THORN Audax Mk3

A superb derailleur geared, lightweight, 700c Audax bike

Also excels at ultra-light weight to medium weight touring, serious hard training, fast commuting and fast day rides

Please read and note.
Prices are rising all the time and we do not wish to waste resources; consequently the prices printed in this brochure may no longer be correct. The current prices, given in the on line brochure, are correct and will always be honoured

Issue 09
Aug 2009

Brochure incorporates,
THORN Cyclosportif
THORN Audax 853
THORN Audax Classic
THORN New Classic Audax



THORN sales administrator, Lisa P, at speed on her highly personalised Audax Mk3

Our best Audax bike ever?
Many customers think so...
it is certainly our least expensive!











THORN

AUDAX Mk3

St John Street Cycles - Thorn Cycles Ltd. 91-93 St John Street - Bridgwater, Somerset TA6 5HX
01278 441 500 - sales@thorncycles.co.uk - www.sjscycles.com - www.thorncycles.co.uk

About Thorn

The business began as St John Street Cycles, in 1984 when Robin Thorn took over an almost defunct toy and cycle shop at 36 St John Street. He chose Bridgwater quite by chance – he was having holiday in the area from his home in Norfolk, and was amazed to see the number of people on bicycles in the town. In an instant the decision was made and the shop was leased that day.

Robin borrowed a small sum from his parents and worked all hours of the day and night to build up the business. He soon became a well-known figure with his oil-stained brown overall and wild hair and beard, often working on the pavement in the sunniest weather to draw further attention to his shop.

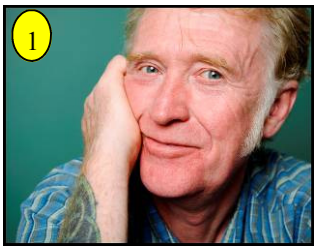
In 1989, the first employee was taken on – Andy Blance, a friend and very experienced audax rider.

In 1992, the first tentative moves were made into national advertising, concentrating on the touring and tandem markets, which were the particular interests of Robin and Andy. The emphasis had completely changed from cheap bikes to very high quality, specialist machines, though still often sold at a bargain price made possible by Robin's buying prowess.

In 1993, Robin decided to move up the road to number 91-93. The entire building front was gutted to give a modern, light, air-conditioned shop and a very superior workshop; the rear was left as a long single-storey brick store. St John Street Cycles was rapidly becoming known as one of the major touring and tandem suppliers in the country. We were gaining an extremely good reputation for the quality of our service and the breadth of our knowledge in the field.

In late 1995 we began to consider manufacturing our own bikes. We had become increasingly frustrated by the mistakes and missing features on the bikes we could buy and wanted to design what we considered to be the ideal touring bike and the ideal tandem. Andy used his wealth of experience and study of the subject to design the bikes, and the THORN brand was launched. The first bikes were so well received that we didn't even have to advertise them – they sold as quickly as we could get them made. At this point we set up our own frameshop 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) Andy 2007

(2) Robin 2007

(3) Robin and Andy back in 1992

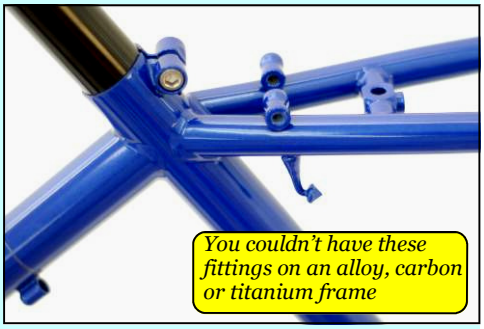


Steel is real

High quality steel is the best possible material for a strong, comfortable, well equipped, long lasting frame... all our bikes are high quality 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!

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!



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

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, on a hot day?

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

Titanium is two-thirds of the weight of steel...but it is much less stiff...to make a frame which is as stiff as a good, high quality steel frame, you have to use a considerably greater 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 gives a scary ride down steep hills!

It is either impossible or extremely expensive to have the required fittings on a Ti frame and furthermore, all titanium frames, that we have known, have also broken! It is usually impossible to repair a cracked titanium frame. Perhaps there are some 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, 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!

Thorn Audax Mk3

By Andy Blance

Our new 700c, derailleur-geared, lightweight touring bike…the **Thorn Audax Mk3,** is now available and has received an unprecedented amount of very positive feedback from its owners.
By switching production of the frame and fork to our builders in Taiwan, we have been able to produce a machine which is superior, in many ways, to the earlier Thorn Audax bikes…but for significantly less money**!**

Please read and take note of this.

Whilst having significantly more clearance than a "racing" bicycle, the Audax Mk3 has less clearance than many traditional touring bikes. Mk3 owners should expect to wear "proper SPD type shoes", or "traditional cycling shoes, with steel toe clips and straps". Either type must be set to allow clearance, when riding a Mk3. Failure to cycle with appropriate footware, *could* lead to contact between the rider's shoe and mudguard...which could precipitate the loss of control.

Pedigree, lineage and stable companions.

Our original Audax bike (still available as the Audax Classic) was very highly praised when we launched it in 1993. I designed it to be the ideal bike for very long audax rides (600Km). Many of the riders of long events, in those days, rode traditional touring bikes (TTBs), often with 28c (or narrower) tyres. (Some other riders favoured road racing bikes, usually with badly fitted mudguards and no proper provision for luggage). The TTBs were unnecessarily heavy for long distance audax use…as they were designed to carry medium to heavy touring loads with wider (35c) tyres. The TTBs were also a bit too stiff for comfort, especially with narrower tyres and very light loads. When introduced, the original Audax weighed much less than a TTB, and was much more comfortable, its handling characteristics were deliberately made to be just like a TTB (i.e. biased towards great stability at the expense of a little agility). The original Audax was very docile and had no handling quirks to be wary of on long distance ride, when drowsiness set in. Some people loved it with a passion; some people admired it but thought it a little dull, others said it was boring to ride.
The Audax 853 appeared in 2000 and, because we were running it alongside the Classic, we gave it much sportier handling characteristics…it handles much more quickly but it is still stable at speed…even with a small load. Nobody ever accused the 853 of being boring (!) but, nevertheless, we introduced an even tighter version, the Cyclosportif, which rapidly achieved cult status among certain hard ridding types. Indeed, "Cycling Plus" once wrote that the Cyclosportif was the best steel bike that they had ever ridden. The frames of the Audax 853 and the Cyclosportif are made from oversize, conical, Reynolds 853 tubing, in a medium-light gauge. Frames built from this tube set, whilst having the comfort of steel, are very, very stiff in the bottom bracket area and show no tendency to "crab" sideways when even the most powerful of riders kick hard. Many owners tell us that their Audax 853 is far and away the best frame that they have ever ridden for long distance cycling…others wish it was as comfortable as the Original Audax. The truth is that, probably, only the strongest of riders can ever get the best out of the Audax 853 and, for most cyclists, something a little less stiff and therefore more comfortable, is much more desirable.

The best Audax frame ever?

For the majority of cyclists, the new Thorn Audax Mk 3 is the perfect 700c, derailleur geared, lightweight Audax frame, it is strong enough for ultra-lightweight to medium weight touring The Mk3 is also, a seriously good frame for hard training. Being capable of such diversity, it should be obvious that it builds into a superb fast commuting or fast day riding bike!

The Audax Mk3 has the levels of comfort associated with the original Audax and the modern, quick (yet stable) handling of the 853. I have designed, for these frames, a lightweight, high-quality (cold drawn, seamless, double butted and heat treated) Cro-Mo tubeset, with extra-resilient ovalised seat stays. We call this set of 8 tubes "THORN 858".These frames have all the brazed-on features that you would expect to find on a Thorn frame…direct-fit mudguard bosses, carrier bosses, cable guides and stops for brake and gears. **The bonus is that, on the Mk3 frames, all the fittings are stainless steel!**

Versatility

Whilst the Mk3 Audax excels at light weight touring (less than 8Kg), the frame is perfectly strong enough for medium weight touring, it will carry up to 15Kg of luggage…on a suitable rear carrier!
The Mk3 is supplied with a pair of high quality Cro-Mo forks, complete with stainless bosses for mudguards and lo-loader carrier.
These forks are designed for comfort, with narrow tyres, at high pressures, therefore it is important that you do not treat them as "full-blown touring forks", they have a maximum luggage limit of 2.5Kg (per side).
Note, for medium weight touring, due to the shortish wheel-base, if more than 10kg is carried at the rear, the bike will handle better if some weight **is** carried in front lo loader panniers.



Bike shown is size 525, in105 spec, with optional carbon fork

The Thorn Audax Mk3 frame and fork are guaranteed for the lifetime of the original owner.

Geometry. All the sizes, except size 495 (small) and 555S (medium with short top tube) have geometries which are suitable for one of the deep drop carbon forks that we can supply. The substitution of a carbon fork reduces weight significantly, whilst also noticeably increasing comfort and makes the Mk3 a better bike for today's audax events. All the frames arrive with a steel fork, sprayed in the same batch as the frame, if you tick the carbon-option box, you get the steel fork supplied as well…a policy that most people will find useful.

Please note, the Mk3 frame and its steel forks will accept tyres which measure 28mm (i.e. some tyres labelled as 700 x 32c) with sufficient clearance for mudguards…the carbon forks will accept 28mm tyres…but not with mudguards. **The carbon forks will only accept tyres which measure 25mm, with mudguard clearance.**

Compatability

The Mk3 frames are deliberately supplied with the rear ends set 133mm apart. Road hubs are spaced 130mm and MTB hubs are spaced 135mm, therefore 133 will suit either. Springing a frame by a few mm each time you remove or replace the wheel is not a big issue but you can permanently set the frame to 130mm or 135mm, if you wish. (Before you do this, please note that, once re-set, is it not permitted to "re-re-set" 135mm frames to 130mm or vice-versa) We have long favoured the advantages of 135mm…you get a wheel with less dish and MTB hubs have better seals than road hubs…there are no team cars in audax events! But we do acknowledge that all the really trick road wheels are only available in 130mm…which is why we have given you the choice!

Finish

The Mk3 is available in a choice of 4 colours; blood red, cobalt blue, fuchsia or BRG. The frames are treated internally with a rust inhibitor; the outside surfaces are sprayed with a rust-inhibiting primer. The frames are then coated with highly-durable powder coat paint; all the decals are applied and sealed into the finish with a clear powder lacquer.

Audax Mk3 Size Matrix

(All dimensions in mm angles are in degrees)

[1] Size (Virtual seat tube length C to C)	[2] Actual Seat tube length (C to C)	Slope [1] minus [2]	Virtual Top tube (C to C)	BB Drop	Seat Angle	Chain Stay length	Mid tube S/O (standover height)	Height of top tube@ junction with Head Tube
495S (Small)	375	120	518	72	74	425	701	761
525 (Small/Med)	425	100	550	72	73.5	430	738	788
550 (Medium)	480	70	565	72	73	430	772	807
555S (medium) short top tube	415	140	530	72	74	430	742	812
570 (Med/Large)	510	60	575	67	72.5	430	801	831
600 (Large)	545	50	595	67	72	435	833	863



Just look at the quality of the welding!





Here you can see a very special Audax Mk3, it belongs to Thorn Cycle's "pocket rocket" Lisa (who many of you will have spoken to). This bike oozes with top quality kit. The Mk3 is Lisa's training bike and, with a rear carrier fitted, it is also her lightweight touring bike. The frame is size 495S



MK3 Default dimensions MATRIX.

Please Note, unless you request otherwise, these are the dimensions of various components we will use when building each size of bike. All dimensions in mm, (except drop bar width, which is traditionally measured in cm.) angles are in degrees. We always fit the stems "reversed"...which, in the case of a 17 deg stem, makes it **parallel to the ground...this allows extra bar height to be achieved later, if required, by the simple expedient of "flipping" the stem.**

Frame Size	Steerer Length	Stem Length	Stem Angle	Crank Length	Bar Width
495	230	80	6	170	40
525	250	90	15	170	42
550	280	100	17	170	42
555S	290	100	17	170	42
570	310	110	17	175	44
600	350	120	17	175	44

The Mk3 SJSC Special, in Size **550**, Weighs

10.9 Kg

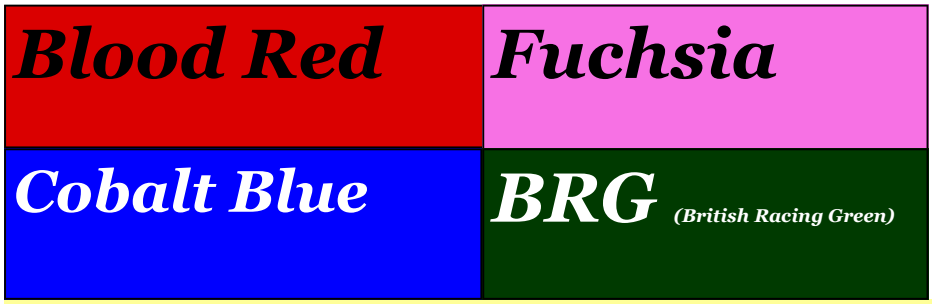
There is an alternative finishing kit available, please see "Recommended upgrades" on page 12

The Mk3 bike options are available in a choice of 4 colours and 6 sizes

Please Note, unless we hear otherwise, each size will be supplied with the length of steerer and stem we consider appropriate to that size, (please see options matrix above)

The metallic pearl cobalt blue is lush, rich and, dare we say, boldly sophisticated? The blood red is simply the reddest red we have ever seen…completely "in your face" and, of course, as many people know, red bikes are always the fastest! The newly introduced Fuchsia pink is not just for the ladies (Do you remember Telecom? Do you remember Barry Hoban on his pink and chrome Mercier, if it comes to that?)

We have also introduced classic BRG (British Racing Green), which is an established favourite of Thorn customers.



Mudguards and finishing kit...all specifications

SKS mudguards are fitted to all 3 options, these are the best available...we give you the choice of black or silver . The Mk3 frame and forks have bosses for the "direct fitting of mudguards"…this method totally eliminates rattles and enables the 'guards to stay true indefinitely.

We have chosen the **Selle San Marco Rolls saddle**; several decades ago, this was considered to be the ultimate saddle by many professionals. Whilst not being the lightest currently available, the Rolls is certainly not heavy and it is still regarded by many cyclists as being the most comfortable saddle ever made. Whilst we can't know if your backside will find it comfortable, the Rolls is certainly very well made and will last for very many years…the genuine leather upholstery, securely fitted, over high density foam, to a high density plastic under pan, supported by steel rails, sees to that!

We have chosen Anatomical alloy handlebars and a front loading, threadless, 1.125" forged stem. We have also specified a reasonably light weight, micro adjustable alloy seat post and black cork tape to complete the package.

The Mk3 Audax is designed to be used hard and abused a little...we doubt if it has (or has ever had) any peers.

Carbon Fork Options (Price surcharge)

We can supply any of the options of the Mk3 Audax with a carbon fork. Please see the price list for details, **except for sizes 495 and 555S** (which need a fork with more offset than is available in carbon)

PLEASE NOTE. The widest tyre that we can fit when using mudguards and a carbon fork is 25mm.

Please also note that we will supply the steel fork in addition to the carbon fork supplied on the bike.

In a nutshell all the options of the Mk3 offer exceptional value for money and promise exceptional, real-world, performance.

They have a THORN frame of the highest pedigree…which not only handles perfectly and can carry a light load efficiently but is also built for a long service life.

They all have an honest pair of wheels, hand-built and superbly tensioned, by a genuine master-builder, they also have good quality kit.

The Mk3 Audax is available as a **complete bike** or as a **frame kit**, which comprises of frame and fork, complete with seat post and headset package. We are so confident that you will appreciate its resilient ride, stunning build quality and super-tough finish, along with the famous "Thorn attention to detail" and pedigree handling, that we make the following

For a complete bike.

Buy a Mk3 Audax, ride it for 14 days and, if you are not totally delighted, upon its return, we will refund the purchase price.

Unique Thorn 14 DAY money back pledge

For a frame and fork package.

Buy a Mk3 Audax, frame and fork and we will give you 100 days (!) to complete the project and thoroughly test the bike. If you are disappointed, you may return it to us and, upon its return, we will refund the purchase price of the frame and fork package.

Unique Thorn 100 DAY money back pledge

The "NOT SO SMALL" PRINT

Provided that, it is returned in the original box and, if you have cut down the steerer, there is still room to fit a stem and 50mm of spacers.

How is that for confidence in the quality and performance of our product?

There are 3 options for complete Audax Mk3 bikes(1) SJSC special Spec (Deore/Tiagra STI), (2) M530 Deore/105 STI spec and (3) XT/Ultegra STI spec

OPTION (1)

SJSC special Spec

The ***"SJSC Special"*** 27 speed Spec is designed to both enhance and showcase the Mk3's multi-faceted nature. This spec would be our No1 choice for a mix of Audax riding and light touring in hilly areas...the spread of gears is greater than anything offered by any other manufacturer...we have had to "think outside the box" because we know how useful it is to have really low gears, in severe terrain...especially when you are really tired!

Transmission.

The transmission we have selected is really very special, we have used a Shimano Deore 26/36/48 chainset and 11-32 Cassette with a Deore rear mech, Tiagra front triple mech and Tiagra STI levers. This **100% Shimano transmission** works really well and give an awesome range of gears, which should give most people a gear for every situation likely to be encountered on the Mk3.(However, we can even fit a 22t inner ring (!!!) for a small upcharge, if requested...or, if you want a tighter spread of gears, we can substitute an Ultegra 12-27 cassette again for a small upcharge).

Alternatively, you can choose to have the 30, 39, 50 Tiagra triple chainset for a small extra charge.

Wheels and tyres.

During our time in the trade, you can imagine that we have learned a thing or two. We know that wheels and tyres make more of a difference to the performance of a bike than anything else can…to some people performance equates to absolute speed. Whilst we appreciate a quick bike, we are convinced that, when contemplating the true meaning of "performance", reliability and durability should be major considerations…particularly on a lightweight touring bike! We equip the "***SJSC Special"*** with a set of "proper", hand built wheels...black **Mavic Open Sport rims**, with enough top quality DB stainless spokes to promise long-term reliability… 32 in fact! We have specified the very durable and reliable **Shimano Deore sealed MTB hubs** with 135mm axle spacing, to reduce wheel dish. These wheels will certainly not be the fastest wheels you could obtain, neither will they be the most durable, the most expensive or the cheapest but we believe that they will be the best possible compromise of speed, durability, affordability and comfort. Deep section aero wheels can be many things (fast, strong, weak, light, heavy, cheap, expensive etc) but they can never be described as comfortable!

It is a similar story with the tyres…**28mm Panaracer Pasela tyres** have a great reputation for grip, reliability, long life and, most importantly, comfort! Paselas don't pick up many punctures either! We also know that the 28mm Pasela is adequately fast…almost certainly the quickest 28mm, puncture-resisting, non folding tyre ever made. Having sold literally thousands; we also know this 315g tyre is the most reliable.

The Mk3 frame can easily accommodate 28mm tyres and mudguards, with enough clearance for them to be an asset, rather than a liability; therefore it makes great sense to fit them as original equipment.

This our smallest size

size 495

It's shown here in SJSC spec, with the zero cost XT/bar end shifter option.

(See page 12)



Check out the super-low gearing of the Audax Mk3 in "SJSC Special Specification".



What you see is what you get.

A long steerer is supplied. (See matrix on page 6) ...you may cut to suit, when you have achieved the position that ***you need.***



Size pictured is 570 (Medium/Large)

OPTION (2)

Deore /105 STI Spec

The Deore/105 (30 speed!) STI spec is aimed at the sportier rider. Whilst having gears which are significantly lower than normally found on a road racing bike, this spec could never have gears as low as is possible with the "SJSC Special" Spec...but that should not be a problem for the likely purchaser of this cycle.

Transmission.

We fit 100% Shimano 105 10sp transmission.
Triple chainset 30/39/50 and 12-27 cassette, with 105 front and rear mechs and STI levers.

Wheels and Tyres.

The 105 spec has a superb pair of hand built wheels.135mm width Deore M530 MTB hubs are laced into 32hole Mavic Open Pro CD rims using top quality stainless spokes (Double butted at the front and LHS rear and plain gauge on the drive side). We consider that lighter weight (290g) **folding** version of the 28mm Panaracer Pasela tyres (please see SJSC Special spec for details of the non-folding version) are the perfect choice for this machine.

Brakes, The SJSC Special and the Deore/105 specs both use Shimano A550 (Tiagra level) deep drop (47-57mm) twin pivot side pull brakes…these brakes are first class…very powerful but with plenty of "feel" for those tricky situations (greasy roads or riding in a tight bunch with your mates).

The bike shown below is a size 555S... a size that's unique to us. It's a medium size, with a short top tube. If you are of average height (or slightly shorter) and you need drop bars that are higher than the saddle and/or a fairly short reach, this is the size for you.

The clever geometry not only provides superb handling, it also gives you proper toe clearance!

Deore /105 STI Spec,
what you see is what you get.

Other colours are available!



OPTION (3)
ULTEGRA STI SPEC

The Ultegra 10sp groupset really is something very special to look at and touch, as well as to use and it is possible that the extra cost may be offset against greater longevity.

Transmission.

We fit a 100% Shimano Ultegra 10sp transmission. Triple chainset 30/39/52 and 12-27 cassette, with Ultegra front and rear mechs and STI levers.

Wheels and Tyres.

The Ultegra spec has a superlative pair of hand built wheels. We specify the wonderfully sealed, 135mm width, XT MTB hubs, these are laced into black 32 hole DT Swiss RR 1.1 rims using top quality stainless spokes (Double butted at the front and LHS rear and plain gauge on the drive side).
We consider that that riders opting for this spec will want slightly narrower tyres, and will not mind the extra expense involved in having light weight, racing quality tyres, we have therefore chosen 25mm Continental GP 4 season tyres. These tyres weigh only 230g each! These tyres are quicker than the Paselas on smooth surfaces but they are also slightly less comfortable on rougher surfaces, such as B roads, country lanes and city streets.

Brakes, The Audax Mk3 in Ultegra spec is equipped with Shimano's luscious, top of the range, deep drop (47-57mm) twin-pivot R 650 brakes.



Apart from the low cost upgrade to a carbon fork, what you see is what you get with the Ultegra STI option.

Bike shown is the largest size we make, size 600.



Special frames, hand built in Somerset.

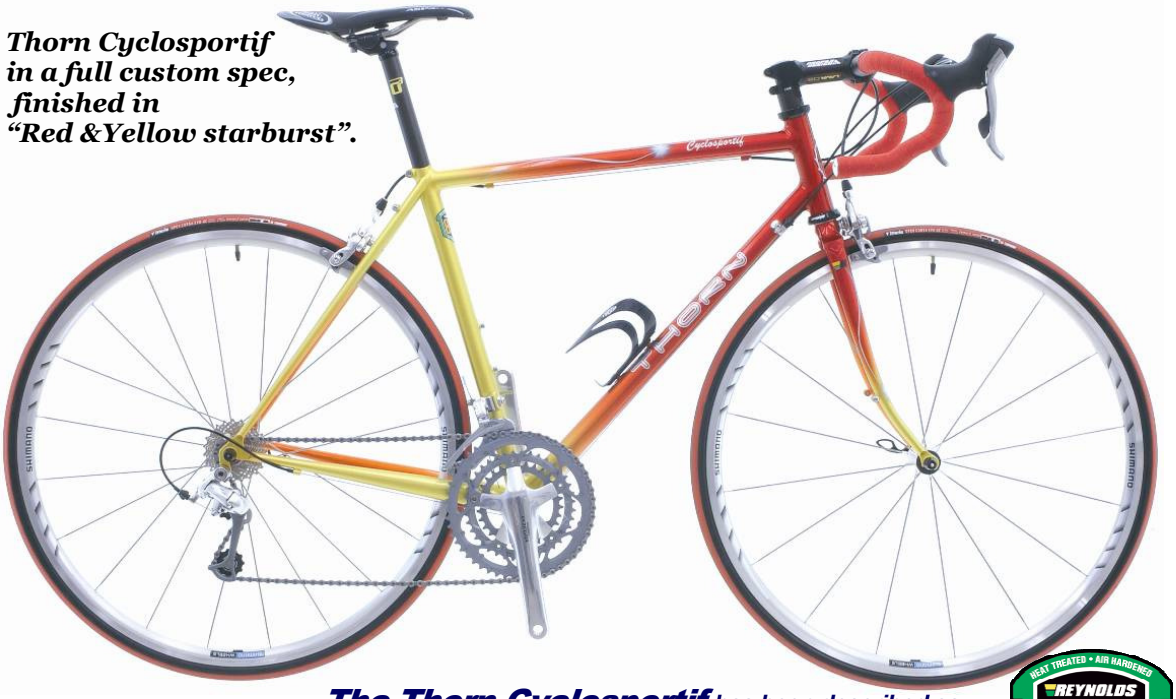
Our "off the shelf" Mk3 Audax is a superb bike and the available sizes should suit 95% of individuals.

Of these 95%, fewer than 5% could benefit from having a stiffer frame (see page 3).

Very few cyclists actually *need* a custom built frame.

Our "Hand built for you in Somerset" range of lightweight 700c frames are however, more than just superbly functional machines, they are works of art.

Thorn Cyclosportif in a full custom spec, finished in "Red &Yellow starburst".



Both the smooth-filed, fillet brazed "Cyclosportif" and "Audax 853" frames and the traditional, lugged "Classic" frames are embellished with brazed-on stainless steel badges. The Cyclosportif and the Audax 853 frames have sealed tubes, to ensure that internal rust can not prematurely destroy them .

The cost of our most expensive bicycle is less than the loss incurred during the first 10 seconds of ownership of a new motor car!

It's little wonder then, that some cyclists, who could easily find a perfect fit on an off the shelf frame, choose to treat themselves to the very best of the best!

Andy Blance (our designer) has developed, with Reynolds, a vast array of tubes (mostly 853) in different gauges and diameters, to ensure that your new baby delivers exactly what you are looking for, be in no doubt that Andy will certainly tell you if you are looking for the impossible.

Kevin Sayles is our **resident master builder**, we won't say that he is the finest builder in the world, we just say that, if you travel the world, you won't find a better one!

A perfect job can't be improved upon.

Kevin works slowly and methodically, with painstaking detail, he is a master "with the torch", every one of his frames is an individual work of art and we pay him a generous wage.

It should now be obvious that these frames are not, by any means, going to be cheap; even *we* would agree that they are fiercely expensive! But, considering the end result, the expertise, the guarantees and the pleasure it will give over a lifetime, each one represents excellent value for money.

(Please see page 14 for current upgrade cost)

The Thorn Cyclosportif *has been described as "the finest steel frame ever built." Reynolds have made a "conical" 853 tubeset especially for us. The (red/yellow) bike pictured above weighs under 18lbs, it is exquisitely comfortable, it handles sublimely and it transmits effort very efficiently, into forward motion. The cyclosportif is built with a very exact brake drop; 48mm, this allows the use of Shimano 39-49mm shallow drop brakes or Shimano 47-57mm deep drop brakes as well as Campag racing side pulls. The Cyclosportif has the clearances to squeeze 23mm tyres in with mudguards but, depending upon size (and the size of your shoes) the smaller and (particularly) shorter sizes are likely* ***not*** *to have complete clearance between toe and front mudguard. This sort of "tightness" is often sought by "hard" cyclists, especially those who don't ride in hilly areas. Such overlap is not for everybody...it's certainly not for me (Andy Blance) I'd hit my toes, as I slogged up steep hills, whilst in the saddle and, because of the short front centres, I'd also be much more likely to cartwheel over the bars, when I needed to suddenly brake hard, whilst flying down hill!*

If you want to have toe clearance between "racing shoes" and mudguards you need to consult the matrix carefully and/or consider the …

Thorn Audax 853*, this can be regarded as a Cyclosportif with "proper" clearances. The slightly longer centres cost very little in terms of weight and smooth surface handling. The 853 will handle the real world, of broken surfaces, better than the Cyclo, because it has a 55mm brake drop, it can accept 28mm tyres and the extra length gives better stability.*

Thorn Audax Classic, *as you will have read on page 3, was designed to have very stable handling. The Classic frames are built using 8 precision mitred, Reynolds 725 tubes, silver brazed into micro-cast lugs and the standard finish is "any colour you like with lined lugs". Like the 853, the Classic also uses a 55mm brake drop but the classic uses a 1" threaded steerer, which must use an internally expanding handlebar stem. Many cyclists like the look of an internally expanding stem but very few enjoy the "impossible to eradicate creaking", which so often accompanies forceful pedalling. We can also build you a …*

Thorn New Classic Audax*, this uses a 9 tube Reynolds 725 tubeset and the micro-cast lugs but it uses a 1 1/8" 725 threadless steerer! The Classic and New Classic can also be built with the tighter geometry of the 853 and, if you twist our arm, with the extra tight geometry of the Cyclosportif.* ***Please note that frames built with lugs must have horizontal top tubes.***

For no extra charge, we could also make you a fillet brazed, conical 853 frame, with the same geometry as a New Classic, with or without a sloping top tube.



A very high spec Audax 853 in the standard R&B finish. *(Fork has optional dyno boss)*

Important notes The precise dimensions, shown in the matrix below, are for **853 Audax** frames, **Cyclosportif** frames, **Audax Classic** frames and **New Classic Audax** frames, however, these chainstay lengths only apply to the Audax 853 frames...Cyclosportif frames have chainstays that are 10mm shorter, for any given size and Classic frames have chainstays that are 5mm longer for any given size. Brake drop is 55mm with all Audax frames and 48mm with Cyclosportif frames.

Head angle and fork offset vary with model and with size.

The mid tube standover height does not apply to Classic or New Classic frames, as they have a horizontal top tube, the "Front S/O" is identical to the mid tube S/O.
You can see from the matrix (Ok or No) whether a carbon fork, with the typical 43mm offset, may be used with either an Audax 853 or a Cyclosportif, of any specific frame size. Note that the geometry of neither series of the Classic frames is suitable for carbon forks.
If you have feet, which are the same size, or slightly larger, for your height, than the average sized male feet, you may assume toe clearance with Audax 853 frames...but possibly only if you use "proper" cycling shoes. Note that there may not be toe clearance on the Cyclosportif frames, you can see from the matrix if this is likely to be the case. Classic frames have considerably more toe clearance than even the Audax 853 frames and should present no clearance problems for anyone.
Please note sizes 500S and 515S are not possible with Cyclosportif geometry, or with the lugs of Classic frames; these sizes are only available as Audax 853 frames.

The latest Reynolds 953 tubeset.

For the same price as quoted on page 14, we can even make you a frame using the latest ultra lightweight steel tubeset from Reynolds. The 953 set is made from stainless armour plate, the use of which was previously restricted by the US military. This steel is rolled into tubes and the seams are then welded. The tubes are then drawn and butted in the usual way. ***953 tubes have very thin walls, down to 0.3mm (!!!)***

When we build a frame using the 953 tube set, our normal lifetime guarantee is reduced to 12 months!

There are 27 different sizes of Cyclosportif and Audax 853...if that is not enough, a fully custom sized frame can be built for you at no extra cost.

The cost difference between the Cyclosportif frame and the various Audax frames is totally down to the hideously expensive, air brushed, starburst paint finish; a "plain" Cyclo would cost the same as an Audax and an Audax would cost the same as a Cyclo, if the starburst finish was chosen.

Standard fittings on the Audax, Cyclosportif and Classic frames. *Guides and stops for gear and brake cable runs. Countersinks for AK bolt brake callipers. 3 sets of bottle bosses. Bosses for 4 point rear carrier. Full provision for direct frame fitting mudguards. A stainless headbadge is "silvered on" . Brazed on bosses for down tube cable stops (or levers!). Brazed on cast stainless seat clamp, Audax 853 and Cyclosportif only, Classics have cast seat lugs!*

Default option, rear ends to be spaced for 135mm hubs.

Zero cost options for fittings. *2 sets of bottle bosses. Pump pegs for fitting HPX pump on LH seat stay. Boss for bottle dynamo behind RH fork blade. Fittings for lo-loader carrier (forks will carry 2Kg per blade)*

Rear ends may be requested at 130mm

Please note. The 14 day money back offer does not apply to our "Hand Built in Somerset" frames!



Thorn Audax Classic, in a very classic spec.

[1] size	Suitability for carbon fork? Cyclosportif toe Clearance?	[2] Actual seat tube length C to C	Slope [1] minus [2]	Virtual top tube	BB drop	Seat Angle	Chain Stay length	Mid tube S/O	Front S/O
500S	No Cyclo or Classic no no	450	50	500	78	75	420	710	737
500M	No no	450	50	525	78	74	420	710	737
500L	Ok no	450	50	550	78	73	420	710	737
515S	No Cyclo or Classic no no	460	55	512	78	74.5	420	730	759
515M	No no	460	55	537	78	73.5	420	730	759
515L	Ok no	460	55	562	78	72.5	420	730	759
530S	No no	470	60	518	74	74.5	425	742	774
530M	No no	470	60	543	74	73.5	425	742	774
530L	Ok yes	470	60	568	74	72.5	425	742	774
545S	No no	480	65	530	74	74	425	755	790
545M	Ok no	480	65	555	74	73	425	755	790
545L	Ok yes	480	65	580	74	72	425	755	790
560S	No no	490	70	536	74	74	425	770	805
560M	Ok no	490	70	562	74	73	425	770	805
560L	Ok yes	490	70	588	74	72	425	770	805
575S	Ok no	500	75	549	74	73.5	425	783	820
575M	Ok yes	500	75	575	74	72.5	425	783	820
575L	Ok yes	500	75	601	74	71.5	425	783	820
590S	Ok no	520	70	557	70	73.5	430	805	840
590M	Ok yes	520	70	583	70	72.5	430	805	840
590L	Ok yes	520	70	609	70	71.5	430	805	840
605S	Ok yes	540	65	570	70	73	430	827	855
605M	Ok yes	540	65	597	70	72	430	827	855
605L	Ok yes	540	65	624	70	71	430	827	855
620S	Ok yes	560	60	578	70	73	430	840	870
620M	Ok yes	560	60	605	70	72	430	840	870
620L	Ok yes	560	60	632	70	71	430	840	870

Choosing handlebar width, crank length, tyre width and set up.

Whilst no cyclist should use dropped bars which are narrower than their shoulders, because they will restrict breathing, there are no physiological concerns about using bars which are wider. Wider bars can give more control in difficult circumstances but they are obviously marginally less aerodynamic. As a general rule, riders of smaller frames, are happier with bars which are narrower than the bars of riders of larger frames but this is not set in stone. Please see the default dimensions matrix on page 6, to see what we would fit, unless you specified otherwise.

There is a very definite requirement for having cranks which are the correct length for you. Too long and you will over flex you knees, too short and you will not be able to generate maximum power, because you have lost leverage. There is also a very definite correlation between leg length and frame size...if you require a different length crank, to that given in the default dimensions matrix (on page 6), you must ask yourself if you have the correct sized frame.

The default tyre width is 28mm with steel forks and 25mm with carbon forks. 28mm tyres will fit the carbon forks but not with mudguard clearance. If you choose 25mm (and, even more especially if you choose 23mm!") you will loose comfort and, on rough country roads, you will also waste energy, unless you significantly reduce tyre pressures, which is likely to lead to "snake bite" punctures...which reduce speed much more dramatically!

*If you have a **drop handlebar bike**, upon which you are comfortable (or something which you believe could be comfortable, if you were able to change something slightly) we are able to duplicate this position exactly, if you can fill in our set up dimensions accurately, in exactly the manner we ask.* ***Please see page 10****.*

If you don't have a comfortable drop handlebar bike, we can make certain that you have the correct size frame and, with some fiddling, you will achieve a comfortable position.

Please note that if you give us your trouser size, instead of your standover height, you will, almost certainly, get the wrong size frame!

Recommended upgrades.

As we offer three, well balanced specifications, at different price points, there is little need for any upgrades. Having said that, we can see the appeal of having our superb frame and a superb pair of hand built wheels, whilst economising on the transmission etc. The XT/DT Swiss, hand built wheels, which are offered with the Ultegra spec, represent extreme quality and good value for money...these can be specified with either the SJSC spec or the 105 spec (these are standard equipment with the "Ultegra spec").

*Many cyclists find supreme comfort on a Brooks leather saddle and would never choose to ride with anything else. The, very reasonably priced, B17 has been the classic choice of several generations of long distance cyclists. The much more expensive titanium version offers the same comfort with a smaller weight penalty, whilst the Titanium Swift is slightly narrower, slightly lighter and has a slightly more modern look. Both versions of the B17 have integral saddle bag loops. A small to medium sized saddle bag, such as the 11 litre "Carradice Pendle" is probably the ultimate way of transporting what you need (or don't need!) on an Audax ride. You don't need racks, so you save weight, the position and size, of this bag means there is very little drag. Although we (and generations of cyclists) find it convenient to use the side pockets, whilst cycling, **you**, of course must decide whether **you** are safe to do so.*

Saving Weight. *It is possible to save more than 250g simply by fitting alternative bars, stem and seat post. We have looked carefully at what is on offer and we have decided that the **black Shimano Pro PLT** range offers the best compromise of weight saving, strength and value for money.*

The compact bars are anatomic in design and have a short forward throw, which makes them especially suitable for STI. The centre section is 31.8mm, consequently the 4 bolt Pro PLT stem is required. These stems are reversible and have 10 degrees rise/fall. The Pro PLT stems are available in lengths from 80mm to 140mm in 10mm increments.

The black anodised, Pro PLT seat post is a super bit of engineering and saves nearly 100g itself! Whilst these upgrades are titled "recommended upgrades", we don't necessarily recommend that you need to upgrade...we are simply saying that, if you are looking to save weight, the Pro PLT ensemble is a recommended way of reliably doing it!

A different approach.

Whilst most owners and potential owners, positively want the benefits of Shimano's STI (combined brake lever and shifter) there will always be some cyclists who prefer to use bar end shifters, for their fool-proof reliability and ease of maintenance. We offer Dura ace bar end shifters, along with XT front and rear mechs, as an upgrade to those who choose this option...this is top drawer kit and you will certainly get your money's worth out of it!

Recommended additions.

*We have a carbon fork available, which will fit all the frames **(apart from sizes 495 and 555S, which do not have appropriate geometry** for such a fork). We are in two minds about recommending a carbon fork because, whilst this fork saves (on average) a whopping 600g and undeniably enhances comfort, especially with high tyre pressures (carbon is renowned for "damping out road buzz") the trouble with carbon is that you can't necessarily see when it has been damaged by an impact.* ***Our advice is to only proceed with the purchase the carbon fork upgrade, if you are prepared to destroy and dispose of the (carbon) fork, if it is ever subjected to an impact and if you are also prepared to never lend the cycle to anybody.***

A Blackburn Mtn. carrier is a very lightweight and useful accessory. It can easily carry a small pair of front panniers and/or a rack top bag. Having a flat top, it can also accommodate that most high-tech of luggage solutions, the plastic bag and bungee!

If you plan to regularly carry the maximum 15Kg on the bike, you should consider a heavier duty carrier than a Blackburn Mtn. carrier. Our Thorn Expedition, heat-treated, tubular Cro-Mo carrier may, at first, seem like overkill but it has 3 very important reasons to commend it. It will not break in use. It has specific bosses for mounting mudguard stays, (this not only saves a little weight, it also enables the rear mudguard mounting to be super rigid). The carrier also has a bracket which will accept a wide choice of different rear lights. This bracket positions the light behind any panniers (or top-mounted luggage), allowing the light to shine right into the faces of drivers of vehicles approaching from behind.

If you intend to carry the maximum permissible weight on the Mk3 Audax, you will need to use lo-loader carriers on the front fork. Not only will these increase the total "pay load" but also, by carrying some weight at the front, you will balance up the handling of the bike, when the maximum 15Kg is being carried at the rear.

If you plan to fit lo-loaders, you should consider our tubular steel Thorn lo-loaders.

The Mk4 Ultra-light carriers (being the lightest weight carriers on the market, at 415g) are the best option for the Mk3 Audax, the fork of which is designed to carry no more than 2.5Kg each side.



Sorry, carrier not shown on Mk3 Audax bike




Note the Mk4 lo-loader (pictured above) is only available in black powder finish

The other option is our Mk5 (Expedition) Lo-loader carrier (slightly heavier at 560g) which will carry an enormous weight...far in excess of that which it is safe to carry on the Mk3 Audax fork but you may have plans for using this carrier on a heavier-duty machine on other occasions.



There is no point in wearing a sweaty hydration pack on a lightweight touring bike! The Mk3 has the capacity to carry 2 bottle cages mounted on its stainless steel bosses.





We have a choice of two high-tech carbon cages, these look neat and save weight...they won't break, as long as you don't bash them.



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, on this style of bike, you should have 2 fitted!

A computer is a nice thing to have, it gives you encouragement, and extra interest. The Cateye CC-MC100W wireless computer is easy to use and it is undoubtedly the most reliable on the market.



Maybe you already have suitable pedals which you can use? If not you will require some.

SPD pedals give great control and are highly recommended for serious use. Shimano's M520 double sided SPD pedals allow you to try the system yourself very inexpensively. The model above these, in Shimano's range, is the M540, these are slightly better quality and still relatively inexpensive.

Or perhaps you want to use conventional clips and straps with traditional cycling shoes? ***(Please see warning on page 3).*** *The MKS platform pedal is highly effective, comfortable and an "all time cycling design classic". We can still obtain these pedals and the steel clips to use with them, which are to be preferred, for both comfort and safety, over bendy plastic ones, which take up so much room, that they reduce the chances of having adequate clearance between feet and mudguard.*





Lighting

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.*





*In some circumstances it makes great sense to generate your own electricity, to power up lights, which are bright enough for you to be able to see where you are going. A Schmidt dynohub will give as much light as many 6w rechargeable systems, for very little effort (none at all downhill!) whilst not perhaps bright enough for riding at full bore, down steep mountain roads (it depends upon the age of your eyes!) it certainly produces enough light for spirited riding, in country lanes, on moonless nights. We supply the dynohub built into a wheel and we supply it fully wired in to a Busch and Miller Lumotec switchable headlight, which may be mounted in a variety of positions...please discuss with sales person and write in the notes. Instead of wiring-in a poor quality incandescent bulb rear light, we fit the headlight with an uprated bulb to provide even more light to see with! (The preceding Cateye rear light is the best rear light you can currently fit and you can be certain that, unlike a bulb rear light, it can't blow and leave you unaware that you now no longer have an operational rear light). The Cateye HL-EL530 Opticube LED front light is *BS approved*. The Power Opticube offers 30 hours of "headlight quality" light on 4AA batteries. It features an innovative magnetic switch and it is highly water resistant. The side visibility is excellent and the tool-free bracket is simple and effective. This is beyond doubt the best and most reliable 4AA battery light available. The unit could be used as a sole light, on a lightweight machine, even in rural areas but it is at its very best, in our opinion, when it is used as an auxiliary and back up light to a dynamo system...as such it is far superior to any sort of standlight mounted in a headlight. It can be seen from several miles away and it can be easily detached, if a light is needed to read a map, shine at a road sign or mend a puncture.*





All sizes of the Mk3 Audax, ***except size 495 (which does not have room)****, have pump pegs to allow a* ***size 1 Zefal HPX pump*** *to be fitted to the LH seat stay. This is a very convenient place to keep a pump (on a bike with relatively narrow tyres) it doesn't reduce the number of bottles which may be carried and it doesn't need to be removed if the bike is lifted by the top tube. The Zefal pump is highly reliable and it makes short work of reaching the 90psi (and more) that is necessary with narrow 700c tyres.*

THORN AUDAX Mk3 ORDER FORM

Frame and fork kit.....£349 ☐
Complete bike...SJSC Special spec...£1249 ☐
Complete bike...105 spec.....£1649 ☐
Complete bike...Ultegra spec.....£1999 ☐

Upgrade to **Audax Classic** frame and 1" threaded fork.....£999 ☐
Upgrade to **Audax *new* Classic** frame and threadless1.125" fork....£999 ☐
Upgrade to **Audax 853** frame and fork.....£999 ☐
Upgrade to **Cyclosportif** frame and fork.....£1099 ☐

Size and colour

495 Small..... ☐
525 Small/Medium..... ☐
550 Medium..... ☐
555S Medium short top tube ☐
570 Medium/Large..... ☐
600 Large..... ☐

Blood Red Powder..... ☐
Cobalt Blue Powder..... ☐
Fuchsia Pink Powder... ☐
BRG Powder..... ☐
(British Racing Green)

Mudguard colour Black..... ☐ Silver..... ☐

Handlebar width Default, see matrix on page 7 ☐ **Other** 40 ☐ 42 ☐ 44 ☐

Crank Length 170 ☐ 175 ☐

Tyre width 25mm ☐ 28mm ☐

Cut fork steerer
Cut to default length..... ☐
(Please see matrix on page 7)

Cut to different length... ☐
please specify _____

Handlebar stem length.
Equip cycle with default stem.... ☐
Please see matrix on page 7.

Provide different length/angle... ☐
Please specify _____

Total sale price £_____ Deposit paid £_____ Card ☐ Cash ☐ Other ☐

Notes specific to this sale

Invoice No

Gender...Male ☐ Female ☐ Title_____

First name_____

Surname_____

Address_____

_____

Town_____

County_____

Country_____

Postcode

Telephone numbers.

Home_____

Work_____

Mobile_____

Email _____@_____

Call on 01278 441 500
Email sales@thorncycles.co.uk
Online www.sjscycles.com

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)

Set up dimensions

The dimensions below will enable us to set up your new bike exactly like your favourite machine.
Please choose "L" or "H"

Height = _____mm Standover Height =_____mm
Shoe size =_____

Preferred riding position, please tick one (or two) boxes.
Racing ☐ Sporty ☐
Upright ☐ Relaxed ☐

N=_____mm
Overall saddle length & name of saddle:
.....

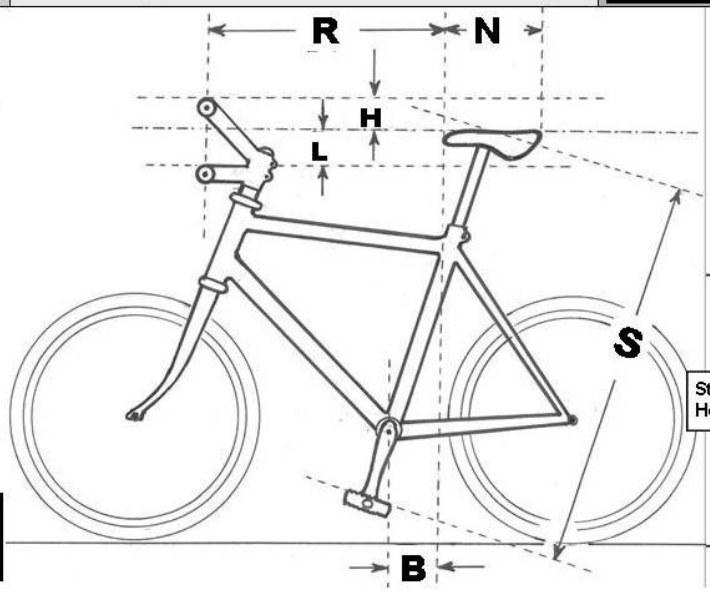
S=_____mm
Distance from top of pedal (with crank in line with seat tube) to the top of the saddle, measured along the seat tube.

L=_____mm
Distance from the bottom of a level straight edge, placed on the top of the saddle to the top of the handlebar stem. **Bars are lower than saddle.**

H=_____mm
Distance from the bottom of a level straight edge, from the top of the stem, to the top of the saddle. **Bars are higher than saddle.**

B=_____mm
Distance that a plumb line (a weight on a bit of thread) falls behind the centre of the bottom bracket, when suspended from the tip of the saddle.

R=_____mm
Distance from the tip of the saddle to the centre of the handlebar clamp



How standover height is to be measured.
[1]Cycle shoes must be worn [2] Measure the distance from the ground to the top of a tube (or thick book) which is parallel to the ground. [3] Raise the tube (or book) as high as it will go, until contact with the crotch is made.
Standover height is NOT trouser length, trousers go down to the ankle... feet go down to the ground with shoes!

These dimensions must be accurate. Please get someone else to check.

Upgrade or addition. Please see text for details...this is the order they appear, starting with "**SJSC Special Spec"** and continuing through to the end of **"recommended additions"**	**SJSC Special Spec**	**105 STI Spec**	**ULTEGRA STI Spec**
ULTEGRA 12-27 Cassette	**£30**	**£20**	**Already supplied with this spec.**
22t teeth inner chainring	**£10**	**Not possible**	**Not possible**
Tiagra Chainset 50,39,30 rings	**£30**	This would be a downgrade	This would be a downgrade
XT Chainset 26/36/48 rings 170mm ☐ 175mm ☐	**£120**	Can't use, this spec is 10 sp.	Can't use, this spec is 10 sp
Panaracer Pasela folding 28mm tyres	**£14**	**Already supplied with this spec.**	**£0**
Continental GP 4 season 25mm tyres	**£20**	**£6**	**Already supplied with this spec.**
Hand built wheels XT hubs/DT Swiss RR 1.1 rims/top quality S/S spokes	**£150**	**£130**	**Already supplied with this spec.**
Brooks B17 Honey Saddle	**£20**	**£20**	**£20**
Brooks B17 Black Saddle	**£20**	**£20**	**£20**
Brooks B17 Titanium Honey saddle	**£85**	**£85**	**£85**
Brooks B17 Titanium Black saddle	**£85**	**£85**	**£85**
Other saddle (write in notes)	**£'s Vary**	**£'s Vary**	**£'s Vary**
Shimano Pro PLT finishing kit, in black, comprising compact bars, stem and seat post, saves 250g+ (page 8) choose bar width and stem length options and write in the notes	**£80**	**£80**	**£80**
Bar end shifter with XT R mech and XT front mech on SJSC Special spec	**£0**	**£POA**	**£POA**
Shimano R650 brake callipers These are the ultimate deep drop brake callipers.	**£54**	**£54**	**Already supplied with this spec.**
Carbon fork (includes steel fork, change to 25mm tyres and special SJSC countersunk bolt for mudguards)	**£125**	**£125**	**£125**
Blackburn Mtn Carrier Black supplied, Silver needs requesting	**£25**	**£25**	**£25**
Thorn Expedition carrier	**£70**	**£70**	**£70**
Thorn Mk4 Lo-Loader Black powder	**£70**	**£70**	**£70**
Thorn Mk5 Expedition Lo-Loader Black powder	**£70**	**£70**	**£70**
2 x Profile design bottle cages	**£16**	**£16**	**£16**
Other cages (write in notes)	**£'s Vary**	**£'s Vary**	**£'s Vary**
Cateye CC-MC100W wireless computer fitted and set up	**£35**	**£35**	**£35**
Shimano M520 double sided **SPD** pedals inc cleats	**£19**	**£19**	**£19**
Shimano M540 double sided **SPD** pedals inc cleats	**£45**	**£45**	**£45**
MKS platform pedals (inc clips and straps) Tick clip size S☐ M☐ L☐ XL☐	**£35**	**£35**	**£35**
Cateye TL-LD1100LED rear light	**£27**	**£27**	**£27**
Schmidt Dyno Hub Silver (built into wheel) inc B and M Lumotec switchable light.	**£170**	**£170**	**£150**
Schmidt Dyno Hub Black (built into wheel) inc B and M Lumotec switchable light.	**£195**	**£195**	**£175**
Cateye HL-EL530 opticube LED front light	**£52**	**£52**	**£52**
Zefal size 1 HPX pump	**£20**	**£20**	**£20**

Thorn Audax Photo Gallery

Do you have a nice pic, of you riding your Thorn Audax, that you can email us? Send to pictures@sjscycles.com and we may publish it here.









THORN



David Drew and Mk3 going well (up the A9, somewhere around Inverness) on his May 2008 End to End





