dynamo headlights obsolete. Whilst the performance of this light falls short of the superlative Edelux; it's a fraction of the price. It also features a "standlight" and costs just

£43

USB Charging device.

Cin5 PLUG 3

this device allows charging the Apple iPhone without a special cable. Meets USB Specification: The Plug converts power from an existing dynamo hub into USB 5V standard. Power Amplification Technology (PAT) is used to optimize power output. The electronic components have been sealed and are housed in the fork's steerer tube. The USB port is mounted on top of the handlebar stem, in the replacement Top Cap, this rugged 6061 aluminium housing is sealed and anodised and is the only visible part of this very neat installation.



Cost, fully installed £135



£29

Inc. Cateye bracket 15303

I can't see a logical argument for choosing anything other than the brightest, most reliable REAR light .
The Cateye TL-LD1100LED is the rear light to choose.
It has 10 super bright LEDs, it is highly water resistant and reliable and each bank of 5 LEDs can be set in 4 different modes, this means that you can have 5 LEDs on constantly and 5 LEDs flashing! Run time 50 hours constant and 100 hours flashing.

SADDLES

We fit an "OK" Velo saddle to every Thorn Bike, as standard. This means that the upgrade charge is the same for every bike.

You can have any saddle currently in stock at SJSC at £15 off SJSC retail price.

Remember you can have your new bike with

"NO SADDLE" and receive a **£15** reduction.

We'd rather do this than ask SJSC to get a saddle they don't stock.

We've purchased a range of BROOKS OEM SADDLES.

These are supplied to cycle manufacturers solely for the purpose of fitting to NEW BIKES, they come without any packaging.

We can only offer these **CRAZY PRICES** if you specify it to be fitted to your **NEW BIKE**.

Brooks B17 Standard

This saddle is available at a really super price but in **BLACK or HONEY ONLY**.



£30

The **B17 Standard** is the correct width for many men and for most women.

B17 Ti
Titanium rails



Only in Black **£99**

SWIFT Ti
Titanium rails



Honey **£95**

B17 Narrow
Suits some men

BLACK £30



Brown **£25**
EXTRA SPECIAL PRICE!

Team Pro



Black or Honey **£45**

NOTE: NO SADDLEBAG LOOPS

PEDALS

Thorn Bikes aren't supplied with pedals as standard equipment. There are many opinions over what's best and many cyclists already have their own pedals.

It's hard to advise what pedals to use on tour, it depends upon many factors. I have used SPD pedals for almost 2 decades now, I'd hate to use anything else. I feel really safe in them...my feet can't accidentally get bumped off the pedals.

So far, I've always been happy with MTB racing shoes, the areas we like to cycle in are only cold at night! MTB racing shoes transfer power really well and they are exceptionally comfortable to cycle in. I always take another pair of shoes; either Gore-Tex walking shoes or sandals - depending upon where we are. I'd hate to only have one pair of shoes and so it doesn't matter if my cycling shoes look weird when I'm off the bike.

Below you'll see 4 popular pedal options.

We can supply your bike with any pedals currently in stock at SJSC, at SJSC retail price.

You can try real SPD pedals

Shimano M520 for only **£27**



If you've never ridden with SPD pedals, whether I'd recommend trying them really depends upon how old you are. You'll never have your feet still locked into them when you do but you will fall off once or twice, when you forget that you have them on. Getting used to SPD pedals, away from traffic is a good idea!

There's a nice pedal on the market, which I've used on several tours, it has **SPD** on one side and a flat platform on the other. The latest version is **PD A530** it costs **£50 in silver (shown opposite)**

£40 in black (not shown - whilst stocks last)



I can see the attraction for using flat pedals and walking shoes or sandals. The very best of these pedals, on the market are the Shimano **SAINT PD-MX80**. The large surface area reduces pressure when using flexible soled shoes. The stainless set screws help to grip slippery shoes. These cost

£50



The old favourite of using toe clips and straps would be my least favoured option. The straps get caught on things and the clips can kill your toes but that's just my opinion, based on past experience. If you get on with them, you'll find it hard to better the **MKS GR9** with steel clips and nylon straps. The cost, including clips and straps, (not shown) is **£34**



THORN EXPEDITION CARRIERS.

From the pics you can see that our carriers have a very substantial build. They are not lightweight but they are not particularly heavy either.

The most important thing to be sure about, with expedition carriers, is that they won't ever let you down.

Our carriers are constructed from 1mm thick, seamless, heat treated, tubular aerospace Cro-Mo. Front or rear, these are the undoubtedly the strongest expedition carriers on the market - we've sold thousands, we've never heard of one breaking and our customers really do travel in the back of beyond!

They are designed for installation with M5 or M6 screws.

You are contemplating the definitive bike - don't scrimp or attempt to save a few ounces on the carriers!

Special offer
BUY BOTH
for £150



£80

Note:- although the mounting plate comes with the carrier, a rear light is an optional extra



£90

Tubus OEM* AIRY carrier £120. BUY NOW and SAVE over £80

An extremely lightweight (230g)

Titanium carrier it's expensive but it's ideal and highly recommended for use on our Mercury or Audax bikes. It may also be an excellent choice on Ravens, Sherpas or Club Tours that are purchased for lighter touring.

* The OEM carrier is supplied to us by Tubus, solely for fitting to brand new bikes, it comes with the Tubus bracket 22531 but without packaging. We can only sell this item to you when you order your bike. If you want one later the cost is:- £153 for the carrier + £3 for the bracket + £3 for the "P" clips + £6 for the disc adaptor + £45 labour, that's £210.

STOP PRESS. The small print above is irrelevant - TUBUS HAVE NO MORE STOCK UNTIL MAR 2016, when there may be a price rise - thanks to our policy of buying in quantity - we do still have some stock.



We've devised a secure and Clutter-free way of attaching mud guard stays, using our own stainless steel "P" clips, which are covered with high quality shrink tube.

Excellent for small panniers or for supporting a saddle bag. Not suitable for use with a rack top bag.



Fitting a rear light to a Tubus Airy carrier



Our favourite light is the Cateye TL-LD 1100. Which costs **£29** Including Cateye Bracket 15303 Shown fitted to the Tubus 22531 bracket. Which is supplied with the OEM AIRY

Tubus OEM VEGA carrier £60 Lightweight Tubular Cr-Mo 510g

BUY NOW and SAVE £££'S



Ideal for fitting to bikes for light to medium weight touring, either where a Ti Airy is deemed to be too expensive or when a rack top bag is to be used.

Integral bracket for rear light. Price includes adaptors for use with BB7 disc on Club Tour or Mercury. We'll fit the M/G stays using "P" clips, as with an Airy.



TOR-TEC ULTRALIGHT Rear carrier £22

BLACK or SILVER
Aluminium construction. Weight 400g. Nice quality budget carrier. Works with BB7 Disc on Club Tour or Mercury.

THORN says:
Suitable for up to 15Kg



Rixen Kaul Mini map holder Holds maps securely. Super tough Plexiglas. Quick release bracket, fits on either bars or stem.
(Fittings for both options are supplied)

Thorn 105mm Accessory bar. (Our part number 33509) This useful device clamps directly to the steerer tube of the bike's fork, in place of some spacers. It can be used to mount various accessories, including lights and computers. The accessory bar is strong enough to accept a handlebar bag. See some of Andy and Fiona's pics. The lower a bar bag is mounted, the less detrimental effect it will have on the bike's handling. Many bikes have their bars high enough to allow a handlebar mounted light, to shine over the top of a bar bag, that is mounted on one of our accessory bars.

The 55mm extension accessory bar (Part number 11041) is too short to mount a bar bag. It was originally designed to mount a Rohloff shifter. It may be useful for mounting a computer, if you have to attach a bar bag directly to narrow straight bars.

The 45° accessory bar (part number 22924) is intended to mount directly to a seat post. It can then be used as a very stable mount for a saddlebag, for those whose saddles don't have bag loops. Allen screws, with dome head nuts, can be fitted into the pre-drilled holes to prevent the bag's straps from slipping off.

There's no point in wearing a sweaty hydration pack on a touring bike! The original "profile cage" of the early nineties was great...so great in fact that we got more made especially for us. It is very durable and comes very highly recommended, you should consider having 2 or 3 fitted. This cage will take 1 litre or 1 1/4 litre Coke bottles or 1 litre Sigg bottles.

The Thorn super slick cage holds a standard 500ml or 700ml bike bottle. It saves a minute amount of weight, compared to the Profile cage but it looks great! Ideal for Audax or lightweight Mercury builds.

£20



£20



£17



£25



£7



£20

Topeak mountain morph mini track pump

This is a superb piece of kit to take on tour. It fits easily into a rear pannier or large saddlebag and makes short work of inflating tyres to the desired pressure for the prevailing conditions.

£28



Lezyne HP Drive High Pressure Mini Pump Medium

A beautifully made CNC Mini pump. Bracket fits to bottle cage but I'd keep it in a bag. Ideal for very high pressures in narrow 700c tyres up to 28c
Wt 88g

£20



Lezyne Tech Drive High volume Mini Pump

A beautifully made CNC Mini pump. Bracket fits to bottle cage but I'd keep it in a bag. Ideal for required pressures in high volume tyres 32c and above and all 26" sizes
Wt 127g

£25



CYCLE COMPUTERS

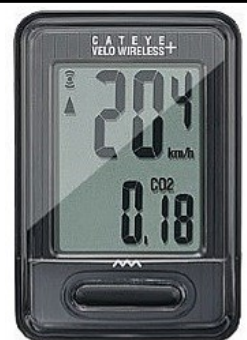
It's nice to have a cycle computer. We like Cateye computers; they're made to a very high standard in Japan and we have very few returns. Wireless computers are neater and more reliable than computers with wires trailing down the fork to the sensor.

The Cateye **Velo Wireless +** computer has 7 functions. The large display is easy to read and you can have the current speed and another function displayed at the same time. It is easy to reset.

The **Velo** is available in Black or White and costs **£32.**

The Cateye **Micro Wireless** computer has 9 functions, including 2 independently re-settable trip distances. The large display is easy to read and you can have the current speed, the time and another function displayed at the same time. It has only one downside - it's a bit of a fiddle to reset but it becomes much easier, if you re-set it in average speed mode

The **Micro** is available in Black or White and costs **£40.**



LUGGAGE

These are SJSC's prices, they're correct at the time of writing but are not guaranteed to be correct when read. AB Sept/2015

Having your kit packed away neatly looks nice and is considerably more efficient.

It's more efficient because you can find what you're looking for more quickly and it's actually more efficient, in terms of energy used, because well packed kit is aerodynamically more efficient.

(See page 4)

I prefer to use a traditional canvas saddlebag wherever possible.

Although the weight is comparatively high on the bike, it's carried within the wheelbase of the bike and, being directly behind the widest part of my body, it's very aerodynamically efficient. The outer pockets can be accessed easily whilst on the move and, unlike zips, the traditional leather straps and buckles are durable and easy to use when wearing thick gloves.

I like to support the underside of a

large saddlebag by using a rear carrier, I anchor the bag to this with a toe strap - this stops the bag swaying around.

Carradice make the best saddlebags and they have an impressive range of different models,

which you can see on the SJSC website. I've shown the largest saddlebag, the 24litre **Camper Longflap** and the 11litre **Pendle**. In my opinion, the Pendle is the ideal size for sporty day rides and the Camper Longflap is ideal for heavy Touring, if you're below about 5' 7", you'll find that the Camper is too deep and the **Nelson Longflap** will be a better choice. If you're below about 5' 3", you'll find that the Nelson is too deep and the **Low Saddle Longflap** will be the best choice.



Fiona cornering at speed, with a full camping load, in the French Alps.

Fiona has all the kit she'd need during the day in her saddlebag - a warm layer, waterproofs, camera, purse, snacks, pump, tools and a sit-mat.

Fiona's rear panniers contain our sleeping bags and mats and food and supplies.

Fiona's clothes are in her front panniers. I was using an identical set up and I was carrying the tent, spares, cooking equipment and wine in my rear panniers.

In total we were carrying about 20-22Kg each and the bikes handled brilliantly.

Carradice Camper Longflap Saddlebag
24 Litre ...£69.99



Carradice Pendle Saddlebag
11 Litre ...£56.99



An alternative to the traditional saddlebag, for fast day rides, is a rack top bag. I still believe that a saddlebag carries the weight better but you'd have difficulty finding a better rack top bag than the **Carradice CarraDura**.

Carradice CarraDura Rack Top Bag
12 Litre...£36.99 inc rain cover



In my opinion, a large saddlebag, used along with a pair of small rear panniers, is the **ultimate combination for**

lightweight touring. All the things that you'd use during the day's cycling can be carried in the saddle bag and all the items that you'll only need when you reach your hotel, can be compressed into the panniers. Ortlieb Front Roller Plus QL 2.1 panniers are ideal for this. (Please see the next page)

For Expedition Touring I recommend Carradice Super C rear panniers.

Although primitive, compared to Ortlieb bags, they have several advantages when used as expedition rears - especially in severe conditions.

- [1] They're huge at 54litres
- [2] The large rear pockets are convenient and extremely useful.
- [3] Being canvas, they're considerably easier to repair than Ortlieb bags.
- [4] Your bike will handle better.

Heel clearance dictates how far

forward your rear bags can be mounted. The further forward, the better the bike handles - the angled leading edge allows these bags to sit further inboard, than is possible with Ortlieb's rectangular bags. Canvas bags are not as waterproof as Ortlieb bags - things do get slightly damp inside - but this doesn't matter. When touring, you'll frequently have to carry damp washing - or put damp waterproofs away. You'll need to keep wet and dry things in separate inner bags - even if you use completely water tight panniers! When expedition touring, Fiona and I keep things that must not get wet, such as down sleeping bags and down jackets, in a dry bag, which we fit either along the length of the rear carrier or, transversely across it.

For a 4 bag expedition set up, I'd team the **Super C** rear panniers up with some Ortlieb **Front Roller Plus** panniers.

Carradice Super C rear panniers
54 Litre...£104 (pair)



LUGGAGE

These are SJSC's prices, they're correct at the time of writing but are not guaranteed to be correct when read. AB Sept/2015

Ortlieb luggage is seen on bikes everywhere. On the previous page I gave examples of where Ortlieb is not my first choice but for every other situation, I'd choose Ortlieb.

The Ortlieb range is huge and very many different colour choices exist. Please see the SJSC website for the full range, where you'll also find many non-current Ortlieb panniers for sale, at very attractive prices.

NOTE: Bar Bags always disaffect a bike's handling and the more weight in the bag - the more it's affected.

If you must have a handlebar bag, the Ortlieb bags are far superior to anything else on the market. Fiona and I only tend to use bar bags when we have passports to keep safe. We may not even use them for this in the future because it appears as if bar bags are being deliberately targeted by thieves. In my opinion, there's no point in choosing anything other than the Ortlieb Ultimate 6M Classic Bar Bag - this is available in several colours.

Ortlieb Ultimate 6 M
Classic Bar Bag
- 7 Litre...£69.99



Back Roller City QL1
Panniers - Red / Black
- 40 Litre...£64.99 (pair)



Ortlieb Touring Panniers

Ortlieb offer two different styles of pannier, each of which is available in a choice of two different sizes and in two different materials. Finally, there are 2 current methods of attaching, securing and adjusting the panniers. Currently there are many different Ortlieb pannier options - these are all available in a choice of colours.

The two different styles of Ortlieb pannier are the iconic roll top style (called **ROLLERS**) and the more familiar hooded top style (called **PACKERS**)

The roller panniers are not only waterproof, if closed correctly, they're water tight! I mean that **Rollers can actually be submerged**.

The roll top closure can be a nuisance if frequent access is required - whereas the Packers are much easier to access but are not watertight if submerged and can allow ingress of horizontal rain or spray.

It's worth noting that, compared to rear panniers, front panniers are more likely to be subject to spray and certainly more likely to get swamped in a ford!

Ortlieb make 2 different sizes of pannier.

They make smaller panniers, which they call "front" when it's a Roller and "Sport" when it's a Packer. (Front Rollers can certainly be used on the rear and for 2016 they will standardise on "Sport" for the term for their smaller panniers. Ortlieb also make rear panniers which they call "Back" if it's a Roller and "Bike" if it's a packer. Back and Bike panniers are too large to be used safely at the front of a bike.

Fabrics used by Ortlieb.

Ortlieb use a heavy "lorry tarp" fabric which they call "**CLASSIC**". This is PVC coated polyester and is easy to clean and waterproof but it's both heavier and not as strong as their higher-tech fabric, which they call "**PLUS**".

The Plus fabric is PU coated Cordura - it's more difficult to get oily stains out of this fabric.

Front Roller City QL1
Panniers - Black
- 25 Litre...£56.99 (pair)



Sport Packer Plus QL2.1
Panniers - Denim / Steel Blue -
30 Litre...£114.99 (pair)



Front Roller Plus QL2.1 -
Black - 25 Litre...£85.49 (pair)



Ortlieb's pannier mounts.

The latest version of Ortlieb's method of attaching, securing and adjusting the panniers is called **QL2.1**, this is available in all 8 combinations.

The older **QL1** system (which is still very good) is available only on Roller panniers made from Classic fabric, these are supplied without inner organisers, to keep the price down. These are known as "**Front Roller City**" and "**Back Roller City**"

Back Roller Plus QL2.1 Panniers
- Signal Red / Chilli
- 40 Litre...£114.29 (pair)



Bike Packer Plus QL2.1
Lime/Moss
- 42 Litre...£143.99 (pair)



Which Ortlieb panniers? (Andy's personal opinion)

I can see the virtue of cost-effective panniers if funds are tight, if this is the case, I'd happily recommend the Roller City series - particularly the Front Roller City.

Given deeper pockets, I can't see the point of having heavier panniers made out of weaker fabric, so I recommend having **Plus** panniers. I certainly recommend having Front Roller Plus bags as front panniers, where their watertight qualities are particularly beneficial. I'd keep items that must not get wet inside. (Down sleeping bags and jackets). These panniers are also ideal as rear bags, to supplement a traditional saddle bag. (See previous page) Sport Packer Plus panniers are ideal for use at the rear, as sole luggage for light touring. Bike Packer Plus panniers are probably the best Ortlieb rear bag option for heavily loaded touring.

For **touring with 4 panniers**, in general I recommend the combination of Bike Packer Plus (rear) and Front Roller Plus (front).

Andy Blance Sept 2015

How to get the perfect set up on your THORN bike.

Do you currently have a bike?

YES

Are you happy with the set up?

NO

Did you keep the set up dimensions from a previous bike?

YES

Would you be happy with this set up on your NEW BIKE?
Please bear in mind that it may be for a different purpose.

NO

Can you indicate EXACTLY how this position would need to change, in order for it to be suitable?

NO

NO

Does (did) this bike have the same type of bars as you wish your new bike to have?

YES

YES

Please apply our correction factor, see "measuring an existing bike" on the next page.

NO

YES

Please fill in ALL the details requested in the section "PERSONAL DETAILS"
We will use this data to calculate the set up of your new bike.
Alternatively, you can make an appointment to visit us.
UK 01278 441505
sales@thorncycles.co.uk

Please fill in ALL the measurements in the section "Measuring an existing bike" (Which you'll find on page 56)
We will then use **YOUR MEASUREMENTS** to set up the position on your new bike.

Customers' Personal details

We only need these if you can't supply set up dimensions
The dimensions we need are really quite simple.

In order for US to be able to **CALCULATE** and determine a suitable position for your next THORN bike, we must have very specific and perhaps, to some people, very personal information. We need **EVERY BIT** of the information requested in the table below.

Alternatively, you may be able to complete the set up details **EXACTLY** as requested in the section **"MEASURING AN EXISTING BIKE"**.

Or, as a **THIRD OPTION**, you are most **WELCOME** to **VISIT US** and we'll be very happy to measure and advise you.

PLEASE NOTE: Unless one of the 3 options above are followed exactly, we are unable to guarantee the results and only your statutory rights may apply.

DATA FOR THE PERSON THE BIKE IS FOR: Name

DIMENSIONS AND OTHER DATA.	GENDER M OR F	
	WEIGHT (Kg)	
	AGE	
	HEIGHT (bare feet in mm.)	
	BFSO in mm (Bare foot stand over height in mm.)	
	SHOE SIZE (continental)	
POSITION REQD. Please tick one box, or 2 boxes.	ARM SPAN (mm)	
	VERY RELAXED	
	RELAXED	
	FAIRLY RELAXED	
	FAIRLY SPORTY	
	SPORTY	
CHOICE of SADDLE and TYPE of HANDLEBARS REQUIRED. Please tick one box. Please state width required, if Flat Track bars are chosen.	SADDLE LENGTH (mm) Or NAME and MODEL	
	CONVENTIONAL DROPS	
	STRAIGHT	
	FLAT TRACK width (mm)	
OTHER ESSENTIAL INFORMATION Please tick one box.	COMFORT	
	Experienced, fit and confident cyclist.	
	Less experienced but keen and reasonably fit cyclist.	
	Casual and/or nervous cyclist.	

There are 2 problems with measuring BFSO:-

[1] How far into the crotch should you push the square?

The answer is, until it causes the soft tissue to gently touch bone.

[2] It's possible to tilt the pelvis without realising it, which makes a nonsense of the result.

To avoid tilting the pelvis, stand against a vertical wall, with your head, heels and shoulder blades touching the wall. Now try and touch the small of your back and calf muscles against the wall, the pelvis is immobilised and a meaningful measurement may now be taken.

Please see diagram on the left.

You'll need someone else to help you to take this measurement. You may need to improvise to find a suitable square. Really big coffee table books are an option. A carefully cut and folded sheet of card, taken from an extra large carton is another option.

ARM SPAN. This is very simple to measure. Stand facing a wall and, with your arms horizontal, touch the corner of the wall with the longest finger of one hand and then see how far you can extend the corresponding finger of the other hand. Mark this point. It's then easy to measure from the corner to the mark.

Head upright and flat against the wall.

Shoulders relaxed and shoulder blades flat against the wall.

Try and press the small of the back flat against the wall.

Try and press the knees and calf muscles flat against the wall.

Heels flat against the wall, feet 150mm apart.

HOW TO MEASURE YOUR BFSO

(bare foot stand over height)
IT DOES TAKE 2.

90° square, or LARGE COFFEE TABLE BOOK pressed up into the crotch (perineal area) until it just touches bone.

Measure from top of square (OR BOOK) to ground

VERY RELAXED: This is a position which places a very considerable amount of the rider's weight on the saddle. The rider is leaning forward slightly but is sufficiently upright to enable them to look around easily. This position is ideal for gentle cycling, or for cycling slowly and defensively in traffic. The very relaxed position is not efficient at speed, or in high winds but it is possible to exaggerate the bend in the arms, in order to obtain a lower position, for short periods of time.

PLEASE NOTE: The bike will look more aesthetically pleasing, if comfort bars are used to gain some of the considerable height which is required. A very relaxed position is often only achievable, for very tall cyclists, by using comfort bars.

This position is NOT achievable with drop bars.

**VERY
RELAXED**



RELAXED



**FAIRLY
RELAXED**



**FAIRLY
SPORTY**



SPORTY



FAIRLY SPORTY: This is an even lower position, which spreads the rider's weight between saddle and bars. The position is fairly aerodynamic and much more suited to brisk riding. The rider is still able to raise themselves to look around when necessary.

It may be uncomfortable to ride sedately in this position.

It's unlikely that this position is achievable with comfort bars.

SPORTY: This is a much lower position and it is very efficient for covering long distances at a brisk pace efficiently and in comfort. The position is not as low as a racing position but most cyclists are not racing cyclists. It would almost certainly be uncomfortable to ride slowly for any distance, in this position. The majority of cyclists ought to still be able to look around when necessary - others may have to ride with one hand to facilitate this. Please don't confuse "looking around" with being able to glance behind.

It's very unlikely that this position is achievable with comfort bars.



Steve, our senior salesperson, is around average height for a man (1745mm). He also has average length arms and legs for his height.

Please note, we make allowance for height, BFSO, gender and for body type.

We also add 20mm to the height of the positions shown and cut the cables to suit - this is our margin for error - you can easily drop the bars by 20mm when you receive the bike.

Please note. In the above pic of the "sporty" position, the stem we've used is longer than we'd normally use on this size bike. Normally we'd have used a longer frame to achieve this position. We fitted the 150mm stem simply to illustrate the "sporty" position. It also serves to illustrate that no one frame can be chosen for every set up position

Achieving your perfect position on your bike

We can set your bike up in many different positions:-

VERY RELAXED, RELAXED, FAIRLY RELAXED, FAIRLY SPORTY or SPORTY

We will even take instruction to split the difference between 2 of the main positions. If this is your wish, please tick both boxes.

**FAIRLY
SPORTY
USING SKI
BENDS**



**SPORTY
USING SKI
BENDS**



You can see that Steve's position, when using the ski bends on a fairly sporty set up, is very similar to his position on the grips with a sporty set up. Steve's position, on the sporty set up, when using the ski bends is almost a full racing tuck. Don't underestimate the variety of positions you can achieve, with straight bars and bar ends - particularly if you choose the Ergon GP5-L bar ends.

Measuring an existing bike

The dimensions we ask for, will enable us to set up your new bike exactly as your favourite machine.

Please provide either "L" or "H".

Experience has shown us that these dimensions are the easiest dimensions to take, that will plot **exactly** where your saddle is, in relation to your pedals.

They also establish **exactly** where your bars are in relation to your saddle.

Please use this method only.

Correction of 'D'

Compared to our 5° bend straight bars, the following table shows how much shorter, or longer a stem probably needs to be in order to achieve a similar position with a different type of bar.

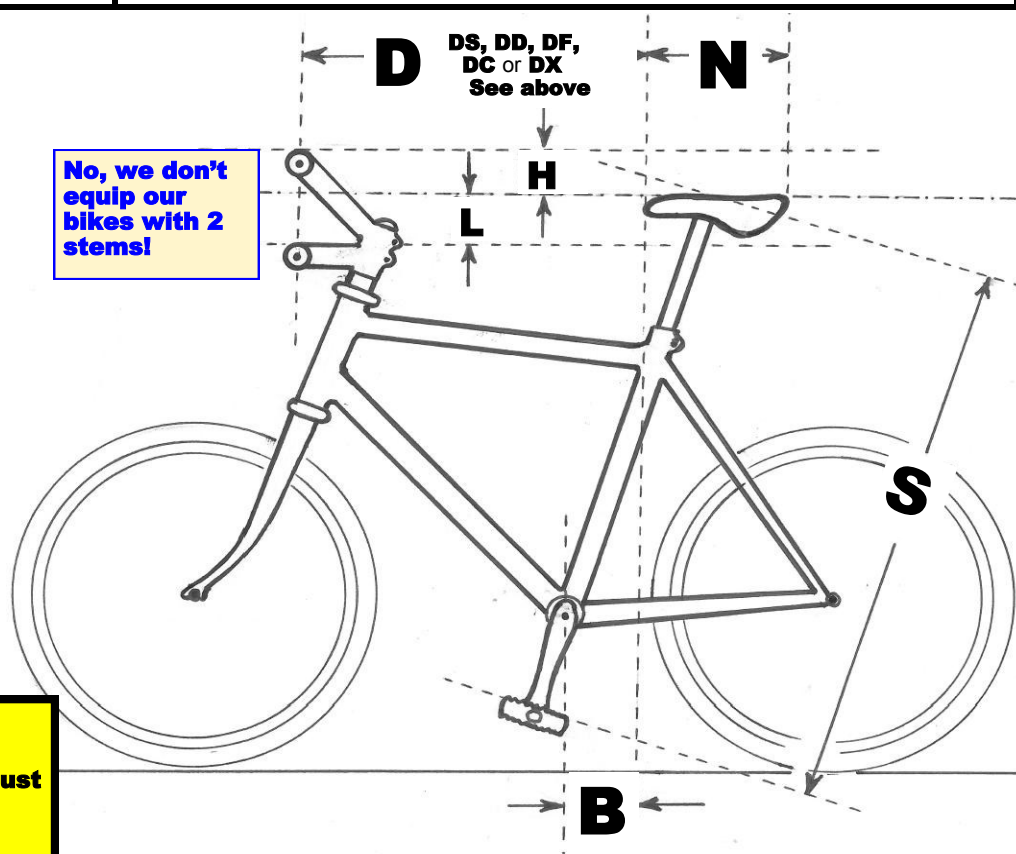
DS	0mm
DD	-55mm
DF	+15mm
DC	+35mm
DX	???mm

PLEASE NOTE:

The dimensions that you give us must be accurate. Please get someone else to check your measurements.

The dimensions we need to duplicate your position. Please refer to diagrams below.

N	Overall saddle length in mm. And/or name of saddle.
S	The distance in mm. FROM THE UPPER SURFACE OF THE LOWER PEDAL (with crank in line with seat tube) to the top of the saddle, measured along the seat tube. MAKE CERTAIN THAT YOU GET THIS RIGHT...PLEASE CHECK CAREFULLY WHAT WE ARE ASKING FOR, IF YOU GET THIS WRONG YOU WILL ALMOST CERTAINLY GET THE WRONG SIZE FRAME.
B	The distance that a plumb line falls behind the BB, when suspended from the nose of the saddle. IF YOU GET THIS WRONG IT WILL SERIOUSLY AFFECT THE REACH.
L	On a STRAIGHT BAR BIKE , this is the distance that the tops of the GRIPS are lower than saddle. On a DROP BAR BIKE , it is the distance that the top of the stem is lower than the saddle. Use a long bubble level or a straight edge with a small bubble level taped to it and measure from the top of the saddle. the bike must be on a level surface.
H	On a STRAIGHT BAR BIKE , this is the distance that the tops of the GRIPS are higher than saddle. On a DROP BAR BIKE , it is the distance that the top of the stem is higher than the saddle. You can use the same methodology as described in L above to measure this
DS	This is the distance from the nose of the saddle to the centre of the stem, on a bike with 3-5° STRAIGHT BARS . These are the most common straight bars in use today, most MTB low rise bars are 5°. Our THORN STRAIGHT BARS and THORN NARROW BARS are both 5° BARS.
DD	This is the distance from the nose of the saddle to the centre of the stem, on a bike with DROP BARS
DF	This is the distance from the nose of the saddle to the centre of the stem, on a bike with THORN FLAT TRACK BARS . These have a 10° bend, which is probably unique.
DC	This is the distance from the nose of the saddle to the centre of the stem, on a bike with THORN COMFORT BARS , which have an 18° bend.
DX	This is the distance from the nose of the saddle to the centre of the stem on a bike with ANY OTHER BAR . PLEASE NOTE...YOU MUST BE ABLE TO COMMUNICATE TO US EXACTLY WHAT THESE BARS ARE.



Thorn Raven Twin Tandems

Our Rohloff
equipped tandems
Are available in 5 sizes,
In your own choice of
colour from **£3099**

We've some original sizes left from **£2799**
(Subject to availability)

The Raven Twin tandems have perfect handling
and they're built to last a lifetime.
They've so many component options available
that, although we've sold hundreds, we've
never made two with exactly the same spec!

**A custom option at a
readymade price!**

CLICK HERE

For
Raven Twin
Tandem
brochure

This is an 8mb file; it may take a while
for it to open, please be patient.

**Once they've tried Rohloff, very few
cyclists wish to use derailleurs gears again
- that goes double for Tandem riders!**

Also available with S&S couplings



Fiona and Andy, at speed, on their Raven Twin

CLICK HERE For
"LIVING WITH a ROHLOFF HUB"

This is a 19mb file; it may take considerable
time for it to open, please be patient.



AB's Glossary of Cycling Terms

Headset - The name, protected by patent and copyright given to the first threadless headset.

Anti Chaffing Strip - This is a strip of material which is fitted by most tyre manufacturers, which prevents (or delays) the tyre being chaffed through by the side walls of the rim.

BB A frequently used abbreviation for Bottom Bracket.

BB Drop - This is the vertical distance that the centre of a frame's BB is below a centre line drawn through its front and rear dropouts.

BB Height - The height above the ground that the centre of the BB is when the bike is vertically upright. **Note:** this varies with tyre size and tyre pressure which is why we quote BB drop.

BCD - This is the abbreviation for bolt circle diameter. Chain rings and crank spiders are classed according to their BCD. Rings from one BCD won't fit onto cranks with a different BCD.

Bead - The part of a tyre which locates it firmly on the rim. Beads are either [1] made from steel, which are known as wire beads or [2] made from modern high tensile man-made fibres, such beads are significantly lighter and are also flexible. Tyres with such beads are known as "folding tyres".

Block - See Freewheel (noun)

Bottom Bracket - The axle and bearing assembly, to which the left and right cranks are attached.

Bottom Bracket Shell - The cylindrical housing, which forms part of the frame, into which the bottom bracket is installed.

Brake Bridge - On a bike with Calliper brakes, the seat stay bridge is called the brake bridge. It is often a micro-cast component, incorporating a boss for the attachment of the rear brake.

Brazing - A process which involves heating up a brass alloy until it melts. Molten braze is a fantastic glue and it's used for joining tubes together, attaching bosses and fittings or filing dents.

Brazed on Bosses - Bosses are machined components with a thread, to which various items may be securely attached. Brazed on bosses are permanently fixed to the frame with braze. Thorn frames are renowned for their attention to detail. We fit many different bosses for carriers, lo-loaders, mudguard stays and bottle cages.

Brazed on Fittings - Fittings include guides, slides and stops for neat cable routing. Brazed on fittings are permanently attached using braze.

Butted Tubes - Higher quality cycle tubing is made by drawing seamless tubes down to achieve very thin wall thicknesses. When one end of the tube is given thicker walls, to provide greater strength at the joint, the tube is said to be **butted**. When both ends of the tube are given thicker walls, the tube is said to be **double butted**.

Butted Spokes - Some spokes have a 14g shaft and a 13g thickened head end and are said to be butted. Hubs usually need the spoke holes enlarging to use heavier 13g spokes - which **isn't** usually a sensible thing to do.

PLEASE NOTE: Many double butted spokes are mistakenly called butted spokes.

DB spokes are a good idea.

Cadence - This is simply the number of complete revolutions of the cranks, made by the cyclist, within 1 minute.

Cassette - On modern derailleur bikes, a number of (rear) sprockets are joined into an easy to fit assembly, which is known as a cassette. Nowadays 9, 10 and 11 speed cassettes are in common use.

Chainline - On a bike with a single sprocket, when you look from behind, along the chain, towards the chain ring, you should see a perfectly straight line. This is perfect chainline. With multiple sprockets and/or more than one chain ring, some compromise has to be arrived at, to ensure that all permissible ring/sprocket combinations have an acceptable chainline. Manufacturers quote the distance from the centre line of the seat tube to the teeth of the inner (or only) ring.

Chain Ring - The large, toothed ring which fits onto the cranks is known as a chain ring.

Chainset - The combined assembly of left and right cranks, chain rings and chain ring bolts is known as a chain set. Thorn derailleur bikes are almost always selected with 3 chain rings and are said to have triple chainsets. MTB chain sets usually include the complete BB assembly; whereas Road chain sets generally don't include the BB assembly.

Chain Stays - part of a bike's frame, they are the pair of tapered tubes, which run from the BB shell back to the rear dropouts. Chain stays are usually deeply ovalised at the BB, to provide greater tyre clearance.

Chain Stay Bridge - A short length of tube which connects the 2 chain stays. The position of this bridge can dictate available tyre clearance. The bridge is also used to secure the bottom of the rear mudguard.

Cleats - Devices which are screwed to the sole of cycling shoes, which attach to the pedals, stabilising the feet and improving pedalling efficiency. MTB cleats are recessed into the sole of MTB shoes and do not interfere with walking.

Clips and Straps - See Toe Clips and Toe Straps

Coasting - See freewheel (verb)

Cold-Drawn - When tubes are repeatedly drawn through dies and over mandrels, to gradually make the walls thinner, without the use of heat, they are said to be cold drawn.

Cold-Set - An engineering term for bending something without using heat.

Crank - The alloy arms which attach to the BB axle and which have the pedals screwed into them are called cranks.

Crank Set - The left and right cranks together are called a crank set.

Crown Seat - The machined area at the top of the fork crown, which provides an interference fit for the crown race.

Crown Race - The hardened and machined lower part of the headset. This is a press fit onto the crown seat.

DB - An abbreviation for Double Butted.

Double Butted Tubes - see Butted Tubes.

Double Butted Spokes - Higher quality wheels are built using double butted spokes - typically 14/16 gauge. The 16g middle section of DB spokes is much thinner than the ends, which saves weight and gives a more resilient ride. The standard 14g bend fits snugly into hubs and the 14g thread fits into standard nipples.

Down Tube - The frame tube which runs from the head tube to the BB

Dropouts - The precision made slots into which the front and rear wheels' axles are fitted and clamped tight. Hence front dropouts and rear dropouts.

Dynohub - see Hub Dynamo

EBB - Abbreviation for Eccentric BB

Eccentric BB - A large diameter, precision machined, cylindrical alloy insert, which takes a standard BB unit, in an offset (eccentric) position. Rotating the EBB changes the distance between the BB and the dropouts (and/or the other BB in the case of a tandem) - allowing chain tension adjustment.

Eccentric Shell - The housing, which is an integral part of the frame, into which the EBB is located.

Ex Box - Short for External Box

External Box - Rohloff call the box, into which the gear cables run, the External Box. See page 20 for more detail.

Fixed Wheel - A single speed gearing system, without a free wheel. When the wheel goes round, the cranks go round. If the cranks are prevented from going round, the wheel can no longer rotate.

Fork - The name given to the assembly of fork blades, fork crown and steerer tube.

Fork Crown - Most steel bikes' forks are made by brazing a pair of fork blades and a steerer tube into a fork crown. Cheap fork crowns are stamped and pressed, higher quality fork crowns are accurate micro-castings.

Fork Rake - See Fork Offset.

Fork Offset - To ensure stability, the front dropouts must be some distance ahead of a line drawn through the centre of the steerer tube - this is known as the fork offset. Off set can be achieved by mounting straight blades at an angle to the steerer tube, or it can be achieved by putting a bend into the tips of the fork blades. When high quality blades, with small diameter tips are given a tight-radius bend, not only is the necessary stability achieved - the forks become significantly more comfortable to ride. Thorn cycles' forks have such bends and are a signature of our bikes.

Free Hub - A rear derailleur hub which takes a cassette, the bearings which support the cassette are in the free hub body, which is an integral part of the hub.

Freewheel (noun) - All hubs, apart from fixed wheel hubs, used to have a screw on freewheel - single, 5, 6 or 7 speed. The bearings are in the screw on freewheel. Freewheels used to be difficult to remove,

today only single speed bikes and cheap nasty rubbish derailleur geared bikes are built with a freewheel.

Freewheel (verb) - To freewheel is (apart from when riding a fixed wheel bike) when a cyclist stops pedalling and the cycle continues its downward motion. Some call it coasting.

Front Centres - When the front wheel is pointing exactly forward, the distance between the centre of a bike's BB shell and the centre of its dropouts is known as the front centres.

Front Derailleur - The mechanical device which moves the chain from one chain ring to another.

Front Hub - The central part of a front wheel, into which spokes are laced.

Front Mech - See front derailleur.

Gear Lever - See gear shifter.

Gear Shifter - A component which, on a derailleur bike (currently) pulls a cable, which in turn moves a derailleur to make it shift from one chain ring (or sprocket) to another. Derailleur gear shifters are available in many different styles. Hub geared bikes are also operated by their specific shifter via a cable.

Group Set - A collection of derailleur specific components (derailleurs, chain set, hubs brakes, gear mechs etc.) designed to be harmonious in terms of looks, price and performance. Only Road Racing Trekking and MTB Racing groupsets are offered by manufacturers. Touring bikes have to use components from both road racing trekking and mountainbiking.

Handlebar Stem (threadless 1") - An alloy component with a clamp at each end. The handlebars are inserted into one end, the other end is clamped onto the steerer tube. All Thorn frames built after 2000 used 1 1/4" threadless steerer tubes. The **handlebar stem** also has a second important function - it acts as a locking device, to prevent the headset bearings from loosening. **Note:** old bikes and Thorn frames built **before 2000** may have a threaded steerer and consequently need to use a **quill stem**. The older the bike, the more likely this is.

Head Angle - The critically important angle that a straight line drawn through the steerer tube makes with a level surface.

Headset - The name given to the complete steering bearing assembly which consists of the upper and lower head races, along with the various seats, shrouds and seals.

Only old, or very cheap bikes use a threaded headset these days - see quill stem.

Head Tube - The tube at the front of the frame, through which the fork's steerer tube runs. The down tube and top tube are attached to this tube.

Heat Treatment - In the case of premium quality steel cycle tubes, heat treatment involves heating the tubes in a furnace to extreme high temperature, holding that temperature for many hours and then quenching the tubes at ultra low temperatures. Heat treatment is expensive but worth the effort and expense. It increases ultimate tensile strength and raises the steel's elastic limit considerably making the steel more resilient and more resistant to denting.

For more information on steel, see page 8

Hub Dynamo - A hub (invariably a front hub these days) which, when switched, uses forward motion to generate electricity to power lights, or to potentially charge electronic devices.

Hub Flange - The larger diameter, parts of the hub, into which the spoke heads are located is known as the hubs flanges

Hub Gear - See internal geared hub

Indexed Gears - In the mid 1980's, Shimano made the major technological breakthrough of providing positive clicks, which could also be felt through the fingers, as the shifters reached each gear. They called this SIS - Shimano Indexing System. We all called it indexed gears.

Inline Post - A seat post which has no lay back at all and is used to position the saddle in a more forward position.

Internal geared hub - Unlike a derailleur gear system, the mechanism for providing multiple gears, is inside the hub and sealed from the elements.

L1 - A dimension used by many frame builders, it is the distance, measured in a straight line from the centre of the front axle to the crown seat.

Lay Back - When used to describe a seat post, it refers to the post's capacity to position the saddle further towards the rear of the bike.

Lo-Loaders - Front carriers, which are attached to bosses on the fork blades.

Given a frame with the correct geometry, Lo-Loaders have a stabilising effect on the bike's steering - whereas weight carried high at the front can make a bike feel very twitchy. See page 51

Low Loaders - See Lo-Loaders.

Low Riders - See Lo-Loaders.

Micro-Adjustable Seat Post - This is a seat post which allows very fine adjustments to be made to the inclination of the saddle. Generally cyclists like their saddles to be dead level.

PCD - Pitch circle diameter, this term has generally been replaced with the term, Bolt circle diameter - see BCD

PG - An abbreviation for Plain Gauge.

Plain Gauge Tubes - Tubes which have been drawn but not butted are known as plain gauge.

Plain Gauge Spokes - Spokes which are not double butted are also known as plain gauge, the most common gauge used is 14g.

Hubs and rims usually need the spoke holes enlarging to use heavier 13g spokes - which is rarely a sensible thing to do.

Q Factor - A way of determining and comparing how wide apart a bike's pedals (and consequently the cyclist's feet) are.

Q R - abbreviation for Quick Release.

Quick Release - In modern cycling terminology, a QR system is a lever with a cam action, with a powerful clamping action when closed, yet having no clamping action when open.

Quick Release Skewer - Q R skewers have a cam action and are used for securing wheels with hollow axle hubs into a frame's dropouts.

See page 43 for safety information

Quill Stem - A handlebar stem which fits inside a (usually 1") threaded steerer tube. These stems used an expanding wedge to secure them inside the steerer. They frequently seized, almost invariably creaked and offered limited height adjustment. Adjusting the threaded headset was also a tricky job, requiring large specialist tools.

Rapidfire - Shimano's ergonomic, under-bar mounted derailleur gear shifters for straight bars. The Right thumb changes to a lower gear and the Right index finger changes to a higher gear. The Left thumb changes to a bigger ring and the Left index finger changes to a smaller ring.

Rapidfire Plus - Exactly like Rapidfire except that now the thumbs, as well as the index fingers, can also operate the index fingers' levers - leaving the index fingers free for braking.

Rear Centres - The distance between the centre of a bike's BB shell and the centre of its rear dropouts is known as the rear centres and also as the chain stay length.

Rear Derailleur - The articulating device which moves the chain from one sprocket to another on derailleur equipped bikes.

Rear Mech - See rear derailleur.

Rear Hub - The central part of a rear wheel, into which spokes are laced. The rear hub is driven by a sprocket.

Resilience - Resilience is a much talked of, easy to notice, yet hard to describe property of high quality steel - it manifests itself as a tight, springy sensation.

Rim - The aluminium" hoop onto which the tyre is mounted and from which the bicycle is suspended by its spokes. ("Some top end road racing bikes use carbon rims and older or cheap bikes use steel rims)

Rim Tape - A tape which fits into the well of a rim and prevents the inner tube from being punctured by chaffing from the sharp edges of the spoke holes. A simple item, which does a vital job.

Seamless - When referring to frame tubes, it means that the tube has been formed by drawing a pierced billet of steel through dies and over mandrels, rather than by rolling steel into a strip and welding it along its length.

Seat Angle - The angle that a straight line drawn through the seat tube makes with a level surface. This can be compensated for, or augmented by the use of an inline seat post or by the use of one with more layback.

Seat Clamp - A device for securing the seat post into the seat tube. On Thorn bikes, these are brazed onto the seat tubes, to be an integral part of the frame.

Saddle Clamp Assembly - The term given to the various components which clamp the saddle rails securely to the top of the seat post.

Seat Post - A component which is inserted into the seat tube, onto which the saddle is clamped. Thorn seat posts allow several centimetres of fore and aft movement - the exact amount is dependant upon the make of saddle.

Seat Stays - part of a bike's frame, they are the pair of small diameter tubes which run from either side of the top of the seat stays, down to the rear dropouts.

Seat Stay Bridge - A short length of tube which connects the 2 seat stays. The position of this bridge can dictate available tyre clearance. The bridge is also used to secure the front upper section of the rear mudguard.

See also brake bridge.

Seat Tube - The frame tube which runs from the BB shell to the seat clamp. The seat post fits into this tube.

Side Wall - the flexible section of a tyre, which is situated between the anti-chaffing strip and the tread cap. Light side walls are very flexible, flexible side walls provide extra comfort and are quicker than reinforced side walls but are more vulnerable to damage in severe conditions. **Also used to describe the sides of a rim**, especially a rim which has a braking track designed for rim brakes to act upon.

SIS - Shimano Indexing System.

See indexed gears.

Shifter - See Gear Shifter.

Skewer - See Quick Release Skewer.

SPD Pedals - Shimano Pedalling Dynamics - Shimano's system pedal, the original and, for tourists, the best. Shimano make road SPD and MTB SPD pedals. The road pedals don't have recessed cleats and are not for touring. See page 50

Spider - The arms on a crank, with shoulders, seats and drillings, to allow accurate and positive attachment of chain rings.

Spoke - The majority of the weight of a bike, rider and luggage is suspended by a few spokes from the top of the rim. Thorn bikes use top quality, high tensile stainless steel spokes.

Sprocket - The correct term for the cog (or cogs) attached to rear hubs, which provide forward motion.

Steerer Tube - The tube at the top of the fork crown, which runs through the head tube and onto which the handlebar stem is clamped.

Stem - See handlebar stem.

STI - Shimano Total Integration. A drop bar only set up which integrates brake levers and derailleur gear shifters.

System Pedals - Generic term for pedals designed to work with special cleats, which lock the shoes in position.

Threadless Headset - see Headset.

Toe Clips - Metal or plastic baskets, which are screwed to pedals. Cyclists' shoes fit into them and they help to keep feet on the pedals. Toe Clips were once de-rigueur - nowadays they are old hat.

Toe Straps - Designed to enable Toe Clips to keep their shoe-retaining ability, when pedalling hard.

Top Tube - The uppermost tube of a bike frame's main frame, which was once known by some as the cross bar.

Tread Cap - The section of a tyre which makes contact with the road.

Tube Set - The collective name given to the 8 tubes used to make a steel bike frame.

Twin Plate Crown - An alternative to a conventional fork crown. 2 machined steel plates are used, which gives exceptional lateral rigidity. See page 18

Wheelbase - When the front wheel is pointing exactly forward, the distance between the centres of a bike's front and rear dropouts is its wheelbase.

About Thorn

The business began as St John Street Cycles, in 1984 when Robin Thorn took over an almost defunct toy and cycle shop at 36 St John Street.

He chose Bridgwater quite by chance – he was having holiday in the area from his home in Norfolk, and was amazed to see the number of people on bicycles in the town. In an instant the decision was made and the shop was leased that day.

Robin borrowed a small sum from his parents and worked all hours of the day and night to build up the business. He soon became a well-known figure with his oil-stained brown overall and wild hair and beard, often working on the pavement in the sunniest weather to draw further attention to his shop.

In 1989, the first employee was taken on – Andy Blance, a friend and very experienced audax rider.

In 1992, the first tentative moves were made into national advertising, concentrating on the touring and tandem markets, which were the particular interests of Robin and Andy.

The emphasis had completely changed from cheap bikes to very high quality, specialist machines, though still often sold at a bargain price made possible by Robin's buying prowess.

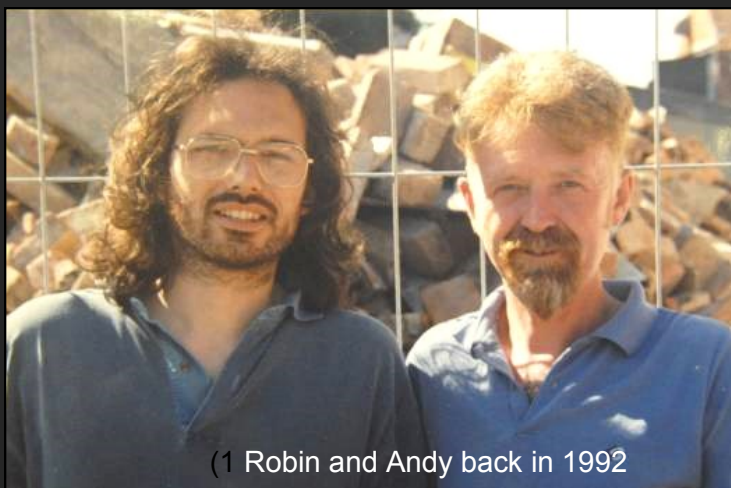


In 1993, Robin decided to move up the road to number 91-93. The entire building front was gutted to give a modern, light, air-conditioned shop and a very superior workshop; the rear was left as a long single-storey brick store. St John Street Cycles was rapidly becoming known as one of the major touring and tandem suppliers in the country. We were gaining an extremely good reputation for the quality of our service and the breadth of our knowledge in the field.

In late 1995 we began to consider manufacturing our own bikes. We had become increasingly frustrated by the mistakes and missing features on the bikes we could buy and wanted to design what we considered to be the ideal touring bike and the ideal tandem. Andy used his wealth of experience and study of the subject to design the bikes, and the THORN brand was launched. The first bikes were so well received that we didn't even have to advertise them – they sold as quickly as we could get them made. At this point we set up our own frame shop and Andy designed complete ranges of Thorn bikes. Thorn quickly became established as a premier brand in the tandem touring market.

At the same time, our mail order business and online store had been growing apace, and our internet site recognised as an industry best.

In 2000, the limited company Thorn Cycles Ltd. Was formed, with Robin and Helen Thorn as joint owners. St John Street Cycles remains as a trading name of the company.



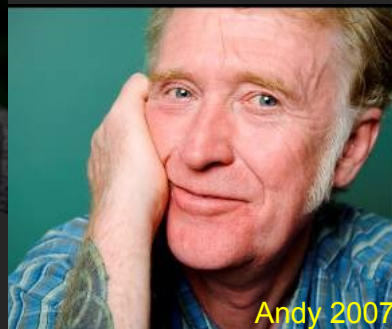
(1 Robin and Andy back in 1992



Andy 2014



Robin 2007



Andy 2007

All of our bikes have a frame warranty for the lifetime of the original purchaser.

We also offer Money back guarantees of satisfaction.



Buy a **Thorn Rohloff equipped bike**, ride it for 100 days and, if you're not totally delighted, return it to us either in person, or safely packaged in a Thorn bike box. We will refund you the purchase price of the bike including any or all **UPGRADES** found in **PART2** of the **MEGA BROCHURE**.

This offer does not include pedals, tools or accessories.

This offer applies to complete bike sales and to EU customers only*.

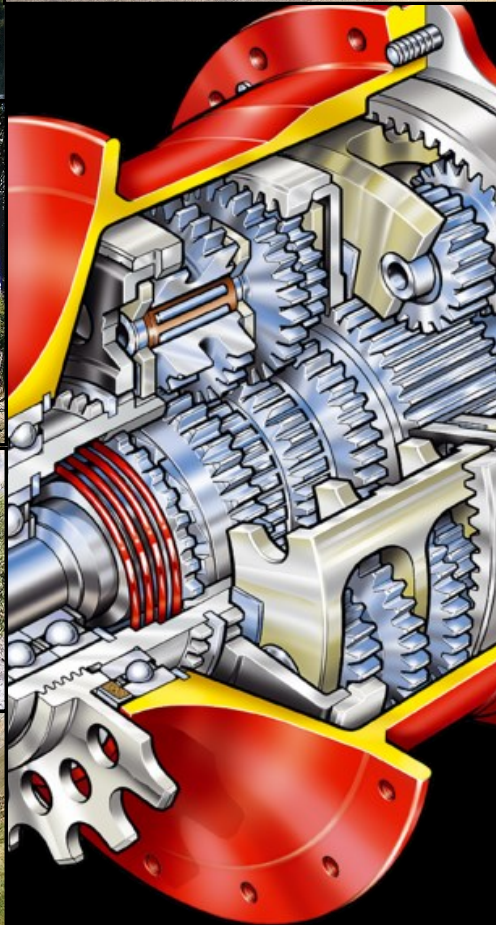


Buy a **Thorn derailleur equipped bike**, ride it for 14 days and, if you're not totally delighted, return it to us, either in person or safely packaged in a Thorn bike box, we will refund the purchase price of the bike, including any or all **UPGRADES** found in **PART2** of the **MEGA BROCHURE**.

This offer does not include pedals, tools or accessories.

This offer applies to complete bike sales and to EU customers only*.

* The Money back guarantees can also apply to Customers outside the EU but only upon the strict understanding that they **must return the bike in person**. Otherwise we would end up paying import duty on the returned machine!



SUB-INDEX for:- UPGRADE & ACCESSORY PRICES and COMPATIBILITY

- [61] **CURRENT START PRICES and KEY**
- [62] **Customer's details**
- [63] **FRAME SIZES AND COLOURS**
- [64] **FORKS.**
- [65] **STRAIGHT HANDLEBARS, Grips and Bar Ends, Gear Shifters for Straight Bars.**
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UPGRADE & ACCESSORY OPTIONS, PRICES and COMPATIBILITY

Please study the notes in the compatibility columns. Please remember that, within this single document, are the definitive upgrade and accessory prices for ALL THORN BIKES

Beware - this document contains both 700c and 26" wheels and tyres, it contains Derailleur and Rohloff gear systems and also contains both dropped and straight bars options.

KEY:-

BLANKED OUT

columns mean that the item can NOT be fitted. X means item could fit but would probably be a bad choice.

"OK" means just that - and OK is often fine.

☺ indicates a good choice, usually for specific purposes.

☺☺ indicates an excellent choice, again for specific purposes.

???? - either an excellent, or a terrible choice, depending upon YOUR specific requirements - needs careful consideration - make certain this is the right choice for YOU.

Upgrade prices already include full credit for the unused items from our bikes'

"Start Prices"

In an attempt to simplify things and have all the upgrades at the same prices - whichever bike you choose, as many items as possible are constant in the start prices. For instance, all of our bikes use Shimano Deore front hubs in their start price specification, they're nice hubs and give good service but you may feel, as I do, that they're a more appropriate choice on a £1500 bike, than they are on a £2800 bike - I recommend that you choose a Hope front hub on a Nomad or Mercury - unless, of course, you're having a Son 28 Dynohub!

Please note;

The items used in the **start prices** have been carefully chosen for function and durability, as befits our renowned touring bikes - they don't necessarily need expensive upgrades - they're already superb bikes, which only require pedals and accessories to fulfil your chosen function.

The upgrade options are there for you to create your dream bike - should you so wish!

Please also note;

A ☺☺ or ☺ rating doesn't mean that we necessarily endorse the concept of the item with ☺☺ or ☺.

For example, we don't recommend the concept of having a steel disc fork for touring but, if you must have one, our steel DISC fork and the Avid BB7 disc brake, both deserve a ☺☺ rating.

CURRENT PRICES of Frames and forks and CURRENT START PRICES of Complete THORN BIKES

**17 Sept
2015**

TYPE of GEARS	DERAILLEUR			ROHLOFF		
MODEL	AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
FRAME AND FORK ONLY For a different fork, the upgrade prices on page 64 apply.	£425 INC. FORK 1	£599 INC. FORK 4	£535 INC. FORK 9	£635 INC. FORK 9	£599 INC. FORK	£999 INC. FORK 1
COMPLETE BIKE FROM	£1239 INC. FORK 1	£1349 INC. FORK 4	£1299 INC. FORK 9	£2169 INC. FORK 9	£2299 INC. FORK	£2669 INC. FORK 1
S&S OPTION Add to Frame and fork or to COMPLETE BIKE	£950 INC. FORK 1 10 week lead time any colour	£500 INC. FORK 4 Available From stock Gunmetal only	£950 INC. FORK 9 10 week lead time any colour	£950 INC. FORK 9 10 week lead time any colour	£500 INC. FORK Available From stock Matt Black or Yellow	S&S not Possible on Mercury

BUYING A BIKE - CUSTOMER'S DETAILS

Order Taken by.....
 Customer Name.....
 Customer Number.....
 Contact Phone.....
 Email.....
 Address.....

Will you collect?.....Or shall we deliver?.....

Do you want front brake lever on LHS?.....or RHS?.....

SPECIFIC NOTES.....

[1] In order for US to be able to **CALCULATE** and determine a suitable position for your next THORN bike, we must have very specific and perhaps, to some people, very personal information. We need **EVERY BIT** of the information requested in the table on the right.

[2] Alternatively, you may complete the set up details **EXACTLY** as requested in the table below, to **DUPLICATE** your **CURRENT BIKE'S POSITION**.

[3] Or you're most **WELCOME** to **VISIT US** and we'll be very happy to measure and/or advise you.



DATA FOR THE PERSON THE BIKE IS FOR:
 Please see page **54**.
 Name

DIMENSIONS AND OTHER DATA.

We must have an answer in every box.

POSITION REQD.
 Please tick one box, or 2 boxes.

If you tick 2 boxes, we will aim for a position between them.

CHOICE of SADDLE and TYPE of HANDLEBARS REQUIRED.
 Please tick one

Please state width required, if Flat Track bars are chosen.

OTHER ESSENTIAL INFORMATION

Please select [A] [B] or [C]

GENDER M OR F

WEIGHT (Kg)

AGE

HEIGHT (bare feet in mm.)

BFSO in mm
 (Bare foot stand over height in mm.)

SHOE SIZE (continental)

ARM SPAN (mm)

VERY RELAXED

RELAXED

FAIRLY RELAXED

FAIRLY SPORTY

SPORTY

SADDLE LENGTH (mm)
 Or **NAME and MODEL**

CONVENTIONAL DROPS

STRAIGHT

FLAT TRACK width (mm)

COMFORT

[A] An experienced, fit and confident cyclist.

[B] A less experienced but keen and reasonably fit cyclist.

[C] A casual and/or nervous cyclist.

PLEASE NOTE: Unless one of the 3 options ON THE LEFT are followed exactly, we are unable to guarantee the results and only your statutory rights may apply.

The dimensions we need to DUPLICATE your CURRENT POSITION.
 We need 5 dimensions:- **N, S, B, L OR H** and either **DS, DD, DF, DC OR DX**
 Please refer to diagram on page **56**

N	Overall saddle length in mm. and/or name of saddle.
S	The distance in mm. FROM THE UPPER SURFACE OF THE LOWER PEDAL (with crank in line with seat tube) to the top of the saddle, measured along the seat tube.
B	The distance that a plumb line falls behind the BB, when suspended from the nose of the saddle.
L	On a STRAIGHT BAR BIKE , this is the distance that the tops of the GRIPS are lower than saddle. On a DROP BAR BIKE , it is the distance that the top of the stem is lower than the saddle.
H	On a STRAIGHT BAR BIKE , this is the distance that the tops of the GRIPS are higher than saddle. On a DROP BAR BIKE , it is the distance that the top of the stem is higher than the saddle.
DS	Distance from nose of saddle to the centre of stem, on a bike with 3-5° STRAIGHT BARS .
DD	Distance from nose of saddle to the centre of stem, on a bike with DROP BARS
DF	Distance from nose of saddle to the centre of stem, on a bike with 10° FLAT TRACK BARS .
DC	Distance from nose of saddle to the centre of stem, on a bike with 18° COMFORT BARS .
DX	Distance as above with ANY OTHER BAR YOU MUST BE ABLE TELL US EXACTLY WHAT THESE BARS ARE .

THORN SOLO BIKE or FRAME ORDER

Choose frame, size and colour. Choose a FORK, if appropriate, from the next page.

MODEL	SIZE	MATT BLACK	RED	GUN-METAL	BLUE	FUCHSIA	R&B	GREEN RETRO	BLACK RETRO	WHITE TEAM	SKY BLUE TEAM	TONKA YELLOW
AUDAX Mk3 700C Includes fork THORN 858 Seamless, Double butted Heat treated Cro-Mo frame & stays	495S											
	525											
	550											
	555S											
	570											
	600											
CLUB TOUR Mk4 700C Choose fork REYNOLDS 725 Seamless, Double butted Heat treated Cro-Mo frame & stays CLUB TOUR Mk4 S&S 700C From Stock Choose fork NOTE:- sizes 520S & 520L NOT available with S&S from stock	520S											
	520L											
	550S											
	550L											
	580S											
	580L											
	610S											
	610L											
	550S S&S											
	550L S&S											
	580S S&S											
	580L S&S											
	610S S&S											
	610L S&S											
MERCURY 700C Choose fork REYNOLDS 853 Seamless, Double butted Heat treated frame & REYNOLDS 725 stays	520S											
	520L											
	550S											
	550L											
	580S											
	580L											
	610S											
	610L											
RAVEN and SHERPA 26" Choose fork THORN 969 Seamless, Double butted Heat treated Cro-Mo frame & stays	475M											
	500S											
	500L											
	530S											
	530L											
	565S											
	565L											
	600S											
	600L											
	420S-T											
THORN NOMAD Mk2 26" Includes fork THORN 969 Seamless, Double butted Heat treated Cro-Mo frame & stays Geometry Compatible with Suspension fork ALL SIZES and COLOURS AVAILABLE with S&S From Stock	510M											
	510L											
	540M											
	540L											
	565M											
	565L											
	590M											
	590L											
	620M											
	620L											

FORK When chosen with a complete bike	DESCRIPTION For more detailed information see pages 16, 17 and 18	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
[1a] AUDAX Mk3 46mm	Reynolds Steel with m/g and lo-loader bosses, for deep drop calliper brakes . Max tyre 28c with m/g	£0	☹️ NOT sizes 495S or 555S					OK All L frames
[1b] AUDAX Mk3 50mm Matt Black only		£0						OK All S frames
[1c] AUDAX Mk3 55mm		£0	☺️ sizes 495S and 555S ONLY					
[2a] THORN 853c 46mm	Reynolds 853c Competition gauge, highest possible quality steel blades and steerer. Superbly comfortable and very light weight with m/g bosses. Countersunk for deep drop calliper brakes . Max tyre 28c with m/g (Schwalbe Supreme 32c will fit see page 16)	£139	☺️☺️ NOT sizes 495S and 555S					☺️ Long frames
[2b] THORN 853c 52mm		£139	☺️☺️ sizes 495S and 555S ONLY					☺️ Short frames
[3] CARBON FORK for DEEP DROP BRAKES	Carbon fork Max tyre 25c	£0	OK NOT sizes 495S or 555S					OK But why?
[4a] THORN ST 700 46mm SUPER TOURIST	Reynolds Super Tourist Steel with m/g and lo-loader bosses, for V brakes. Max tyre with 'guards 40c For loaded touring or general use	£0		☺️☺️ 550L, 580L + 610L				☺️☺️ Long frames
[4b] THORN ST 700 50mm SUPER TOURIST		£0		☺️☺️ 520L, 580S + 610S				☺️☺️ Short frames
[4c] THORN ST 700 55mm SUPER TOURIST		£0		☺️☺️ 520S + 550S				
[5a] THORN MER853VC 46mm	Reynolds 853c Competition gauge, highest possible quality steel blades and steerer. Superbly comfortable and very light weight with m/g bosses. For V brakes. Max tyre 40c (38c with mudguards) Brilliant for fast, lightweight use	£139		☺️☺️ Long frames				☺️☺️ Long frames
[5b] THORN MER853VC 52mm		£139		☺️☺️ Short frames				☺️☺️ Short frames
[6a] THORN STEEL DISC FORK 46mm	Reynolds Heavy Duty STEEL with ISO DISC , m/g and lo-loader bosses, DISC BRAKE ONLY Max tyre 40c (38c with mudguards) Ideal, if you must have a front disc. For loaded touring or general use	£10		☺️☺️ Long frames				☺️☺️ For loaded touring or general use Long frames
[6b] THORN STEEL DISC FORK 52mm		£10		☺️☺️ Short frames				☺️☺️ For loaded touring or general use Short frames
[7] CARBON ROAD DISC FORK Evo A647	Sporty CARBON fork with ISO disc mount. Max tyre 32c Frequent inspection reqd.	£109		?????				☺️
[8] ORA Ti Disc Cyclo-cross fork.	Reliable Titanium fork with ISO disc mount and m/g bosses. Max tyre size without M/G 40c	£245		????? Not suitable for smallest sizes of short frames 520S + 550S				☺️
[9a] THORN ST 26 46mm	Reynolds Super Tourist Steel with m/g and lo-loader bosses, for V BRAKES + 26" WHEELS Max tyre width 2" For loaded touring or general use	£0			☺️☺️ Suitable for sizes:- 530L, 565L, 600S and 600L			
[9b] THORN ST 26 52mm		£0			☺️☺️ Suitable for sizes:- 475M, 500S, 500L, 530S and 565S			
[10a] THORN RAV853VC 46mm	Reynolds 853c Competition gauge, highest possible quality steel blades and steerer. Superbly comfortable and very light weight with m/g bosses. for V BRAKES + 26" WHEELS Max tyre width 2" Brilliant for fast, lightweight use	£125			☺️☺️ Suitable for sizes:- 530L, 565L, 600S and 600L			
[10b] THORN RAV853VC 52mm		£125			☺️☺️ Suitable for sizes:- 475M, 500S, 500L, 530S and 565S			
THORN RAVEN TWIN TANDEM FORK	Reynolds Tandem gauge blades, with Twin Plate Crown, m/g and lo-loader bosses, for V BRAKES + 26" WHEELS Max tyre width 2.25" For loaded tandem touring or general tandem use.	£0 Included with frame.						
THORN NOMAD Mk2 FORK 48mm	Reynolds SUPER TOURIST + gauge blades, with Twin Plate Crown, m/g and lo-loader bosses, for V BRAKES + 26" WHEELS Max tyre width 2.25" For any use, up to and including full-on expeditions,	£0 Included with frame.					☺️☺️ The best you could possibly get!	

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

STRAIGHT HANDLEBARS

Thorn Straight Bar Black, 5° - 580mm wide	Fairly standard looking MTB bar. Centre swell too long for these to be able to be cut down	£0	X Mk3 is too short and Twitchy for most people when fitted with straight bars.	☺ For general riding	☺ For general riding	☺ For general riding	☺ For general riding	☺ For general riding
Thorn Straight Bar As above but polished (Silver)		£0		☺ For general riding	☺ For general riding	☺ For general riding	☺ For general riding	☺ For general riding
THORN NARROW BAR. 7075 Alloy BLACK 5° 550mm wide.	Short centre swell and etched scale markings allow bars to be easily cut to 540, 530, 520 or 510mm if required	£0	The wider the bars, the worse it feels.	☺☺ when cut to around 540mm for sporty use	☺ for smooth road use when left at 550mm Sporty	☺ for smooth road use when left at 550mm Sporty	☺ for smooth road use when left at 550mm Aerodynamic	☺☺ when cut to around 550mm Super Sporty
THORN Mk3 FLAT TRACK BAR 7075 Alloy BLACK 10° 580mm wide	Short centre swell and etched scale markings allow bars to be easily cut to 550mm if required. 10° bend gives natural position.	£0		☺☺ when cut to around 560mm fairly sporty	☺☺ when left at 580mm	☺☺ when left at 580mm	☺ for road use when left at 580mm.	☺ when cut to around 550mm Sporty
THORN COMFORT BAR BLACK 18° 620mm wide	Not everybody's choice but considered absolutely brilliant, by those who do like them. NOTE: bar ends can not be fitted to comfort bars unless you have tiny hands.	£0	X Mk3 feels horrible with comfort bars.	OK for gentle pottering around	OK for gentle pottering around or for expedition touring.	OK for gentle pottering around or for expedition touring.	☺ for serious expedition use	
THORN COMFORT BAR AS ABOVE BUT SILVER		£0		OK for gentle pottering around	OK for gentle pottering around or for expedition touring.	OK for gentle pottering around or for expedition touring.	☺ for serious expedition use	
THORN COMFORT MTB BAR AS ABOVE BUT 640mm and Black		£0		X Too wide	X Too wide for most uses.	X Too wide for most uses.	☺ for serious expedition use	
THORN eXp Bars 31.8 Black 12.5° 680mm	Long 31.8 centre swell. Etched scale markings allow bars to be easily cut to 590mm if required. 12.5° bend gives natural position. REQUIRES 31.8 STEM.	£25			?????	?????	☺☺ serious expedition use	

GRIPS & BAR ENDS for STRAIGHT HANDLEBARS ONLY

Herrmans DD08B Dual Density ergonomic grips. Supplied with SJSC Ergo control bar ends.	These grips are OK but not as nice as the GP5 grips. The T shaped SJSC bar ends are comfortable, rubber covered, and anatomical. NOTE THIS OPTION IS NOT FOR COMFORT BARS.	£0	OK	OK	OK	OK	OK	OK
Ergon GP1-L Anatomic grips large black.	The most comfortable grip we have ever used very highly rec'd. Suitable for straight bars, comfort bars or, if you must have them, trekking bars.	£0	☺	☺	☺	☺	☺	☺
Ergon GP5-L Anatomic grips with built in bar ends.	Long "L" shaped bar ends are incorporated, 4 distinct positions. Ideal choice with flat track bars. NOTE THIS OPTION IS NOT FOR COMFORT BARS.	£25	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
SJSC Ergo Control bar ends.	Short rubber covered bar ends, work best with straight bars. Fit with Ergon GP1-L above.	£10	☺	☺	☺	☺	☺	☺
Zoom Ski bends.	Traditional ski bends, work best with straight bars. Fit with Ergon GP1-L above. Black. NOTE THIS OPTION IS NOT FOR COMFORT BARS.	£7	☺	☺	☺	☺	☺☺ Best option for long expeditions	☺
Grab-On closed cell sleeve for Ski bar ends Above.	IDEAL WHENEVER SKI BENDS HAVE BEEN CHOSEN.	£10	See note in description.	See note in description.	See note in description.	See note in description.	See note in description.	See note in description.
Thorn J bend Bar End, complete with Blackburn mirror and Grab-On closed cell sleeve.	If having the best possible mirror with bar ends is a priority, this combination is the best we've seen	£50	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺

GEAR SHIFTERS for STRAIGHT HANDLEBARS

Rohloff Shifter	This is beyond doubt the best shifter to use with straight bars and Rohloff	£0				☺☺ why use anything else?		
Giles Berthoud Shifter for Rohloff	Yes, it works - and it looks different	£75				☺YES - it works well but the Rohloff shifter is more comfortable to use and costs much less.		
Deore 10sp MTB Rapidfire Pods	These work really well	£0	X Mk3 is too short and twitchy for most people WHEN fitted with straight bars.		☺			
XT 10sp MTB Rapidfire Pods	XT pods are slightly nicer than Deore and last even longer.	£35		☺☺	☺☺			
Dura Ace 10sp "Thumbshifters"	These are DA 10sp bar end shifters fitted to special THORN bracket. They're ultra reliable and the whole transmission lasts much longer.	£40		☺	☺☺ The best choice for long distance expeditions.			
NOTE: the above are ROAD SHIFTERS! When choosing cranks and gearing, one of the options R1 to R5 are required.								

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

DROPPED HANDLEBAR OPTIONS.

THORN SPECIAL DROP BARS for ROHLOFF	440mm wide top quality drop bars, with Gilles Berthoud shifter. (see page 28) Wrapped black cork tape. ROHLOFF SPECIFIC	£75				☺ IF you want ROHLOFF and DROPS this will work well for you with a SHORT frame	X Even medium length NOMADS are too long for most people with drops.	☺☺ If you want ROHLOFF and DROPS - this is the best possible machine for the job.
Anatomic drop bars 42cm wide.	25.4mm centre swell allows access to a vast range of stems. 42cm width is Ideal for smaller sized frames.	£0	☺☺	☺☺	☺☺			
Anatomic drop bars 44cm wide.	25.4mm centre swell allows access to a vast range of stems. 44cm width is Ideal for larger sized frames.	£0	☺☺	☺☺	☺☺			
Shimano Pro PLT Bars and stem. Several different shapes and widths are available	31.8 centre swell means only a small range of stems is available. Please see SJSC website for full range.	£38	☺☺ assuming you want a sporty position	☺ assuming both a sporty position and intentions	OK But why?			
Black cork handlebar tape	Looks good, feels good and wears well.	£0	☺☺	☺☺	☺☺	☺☺	☺☺ assuming you must have drops	☺☺
Brooks leather tape. BLACK	Looks stunning, feels great, lasts for ages. BUT not ideal in continual wet conditions and will grow mildew in damp storage.	£30	?????	?????	?????	?????	?????	?????
Brooks leather tape. BROWN								
Brooks leather tape. HONEY								
Any Tape which is currently in stock at SJSC at £5 OFF SJSC retail price.		£££'s vary	?????	?????	?????	?????	?????	?????

DROP HANDLEBAR DERAILLEUR GEAR SHIFT OPTIONS.

These are ROAD SHIFTERS and work with the options found in CRANKS and GEARING with DERAILLEUR GEARS & ROAD SHIFTERS.

Tiagra 30Sp STI For 10sp cassette + triple chainset	These are good quality items and work really well on a triple chainset but not on a double.	£60	☺☺ Now choose the gearing you need and you're sorted!	☺☺ assuming you Want drops for heavy touring.	☺ assuming you Want drops for heavy touring.			
Tiagra 20Sp STI For 10sp cassette + compact double	As above but you must have these if you choose STI on a 10sp compact double.	£60	☺ assuming you're strong enough not to need a triple	?????	?????			
Shimano 105 30sp STI With concealed cables For 10sp cassette + triple chainset	These are a special purchase, at this price only whilst stock lasts.	£85	☺☺ Now choose the gearing you need and you're sorted!	☺☺ assuming you Want drops for heavy touring.	☺ assuming you Want drops for heavy touring.			
Dura Ace 10sp Bar end levers For 10sp cassette + double or triple chainsets	They're ultra reliable and the whole transmission lasts much longer. They work with a double or triple chainset.	£0	?????	☺☺ assuming you Want drops for heavy touring.	☺☺ assuming you Want drops for heavy touring.			
Shimano 105 22sp STI For 11sp cassette+compact double	Ideal set up for sportifs or for strong riders on fast touring bikes.	£85	☺☺ assuming you're strong enough not to need a triple	?????	?????			

WHEELS and WHEEL COMPONENTS

Unless you specify otherwise; our wheels are built with top quality polished stainless spokes.

6 SPARE POLISHED SPOKES	If you order these now, our wheel builder will pick them when he builds your wheels, they'll be from the same batch.	£5	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
PAIR OF WHEELS BUILT WITH BLACK STAINLESS SPOKES	If you think that black spokes look cool and you're prepared to pay the premium, we can build your bike's wheels with them.	£32	?????	?????	?????	?????	?????	?????
6 SPARE BLACK SPOKES	If you order these now, our wheel builder will pick them when he builds your wheels, they'll be from the same batch.	£9	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
Pitlock silver F&R skewer set	PLEASE NOTE: Just because they're an option doesn't mean that we like them, or that we'd have them on our own bikes! A professional thief could defeat them in seconds but you may be unable to remove your wheel, if you forget the key!	£35	?????	?????	?????	?????	?????	?????
SHIMANO XT REAR Q/R SKEWER	In my opinion, these are the best Q/R skewers ever made. Superb cam action, does up tightly with minimum effort, releases easily and yet is totally secure.	£10				☺☺	☺☺	☺☺

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

ROHLOFF HUB GEARS all Rohloff hubs have architectural quality anodising.
All our Rohloff bikes have 32 spokes - this is more than sufficient on a wheel without any dishing.

Black Rohloff Hub	Colour is a matter of personal choice. Only Ravens can use these standard hubs. See page 20	£0				☺☺		
Silver Rohloff Hub		£0				☺☺		
Red Rohloff Hub		£0				☺☺		
Upgrade a Raven 420 S-T to EX Hub. Improved gear cable runs. Not possible, or required, on other size Ravens. Choose hub from below. Note upgrade cost. See page 20		£80				☺☺ 420 S-T Only		
Black EX Hub	Colour is a matter of personal choice. The extra cost of EX hubs is already factored into the start price of models which require them	£0					☺	☺
Silver EX Hub		£0					☺	☺
Red EX Hub		£0					☺	☺
Black EX DISC Hub	A Disc hub is essential for rear disc, whether selected now or in the future. It's very expensive to convert an EX hub to an EX disc hub - we advise selecting it now.	£20					☺☺	☺☺
Silver EX DISC Hub		£20					☺☺	☺☺
Red EX DISC Hub		£20					☺☺	☺☺
XT REAR SKEWER	A brilliant and worthwhile upgrade!	£10				☺☺	☺☺	☺☺

DERAILLEUR REAR NON DISC HUBS 28h, 32h and 36h

28h BLACK HOPE HUB	NOTE: 28h Rear hubs are only suitable for ultra-lightweight, high performance use.	£145	☺☺					
28h SILVER HOPE HUB		£145	☺☺					
28h RED HOPE HUB		£145	☺☺					
32h BLACK Shimano Deore hub	The Deore hub is a good quality unit. Colour is a matter of personal choice. We don't advise 32h on Sherpa.	£0	☺	?????				
32h SILVER Shimano Deore hub		£0	☺	?????				
32h BLACK HOPE HUB	Hope rear hubs are polished and anodised 10speed cassette hubs. In our opinion, they're the best quality derailleur hub on the market - and they're made here, in the UK.	£145	☺☺					
32h SILVER HOPE HUB		£145	☺☺					
32h RED HOPE HUB		£145	☺☺					
36h BLACK Shimano Deore hub	The Deore hub is a good quality unit. Colour is a matter of personal choice. You don't need 36h on Audax	£0		☺	☺			
36h SILVER Shimano Deore hub		£0		☺	☺			
36h BLACK HOPE HUB	Hope rear hubs are polished and anodised 10speed cassette hubs. In our opinion, they're the best quality derailleur hub on the market - and they're made here, in the UK. NOTE: CLUB TOURS need the disc version - otherwise the chain rubs the dropout.	£145			☺☺			
36h SILVER HOPE HUB		£145			☺☺			
36h RED HOPE HUB		£145			☺☺			

DERAILLEUR REAR DISC HUBS only applicable to Club Tours.

36h BLACK Shimano Deore hub	The Deore hub is a good quality unit. Colour is a matter of personal choice.	£7		☺				
36h SILVER Shimano Deore hub		£7		☺				
36h BLACK HOPE HUB	Hope rear hubs are polished and anodised 10speed cassette hubs. In our opinion, they're the best quality derailleur hub on the market. CLUB TOURS must have disc version, even if rear disc isn't required chain to clear the dropouts.	£140		☺☺				
36h SILVER HOPE HUB		£140		☺☺				
36h RED HOPE HUB		£140		☺☺				
32h disc specific REAR HUB Various options	A special 32h disc wheel can be built for the CLUB TOUR for ultralight fast touring and/or Audax use. Please talk to our sales team.	£££'s vary		?????				

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

FRONT HUB OPTIONS choose colour and spoke drilling to match your rear hub

24h BLACK HOPE HUB	NOTE 24h front hubs are only suitable for ultra lightweight, high-performance cycling. Hope front hubs are polished and anodised in colours to match Rohloff. In our opinion, aside from SON , they're the best on the market and they're made here, in the UK.	£65	☺☺					
24h SILVER HOPE HUB		£65	☺☺					
24h RED HOPE HUB		£65	☺☺					
32h BLACK Shimano Deore hub	The Deore hub is a good quality unit.	£0	☺	?????		☺	OK	OK
32h SILVER Shimano Deore hub		£0	☺	?????		☺	OK	OK
32h BLACK HOPE HUB	Hope front hubs are polished and anodised in colours to match Rohloff. In our opinion, aside from SON , they're the best on the market and they're made here, in the UK.	£65	☺☺	?????		☺☺	☺	☺
32h SILVER HOPE HUB		£65	☺☺	?????		☺☺	☺	☺
32h RED HOPE HUB		£65	☺☺	?????		☺☺	☺	☺
36h BLACK Shimano Deore hub	The Deore hub is a good quality unit.	£0	?????	☺	☺			
36h SILVER Shimano Deore hub		£0	?????	☺	☺			
36h BLACK HOPE HUB	Hope front hubs are polished and anodised in colours to match Rohloff. In our opinion, aside from SON , they're the best on the market and they're made here, in the UK.	£65	?????	☺☺	☺☺			
36h SILVER HOPE HUB		£65	?????	☺☺	☺☺			
36h RED HOPE HUB		£65	?????	☺☺	☺☺			

FRONT DISC HUB OPTIONS choose colour and drilling to match rear hub

32h BLACK Shimano Deore hub	The Deore hub is a good quality unit.	£10		?????				OK
32h SILVER Shimano Deore hub		£10		?????				OK
32h BLACK HOPE HUB	Hope front hubs are polished and anodised in colours to match Rohloff. In our opinion, aside from SON , they're the best on the market and they're made here, in the UK.	£57		?????				☺
32h SILVER HOPE HUB		£57		?????				☺
32h RED HOPE HUB		£57		?????				☺
36h BLACK Shimano Deore hub	The Deore hub is a good quality unit.	£10		☺				
36h SILVER Shimano Deore hub		£10		☺				
36h BLACK HOPE HUB	Hope front hubs are polished and anodised in colours to match Rohloff. In our opinion, aside from SON , they're the best on the market and they're made here, in the UK.	£57		☺☺				
36h SILVER HOPE HUB		£57		☺☺				
36h RED HOPE HUB		£57		☺☺				

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

FRONT DYNO HUB OPTIONS choose colour and drilling to match rear hub.

Remember to order headlight and/or charging devices if required. Please see page 48

32h SON 28 BLACK	Top quality polished, or polished and anodised to architectural specification hub. Highly efficient generator. Gives superb light, when paired with Edelux headlight. See page 48 (pics of hubs and Edelux) and page 78 (prices of Edelux) Highly Recommended	£170	☺☺	?????		☺☺	☺☺	☺☺
32h SON 28 SILVER (polished)		£160	☺☺	?????				
32h SON 28 SILVER (anodised)		£170				☺☺	☺☺	☺☺
32h SON 28 RED		£180	☺☺	?????		☺☺	☺☺	☺☺
36h SON 28 BLACK		£170		☺☺	☺☺			
36h SON 28 SILVER (polished)		£160		☺☺	☺☺			
36h SON 28 SILVER (anodised)		£170		☺☺	☺☺			
36h SON 28 RED		£180		☺☺	☺☺			

FRONT DISC DYNO HUB OPTIONS choose colour and drilling to match rear hub.

Remember to order headlight and/or charging devices if required. Please see page 49

SON 28 6 bolt DISC all Colours and drillings	Includes necessary 183mm rotor swap	Prices Vary		☺☺				☺☺
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700c RIM OPTIONS 28/24 spokes Only suitable for very special high-performance use

28h rear, 24h front DT Swiss RR440 High performance rim with brake track - asymmetric rear.	440g top quality rim Best with 25c. MAX 28c tyre or 32c Schwalbe Supreme	£100	☺☺ Ultimate rims for ultralight use - sportif rides					
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700c RIM OPTIONS 32 spokes Disc rims must NEVER be used with rim brakes

32h Mavic Open Sport Sport rim with brake track	490g sport rim . May be used with any fork/brake combination. MAX 28c tyre or 32c Schwalbe Supreme	£0	☺ a nice value for money rim for a Sporty Audax bike	X Choose RR 440 for special wheels.				OK for sporty builds
32h DT Swiss RR440 Performance rim with brake track	440g top quality rim Best with 28c. MAX 28c tyre or 32c Schwalbe Supreme	£100	☺☺ Ideal rim for the job	????? For Audax use				☺☺ Brilliant for sporty builds
32h Mavic A719 Touring/Trekking with brake track	570g very strong double eyelet touring rim. Min tyre width 28c	£35	????? we'd go to 36h for tough Audax wheels					☺ Good value tough rim
32h DT Swiss TK540 Touring/Trekking with brake track	540g very strong, yet not that heavy double eyelets. Min tyre width 25c	£72						☺ excellent rim we'd have rear disc.
32h DT Swiss X470 DISC RIM	470g Top quality sports disc rim. Min tyre width 28c	£21		????? Brilliant for sporty builds with DISCS eg. FORK 3				☺☺ Brilliant for sporty builds with DISCS eg. FORK 3
32h DT Swiss TK540 DISC RIM	540g Super strong double eyelet disc rim, suitable for heavy duty use. Min tyre width 25c	£72						☺☺ Brilliant for heavier builds with DISCS
32h DT RR440 FRONT 32h DT X470 disc REAR (one of each)	Ideal combination for sporty set ups with rear only disc. 25-28c only or 32c Schwalbe Supreme	£61		????? Brilliant for sporty builds with REAR ONLY DISC				☺☺ Brilliant for sporty builds with REAR ONLY DISC
32h DT Swiss TK540 rim brake front & disc rear (one of each)	Ideal combination for general purpose and heavy duty touring set ups with rear only disc. Min tyre width 25c	£72						☺☺ Ultimate choice for reliability or for heavy duty use REAR ONLY DISC

700c RIM OPTIONS 36 spokes 36h DISC rims, suitable for touring, don't exist

36h Mavic A319 Touring/Trekking	595g Good quality double eyelet rim. Min tyre width 28c	£0	X Choose A719 for heavier duty wheels.	OK For general use				
36h Mavic A719 Touring/Trekking	565g Good quality double eyelet rim. Min tyre width 28c	£35	☺ Excellent rim For HD Audax use	☺ A worthwhile upgrade				
36h DT Swiss TK540 Touring/Trekking with brake track	540g very strong, yet not that heavy, double eyelets. Min tyre width 25c	£72	☺☺ The ultimate choice for HD use.	☺☺ The ultimate choice for HD use.				

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

700c TYRE OPTIONS includes inner tubes

25c Pasela Tourguard 320g	A good quality tyre. Reliable and long Lasting - Our "start price" tyre for more than a decade!	£0	☺ with Fork 3 OK with Forks 1 and 2	X				☺ with Fork 3 OK with Forks 1 and 2
28c Pasela Tourguard 330g		£0	☺ with Forks 1 and 2	OK with Forks 5 or 7 X with 4 on smooth roads				☺ with Forks 1 and 2 OK with Forks 5 or 7 X with 4 on smooth roads
32c Pasela Tourguard 380g		£0		☺ with Forks 5 or 7 or 4 on smooth roads				☺ with Forks 5 or 7 or 4 and 8 on smooth roads
35c Pasela Tourguard 465g		£0		☺ with Forks 4, 5 or 6.				☺ with Forks 4, 5, 6 or 8.
37c Pasela Tourguard 500g		£0		☺ with Forks 4, 5 or 6.				☺ with Forks 4, 5, 6 or 8.
25c Schwalbe ONE (folding) 215g Price includes ultra light tubes.	Very fast and very light weight, thanks also to ultra light tubes.	£24	☺☺ with Forks 1, 2 and 3	X OK with Forks 5 and 7				☺☺ with Forks 1, 2 and 3 OK with Forks 5 and 7
28c Schwalbe ONE HS 448 (folding) 235g	Still very fast and light weight but more comfortable.	£20	☺ with Forks 1 and 2	☺ with Forks 5 or 7 ????? 4 on smooth roads				☺☺ with Forks 1, 2 and 3 ☺ with Forks 5 or 7, ????? 4 on smooth roads
28c Schwalbe Marathon Supreme folding 310g	Very quick, nice and light - great reliability.	£30	☺☺ Where reliability is a priority with Forks 1 and 2	OK with Forks 5 or 7, or 4 on smooth roads <i>32c is a better choice on the CT</i>				☺☺ with Forks 1, 2 and 3 ☺ with Forks 5 or 7, ????? 4 on smooth roads
32c Schwalbe Marathon Supreme folding 375g	Very quick, fairly light - great reliability. Just fits with M/G's in Audax and Thorn 853 forks. Won't fit at the rear with calliper brakes.	£30		☺ with Forks 5 or 7, or 4 on smooth roads OK with fork 6				☺ with Forks 5 or 7, or 4 on smooth roads OK with fork 6, and 8
35c Schwalbe Marathon Supreme folding 440g	Quick, reasonably light - great reliability, exceptionally comfortable. A brilliant 3 season tyre	£30		☺☺ with Forks 4, 5 or 6.				☺☺ with Forks 4, 5, 6 or 8
40c Schwalbe Marathon Supreme folding 490g	Fairly quick, reasonably light - great reliability, fantastically comfortable.	£30		????? Close M/G clearances.				X No rear M/G clearances.
35c Schwalbe Marathon Dureme folding 475g	Fairly quick, reasonably light, phenomenally reliable, exceptionally comfortable. Superb grip wet or dry. The ultimate 4 season tyre	£50		☺☺ with Forks 4, 5 or 6.				☺☺ with Forks 4, 5, 6 or 8
35c Schwalbe Kojak Folding 330g	Very quick, exceptionally light, reliable if cared for, very comfortable. Ideal for that special ride. LEJOG or 400Km+ Audax.	£10		☺ with Forks 4, 5 or 6.				☺ with Forks 4, 5, 6 or 8

A REMINDER of which fork is which (Please see page 64 for greater detail)

Fork **1** = **Audax** Deep Drop Calliper brake fork
Fork **2** = **Thorn 853c** Deep Drop Calliper brake fork
Fork **3** = **Carbon** Deep Drop Calliper brake fork
Fork **4** = **ST 700** Steel **V** brake Touring fork
Fork **5** = **MER853VC** **V** brake Light Touring fork

Fork **6** = **Steel Disc Brake** Touring fork
Fork **7** = **Carbon Disc Brake** Sports fork
Fork **8** = **Titanium Disc Brake** Cyclo X fork

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

26" (559) RIM OPTIONS 32h CSS RIMS only offered with XT BRAKE UPGRADE as this allows the necessary Swissstop pads to be fitted

Andra 30	735g Exceptionally heavy duty rims suitable for the longest toughest trips.	£0				OK Super strong but too heavy, unless you're planning a big trip, in which case they're excellent but why then aren't you looking at the Nomad?	A good choice for expedition use	
Andra 30 CSS with tungsten carbide brake track	735g Carbide brake track for extra long life. Inc Blue Swissstop pads.	£85					Excellent for expedition use in all but extreme wet weather conditions	
Andra 30 CSS rear and Andra 30 plain front	Complete with a pair of spare front and a pair of spare rear pads	£55					Our choice for expedition use	
Grizzly	470g Lightweight rims. NOT recommended for expedition touring.	£20				Excellent for most types of touring inc light cycle camping	A good choice for most types of touring inc light cycle camping.	
Grizzly CSS	490g Lightweight but long lasting, thanks to the Carbide brake track. Includes Blue Swissstop pads.	£105				excellent for general use in all but extreme wet weather conditions	????? Not recommended for extreme wet weather conditions	
Grizzly CSS rear and Grizzly plain front	Complete with a pair of spare front and a pair of spare rear pads	£75				Highly recommended for all uses except extended touring	Highly recommended for all uses except extended touring	
R ZAC 19	555g A middle weight, double eyelet rim for general use on smooth sealed roads.	£0				Our preferred choice for Ravens on a tight budget but not for long expeditions	Our preferred choice for Nomads on a tight budget but not for long expeditions	
DT Swiss XR 425	425g Cross country racing rims. Very light-weight and quick. For sporty builds only.	£60				????? With some top quality, lightweight, 2" tyres and the 853c fork, this could be a super choice for an experienced rider on a sporty bike, for back roads and bridleways or pot-holed city streets.	?????	

26" (559) RIM OPTIONS 36h CSS RIMS only offered with XT BRAKE UPGRADE as this allows the necessary Swissstop pads to be fitted

Andra 30	735g Exceptionally heavy duty rims suitable for the longest toughest trips.	£0				Excellent for expedition use		
Andra 30 CSS with tungsten carbide brake track	735g Carbide brake track for extra long life. Inc Blue Swissstop pads	£85				Excellent for expedition use in all but extreme wet weather conditions		
Andra 30 CSS rear and Andra 30 plain front	Complete with a pair of spare front and a pair of spare rear pads	£55				Our choice for expedition use		
Grizzly	470g Lightweight rims. NOT recommended for expedition touring.	£20				Excellent for most types of touring inc light cycle camping		
Grizzly CSS	490g Lightweight and long lasting. Includes Blue Swissstop pads	£105				excellent for general use in all but extreme wet weather conditions		
Grizzly CSS rear and Grizzly plain front	Complete with a pair of spare front and a pair of spare rear pads	£70				Highly recommended for all uses except extended touring		

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

26" TYRES (559) includes inner tubes

1.5" Panaracer Pasela Tourguard	A good quality tyre. Reliable and long lasting - our "start price" tyre for more than a decade! A good quality tyre.	£0			OK For light touring or general riding on country roads.	OK For light touring or general riding on country roads.	X If you need a lightweight narrow tyre there are better options.	
1.75" Panaracer Pasela Tourguard		£0			☺ For moderate touring or general riding on country roads.	OK For moderate touring or general riding on country roads.	OK For moderate touring or general riding on country roads.	
1.6" Schwalbe Marathon Supreme folding	Probably the quickest 26" tyre available on smooth surfaces reliable and long lasting.	£30			☺☺ Where speed is a priority and roads are good.	☺☺ Where speed is a priority and roads are good.	☺☺ Where speed is a priority and roads are good.	
1.6" Schwalbe Marathon Supreme folding with XL tubes	As above but saves a whopping 95g per wheel!	£34			☺☺ Where speed and a sporty ride is of ultimate importance and RAVC forks and lightweight rims have been chosen.	☺☺ Where speed and a sporty ride is of ultimate importance and RAVC forks and lightweight rims have been chosen.	??????	
2.0" Schwalbe Marathon Supreme folding	Not quite as quick as the 1.6" reliable and long lasting and noticeably more comfortable.	£30			☺ where comfort is a priority.	☺ where comfort is a priority.	☺ where comfort is a priority.	
2.0" Schwalbe Marathon Dureme folding	A superb 4 season tyre. Quick, comfortable, grippy - lasts for ages and has excellent resistance to punctures. Now being made especially for us!	£50			☺☺ when the best all rounder is required	☺☺ when the best all rounder is required	☺☺ when the best all rounder is required	
2.0" Schwalbe Marathon Mondial folding	The best expedition tyres available, almost "bombproof". Brilliant with big loads and rough roads but horrible to pedal on an unloaded bike.	£42			?????? Tyre needs partial deflating to be removed.	?????? Tyre needs partial deflating to be removed.	?????? 2.15 is better for expedition use	
2.15" Schwalbe Marathon Mondial folding		£42					?????? Do you need this much tyre on your bike?	
1.75" Schwalbe Marathon Plus	The most puncture resistant tyre on the market but you pay for this in loss of ride quality and the extra effort it requires.	£14			?????? SEE NOTE	?????? SEE NOTE	?????? SEE NOTE	

CALLIPER BRAKES for DROP BARS -

ONLY the options in the DARK BOXES below work with, or should be chosen with, SHIMANO STI SHIFTERS (which already include brake levers) these may be selected on page 66

[DA1] Shimano R-451 Deep drop calliper brakes front and rear MAX TYRE SIZE 28c with close clearance front M/G ONLY SUITABLE for STI SHIFTERS	£0	☺☺ FORK OPTIONS 1, 2 and 3 ONLY						
[DA2] Shimano BR-R650 Highest Quality Deep drop calliper brakes (with cartridge shoes) front and rear MAX TYRE SIZE 28c with close clearance front M/G ONLY SUITABLE for STI SHIFTERS	£30							
[DB1] As DA1 above but Includes Shimano BL-R400 drop bar levers.	£30							☺ FORK OPTIONS 1, 2 and 3 ONLY
[DB2] As DA2 above but Includes Shimano BL-R400 drop bar levers.	£61							
[DC1] Avid BB 7 ROAD cable operated REAR DISC BRAKE, Shimano deep drop R-451 calliper front brake Includes Shimano BL-R400 drop bar levers.	£62							
[DC2] Avid BB 7 ROAD cable operated REAR DISC BRAKE, Shimano deep drop BR-650 calliper front brake (with cartridge shoes) Includes Shimano BL-R400 drop bar levers.	£77							

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
BRAKES DROP BARS (Calliper brakes for drops are on the previous page) ONLY the options in the DARK BOXES below work with, or should be chosen with, SHIMANO STI SHIFTERS (which already include brake levers) these may be selected on page 66								
[DE] Shimano Deore V brakes F&R Includes TEKTRO DROP BAR V BRAKE LEVERS	£0		OK We'd have rear disc	☺	☺	?????		
[DF] As above but with XT V brakes	£24			☺☺	☺☺	?????		
[DG] Avid BB 7 MTB cable operated REAR DISC BRAKE Shimano Deore front V brake Includes TEKTRO DROP BAR V BRAKE LEVERS	£46		☺ FORK OPTIONS 4 and 5 ONLY			????? No rear carrier exists, which will carry even a small load, whilst clearing the cable operated calliper. Surely you need a sturdy carrier on a Nomad?	☺ FORK OPTIONS 4 and 5 ONLY	
[DH] As above but with XT V brakes	£56		☺☺ FORK OPTIONS 4 and 5 ONLY				☺☺ FORK OPTIONS 4 and 5 ONLY	
[DJ] High quality Shimano Cantilever brakes for STI (FRONT + REAR)	£62		OK FORK OPTIONS 4 and 5 ONLY	☺				
[DK] High quality Shimano Cantilever brakes for Bar end shifters (FRONT + REAR) Includes Shimano BL-R400 drop bar levers.	£92		OK FORK OPTIONS 4 and 5 ONLY	☺	☺	?????		
[DL] Top quality AVID SHORTY ULTIMATE Cantilever brakes for STI (FRONT + REAR)	£122		☺ FORK OPTIONS 4 and 5 ONLY	☺☺				
[DM] Top quality AVID SHORTY ULTIMATE Cantilever brakes for Bar end shifters (FRONT + REAR) Includes Shimano BL-R400 drop bar levers.	£152		☺ FORK OPTIONS 4 and 5 ONLY	☺☺	☺☺	?????		
[DN] Avid BB 7 ROAD cable operated REAR DISC BRAKE + High quality Shimano FRONT Cantilever brake for STI	£74		☺☺ FORK OPTIONS 4 and 5 ONLY					
[DO] Avid BB 7 ROAD cable operated REAR DISC BRAKE + High quality Shimano FRONT Cantilever brake for BAR END shifters or DROP BAR MERCURY Includes Shimano BL-R400 drop bar levers.	£95		☺ FORK OPTIONS 4 and 5 ONLY			????? See note above regarding carrier	OK FORK OPTIONS 4 and 5 ONLY	
[DP] Avid BB 7 ROAD cable operated REAR DISC BRAKE + Top quality AVID SHORTY ULTIMATE Cantilever FRONT brakes for STI	£104		☺☺ FORK OPTIONS 4 and 5 ONLY					
[DQ] Avid BB 7 ROAD cable operated REAR DISC BRAKE + Top quality AVID SHORTY ULTIMATE Cantilever FRONT brake for BAR END shifters or DROP BAR MERCURY Includes Shimano BL-R400 drop bar levers.	£125		☺☺ FORK OPTIONS 4 and 5 ONLY			????? See note above regarding carrier	☺☺ FORK OPTIONS 4 and 5 ONLY	
[DR] Avid BB 7 MTB cable operated FRONT and REAR DISC BRAKES for BAR END shifters or DROP BAR MERCURY Includes TEKTRO DROP BAR V BRAKE LEVERS	£74		☺ FORK OPTIONS 6, 7 and 8 ONLY				☺ FORK OPTIONS 6, 7 and 8 ONLY	
[DS] Avid BB 7 ROAD cable operated FRONT and REAR DISC BRAKES for BAR END shifters or DROP BAR MERCURY Includes Shimano BL-R400 drop bar levers.	£103		☺☺ FORK OPTIONS 6, 7 and 8 ONLY				☺☺ FORK OPTIONS 6, 7 and 8 ONLY	
[DT] Avid BB 7 ROAD cable operated FRONT and REAR DISC BRAKES for STI .	£77		☺☺ FORK OPTIONS 6, 7 and 8 ONLY					

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

BRAKES STRAIGHT BARS these options work with all the straight bar shifter options

[SA] Shimano Deore V brakes F&R with Shimano Deore V brake levers.	£0		OK We'd have rear disc FORK OPTIONS 4 and 5 ONLY	☺	☺	☺	
[SB] Shimano XT V brakes F&R with Shimano XT V brake levers.	£40			☺☺	☺☺	☺☺	
[SC] Avid BB 7 MTB cable operated rear disc brake, Shimano Deore front V brake and pair of Shimano Deore V brake levers.	£45		☺ FORK OPTIONS 4 and 5 ONLY				☺ FORK OPTIONS 4 and 5 ONLY
[SD] As above, but with front XT V brake and XT V brake levers	£75		☺☺ FORK OPTIONS 4 and 5 ONLY				☺☺ FORK OPTIONS 4 and 5 ONLY
[SE] Avid BB7 MTB cable operated disc brakes front and rear with Shimano Deore V brake levers. Includes Avid 160mm 6 bolt front rotor.	£93		☺ FORK OPTIONS 6, 7 and 8 ONLY				☺ FORK OPTIONS 6, 7 and 8 ONLY
[SF] As above, but with XT V brake levers. Assuming you must have F&R discs, this set up is so good that, IMHO, there are no benefits and only drawbacks to hydraulic disc brakes on a road-going solo bike!	£113		☺☺ FORK OPTIONS 6, 7 and 8 ONLY				☺☺ FORK OPTIONS 6, 7 and 8 ONLY
[SG] Shimano R-451 Deep drop calliper brakes front and rear with Shimano BL-R550 straight bar levers for calliper brakes. MAX TYRE SIZE 28c with very close clearance front mud-guard	£17	X Audax not suited to straight bars					OK FORK OPTIONS 1, 2 and 3 ONLY
[SH] Avid BB 7 ROAD cable operated rear disc brake, Shimano deep drop R-450 calliper front brake and pair BL-R550 straight bar levers for calliper brakes.	£48						OK FORK OPTIONS 1, 2 and 3 ONLY
[SJ] Shimano hydraulic rear disc brake + Shimano Deore front V brake. Rear brake lever - Shimano Deore 3 finger hydraulic lever. Front brake lever - Shimano Deore 3 finger V brake lever.	£71		☺ FORK OPTIONS 4 and 5 ONLY				☺ FORK OPTIONS 4 and 5 ONLY

DISC BRAKES with HYDRAULIC LEVERS for STRAIGHT BARS these options work with all the straight bar shifter options

[SS] SHIMANO DEORE FRONT and REAR CALLIPERS with DEORE 3 finger Levers	£150		??????				??????
[ST] HOPE TECH X2 FRONT and REAR CALLIPERS with TECH 3 Levers	£317		??????				??????
[SU] HOPE RACE X2 FRONT and REAR CALLIPERS with HOPE RACE Levers	£347		??????				??????

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillieur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
CRANKS and GEARING with ROHLOFF HUBS								
THORN 104 BCD CRANKS. Not a high tech item but it doesn't need to be and it does the job nicely. Includes nice quality Shimano BB.	150mm	£0				☺☺ Ideal cranks for Ravens	☺ Good choice for Nomads	X the specific number of teeth on ring may not be available in 104 BCD
	155mm							
	160mm							
	165mm							
	170mm							
	175mm							
THORN 130 BCD External Bearing Cranks inc BB set. Super quality but NOTE smallest ring is 38t	165mm	£0				????? 104 BCD are more suited to these bikes.	☺☺ Purchased for Mercury	
	170mm							
	175mm							
Shimano Deore 104BCD High quality, 2pc design with integral BB axle and external bearings.	170mm silver	£20				☺ Good alter-native for Ravens	☺☺ Ideal cranks for Nomads, Provided 170 or 175 suit	????? The specific number of teeth on ring may not be available in 104 BCD
	170mm black							
	175mm silver							
	175mm black							
Rohloff sprocket	17t low wear - medium gears	£0				☺☺	☺☺	☺☺
	16t higher wear - higher gears	£5				?????	?????	?????
	15t highest wear - highest gears					?????	?????	?????
THORN SPROCKET For ROHLOFF	19T very low wear - lower gears					☺☺	?????	☺☺
THORN 104 BCD CHAINRING Mega quality AI 7075	Double sided to give even longer service life. Fits all the above 104 BCD cranksets. Sizes available 32,34,36,38, 39 40, 41, 42, 43, 44, 46, 48, 50	£0				☺☺	☺☺	X only 39 x 17, 41 x 19, 43 x 17 or 50 x 17 work on a Mercury
THORN 104 BCD Chainguard	104 alloy ring without teeth. Protects trousers or simply adds weight? You decide. 3 sizes rings up to 38t, 44t or 50t	£20				?????	?????	?????
THORN 130 BCD CHAINRING Mega quality AI 7075	Double sided to give even longer service life. Fits all the above 130 BCD cranksets Sizes available 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 52	£0				☺☺ If you've already selected 130 BCD		☺ 39x17, 41x19, 43x17, 45x19, 47x17, 49x19 + 50x17 All work on Mercury
THORN 130 BCD DRILLED CHAINRING Mega quality AI 7075	Drilled chainring specifically made for the Mercury Fits all the above 130 BCD cranksets. Sizes available 43,45,47,51	£0				☺ Could suit a super sport Raven with 130 BCD cranks	X Even if you've selected 130 BCD, this isn't the ideal ring for a Nomad	☺☺43x17, 45x19, 47x17 and 51x16 All work on Mercury

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillieur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

CRANKS and GEARING with DERAILLEUR GEARS & MTB RAPIDFIRE

[M1] 30 speed ULTRA WIDE RANGE GEARING 26/36/48 with 11-36 CASSETTE Deore 10sp F&R derailleurs and RAPIDFIRE SHIFTER	170mm	£0	X	☺☺	☺			
	175mm							
[M2] 30 speed WIDE RANGE GEARING 26/36/48 with 12-28 CASSETTE Deore 10sp F&R derailleurs and RAPIDFIRE SHIFTER	170mm	£0		☺☺	☺			
	175mm							
[M3] 30 speed EXTRA LOW ULTRA WIDE RANGE GEARING 24/32/42 with 11-36 CASSETTE Deore 10sp F&R derailleurs and RAPIDFIRE SHIFTER	170mm	£0			☺☺			
	175mm							
[M4] 30 speed EXTRA LOW WIDE RANGE GEARING 24/32/42 with 12-28 CASSETTE Deore 10sp F&R derailleurs and RAPIDFIRE SHIFTER	170mm	£0						
	175mm							

CRANKS and GEARING with DERAILLEUR GEARS & ROAD SHIFTERS

We make "THUMBSHIFTERS", for use on straight bar options, using Dura Ace ***BAR END*** levers.
PLEASE NOTE: as these are ROAD SHIFTERS they must be used with one of the options below.

[R1] 30speed ULTRA WIDE RANGE GEARING 26/36/48 with 11-36 CASSETTE 9sp Deore MTB derailleur Tiagra front mech PLUS YOUR CHOICE OF 10sp ROAD SHIFTER See below and page 19	170mm	£0	☺☺	☺☺	☺☺			
	175mm							
[R2] 30 speed WIDE RANGE GEARING 26/36/48 with 12-28 CASSETTE 9sp Deore MTB derailleur Tiagra front mech PLUS YOUR CHOICE OF 10sp ROAD SHIFTER See below and page 19	170mm	£0	☺☺	☺☺	☺☺			
	175mm							
[R3] 30 speed EXTRA LOW ULTRA WIDE RANGE GEARING 24/32/42 with 11-36 CASSETTE 9sp Deore MTB derailleur Deore 10sp front mech ***10sp BAR END ESSENTIAL*** See page 66	170mm	£0			☺☺ Excellent Choice. But only with BAR END SHIFTERS Front Mech will NOT work with DROP BAR STI OPTION			
	175mm							
[R4] 30 speed EXTRA LOW WIDE RANGE GEARING 24/32/42 with 12-28 CASSETTE 9sp Deore MTB derailleur Deore 10sp front mech ***10sp BAR END ESSENTIAL*** See page 66	170mm	£0						
	175mm							
[R5] 20 speed TIAGRA COMPACT DOUBLE 34/50 with 12-30 CASSETTE and Tiagra F&R derailleurs. Choose Tiagra 20sp STI on page 66	170mm	£0	?????	?????	?????			
	175mm							
[R6] 22 speed Shimano 105 COMPACT DOUBLE BLACK 34/50 with 11 speed 11-32 Ultegra Cassette, Ultegra chain and Shimano 105 F&R derailleurs. Rear mech is medium cage GSL. Choose 105 22sp STI on page 66	170mm	£75	☺☺ If you don't need really low gears, this could be ideal.	?????	?????			
	175mm							
SPECIAL OFFER - WHILST STOCKS LAST. SHIMANO XT 9sp Rear Mech, a super upgrade, which works with gearing options [R1], [R2], [R3], [R4] and [R5]		£10	☺☺	☺☺	☺☺			

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillieur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
SADDLES For more general information on saddles please see page 37								
Thorn Velo MEN'S saddle	Nice quality, firm padding. Could be perfect for you, if you don't want a Brooks. Men's default option	£0	?????	?????	?????	?????	?????	?????
Thorn Velo WOMEN'S saddle nice quality, firm padding. Could be perfect for you, if you don't want a Brooks. Women's default option	Nice quality, firm padding. Could be perfect for you, if you don't want a Brooks. Women's default option	£0	?????	?????	?????	?????	?????	?????
Selle Royal MEN'S Travel Lite Gel saddle.	We've never met anyone who was uncomfortable on a good gel saddle for short periods of time, or anyone who was comfortable on one for long periods!	£0	?????	?????	?????	?????	?????	?????
Selle Royal WOMEN'S Gel saddle.		£0	?????	?????	?????	?????	?????	?????
Selle San Marco Rolls OEM Classic	Excellent quality - lasts ages - you either love them or hate them.	£20	?????	?????	?????	?????	?????	?????
NO SADDLE - DEDUCT £15		MINUS £15	?????	?????	?????	?????	?????	?????
Any SADDLE Which is currently in stock at SJSC at £15 OFF SJSC retail price.		£££'s vary	?????	?????	?????	?????	?????	?????
BROOKS OEM SADDLES - These are very special prices, they're only available when you buy one on a new THORN bike as OE (Original Equipment) Please see page 50 for further details.								
Brooks BLACK B17 Standard saddle. Black steel rails.	Suits many Men and most Women. How do you know it won't be bliss, when broken in, unless you try it? You may hate it and it may never suit. These are real bargains because we buy B17 Standard in quantity to fit as original equipment.	£30	?????	?????	?????	?????	?????	?????
Brooks HONEY B17 Standard saddle, as above but Honey Black steel rails.		£30	?????	?????	?????	?????	?????	?????
Brooks BROWN B17 NARROW saddle. Black steel rails.	VERY NARROW Suits some Men, unlikely to suit any Woman. VERY SPECIAL PRICES	£25	?????	?????	?????	?????	?????	?????
Brooks BLACK B17 NARROW saddle. Black steel rails.		£30	?????	?????	?????	?????	?????	?????
Brooks BLACK TEAM PRO Black steel rails.	Suits most Men and many Women. Select leather and large, hand beaten copper rivets - nice! SUPER PRICE!	£45	?????	?????	?????	?????	?????	?????
Brooks HONEY TEAM PRO as above but Honey Black steel rails.		£45	?????	?????	?????	?????	?????	?????
Brooks BLACK B17 TI saddle. Titanium rails.	Suits many Men and most Women. Titanium Rails mean less weight and more comfort. Very SPECIAL PRICE	£99	?????	?????	?????	?????	?????	?????
Brooks HONEY TI SWIFT Titanium rails.	Suits most Men and some Women. Titanium Rails mean less weight and more comfort. Very SPECIAL PRICE	£95	?????	?????	?????	?????	?????	?????

ITEM	DESCRIPTION	£	COMPATABILITY					
			Derailleur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c

MUDGUARDS Our advice, when you order your bike, is to choose the widest tyres that you think you'll use with mudguards and then specify the appropriate mudguards for these tyres.

SKS P35 BLACK		£0	☺☺ Tyres up to 28c	☺☺ 23-28c Tyres Tight with 32c				☺☺ 23-28c Tyres Tight with 32c
SKS P35 SILVER								
SKS P45 BLACK	We've a special version made especially for our bikes.	£0		☺☺ Tyres from 32c to 40c	☺☺ Tyres up to 1.75"	☺☺ Tyres up to 1.75"	☺☺ Tyres up to 1.75"	☺☺ Tyres from 32c to 40c
SKS P45 SILVER								
SKS P55 BLACK		£0			☺☺ Tyres from 1.75" to 2.0"	☺☺ Tyres from 1.75" to 2.0"	☺☺ Tyres from 1.75" to 2.0"	
SKS P55 SILVER								
SKS P65 BLACK	With really wide tyres, in muddy conditions, mudguards can cause more problems than they solve.	£0					????? Tyres up to 2.35"	
SKS P65 SILVER								
Cut down SHORT m/g SKS P35 or P45 in SILVER or BLACK	Only necessary if you have forks 7 or possibly fork 8. tyre widths as above.	£0		??????				??????
NO MUDGUARDS - DEDUCT £30		MINUS £30	??????	??????	??????	??????	??????	??????

LIGHTING

Cat Eye TL-LD 1100 10 LED REAR LIGHT	includes bracket to fit onto a variety of rear carriers. Exceptionally bright, visible and reliable. "Opticube" design. 2 banks of 5 LEDs each bank can be independently set to constant or flashing.	£29	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
Busch & Muller Lumotec Eyc N Plus	Literally, a brilliant budget headlight. (Requires a dynohub)	£43	☺	☺	☺	☺	☺	☺
BLACK SON EDELUX LED DYNAMO HEADLAMP	The best and brightest LED headlamp available. Super quality, fully sealed with magnetic switch. Mk2 version with improved light output. REQUIRES A DYNOHUB TO POWER IT	£120	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
SILVER (polished) SON EDELUX LED DYNAMO HEADLAMP		£120						
SILVER (anodised) SON EDELUX LED DYNAMO HEADLAMP		£120						
RED SON EDELUX LED DYNAMO HEADLAMP		£130						
Cinq5 Plug 3	A Hub dynamo powered charging device with sealed USB 2 output.	£135	??????	??????	☺	☺	☺☺	??????
Any lighting currently in stock at SJSC at SJSC retail price.		£££'s vary	??????	??????	??????	??????	??????	??????

PEDALS

all the listed pedals are good quality and value for money. The ratings relate to the suitability of this type of pedal for use on each particular model of bike. Frame size, tyre size, shoe size and especially rider's experience have a profound influence upon suitability.

MKS GR9 pedal a classic platform pedal. Single side, so no use without toe clips. Supplied with chromed steel clips and nylon toe straps. CARE! Toe clearance could be an issue with smallest frames; especially if fat tyres are chosen.	Med Clips shoe 38-41	£34	OK	OK	OK	OK	OK	OK
	Long Clips shoe 42-44		CARE	CARE				CARE
	X L Clips shoe 45-47			CARE				CARE
Shimano Saint PD-MX 80 double sided BMX pedal.	Large flat platform, excellent grip. High quality, super tough, durable. Ideal for walking boots, trainers or flip flops.	£50	X Toe clearance could be tight We say look at Club Tour	OK	☺	☺☺	☺☺	?????? Wouldn't a sporty Raven be a better bike for you?
Shimano PD A530 SPD one side and concave platform the other. Ideal for touring.	You can use MTB racing shoes or "ordinary footwear" without changing pedals.	£50 sil £40 blk	X Toe clearance could be tight on platform side of pedal	☺	☺	☺	☺	☺
Shimano PD M520 SPD Pedals (SPD both sides)	A bargain. You can try SPD pedals without great expense. Silver.	£27	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
Any pedals currently in stock at SJSC at SJSC retail price.		£££'s vary	??????	??????	??????	??????	??????	??????

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillieur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
CARRIERS The functionality of a touring bike depends upon choosing the most appropriate carrier(s) for your needs. We'll be able to make a super, neat job of fitting the rear carrier and the mudguard stays - provided you choose one now. The load weights given below are what we feel these carriers are suitable for - they're lower than the manufacturers' claims.								
THORN EXPEDITION REAR CARRIER Typical weight 850g Actual weight depends upon bike's frame size	Heat treated Cro-Mo steel tubes, super strong and rigid. Durable black powder coated finish. M6 fittings. Could carry more than you can! Integral bracket fits Cat Eye and all other rear LED lights that we've tried so far.	£90	OK A bit too heavy for a Thorn Audax	😊😊 Perfect choice but only if your Club Tour is being built for medium to heavy touring with 4 panniers	😊😊 Ideal if you plan to carry heavy bags at the rear of your Sherpa	😊😊 Ideal if you plan to carry heavy bags at the rear of your Raven	😊😊 Perfect choice for all but a few specific purposes	😊😊 Perfect choice but only if your MERCURY is being built for heavy touring with 4 panniers
THORN Mk5 Lo-Loader Weight per pair 560g	The best lo-loaders on the market. Heat treated Cro-Mo tubes. Super strong and rigid. Durable black powder coated finish. M6 fittings. Could carry up to 18Kg on each side but this depends upon the actual fork and the terrain.	£80	😊😊 Perfect choice if you plan to occasionally carry 4 bags Max 2.5Kg each side on the standard fork (Fork 1) Otherwise consider a CLUB TOUR	😊😊 Forks 4 and 6 Only 5mm fittings Up to 8kg per side	😊😊 Fork 9 (ST 26) Only 5mm fittings Up to 12kg per side	😊😊 Fork 9 (ST 26) Only 5mm fittings Up to 12kg per side	😊😊 Nomad Mk2 Fork 6mm fittings Up to 15kg per side	😊😊 Forks 1, 4 and 6 Only 5mm fittings Up to 8 kg per side
One of each of the above - special price		£150	OK	😊😊	😊😊	😊😊	😊😊	😊😊
TUBUS AIRY TITANIUM CARRIER Typical weight 230g Actual weight depends upon bike's frame size	Super-lightweight, ideal for small to med size panniers of around 22Kg total. Also supports weight of traditional saddlebag. The top is too narrow for rack top bags. Supplied with high quality nylon fittings, to which a Cat Eye bracket may be attached.	£120	😊😊 Treat yourself to one of these at this Super OEM price.	😊😊 At this Super OEM price, it's the least expensive way of shaving 300g off the weight of your bike!	??????	??????	?????? Max 2" tyre	😊😊 In my opinion, you need a good reason not to specify one of these, especially at this Super OEM price.
TUBUS VEGA Cro-Mo CARRIER Typical weight 510g Actual weight depends upon bike's frame size	Lightweight, ideal for large, or small, panniers up to 26Kg total. The wide top is ideal for rack top bags. Integral Cat Eye compatible bracket.	£60	😊 Excellent if rack top bag is required, otherwise an AIRY is a nicer choice for an AUDAX Mk3	😊 Excellent if rack top bag is required, otherwise an AIRY is a nicer choice for a CLUB TOUR	😊😊 GOOD CHOICE but not for heavy duty use	😊😊 GOOD CHOICE but not for heavy duty use	??????	😊 Excellent if rack top bag is required, otherwise an AIRY is a more appropriate choice for a Mercury
Thorn stainless adaptors ESSENTIAL to allow an AIRY or VEGA carrier to clear AVID BB7 calliper on MERCURY or CLUB TOUR Mk4		FOC		😊😊				😊😊
TORTEC BLACK ULTRALIGHT Weight 400g	Not up to heavy touring but has a nice wide top, which makes it suitable for rack top bags. It's quite a tall carrier, which is especially noticeable with 26" wheels. We say it's happy with up to 15Kg.	£22	OK	OK	OK	OK	??????	OK
TORTEC SILVER ULTRALIGHT Weight 400g								
THORN 105mm ACCESSORY BAR 😊😊 Fits in place of some spacers on steerer tube. Allows bar bag to be fitted lower than would otherwise be possible. Frees up space on handlebars. A top quality innovative product - ratings are for suitability of bike to be used with a bar bag. Small bikes may not have sufficient room to fit one.		£20	??????	OK	😊	😊	😊😊	OK
THORN 55mm ACCESSORY BAR Fits in place of some spacers on steerer tube. TOO SHORT FOR BAR BAGS , originally designed for Rohloff shifter on drop bar bikes. May suit some accessories, e.g. cycle computer. Frees up space on handlebars. A top quality innovative product		£17	??????	??????	??????	??????	??????	??????
THORN 45° 172.5mm ACCESSORY BAR Designed to fit seat posts 28.6mm diameter supplied with 27.2mm shim. See page 51		£25	??????	??????	??????	??????	??????	??????
BOTTLE CAGES In our opinion, you need 2 cages for lightweight touring and 3 cages for cycle camping. You may also need 3 cages on long distance, unsupported rides in hot and/or remote places. All our solo bikes have 3 sets of bosses.								
Profile Design KAGE	An awesome bottle cage. Will take a 1litre Coke bottle, if required. Lightweight and very strong.	£7 each	😊	😊😊 General Purpose Builds	😊😊	😊😊	😊😊	😊😊 General Purpose Builds
THORN Super Slick carbon cage	Ultra- lightweight, stylish and easy to use	£20 each	😊😊	😊😊 Sporty buids	??????	??????		😊😊 Sporty buids

ITEM	DESCRIPTION	£	COMPATABILITY					
			Deraillieur			Rohloff		
			AUDAX Mk3 700c	CLUB TOUR Mk4 700c	SHERPA 26"	RAVEN 26"	NOMAD Mk2 26"	MERCURY 700c
ACCESSORIES								
Cat Eye VELO wireless+ 9 functions computer CC-VT200W Ultra reliable and easy to use	Black	£32	☺☺	☺☺	☺☺	☺☺	☺☺	☺☺
	White							
Cat Eye Micro wireless 9 functions Ultra reliable and can display 2 functions + time simultaneously. Can be a fiddle to re-set trip distance.	Black	£40	?????	?????	?????	?????	?????	?????
	White							
TOPEAK MOUNTAIN MORPHE MINI TRACK PUMP	A superb bit of kit for taking on tour. Rapidly achieves suitable pressures for fat tyres. Supplied with bracket to fit onto the frame but it's much better to put it in a pannier.	£28	??????	☺☺	☺☺	☺☺	☺☺	??????
Lezyne HP Drive High Pressure Mini Pump Medium	A beautifully made CNC Mini pump. Bracket fits to bottle cage but I'd keep it in a bag. Ideal for very high pressures in narrow 700c tyres up to 28c Wt 88g	£18	☺☺	?????? Excellent for tyres up to 28c				?????? Excellent for tyres up to 28c
Lezyne Tech Drive High volume Mini Pump	A beautifully made CNC Mini pump. Bracket fits to bottle cage but I'd keep it in a bag. Ideal for required pressures in high volume tyres 32c and above and all 26" sizes Wt 127g	£22		?????? Excellent for tyres of 32c and above	☺☺	☺☺	?????? Excellent but We'd use MTN Morphe	?????? Excellent for tyres of 32c and above
Rixen Kaul Mini map holder	A super, well made, compact bit of kit	£20	?????	?????	?????	?????	?????	?????
Many other accessories, currently in stock at SJSC, could be fitted at SJSC retail price.		£££'s vary	?????	?????	?????	?????	?????	?????
SPARE INNER TUBES								
Schwalbe SV15 Presta light weight inner tube 700 x 23-28c	The best light weight tube on the market in this size 105g! We fit this to bikes with 23c to 28c tyres.	£4	☺☺ 23/28c TYRES	?????				☺☺ 23/28c TYRES
Schwalbe SV18 Presta light weight inner tube 700 x 28 to 40c	The best light weight tube on the market in this size 105g! We fit this to all bikes with 32c, 35c or 40c tyres.	£6		☺☺ 32/40c TYRES				☺☺ 32/40c TYRES
Schwalbe SV20 Presta Ultra light weight inner tube 700 x 25c	The best ultra light weight tube on the market in this size 65g! We fit when 25c Ultramo tyres have been selected	£6	☺☺	?????				?????
Schwalbe SV13 Presta inner tube 26" x 1.5" to 2.5"	A very reliable tube. We fit to all of our 26" wheel bikes 190g	£4			☺☺	☺☺	☺☺	
Schwalbe SV14A Presta Ultra light weight inner tube 26" x 1.5" to 2.1"	The best ultra light weight tube on the market in this size 95g! An option with 1.6" Schwalbe Supreme	£6			☺☺ BUT ONLY if you've chosen the 1.6" Supreme tyre option with XL tubes		?????	
ROHLOFF SPARES and TOOLS								
Rohloff full oil change kit		£17				☺☺	☺☺	☺☺
Rohloff special chain lubricant		£6				☺	☺	☺
Rohloff sprocket removal tool		£26				☺☺	☺☺	☺☺
Rohloff spare sprocket 15t, 16t or 17t		£30				?????	?????	?????
THORN spare sprocket 19t		£30				?????	?????	?????
Teng Tools TS/TX20 TORX T Key for Rohloff		£8				☺☺	☺☺	☺☺

OVERVIEW of THORN SOLO BIKES + THORN BIKE RECIPES

PLEASE NOTE:-

If you open the quick
link to this pdf file,
you're looking at a

Lo-Resolution pdf.

To view a

Hi-Resolution pdf,

please click on the link
at the bottom of
this page.



To ORDER – please contact us:-

Phone 01278 441505

email sales@thorncycles.co.uk

**Or complete an order form - this can be found on
page 62 of the Mega Brochure.**

**For sizing - please read
Pages 22 to 25 of the Mega Brochure
or contact us - please see details above.**

CLICK HERE

For a **HI RESOLUTION**
THORN OVERVIEW with
THORN MEGA BROCHURE
PARTS 1 and 2

This is a very large file (30Mb)
it may take considerable time to open
please be patient.

Thorn Audax Mk3 700c

**Derailleur equipped,
ultra-light touring bike.**

Available in

5 colours and 6 sizes
Complete bikes from
£1239

Bike shown is THORN special spec @ £1299
(frame and fork kit only £425)

Size 570



The Mk3 represents two decades of work, manufacturing and developing, what many people tell us are the finest frames for sporty, lightweight touring, that have ever been built.

The Audax frames and steel forks run with tyres which measure 30mm and mudguards. Several owners of exotic racing bikes have reported that their Mk3, which was purchased for training, is practically as fast and handles better than their race bike - as well as obviously being able to carry a load!

We say that, for occasional use, the Mk3 will cope with 30Kg of luggage, spread between the front and rear, including 3 cages and a small bar bag. But it's much happier to carry up to 8Kg at the rear and 3Kg at the front.

If you regularly carry more than 8kg, we strongly advise that you look at the Club Tour.

Size 495



WARNING! The Audax Mk3 is aimed at experienced cyclists, wearing "proper" cycling shoes and system pedals. With such shoes, there's clearance for "larger than average sized feet". There's also clearance for average sized feet, in cycling shoes, with steel clips. There's unlikely to be clearance between "trainers" and the front mudguard.

Thorn Club Tour Mk4 700c

Derailleur equipped
**TRADITIONAL
TOURING BIKE**

Available in

2 colours and 8 sizes, with
3 steel forks to choose from,
including a steel disc fork.
Complete Bikes from:-
£1349

Many spec options are available



Available in **Gunmetal** (Above)
Or **R&B** (Below)



**DROP or STRAIGHT BAR
BUILDS AVAILABLE**

The Club Tour Mk4 is very competitively priced, many customers told us that, with the recommended upgrades, the Mk3 was:-

"The finest traditional touring bike available, regardless of price!"

We know that the Club Tour Mk4 is an even better bike!

The Thorn Club Tour Mk4, was designed without compromise, to show exactly how good a **Traditional British Touring Bike** can be. It may be used throughout the week to commute to work, it can complete a 200Km Audax (or CTC reliability ride) at the weekend, yet be ready to carry 28Kg on your annual summer cycle camping holiday. (If necessary it will cope with up to 40Kg). You're guaranteed a high quality ride, with superb handling. The Club Tour Mk4 can even take 40c tyres with mudguards.

Thorn Sherpa Mk3

Derailleur equipped
From £1299

10 different sizes

1 very small size with medium top tube,
4 sizes with long top tubes,
4 sizes with short top tubes,
There's also a step through size!

Choose **MATT BLACK**
or **BLOOD RED**



Choice of **Drops** or **Straights**

We've been honing the design for over 15 years, yet the Sherpa could accurately be described as the **New traditional touring bike.**



The Sherpa can be used for day to day transport, or it can literally travel the world.

The Sherpa's very stable and it handles superbly. There's no possibility whatsoever of accidentally overlapping feet and mudguards.

The Sherpa makes light work of 28Kg loads and the larger sizes will carry up to 40Kg. On an occasional basis.

26" wheels are the best possible choice for heavily loaded touring.

The 26" MTB wheel has a vast variety of different tyres available and tyres for this size are obtainable in every country in the world!

The Sherpa has clearance for 2" tyres

Some 26" tyres are for MTB use, some are heavy duty for expedition use, whilst others are very quick indeed! We love to cycle on B roads and country lanes. These roads are in worse condition today, than anyone can remember. On these roads, **fat tyres**, which are

zero-maintenance suspension, make great sense. They make just as much sense in the pot-holed streets of today's cities!

CLICK HERE For
AUDAX Mk3 pdf Brochure.

It may take time for the file to open, please be patient.

CLICK HERE For
CLUB TOUR Mk4 pdf Brochure.

It may take time for the file to open, please be patient.

CLICK HERE For
SHERPA Mk3 pdf Brochure.

It may take time for the file to open, please be patient.

**THORN
RAVEN****26"****From £2169****10 different sizes**

1 very small size with medium top tube,
4 sizes with long top tubes,
4 sizes with short top tubes,

There's also a step through size!

We're very proud of the RAVEN,
it is one of the very finest

Rohloff equipped bikes

on the planet; yet it also manages to be
the least expensive!

The RAVEN makes light work of 28Kg
loads and the larger sizes will carry up
to 40Kg, on an occasional basis.

The Raven has clearance for 2" tyres.

Currently there are several Ravens
undertaking the "American end to end",
Alaska to Tierra del Fuego. There are also
over a thousand Raven Tours delighting their
owners, as they go about their day to day
business, with the least possible fuss.
The RAVEN is wonderfully stable; city streets
tow paths, bridleways, mountain passes,
desserts and continents can all be tackled in
confidence.

**The NEW RAVEN is designed to
provide a lifetime's transport, as
well as keeping the dream of that
"big cycling adventure" well and
truly alive!**

Choose **MATT BLACK**
or **BLOOD RED**

**DROPS or STRAIGHTS**

CLICK HERE For
THORN RAVEN pdf Brochure.

It may take time for the file to open, please be patient.

**Thorn Nomad
Mk 2****26"****From
£2299****10 different sizes,****5 sizes with long top tubes;****5 sizes with medium length top tubes****The Nomad Mk2 is the ULTIMATE**

EXPEDITION TOURING BIKE it can
carry up to 30kg at the rear*, without the
need for front bags. It will cope with
over 60Kg including 20Kg at the front.

These bikes are built for **great strength and
reliability.** *assuming a conventional riding position.

**The Mk2's stays have sufficient
clearance for 2.4" tyres.**

The Steel fork will take 2.25" tyres

It has **stainless fittings**, including
oversized (6mm) carrier bosses.

**Mk2 Nomads
are compatible with
80 to 120mm suss forks.**

All Nomad Mk2s have **rear ISO
disc mount** and V brake bosses
and the perfect cable routing for the

EX boxSize
565L

Choose **matt black**
or **Tonka yellow**

Also available with
S&S couplings

**NOMAD
Mk2 frames**
are available with
S&S couplings,

These allow bikes to be transported easily.
Sizes up to 565L can, with extensive disassembly,
even be fitted into a 26" x 26" x 10" case - providing
the steerer of the steel fork isn't longer than 235mm.

SIZE 620L

A bike for
Giants!

CLICK HERE For
NOMAD Mk2 pdf Brochure.

It may take time for the file to open, please be patient.

**Thorn Mercury
700c****from £2669**

Available in 8 sizes and in 6 colours.

Long top tube frames for most men
with straight bar options.

Short top tube frames for most men with drop
bars or most women with straight bars.

The Mercury frame can accept 35c tyres with
mudguards but not all fork and brake options work
with this size tyre.

ROHLOFF SPECIFIC**DISC BRAKE OPTIONS****DROPS or STRAIGHTS****BOLD or DISCRETE**

The Mercury can be focused
precisely into your dream bike -
from a seriously quick sport touring
bike to a middleweight tourer.
(For much more detail, please see our brochure)

CLICK HERE For
THORN MERCURY pdf Brochure.

It may take time for the file to open, please be patient.

THORN Bike Recipes - our shortcut to buying the perfect Thorn Bike for YOUR CYCLING. Our recipes are specially chosen to produce the perfect bike, in a variety of popular touring styles. Please see the list of recipes on page 85.

If you're short of time - please go straight to the next page (Page 85)

What are THORN Bike Recipes? How did we arrive at these recipes?

I can't overstate the importance of the statement that I made on page 34 which was:- "There's no quality, that I can design into a frame, that can affect performance and enjoyment, as much as choosing the right tyre!"

Clearly, there's no single *right tyre* (or even *right wheel size*) for every specific cycling requirement.

On pages 6&7 I discussed in depth the pro's and cons of different wheel and tyre sizes.

I also made a series of conclusions about which wheel size and which tyre size I thought was most suitable for a variety of different styles of cycling. For convenience, I've copied and pasted my conclusions from page 7 into the TEXT BOX below - the Recipes are based upon these conclusions.



(Copied and pasted from page 7)

CONCLUSIONS

I've talked about compromises; all 7 listed below work harmoniously.

In the text below, I frequently use the words "*could*", "*may*", "*should*" and "*ought*".

However, if you choose the appropriate THORN TOURING BIKE,

I'm supremely confident that you can substitute these words, with the words "*will be*" or "*does*"

[R] An ultra-lightweight, short wheelbase 700c bike, with close clearances for 23c or 25c tyres and ultra-lightweight wheels, is the longstanding and classic recipe for a road racing bike. In my opinion, such a bike is **only** suitable for racing.

SORRY NO THORN AVAILABLE - WE'RE TOURING SPECIALISTS, WE ONLY MAKE TOURING BIKES.

[A] A lightweight 700c bike, with lightweight wheels and sufficient clearance for 25c or 28c tyres, with mudguards, could be ideal for an experienced cyclist for **Audax rides**, race training and ultra- lightweight touring, on a variety of road surfaces.

THORN AUDAX MK3 with forks 1 or 2, or MERCURY with forks 2, 5 or 7

PART 3 of the MEGA BROCHURE, is also a stand-alone document.

PART 3 gives the optimum specification, to create the ideal bike to fulfil each of the briefs stated below.

I've called these specifications **THORN BIKE RECIPES.**

The recipe for each of these bikes is designed to optimise and focus the performance of each style of bike and to enhance the reasons for owning such a machine in the first place.

[B] A fairly lightweight 700c bike, with reasonably lightweight wheels and generous mudguard clearances for premium quality 32c or 35c tyres and super comfortable forks, could also be ideal for Audax rides. It would be especially suitable for Audax rides, if poor surfaces, wet weather and/or longer distances are involved. Such a bike could also be the **ultimate bike for fast touring** with moderate rear only loads, on back country roads.

THORN MERCURY or CLUB TOUR with the MER853VC FORK. Fork 5

[C] A 26" wheel bike, with lightweight wheels and clearances for 1.6" tyres could be the ultimate bike for **brisk, assertive city cycling**. It could accelerate well and could withstand numerous and often unavoidable potholes. It could stop much more quickly, especially in the wet, than skinny 700c tyres. With the right tyres, it could also be a superb machine for very hilly rides on rough surfaces, especially in greasy conditions. This could also be the -

Ultimate, left field, winter training bike. THORN RAVEN, or SHERPA Mk3, with RAV853VC fork. FORK 10

[D] A reasonably light 700c bike, with clearances for high quality medium width 32c or 35c. Such a bike's tyres could have an excellent balance of strength, comfort and performance. Such a bike should **excel in its versatility** - it should perform well at everything - except expedition cycling and high performance sporting events.

THORN MERCURY or CLUB TOUR with ST700 FORK. Fork 4

Q. Are you clear about what you want your next bike for?

Q. Do you believe that we make the definitive bike for a particular purposes? (I certainly do!)

Q. Can you give us some simple body dimensions and an indication of how upright you wish to sit on your bike?

Each of these specifications can be trusted to deliver exactly what you seek from your next bike - without having to specify every aspect of its build.

See the testimonials on page 103

You can trust us to supply the correct size frame. We guarantee satisfaction - or your money back!

Please see page 104 for reviews and our money back guarantees.

[E] A 26" wheel bike, with lightweight wheels, clearances for 1.75" or 2" high tech tyres could make a superb bike for leisure cycling and

general touring, including cycle camping. If fitted with heavy duty wheels, it could be used for expedition cycling or kitchen sink camping.

THORN RAVEN or SHERPA Mk3 with ST26 fork. FORK 9

[F] A robustly built, 26" wheel bike, with generous clearances for high quality fat tyres (2.0 to 2.25") ought to be the strongest and most reliable bike you could own. It should be easier on hills, carry more and be more reliable than would be possible with 29er (Fat 700c) wheels.

This is what we recommend for expeditions and world touring.

Occasionally we recommend it to those seeking a "bomb proof" bike for general use.

We've even sold some as "gym equipment" to really big guys (usually heavyweight powerlifters) who seek non weight bearing cardiovascular exercise, in the fresh air.

THORN NOMAD Mk2 and NOMAD FORKS

Any of these bikes would also make excellent commuting bikes - depending upon what type of commuting you do.

Do you use cycling shorts & shoes?

Do you wear a suit, tie and brogues?

Is your commute 2 miles or 30 miles?

Is it on smooth or broken surfaces?

Is your bike inside or chained to posts?

List of THORN Bike Recipes.

Weight and/or luggage capacity increases from A through to F.

700c wheels grey background.

26" wheels blue background.

Derailleur gears BLACK TEXT - Rohloff gears BLUE TEXT

[A] Recipes for bikes specifically for
Audax rides, training and
credit card touring

(Best with 0 to 8kg luggage) 700 x 25c/28c

[A1] THORN AUDAX MK3 Thorn Special Spec, with 30
speed STI derailleur gears and DROP BARS...see page 86

[A2] THORN Hi-End Spec AUDAX MK3 with 30 speed STI
derailleur gears and DROP BARS...see page 87

[A3] THORN MERCURY Super Sport, Rohloff Equipped,
DROP BARS, calliper brakes, lightest possible build...
...see page 88

[A4] THORN MERCURY Super Sport, Rohloff Equipped,
STRAIGHT BARS, calliper brakes lightest possible build...
...see page 89

[B] Recipes for the ultimate
bikes for long distance
Audax rides and fast touring.

(Best with 0 to 14kg luggage)

700 x 32c

[B1] THORN CLUB TOUR MK4 with 30 speed STI
derailleur gears + DROP BARS...see page 90

[B2] THORN CLUB TOUR MK4 with 30 speed STI
derailleur gears and STRAIGHT BARS...
...see page 91

[B3] THORN MERCURY, Rohloff Equipped,
STRAIGHT BARS, front V brake with rear disc,
light weight build...see page 92

[C] Recipes for ideal bikes for brisk,
assertive city cycling.

These bikes also make super machines for
very hilly rides on rough roads.

The Ultimate left field winter training bike?
(Best with 0 to 14kg luggage) 26 x 1.6"

[C1] THORN SHERPA MK3 with 22 speed STI derailleur
gears Cantilever brakes, and DROP BARS...see page 93

[C2] THORN SHERPA MK3 with 30 speed STI derailleur
gears V brakes, and STRAIGHT BARS...see page 94

[C3] THORN RAVEN Rohloff Equipped, STRAIGHT BARS,
V brakes, medium weight build...see page 95

[D] Recipes for the ultimate,
bike for multi-purpose,
all-round Touring.

(From 0 to 25Kg luggage) 700 x 35c

[D1] THORN CLUB TOUR MK4 with 30 speed STI
derailleur gears and DROP BARS...see page 96

[D2] THORN CLUB TOUR MK4 with 30 speed STI
derailleur gears + STRAIGHT BARS...see page 97

[D3] THORN MERCURY, Rohloff Equipped,
STRAIGHT BARS, front V brake with rear disc,
medium weight build...see page 98

[E] Recipes for superb leisure bikes,
which are also capable of general
touring, including cycle camping.
(From 0 to 35Kg luggage) 26 x 2.0"

[E1] THORN SHERPA MK3 with 30 speed indexed derailleur
gears V brakes and DROP BARS...see page 99

[E2] THORN SHERPA MK3 with 30 speed STI derailleur
gears V brakes, and STRAIGHT BARS...see page 100

[E3] THORN RAVEN Rohloff Equipped, STRAIGHT BARS,
V brakes, medium weight build...see page 101

[F] The recipe for the definitive
expedition, adventure or
trans-global bike. (25Kg - to
50+ Kg of luggage*) 26 x 2.15"

*Does 50+ kg seem a ridiculous load?
Water is heavy but it's essential to life - your
daily requirements are usually higher in places
where water is hardest to find and/or in
shortest supply!

[F1] THORN NOMAD Mk2
Rohloff Equipped, STRAIGHT BARS,
heavy duty build...see page 102

Recipe [A1] £1299

Thorn Audax Mk3, Thorn Special Spec.

30 speed
Drop Bars
700 x 28c
Mudguards
NO PEDALS



Weight varies between 10.5 and 10.9Kg depending upon which frame size, tyres, rims and gearing options have been chosen.

BIKE SPECIFICATION

Reynolds competition forks.
Top quality sealed headset

Thorn drop bars + stem, cork bar tape.
Shimano Tiagra 10sp STI shifters,

Shimano Deore Hubs
Mavic Open Sport rims.
DT stainless spokes.
Panaracer Pasela tyres 700 x 28c
Wheels built, tensioned and stress relieved by a master wheel builder

Shimano Deep Drop Brakes
Shimano Deore quality 26/36/48 chainset.
Your choice of 11-36 or 12-28 cassette
Appropriate front and rear derailleurs.
Good quality Shimano BB unit.

High quality saddle
SKS Mudguards

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

**Choice of Colour:-
RED, BLUE, GUNMETAL,
MATT BLACK or FUCHSIA**



EVERY tube in the frame is a super high quality, cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube.

We're very proud of our Thorn Audax Mk3. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Special Spec

We're especially proud to have been able to make such a fine machine available, at such a keen price.
The Thorn Special Spec has a very well balanced mix of components, some of which were sourced especially for us.
Shimano made us a Deore quality triple chainset with 26/36/48 rings.

This has allowed us to offer the Thorn Special with a very wide range of gears, which includes a high top gear and a very low bottom gear. You needn't fear any terrain, with such a low bottom gear - even if you're very tired.
The Audax Mk3 frame and fork are exceptionally comfortable, yet still respond instantly to a bit of wellie. The handling is exemplary - it's a THORN!

The Mk3 frame and forks can be fitted with front and rear carriers to carry a significant load, as the designer, I know that a Mk3 is at its best at a sporty pace, on reasonable road surfaces, with light to medium loads.

Recipe [A2]

Thorn Hi-End Spec Audax Mk3.

22 speed Drop Bars

700 x 25c

Mudguards

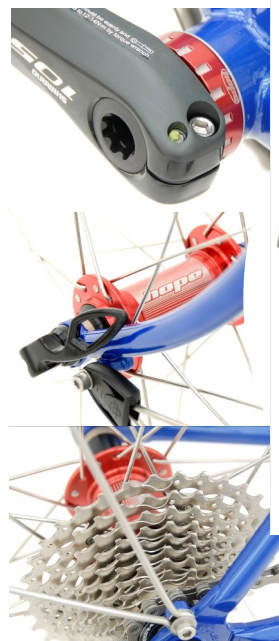
NO PEDALS

£1999

Weight
as shown

9.8Kg

Removing
mudguards
saves 540g.
Much lighter
(but less
comfortable)
saddles are
available.



**Choice of Colour:-
RED, BLUE, GUNMETAL or
MATT BLACK** (853c forks N/A in Fuchsia)



BIKE SPECIFICATION

Includes **THORN 853c FORK**

Top quality sealed headset.

Shimano Pro PLT bars and stem cork bar tape

Shimano 105 11sp STI shifters.

HOPE MONO RS HUBS your colour choice.

DT SWISS RR440 rims - std front 24h +

asymmetric rear 28h.

DT stainless spokes.

25c Schwalbe ONE (Ultraleicht) tyres with
Schwalbe XLight tubes.

Wheels built, tensioned and stress relieved by
a master wheel builder.

Upmarket Shimano BR-R650 Deep Drop
Brakes + cartridge shoes

11sp 105 front + GS rear derailleurs

**Shimano 105 compact double chainset 34/50t
rings.**

Your choice of ULTEGRA

11sp cassette (Inc. 11-32)

HOPE Stainless BB (colour choice).

Black Selle San Marco Rolls saddle

SKS Mudguards

2 x Thorn Carbon bottle cages

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

**EVERY tube in the frame is a super high
quality, cold drawn, seamless, double
butted and heat-treated Cr-Mo steel tube.**

We're very proud of our Thorn
Audax Mk3. It has received many
unsolicited letters of praise from its
owners - many of whom have said
that this is the finest steel frame that
they have ever ridden.

With specific regard to the Thorn Hi-End Spec

We're delighted to be able to offer
such a high quality and lightweight
high performance machine.

The Thorn Hi-End Spec has a very
well balanced mix of components,
with the emphasis being on light
weight, allied with long service life
in the key components.

The wheels in particular are of
exceptional high quality, being
particularly lightweight. They have
24 spokes at the front and 28 at the
rear and they're very strong for a
long distance sports bike.

The rear wheel features an
asymmetric rim, which reduces dish

and therefore allows the LH spokes
to do more of the work.

Shimano have recently introduced
an 11sp 11-32 cassette, which has
enabled us to offer the Thorn Hi-End
spec with a wide range of close-ratio
gears.

The Audax Mk3 frame has provision
for a rear carrier and is
exceptionally comfortable, yet still
responds instantly to a bit of wellie.
The handling is exemplary - it's a
THORN!

I believe the blades
used in the THORN
853c fork are the most
comfortable blades
ever offered, whilst
this fork has provision
for the direct fitting of
a mudguard, it doesn't
have bosses for a
carrier.

The Thorn Hi-End Spec Audax Mk3
is intended for high performance
cycling, with light loads.



Recipe [A3]

Thorn Mercury Super Sport Ultra-Light Drop Bar spec.

£3135

Weight
varies between
10.7 and 10.9Kg
depending upon
which frame
size has been
chosen.

ROHLOFF
14sp EX hub
Drop Bars
700 x 25c
NO Mudguards
NO PEDALS



BIKE SPECIFICATION

Includes **THORN 853c FORK**
Top quality sealed headset.

Shimano Pro PLT bars and stem + cork tape.
GILES BERTHOUD ROHLOFF SHIFTER
Shimano BL-R400 brake levers

ROHLOFF EX HUB your colour choice.
HOPE MONO RS FRONT HUB your
colour choice

Sapim stainless spokes.

DT SWISS RR440 rims.

25c Schwalbe ONE (Ultralemo) tyres with
XLight tubes

Wheels built, tensioned and stress
relieved by a master wheel builder

Shimano BR-R650 Deep Drop Brakes +
cartridge shoes

Thorn external bearing Chainset.

Your choice of chain ring and sprocket

THORN VELO saddle

SKS Mudguards

2 x Thorn Carbon bottle cages

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

**Choice of Colour:-
GUNMETAL, MATT BLACK,
GREEN RETRO, BLACK RETRO,**

**The frame tubes are unique to us.
The main triangle is Reynolds 853 and
the stays are Reynolds 725**

I'm very proud of the Thorn Mercury. I
have 2 myself and I can say
categorically, that it is the finest
lightweight frame I've ever ridden - and
I've ridden lots! I'm happy to say that
most Mercury owners agree with me.

With specific regard to the Thorn SUPER SPORT DROP BAR Spec

We're delighted to be able to offer such
a high quality and lightweight high
performance, Rohloff equipped
machine.

The Thorn Super Sport Spec has a very
well balanced mix of components. In
keeping with the Rohloff ethos, the
emphasis is on the durability, reliability
and longevity of the components.

The wheels in particular are of
exceptional high quality and they're
exceptionally strong for a long distance
sports bike.

The Mercury frame has provision for a
rear carrier and is exceptionally
comfortable, yet still responds instantly
to a bit of wellie.

The handling is exemplary - it's a
THORN!

I believe the blades used in the THORN
853c fork are the most comfortable
blades ever offered, whilst this fork has
provision for the direct fitting of a
mudguard, it doesn't have bosses for a
carrier. Both Thorn Mercury Super
Sport Specs (Straight bars or drops)
are intended for low
maintenance, high
performance cycling,
with light loads.



Recipe [A4]

Thorn Mercury Super Sport Ultra-Light Straight Bar spec.

£3079

Weight varies
between
11.5 and 11.7Kg
depending upon
which frame size
has been chosen.

ROHLOFF
14sp EX
Disc hub
Straight
Bars
700 x 28c
Mudguards
NO PEDALS



Note the discrete decals hidden from view under the down tube on our Stealth Matt Black finish.



Choice of Colour:-
GUNMETAL, MATT BLACK,
GREEN RETRO, BLACK RETRO,
WHITE TEAM or SKY BLUE TEAM

BIKE SPECIFICATION

Includes **THORN 853c FORK**
Top quality sealed headset.

THORN NARROW BARS + ERGON GP5L grips
with integral bar ends.

ROHLOFF SHIFTER

Shimano BL-R550 straight bar brake levers

ROHLOFF EX HUB your colour choice.

HOPE MONO RS FRONT HUB your colour
choice

Sapim stainless spokes.

DT SWISS RR440 rims.

25c Schwalbe ONE tyres with XLight tubes
Wheels built, tensioned and stress relieved by
a master wheel builder

Shimano BR-R650 Deep Drop Brakes +
cartridge shoes

Thorn external bearing Chainset.

Your choice of chain ring and sprocket

Thorn Velo saddle

SKS Mudguards

2 x Thorn Carbon bottle cages

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

The frame tubes are unique to us.
The main triangle is Reynolds 853
and the stays are Reynolds 725



I'm very proud of the Thorn Mercury. I
have 2 straight bar Mercuries myself
and I can say categorically, that it is the
finest lightweight frame I've ever ridden
- and I've ridden lots! Most Mercury
owners agree with me.

With specific regard to the Thorn SUPER SPORT STRAIGHT BAR Spec

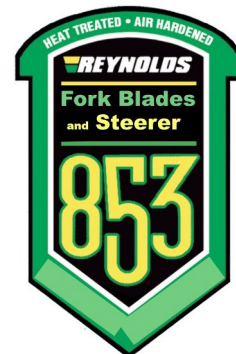
We're delighted to be able to offer such
a high quality and lightweight high
performance, Rohloff equipped
machine.

The Thorn Super Sport Spec has a very
well balanced mix of components. In
keeping with the Rohloff ethos, the
emphasis is on the durability, reliability
and longevity of the components.
The wheels in particular are of
exceptional high quality and they're
exceptionally strong for a long distance
sports bike.

The Mercury frame has provision for a
rear carrier and is exceptionally
comfortable, yet still responds instantly
to a bit of wellie.

The handling is exemplary - it's a
THORN!

I believe the blades used in the THORN
853c fork are the most comfortable
blades ever offered, whilst this fork has
provision for the direct fitting of a
mudguard, it
doesn't have
bosses for a
carrier. Both
Thorn Mercury
Super Sport
Specs (Straight
bars or drops) are
intended for low
maintenance,
high performance
cycling, with light
loads.



Recipe [B1]

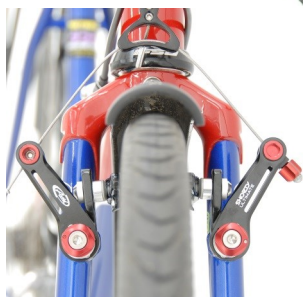
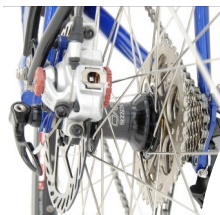
£2069

For S&S add £500

Thorn Club Tour Mk4 Fast Touring Drop Bar spec.

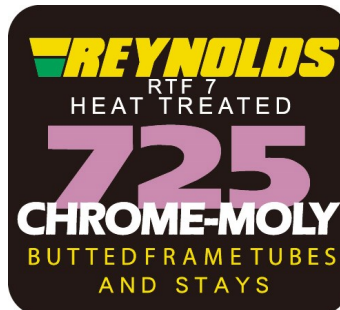
30 speed
Drop Bars
700 x 32c
Mudguards
NO PEDALS

Weight, including carrier, Brooks saddle and mudguards, varies between 12.0 and 12.2 Kg Depending upon which frame size and cassette are chosen.



Choice of Colour:- GUNMETAL or R&B

EVERY tube in the frame is a Reynolds 725 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo



BIKE SPECIFICATION

Includes **MER853VC FORK**
Top quality sealed headset.

Thorn drop bars + stem, cork bar tape.
Shimano Tiagra 10sp STI shifters,

HOPE 32h MONO RS HUBS
your colour choice

DT SWISS RR440 front rim.
DT Swiss X470 DISC rear rim
DT stainless spokes.
32c Schwalbe Supreme folding tyres.
Wheels built, tensioned and stress relieved by a master wheel builder

Avid Shorty Ultimate canti front brake and Avid BB7 rear disc brake.
Shimano Deore quality triple chainset 26/36/48 rings

Your choice of cassette
Tiagra front and XT rear derailleurs.

Brooks B17 saddle (Black or Honey)
SKS Mudguards

Tubus Vega Cro-Mo rear carrier.
2 x Thorn Carbon bottle cages

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

We're very proud of our Thorn Club Tour Mk4. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Fast Touring Spec

We're delighted to be able to offer such a high quality and lightweight high performance machine. The Thorn FT spec has a very well balanced mix of components, with the emphasis being on light weight, allied with long service life in the key components. The wheels in particular are of exceptional high quality, being particularly lightweight. The FT spec Club Tour is equipped with a Tubus Vega rear carrier.

This bike is exceptionally comfortable, it's perfectly suited to extreme long distance rides - yet it still responds instantly to a bit of wellie.

The handling is exemplary - it's a THORN!

I believe the blades used in the MER853VC fork are the most comfortable blades ever offered, whilst this fork has provision for the direct fitting of a mudguard, it doesn't have bosses for a carrier. The Thorn FT Spec is intended for high performance cycling, with light to medium loads.



Recipe [B2]

£2069

For S&S add £500

Thorn Club Tour Mk4 Fast Touring Straight Bar spec.

30 speed
Straight Bars
700 x 32c
Mudguards
NO PEDALS



Weight,
including carrier,
Brooks saddle
and mudguards,
varies between
12.6 and 12.9Kg
depending upon
which frame size
and cassette are
chosen.



BIKE SPECIFICATION

Includes **MER853VC FORK**
Top quality sealed headset.

Thorn **NARROW** bars with Ergon **GP5L**
grips with integral bar ends.
Shimano **XT 10sp Rapidfire** pods.

HOPE 32h MONO RS HUBS
your colour choice

DT SWISS TK540 rims. Rim brake front
DISC rear.

DT stainless spokes.

32c Schwalbe Supreme folding tyres.
Wheels built, tensioned and stress
relieved by a master wheel builder

XT front brake and **Avid BB7** rear disc
brake.

Shimano Deore quality triple chainset
26/36/48 rings

Your choice of cassette

XT 10sp front and rear derailleurs.

Brooks B17 saddle (Black or Honey)
SKS Mudguards

Tubus Vega Cro-Mo rear carrier.
2 x Thorn Carbon bottle cages

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

Choice of Colour:- GUNMETAL or R&B

**EVERY tube in the frame is
a Reynolds 725 tube, these
are cold drawn, seamless, double
butted and heat-treated Cr-Mo**

We're very proud of our Thorn Club
Tour Mk4. It has received many
unsolicited letters of praise from its
owners - many of whom have said
that this is the finest steel frame
that they have ever ridden.

With specific regard to the Thorn Fast Touring Spec

We're delighted to be able to offer
such a high quality and lightweight
high performance machine.

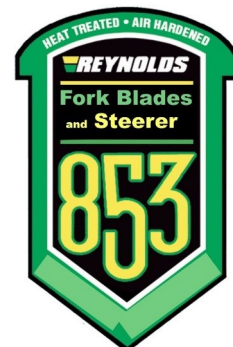
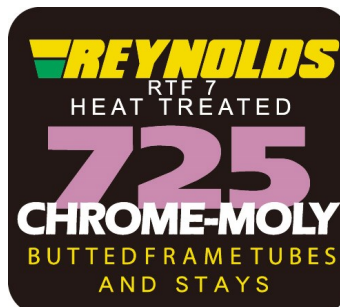
The Thorn FT spec has a very well
balanced mix of components, with
the emphasis being on light weight,
allied with long service life in the
key components.

The wheels in particular are of
exceptional high quality, being
particularly lightweight. The FT
spec Club Tour is equipped with a
Tubus Vega rear carrier.

This bike is exceptionally
comfortable, it's perfectly suited to
extreme long distance rides - yet it
still responds instantly to a bit of
wellie.

The handling is exemplary - it's a
THORN!

I believe the blades used in the
MER853VC fork are the most
comfortable blades ever offered,
whilst this fork has provision for
the direct fitting
of a mudguard, it
doesn't have
bosses for a
carrier. The
Thorn FT Spec is
intended for high
performance
cycling, with
light to medium
loads.



Recipe [B3]

£3265

Thorn Mercury Fast Touring Straight Bar spec.

ROHLOFF
14sp EX
Disc hub
Straight Bars
700 x 32c
Mudguards
NO PEDALS



Weight, including carrier, Brooks saddle and mudguards, varies between 12.4 and 12.9 Kg depending upon which frame size is chosen.



Sorry, this bike is shown with an ST700 fork and not the MER853VC fork in the spec.

Choice of Colour:-
GUNMETAL, MATT BLACK,
GREEN RETRO, BLACK
RETRO, WHITE TEAM or
SKY BLUE TEAM



BIKE SPECIFICATION

Includes **MER853VC FORK**

Top quality sealed headset.

THORN NARROW BARS + ERGON GP5L grips with integral bar ends.

ROHLOFF SHIFTER.

Shimano XT brake levers.

ROHLOFF EX DISC HUB your colour choice.

HOPE MONO RS FRONT HUB your colour choice.

Sapim stainless spokes.

DT SWISS 32h TK540 rims rim brake front disc rear.

32c Schwalbe Supreme folding tyres.

Wheels built, tensioned and stress relieved by a master wheel builder.

XT front brake and Avid BB7 rear disc brake.

Thorn external bearing Chainset inc. BB.

Your choice of chain ring and sprocket.

Brooks B17 saddle (Black or Honey)

SKS Mudguards.

Tubus Airy Titanium carrier.

2 x Thorn Carbon bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

The frame tubes are unique to us.
The main triangle is Reynolds 853 and
the stays are Reynolds 725

I'm very proud of the Thorn Mercury. I have 2 myself and I can say categorically, that it is the finest lightweight frame I've ever ridden - and I've ridden lots! Most Mercury owners agree with me.

With specific regard to the Thorn FAST TOURING STRAIGHT BAR Spec

We're delighted to be able to offer such a high quality and lightweight high performance, Rohloff equipped machine.

The Thorn FT Spec Mercury has a very well balanced mix of components. In keeping with the Rohloff ethos, the emphasis is on the durability, reliability and longevity of the components. The wheels in particular are of exceptional high quality and they're

exceptionally strong for a FAST TOURING bike.

This bike is equipped with a Tubus Airy titanium rear carrier. It is eminently suitable for extreme long distances - yet it still responds instantly to a bit of wellie.

The handling is exemplary - it's a THORN!

I believe the blades used in the THORN 853c fork are the most comfortable blades ever offered, whilst this fork has provision for the direct fitting of a mudguard, it doesn't have bosses for a carrier. The Thorn Fast Touring Spec Mercury is intended for low maintenance, high performance cycling, with light to medium weight loads.

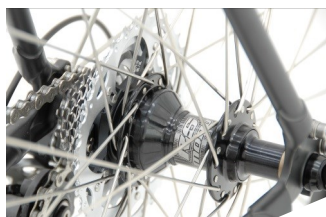


Recipe [C1]

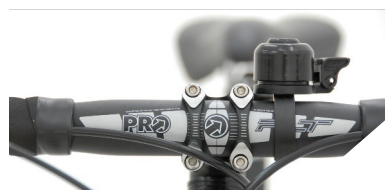
£1999

Thorn Sherpa Mk3 Fast City, Dream Drop Bar spec.

20 speed
Drop Bars
26 x 1.6"
Mudguards
NO PEDALS



Weight varies between 11.0 and 11.5 Kg depending upon which frame size and cassette are chosen.



Choice of Colour:- Matt Black or Blood Red

EVERY tube in the frame is a THORN 969 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube - which is exclusive to us.



BIKE SPECIFICATION

Includes **THORN 853c FORK**
Top quality sealed headset.

Shimano Pro PLT bars and stem cork bar tape
Shimano Tiagra 10sp STI shifters.

HOPE 32h MONO RS HUBS your colour choice
Grizzly CSS rims.

DT stainless spokes.
26 x 1.6" Schwalbe Supreme folding tyres with XL tubes.

Wheels built, tensioned and stress relieved by a master wheel builder.

Avid Shorty Ultimate cantilever brakes.

Shimano Deore quality compact double chainset 36/48t rings

10sp Tiagra front + XT rear derailleurs

Your choice of 10sp XT cassette

High quality saddle
SKS Mudguards

1 x Profile bottle cage.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

We're very proud of our Sherpa Mk3. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Fast City DREAM DROP BAR Spec

We're delighted to be able to offer such a high quality and lightweight high performance machine.

Drop bar bikes, with STI and fat tyres, which are intended for city use, demand the best possible brakes - V brakes won't work with STI.

The Thorn Fast City Spec has a very well balanced mix of components, with the emphasis being on awesome braking and sharp acceleration, combined with long service life in the key components.

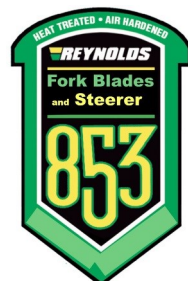
The wheels in particular are of extreme high quality, being particularly strong and especially lightweight - but with the

most durable braking surface ever offered by any rim manufacturer - perfect for the cut and thrust of city commuting, or hilly, foul weather training.

The Sherpa Mk3 frame has provision for a rear carrier, it's exceptionally comfortable, yet still responds instantly to a burst of power.

The handling is exemplary - it's a THORN!

I believe the blades used in the RAV853VC fork are the most comfortable blades ever offered, whilst this fork has provision for the direct fitting of a mudguard, it doesn't have bosses for a carrier. The Thorn Fast City Spec is intended for high performance, assertive cycling, with or without the light to medium loads that it can carry so easily.



Recipe [C2]

£1565

Thorn Sherpa Mk3 Fast City, Straight Bar spec.

30 speed
Drop Bars
26 x 1.6"
Mudguards
NO PEDALS



Weight varies
between
10.0 and 10.5
Kg depending
upon which
frame size
and cassette
are chosen.

Choice of Colour:- Matt Black or Blood Red

**EVERY tube in the frame is a
THORN 969 tube**
these are cold drawn, seamless,
double butted and heat-treated Cr-Mo
steel tube - which is exclusive to us.



BIKE SPECIFICATION

Includes **RAV853VC FORK**

Top quality sealed headset.
Thorn Narrow bars with Ergon GP5L grips with
integral bar ends.
Shimano Deore 10sp Rapidfire pods.
Deore Black 32h front and rear hubs.
Grizzly CSS rims.
DT stainless spokes.
26 x 1.6" Schwalbe Supreme folding tyres with
XL tubes.
Wheels built, tensioned and stress relieved by
a master wheel builder.

Deore brake levers and Deore V brakes.
10sp Deore front and rear derailleurs.

Shimano Deore quality triple chainset 26/36/48
rings

Your choice of cassette

High quality saddle
SKS Mudguards.
1 x Profile bottle cage.

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

We're very proud of our Sherpa Mk3.
It has received many unsolicited
letters of praise from its owners -
many of whom have said that this is
the finest steel frame that they have
ever ridden.

With specific regard to the Thorn Fast City STRAIGHT BAR Spec

We're delighted to be able to offer
such a high quality and surprisingly
lightweight high performance
machine at such an attractive price.
The Thorn Fast City Spec has a very
well balanced mix of components,
with the emphasis being on excellent
braking and sharp acceleration,
combined with excellent value for
money.

The wheels in particular are of high
quality, being particularly strong and
especially lightweight - but with the
most durable braking surface ever

offered by any rim manufacturer -
perfect for the cut and thrust of city
commuting, or hilly, foul weather
training.

The Sherpa Mk3 frame has provision
for a rear carrier, it's exceptionally
comfortable, yet still responds
instantly to a burst of power.
The handling is exemplary - it's a
THORN!

I believe the blades used in the
RAV853VC fork are the most
comfortable blades ever offered,
whilst this fork has provision for the
direct fitting of a mudguard, it
doesn't have bosses
for a carrier. The
Thorn Fast City Spec
is intended for high
performance,
assertive cycling, with
or without the light to
medium loads that it
can carry so easily.



Recipe [C3]

£2475

Thorn RAVEN Mk3 Fast City, Rohloff Straight Bar spec.

ROHLOFF
14sp hub
Straight Bars
26 x 1.6"
Mudguards
NO PEDALS



Weight varies
between
12.1 and 12.6 Kg
depending upon
which frame size
is chosen.

Choice of Colour:- Matt Black or Blood Red

**EVERY tube in the frame is a
THORN 969 tube**
these are cold drawn, seamless,
double butted and heat-treated Cr-Mo
steel tube - which is exclusive to us.



BIKE SPECIFICATION

Includes **RAV853VC FORK**

Top quality sealed headset.

THORN NARROW BARS + ERGON GP5L
grips with integral bar ends.
ROHLOFF SHIFTER.

ROHLOFF HUB your choice of colour.

Deore Black 32h front hub.

Grizzly CSS rims.

Sapim stainless spokes.

26 x 1.6" Schwalbe Supreme folding tyres
with XL tubes.

Wheels built, tensioned and stress
relieved by a master wheel builder.

Shimano Deore brake levers, Deore front
and rear V brakes.

Deore external bearing Chainset inc. BB.
Your choice of chain ring and sprocket.

Thorn Velo saddle

SKS Mudguards.

1 x Profile bottle cage.

Bike assembled with care to a very high
standard and can be set up to suit your
dimensions.

We're very proud of our RAVEN, It
has received many unsolicited letters
of praise from its owners - many of
whom have said that this is the finest
steel frame that they have ever
ridden.

With specific regard to the Thorn Fast City STRAIGHT BAR Spec

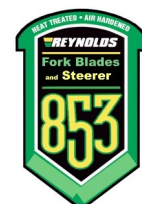
We're delighted to be able to offer
such an affordable, high quality and
lightweight high performance,
Rohloff equipped machine.

The Thorn Fast City **Rohloff** Spec
has a very well balanced mix of
components, with the emphasis
being on excellent braking and sharp
acceleration, combined with
outstanding value for money.
The wheels in particular are of high
quality, being particularly strong and
especially lightweight - but with the

most durable braking surface ever
offered by any rim manufacturer -
perfect for the cut and thrust of city
commuting, or hilly, foul weather
training.

The RAVEN frame has provision for a
rear carrier, it's exceptionally
comfortable, yet still responds
instantly to a burst of power.
The handling is exemplary - it's a
THORN!

I believe the blades used in the
RAV853VC fork are the most
comfortable blades ever offered,
whilst this fork has provision for the
direct fitting of a mudguard, it
doesn't have bosses for a
carrier. The Thorn Fast
City Spec is intended for
high performance,
assertive cycling, with or
without the light to
medium loads that it can
carry so easily.



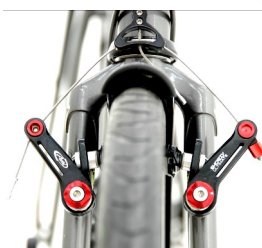
Recipe [D1]

£1779

For S&S add £500

Thorn Club Tour Mk4 Premium All-rounder Drop

30 speed
Drop Bars
700 x 35c
Mudguards
NO PEDALS



Weight, including front and rear carriers, Brooks saddle, Profile cages and mudguards, varies between 14.1 and 14.4 Kg depending upon which frame size and cassette are chosen.

Choice of Colour:- GUNMETAL or R&B

BIKE SPECIFICATION

Includes **THORN ST700 FORK**
Top quality sealed headset.

Thorn drop bars + stem, cork bar tape.
Shimano Tiagra 10sp STI shifters,

Black Shimano Deore front and rear hubs.
MAVIC A719 Touring rims.
DT stainless spokes.
35c Schwalbe Supreme folding tyres.
Wheels built, tensioned and stress relieved by a master wheel builder

Avid Shorty Ultimate canti front brake and
Avid BB7 rear disc brake.
Shimano Deore quality triple chainset
26/36/48 rings

Your choice of cassette

Tiagra front and XT rear derailleurs.

Brooks B17 saddle (Black or Honey)
SKS Mudguards

Tubus Vega Cro-Mo rear carrier and
THORN front Cro-Mo Expedition carrier.
3 x Profile bottle cages

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

EVERY tube in the frame is a Reynolds 725 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo

We're very proud of our Thorn Club Tour Mk4. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Premium All-rounder DROP BAR Spec

We're delighted to be able to offer such a high quality, rugged - yet still relatively lightweight, touring machine. It is capable of being used with care on bridleways, or of completing a 200Km Audax, or of cycle-camping in France for a Month - it's ideal for commuting and helping with the weekly shop. The Thorn PAR Spec has a very well balanced mix of components, with the emphasis being to create a versatile, multi-purpose and affordable machine.

The wheels in particular are of very high quality, being relatively lightweight, yet very strong.

The PAR spec is equipped with front and rear carriers and 3 bottle cages. It's exceptionally comfortable, yet still responds instantly to a bit of wellie.

The handling is exemplary - it's a THORN!

The Thorn ST 700 fork is very comfortable, yet strong enough to carry over 5Kg per side. In this spec, the Club Tour could carry 40Kg in total but would be happier carrying 25Kg.

With regard to owning the PAR Spec Club Tour

Unless it was being used frequently, I would remove the front carrier for day to day use and re-fit it whenever necessary.

REYNOLDS
RTF 7
HEAT TREATED
725
CHROME-MOLY
BUTTED FRAME TUBES
AND STAYS

Recipe [D2]

£1699

For S&S add £500

Thorn Club Tour Mk4 Premium All-rounder Straight Bar spec.

30 speed
Straight Bars
700 x 35c
Mudguards
NO PEDALS

Weight, including front and rear carriers, Brooks saddle, Profile cages and mudguards, varies between 14.1 and 14.4 Kg depending upon which frame size and cassette are chosen.



Choice of Colour:-

BIKE SPECIFICATION

Includes **THORN ST700 FORK**

Top quality sealed headset.

THORN FLAT TRACK BARS + ERGON GP5L grips with integral bar ends.

Shimano Deore Rapidfire pods.

Black Shimano Deore front and rear hubs.

MAVIC A719 Touring rims.

DT stainless spokes.

35c Schwalbe Supreme folding tyres.

Wheels built, tensioned and stress relieved by a master wheel builder

Deore brake levers, Deore front V brake and Avid BB7 rear disc brake.

Shimano Deore quality triple chainset 26/36/48 rings

Your choice of cassette

Deore front and rear derailleurs.

Brooks B17 saddle (Black or Honey)

SKS Mudguards

Tubus Vega Cro-Mo rear carrier and

THORN front Cro-Mo Expedition carrier.

3 x Profile bottle cages

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

EVERY tube in the frame is a Reynolds 725 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo

REYNOLDS
RTF 7
HEAT TREATED
725
CHROME-MOLY
BUTTED FRAME TUBES
AND STAYS

We're very proud of our Thorn Club Tour Mk4. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Premium All-rounder STRAIGHT BAR Spec

We're delighted to be able to offer such a high quality, rugged - yet still relatively lightweight, touring machine. It is capable of being used with care on bridleways, or of completing a 200Km Audax, or of cycle-camping in France for a Month - it's ideal for commuting and helping with the weekly shop.

The Thorn PAR Spec has a very well balanced mix of components, with the emphasis being to create a versatile, multi-purpose and affordable machine.

The wheels in particular are of very high quality, being relatively lightweight, yet very strong.

The PAR spec is equipped with front and rear carriers and 3 bottle cages. It's exceptionally comfortable, yet still responds instantly to a bit of wellie.

The handling is exemplary - it's a THORN!

The Thorn ST 700 fork is very comfortable, yet strong enough to carry over 5Kg per side. In this spec, the Club Tour could carry 40Kg in total but would be happier carrying 25Kg.

With regard to owning the PAR Spec Club Tour

Unless it was being used frequently, I would remove the front carrier for day to day use and re-fit it whenever necessary.

Recipe [D3]

£3199

Thorn Mercury Ultimate all rounder Straight Bar spec.

ROHLOFF
14sp
EX Disc hub
Straight Bars
700 x 35c
Mudguards
NO PEDALS

Weight, including front and rear carriers, Brooks saddle, Profile cages and mudguards, varies between 14.0 and 14.3 Kg depending upon which frame size is chosen.



Choice of Colour:-
GUNMETAL, MATT BLACK,
GREEN RETRO, BLACK RETRO,
WHITE TEAM or SKY BLUE TEAM

BIKE SPECIFICATION

Includes **THORN ST 700 FORK**
Top quality sealed headset.

THORN FLAT TRACK BARS + ERGON GP5L
grips with integral bar ends.
ROHLOFF SHIFTER.

ROHLOFF EX DISC HUB, your choice of colour.

HOPE MONO RS FRONT HUB your choice of colour.

DTSWISS 32h TK540 rims - rim brake front + disc rear.

Sapim stainless spokes.

35c Schwalbe Dureme folding tyres

Wheels built, tensioned and stress relieved by a master wheel builder.

Shimano XT brake levers and XT front V brake with Avid BB7 rear disc brake.

THORN external bearing Chainset inc. BB.
Your choice of chain ring and sprocket.

Brooks B17 saddle (Black or Honey)

SKS Mudguards

Tubus Airy Titanium rear carrier,

Thorn Expedition Cr-Mo front carrier.

3 x Profile bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

The frame tubes are unique to us.
The main triangle is Reynolds 853
and the stays are Reynolds 725



We're very proud of our MERCURY It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Thorn Ultimate All-rounder STRAIGHT BAR Spec

We're delighted to be able to offer such a high quality, rugged - yet still relatively lightweight, touring machine. It is perfectly capable of being used, with care, on bridleways, or of completing a 200Km Audax, or of cycle-camping in France for a Month - it's ideal for commuting and helping with the weekly shop. The Thorn Ultimate All-rounder Spec has a very high quality specification, with the emphasis being to create a versatile, multi-purpose machine, with a long service life.

The wheels in particular are of outstanding high quality, being relatively lightweight, yet very strong. The Ultimate All-rounder Mercury is equipped with a Tubus Airy titanium rear carrier and lo-loaders. It's exceptionally comfortable, yet still responds instantly to a bit of wellie. The handling is exemplary - it's a THORN!

The Thorn ST 700 fork is very comfortable, yet strong enough to carry over 5Kg per side. In this spec, the Mercury could carry 36Kg in total but would be happier carrying 25Kg.

With regard to owning the Ultimate All-rounder Spec Mercury

Unless they were being used frequently, I would remove the front carrier and 3rd cage for day to day use and re-fit them whenever necessary.

Recipe [E1]

£1549

Thorn Sherpa Mk3 Sensible General Touring Drop Bar spec.

30 speed
Drop Bars
26 x 2.0"
Mudguards
NO PEDALS



Weight varies between 13.8 and 14.3 Kg depending upon which frame size and cassette are chosen. Much of this weight is due to the sturdy carriers and the Brooks Saddle.

Choice of Colour:- Matt Black or Blood Red

EVERY tube in the frame is a THORN 969 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube - which is exclusive to us.



BIKE SPECIFICATION

Includes **THORN ST 26 FORK**
Top quality sealed headset.

Thorn drop bars + stem, cork bar tape.
Shimano Dura Ace 10sp bar end shifters.

Shimano Deore front and rear **BLACK** hubs.

Rigida Andra 30 rims.

DT stainless spokes.

26 x 2.0" Schwalbe Dureme folding tyres.
Wheels built, tensioned and stress relieved by a master wheel builder

Tektro drop bar V brake levers and Shimano Deore V brakes.

Shimano Deore quality Chainset 26/36/48

Your choice of 10sp cassette

Deore front and XT rear derailleurs

Brooks B17 saddle (Black or Honey)

SKS Mudguards

Thorn expedition front and rear carriers.
3 x Profile bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

We're very proud of our Sherpa Mk3. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Sensible General Touring DROP BAR Spec

We're delighted to be able to offer such a fine, capable and versatile machine at such a keen price.

The use of ultra long-lasting and reliable bar end shifters allows us to use V brakes with drop bars, which provide outstanding and predictable braking at a sensible price.

The Thorn SGT Spec has a very well balanced mix of components, with the emphasis being on rugged reliability at an affordable price.

The wheels in particular are high quality, very strong and long lasting. The Sherpa Mk3 frame is exceptionally

comfortable, yet still responds instantly to a burst of power.

The handling is exemplary - it's a THORN!

The bike is equipped with 3 profile cages and our awesome Thorn Cro-Mo Expedition front and rear carriers. This bike is ready for a cycle camping trip anywhere in the world. If the bike is not destined to carry home the weekly shop, I'd remove the front Lo-Loaders and the 3rd cage, until such time as they're needed.

The Thorn Sensible General Touring Spec Sherpa is an excellent day to day workhorse and is completely at home on any road surface, smooth or broken, wet or dry, summer or winter.

It makes an excellent rough stuff bike in dry conditions.

It is particularly relaxing to ride on rough country lanes, on the way to the pub on summer evenings.

Recipe [E2]

£1575

Thorn Sherpa Mk3 Sensible General Touring STRAIGHT BAR spec.

30 speed
Straight Bars
26 x 2.0"
Mudguards
NO PEDALS



Weight varies between 14.5 and 14.8 Kg depending upon which frame size and cassette are chosen. Much of this weight is due to the sturdy carriers and the Brooks saddle.

BIKE SPECIFICATION

Includes **THORN ST 26 FORK**

Top quality sealed headset.

Thorn Flat Track bars with Ergon GP5 integral grips and bar ends.

Shimano Deore 10sp Rapidfire shifters.

Shimano Deore front and rear **BLACK** hubs.

Rigida Andra 30 rims.

DT stainless spokes.

26 x 2.0" Schwalbe Dureme folding tyres.

Wheels built, tensioned and stress relieved by a master wheel builder

Deore V brake levers and Deore V brakes.

Shimano Deore quality Chainset 26/36/48

Your choice of 10sp cassette

Deore front and rear derailleurs

Brooks B17 saddle (Black or Honey)

SKS Mudguards

Thorn expedition front and rear carriers.

3 x Profile bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions

EVERY tube in the frame is a THORN 969 tube, these are cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube - which is exclusive to us.



We're very proud of our Sherpa Mk3. It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Sensible General Touring STRAIGHT BAR Spec

We're delighted to be able to offer such a fine, capable and versatile machine at such a keen price.

The Thorn SGT Spec has a very well balanced mix of components, with the emphasis being on rugged reliability at an affordable price.

The wheels in particular are high quality, strong and reasonably lightweight.

The Sherpa Mk3 frame has provision for a rear carrier, it's exceptionally comfortable, yet still responds instantly to a burst of power.

The handling is exemplary - it's a THORN!

The bike is equipped with 3 profile cages and our awesome Thorn Cro-Mo Expedition front and rear carriers. This bike is ready for a cycle camping trip anywhere. If the bike is not destined to carry home the weekly shop, I'd remove the front Lo-Loaders until such time as they're needed.

The Thorn Sensible General Touring Spec Sherpa is an excellent day to day workhorse and is completely at home on any road surface, smooth or broken, wet or dry, summer or winter. It makes an excellent rough stuff bike in dry conditions and, with a change of tyres and some care, it could go anywhere an MTB can go - and carry luggage whilst doing it! It is particularly relaxing to ride on rough country lanes, on the way to the pub on summer evenings.

Recipe [E3]

£2459

Thorn Raven Sensible General Touring Straight Bar spec.

ROHLOFF
14sp hub
Straight Bars
26 x 2.0"
Mudguards
NO PEDALS



Weight varies between 14.6 and 15.1Kg depending upon which frame size is chosen.

Much of this weight is due to the sturdy carriers and the Brooks saddle

Choice of Colour:- Matt Black or Blood Red

BIKE SPECIFICATION

Includes **THORN ST 26 FORK**
Top quality sealed headset.

THORN FLAT TRACK BARS + ERGON
GP5L grips with integral bar ends.
ROHLOFF SHIFTER.

ROHLOFF HUB, your choice of colour.
Shimano Deore front hub, black or silver.
Rigida Zak 19 rims.
Sapim stainless spokes.
26 x 2.0" Schwalbe Dureme folding tyres.
Wheels built, tensioned and stress relieved by a master wheel builder

Shimano Deore brake levers.
Deore front and rear V brakes.
Shimano Deore Chainset.
External bearing BB.

Your choice of chain ring and sprocket

Brooks B17 saddle (Black or Honey)
SKS Mudguards
Thorn expedition front and rear carriers.
3 x Profile bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

EVERY tube in the frame is a THORN 969 tube
these are cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube - which is exclusive to us.



We're very proud of our RAVEN, It has received many unsolicited letters of praise from its owners - many of whom have said that this is the finest steel frame that they have ever ridden.

With specific regard to the Sensible General Touring STRAIGHT BAR Spec

We're delighted to be able to offer such a fine, capable and versatile **ROHLOFF EQUIPPED** machine at such a keen price.

The Thorn SGT Rohloff Spec has a very well balanced mix of components, with the emphasis being on rugged reliability at an affordable price.

The wheels in particular are high quality, strong and reasonably lightweight.

The RAVEN frame has provision for a rear carrier, it's exceptionally comfortable, yet still responds instantly to a burst of power.

The handling is exemplary - it's a THORN!

The bike is equipped with 3 profile cages and our awesome Thorn Cro-Mo Expedition front and rear carriers. This bike is ready for a cycle camping trip anywhere. If the bike is not destined to carry home the weekly shop, I'd remove the front Lo-Loaders until such time as they're needed.

The Thorn Sensible General Touring Spec RAVEN is an excellent day to day workhorse and is completely at home on any road surface, smooth or broken, wet or dry, summer or winter. It makes an excellent rough stuff bike in dry conditions and, with a change of tyres and some care, it could go anywhere an MTB can go - and carry luggage whilst doing it! It is particularly relaxing to ride on rough country lanes, on the way to the pub on summer evenings.



Recipe [F1]

Thorn Nomad Ultimate Expedition Spec.



£2769

For S&S add £500
For Dynohub
+ Edelux add £220

Weight varies between 15.0 and 17.4 Kg depending upon which frame size is chosen, and whether you have S&S, SON dyno, Edelux etc. Much of this weight is also due to the sturdy carriers, rims, tyres and the Brooks saddle.

PLEASE NOTE:-
This bike is shown with S&S, Son and Edelux options and would cost **£3489.**

ROHLOFF
14sp
EX Disc
hub
Straight
Bars
26 x 2.15"
Mudguards
NO PEDALS



Choice of Colour:-
Matt Black or Tonka Yellow

BIKE SPECIFICATION

Includes **THORN NOMAD FORK**
Top quality sealed headset.

THORN FLAT TRACK BARS + ERGON GP5L
grips with integral bar ends.
ROHLOFF SHIFTER.

ROHLOFF EX DISC HUB, your choice of colour.

HOPE MONO RS FRONT HUB your choice of colour.

Rigida Andra rims CSS rear, plain front.
Sapim stainless spokes.

26 x 2.15" Schwalbe Mondial HS428 folding tyres

Wheels built, tensioned and stress relieved by a master wheel builder

XT brake levers.

XT front and rear V brakes.

Shimano Deore EX bearing chainset.

Your choice of chain ring and sprocket

Brooks B17 saddle (Black or Honey)

SKS Mudguards

Thorn expedition front and rear carriers.

3 x Profile bottle cages.

Bike assembled with care to a very high standard and can be set up to suit your dimensions.

EVERY tube in the frame is a THORN 969 tube
these are cold drawn, seamless, double butted and heat-treated Cr-Mo steel tube - which is exclusive to us.



We're very proud of our NOMAD, It has received many unsolicited letters of praise from its owners - many of whom have said that this is the best expedition bike in the world - I'm inclined to agree!

With specific regard to the Ultimate Expedition Spec.

We're delighted to be able to offer this iconic **ROHLOFF EQUIPPED** machine at such a keen price.

The Ultimate Expedition spec uses the most appropriate and high quality parts available. Currently, there is no disc brake suitable for expedition use - if and when one is available, you can retro-fit one at minimal expense - we've specified the bike with a disc compatible hub.

The wheels in particular are super high quality - very strong and super durable. The NOMAD frame is suspension compatible, super tough and can carry all that you could possibly wish.

The handling is exemplary - it's a THORN!

The bike is equipped with 3 profile cages and our awesome Thorn Cro-Mo Expedition front and rear carriers. This bike is ready to load up and ride anywhere. If, between adventures, the bike is being used as a bomb-proof day to day bike, I'd remove the front Lo-Loaders and swap the tyres to 2.0" Duremes

Without mudguards, the Ultimate Expedition Spec Nomad can be fitted with knobbly tyres up to 2.4" and be taken anywhere an MTB can go - and carry full camping kit whilst doing it! It may be totally overbuilt for day to day cycling but it most certainly can do it - as long as you don't expect it to go like a City Spec Raven, you'll be happy.

If the Special Forces ever decide to form a cycling unit, they'd find the perfect machine right here!

Here's a selection of some recent unsolicited customer correspondence, taken from literally hundreds that we've received.



Just to show that the bike is being put to good use, here is me giving it its first serious outing in the St George's Sportive in the Chilterns on Sunday (Bronze Medal finishing time). Really enjoying the new bike, and even love the sound of the Hope hubs :-)
Thanks to you and your colleagues for great service and a great bike.
Brian

Just a quick note, esp. to Andy and Steve, saying how pleased I am with my new Mercury. Only regret I wish I'd owned it twenty years ago. 100km Audax on Exmoor on Sunday, and really the bike was perfect. I have done no adjustments since I picked the bike up.....what more can I say!

James Goodwin

Well! What a service it couldn't get any better.....

Just put the bikes together and they are exactly what we wanted just waiting for panniers now, you've made some one very happy ill be posting on all the sites where I can and recommending you....

Thanks again for a great service Richard, Sarah and the team.

Paul&Mel

Hi Steve

Thank you very much for your help. The clips arrived on Sat and are just the job
The bike is great and everything we hoped for. Your help and attention also has been second to none. Very glad we worked with Thorn and yourself
Kind regards

Simon

Firstly I'd like to thank you for the service Andy gave me at the time of spec'ing and ordering the bike and then to Steve at the time of collection and setup.

The bike has exceeded my expectations, the pictures in the Mega Brochure don't do full justice to the finish. First ride last Sunday, the lanes around here are in poor condition and the steel frame and 28mm tyres gave a noticeably more comfortable ride than my aluminium road bike with 25mm tyres and the disc brakes gave me a lot more confidence on the fast down hill runs. The gear changes were quick, smooth and slick apart from the first fast section downhill followed immediately by an uphill section, the change from 8 to 7 didn't quite go to plan, I know this will soon change with time and practice.

Best Regards,
David Cocks

Hi, may I say how totally delighted I am with my beautiful bicycle! It really is every thing I had hoped it would be. Thank you very much for your friendliness, efficiency and speed of delivery!
Many thanks, Hugh

Dear Steve and Andy,
I just wanted to thank you both for setting up the Raven so well. Since December, I have been pootling around London on 25-30 mile rides, but at the weekend I went on my first proper ride (40 miles) over a Welsh mountain, through snow and ice. The bike was fabulous. I only had to get off and walk once, when an icy 1 in 5 defeated me. Otherwise, it was glorious. I got home without a niggle, no pains anywhere, and comfortable all the way, even on some very bumpy and challenging downhills. Next stop audax?

Best wishes,
Michael Nelson

Hi Steve - April and myself would like to extend our thanks and gratitude to Thorn Cycles, and specifically to yourself, for the time and personal attention you afforded to us on Friday of last week during our visit to view and test the Thorn bikes. We were particularly impressed with the thoroughness with which our visit was treated and the fact that not once did we feel we were being given the 'hard sell'. For us, all the information we were given was pitched at exactly the right level, not too technical, but in sufficient detail to confirm that this particular bike would be the right one for us.

We haven't quite made up our minds yet about whether or not to purchase, after all it's quite an investment by most people's standards (and certainly by ours!), but I should say that we both feel very positive after our visit and we will certainly let you know one way or the other over the next couple of weeks.

Once again, many thanks to yourself and to Thorn Cycles for the very professional, personal and indeed personable service provided to us during our visit.
Best regards
Martyn (Bickerton) & April (Andrews)

Hi Andy

I just wanted to say how pleased I am with the Nomad 590m frameset I bought back in December.

I've been running it with an alfine 8 speed, but it's still a dream to ride.

I think I'm going to have to keep saving my pennies for a few months yet to get a Rohloff. The geometry is great. Just what I wanted and much more, and the transmission of power so positive.

It's always a pleasure to ride. I keep thinking I must send an email to those guys and tell them what a great bike this is.

Anyway thank you for designing such a great bike, and please say thanks to Steve, Sarah, Dave Whittle and anyone else who had to put up with my many emails and phone calls.

Thanks.
Jonny.

"Dear Andy,

Thanks very much indeed for responding so quickly. I expect to be in a position to buy very soon. I have been a cycling enthusiast for over twenty years. A significant proportion of what I know about bikes I owe to you and your various superb brochures over the years. So thank you!

Regards, Mick Day"

Dear All at Thorn Cycles,
It has been my pleasure to become the proud owner of a new Thorn Mercury bicycle with Rohloff hub gears. I bought the cycle approximately 6 weeks ago and after the recommended 1000 km of running in I did the John O'Groats to land's End ride of 1014 miles on it, unsupported with a pannier and bar bag. It is a beautiful machine and functioned absolutely perfectly from day 1. I had no mechanicals and the ride was very comfortable.

Steve did a fab job at recommending what I would need and advising me on the gear ratios when I ordered the bike.

It has so far, been worth every penny.

Thank you for an excellent product and good service.

Pradeep Madhavan

Consultant Spinal Surgeon

Steve,

Just wanted to let you know my bike arrived here in Germany yesterday morning. Of course I've been looking forward to this for a while, but even with already high expectations I've been pleasantly impressed by my first look at the bike. You guys clearly put a lot of care into everything on the bike and I really appreciate it.

Monte

Glen Burmeister

Sep 5th, 7:12pm

Hi. Guinness World Records have recently updated their website and included my record breaking ride from north to south and west to east across the United States. I thought you'd be interested to check out the link below which shows a picture of me with my Thorn Raven Sport Tour; the bike used for my ride. This was the second of three record breaking rides I have completed on the same bike. My first was for the 'Fastest cycle across Europe (North Cape to Tarifa) which earned a place in the 2003 edition of Guinness World records and last year I set a record for 'Most countries visited by bicycle in 7 days' which will be in the new book out next week. You can find a little more information on my website.

www.glenburmeister.com. I still have at least one more huge record breaking ride I hope to achieve next year. As a guy who can just about get by with the most basic mechanical skills, I definitely picked the right bike for the long haul. Apart from regular wear and tear (tyres, brake pads) all I've had is one broken spoke. Thanks. [http://www.guinnessworldrecords.com/records-1000/fastest-cycle-across-the-usa-\(n-s-and-e-w\)/](http://www.guinnessworldrecords.com/records-1000/fastest-cycle-across-the-usa-(n-s-and-e-w)/)

Hi,

I came down to Bridgwater yesterday (Friday) with a friend and we spent the day looking at and riding your bikes. My purpose in writing is to say a big thank you to Stephen (our nominated salesperson) who was fabulous and extremely helpful. The bikes were excellent and the problem now is deciding which one - we currently both like different models and are going round in circles having the same conversations trying to decide what to do.

Please pass on my thanks to Stephen and let 'the boss' know what a great employee he has.

Many thanks,

Peter Sear=

Cycle Active Magazine Summer 2012.

Our Mercury, in what we would call “Drop bar grand touring spec” was tested against a Koga Signature Randonneur and a Dawes Ultra Galaxy.

The Mercury won the test scoring the following out of 20:-
Comfort 19, Value 18, Handling 19, Wow Factor 20, Build Quality 20 giving a total of 96 out of 100.

For the record the Dawes Ultra Galaxy scored 89 out of 100.

Cycle Active's Chris Catchpole summed up by saying:-



"The Thorn wins the test, and if I could afford it, it'd be the first thing on my shopping list for my next tour. The Rohloff hub is everything you ever need in gearing; easy-to-use, tough and reliable. The reason the Thorn takes it is simply because it is on another level. It's design is the result of years of touring expertise. It has some really special little features, like the mini-eccentric bottom bracket, and the Gilles Berthoud shifter and the whole bike feels hand-crafted. It's built out of passion and love, and it's the bike I returned to the most often."

When I finally cycle around the world, the Thorn Mercury will be my choice."

Thorn Club Tour Review.

Cycle Active Magazine October 2014.

Our Club Tour, in the same spec as recipe [B1] (except it had a Ti rear carrier) was tested against 3 other bikes aimed at the fast touring market. Ridgeback flight 03, Surly Straggler and Condor Fratello.



The Club Tour won the test scoring the following out of 20:- Specification level 19, Build Quality 20, Road handling 19, Ride comfort 20, Value for money 18 giving a total of 96 out of 100. For the record, the Surly scored 84.

Cycle Active's Chris Catchpole summed up by saying:-

“By virtue of being a brilliant fast touring bike, the Thorn is also the

best “lightweight touring” option in this test. If we look at the things that a lightweight touring bike should have, the Club Tour has them in abundance. It’s comfortable, easily carries weight, has mounts for all kinds of accessories, and can take tyres up to 40c, should you need to handle varying terrain. The steel frame is sublimely comfortable and there’s endless adjustment at the front end for rider comfort. Touring specialist Thorn, a real expert in this field, can steer you kindly towards whatever it is you need - or simply crave.”

NOTES on the WEIGHTS of our BIKES.

**The weights that I've given are accurate!
This makes us almost unique in the cycle trade.**

Most other manufacture's weights are a joke - it's commonplace to provide a super lightweight but uncomfortable saddle, to weigh the smallest size bike and then to magically lose a whole Kilo from the actual weight. Of course we resisted the temptation to follow suit - two wrongs do not make a right.

Our frames are not particularly lightweight but the tubes are the lightest gauge we dare use, considering the use we expect each model to be put to - and still give a lifetime frame and fork warranty.

All our bikes (except recipe A3) come with mudguards, which add at least 540g.

Brooks B17 saddles weigh 530g.

The Vega carrier weighs 510g.

The Thorn Expedition carrier weighs 850g.

Thorn Mk4 Lo- loaders weigh 560g.

UNIQUE

The logo for THORN is displayed in a large, bold, black oval. The word "THORN" is written in white, uppercase, sans-serif letters. The letter "O" is filled with a solid red color.

PLEDGE

All of our bikes have a frame warranty for the lifetime of the original purchaser.

We also offer Money back guarantees of satisfaction.



Buy a **Thorn Rohloff equipped bike**, ride it for 100 days and, if you're not totally delighted, return it to us either in person, or safely packaged in a Thorn bike box. We will refund you the purchase price of the bike including any or all **UPGRADES** found in **PART2** of the **MEGA BROCHURE**.

This offer does not include pedals, tools or accessories.

**This offer applies to complete bike sales
and to EU customers only*.**



Buy a **Thorn derailleur equipped bike**, ride it for **14 days** and, if you're not totally delighted, return it to us, either in person or safely packaged in a Thorn bike box, we will refund the purchase price of the bike, including any or all **UPGRADES found in PART2 of the MEGA BROCHURE.**

**This offer does not include pedals, tools or accessories.
This offer applies to complete bike sales and to EU customers only*.**

* The Money back guarantees can also apply to Customers outside the EU but only upon the strict understanding that they **must return the bike in person**. Otherwise we would end up paying import duty on the returned machine!