

Robert Smith Studios



Brompton T6 £651(as tested)



Thorn Raven £1099



Roberts Roughstuff Lite £1500



THE BRIT PACK

It may not be what it was but as Cass Gilbert finds out the British bike industry still has plenty to offer...



There was a time when the British bicycle industry bestrode the world. The nation that gave us the modern 'safety' bicycle was able to boast vast factories producing tens, if not hundreds, of thousands of machines a year. So pre-eminent was the British bicycle that in some countries brand names such as Rover became the generic term for a bike.

Those days are long gone; as with the much reduced British car industry, so too with bicycle building. Lack of investment, complacency, dwindling domestic demand and cheaper foreign competition have left it in a much reduced state, though at least our bicycle makers didn't all go the way of their counterparts in the motorcycle industry.

These days Britain still has, in Raleigh, at least one global brand and plenty of other medium sized companies boasting a wealth of design and manufacturing expertise – even if making the finished

product is outsourced to Taiwan, China or Eastern Europe. As in nature, so in business: whenever there is an evolutionary cull it's the niche players and specialists who survive and prosper, firms that cater for a particular market or offer that a bespoke service in terms of quality and attention to detail.

This month we've chosen three distinct bikes from three UK manufacturers. First up is a Brompton – the quintessential niche operator, creator of a design classic that continues to receive international acclaim. We ride the latest incarnation of their top of the range folder, the £651 T6. Our next bike is from a company that has achieved notable success in the last few years, well respected amongst touring circles for the superb build quality of their expedition machines. British design, German engineering and Taiwanese frame building have combined to create Thorn's all-new Rohloff-hubbed Raven Adventure Tour, weighing in at £1,095. Lastly, Chas Roberts represents the

bespoke frame builder. Drawing from years of frame building experience, the Roughstuff Lite is a 26in-wheel lightweight tourer with a contemporary compact frameset, priced at a cool £1500.

FRAME

BROMPTON 9 THORN 9 ROBERTS 9

The Brompton's L-type frame is made in England from a chromo frameset. Tiny seat and down tubes create a triangle with the main tube over the bottom bracket, while the suspended rear triangle is cushioned by a rubber bumper. The company recently completed a mammoth £120,000 investment at the factory, part of which has resulted in a CNC machined socket, brazed along the main tube to replace the traditional cast iron and forged steel one. While it may not look like the latest in CAD design, the fatigue life is said to be double the previous butt-brazed ones.

At first glance, only Brompton-philes will be able



to differentiate the new T6 from previous models. Change is most apparent in the 30mm increase in the wheelbase, allowing a longer reach to the handlebars for taller riders. Brompton claim this increased length is not reflected in the overall weight of the bike thanks to efficiencies in the braze process, and we'd agree. At 12.9kg, the bike as tested weighs 140g more than a similarly specced T6 we reviewed back in C+136, with tyre and seat post spec accounting for the difference. Yet despite this extra length, the Brompton still excels where it always has: folding is as small as ever thanks to the positioning of the more compact hinge; the least engineering literate of riders will marvel at the ease with which it transforms to an amazingly compact 53cm by 31cm by 63cm cube, in a lightning 20 seconds. And with a little extra practice, even the sub-15 second mark would be within grasp.

It's one-size fits all with the Brompton and ours came with a two-tone, Mini Cooper-esque finish, available for an extra £25. In April, standard and two-tone finishes will be supplemented by a range of fresher, funkier colours, including Apple Green and Baby Pink. The idea is to dispel some of the bike's besuited gentleman image – Baby Pink should do it. Cost is expected to be an extra £33; check your dealer for details.

Thorn's strategy with the Raven has been to produce a Rohloff equipped bike at an affordable price point. To that end Thorn has sourced the Raven series frames from Taiwan – built there to Thorn's recipe. Conical tubing on the Adventure Tour is the

company's own: an oversized, heat-treated Japanese chromo. The numbers 969 refer to the wall thickness: 0.9mm to 0.6mm to 0.9mm. Marginally thinner than their Nomad tubing, the tubeset isn't quite as resilient to denting but is lighter and springier. Strength is made up by transplanting the Nomad tourer's rear end, using extra beefy Reynolds 725 seatstays to minimise flex when load carrying.

While 969 isn't as elegant as Reynolds' own conical tubing, quality is nonetheless extremely impressive, with neat TIG welds that are as good as anything we've seen from Taiwan. Thorn has invested heavily in the Raven, with its own beautifully cast, Rohloff specific, stainless steel vertical socketed dropouts. All cable is housed and runs under the top tube, while a lightweight alloy eccentric bottom bracket in a steel shell allows the chain to be adjusted. For a faster ride, the £1,300 Reynolds 853 Raven Sport is also available, with lighter tubing and shorter chainstays but less provision for heavy loads.

Both models share a wide choice in forks: our Tour came with twin plate 531 ST blades, borrowed from the heavyweight EXP and ideal for serious hauling duties; a shorter, lighter 531 fork is also an option (without braze-ons for a rack), as well as a carbon version for an extra £50 and even a suspension fork, the Fox Vanilla RL. Sizing is a little unusual, with six frame sizes available with alternating short and long top tubes – with a little creative use of stem lengths and angles, everyone should be covered. There's also the pick of five finishes, with powder coats typically more durable

BROMPTON T6

£651

"The Brompton still excels where it always has. Folding"

Brompton Bicycle Ltd ☎ 0208 232 8484
www.bromptonbicycle.co.uk



AT A GLANCE:

- FRAME** THORN 9 ROBERTS 9
- HANDLING** THORN 9 ROBERTS 9
- EQUIPMENT** THORN 9 ROBERTS 9
- WHEELS** THORN 9 ROBERTS 9



Accessories included: as well as rack and bag there's also an AXA Dynamo



Bump stop at the top of the rear triangle adds to the comfort of the ride



A Brompton/Zefal pump is another welcome accessory



and wet finishes more lustrous. Tastes differ. I found the Red Celt design on our test bike too fussy, preferring the simpler True Blue. Stealth, with its miniature decals, is the ultimate in modesty; Radical Green is only for the brave.

Headset is a quality FSA Orbit XL and every braze-on you can imagine is included, with rack, mudguard and three bottle mounts, and provisions for dynamo and pump.

Like all Roberts machines, the heart of the Roughstuff Lite is a custom frameset with tubing based on the customer's weight and individual needs. Typically hand-built with Reynolds 725, each tube is fillet brazed with a cast bottom bracket shell. While the ideology of the frame is based on the heavyweight, expedition-crunching Roughstuff, the geometry is far racier. The compact frameset has plenty of visible seat post as well as a tighter headtube angle and shorter chain stays. Headset width is a slender 1in, though 1 1/8in would be used for heavier riders. Roberts have opted for a classic Reynolds 531 set of blades with a comfortable rake for a smooth ride.

As with the Street Machine we tested in C+152, quality is everything you'd expect from such an experienced frame builder. Attention to detail is excellent, with two sets of bottle mounts, braze-ons for a rack, mudguard eyelets and pump peg. Livery-wise, Roberts offers a standard choice of any single colour with a second colour lettering – custom finishes are available too. Ours came in a glossy lime – or rather, Kawasaki – green, which looked fantastic.

HANDLING

BROMPTON 8 THORN 9 ROBERTS 9

Bromptons are often accused of skittish handling. While the longer wheelbase seems to make the new T6 more stable, it still takes getting used to before you throw yourself amongst the cut and thrust of heavy traffic. But it won't be long before you're a dab hand and can put this feathery feel to use – at which point the Brompton becomes fun and nimble to ride.

The main benefit of the longer wheelbase will actually be most appreciated by taller riders: with that little extra length, the cockpit no longer feels so cramped. The shortest riders will probably want a saddle adaptor pin (£9) to bring the seat forward a little while taller rider (over 5'11") will also need the extra long seat post – or better still, the telescopic version for £40. It's great that this extra room is at no expense to the ultra-compact fold, the real ace up the Brompton sleeve. Ultra compact it may be, but when it comes to carrying it we wouldn't want the T6 to be any heavier.

Offering a fairly wide 40-86 inch gear range, six gears are more than enough for most city commutes and open up scope to explore further afield, even if hillier climbs remain out of reach. A friend travelled round Romania on her T6, alternating between bike and train to criss-cross the country, while the BBC's Simon Calder is rarely seen parted from his steed, whatever exotic corner of the world he turns up in. With a rack and plenty of baggage options, including a capacious 28L touring



THORN RAVEN

£1099

"Lively enough to enjoy unladen as well"

Thorn ☎ 01278 441502
www.sjscycles.com



AT A GLANCE:

FRAME 9
 BROMPTON 9 ROBERTS 9
HANDLING 9
 BROMPTON 8 ROBERTS 9
EQUIPMENT 8
 BROMPTON 9 ROBERTS 9
WHEELS 9
 BROMPTON 8 ROBERTS 9



In all its glory the Rohloff speedhub offers smooth shifting and a constant chainline



Thorn branded cranks are available in eight different lengths



pannier for £68.50, you can even carry the contents of your suitcase too.

Although the Adventure Tour is very much a load-carrying bike, it's lively enough to enjoy unladen as well. With its slightly shorter chain stays and lighter tubing it handles better than its stablemate the Nomad (C+138) – there's plenty of heel clearance for panniers too. In fact, the Raven can just as easily be a commuting bike as a full-on expedition machine. But it's the drivetrain that really makes the Raven special: all but gears 7 and 8 can be changed both while pedalling hard and while at a standstill. With the Speedhub, the days of struggling up a hill in the wrong gear until you can change down are over. No hill will ever catch you out, while pulling away from traffic lights is a breeze – useful when you're carrying panniers. In fact, a whole new riding style opens up, one which is considerably freer than riding with derailleurs.

The pros and cons of the system are summarised very honestly on the Thorn website. For sure, the Speedhub is a hefty piece of kit. While the unit actually weighs little more than a complete XT derailleur system, it's the fact that all the weight is concentrated in one place at the rear end that's the issue. As a result, the bike can feel heavier than it is, though the difference is harder to sense when you're loaded up.

Other factors to be aware of are the need to ease off between gears 7 and 8. Mechanically, the Rohloff is effectively a 7-speed hub with a set of reduction

gears doubling it to 14. Gears 7 and 8 engage the low and high ratios and need to be treated with care. A little fiddly, it's far easier than a derailleur once you're used to it. Which brings us on to gears, an important factor to be worked into the Rohloff equation. Unlike a derailleur, the range of a Speedhub is fixed at a 526% in 13.6% increments, and can't be extended. Thorn have fitted the Raven with the lowest recommended setup – a 38t chainring with a 16t sprocket – giving an equivalent low gear of 22/34 and a high of 42/12, a little less than a conventional MTB setup. This means the majority of the riding is done in the quieter, more efficient high ratio gears (8 to 14), saving the low ratios (1 to 7) for hill workouts. While we found the setup ideal for loaded touring, it will mean you'll have to get used to a whole lot more spinning at the top end when riding unladen. Other chainring and sprocket sizes are available to suit your riding style and use.

Overall, the only real drawback is the fact that the hub can be noisy. The whirring was certainly louder than I expected and can have the comical effect of sounding like a windup toy in the lower gears, breaking the tranquillity as you toil. But while hills may feel that extra bit harder in your mind, there's actually very little difference in efficiency between the Rohloff and conventional derailleurs: unlike a derailleur system that steadily declines in efficiency, a Speedhub improves as it beds in. This process generally takes at least 1,000km; the hub had certainly begun piping down through the whole range of gears over the test period. In time, the high

ROBERTS ROUGHSTUFF LITE £1500

"It's clear that it's something special from the first spin of the crank"

Roberts ☎ 0208 684 3370
www.robertscycles.com



AT A GLANCE:

- FRAME** 9
BROMPTON 9 THORN 9
- HANDLING** 9
BROMPTON 8 THORN 9
- EQUIPMENT** 9
BROMPTON 9 THORN 8
- WHEELS** 9
BROMPTON 8 THORN 9



Glossy Lime (or Kawasaki green) may not be to everyone's taste but it sure stands out in a crowd



Quality of the welding on the braze ons is superb, shown here is the rear cable stop and rack mounts



531 Reynolds fork offer a comfortable rake and a smooth ride



ratios should almost be silent, though there'll always be noise in the low ones. But in case you're not convinced, Thorn have put their money where their mouth is by including a 100-day money back guarantee to cover that period.

Moving on to the Roberts and it's clear that it's something special from the first spin of the cranks. The Lite simply feels right, with a poise that encourages you to hug the corners and stomp on the pedals on those open straights. Yet with all that speed and fast handling, there's still enough predictability to inspire confidence in your riding, whatever the weather. Which is not to say the Lite can be a dull bike to ride. Far from it, with a light front end to keep you on your toes, the Roberts is a bike that will keep you smiling.

It's adaptable too. When you're ready to head into the unknown, throw some panniers onto the ultra light Fly rack and the Lite is ready for some quick, comfortable touring. A bar bag will help slow the steering down and old school XT cantilevers keep your speed in check, even laden. The range in gears certainly reflects its adaptability, making it ideal for hilly tours. 30-42-52 teeth chainrings and an 11-32 block offer a 25in to 128in range in gears, working harmoniously over the several months we had the bike on test. I particularly liked the way Centaur shifters allow you to fine tune the front mech between each chainring, giving it a real low maintenance feel for regular riding.

EQUIPMENT

BROMPTON 9 THORN 8 ROBERTS 9

The T6 is Brompton's flagship model and comes with all the accompanying bells and whistles. The Sram Spectro 3 speed hub is teamed with a derailleur that is compact enough to avoid catching on your trousers. There's also an effective halogen dynamo system to light your way at night, though a minute or two of burn time when you've stopped would be good. The standard seat post fits riders up to around 5'10" and it flares out at the bottom so it can't be removed when the bike's locked up. Brakes, cranks, handlebars, stem and mudguards are Brompton's own. In fact, the majority of parts are sourced from the UK, allowing Brompton to make an average of five modifications a year and react quickly to customer feedback. Often these changes are only discernible to regular users; all part of the company's drive to constantly improve. Recent tweaks include new gaiters on the front and rear brake cables to help stop water running down the housing, and the introduction of a new handlebar catch that works better over time.

At over £600, the bulk of the Raven's budget has been concentrated on that gleaming peace of metal: the Speedhub. Admire it from near, admire it from afar. While the Rohloff can't quite match the simple elegance of a single speed, it comes very close. The whole line of the bike is far less cluttered, making it easier on the eye as well as a lot easier on the elbow

grease. A superbly engineered fit-and-forget hub, it's so well sealed that there's very little maintenance required to keep it running. Aside from a yearly oil change, looking after your bike has never been so easy. Wipe down the chain and, er, that's about it.

Expeditionists will query its reliability but they needn't. Originally conceived for downhill Mtbing, a Speedhub is far less fragile than derailleurs. Although Rohloff claims not to have had any internal failures in 30,000 units, it's still worth carrying spares as the externals can get knocked around. The accompanying handbook includes a list of what tools and spares to carry, depending on how far you're travelling.

The introduction of all-weather oil should sort out the leakage problems with earlier models – the only issue that comes up regularly in forums. And should the untoward happen, Rohloff has an excellent reputation for sending out replacement parts, with the added promise that any improvements made in the future can always be retrofitted to existing hubs. To keep in budget, Thorn has tightened their purse strings elsewhere. Radius V brakes and levers are powerful enough but can be a little fiddly to set up – an upgrade for £20 to Deore is worth it if you're heading into the wilds. Cranks are Thorn-branded and available in eight lengths. Stem and handlebars are also Thorn's own and do the job just fine, though I'd go for conventional riser bars over the 18-degree layback ones fitted. The chain is a cheap Sram PC 48 but as it runs in a straight line,



RIVALS

Trek 400e	£499
Birdy Red	£850
Cannondale Street Rohlhoff	£2299
Roberts Roughstuff	£2000 (approx)

Trek 400e - £499, folder from the American giants, with 20in wheels, an 8 speed derailleur and mudguard/rack. Trek UK ☎ 01908 282626 www.trekbikes.com
Birdy Red - £850, jack-of-all-trades full suspension folder with the best ride yet (C+148) ☎ +49 6151 366 860 www.r-m.de
Cannondale Street Rohlhoff - £2299, pick of the parts include headshok fatty, Magura Louise discs and

700c wheels, but it sure isn't cheap.
Roberts Roughstuff £2000 (approx) - Custom build, Rohloff dedicated chainset, stronglight cranks and other class components. Roberts ☎ 0208 684 3370 www.robertscycles.com
Thorn XTC - £999, 26in wheels, Reynolds 725 top quality frame, perfect for tours, day rides, commutes and audax (C+148). Thorn ☎ 01278 441502 www.sjscycles.com

that's all you need.

The Roberts Lite runs a mixture of Campy and Shimano that have struck an unlikely entente cordiale. XT quality hubs, cantilever brakes and rear mech hold the Shimano fort, with a Veloce chainset, Mirage front mech and Centaur ergo levers on the Italian team. In this way, Roberts have found they can offer a wide range of gears, running a 10-speed shifter with a wide 11-32 Shimano 9-speed block. Any potential chain rub can be dealt with by adjusting the front derailleur in increments between the gears, a

benefit of the Centaur system.

The Syntace stem, with its extended neck, avoids the need to stack up spacers, though it is a shame it can't be front-loaded. Seat post and saddle are more budget affairs: ready for the road, a set of SKS mudguards, a bottle cage and a Tubus fly rack are all included.

Again, as with other specialist manufacturers, how you build the bike is very much up to you, from the size of the gearing to the make of the parts. On top of this, the Lite is also available with straight bars and disc brakes.

WHEELS

BROMPTON 8 THORN 9 ROBERTS 9

Just 16in in diameter, the Brompton's wheels are small, strong and light; built in the UK using Alesa rims with 28 stainless steel spokes. When it comes to replacing tyres be aware, that rather confusingly there are two sizes of 16in wheel – the Brompton uses ISO 349 rather than the more compact ISO 305. Several tyre options are available. While their own fast rolling 100psi 42FTs are recommended, our T6 was fitted with the slightly heavier but more puncture resistant Schwalbe Marathons, complete with reflective strip and dynamo wall.

The Adventure Tour came with high-end Mavic XE 721 rims, handbuilt with quality stainless triple-butted spokes. The front wheel features the now discontinued STX-RC hub, similar in grade to Deore. On the rear sits the mighty Rohloff, bringing the total weight of the wheel close to 3.5kg. Speedhubs are

only built with 32 holes. Since there's no need to dish the wheel for a cassette and the flange is so much bigger than a normal hub, Rohloff claim they're as strong as a conventional 48-spoke wheel – more than enough for even a fully loaded bike. What's more, the drive side spokes are easy to change without the need of any cassette removal tools – so you've less tools to carry on tour.

There are other rims to choose from, including beefy Sun Rhynos for expedition duties and more svelte Sun CR18s for fast touring – at no extra cost. Tyres are dependable Panaracer Hi Roads, with a Schwalbe Marathon XR option.

Being a bespoke bike, the choice of wheelset with any Roberts will depend to some extent on the weight of the rider and the intended use of the bike. Seeing as the Lite is an all rounder, Roberts specced ours with a wheelset that should keep most people happy.

Wheels are hand-built with strong and relatively light Mavic X618 rims, well-sealed XT hubs with high quality DT triple-butted spokes, and should be good for miles of trouble free service. With smaller mountain bike wheels being stronger than a road wheelset, this 32-hole setup should be more than up to the rigours of everyday use. And while 26in tyres will never be as light as racing 700c rubber, the Vredstein S-Licks definitely come close. Pumped to 90psi, they're quick, grippy and puncture resistant, perfect for all-weather riding. At 1.3 inches in diameter, that big pocket of air gives a smooth ride that will make all the difference on longer journeys.



CYCLING PLUS Verdict

At the risk of sounding biased, these three machines are some of the best bikes money can buy.

In today's society of multi-modal transport (Thank you, Ken) folding bikes make more sense. The Brompton is the Mini of the bicycle world: an engineering icon that's individual, quirky, practical and very British. There are folding bikes that ride better and others that are cheaper but even after all these years, there's still nothing to match it for all-round appeal. Not that it's resting on its laurels. The Brompton keeps evolving – it would be good to see a lightweight version next... With L3s starting at £468, there are plenty of options available if the T6 is out of your budget.

The Raven is undoubtedly a fantastic bike. The Speedhub does have its quirks – and with such a big initial investment, it might seem like a bold leap of faith. Bear in mind that a long service life (one world traveller has clocked up 70,000 miles) and almost zero maintenance mean it will certainly save you money in the long run. And at less than £1,100, it's in the money stakes where the Raven scores so highly. It's to Thom's credit that they've brought out such a capable machine with so many refinements at such a rock bottom price, without skimping where it counts.

Lastly, the Roughstuff Lite. In my mind, the name is a bit of a misnomer – it feels like a different bike altogether from its big brother. Traditionalists wouldn't call the Lite a fast audax bike, but it's perfect for riding audax and it is definitely, well, fast. Throw on some panniers and it's ideal for light touring amply comfortable enough to notch up those long hours in the saddle. And when the rain rolls in, those grippy 26in wheels inspire confidence on your winter rides. £1,500 is a lot of money, but there's a lot of bike here. The frame and parts add up to much more than their sum.

BROMPTON T6
OVERALL RATING 9/10
Improved handling and hinge from reigning King of Folders

THORN RAVEN
OVERALL RATING 9/10
The cheapest Rohloff bike on the market, and perhaps the best

ROBERTS R'STUFF LITE
OVERALL RATING 9/10
Superb craftsmanship, superb handling. Suberb bike

BIKE SPEC

Brompton T6

Replacement value **£651 (as tested)**
Brompton Bicycle Ltd ☎ 0208 232 8484
www.bromptonbicycle.co.uk

FRAME AND FORKS

Size tested: One size
Sizes available: One size
Weight as tested: 12.9kg/28.4lb

BIKE DIMENSIONS

Wheelbase: 103.5cm/40.7in
Head tube angle: 73.0°
Seat tube angle: 74.0°
Fork offset: 4.0cm/1.6in
Trail: 2.4cm Wheel Radius 21.5
B/b height: 28.3cm/11.1

FRAME ALIGNMENT

Head tube: looks perfect
Rear triangle: couldn't measure accurately
Fork: couldn't measure accurately

TRANSMISSION

Chainset: Stronlight 50T, 170mm
Bottom bracket: FAG cartridge
Freewheel: SRAM three speed hub x two speed rear derailleur
Chain brand: SRAM PC10
Derailleurs: Sachs internal hub
Gear levers: Sachs Spectro Torpedo 3spd
Pedals: Welgo with Brompton folding left pedal

GEAR RATIO (IN)

Chainring	Sprocket					
	6th	5th	4th	3rd	2nd	1st
50	40	46	55	63	75	86

WHEELS

Front & Rear: 28 H Alesa alloy rims on SRAM Spectro hub(r) w/ galvanised spokes
Tyres: Schwalbe Marathon 16 x 1 3/8in

OTHER COMPONENTS

Handlebar stem: Brompton
Handlebars: Brompton, 21in
Headset: ball and cup
Saddle: Brompton
Seatpost: Brompton
Brakeset: Brompton w/ Dual Pivot front
Accessories: front and rear mudguards, rear rack, dynamo, pump, cloth pannier w/ rain cover

APPROX FOLDED SIZE (CM)

Length: 53
Width: 31
Height: 63

BIKE SPEC

Roughstuff Lite

Replacement value **£1500**
Roberts ☎ 0208 684 3370
www.robertscycles.com

FRAME AND FORKS

Size tested: 56 (effective - compact)
Sizes available: Custom
Weight as tested: 11.22kg/24.7lb no pedals
Frame: Reynolds 725 cromoly
Frame Weight: 1798g/4.0lb
Fork: lugged cromoly
Fork weight: 885g/2.0lb

BIKE DIMENSIONS

Top tube: 56.5cm/22.2in
Seat tube [c-c]: 43.0cm/16.9in
Chainstays: 41.5cm/16.3in
Wheelbase: 104.5cm/41.1in
Head tube angle: 70.0°
Seat tube angle: 72.0°
Fork offset: 4.3cm/1.7in
Trail: 7.4cm
B/b height: 27.2cm/10.7in
Standover height: 74.3cm/29.3in
Braze-ons: 2x water bottle, f&r mudguard and rack

FRAME ALIGNMENT

Head tube: perfect
Rear triangle: perfect
Fork: perfect

TRANSMISSION

Chainset: Campag Veloce, 30-42-52T, 170.0mm
Bottom bracket: Campagnolo Mirage
Freewheel: Shimano HG70, 11-32T
Chain brand: Sachs PC59
Derailleurs: Campag Mirage (f), Shimano XT (r)
Gear levers: Campagnolo Centaur
Pedals: none

GEAR RATIO (IN)

Chainring	Sprocket									
	11	12	14	16	18	21	24	28	32	25
30	71	65	56	49	43	37	33	28	24	31
42	99	91	78	68	61	52	46	39	34	44
52	123	113	97	85	75	64	56	48	42	54

WHEELS

Front & Rear: 32H Mavic X618 rims on Shimano XT hubs w/ stainless triple butted spokes
Tyres: Vredestein S-Licks, 26x1.3
Wheel weight: f: 1409g; r: 198g

OTHER COMPONENTS

Handlebar stem: Syntace Force 808, 100mm
Handlebars: 3T Forma, 44cm
Headset: Aheadset
Saddle: Avocet O2
Seatpost: unbranded
Brakeset: Shimano XT cantilevers
Accessories: rear rack, f&r mudguards

BIKE SPEC

Thorn Raven

Replacement value **£1099**
Thorn ☎ 01278 441502
www.sjscycles.com

FRAME AND FORKS

Size tested: 56[2s]
Sizes available: 46[2s], 48[7l] 51[2s] 53[7l] 56[2s] 58[7l] in 2 top tube lengths sport and tour
Weight as tested: 12.96kg/28.6lb no pedals
Frame: 969 cromo w/reynolds 735 stays
Frame weight: 2620g/5.8lb
Fork: Reynolds 531
Fork weight: 1153g/2.5lb

BIKE DIMENSIONS

Top tube: 59.0cm/23.2in
Seat tube [c-c]: 45.0cm/17.7in
Chainstays: 45.0cm/17.7in
Wheelbase: 109.0cm/42.9in
Head tube angle: 71°
Seat tube angle: 72°
Fork offset: 4.3cm/1.7in
Trail: 6.8cm
B/b height: 29.2cm/11.5in
Standover height: 77.0cm/30.3in
Braze-ons: f&r rack and mudguard, 2x water bottle, front dynamo

FRAME ALIGNMENT

Head tube: perfect
Rear triangle: perfect
Fork: perfect

TRANSMISSION

Chainset: unbranded, 38T, 175.0mm
Bottom bracket: PowerPro Cartridge BB
Freewheel: Rohloff Speedhub 500/14,16T
Chain brand: Sachs PC48
Derailleurs: none
Gear levers: Rohloff Speedhub 500/14
Pedals: none

GEAR RATIO (IN)

Chainring	Sprocket									
	38	17	20	22	25	29	33	37	42	48
38	17	20	22	25	29	33	37	42	48	55

WHEEL

Front & Rear: 32H Mavic XE 721 rims on Shimano STX RC/Rohloff Speedhub (f&r), w/ stainless triple butted spokes
Tyres: Panaracer Pasela TourGuard, 26x1.75in
Wheel weight: f: 1668g; r: 3320g

OTHER COMPONENTS

Handlebar stem : unbranded, 120mm
Handlebars: unbranded riser, 23.5in
Headset: FSA Orbit XL II
Saddle: Brooks Competition
Seatpost: Kalloy
Brakeset: Radius V-Type
Accessories: none