eXp

We have manufactured expedition touring bikes for many years... our bikes have always carried heavy loads well and are comfortable and reliable. We believe that the definition of an expedition touring bike should be "a reliable bicycle that can carry heavy loads in comfort".

If you agree with our definition then you must be amazed that such a simple brief has been mishandled by other bicycle manufacturers.

The main issues in detail...

Reliability

This means that, severe accidents excepted, things shouldn't go wrong with any of the major components - wheels, tyres, brakes, bottom brackets, headsets, pedals, chains. It means that the frame itself should not fail and it should mean that the bike can take a knock.

Other manufacturers try to get under-specified headsets and bottom brackets past unsuspecting customers, because these important components are buried deep inside the frame and are neither obvious nor "sexy". The quality of wheel building or, rather, the lack of it on many bikes has to be seen to be believed. Some manufacturers supply tyres that they know are likely to fail if the bikes are ridden any distance... well they should know... they have had enough sent back as returns!

Several UK manufacturers and small builders offer "expedition" frames in Columbus Nivachrom. Nivachrom is excellent for racing frames, it's designed intended use, but it is not available in sufficient thickness (gauge) to make it able to stand up to knocks in the short term or internal rust in the long term. If it's made of Nivachrom it's not an expedition bike by our definition! (We know that Columbus cannot make Nivachrom in sufficient thickness... because we've asked!)

Carrying heavy loads

We must say at the beginning that it is possible to carry most of the weight in a trailer... there are pros and cons but we are assuming that all the weight is to be carried on the bike. To be capable of carrying a heavy load, the frame material must be of sufficient diameter and gauge. If the tubes are not up to the job then no amount of frame design will help. If they are up to the job then it is all down to the geometry and accuracy of manufacture.

Whilst the eXp is a fairly long wheelbase machine, the geometry of each size varies in proportion to the size of the anticipated rider. The largest sizes have chainstays in excess of 18 inches not only to provide heel clearance but also to allow the rear panniers to sit more within the wheelbase of the machine - where huge weights will have less of an effect on the front end of the cycle. The front geometry of the eXp allows precision in steering, whilst also maintaining great stability... a difficult balance to achieve but one, we feel, we have got spot on!

We will let our frame designer Andy Blance comment further on our frame's geometry..."If you are ever forced to descend from the mountains in freezing temperatures, down rough washed out gravel roads, in the darkness, by dynamo light, carrying 30kg of luggage, you will know how important geometry can be. If you are ever really tired, suffering from flight-induced vertigo and you are climbing a steep, heavily rutted gravel road, carrying 30kg and you have a 40 tonne quarry truck on your tail and there is no room to pull over, you will again know how important geometry can be... I have experienced both of these things in the development of the eXp and I know it is PERFECT. The rush by dynamo down the mountain was one of the highlights of my life - the quarry truck I could have done without!' "The whole point is that my design can be heavily loaded and still be responsive, accurate and fun to ride... your eXp can allow you to savour those distant mountains and waterfalls without having to concentrate exclusively on a difficult bit of road. I am proud to have designed this bike... especially because I know that nobody, anywhere, makes anything that is at all comparable."

UNIQUE THORN 14 DAY PLEDGE

14 day money back if not delighted guarantee on all new Thorn cycles

Bike pictured: Billiard Cue paint finish & a full house of accessories & upgrades

Derailleur equipped 26 inch wheel - Expedition touring bike

Comfort

There are two types of comfort... physical and mental. A bike of the right size and proportion with well chosen accessories will provide physical comfort. A reliable bike that handles well, provides stress free cycling. Our eXp is made in 6 seat tube sizes XXS to XL, each of which is available with short, medium or long top tubes. Every one of these 18 sizes has been designed to outperform any competition and to last for at least one lifetime!

Attention to detail

We have always excelled in this area ... but the eXp offers more:

1. Oversize rear brake hanger for heavy duty performance.

2. Lowrider bosses are provided - these are wide enough to allow the carrier to be fitted without needing spacers.

3. Our exclusive "X" seat stay bridge not only reduces twist in the massive 19mm stays under braking but adds considerably to the rigidity of the carrier.

4. We use massively strong rear dropouts... if you were to build a perfect frame and ride it forever it would have to fail somewhere eventually. The right hand side rear dropout is where other frames fail... we don't expect ours to fail here.

5. The eXp has been given an M8 x 0.75mm drain plug for even better access into the seat tube.

6. Most fillet brazed frames and all T.I.G. welded frames have a small hole drilled in the bottom bracket shell to allow the seat tube to breathe. Condensation collects in the trap created by the seat tube/bottom bracket shell joint and rust will develop in this highly stressed area. We machine the shell so that our seat tube fits inside the shell and all condensation drops into the shell - from where it can be drained away.

7. The top tube, down tube, seat-stays, chainstays, fork blades and bridges are **completely sealed**. These will never rust from the inside. We even fit stainless steel, blind ended bottle bosses into the down tube, and we also use these in the seatstay and chainstay bridges... NOBODY ELSE DOES THAT... YET! The seat tube must be open because of the seatpost - look after that with "WAXOYL®" using the large drain plug and you will be able to hand the frame over to your grandchildren!

Exclusive Twin Plate frok crown.

M8 x 0.75mm drain plug.

Oversized rear brake hanger.


Exclusive "X" seat stay bridge.


3 sets of bottle bosses provided.

REYNOLDS RTF 7 HEAT TREATED 725 CHROME-MOLY BUTTED FRAME TUBES CONICAL TUBING

Frame and fork spec

The frame is low temperature fillet brazed, smoothed and filed to flawless perfection here in Bridgwater, by our master frame builder with over 30 years experience... Kevin Sayles.

Main triangle

Reynolds heat treated, exclusive to us "Conical" '725' throughout.

Top tube:
diameter ø - 31.8/28.6mm
tapered gauge - 1.0/0.7/1.0mm

Down tube:
diameter ø - 31.8/34.9mm*
tapered gauge - 1.0/0.7mm

Seat tube:
diameter ø - 31.8/28.6mm
takes 27.0mm seatpost

Non tapered (standard) oversized tubes are used on XXS and XS sizes. 1.2mm gauge head tube, Cro-mo bottom bracket shell and cast frame ends.

*ø 31.8/38.1mm used on largest sizes.

Rear triangle

Reynolds heat treated '725' 19mm seatstays and oval chainstays. Manufactured to our exclusive specification.

Front forks

Reynolds '531 ST' blades (continental oval) brazed into our exclusive twin plate fork crown, which gives the fork increased lateral strength, without compromising the forks ride qualities

Frame features

1. All slotted stops, guides & slides for brakes & gears are steel (not cheap plastic).

2. Brazed-on gear bosses are set close to the head tube to help cables clear the head tube... but they still function as gear lever bosses if required.

3. 3 sets of bottle bosses are provided. The seat tube set of bosses help the bottle to sit as low as possible and give a low centre of gravity. The down tube sets are spaced to allow the future fitting of S&S couplings if required.

4. Cast steel cantilever bosses are exclusively used - a rear brake hanger is provided.

5. There is provision for a 4-point fitting rear carrier and proper provision for front lo loading carriers.

6. We braze the mounting points for the front mudguard stays onto the bend of the forks to save weight, increase rigidity and improve safety (if something is picked up by the wheel such as a stick or drinks can the gap between the mudguard and tyre will increase as the stays are forced round by the object, allowing the object to fall clear and avoiding a potential cart wheel).

7. We provide bosses under the fork crown, seatstay bridge and chainstay bridge to allow for the neat, direct and secure "bolting" of mudguards to the frame, whilst also maximising clearance.

8. We fit a reinforced pump peg on the left hand seatstay (behind the seat tube on XTC) to allow the pump to be fitted, leaving the top tube free to lift the cycle when required.

9. We provide a drain plug in the bottom bracket shell to allow the draining of frame-destroying condensation or for the addition of rust inhibitor.

10. Our discreet dynamo mounting bosses not only take our stainless dynamo plate but will also accommodate our stainless Cateye cordless computer transmitter mounting.

11. We fit stainless steel inserts into the inner faces of the rear ends to both avoid rusting and obviate the necessity to carve away the right hand seatstay for chain clearance.

12. Our stainless steel headbadges are silvered onto the headtube. These not only look quietly understated but also prevent a stolen frame from having its origin disguised.

Paint FInish

Andy, our frame designer, knowing he had designed the finest expedition frame wanted it to look good too. There may be a case for having a "doesn't stand out from the crowd" matt black powder coat but you do stand out from the crowd just by having all those bags on board! So Andy wanted a very attractive finish, that may get respect from baggage handlers and that can be easily touched up... Expedition bikes get scratched!

Standard finish is our "full retro finish" in your choice of colours. Because this finish is unique (Andy has done all the artwork), we believe that your cycle is less likely to be stolen... it can be so readily identified.

We don't want you to have your cycle stolen but we do want others to admire it's quality. So we have subsidised this exquisite yet practical finish... if you don't want it you may choose one of our other finishes... but please remember the issues regarding touch-up paint.

Other Paint FInishes

Some cyclists are able to own and use bikes for many years without scratching them... others only have to look at their bike hard for the paint to fall off... baggage handlers will always scratch your bike.

Whilst scratches look unsightly we've yet to see a bike die from external rust unless severely neglected. People's reactions to scratches also vary - if you are a careful owner who doesn't travel by air (or coach) much and you can adopt a philosophical attitude to scratches and see them as noble scars, then you could have any of the beautiful flamboyant finishes available and cover the scratches over with clear varnish.

If you are not only very fussy but also careless (be honest!), accident-prone or use airlines frequently, you must have a paint finish that can be touched up easily ... plain gloss enamel. If you fall between these extremes then you could choose a metallic finish, provided you are prepared to find your own touch-up paint.
All of our solo cycles are sprayed with multiple coats of oven baked enamel. This gives a beautiful finish that is fairly durable and can be easily rubbed down and primed and can easily be touched up if a suitable paint is available. Stove enamels don't air dry very well, so using the paint the cycle was sprayed with only pretends to solve the problem. In typical style we have got to the root of the problem. We have **started** with the touch-up paint... "Humbrol" make little tinlets of air-drying enamel, available the world over.

We selected 9 colours and had the stove enamel manufacturer provide paint which would be perfectly matched by our touch up.

The colours are:-

French Blue

Maroon

Italian Yellow

Navy Blue

Cream

Ferrari Red

Brunswick Green

Titanium White

Black

Apart from the Ferrari Red, Italian Yellow and Black the other colours are deadly dull and boring on their own.

However our two new paint finishes (paint options 4 and 6), which each use two of these colours in a spectacular stencilled finish, look stunning!

Colour Options:

Any single colour - Option 1.1 / 2.1

Option 1.1 - Any single Gloss, Metallic or Flam colour with Vinyl graphics (choice of colour).

Option 2.1 - Any single Gloss, Metallic or Flam colour with Stencilled paint graphics (choice of colour). Stencilled graphics give a high quality and durable finish & more colour choice.

Option 3.1 - Any two Gloss, Metallic or Flam colours in a faded finish with "Thorn" on the down tube and model name on the top tube in stencilled paint graphics.

Option 3.2 - Any three Gloss, Metallic or Flam colours in a faded finish (as Sturburst but no airbrushing) with "Thorn" on the down tube and model name on the top tube in stencilled paint graphics.

Billiard Cue - Option 4.1

Option 4.1 - "Billiard cue" - headtube, fork crown, and front of both top and down tubes in secondary colour (eg. yellow, white or cream); cut out in fork crown, "Thorn" stencilled on the front of the top tube, bike name stencilled on the front of the down tube and the rest of the frame in the main colour (eg. French Blue, Ferrari Red, Maroon, Brunswick Green, Navy Blue or Black). The join between main and secondary colour is achieved with four long points in each colour... hence "Billiard cue".

Full Retro finish - Option 6.1

Option 6.1 - "Full Retro finish"... Identical to the "Billiard cue" but with the addition of Celtic bands at the top and bottom of the seat tube and a "V" flash between the two bands all in the secondary colour.

Starburst - Option 7.1

Option 7.1 - "Starburst" paint finish is exotic, eye catching and tastefully exclusive.

Option 8.1 - Anything you can think of and provide a clear drawing for. No refund or touch-up paint available.

Not wishing to labour the point, we can ***not*** supply effective touch up paints for metallics or flams (please put anybody, who says that they can, in touch with us... **if they can supply effective touch up they can have the contract to spray our bikes!**).

(Bikes pictured are for paint finish examples only.)

Bicycle sizing revolutionised

We have always manufactured our cycles in many different sizes... each with its own proportional geometry and often with its own proportional tube gauge and diameter. However the "next size up" was only a little bigger in each dimension than the size below it.

Now we are making our cycles in much fewer seat tube sizes... instead of 15mm increments we go for 30mm... BUT, AND HERE'S THE THING, we are offering different length top tubes as well!

Just as people's inside leg lengths vary, so do the lengths of their arms and backs! We have taken this on board in our designs.

There are 2 valid ways of choosing your frame size:-

1. If you currently have a cycle that you are comfortable on, then take the measurements that we request and we will choose **the perfect size** for you. If you are coming from, say, a more racing background, we suggest that you give us the dimensions of your racing bike with 15mm added to handlebar height (thereby reducing dimension L*) and 15mm deducted from your handlebar stem length (thereby reducing R*). You should not change your saddle position.

2. If you don't have a cycle that you are at all happy with, then you need to have your standover height **in cycling shoes** and your actual height. You will also need to indicate the type of position that you think best describes your requirements... Relaxed, Sporty, Racing or Upright

To measure your standover height...

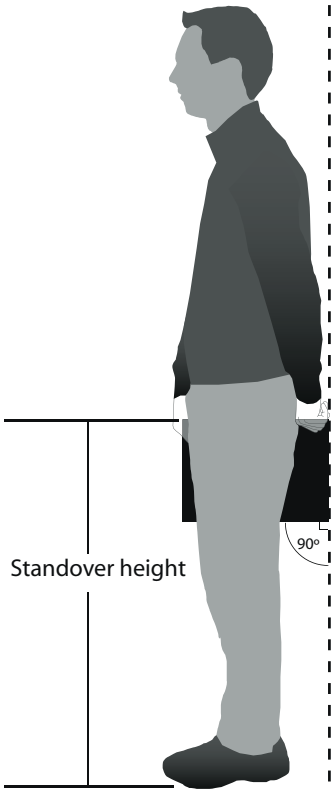
1. Stand in cycling shoes with your back against a wall, feet together.

2. Place a large coffee table style book (a thin hardback book is best) against the wall between your legs.

3. Raise the book as high as it will go. Without moving the book step forward and note the position of the top of the book.

4. Measure from the floor to the top of book...
that is your standover height!

Do NOT give us your trouser size... This will result in a cycle at least one size too small!



Top tube lengths

Short top tubes in general are for people with long legs and short bodies (mostly, but not exclusively, women) who want to use drop handlebars, or people who want to sit (very) upright with "straight" bars.

Medium top tubes are (in general) for people with shorter legs and longer bodies (mostly, but not exclusively, men) who want to use drop bars, or for people with long legs and short bodies who want "straight" bars.

Notes on frame sizes

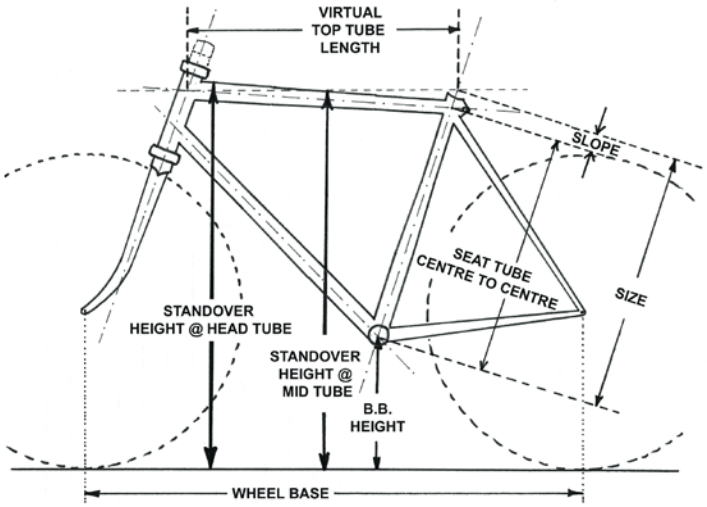
Very short people may not be able to clear the top tube at the headtube but they must be able to clear the top tube at the mid tube. Short people will almost certainly have 25mm clearance at the head tube. People of average height should expect to have 50mm clearance at the head tube and exceptionally tall individuals may expect 100mm clearance at the head tube.

We can't really make frames any smaller than our XXS. We believe that a custom frame is required (with more tubes in it!) if our XL size is too small! Making frames larger than our XL is an exercise in "diminishing returns".

Don't get confused

The huge choice of cycles, sizes and top tube lengths is to enable you to have exactly the type of bike you want with the riding position you need.

Frame Dimensions



Short Top Tube

Frame Number	Size	Size	Slope (mm)	Seat tube centre to centre (mm)	Virtual top tube length (mm)	Bottom bracket height (mm)	Wheelbase (mm)	Standover height at head tube (mm)	Standover height at mid tube (mm)
1	XXS	450	40	410	480	277	1027	727	707
4	XS	475	40	435	500	283	1047	755	737
7	S	500	50	450	515	283	1062	777	755
10	M	530	50	480	530	283	1070	805	781
13	L	560	60	500	545	288	1084	839	813
16	XL	590	70	520	560	288	1100	867	835

Medium Top Tube

Frame Number	Size	Size	Slope (mm)	Seat tube centre to centre (mm)	Virtual top tube length (mm)	Bottom bracket height (mm)	Wheelbase (mm)	Standover height at head tube (mm)	Standover height at mid tube (mm)
2	XXS	450	40	410	500	277	1036	724	705
5	XS	475	40	435	520	283	1053	754	735
8	S	500	50	450	535	283	1059	774	753
11	M	530	50	480	550	283	1080	802	778
14	L	560	60	500	570	288	1092	835	809
17	XL	590	70	520	590	288	1102	859	831

Long Top Tube

Frame Number	Size	Size (mm)	Slope (mm)	Seat tube centre to centre (mm)	Virtual top tube length (mm)	Bottom bracket height (mm)	Wheelbase (mm)	Standover height at head tube (mm)	Standover height at mid tube (mm)
3	XXS	450	40	410	520	277	1036	727	707
6	XS	475	40	435	540	283	1059	751	733
9	S	500	50	450	555	283	1069	771	751
12	M	530	50	480	575	283	1083	799	775
15	L	560	60	500	600	288	1096	831	805
18	XL	590	70	520	625	288	1107	857	827

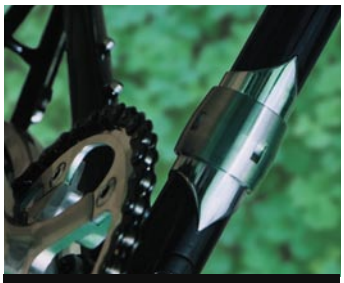
Bike Build-up options...

Each bike is individually hand built from the frame up, to your exact specification, on our premises here in Bridgwater.

We offer many upgrades and custom options as standard, and can accommodate most component requests... Talk to us now about your dream specification.

S+S Couplings

S+S couplings including cable joiners, fitted + £350



S&S couplings.

www.thorncycles.co.uk

Why 26" wheels?

We believe that apart from very specific uses (time trialling, road racing, track racing and possibly some Audax riding & very fast touring), the 26" (MTB) wheel is the most desirable wheel to specify for your new cycle. There is so much variety now on offer, in both tyres and rims, that the perfect combination for any solo application is possible.

We have, at one extreme, a rear wheel built with a lightweight 28 hole Shimano XTR hub, DT revolution spokes, alloy nipples and Mavic XC717 rim weighing in at 862g! Marry this with a 26 x 1.5" folding Panaracer Hi Road tyre and latex tube and you have a very fast, comfortable, reliable and ultralight combination that makes 700 x 28 feel sluggish, heavy and bone jarringly uncomfortable.
At the other extreme we have 48 hole Shimano XT tandem hubs (spaced for solo use), DT 2.0mm plain gauge spokes, brass nipples and Sun Rhyno rims. Which when mounted with Schwalbe Marathon XR 26 x 2.0" tyres, and heavy-duty Michelin butyl inner tubes, are the strongest, most durable and most reliable combination available today ... perfect for full-on expedition use on metalled or unmetalled roads or no roads at all!

Between these two extremes there are many diverse combinations and beyond these extremes there are skinny (uncomfortable) 23mm racing tyres and, we understand, there are also tyres with big knobbly treads designed for off-road racing! All these tyre combinations fit the same size rim! **Tyres for this size wheel are available in every country in the world.**

After conducting many experiments we have found that the rolling resistance of many of the tyres we recommend to be lower than that of narrow 700C sizes. This causes surprise to many, as skinny 700Cs have been one of cycling's holy cows. Skinny 700C tyres are more aerodynamic, so they are still the best choice for use at higher (racing?) speeds. But we are convinced of the superiority of the 26" wheel over the 700C sized wheel. Obviously the heavier the rider, the heavier the load, and the more extreme the terrain, the more noticeable the advantages are.

We believe any open minded person will agree with our findings & remember...

We offer our 14 day money back guarantee to back this up!