



# THORN NOMAD MK2 + MK2 S&S

*These bikes are designed specifically for use with the*

*Rohloff EX hub*

Issue 12 Jan 2012

**Includes the new "X" series NOMAD sizes and disc and suspension options.**

Prices may change at any time and we do not wish to waste resources; consequently the prices, in printed copies of this brochure may no longer be correct. The current prices, given in the on line brochure, are correct and will always be honoured.

Photo courtesy of [www.davidmyersphotography.com](http://www.davidmyersphotography.com)



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

*The ultimate,  
yet affordable,  
Rohloff  
equipped  
expedition  
touring  
bike.*



## THORN EXPEDITION TOURING BIKES

# 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 australian 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

(2) Robin 2007

(3) Andy 2007

## Steel is real

**High quality steel is the best possible material for a strong, comfortable, well equipped, long lasting frame...** all our bikes are high quality **heat treated steel**... we would not wish to build our bikes with anything else and we would not wish to use anything else for our own cycling!

**The final heat treatment process can double the cost of a steel cycle tube.** Heat treatment significantly raises the UTS (ultimate tensile strength) which makes the tubes stronger and more resistant to cracking, it also makes the tubes more resistant to denting. It also greatly enhances steel's much talked of and easy to notice but hard to describe quality of "resilience". Because heat treatment is so expensive, the steel tubes used in most cycles are not heat treated. If a frame doesn't say "heat treated", you can be certain that the tubes won't be.

**All the tubes used in Thorn frames are heat treated.**

**Cheap (thick-walled) aluminium frames** are strong enough, they could have the fittings required on a touring bike but they are heavy and very uncomfortable.

**Expensive (thin walled) aluminium 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...You recycle it into bottle tops!

**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 (especially) if somebody else was paying for it! It is difficult to manufacture a carbon frame with 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, mega heavy alloy seat post-fitting (seat post breaking?) carriers with loads being carried, which are too high and too far back for stability...or I see no provision for luggage at all, with the rider looking like a cricket umpire, clothing tied around their waist...how cool is that...in both senses of the word?

I also frequently see the dangers and difficulties associated with toe overlap.

**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,

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*You couldn't have these fittings on an alloy or titanium frame*



high quality steel frame, you have to use considerably more volume of material, which does not give that much of a weight saving! Many customers however want a weight saving with a Ti frame and they end up with a frame which is not stiff enough...this not only wastes energy...it can give a scary ride down steep hills!

Much of the titanium used today is not only of a very low grade but it is also "plain gauge" material, that is, it is not butted at all! If low grade steel frames can be nicknamed "gas pipe", perhaps these tubes should be called "nuclear reactor cooling pipe". Such tubes may be an improvement on "gas pipe" steel but they are far inferior to top quality steel, unless, of course, they are actually being used in a reactor! They remind me of the story of "the Emperor's new clothes".

It is either impossible or extremely expensive to have the required fittings on a high quality butted Ti frame and furthermore, all such titanium frames, that we have known, have also broken! It is usually impossible to repair a cracked titanium frame. Perhaps there are some proper titanium frames, being made today, or which may be made in the future, that won't break...but we doubt it. We certainly wouldn't want to risk such a huge sum of 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.



**Steel is real!**

*I sincerely hope that you enjoy reading the Nomad Mk2 Brochure, it's been a labour of love. I also hope that you will realise that the attention to detail, in this brochure, is indicative of the attention to detail that has been incorporated into the Mk2's design and development...which was also a labour of love and first hand experience!*

*These are not "blue sky" concept bikes, 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*

*cost 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!*

*If you have dreams of exploring our planet by bicycle, the Nomad Mk2 will enable you to fulfil your dream, upon the perfect machine, with the least possible chance of experiencing a mechanical failure.*

*Andy Blance Aug 2011*

**The Nomad name.**

The original Thorn Nomad was a ground breaking, derailleur geared, touring bike, which we produced between 1996 and 2004, it rapidly became the machine of choice for a great many expedition touring cyclists. It would be hard to find a corner of the world that has not been visited by one of our Nomads!

The Nomad had great strength and beautifully neutral handling, when heavily loaded. It was also very affordable!

Within a very short space of time, thousands of websites contained references to our bike. It was and still is, a much loved and highly regarded bike!

In 2002 I began to develop an expedition touring bike, which was designed, from the BB up, to use a Rohloff Speedhub. From our very first tour, Fiona and I realised that everything else was now out of date and that we never wished to have to use derailleur gears again!

The poor old derailleur Nomad's number was up. I knew that we wouldn't want to produce such a bike for much longer but I most certainly **did** want to keep the name!

**The process of development continued and, several years and several prototypes later, I genuinely felt that it would be impossible to make a better bike...I had the ultimate, field tested design for an expedition touring bike and now all I had to do was to somehow make it affordable!**

In order to do this, I contacted the finest frame builder in Taiwan once again.

These people make the top end models of some very famous American brands!

The first time Robin and I actually met them was at Eurobike, our builders explained that they had to send the frames with a little sticker saying "Made in Taiwan" but it could easily be removed and that is what the American companies did. I told them that they came very highly recommended and that I wanted our "hand-built in Taiwan" decal applied beneath the lacquer, where it couldn't be removed. There was a silence as what I'd said was translated to the others. Then they looked at each other, nodded and then their faces light up with a smile,

they all stood up and bowed and shook our hands. I still get a warm feeling when I re-live that meeting and I can attribute it to their willingness to make certain that we get all the minor details that we want. Such as having all the blow holes filled in. (These small holes are necessary when manufacturing the frame, to avoid exploding tubes!) yet they can let water in. I believe that these holes are still present in all the Americans' frames!

Crashing down rocky trails, with huge loads or being thrown around by baggage handlers, is a sure way to test robustness and durability to their limits. There is no substitute for tube wall thickness, in these circumstances.

What would be the point of having an expedition frame built with tubes, which would lose all their structural integrity, once they had a big dent in them?



Andy Blance, on a prototype Nomad complete with his share of full camping kit and a cuddly toy.

**The Nomad name lives on.**

We re-introduced our "famous name", and the first Thorn Raven Nomad made its debut in 2007. The first batches were all equipped with S&S couplings and they were not designed for use with front suspension. These sold very well and the bikes proved themselves to be very robust and very durable.

Some people say that the bikes are heavy but I have had no complaints from any

customer, who was looking for a true expedition touring bike.

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**WARNING!**

The Standard Oversized Nomad Mk2 frames weigh around 3Kg but, considering their immense strength, they are indeed exceptionally light in weight!

However, they are still heavy bikes, especially with 2" tyres and expedition rims. Whilst they can be used for general

commuting between trips and whilst they are quite happy to lope along, they take considerable energy to accelerate briskly and will not suit macho types, who hate being overtaken by any other cyclist!

The X series frames are 500g lighter and, with lighter rims and narrower tyres, they feel considerably quicker on the road. **BUT NOTE: The larger sizes of X series frames particularly, are not and were never intended to be, EXPEDITION BIKES!**

# Please read these 2 pages carefully. Your choice of bar determines which frame size you need.

**If you are cycling in any country and you see a loaded touring bike coming towards you, with drop handlebars, it is almost certain that the rider is from the UK or California.**

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

**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".

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

## 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 bar**, this is 515mm wide, 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 road use with our Rohloff equipped bikes.**

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**Bar ends** are available in many different configurations and materials, the rubber covered, "ergo control" bar ends are the most comfortable that I have used. Bar ends are biomechanically efficient particularly when climbing out of the saddle.



**We find that we change gear about 3 times more frequently on a Rohloff bike, than with derailleurs...it is so easy!**



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, mountainbiking 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)



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-oriens 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.

**Thorn Flat Track bars** I have recently designed these new 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 black and 640mm wide. They have a numbered scale etched every 5mm into both ends of the bar, to facilitate shortening them to individual requirements.

**640mm wide bars are a good starting point on Nomads which will travel off road.**

**If you never plan to ride off road, it is very likely that 640mm bars will be much too wide.**

Whilst it's easy to cut the bars shorter after you purchase the bike; If you know that you'll want them narrower, ask for this when you order...then the cables will not be longer than they need to be.

**UPDATE:- Many customers have had Flat Track bars fitted to their Nomads and the feedback is very positive.**



**Thorn Comfort bars** were developed by us with input from a senior physiotherapist. They offer one supremely comfortable position (especially when used with Ergon grips). The reason that these bars are so comfortable is that they have an 18 degree bend, which puts the wrists into perfect alignment with the forearm and thence the elbow. The reason that there is only one position available, is that the bends, which are necessary to achieve this position (and also to dampen out much road vibration) take up a lot of the room and there is not physically enough room to fit bar ends and average sized hands, onto the straight section. Comfort bars are 620mm wide and available in polished or black. In my opinion, these bars are the perfect width for the "hands on the grips position" but are already too wide for sensible positioning of bar ends and to make them even wider, in order to fit bar ends, would not be efficient.

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

They also "sweep back" around 45mm which means that they need a much longer stem than that which would be used, to get the same reach, with 5 degree "straight bars."



**Thorn Flat track bars. Triple butted AL7075**

The scales on both ends of these bars makes it easy to cut them to your preferred width. They can be any width between 640mm and 480mm.

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



**Butterfly bars**  
(Modolo Yuma bars)

**“Butterfly” bars** are very popular in Northern Europe, which is blessed with an abundance of high quality, flat cycle paths and also with drivers who have a courteous attitude towards

cyclists. 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. If you ride, for any distance, with the outside of your hands pressing against the inside curve of these bars, you will find it very uncomfortable.

In heavy traffic, the narrow position offered, when covering the brakes, cannot be used to advantage, when filtering through slow moving or stationary vehicles, because the overall width of these bars is very wide. On loose, greasy or icy surfaces a bike is much easier to control if it has wide bars but with these bars, the brakes can only be reached from the narrow position.

Butterfly bars are made from a very long length of tubing and 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) the flexing of the bars becomes alarming; yet you must hold them here, **because, yet again this is where the brakes are!**

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 riders 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 around 60 to 70mm, when moving from straights to drops on the same frame. 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 30 to 60mm. This is far from ideal.

**The choice of bar affects frame design and vice-versa.**

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!

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

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

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!

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

**\*\*\*\*\* NOTE \*\*\*\*\***

**It’s unlikely that Nomad frames will be suitable for very relaxed positions with drop bars. Sporty positions are achievable with drop bars, which may be suitable for “road only” Nomad bike builds.**

**Rohloff only manufacture one type of shifter...a twist grip which only fits onto 22.2mm dia. bars. 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.**



**The Rohloff shifter is round in section, it is easy to grip and rotate. The indexing of the Rohloff hub takes place within the hub and the shifter is very easily turned.**

The Rohloff shifter is normally fitted to the RHS but you can request it to be fitted to the LHS...PLEASE MAKE THIS VERY CLEAR WHEN

**ORDERING THE BIKE.**

We fit Herrmans grips as standard equipment but the upgrade to Ergon GP1-L grips is very highly recommended.

**All drop bars are 23.4mm in diameter, irrespective of the diameter of the centre swell;** whereas all straight bars are 22.2mm in diameter.

**Recently, the French engineer, Gilles Berthoud has introduced a shifter which will work on drop bars.**

This shifter is manufactured in 3 sections, which can be manoeuvred around the bends of drop bars and assembled in situ. Gilles worked in close collaboration with Rohloff, who have given their approval for its use.

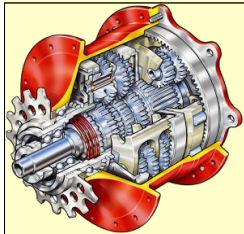


## Wheels.

### Rohloff EX box Hub

The Nomad Mk2 (and Rohloff eXp) frames are designed to have the perfect cable routing for the Rohloff EX hub.

The EX hub uses continuous outer casing from the shifter to the external cable box (EX box) at the hub. The most direct line, with the fewest bends, runs from the shifter under the bottom bracket (BB), along the underside of the left chainstay, to the EX box.



This is the route that I have chosen for the gear cables on the Mk2 frames. The standard frame uses 7 of our own cast stainless double cable guides (5 under the down tube and 2 under the chainstay) to route the cables in a tidy manner. The S&S option uses a set of 3 "J" shaped guides, in place of the 2 double guides under the chainstay; these allow quick and easy detachment of the cables, when uncoupling the frame. Tidy routing prolongs the service life of the cables and provides a smoother shift. I insisted that we use stainless, because it is inevitable that the cables will chafe through the paint in the guides. Plain steel guides will rust and the rust will then spread under the paint, beyond the guides. We expect the Nomad Mk2 to spend many nights outside.



We got Rohloff to make us a special axle plate for our tandems, which allows the EX box to point slightly downwards, when used with our dropouts. This means that water does not run down the outer casing of the cables into the box and, if the box is submerged, water can run out. This axle plate also enhances cable routing. We now equip all our EX box bikes with this axle plate. The EX hub is available in polished alloy, in a black architectural quality anodised finish or anodised red. The polished hubs will eventually go a dull grey and if subjected to salt water may produce a white oxide on the surface. This will not affect performance, unless really neglected but you may be upset that what once looked good, now looks grey and furry. (I feel the same when I look in the mirror). The black hubs and the red hubs will stay black (or red). Hard anodising of this quality is an additional and expensive process, therefore the black or red hubs cost more than the polished hubs.

The EX box is also available with 4 threaded bosses to mount a disc brake's rotor. These add slightly to the weight and also to the cost. Whilst there are no disc brakes available, at present, which we would use for our touring, things may change. You can therefore "future proof" your hub, by choosing this option, when you purchase your bike. All 6 combinations are offered and they can be found on page 24 of this brochure.

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### Rims

We have decided upon 2 different rims to offer with the Nomad Mk2.

We offer the choice of the expedition quality **Rigida Andra 30** rim or the middleweight **Rigida Zac 19** rim. These rims are black anodised and the Andra 30 has the option of having a super hard tungsten carbide brake surface (CSS).

#### The Andra 30 rim

These are our preferred choice for most Mk2 bike specifications, they build into the strongest wheels that we have ever sold. They stand up to tandem expeditions. The Rohloff hub has a very large flange diameter, which means that the spokes are at a more acute angle to the rim. Most builders do nothing to prevent the spokes from bending, as they enter the nipple, at the rim. In time spoke in their wheels will certainly break. We have the rear rim specially drilled for Rohloff hubs, the spoke holes are angled, so that the nipple protrudes through the rim in perfect line with the spokes.

The Andra 30 is not as heavy as our, previously favoured, expedition rim, the Sun Rhyno but the alloy is tougher and even the non CSS rims last a long time.

### Andra 30 with CSS brake surface

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! At this speed of impact, it fuses with the aluminium. The brake surface is ground smooth and the rim is ready for a really long and hard life. There is only one downside, apart from the extra cost; these rims, particularly the front, can make the brakes squeal with an ear splitting intensity. In a short time, this 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. You need specific brake pads for CSS rims. These are included in the upgrade price if you choose this option.

### Lightweight rim option.

Lighter weight rims can make a huge difference to how quickly you can accelerate a wheel. This is as noticeable when the gradient of a climb changes, as it is when pulling away from a standstill. The Rigida ZAC 19 rims weigh 500g and they have the advantage of having double eyelets, which means that they build into strong wheels. For some applications these 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 may only use their Nomad 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, then perhaps move on to a new base camp. (Fiona and I also enjoy these methods of cycle touring too.) If this is what you seek and, as long as you are not exceptionally heavy yourself, you will be delighted by the extra zip that lighter wheels, tyres and tubes can offer you.

**Do please note that these rims would be a big mistake on a bike destined for expedition touring.**

### Sapim stainless DB spokes.

We only use the finest double butted spokes when we build your Rohloff 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.**

### 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 by 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...the rim could explode and you could lose your eyes. The trouble is that in some countries only tubes with a Schrader valve are available. This 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 don't want to rely on using such tubes. The best advice is to take 2 spare high quality presta tubes, plenty of patches and 2 tubes of rubber solution. Fiona and I get almost no punctures but, when we do, I always repair the tube and re-use it straight away...unless it is dark or raining...in which case I use one of the spare tubes and mend the punctured tube when it is more convenient. If you take my advice I believe that you will have few problems. I am equally sure you will have problems with Schrader valves, if you don't. If you are cursed by bad luck, you can always have your rims drilled locally for locally available tubes...it only needs an 8.5mm drill bit run through the valve hole.

## Tyre pressures...

### ...PLEASE READ THIS!

26" TYRE SIZE	MAX PSI	
	FRONT	REAR
1.35"	72	80
1.50"	63	70
1.60"	55	62
1.75"	50	58
2.10"	40	45
2.25"	38	42
2.35"	32	37

Tyres have a maximum and a minimum recommended pressure; you should consider the implications of different pressures. Please look at our tyre pressure matrix on the left. Pressure is in pounds per square inch and there are lots of square inches in a fat carcass! The REAR pressures are the maximum

pressures that you should ever put into various width tyres. I've found that my bikes handle best, when the front tyre is at a slightly lower pressure than the rear.

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

**SUCH PRESSURES WILL CAUSE THE RIM TO FAIL! YOU'VE BEEN WARNED!**

At the above maximum pressure, the tyre is less able to squirm around on the rim 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 are going? Tyres running lower pressures are usually much more comfortable to ride.

## Tyres

**Tyres make more difference to the way a bike goes and feels, than anything that I can do with frame tubes or frame geometry. There is no "best tyre", just best for a specific purpose. During my years of cycling I have used many different tyres for different purposes.**

### Schwalbe Marathon EX



Fiona and I have recently returned from a tour in Uruguay, Argentina and Chile. We belted across the flat pampas and climbed the pre-cordilleras on pretty good roads, until we reached the Andes, where the roads rapidly deteriorated into Ripio. We used the new **Schwalbe Marathon EX 2.25"** tyres on this trip. EX tyres are exceptionally lightweight at a mere 650g, unfortunately much of the weight saving has been achieved by using new generation materials for the carcass, especially the side walls. We had no problem with the structural integrity of the new carcass, except that it resulted in the tyre rolling on the rim during cornering with heavy loads. Since then we have tried these tyres with thick heavy downhill tubes and we are much happier with their performance. The extra 100g of rubber makes a big difference. The trouble is that such tubes are only available with Schrader valves. If you need 2.25" tyres and our experience is that, when cycling in loose surfaces, you most certainly do, these are the best currently available.

Fiona and I have used **1.75" Panaracer Pasela Tourguard** tyres on our tandem and we still have them on our heavy touring bikes (see pages 14 and 15). They are lightweight tyres, which excel on smooth tarmac and bumpy country lanes. They are deceptively quick. Thanks to their really supple sidewalls they are very comfortable. They have even



Pasela

been on some dry tracks over the Quantocks, which are normally the preserve of MTBs. I would certainly use them on an extended tour of Europe or the USA, as long as I planned to stick to the tarmac. We did use them on a tour of Western Australia, which involved hundreds of miles on gravel roads. We managed to avoid falling off, even when the "gravel" was marble sized pebbles but that was despite the tyres not because of them! The Paselas would be hell on the ripio and I'd never choose to take them to Africa or the Himalayas. We also use the **1.5" Panaracer Pasela** tyres on



Supreme

our Sport Tours, which we use as Audax bikes. We get some benefit from the reduced weight but the Nomad Mk2 frames are necessarily stiff and rigid and these tyres would be less comfortable and efficient on all but the smoothest surfaces.

Fi and I have been using the **1.6" Marathon Supreme** on our tandem for Audax rides and we find it very quick and adequately comfortable. In my opinion, a "Pan Euro, B road, 3 season, cycle camping and pass storming Nomad" would be perfectly shod, with these tyres.

We've used **2.0" Schwalbe Marathon Supreme** tyres in India, on tarmac which varied from smooth to very broken and they were truly excellent. They were remarkably quick, comfortable and grippy but they could be deadly in any loose, or slippery, off road situation. If you only cycle on sealed roads, these are probably the ultimate tyre for heavy loads and long distances.

The new **2.0" Schwalbe Marathon Dureme** tyre weighs 590g and may be a better option than the EX tyres, or the Supremes, because it appears to be a very good all rounder. The Dureme is not as good as the EX on really rough (or slippery) tracks and it is certainly not as fast as the 2.0" Supreme on good surfaces. It doesn't corner as well as a Supreme on dry roads but it is better than either the EX or the Supreme on wet and greasy tarmac. It is not as good as the correct choice of EX or Supreme in specific situations but **that is the point of being a "Jack of all Trades"**.

I am not a fan of the 1.75" Schwalbe Marathon Plus Smart guard tyre...it isn't fat enough to be comfortable and simply feels dead and heavy. It has its uses though. I had to concede that if I was travelling on glass strewn routes, through dodgy areas of certain cities, I may feel that risking a puncture, was also risking a mugging. There is no more reliable tyre than the Marathon Plus but faced with the situation above, I'd look for another route, even if it was an extended loop!

**Conventional steel bead or folding?**

All of my tyres have folding beads, they save 70g per wheel. I'd never worry about carrying an extra 140g of water but I do notice rotating weight and the steel bead offers no advantage at all, except to my bank account.

I used to hate seeing a new Nomad S&S leave the shop, with the heavy (890g) Marathon XR tyres on it, even though these were the best tyres we'd ever used on our big trips. I knew how much they sap performance on a smooth road, without a load, which is where the bike was about to make a first impression on its new owner.

That impression would be entirely different if the bike had 1.75" Pasela tyres. First impressions count and it takes time (or a rough road and a heavy load!) to create a better one.

**Spare tyres**

All the tyres that we recommend are highly reliable, for most trips you should not need to carry a spare. If your trip is an epic adventure, you may wish to consider what you will do when you wear your tyres out. Swapping front to rear, every few thousand miles, will help get the maximum life from the tyres. Some



Dureme



Marathon plus Smart guard

trips may be so long that even this will not suffice. You must then decide whether you will carry your next tyres with you, whether you can purchase new tyres, of suitable quality, en-route or whether it is best to rendezvous with new tyres at a pre-arranged point.

26" tyres, to fit the Nomad, will be available in every country in the world but some of the tyres you will find will not last long with heavy loads...they will enable you to keep cycling until you can arrange something better though. **Unforeseen events can occur and then we all have 20:20 hindsight.**

A 1.75" folding Pasela tyre weighs 430g and takes up little space...it makes an excellent spare for most situations. You will find it for sale in the accessory pages.

If your bike is equipped with 2.25 tyres you may wish to carry a Schwalbe Furious Fred 2.25" folding racing MTB tyre. This only weighs 395g! It packs down to an exceptionally small size and I'd feel confident that it would give me 1000+ miles of service, as a front tyre, this could mean swapping your undamaged front tyre to the rear. I consider this tyre to be the ultimate emergency spare, for use when you really don't expect to need a spare but would be in serious trouble if you didn't have one. This tyre is also in the accessory pages.

**My recommendation for tyres.**

Unless I knew about a specific trip you were contemplating, I'd recommend that you purchase the Nomad Mk2 with 1.75" Pasela tyres and choose 45mm mudguards. I'd also advise you to buy a pair of 2.25" Marathon EX tyres (and fatter tubes) and fit these for big trips, after removing the mudguards. Mudguards don't travel well. They also mean that it is difficult to reduce the size of the bike. When on big trips, I've used an Ortlieb dry bag fitted along the length of the carrier as a very effective rear mudguard, which has invariably kept the insert in my shorts dry. The combination of "Crud Catcher" and that necessary evil, the bar bag, has always prevented muck from getting in my eyes or teeth. In very specific situations, where only sealed tarmac roads are to be used, the 1.6 Marathon Supreme could be the ultimate tyre for your Mk2 Nomad.



## “V” brakes Vs Hydraulic discs.

There is no doubt that hydraulic disc brakes are preferable to V brakes in the deep, muddy conditions often found in UK mountainbiking. They are, however, very easily damaged (especially 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 will not even turn! Don’t compare the 8 to 10mm thick, cast rotors, found on modern cars and motorcycles, with the 2mm thick, stainless steel plate, rotors found on bicycles.

**For every day use and for touring, we prefer the simplicity, ruggedness and ease of maintenance of V brakes. We even prefer the “feel” of top quality V brakes. We have rims available, with a tungsten carbide braking surface, which provides fantastic braking combined with exceptional longevity.**

## Please don’t ask for a disc brake on steel forks, we simply won’t do it!

We use raked blades, these are exceptionally comfortable, they will withstand the forces of cycling (and have done so for generations) but raked forks will not withstand the forces generated by a disc brake, which are very different to the forces generated by V brakes, even at the same rate of retardation. We have seen 3 ways that other manufacturers have “accomplished” this, they all seem stupid to us

- (1) We have had customers complain that a well known custom builder’s raked steel forks have permanently bent under braking.
- (2) We have seen hideously uncomfortable, thick walled, straight blades used by another manufacturer, these forks don’t fail, but I expect that an owner’s hands and elbows soon would!
- (3) The most ridiculous “solution” of all, is a heavy left blade and lighter right blade. The different elastic properties (isn’t that supposed to be the point?) and therefore the axle must twist, when a bump is hit. If the axle twists, then so must the front wheel. If the front wheel twists, then the bike consequently alters course.

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

**Why compromise comfort and safety, in order to fit a brake, which is not the most suitable choice, in the conditions that the steel fork will be used in?**



## V Brakes

Choosing your brakes with “straight” bars is easy. The new Shimano Deore brakes now come with cartridge shoes. They have nice levers and they are very powerful. They are also very well made. I wish we had brakes like this

20 years ago! There is no point in spending any more money than this on brakes, unless you can make the quantum leap, in terms of price, to the XTR brakes.

**XTR V brakes** are beautiful objects to behold but their real beauty is in the way they function. The parallelogram mechanism maintains the same angle of attack on the rim. You can go from a new pad to a worn out pad without adjusting anything, other than the cable adjuster on the lever. You simply screw this adjuster back in, slide out the old pads, install the new ones and away you go again, without any more adjustment, simple.

The XTR brakes wear the pads out evenly too, other brakes wear the pads at an angle and the pad are scrap when they still have half the material left. Shimano tried using this technology on less expensive models but, without Shimano’s top level of engineering inside, these brakes became scrap very quickly. The parallelogram mechanism needs this level of engineering to be viable. Each calliper pivots on an adjustable,

replaceable bearing, which is sealed from the elements. There’s a similar bearing in the levers as well. These bearings make the



XTR V brakes exceptionally smooth and light to operate. XTR brakes are not actually more powerful than



new Deore brakes. A robot, equipped with an ABS sensor could stop just as quickly with either brake. You could lock either wheel with either brake, both the Deore and XTR brakes are powerful enough to do this in the dry. But the XTR brakes have so much more modulation (“feel”) that they allow you to get very close to the point of locking the wheel, without locking it. Are they worth the money? It depends upon the way you ride your bike and how deep your pockets are.

## Brakes for “drop bar” options.

If you choose the **origin8 propulsion “drop bar” bar ends**, (see pages 5 and 21) you must fit **Tektro drop bar V brake levers**.

If you choose to fit the **Thorn Lo-Pro Bar ends** (see pages 5 and 21) and you decide to mount brake levers to them, you must again 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.**



## Cranksets and Crank lengths.

**A crank is simply a lever. A lever to which you attach the chainring 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 more of a bend in them, when the crank is vertical and you are 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 is important to make sure that you 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 chainset rarely offer 165mm cranks. They use the premium chainset 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 chainrings, 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 sp cassette!

With Rohloff gears, you can sidestep this madness altogether, you simply need one long lasting chainring! 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 could not get 180mm cranks made and, if you have exceptionally long legs, you will benefit greatly from using this length. The best option for 180mm cranks is to have Shimano XT cranks. Customers with very short legs should choose 160mm cranks.

Our cranks use a “conventional square taper” BB unit. Once upon a time, fantastic quality BB units were available at reasonable prices. Nowadays we can only get “good quality” at a reasonable price. There are still some fantastic quality BB units available but they are now fantastic in price too. When a BB unit become worn out, it creaks and squeaks, I’ve never heard of one failing in the sense that it stops working. Believe me, your BB will let you know when it needs replacing. If that is in the third world, don’t worry, the 2 degree

square taper design has been around for years and has made it across the globe. My bet is that it will still be available, when the current obsession with oversized axles, is a distant memory. Why do we “need” an oversized axle? Did Eddy Merckx ever complain that he was losing power because his BB axle was flexing? I wouldn’t mind the oversized axle, if the bearings were still as big as they used to be. Of course we also offer Shimano’s external bearing cranks and you may choose these if you prefer. Crank choices can be seen on page 22

## Chainrings.

We have had 3 complete ranges of chainrings 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 own cranks and Shimano (and other) MTB cranks of the 80’s and 90’s. We also have 104bcd rings, which fit the later Shimano cranks and the current external bearing MTB cranks.

In addition we had rings made for Shimano’s 130bcd road chainsets but these are not as sensible an option, on an expedition bike, as the others.

Our chainrings are made from 7075 series aerospace alloy. You could not find better! They are 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. 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 used 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.



11th gear on the Rohloff is 1:1 direct drive. Therefore if you divide chainring teeth by sprocket teeth and multiply by the wheel size 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 chainring 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 chainset 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 chainset 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

$50/12 \times 27 = 112.5"$

You can have pretty much whatever gearing you require but top will always be 526% higher than bottom.

**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 is 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.

If you are 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...**gear low, 40 x 17** is low.

If you are 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 do this, no matter how ill you may feel...my advice is, **gear even lower!**

**It really doesn't matter if you get the gearing wrong, when you buy the bike; it is very easy and relatively inexpensive to raise or lower the gearing.**

**We like to send our bikes out with a 17t sprocket because the chain will last longer than if you use a 16t sprocket and much longer than if you choose a 15t sprocket!**

**Saddles**

**There is one question which I can never answer, "which is the most comfortable saddle?"**

It would be so easy if somebody made a saddle which was the most comfortable for everybody, but nobody does! And nobody ever will! We are all different in that area. 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 have yet to meet the person, who is happy to ride on one, for any great distance.

We sit on a part of our pelvis called the **ischial tuberosities** (sit bones). To protect the overlying muscle and skin from pressure, the ischial 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. The bursic 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 bursas can become painfully inflamed, (bursitis).

**Men's Velo**



**Brooks B17 Hon-**



**Women's Velo**

With a gel saddle, your bones sink further and further into the gel and you end up supporting your weight on the soft tissue. 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 part of your anatomy, which is 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 friend for a very long time.**



**San Marco Rolls Classic**



**Why are women's saddles shorter than men's?**

I asked Fiona, who is a senior physiotherapist, she could offer no explanation. Nobody could offer an explanation. Eventually I realised; in Holland it was once commonplace for women to ride in cycling skirts. Their bikes were typically short in the top tube and, when they dismounted, their skirts got hitched up on the saddles, so somebody invented the shortened women's saddles. Few women now ride in skirts, yet the shortened saddle still persists, does it matter? Yes, because the rails of a top quality saddle are springs. Springs provide comfort. Short springs are stiffer than long springs.

**Ladies, don't assume you need a short saddle, you simply need a wider one, because your sit bones are probably further apart than a man's bones are.**

**Brooks leather saddles have two reputations; they are famous for being extremely comfortable, yet they are also famous for being excruciatingly uncomfortable.**

**I find them comfortable! The firm hide supports the sit bones, gradually you break the saddle in, to your shape and the saddle breaks you in. If done sensibly, a great many people find their dream saddle with a Brooks, once they have broken it in.**

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 then find a saddle that you really like, buy a load of them immediately because, these days, very few saddles remain unchanged for long, before long there will be a "new super whizz bang version", which may not be as good for you and the long search will begin again.

**Seat posts**

Can the humble seat post really merit space of its own in this brochure?

The black alloy seat post that we fit as standard issue is a very nice quality item, it is micro-adjustable and it does its job well. There is little reason for choosing anything else.

You could spend more money and choose a Shimano Pro PLT seat post. It would save a little weight and look "sexier", if that's what you want from a seat post!

You could choose a Richey Pro Carbon seat post, which is a high quality carbon post, 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 is. Carbon also flexes slightly to remove some small bumps too. It saves a small amount of weight.

The trouble is, that whilst carbon can flex an infinite number of times without breaking, it is quite easily crushed. Our seat clamp really clamps up tight and you could over-tighten the post if you are clumsy.

Carbon posts must not be greased but that is not a problem, because all Mk2 Nomad frames have an oversize seat tube and we have chosen to provide each frame with a shim to bring the seat post size down to 27.2mm, which is an internationally available size. You can grease the shim in and the carbon post can be inserted "dry".

If you need a suspension seat post, the **Cane Creek Thudbuster** is the best suss post ever made. It's parallelogram movement means that the distance between your saddle and your pedals does not 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 they are great! We've never felt the need for one on any of our touring bikes though.

**Why try a Brooks?**

The real point of trying a Brooks, is that it will mould to your shape and last for ages. If you like your Brooks, start breaking in a second one, on short journeys, because even they 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...this is the best time to consider a Brooks with titanium rails, which save weight and have even more spring.



**The bike below is very close to our recommendations for a well balanced spec, where the costs have been kept in check.**

**These recommendations are:**

**Thorn Comfort bars with an upgrade to the superbly comfortable Ergon grips.**

**The wheels are built with super long lasting and expedition strength Rigida Andra 30 CSS rims. The tyres are 2.25" Schwalbe marathon EX SKS P65 Guards are fitted.**

**The standard Shimano Deore brakes are fitted, with suitable pads for the CSS rims. The standard Thorn chainset is fitted, along with a KMC Z51 Chain.**

**You can see the highly acclaimed, Brooks**

**B17 saddle on the std seat post.**

**You can also see our Thorn Expedition carrier and Lo-loaders and 3 profile cages.**

**The bike just needs a pair of pedals and it could be off, over the Himalayas or the Andes or on an expedition deep into the centre of Iceland, Africa or Australia!**

**With 1.75" tyres and narrower mudguards, the bike would be perfect for camping trips in Europe or North America, to take you to work or to take on the weekly shop! (I'd also have a computer and front and rear lights.)**

**Size  
565L**



**Choice of colour.**

**We offer the Mk2 Nomad in a choice of 2 tough power coat colours; super stealthy, sophisticated, Matt Black, or totally in your face, "Tonka" Yellow.**

**Our frames undergo a thorough internal and external rust proofing process, applied before the super tough powder coated finish, it will take some knocks. Decals are applied and then the frame is given a clear coat of powder lacquer.**

"Conventional" touring wisdom says that black is a much less noticeable colour and why attract attention? Believe me, if you have a huge touring load and especially if you have a different skin colour to the locals, you'll attract attention, no matter what colour your bike is!

With a yellow bike though, a potential thief has to consider how inconspicuous they will be, when making off with your steed. If the worst happens, there may be much more chance of retrieving the bike again, if the bike is a different colour from all the local bikes, which often tend to be black. Don't choose the colour based upon not standing out, choose the colour you like yourself. Yellow certainly stands out in the holiday photos!

**Size  
620L  
S&S**



**A monster bike!**

Thorn fork steerers are long enough for you to have straight bars, or comfort bars, at the height that you require. We cut each steerer to suit each customer's requirements. I didn't intend for all our bikes to be ridden with a stack of spacers on the steerer. I've simply given the option, of having bars higher than "normal", to all who need it...if you are lucky enough to be comfortable in a "normal" position, your bike will look quite "normal"

If you don't like the look of a bike, with a stack of spacers on the steerer, yet you need your bars at this height, I urge you to consider that function should always take priority over form. Nevertheless, we have a simple solution...you can cut the steerer, to the same length as it would be, if the frame was supplied by anybody else and you can ride with your bars too low.

**UPDATE Jan 2011**

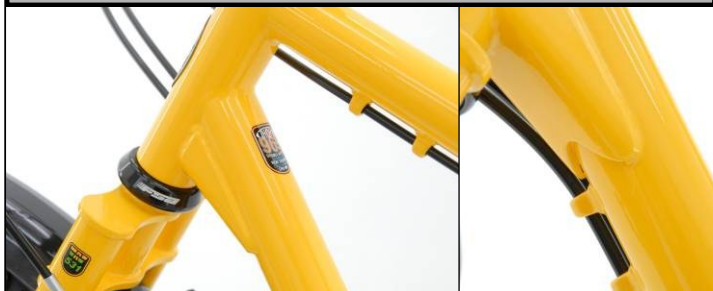
Our customer was indeed delighted with the bike! His girlfriend decided to do the ride with him and also bought a Nomad, they have now almost reached Central America.

The bike above is our biggest ever off the peg Rohloff specific frame. We've made the 620L Nomad Mk2 S&S for our seriously tall customers. This bike machine has been built for a customer who is 6' 6" (1981mm) with

exceptionally long legs, even for his height! The bike has been built, almost to our most highly recommended level, the eagle eyed will spot that it doesn't sport XTR V brakes! (He didn't ask to have a

Royce BB or black Rohloff either.) We expect this machine to delight its owner, when he arrives in Ushuaia (Tierra Del Fuego) and begins his ride to Alaska.

**The Mk2's frame fittings.**



clearances. It has stainless guides, stainless eccentric screws and bosses, it has our own stainless, Rohloff-specific dropouts and it has direct-fit mudguard mounts. It's got the lot! It has even got

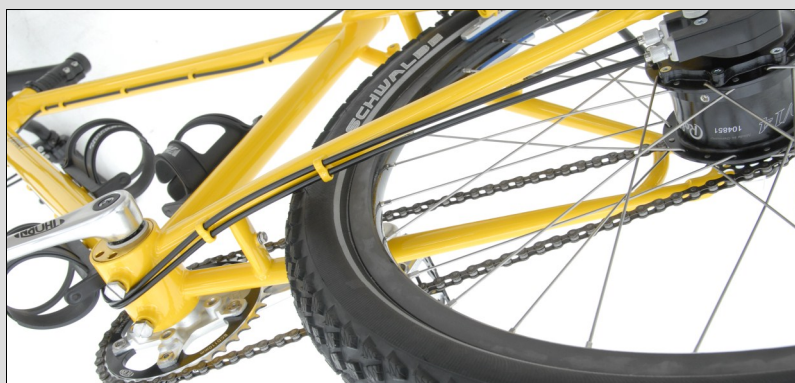


Our cast, vertical Rohloff-specific dropouts have 2 x M5 threaded bosses. We supply a stainless adaptor with every bike, this may be mounted to both

of these bosses, converting them into a single, very robust M6 boss. It also spaces the carrier to allow it to clear a hydraulic calliper.

The Mk2 Nomad has a substantial, open ended gusset between the head tube and the down tube. If you hit a large obstruction, at speed, with a heavy load, you may be glad that we considered this to be a good idea, with or without suss forks!

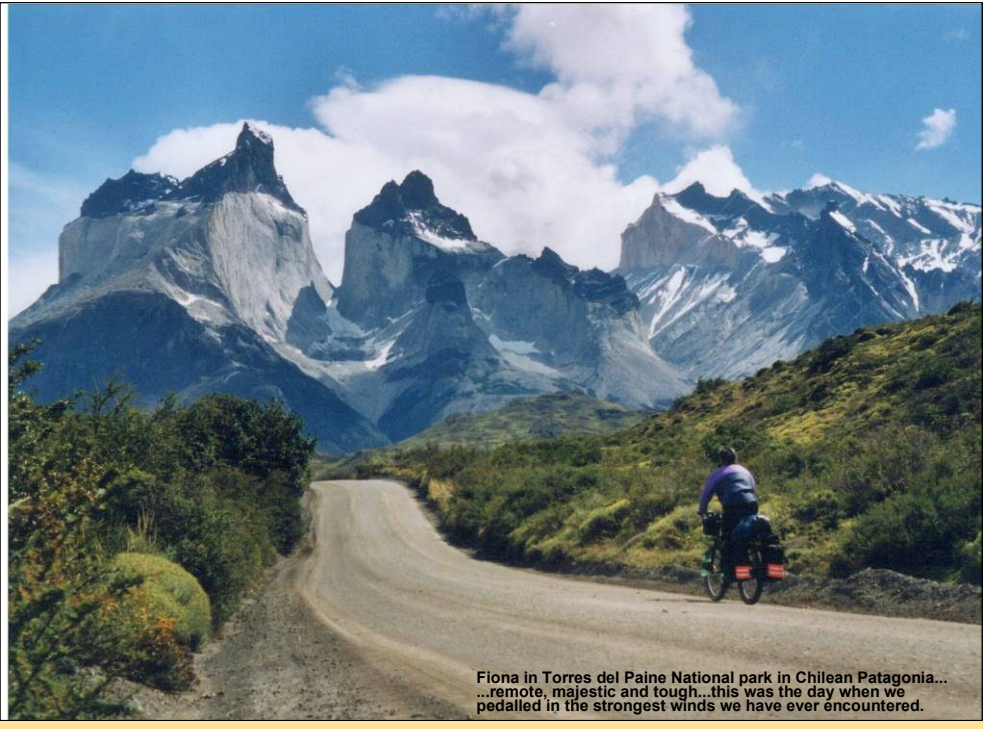
a rear ISO disc mount **and** removable V brake bosses.



Above, you can see a worm's eye view of the superb cable routing to the EX box on the Nomad Mk2. The stainless steel eccentric screws and bosses can also be seen.

The Nomad Mk2, has 3 stainless bottle cage bosses, 6mm carrier bosses, huge tyre

At the time of writing, there are no disc brakes available, that I'd want to use on an adventure touring bike or (even more especially) on an expedition bike. I have incorporated the ISO disc mount to "future-proof" the bike.



Fiona in Torres del Paine National park in Chilean Patagonia...  
...remote, majestic and tough...this was the day when we pedalled in the strongest winds we have ever encountered.

## Enormous luggage carrying potential.

**As long as you specify our own Thorn Expedition carrier, the Standard Nomad Mk2 will carry in excess of 35Kg, over the most extreme terrain, on the rear carrier alone.**

**Our carrier is made of aircraft quality, heat treated, tubular Cro-Mo and it is the strongest carrier on the market.**

Once again, we don't know whether to laugh or to cry when we see a titanium carrier which weighs 300g being touted as being capable of carrying 30Kg. Yes it may support 30Kg but it won't carry such a load without swaying and I know that it would not survive to carry such a weight over rough surfaces for long! The effect of hitting bumps at speed can affect the dynamic weight of your load by a factor of 6. **That is, a 30Kg load can momentarily weigh 180Kg...**no wonder other carriers break! How would you continue if you had to carry the load, instead of the bike?

Our carrier could support 250Kg. (if you could balance 250Kg of grain on our carrier, you could gently push the bike along...if they were not so expensive to produce, we could sell millions in India!)

If you really needed it to, the Standard Nomad could carry 20Kg on the front fork. Our expedition Lo-loaders are strong enough to cope with such a weight, as long as you take more care, when cycling over difficult terrain.

I have demonstrated their strength to customers, by standing on the Lo-Loaders, whilst they hold the bike up. I usually weigh just under 80Kg! See if anybody else will demonstrate that with other carriers.

I suggest that the Standard Nomad Mk2 will

cope with more weight than your legs will. I also suggest that, whilst it will cope with over 55Kg, it is at its best with a total load of around 35Kg. You really don't need a trailer, not even for desert crossings.

## Supposing you never plan to carry more than, say 10Kg, should you still contemplate a Standard Nomad?

If you are a really strong rider, you could use the Standard Nomad as gym equipment. I sold one of the previous Raven Nomad S&S bikes to an American competition power lifter. He was around 130Kg, mostly of solid muscle. He simply wanted a bike to get some aerobic exercise on, he liked to climb mountains and he had broken all his other bikes...all of them premium models, from some very famous names. I told him that I was not necessarily happy for him to treat the bike as an expedition touring bike, he was too strong for that but I was confident that he wouldn't break this frame, no matter how hard he pushed, if he restricted himself to 20Kg. This was not a problem for him; he'd broken his previous bikes without ever carrying a thing! He is really happy with his bike...he hasn't broken it! For mere mortals, a Standard Nomad used exclusively for lightly loaded, touring is still comfortable but it is overkill.

## How can such a mega strong frame be comfortable?

There are 2 reasons; top quality **heat treated steel** and the fat tyres! One thing is for sure, when you push hard on the pedals, the bike leaps forward, not sideways.

I could have lost 750g from the weight of the Standard Nomad frame and it would still have carried huge loads. In order to lose 750g, I would've had to increase the tube diameters and dramatically reduce the wall thicknesses. Few loaded tourists would have noticed the weight saving but we would have

received loads of complaints, from customers with terminally damaged frames, as a result of minor incidents.

However, to make the Nomads even more comfortable, when lightly or moderately loaded, I have introduced...

## ...the new X series frames.

(See pages 20, 21 and 22 for more detail) The frames have reduced tube diameters and I've shed 400g...whilst keeping the tube wall thickness. These bikes will survive accidental damage just as well and, for ordinary sized cyclists, they will still carry around 20Kg in style but they will be less than perfect with a 25Kg load. Please see more precise information on each individual frame on page 21. Please also note that with a really seriously heavy load on the back, they will wobble like a jelly...as soon as you apply power, or get out of the saddle! They will, in fact, only carry the same loads as just about every other "proper" touring bike you could buy...but I believe that their robustness, attention to detail, availability with S&S couplings and their use of the EX box Rohloff, puts the **X series of Nomads** in a class of their own.

I do hope that customers are sensible when choosing whether to have a Standard Nomad or an X series Nomad, because you may be surprised at how much you can comfortably carry...even over mountain ranges...when you get used to it...as long as you have sensibly low gears.

**You may also be surprised at how much you need to carry**, if you get right off the beaten track, or if you want (or need!) a wide variety of clothing.

**Imagine what it would be like to carry a week or 10 days' shopping and clean clothing, your camping kit and your winter clothes...now imagine adding several days' requirement of water!**

**The Thorn Nomad Mk2 now offered with a choice... with S&S couplings, or without.**

Over the last few years, I have often wondered if some people were buying the Nomad S&S in spite of the couplings, rather than because of them. The new **Nomad Mk2** is available both with S&S couplings and without them. I'd always suggest that you have the bike with couplings. There are many upsides to having S&S couplings and only 3 downsides to them, as far as I can see, these are:-  
**(1)** You have to check them every day, which is no big deal.  
**(2)** They add about 500g to the frame, including the special cable guides and joiners.  
**(3)** They do considerably more damage to your bank account, compared to the uncoupled Nomad.

One day it may be absolutely necessary, to make your bike into as small a package as the couplings allow, in order to avoid surcharges, or fit into a small vehicle. This will certainly save you money and may, in extreme cases...  
**...allow you to save the bike!**

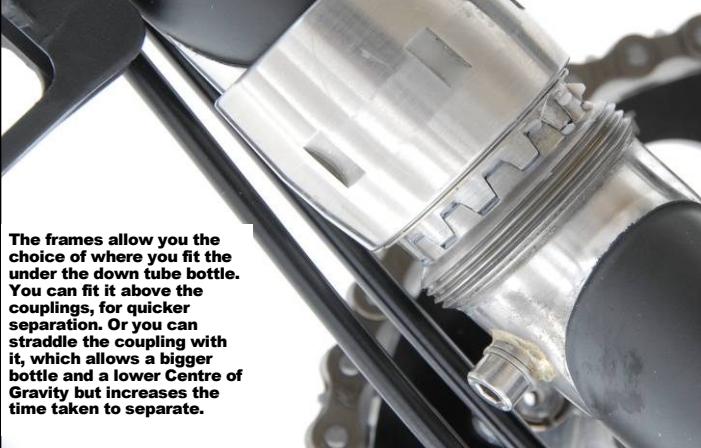
**We have never had, or heard of, a single failure of S&S couplings. The frame is stronger with them, than without and they will out-last even one of our frames!**



**S&S couplings and S&S specific cable routing.**



Look at the extreme high quality of the machining of the S&S couplings.



The frames allow you the choice of where you fit the under the down tube bottle. You can fit it above the couplings, for quicker separation. Or you can straddle the coupling with it, which allows a bigger bottle and a lower Centre of Gravity but increases the time taken to separate.

**\* PLEASE NOTE:**

Whether a Nomad S&S will or will not fit into a 26 x 26 x 10 box depends upon the size of the frame and/or how long the fork steerer has been left. If our steel fork has been left with a steerer longer than 235mm, the fork may not be able to be fitted into the box. 235mm is too short to work with size 820L and leaves almost no room for spacers, or accessory bar, with any size 590 frame. It is certain that, at a minimum, not only must the frame be separated and the wheels removed, the forks must be dropped out, the bars and stem removed, the mudguards removed, the carrier removed, the seat post removed and one of the cranks removed. Assume that any carriers will have to be packaged separately.

We recommend using a cut down cardboard box and most Nomad S&S bikes can fit into a 1200mm x 800mm x 250mm box, with much less fuss. We can supply the bike in a 1400mm x 1100mm x 260mm box, which you can cut down to suit.



**S&S Couplings and rear hydraulic disc brakes.**

**The X series frames have open stainless guides;** these allow the Hope Flip Flop, or new Shimano Deore, hydraulic brake levers to be removed from the bars, the brake line can then be removed from the front section of the frame...the lever remains attached to the rear section of the frame.

**The standard overize frames have conventional stainless guides;** these do not allow the brake line to be easily removed. These frames require the calliper to be removed to allow the frame to be split...the calliper remains attached to the front section of the frame.

**I believe that, for occasional, or for emergency transportation, the above procedures are not too arduous. For frequent uncoupling, it's easier and better, to choose a V brake option.**

It is theoretically possible to fit 100% dry hydraulic coupling to either of the Nomad S&S frames...these are totally reliable and very quick to use. They are fairly expensive however and some may find them a bit agricultural looking.

**The Nomad Mk 2 frames are suspension compatible**

The Nomad Mk2 standard oversize frames and the new X series frames are both designed to be compatible with suspension forks with 80 or 100mm of travel.

100mm forks are around 470mm long, by the time the "sag" has been set and the fork is riding on a rippled surface, it is around 435mm long. The Mk2 Nomad's geometry is designed to give superb handling with such a fork.

The Mk2 Nomad comes with its own super quality, steel twin plate crown Reynolds fork, which is 420mm long. This fork has the correct offset to allow the bike to give superb handling, with or without, a heavy load at the front.

With this fork, the BB height is ideal for a rigid bike. With a suss fork, it is also a "normal" height for a hard tail MTB.

I'd never set out on an extended expedition with a suspension fork but Fiona and I both use a suss fork (with XTR V brakes) for our adventure holidays, in the Andes.

The X series frames make superb hard-tail mountainbikes but, if you are a big, heavy, powerful rider, the Nomad Mk2 std oversize frames may be a more suitable choice...even for mountainbiking!

# Fiona and I still use our prototype Nomads for our adventure touring holidays...and for any cycling, which involves flying with the bike. They have taken us on the biggest adventures of our lives.

You could never accuse these bikes of being lightweight but I am convinced that they weigh significantly less than any other bikes of comparable strength! We love these bikes so much that we have 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, you really do not 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 have crossed the Andes 26 times in the last 6 years. In doing so, we have 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 are 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 have 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 and with surfaces, which alternate between:- sand, gravel, corrugations, loose rocks or slick rock, with every bend. On one really steep section, on the outside edge of every second hairpin, there was a sheer, unfenced drop of hundred 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, I may appear crazy but I prefer to think that I am a highly skilled rider, who was lucky enough to be riding the finest adventure touring bike ever made, on the most exhilarating "road", yet to be encountered, in 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; we could more easily have used **X series** Nomads...had they been made then, 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 are two of only a handful of cyclists ever to ride 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 100% humidity, of the badlands to the west of the Pampas, below us. 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 still love to ride our other prototype Nomads.**

We are really fortunate because each of us has a pair of superb 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, comfort bars and suss forks.

Our other bikes are built up for more lightweight camping trips closer to home. As they travel on better roads (and tracks) they have lighter rims, "skinny" 1.75" tyres and straight bars with bar ends. They never travel by air, they are never subjected to

baggage handlers, therefore they are allowed to have our exquisitely beautiful "full retro" paint job. The paint may be fragile but the frames are not! I take great pride in our bikes' strength and dependability. Whilst you could never accuse them of being lightweight; I am 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 have had many long camping weekends in Wales and a couple of trips, catching the train to Cornwall and then cycle camping home. Fi and I have even completed several hilly 200Km Audax rides on them.

**Cycle camping in the French Alps.**

**In September 2009 we drove 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 had sped past me, on a small rise, just 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 granddad 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 cycle camping.**

We like the freedom of finding a camping pitch for the night. We are constantly 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!)

**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 does not 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! We did get to the top and quickly put on warm clothes.



**Fiona cornering at speed, with a full**



**Does cycling get any better than this, in Europe? Answers on a postcard please!**

**SUSPENSION OPTIONS**

**Both the Standard Nomad Mk2 and the new X series frames have been designed to work perfectly with a 100mm travel suspension fork.**

When such forks are fitted to Standard (oversized) Nomads, the bikes become the most incredible adventure touring cycles that we have ever seen.

I believe that you should never attempt to fit a front carrier to suspension forks but, such is the strength of the **Standard Nomads**, that they will carry over 35Kg on the rear carrier alone...and still be a pleasure to ride.



Andy and Fi with Rock Shox SID TEAM forks. Note: SID TEAM forks are white this year!

When fitted with suss forks and front and rear discs, **the X series Nomads** are perfect machines for ultra-lightweight camping adventures, on Jeep and goat tracks through the Alps.

They are also brilliant for winding up owners of exotic but fragile machinery... ..either at trail parks, or on long distance enduro rides! We can supply either of these machines with just the suss fork...but, in my opinion, you'd be mad not to have the steel fork too! If you are considering serious off road adventures, you'll find that, if you choose the Thudbuster suss seat post (see page9) you will give

very little away to full suss machinery on rough ground...and you'll have all the advantages of a steel hard tail when the trail points skywards.

The Magura Menja fork is relatively inexpensive, very nice quality and has the option of having a front V brake., or a front disc. V brakes are more suitable for Adventure touring but less suitable for serious MTB use. V brakes make the swap back to the steel fork much more straightforward.

The Rock Shox SID Team forks are a top quality fork. They are still the fork by which all other XC forks are measured. They put many down hill forks to shame. They are disc only and they require a more considered plan of maintenance. Fi and I have them on our "mountain bikes" and we love them...but I'd still be reluctant to take them on the really long trips into wilderness, that Fiona and I enjoy so much.



**X565M fitted with Rock Shox SID Team**



# DISC BRAKES

**A disc brake with a 160mm rotor can be fitted to Nomad Mk2 frames**

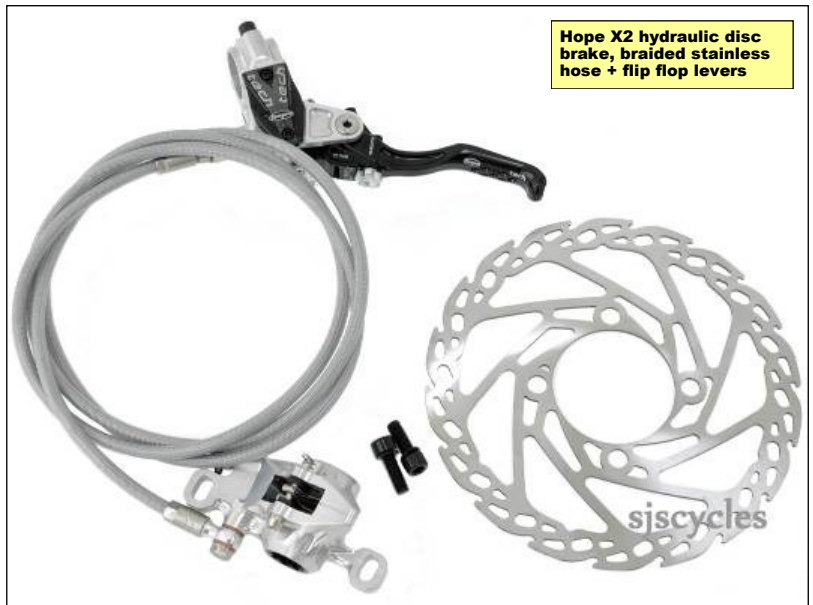
There is no doubt that hydraulic disc brakes are preferable to V brakes in the deep, muddy conditions often found in UK mountainbiking but they can be easily damaged in transit and a bent rotor is much more difficult to straighten than an "out of true" wheel. Indeed, if the rotor is warped enough, the wheel will not even turn! For more info...please see page 8.

**NOTE:- A rear disc brake doesn't have to be used with a front disc brake.**

**In order to have a disc front brake, you must choose suspension forks.**

**We offer 2 different hydraulic disc brake options:-**

Hydraulic disc brakes are certainly more powerful than cable operated disc brakes. There are no hydraulic disc brakes which can be used on drop bars. The Shimano Deore hydraulic disc brakes, **(Brake option L)** offer super performance at a modest price. In my opinion Hope hydraulic disc brakes are the best you can get. We offer a choice of 2 Hope brake set ups:- Hope X2 callipers with braided stainless brake line and flip-flop levers **(Brake option M)** offer very powerful braking. For serious off road riding, I believe the ultimate set up to be different brakes front and rear. **(Brake option P)** The Hope X2 160mm rear brake is as powerful as you could possibly want for anything other than full blown downhill racing and "free riding". However I often find that I can make good use of a much more powerful front brake when riding hard off road. I have never used a better front brake than Hope's M4. This 4 piston brake, complete with floating 183mm rotor, is incredibly powerful and yet still has superb modulation .



Hope X2 hydraulic disc brake, braided stainless hose + flip flop levers



ABOVE. The awesome Hope M4 calliper and 183mm floating rotor.



Shimano Deore hydraulic disc brake.

Sorry, pic shows Shimano Deore brake mounted to a Thorn Mercury touring bike.

# Upgrades and Accessories

## Front hub

The standard front hub on all of our bikes is a Shimano Deore front hub. This is a nice piece of kit and does the job well. But please note that our wheels are so well built, that we would expect the majority of our bikes to wear out the front hub before the wheel needed to be rebuilt. This is especially true if the tungsten carbide rims are chosen. The Hope Pro 3 front hub is available in silver, black or red and it has a 7075 machined body and uses superb quality bearings. We recommend this upgrade very highly.



## Dynohubs

For many cyclists it is probably more useful to upgrade the front hub to a dyno hub. Schmidt are the only manufacturer that I'd recommend, as a hub, they are top quality and run on top quality sealed bearings. They are the most efficient and reliable dyno hub on the market. Unlike other dyno hubs, the wheel spins almost as freely as a "normal" front hub, when it is not generating electricity and it is difficult to notice the drag, from the hub, when it is generating power. The Original Schmidt SON 28 is slightly less expensive and slightly heavier than the Son Deluxe. If you wish to use halogen bulbs, the



SON 28 is the only option. It 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 SON 28 is only available in polished (silver) or anodised black.**

The new, more compact, lighter weight, SON Deluxe will only work with one of the new LED headlamps. It is a choice which many cyclists will make, if they want to use such a head lamp, for MTB 24 hour racing or for long distance Audax rides. The Deluxe will also charge batteries but it takes longer to do so...even with LED head lamps, the Deluxe does not produce power as well as the 28, at low speeds. **The SON Deluxe is available in polished (silver), anodised black or anodised red.**

SON Nabendynamo



## Dynamo lighting.



There is now a budget LED front light, which has made every halogen dynamo headlight obsolete... **the Busch & Muller Lumotec Lyt N Plus.** Whilst the performance of this light falls far short of the superlative Edelux, it costs a fraction of the price. The plus version also features a "standlight"

The Schmidt Edelux LED front light is simply awesome! It is awesome in terms of the quality of light output, it is awesome to think that one is producing such a light, without batteries and



without noticeable effort! It is also awesome to consider how much it costs! But it is very well made. The casing is CNC machined from "the solid". 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 itself has a copper heat sink to ensure a very long life and the lens is a superb example of optical technology.

I have used 15W halogen rechargeable systems which give inferior illumination. **The Edelux is available in silver, black or red** and is supplied fully installed and mounted to a substantial stainless bracket it is available in polished (silver) anodised black or anodised red.

## 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)



B17 Narrow



B68



Team Pro



B17 Ti



Swallow



Swift



## Brooks leather saddles

You will find brief descriptions of the saddles illustrated, along with current upgrade price in the upgrades to spec section of this brochure. We can't guarantee that you will find a Brooks comfortable, although very many cyclists swear by them. Now is your best chance to try a Brooks saddle because we can supply many of them at a bargain price on a new bike...especially the B17 standard.

### Brooks B17 Standard

**This saddle is available at a really super price because we buy lots as original equipment.**



**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. You can try real Shimano PD M520 SPD pedals for very little money.



The PDM540 pedals are the next level up, they cost about twice as much. The very best of the SPD pedals, the XTR pedals are not suitable for touring, as you need a 10mm Allen Key to take them off the cranks. A 10mm key is a heavy bit of kit, with no other use on the bike. 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 is a nice pedal on the market, which I have used for several tours, the PD A530. This has SPD on one side and a flat platform on the other.



I can see the attraction for using flat pedals and walking shoes or sandals. The very best of these pedals, on the market are Shimano PD-MX30 DX. The large surface area reduces pressure when using flexible soled shoes. The stainless set screws help to grip slippery shoes.



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.



A computer is a nice thing to have, it gives you encouragement, and extra interest. It also allows you to determine when an oil change may be necessary on a Rohloff equipped bike. The Cateye CC-MC100W wireless computer is easy to use and it is undoubtedly the most reliable on the market.



There are a couple of front lights that I can recommend highly:- When we are on our big trips, we don't actually plan on riding at night but we occasionally get caught out and we sometimes need to ride in urban areas. The Cateye HL-EL 450 light (3 x AAA) can be seen from literally miles away...it can't really be used to see where you are going but, when being seen is a priority this is a nice bright, compact and reliable unit.



I also use the bigger and brighter (4 x AA) Cateye HL-EL530 light in the UK for Audax rides, when I know that there is a chance that I may still be on back roads in the dark. I can see where I'm going with this light but I do have to be careful not to cycle more quickly than is safe. I also use it in lanes in the winter, in conjunction with a dynohub. I aim the Cateye just in front of my wheel, which allows me to focus the Edelux even further down the road.

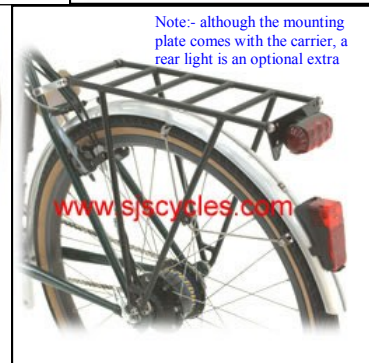
Regarding rear lights, I can see no logical argument for choosing anything other than the brightest, most visible light on the market...especially when this light is so reasonably priced. The Cateye TL-LD1100LED is the rear light to choose. It has 10 super bright LEDs, it is highly water resistant and 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.



Thorn 105mm Accessory bar. 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. 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.



There is 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.



Note:- although the mounting plate comes with the carrier, a rear light is an optional extra

You can see pics of our own heat treated, tubular Cro-Mo, front and rear expedition carriers (above) these are the undoubtedly the strongest carriers on the market. They are designed to work with M5 or M6 screws.

We can't use M6 screws to fit the Blackburn Mtn. Carrier but as it will not carry a big load this isn't a problem. If you never plan to carry more than 10Kg, this will do the job really well.



Topeak mountain morph mini track pump (right) 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.



The Blackburn Mammoth pump (left) is the ideal pump for taking on day rides, with our 26" wheel bikes...it is the best of the mini pumps that I've used.

# Sizes of Nomad Mk2.

(Please refer to the Matrix on page 22)  
**All sizes of the Mk2 have a fairly steeply sloping top tube. Especially when fitted with a suss fork and without the weight of a rider.**

**This steep slope is essential to provide the rider with a low enough top tube to be able to stand over it in the middle. We call this mid tube standover height.**

It is essential that you can stand over your bike at this point. (Long legged riders may even be able to straddle the bike when equipped with suss forks, at the very front with clearance, this is fortuitous, rather than essential.)

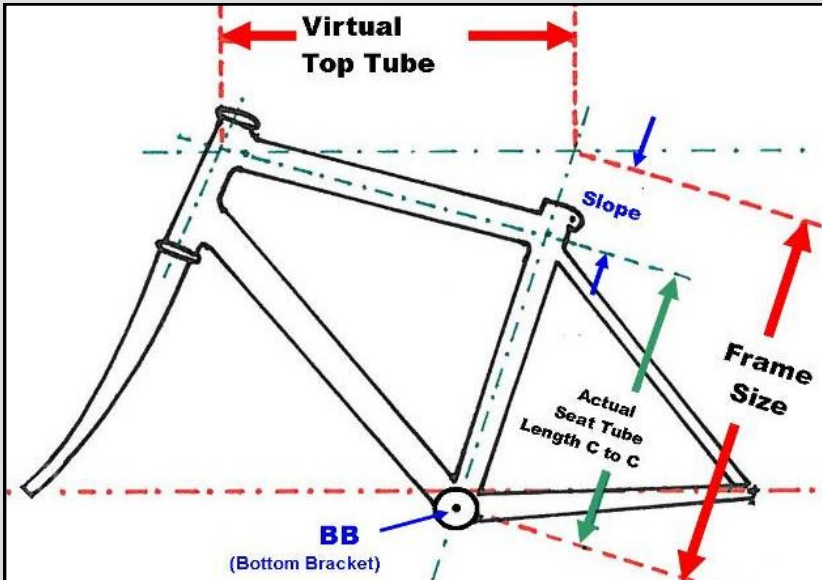
Suss forks will "sag" when you sit on the saddle and they will sag even more when you pedal gently. We call this "normal ride height" but, please note that the forks will rise, the moment you jump off the saddle!

You will see the dimensions in the matrix, it may be confusing to understand what the frame sizes mean.

**One way that we size our bikes is to**

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.

We also give the "slope"...this is 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".**

Some of the frames have **medium length** virtual top tubes and have been given the suffix "**M**".

**These frames are called 510M, 565M and 590M.** Some of the frames have long virtual

top tubes and have been given the suffix "**L**".

**These frames are called 540L, 565L, 590L and 620L**

We also subtitle the frames as simply **small, small/medium, medium, large and extra large**, this refers to the height of the frame.

There are now 2 series of Nomad Mk2 frame. The **7 sizes** of Standard oversize frames are unchanged but we now also have 4 frames which have the prefix "**X**"

before their sizes...these frames use smaller diameter tubes for the main triangle and they use 16mm seatstays, instead of the 19mm stays used on the Original frames.

## The New X series of Nomad Mk2 frames.

There are 4 frame sizes in the X series of Mk2 frames, they all have medium length top tubes. These sizes are X510M, X540M, X565M and X590M. The X frames use the same gauge of Thorn 969 tubing as the Original frames. They use

28.6mm top tubes, 31.8mm down tubes and 30.2mm seat tubes. The 30.2mm seat tube means that owners of X series of frames can still enjoy the benefits of fitting an industry standard 27.2mm seat post, with an alloy shim, which reduces the possibility of having a seat post seized into the frame.

They use 16mm seat stays.

The changes save a little weight, without in any way reducing the bike's robustness and durability.

The main reason for introducing this series of Nomads was to provide a machine which was more comfortable to ride, when only small to medium sized loads were carried. They will make ideal middleweight road touring bikes.

## The X series of frames are available with, or without, S&S couplings.

The X frames have the same eccentric, dropouts, ISO disc mount, cast stainless seat clamp (and all other brazed on stainless fittings as the Standard oversized frames) but they use open stainless guides for the brake run. This makes them more hydraulic disc friendly than the Standard frames. It is anticipated that many of them will be built into front suspension, disc brake, alpine touring bikes.



I'd hate to ride these roads on a "conventional" touring bike!  
 ...It would be a long walk down!

**Frame sizing, with particular regard to the subject of women's frames.**

Please understand that I know several female cyclists who are stronger and/or quicker than almost any male cyclist. Generally, however women are not as heavy or as strong as male cyclists. There is 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 is not true of people in bare feet. High heels can't be used to advantage whilst cycling.

**Why has this misconception arisen?** Women generally have less upper body strength than men, so they can't support a sporty position as well, or for as long, as most men. Many women also have

pelvic anatomy which is not conducive to comfort, whilst adopting a low position. The net result is that a woman will usually (but not always!) require a bike position, which is significantly shorter than that of a man with identical body dimensions.

Over the years, cyclists and bike shop staff, have spotted this tendency but they have misinterpreted the reason for it.

**More than 90% of our customers are male but we have always made sizes suitable for women... many of our frames are also suitable for short women.**

I try and tell it like it is...if the consequence, is that some men, particularly those who require a shorter reach, think that we recommend that they ride woman's frame...well guys, get over yourselves.

**The Standard oversized series of Mk2 Nomad frames are unchanged.**

They still use our Thorn 969 oversized tube set. They still have 31.8 top tubes and seat tubes. They still have 34.9mm down tubes and they still have 19mm seat stays. They remain at the cutting edge of expedition and adventure touring bike design. We believe that there is no other production bike in the world, which will carry a really heavy load, with such aplomb!

**The 510M frame** is the smallest Nomad frame that we make, it has almost the shortest top tube, that I'd use on a suss compatible bike. This frame is ideal for short, powerful cyclists from around 5' up to possibly 5' 5" 1525 to 1650mm (This depends upon leg length). The 510M is so strong and rigid, that it should only be chosen by very heavy cyclists, or when heavy loads 30Kg+ will need to be carried. The 510M will carry up to **50+Kg** with the steel fork.

**The 540L frame** is only slightly taller than the 510M, yet it has a much longer top tube. This is the ideal size, with steel forks, for shorter than average men 5' 3" - 5' 8" 1600mm to 1725mm with heavy loads 25Kg+, or average height men, with heavy loads, using suss forks. This frame would also suit tall women, who require a very long position on a heavy duty adventure touring bike. The 540L will carry up to **50Kg** with the steel fork.

**The 565M frame** is only slightly taller than the 540L, yet it has a shorter top tube. This is the ideal size, with steel forks, for taller than average women 5' 6" - 5' 11" 1675mm to 1800mm or for average height male cyclists, who wish to have a shorter, more relaxed position. This frame will also suit slightly taller than average height men with suss forks. This frame may also suit very tall women as an adventure touring bike, with suss forks. The 565M will carry up to **48Kg** with the steel fork.

**The 565L frame** is also slightly taller than the 540L but it has a longer top tube than the 565M. This is the ideal size, with steel forks, for men of average height 5' 6" - 5' 11" 1675mm to 1800mm or taller than average women, who wish to have a longer, sportier position. This frame will also suit slightly taller than average size men, who wish for a longer position, when the bike is used with suss forks. This frame may also suit some exceptionally tall women, who require a very long position on an adventure touring bike, with suss forks. The 565L will carry up to **45Kg** with the steel fork.

**The 590M frame** is a slightly taller frame than the 565M frame and it has a longer top tube. This is the ideal size, with steel forks, for taller than average height men 5' 9½" - 6' 3½" 1765 mm to 1915mm who wish to have a shorter, more relaxed position. It will also suit exceptionally tall women.

This frame will also suit very tall men (or tall men who have exceptionally long legs for their height) when the bike is used with suss forks. This is the tallest possible frame that can be used with any suss fork that we know of.

The 590M will carry up to **45Kg** with the steel fork.

**The 590L frame** is also slightly taller than the 565L but it has a longer top tube than the 590M. This is the ideal size, with steel forks, for taller than average height men 5' 9½" - 6' 3½" 1765 mm to 1915mm, who wish to have a longer sportier position.

This frame will also suit very tall men, or tall men who have exceptionally long legs for their height, who require a longer sportier position, when the bike is used with suss forks. This is the tallest possible frame that can be used with any suss fork that we know of.

The 590L will carry up to **42Kg** with the steel fork.

**The 620L frame is an Extra Large frame...it is huge!**

It's the biggest frame we have ever made and will suit very tall customers 6' 0½" - 6' 7" 1840 mm to 2005mm. Although the 620L has suspension compatible geometry, we do not know of a suss fork, which has a long enough steerer to be used with this frame.

The 620L will carry up to **40Kg** with the steel fork.

**The Nomad X series frames are new.**

All 4 of the X series frames have medium length top tubes. This length of top tube is perfect for use off road, either for traditional MTB rides, or for Alpine touring MTB style! Medium top tubes produce a relaxed position for most male cyclists but when used with a long stem, our Thorn Narrow bars and some ski bends...a position which is very suitable for fast lightweight to middle weight touring is possible.

**The X510M is the smallest Nomad X series frame** that we make, it actually has the shortest top tube, that I'd use on a suss compatible bike.

This frame is ideal for shorter than average height women or for particularly short men from around 5' up to around 5' 5" 1525 to 1650mm.

The X510M frame is certainly strong enough for short but not especially powerfully built women, to use as an expedition bike and, specifically for them, it will carry up to **35Kg**.

For some heavier, more powerful riders the X510M will carry up to **28Kg**

The X510M also makes an exceptionally good MTB or Alpine touring MTB for slightly shorter than average height women or for short men.

**The X540M is a Nomad X series frame.** It is a taller frame than the X510M and it has slightly longer top tube.

This is the ideal size, with steel forks, for average height women or for shorter than average height men, who want a shorter, more upright position. 5'3" - 5' 8" 1600mm to 1725mm.

The X540M is certainly strong enough for women of average height and who are not powerfully built, to use as an expedition bike and, specifically for them, it will carry up to **30Kg**.

For some heavier, more powerful riders the X540M will carry up to **24Kg**

The X540M makes an exceptionally good MTB or Alpine touring MTB for slightly taller than average height women, or for slightly shorter than average height men.

**The X565M is a Nomad X series frame.** It is a taller frame than the X540M and it has a longer top tube. This frame will carry up to **20Kg** in fine style but it will cope with 25Kg occasionally.

This is the ideal size, with steel forks, for men of average height, who want a shorter position or for taller than average women 5' 6" - 5' 11" 1675mm to 1800mm.

This size makes an exceptionally good MTB or Alpine touring MTB for slightly taller than average height men, or for very tall women.

**The X590M is a Nomad X series frame.** It is a slightly taller frame than the X565M frame and it has a longer top tube. This frame will carry up to **18Kg** in fine style but it will cope with 23Kg occasionally.

This is the ideal size, with steel forks, for taller than average height men 5' 9½" - 6' 3½" 1765 mm to 1915mm, who wish to have a shorter, more relaxed position.

This size makes an exceptionally good MTB or Alpine touring MTB for significantly taller than average height men, or for tall men with very long legs.

**This is the tallest possible frame, that can be used with any suss fork that we know of.**

**Please note that, when the same frame tubes are used, smaller frames are always stronger and will carry more, than larger frames.**

# Our method of sizing is, believe it or not, what we consider to be the most sensible way of doing things.

If you were to simply measure to the top of the actual seat tube, it wouldn't tell you much about the frame and 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 6 frame sizes 15", 16", 17", 17", 19", 19" and 21"

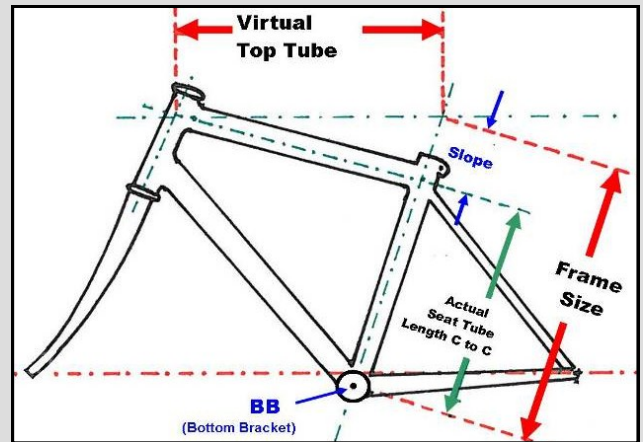
**If you come from an MTB background,** The above sizing would make some sense.

**Paradoxically, if you come from a traditional touring background,** where frames were once measured centre to top, it would make more sense, if we called them 19", 21", 22.5", 23", 24.5" 24.5" and 26".

I hope that I have explained why we don't do either of these things, 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 man, who may ride a 21" touring bike!

**Confused? Don't worry, a couple of phone calls, or emails to us, is all it will take to make certain that you get the correct size Nomad!**



**Note:- If our strong recommendation is not followed and a Mk2 Nomad is chosen with drop bars, it is (almost) certain that only the "M" sizes could possibly be suitable.**

**Note:- Most cyclists could ride 2 sizes of Nomad...when you plan to use the bike with suspension forks, you should choose the smaller of these sizes.**

**The Mk2 Nomad is available in a choice of 2 super-tough powder finishes.**

**Tonka Yellow**

**Matt Black**

Probable height of cyclist suitable for this frame size with steel forks.	[1] <b>SIZE</b> (virtual seat tube length C to C)	[2] Actual Seat Tube length C to C	Slope [1] Minus [2]	Length of Head Tube	Virtual Top tube C to C	Chain Stay To centre of eccentric	Seat Angle with steel fork	Mid Tube Stand over height With steel fork and 2.0" tyres	Stand Over Height at front of top tube with steel fork	Seat Angle at "Normal ride height" with 100mm suss fork and 2.0" tyres	Mid Tube Standover (without rider) with 100mm suss fork and 2.0" tyres	Stand Over Height at front of top tube with suss fork (without rider)
1525 to 1650mm	<b>X 510M</b> Small frame. Med top tube	355	155	85	545	447	74.5	725	785	73.5	755	830
1600 to 1725mm	<b>X 540M</b> Small/Med frame. Med top tube	380	160	113	560	453	74	750	815	73	780	860
1675 to 1800mm	<b>X 565M</b> Medium frame. Med top tube	400	165	139	575	453	73.5	768	845	72.5	798	890
1765 to 1915mm	<b>X 590M</b> Large frame. Medium top tube	445	165	166	585	453	73	800	865	72	830	910
1525 to 1650mm	510M Small frame. Med top tube	370	140	85	555	447	74.5	735	790	73.5	765	835
1600 to 1725mm	540L Small/Med frame. Long top tube	400	140	113	590	466	73	760	815	72	790	860
1675 to 1800mm	565M Medium frame. Med top tube	400	165	139	575	453	73.5	768	845	72.5	798	890
	565L Medium frame. Long top tube	415	150	139	605	466	73	775	845	72	805	890
1765 to 1915mm	590M Large frame. Medium top tube	445	145	166	585	466	73	800	865	72	830	910
	590L Large frame. Long top tube	460	130	166	620	466	73	810	870	72	840	915
1840 to 2005mm	620L Extra Large frame. Long top tube	520	100	200	635	479	72.5	855	900	71.7 ***see notes	872 ***see notes	945 ***see notes

**Thorn Nomad Mk2 size matrix.** Standover heights at front, are measured 75mm back from headset.

**\*\*\*PLEASE NOTE:-** Size 620L's head tube is too long for the steerer of any suss fork that we know of.

# THORN NOMAD MK2 ORDER FORM

- Frame + fork only.....£549
- S&S Frame and fork only.....£999
- Frame & Rohloff hub built into a wheel.....from £1549
- Complete bike (without pedals) **Start Price...£2099**
- S&S option on Nomad Mk2.....(add) £450
- Any colour you like, either industrial powder (not S&S) or wet paint...please specify...(add) **£250**

Size and colour  
(please write)

**Please choose:-  
Front brake lever  
on RIGHT?**

**Front Brake lever  
on LEFT?**

**To get the total cost  
of your ideal bike,  
add the cost S&S couplings (if reqd)  
and the cost of chosen options  
on pages 24, 25, 26 & 27 to the**

**Start Price**

(See above)

**Please remember all our prices  
include VAT...  
...but carriage is not included.**

Buy a **THORN NOMAD MK2**, ride it for 100 days and, if 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 items from the Nomad mk2 bike build menu.

This offer does not include pedals or accessories.

**SEE WARNING on PAGE 3**  
Offer applies to complete bikes and to EU customers only.



**NOMAD MK2**

frames (in common with those on all our cycles) have our **“Original owner lifetime warranty”** against faulty materials or faulty workmanship.



Invoice No \_\_\_\_\_

Male  Female  Title \_\_\_\_\_

First name \_\_\_\_\_

Surname \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_

County \_\_\_\_\_

Postcode \_\_\_\_\_

Country \_\_\_\_\_

Telephone numbers. \_\_\_\_\_

Home \_\_\_\_\_

Mobile \_\_\_\_\_

Work \_\_\_\_\_

Email address \_\_\_\_\_ @ \_\_\_\_\_



Call on **01278 441 505**

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Online **www.thorncycles.co.uk**

St John St Cycles,  
Thorn Cycles Ltd,  
91-93 St John St,  
BRIDGWATER,  
Somerset  
TA6 5HX

PLEASE NOTE:- Occasionally some items become unavailable for long periods of time. We reserve the right to substitute items of similar (or greater) value, where there will be no adverse affect on function. No surcharge will be made for this

St John St Cycles is a trading style of Thorn Cycles Ltd (Incorporated in England 4121096 - registered office: St John St Cycles, 91-93 St John St, Bridgwater, TA6 5HX)

**Find our for yourself why so many of our customers own more than one Thorn Bike!**



**MOST IMPORTANT PLEASE READ THIS!**

**SET UP DIMENSIONS**

In order to make something as special as 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 table 1 on the right.

Alternatively, you may be able to complete the set up details requested in table 2 on the far right.

You will find details of both sets of measurements in our document:-

**“HOW TO GET THE PERFECT SET UP ON YOUR THORN BIKE”...  
...CLICK HERE for link to pdf file.**

Or, of course, you can come and visit us and we will measure you.

**Without one of these 3 options being complied with, we are unable to guarantee the results and only your statutory rights will apply.**

**1 DATA FOR THE PERSON THE BIKE IS FOR:**  
Name \_\_\_\_\_

<b>DIMENSIONS AND OTHER DATA.</b>	GENDER M OR F	
	WEIGHT (Kg)	
	AGE	
	HEIGHT (bare feet in mm.)	
	BFSO (Bare foot stand over height in mm.)	
<b>POSITION REQD. Please tick one box, or 2 boxes.</b>	SHOE SIZE (metric)	
	ARM SPAN (mm)	
	UPRIGHT	
	VERY RELAXED	
	RELAXED	
<b>CHOICE of SADDLE and TYPE of HANDLEBARS REQUIRED. Please tick one State width required if Flat Track bars are chosen.</b>	FAIRLY RELAXED	
	FAIRLY SPORTY	
	SPORTY	
	RACING	
	SADDLE LENGTH (mm) Or NAME and MODEL	
<b>OTHER ESSENTIAL INFORMATION Please tick one box.</b>	CONVENTIONAL DROPS	
	STRAIGHT	
	FLAT TRACK width (mm)	
	COMFORT	
<b>OTHER ESSENTIAL INFORMATION Please tick one box.</b>	FIT INJURY FREE CYCLIST	
	VERY EXPERIENCED FIT AND SUPPLE CYCLIST.	
	INJURED or LESS EXPERIENCED and/or CASUAL CYCLIST	

**2 The dimensions we need to duplicate your position.**

<b>N</b>	Overall saddle length in mm. And/or name of saddle.	
<b>S</b>	The distance in mm. from the top of LOWER pedal to the top of the saddle, measured along the seat tube.	
<b>B</b>	The distance that a plumb line falls behind the BB, when suspended from the nose of the saddle.	
<b>L</b>	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.	
<b>H</b>	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.	
<b>R</b>	On a straight bar bike, this is the distance from the nose of the saddle to an imaginary line, which passes through the centre of both grips. On a drop bar bike, this is the distance from the nose of the saddle to the centre of the stem.	

## Choose your own spec Nomad Mk2.

Please use "Thorn front suspension MTB and Touring Bikes" brochure for a front suspension, equipped disc brake Nomad Mk2

Recommended options available at the **Start Price** are highlighted in blue or grey

Please note, these options, along with the necessary touring accessories, will build into a bike which is superior to anything you are likely to see on your travels!

Highlighted in red are options for the **best possible** complete expedition touring spec, where cost is not the primary concern. Please note, these options are chosen for function, not because they are expensive "eye candy".

Highlighted in yellow are options for a **well balanced** spec for a complete expedition touring spec bike, where cost is kept in check.

Highlighted in orange, are instances where the options for "best possible spec" and "well balanced spec" are the same item.

Highlighted in grey are components which are outstanding enough to be considered "best possible" and "balanced", yet can also be fitted at the **Start Price**.

## Choice (Please circle your choice) Cost

### Handlebars

**Thorn Straight bar.** 580mm wide. A dependable high quality bar with a 5 degree bend, silver **£0**

**Thorn Straight bar.** As above but black. **£0**

**Thorn Narrow bar.** 515mm wide, 5 deg bend, our own special design, with a short centre swell, to allow a very narrow position. Too narrow for use on rough tracks. **£0**

**Thorn Flat Track bar.** 640mm wide, short centre swell and scale markings allow bars to be easily cut to 480mm if required. 10 degree pull back gives natural position. **£0**

**Thorn Mk2 comfort bar.** 620mm wide. Not everybody's choice but considered absolutely brilliant, by those who do like them silver. **£0**

**Thorn Mk2 comfort bar.** As above but black. **£0**

**Thorn Comfort MTB bar.** 645mm wide. As above but extra width, best where rough tracks will be frequently encountered. Black only. **£0**

**Modolo travellers bars...**you can read what we say about butterfly bars on pages 4 and 5 **£20**

**DROP BARS Zoom 440mm drop bars with Gilles Berthoud shifter (see page 5) and black cork tape.** **£100**

### Grips and Bar ends.

**Herrmans DD08B Dual Density ergonomic grips.** These are nice but nowhere near as nice as the GP1-L grips. **£0**

**Thorn anatomical cork grips...**short RIGHT SIDE for Rohloff NOT for bar ends...will fall apart if end is cut off **£5**

**Grab-On MTN1 closed cell grips...**A high quality and comfortable alternative to anatomic grips **£5**

**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. **£20**

**Ergon GC2-L Anatomic grips,** including mag micro bar ends. Not our choice, but could be used with straight bars or comfort bars. **£30**

**Ergon GC3-L Anatomic grips** with built in bar ends. Long "L" shaped bar end incorporated. Ideal choice with flat track bars. **£40**

**SJSC Ergo control bar ends.** A comfortable, rubber covered, anatomical "T" shaped bar end. **£16**

**Cane Creek Ergo control bar end grip II Black.** Only suitable for use with straight bars, highly recommended. **£30**

**Zoom Ski bends.** Traditional ski bends, work best with straight bars. Polished (silver) or black. **£15**

**Grab-On closed cell sleeve for Ski or Lo-Pro bar ends** Not suitable for use with drop bar brake lever options. **£5**

## Choice (Please circle your choice)

Cost

### Rohloff hub upgrades

Hub includes shifter, 17t sprocket and tandem axle plate

**6 SPARE POLISHED SPOKES.** If you order these now, our wheel builder will pick them when he builds the wheels...they will then be from the same batch. **£5**

**Pitlock silver F&R skewer set** **£35**

**Disc mount version of chosen colour Rohloff hub. Future proof your wheels...would cost a bomb to change this later!** **£20**

**Polished (SILVER) Rohloff hub with silver Deore front hub.** Silver Cro-mo skewer for Rohloff, silver Deore skewer at front. (The "start price" option.) **£0**

**Polished (SILVER) Rohloff hub with anodised silver Hope front hub.** Silver Cro-Mo skewers F and Rear **£50**

**Polished (SILVER) Rohloff hub with polished (silver) Son 28 dynohub.** Silver Cro-mo skewer for Rohloff, Son AK wheel nuts at front. **£138**

**Polished (SILVER) Rohloff hub with polished (silver) Son DELUX dynohub.** Silver Cro-mo skewer for Rohloff, Son AK wheel nuts at front. **£159**

**Black anodised Rohloff hub...**architectural quality anodising is highly resistant to corrosion and oxidation with black Deore front hub. Includes Black Ti skewer for Rohloff, black Deore skewer at front. **£45**

**Black anodised Rohloff hub with black anodised Hope front hub.** Includes Black Ti skewers front and rear **£95**

**Black anodised Rohloff hub with Black anodised Son 28 dynohub.** Includes Black Ti skewer for Rohloff, Son AK wheel nuts at front **£185**

**Black anodised Rohloff hub with Black anodised Son DELUX dynohub.** Includes Black Ti skewer for Rohloff, Son AK wheel nuts at front **£210**

**Red anodised Rohloff hub with Red anodised Hope front hub.** Includes Black Ti skewers front and rear **£95**

**Red anodised Rohloff hub with Red anodised Son DELUX dynohub.** Includes Black Ti skewer for Rohloff, Son AK wheel nuts at front **£210**

**Black Ti Skewer to replace Son AK wheel nuts.** Note: We prefer to use the Son AK wheel nuts! **£14**

**NOTE DISC FRONT HUBS AND DISC RIMS CAN BE FOUND IN THE "SUSPENSION FORK WITH DISC BRAKE" SECTION (PAGE 27)**

### Rims

**Andra 30 32h** An exceptionally heavy duty rim suitable for the longest toughest trips. **£0**

**Andra 30 CSS 32h** Andra rim with tungsten carbide brake track for extra long life. Inc Blue Swissstop pads **£85**

**Rigida ZAC 19 32h rim.** A lighter weight, double eyelet rim for use on smooth sealed roads for sporty, lightweight European touring/camping. These are not recommended for expedition touring. **£0**

**Drill any of above rims for Schrader valve.** NOTE:- We believe that this is a downgrade...the Presta valves we supply are a better choice for cycle touring. Please see page 6 for a more detailed explanation. **£5**

### LED Head lamps for dyno-hub

**The Busch & Muller Lumotec Lyt N Plus.** A brilliant budget headlamp! **£40**

**Schmidt Edelux LED headlamp** The best and brightest LED headlamp available. Polished (silver). **£130**

**Schmidt Edelux LED headlamp** The best and brightest LED headlamp available. Architectural quality Black **£130**

**Schmidt Edelux LED headlamp** The best and brightest LED headlamp available. Red anodised. **£140**



<b>Choice</b> (Please circle your choice)	<b>Cost</b>
<b>Tyres</b>	
Panaracer Pasela Tourguard 1.5" Lighter weight but not really recommended on the Nomad S+S	£0
Panaracer Pasela Tourguard 1.75" Recommended for sealed roads and excellent on occasional dirt roads.	£0
Panaracer Pasela Tourguard 1.5" folding. Lighter weight but still not really recommended on the Nomad S+S	£15
Panaracer Pasela Tourguard 1.75" folding. Very highly rec'd for fast sealed roads and excellent on occasional dirt roads. We've sold 1000's on tandems, they stand up to touring loads very well!	£15
Schwalbe Marathon EX 2.0 folding tyre. This replaces the much loved XR. We prefer 2.25"	£25
Schwalbe Marathon EX 2.25 folding tyre. This replaces the much loved XR. Best used with downhill tubes (see below)	£25
Schwalbe Downhill Schrader valve tubes. Only with Andra rim drilled to suit. Only rec'd if 2.25" EX tyres are chosen.	£0
<b>STOP PRESS WE HAVE FOUND A BATCH OF 2.25" MARATHON XR TYRES BEST EVER FOR EXPEDITION...WHILST STOCKS LAST</b>	£20
Schwalbe Marathon Supreme 1.6" folding reflex. The definitive tyre for fast touring on B roads, even with heavy loads over long distances. Still scary off road!	£26
Schwalbe Marathon Supreme 2.0" reflex. Excellent on smooth + broken roads, heavy duty use. Scary off road!	£10
Schwalbe Marathon Supreme 2.0" folding reflex. The definitive tyre for brisk riding on smooth + broken roads, with heavy loads over long distances. Still scary off road!	£20
Schwalbe Marathon Dureme 2.0" reflex. A rival for the Supreme? Slightly slower but some dirt road potential.	£15
Schwalbe Marathon Dureme 2.0" reflex folding. As above but slightly quicker, still with some dirt road potential.	£35
Schwalbe Marathon plus 1.75 smart guard. The best puncture protection available but we find them hard work.	£0
<b>Crank lengths &amp; Gearing</b>	
<b>160mm</b> Thorn conventional square taper chainset, for 110bcd rings, This item is not high tech but it does the job nicely. For much shorter than average cyclists.	£0
<b>165mm</b> Thorn conventional square taper chainset, for 110bcd rings, This item is not high tech but it does the job nicely. For shorter than average cyclists.	£0
<b>170mm</b> Thorn conventional square taper chainset, for 110bcd rings, This item is not high tech but it does the job nicely. For cyclists of average height	£0
<b>175mm</b> Thorn conventional square taper chainset, for 110bcd rings, This item is not high tech but it does the job nicely. For taller than average cyclists.	£0
Royce Titanium sealed BB unit for above chainset. Std industrial replacement bearings available worldwide.	£132
<b>110 bcd chainring</b> for above chainset. Our own double sided 7075 series alloy ring. Designed for hub gear and single speed. You could never find better! <b>Available rings: 34, 36, 38, 39, 40, 41, 42, 44, 46, 48 and 50</b>	£0
<b>110 bcd "chainguard"</b> a 7075 alloy chain ring without teeth. Protect trousers? Or simply adds weight? You decide. For use with chain rings up to 38, up to 44 or up to 50	£20
<b>170mm</b> Shimano Deore silver 2 pc design with integral BB axle & external bearings for 104 bcd rings	£46
<b>170mm</b> Shimano Deore black 2 pc design with integral BB axle & external bearings for 104 bcd rings	£46
<b>175mm</b> Shimano Deore silver 2 pc design with integral BB axle & external bearings for 104 bcd rings	£46
<b>175mm</b> Shimano Deore black 2 pc design with integral BB axle & external bearings for 104 bcd rings	£46
<b>165mm</b> Shimano XT Hollow tech 2 with integral BB axle & external bearings for 104 bcd rings. Light and strong. Is it a good idea? Shorter than average height.	£170
<b>170mm</b> Shimano XT Hollow tech 2 with integral BB axle & external bearings for 104 bcd rings. Light and strong. Is it a good idea? Average height riders	£170
<b>175mm</b> Shimano XT Hollow tech 2 with integral BB axle & external bearings for 104 bcd rings. Light and strong. Is it a good idea? Taller than average height.	£170
<b>180mm</b> Shimano XT Hollow tech 2 with integral BB axle & external bearings for 104 bcd rings. Light and strong. <b>Maybe an ideal choice for very tall riders?</b>	£170
<b>104 bcd chainring</b> for above chainset. Our own double sided 7075 series alloy ring. Designed for hub gear and single speed. You could never find better! <b>Available rings: 32, 34, 36, 38, 39, 40, 41, 42, 44, 46, 48 and 50</b>	£0
<b>104 bcd "chainguard"</b> a 7075 alloy chain ring without teeth. Protect trousers? Or simply adds weight? You decide. For use with chain rings up to 38, up to 44 or up to 50	£20

<b>Choice</b> (Please circle your choice)	<b>Cost</b>
<b>Chains and sprockets</b>	
KMC Z51 Chain...a reliable, good quality chain.	£0
Sram PC890 chain, the best chain currently available	£25
<b>Rohloff 17t sprocket, fitted as original equipment</b> to all our Rohloff hubs to enhance chain life. You can swap to 15 or 16 if you wish to change the gearing later.	£0
Rohloff 15t sprocket. Note: If you require higher gears, a larger chainring is a better option when buying the bike.	£5
Rohloff 16t sprocket. Ideal if you know that you want high gears, with a smaller chainring, at the time of purchase.	£5
Rohloff 21t sprocket, expensive, unique to us bound to increase chain and sprocket life, can you cope with very low gears?	£25
<b>V Brakes</b>	
<b>Shimano Deore V brakes and levers</b> with replaceable shoes. These are super brakes!	£0
<b>Shimano Deore V brakes</b> as above but with <b>Tektro drop bar V brake levers</b> these drop bar levers must be used with drop bars and V brakes	£0
<b>Shimano XTR V brakes and levers.</b> These are the ultimate brakes. Very low maintenance, with a truly superb feel, They allow us to brake harder with more confidence.	£189
<b>Shimano XTR V brakes as above but with Tektro drop bar V brake levers</b> these drop bar levers must be used with drop bars and V brakes.	£132
<b>Rear only disc brake.</b> (One of the Rohloff disc hub options must have been chosen.)	
<b>Shimano Deore rear hydraulic disc brake calliper and lever, with Thorn Rohloff 160mm rotor</b>	£85
<b>Hope X2 rear hydraulic disc brake calliper and flip flop lever with Thorn Rohloff 160mm rotor.</b>	£130
<b>100% dry hydraulic coupling</b> for Hope rear disc brake, when used with S&S couplings. These are not an absolute necessity with S&S coupled "X" series frames; the calliper or lever, may be removed and the brake line can be removed from the open guides. These couplings do make the whole operation significantly quicker.	£200
<b>Suspension fork options with front V brakes</b> Disc can't be fitted to steel fork, see page 8. As long as V brakes are fitted to the suss forks, all the options in pages 24, 25 and 26 of this brochure, apart from lo-loaders, will work.	
Magura Menja 100mm travel suss fork fitted to bike No steel fork supplied.	£329
Magura Menja 100mm travel suss fork fitted to bike Steel fork supplied in box.	£359
Magura Menja 100mm travel suss fork supplied in box. Bike built with steel fork.	£349
<b>Second Shimano Deore front V brake callipers</b> with extra front cables. Choose when <b>both forks</b> are to be supplied with V brakes	£25
<b>NOTE FRONT DISC BRAKES CAN BE FOUND IN THE "SUSPENSION FORK WITH DISC BRAKE" SECTION (PAGE 27). If you plan on having suss forks, with front disc, please choose forks, hubs, rims and brakes from this section.</b>	

<b>Choice</b> (Please circle your choice)	<b>Cost</b>
<b>Mudguards</b> You may be best off without them for expedition touring with fat tyres	
<b>SKS P45</b> mudguards. Ideal for 1.75" will cope with 2.0" tyres with minimal clearance silver.	£35
<b>SKS P45</b> mudguards. Ideal for 1.75" will cope with 2.0" tyres with minimal clearance black.	£35
<b>SKS P55</b> mudguards. Ideal for 2.0" will cope with 2.25" tyres with minimal clearance silver.	£35
<b>SKS P55</b> mudguards. Ideal for 2.0" will cope with 2.25" tyres with minimal clearance black.	£35
<b>SKS P65</b> mudguards. Ideal for 2.25" looks odd with 1.75" tyres (excessive clearance) silver.	£35
<b>SKS P65</b> mudguards. Ideal for 2.25" looks odd with 1.75" tyres (excessive clearance) black.	£35
Front Crud catcher	£10
<b>Seat posts.</b> Note: frame comes supplied with black seatpost.	
Cane Creek 3G Thudbuster suspension seat post. With Neoprene cover. The best you can get. Do you need it?	£180
Richey 350mm Pro Carbon seat post 27.2 Takes the road buzz out but needs careful attention.	£71
Shimano Pro PLT 2014 Alloy seat post. A lighter and sexier option to our standard post	£40
<b>Saddles...Brooks</b>	
<b>Brooks B17 Standard</b> saddle. Suits Men and Women. How do you know it won't be bliss, when broken in, unless you try it? But you may hate it and it may never suit you. <b>Black with black steel rails. This is a real bargain because we buy B17 Standard in quantity to fit as original equipment.</b>	£20
<b>Brooks B17 Standard</b> saddle, as above but <b>Honey with black steel rails.</b> Honey breaks in more quickly	£20
<b>Brooks B17</b> Narrow saddle, as the name suggests narrow and unlikely to suit male tourists, never mind the female anatomy! <b>Black with black steel rails</b>	£46
<b>Brooks B68</b> classic wide saddle, highly unlikely to suit any male anatomy...too wide for most women <b>Black with black steel rails.</b>	£46
<b>Brooks B68</b> classic wide saddle as above but <b>Honey with black steel rails.</b>	£46
<b>Brooks Team Pro</b> An iconic saddle with big copper rivets, between B17 standard and B17 narrow in width, would suit very few women. <b>Black with chrome rails.</b>	£54
<b>Brooks Team Pro</b> As above but <b>Honey with chrome rails.</b>	£54
<b>Brooks B17 Ti</b> saddle. Suits Men and Women. If you know you like a B17 this saves weight and is more comfortable but best not used in severe terrain. <b>Black with Titanium rails.</b>	£138
<b>Brooks B17 Ti</b> saddle, as above but <b>Honey with Titanium rails.</b> Honey breaks in more quickly	£138
<b>Brooks Swift</b> This is a slightly narrower saddle and is unlikely to suit the female anatomy <b>Black with Chrome steel rails.</b>	£86
<b>Brooks Swift</b> This is a slightly narrower saddle and is unlikely to suit the female anatomy <b>Honey with Chrome steel rails.</b>	£86
<b>Brooks Swallow</b> The return of an icon. This saddle is dramatically cut away <b>Black with chrome rails.</b>	£107
<b>Brooks Swallow</b> The return of an icon. This saddle is dramatically cut away <b>Honey with chrome rails.</b>	£107
<b>Saddles...other</b>	
<b>San Marco Rolls Classic</b> saddle. This is very well made and long lasting. It is highly regarded by some for value and comfort, it has an almost cult following.	£25
<b>Selle Royal MEN'S Travel Lite Gel</b> 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
<b>Selle Royal WOMEN'S Gel</b> saddle. The comments above also apply here.	£0
Thorn Velo <b>MEN'S</b> saddle nice quality, firm padding. Could be perfect for you, if you don't want a Brooks or San Marco Rolls.	£0
Thorn Velo <b>WOMEN'S</b> saddle nice quality, firm padding. Could be perfect for you, if you don't want a Brooks or San Marco Rolls.	£0
<b>Other saddles can be fitted.</b>	£'s Vary

<b>Choice</b> (Please circle your choice)	<b>Cost</b>
<b>Pedals</b>	
<b>MKS GR9</b> pedal a classic <b>platform</b> pedal. Single side, so no use without toe clips. Supplied with S, M, L or XL chromed steel clips and nylon toe straps.	£36
Shimano <b>PD-MX30 DX</b> double sided BMX pedal. Large flat platform, excellent grip. High quality, super tough, durable. Ideal for walking boots, trainers or flip flops.	£66
Shimano <b>PD A530 SPD</b> one side and concave platform the other. Ideal for touring. You can use MTB racing shoes or "ordinary footwear" without changing pedals.	£56
Shimano <b>PD M520 SPD</b> pedals. A bargain. You can try SPD pedals without great expense. Silver.	£19
Shimano <b>PD M540 SPD</b> pedals. Good quality SPD double-sided pedals. Silver.	£45
<b>Other pedals can be found in the accessory pages.</b>	£'s Vary
<b>Carriers</b>	
<b>Thorn Expedition carrier.</b> Heat treated Cro-Mo tubes. Super strong and rigid. Durable black powder coat finish. 6mm fittings. Could carry more than you can!	£70
<b>Thorn Mk5 Lo-Loader.</b> Heat treated Cro-Mo tubes. Super strong and rigid. Durable black powder coat finish. 6mm fittings. Could carry 15Kg per side!	£70
Blackburn Mtn. rear carrier. Certainly not suitable for expedition use but a good choice for loads below 10Kg. Black supplied.	£35
<b>Profile Design Kage.</b> The best bottle cage ever. Will carry std bottles, Sigg type 1litre aluminium bottles or up to 1.25litre plastic "Coke" bottles (Other carbonated drinks are available.)	£8
<b>Profile Design Kage.</b> As above but 2 cages	£16
<b>Profile Design Kage.</b> As above but 3 cages	£24
<b>Thorn accessory bar</b> 105mm extension. 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 the bars.	£16
<b>Accessories</b>	
<b>Cat eye CC-MC100W wireless computer.</b> All necessary functions. Ultra reliable, with back lighting.	£40
<b>Cat eye TL-LD 1100</b> 10 LED Opticube rear light. Fits bracket on our carrier. Exceptionally bright and visible.	£30
<b>Cateye HL-EL450 LED</b> light excellent for being seen. Very bright, lightweight, compact and ultra reliable.	£30
<b>Cateye HL-EL530</b> bigger, brighter and heavier than the above light. Can be used with care, to see where you are going.	£45
<b>Topeak mountain morph mini track pump.</b> Superb piece of kit quickly reaches reqd. pressure	£27
Blackburn Mammoth pump. Ideal as a day ride pump with our 26" wheel bikes	£15
<b>Rixen Kaul Mini map holder</b> A super, well made compact bit of kit.	£20
<b>Spares, Rohloff spares and tools</b>	
Rohloff full oil change kit	£17
Rohloff special chain lubricant	£5
Rohloff sprocket removal tool	£29
Rohloff spare sprocket 15t	£29
Rohloff spare sprocket 16t	£29
Rohloff spare sprocket 17t	£29
Rohloff spare sprocket 21t	£49
Rohloff Torx T20 T grip	£10
Panaracer Pasela 1.75" folding tyre...430g...an ideal spare	£30
Schwalbe Furious Fred 2.25" folding tyre...395g! Ideal emergency spare when 2.25 tyres are being used/	£30
<b>Schwalbe SV13 Presta inner tube 26 x 1.5"—2.5"</b> Original equipment on our 26" wheel bikes. The best tube on the market in this size.	£4
<b>Schwalbe AV13 Schrader valve tube 26 x 1.5"—2.5"</b> <b>Only applicable if you requested us to drill your rims</b>	£4
<b>Schwalbe SV13D Schrader valve tube 26 x 2.1"—3.0"</b> Very thick walls extra 100g of rubber ideal for 2.25 Mara EX	£5

# SUSPENSION FORK WITH DISC BRAKE SECTION

Discs can not be fitted to a steel fork see page 8

SUSPENSION FORKS	Cost
<b>Magura Menja</b> 100mm travel suss fork fitted to bike No steel fork supplied.	£319
<b>Magura Menja</b> 100mm travel suss fork fitted to bike Steel fork supplied in box.	£349
<b>RockShox SID RLT 2011 Suspension Fork</b> 32mm 100mm Disc - White/Silver fork fitted to bike No steel fork supplied.	£567
<b>RockShox SID RLT 2011 Suspension Fork</b> 32mm 100mm Disc - White/Silver fork fitted to bike Steel fork supplied in box.	£597
<b>F&amp;R Disc Hub upgrades</b> Includes Rohloff hub and shifter, 17t sprocket and tandem axle plate. <b>Front disc hubs include appropriate rotor where stated...otherwise the correct front rotor comes with the disc brake set.</b>	
<b>6 SPARE POLISHED SPOKES.</b> If you order these now, our wheel builder will pick them, when he builds the wheels...they will then be from the same batch.	£5
<b>Pitlock silver F&amp;R skewer set</b>	£35
<b>Polished (SILVER) Rohloff disc hub with silver Deore DISC front hub kit includes Shimano 160mm centre lock front rotor.</b> Silver Cro-mo skewer for Rohloff, silver Deore skewer at front.	£25
<b>Polished (SILVER) Rohloff hub with anodised silver Hope DISC front hub.</b> Note correct rotor is included with Avid or Hope front disc brake. Silver Cro-Mo skewers F and Rear	£48
<b>Polished (SILVER) Rohloff hub with polished (silver) Son DELUX DISC dynohub kit includes Shimano 160mm centre lock rotor.</b> Silver Cro-mo skewer for Rohloff, Son AK wheel nuts at front.	£198
<b>Black anodised Rohloff disc hub with black Deore DISC front hub kit includes Shimano 160mm centre lock rotor.</b> Silver Cro-mo skewer for Rohloff, silver Deore skewer at front.	£65
<b>Black anodised Rohloff hub with black anodised Hope DISC front hub.</b> Note correct rotor is included with Avid or Hope front disc brake. Black Ti skewers front and rear	£90
<b>Black anodised Rohloff hub with Black anodised Son DELUX DISC dynohub kit includes Shimano 160mm centre lock rotor.</b> Black Ti skewer for Rohloff, Son AK wheel nuts at front	£243
<b>Red anodised Rohloff disc hub with Red anodised Hope DISC front hub</b> Note correct rotor is included with Avid or Hope front disc brake. Black Ti skewers front and rear	£90
<b>Red anodised Rohloff disc hub with Red anodised Son DELUX DISC dynohub kit includes Shimano 160mm centre lock rotor.</b> Black Ti skewer for Rohloff, Son AK wheel nuts at front	£243
<b>Avid 160mm 6 bolt rotor only required if Shimano disc brake is chosen with Hope front hub.</b>	
<b>Black Ti Skewer to replace Son AK wheel nuts.</b> Note: We prefer to use the Son AK wheel nuts!	£14
<b>DISC RIMS</b>	
<b>Rigida Disc Bull</b> Exclusively for use with disc brakes. Strong, wide and relatively lightweight. Ideal for heavy use, including loaded touring. Schrader only.	£5
<b>DT Swiss EX500 MTB Enduro Disc Rim - Black - Presta valve.</b> Suitable for serious off road use with moderate loads.	£85

Disc Brake Sets (FRONT and REAR)	Cost
One of the Rohloff disc hub options, with a front disc hub, must also be chosen. All these options come with Thorn Rohloff 160mm rotor. <b>All the options below, EXCEPT THE FIRST, are for "straight" bars.</b>	
<b>[L] Shimano Deore front and rear. Hydraulic disc brakes and levers.</b> You'll need to purchase the Avid 160mm 6 bolt rotor, if you've also chosen a Hope front hub for use with these brakes.	£99
<b>[M] Hope Tech X2 front and rear Hydraulic disc brakes and Hope flip flop levers</b> with braided stainless hoses front and rear. Includes Hope 160mm 6 bolt front rotor. These are excellent disc brakes	£299
<b>[P] Hope Hydraulic disc brakes Hope M4 front with Tech X2 rear.</b> Complete with Hope flip flop levers with braided stainless hose. Comes with Hope 183mm floating front rotor. <b>THIS OPTION CAN ONLY BE USED WITH A HOPE FRONT HUB.</b> These are the ultimate disc brakes for solo MTB use...the front 4 pot brake has awesome power, combined with brilliant "feel". In my opinion, the M4 too powerful for use as a rear brake.	£319
<b>100% dry hydraulic coupling.</b> For use with Hope rear hydraulic disc brake when S&S couplings have been chosen. See page 25	£200



Cycle Touring  
by Thorn



To read "Andy and Fiona's adventures in south America"  
Visit our website and look for downloads

<http://www.thorncycles.co.uk/downloads/adventures.pdf>