SECAN 2.0 & FARAN 2.0

DESIGN NOTES & PRODUCTS OVERVIEW

FIT
FUNCTION
FORM

FAIRLIGHT

DESIGN IS EVERYTHING

Design is everything to this business, it's our foundations, so I take it seriously; hopefully without pretence and always grounded in real world riding. I consider our bikes to be tools, so every design decision is based on improving the product in some way. That could mean refining the ride quality, or it could mean increasing function & utility; making the product more useful and usable. I understand that ultimately our products can only speak for themselves, I trust they are a reflection of the work that went into them.

THE CONCEPT

The Secan 2.0 and Faran 2.0 sit together as a family of products as they share many of the same design features including tyre clearance, tube shaping and dynamo integration. Both models are extremely versatile and they can cover everything from commuting, through to self sufficient off-road adventures. That is the beauty of bikes like these and indeed of the material itself. The two products obviously have their differences too. Hopefully this document will outline everything you need to know. Thanks for reading.

Dominic Thomas - Co Founder and Bike Designer


KING


KING
KING
KING

Secan 2.0 - Concept

The Secan is our gravel bike. We first made the Secan because our customers wanted a Strael with bigger tyres. They wanted the same custom tubing, the confidence inspiring carbon fork, the incredible handling, the same craftsmanship and attention to detail, but with the ability to ride on more varied terrain.

The design of the Secan revolves around the simple idea that you can transition between road and off-road, and ride fast everywhere. It can transform your local riding, as you begin to link up all the best lanes with farm tracks, bridleways, even woodland single track. To us, this is what gravel bikes are all about. An area that you think you knew, all of a sudden becomes a world of unexplored tracks and bridleways; you see and experience the land scape differently. A local loop in even the most ordinary of landscapes can become so much more. This idea of real-world riding drives the design of the bike. A performance tube set that feels lively and eager, not over-built. A light weight and confidence inspiring carbon fork. A geometry and ride position that feels familiar and efficient on the road but stable and predictable off-road. A more sloping top tube to aid manoeuvrability and increase comfort when things get rough. Huge tyre clearance, but chain stays only 12mm longer than the Strael. While Secan could be your road bike, for all the reasons above it has proved itself off-road. James Hayden was joint winner of the Italy Divide Race on a Secan and in 2019 three riders completed the Atlas Mountain Race on board Secans, including a top 10 finish by Jonathan Rankin. Add to this, countless stories and adventures from our customers all over the world.

The Secan 2.0 represents a considered evolution from the original; we've made it more functional. The main change is the design & development of the new Cempa 2.0 fork which features cargo cage mounts as well as internal dynamo routing. We've also added dynamo ports to the frame, with clever solutions for every type of configuration; representing a level of care and detailing that would normally only be seen in the custom world.

Faran 2.0 - Concept

The Faran is all about utility and versatility; road plus, commuting, gravel rides, audax, randonneuring with a small front rack, or touring with front panniers. It is the sort of bike that you will become very attached to as you rack up the miles together. As the seasons and years pass, racks and cages will be bolted on or taken off, wheels & tyre sizes will be experimented with; it's form, capability and loading capacity will evolve to reflect your riding style. On some level every cyclist has the desire for self-sufficiency and escape and it's this idea which drives the utilitarian design ethos of the Faran.

The steel fork is a 'commitment to utility' and it has mounts for every rack and cage set-up you can imagine. Some folks just love the ride quality of a steel fork and rightly so. The low-mid trail geometry (more on that later in the document) means it handles well with a front load such as a rando bag and/or panniers, but ride it unloaded and it feels agile and precise [think Strael handling but with big tyres] so it's perfect for a 'road plus' build. The seat tube length is similar to the Strael, so less compact than the Secan; that means more room for frame bags and more of a flat.. ish top tube aesthetic. The Faran benefits from all the tubing technology developed for the Secan, but the 'non-heat treated' Reynolds 631 material (vs. heat treated 853), combined with the steel fork results in a lower price. We think it is fantastic, thoughtfully considered product, and the most versatile frameset we make.

TUBING

REYNOLDS 853 & 631 TUBING: CUSTOM FOR FAIRLIGHT

Reynolds 853 vs 631

The Secan and Faran share the same Reynolds tube set...well sort of. The Faran uses 631, while the Secan uses 853, so how can they be the same? Well 631 and 853 are actually the same material apart from 853 is heat-treated while 631 is not. The heat treatment takes place after the shaping and forming is done.

Heat treatment adds strength to the material. Therefore if the material is stronger you can use a smaller wall thickness to make a lighter frame OR you can use the same wall thickness and have increased strength (to make a stronger frame).

Assuming the wall thickness is the same, the two materials have exactly the same weight and also the same stiffness.

Tube diameter has a huge affect on tube stiffness (resistance to bending and torsion). If you double the diameter of the tube then the torsional stiffness increases by a factor of 8. By custom shaping the tubes we can control the resistance of the tube to different directions of force. For example, rather than opting for a larger diameter tube, we can shape (ovalise) a smaller tube to resist a particular direction of force, therefore also saving weight (assuming the same wall thickness). Likewise, a tube can be shaped to be less resistant to a force. Every tube is considered individually.

Reynolds 631 / 853 DZB Down Tube - Custom for Fairlight

Secan - 853 DZB - 1.0/0.8/0.5/0.8
Faran - 631 DZB - 1.0/0.8/0.5/0.8 with external guset

The tube starts life as 34.9mm round tube but is ovalized at both ends to become 30 x 40mm. The ovals oppose each-other; the 40mm horizontal oval at the BB shell adds lateral stiffness, where as the vertical 40mm vertical oval at the headtube resists the braking and ground forces from the most highly stressed area of the bike. In the case of the Faran [with a standard 36mm headtube] the vertical oval also gives the strongest weld.

The tube has double zonal butting, which means an extra butt at the headtube end for strength. The butt profile is 1.0/0.8/0.5/0.8. On the Faran we use a small gusset at the head tube end to provide extra strength for heavy front loading.

Reynolds 631 / 853 Seat Tube

Secan 2.0 - 853 - 0.9/0.6/1.2
Faran 2.0 - 631 - 0.9/0.6/1.2

We use a standard butted seat tube designed for a 27.2mm seat post. The majority of the tube is 28.6mm in diameter, where as the top section is externally butted to 29.8mm to give the correct inner dimension for the seat post and to provide extra surface area for the top tube and seat stay welds. The tube is butted 0.9/0.6/1.2.

68mm Threaded BB Shell - 39mm Diameter

Tried, tested, proven. We are huge advocates of the standard 68mm threaded BB shell. There are a large number of press fit designs in the market, which really only exist due to carbon frame evolution. The larger physical size of the material/tubes means that real estate in the BB area is tight so the internal press fit cups/bearings help create space. A number of carbon makers are now moving to the T47 threaded solution which seems a much sounder standard [versus press fit] but the BB choices are still very limited and on a steel frame the extra shell diameter is simply not needed. On aluminium and Ti frames there are good reasons (tube sizes) to consider moving to T47 but on steel there is not. Our 40mm wide down tube combined with round chainstays means there is ample BB stiffness. Regarding standards/trends we absolutely avoid the box ticking culture of our industry. For reliability, serviceability and sourcing of parts the 38mm threaded shell still reigns supreme on steel frames.

Reynolds 631 / 853 Top Tube - Custom for Fairlight

Secan 2.0 - 853 - 20/30 oval - 0.8/0.5/0.8.
Faran 2.0 - 631 - 20/30 oval - 0.8/0.5/0.8.

As with the down tube, we share the top tube design with both models. The tube starts life as a 25.4mm round tube and is fully ovalized to 20 x 30mm. This tube is critical in providing the excellent comfort of our frames. The stiffness in the horizontal plane is equivalent to that of a 30mm tube, while the narrow 20mm tube in the vertical plane means it provides excellent comfort, effectively flexing as the wheels try to move away from each-other under load. A more standard round 28.6mm or 31.8mm top tube would be torsionally (twisting forces) stiffer, but we design the downtube and top tube to work together in how they deal with the various loads/forces. The tube is butted at 0.8/0.5/0.8.

4130 CHROMOLY

Faran 2.0 - 4130 Machined and Relieved Head Tube

The headtube is 37mm in diameter but relieved down to 36.25mm, apart from at the ends where it remains at 37mm to provide sufficient wall thickness for fitting of the headset cups. The internal measurement is 33.95mm and is designed to accept a 1.1/8" steerer tube with a standard external cup headset. For this reason, the frame is not compatible with tapered steerer forks and is designed to be used with the steel fork that comes with that frameset. A 1.1/8' (28.6mm) steel steerer tube with good wall thickness is plenty stiff enough. There has been a trend recently for steel forks with tapered steerer tubes but they are incredibly heavy and overbuilt in our opinion. We would only consider one on a dedicated mountain bike where the fork was replacing a longish travel suspension fork (therefore a long axle to crown length) to provide a lot of load carrying capacity.

Secan 2.0 - Reynolds 631 CNC'd Head Tube

The headtubes are machined for us by Reynolds in Birmingham. The tubes actually start off as solid billet and are turned into tubes on a CNC lathe. The headtube is 46.4mm in diameter, apart from at the ends where it is 47.8mm to provide sufficient wall thickness for fitting of the headset cups. The internal measurement is 43.95mm and is designed to accept a 1.5"-1.1/8" steerer tube using a ZS44/28.6 top cup and a EC44/40 bottom cup. On a full carbon steerer tube, the tapered steerer really does make a difference to how the bike rides, especially under hard braking and high-speed cornering. The headtubes are made to order to our desired lengths.


NOLDS

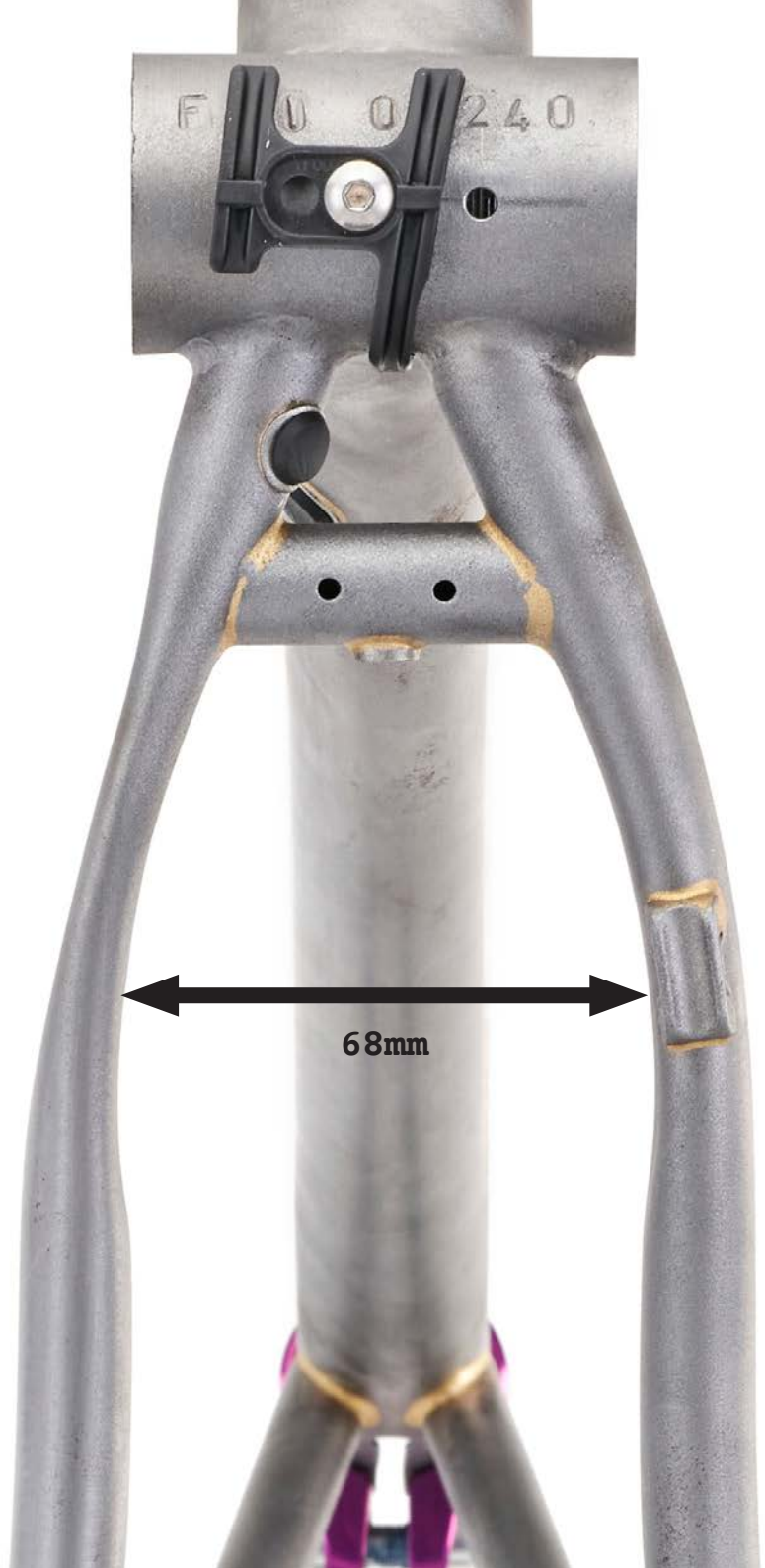
4130 CHROMOLY

14mm 4130 Non-Taper Seat Stays

We share the exact same seat stay on both models.

Made from 4130 non heat-treated steel they are 14mm in diameter and there is no taper. The wall thickness of the tube is 0.8mm. The majority of seat stays [on steel bikes] are 16mm in diameter and taper down to approximately 11-12mm by the time they reach the dropout. This is largely a hangover from when there were limited dropouts on the market and they were designed to accept a certain sized tube. As comfort is an important factor of these bikes (especially on gravel or rough terrain, or when simply fatigued on long rides) we use a narrower 14mm stay. The wall thickness is sufficient to cope with large loads.

As an aside [and more relevant to the Faran] many dedicated touring bikes use 16mm or even 19mm seat stays to increase torsional stiffness when using large loaded panniers at both the front and the rear. In our view a dedicated world touring bike is as niche as something like a crit bike. How often is it being ridden with full world touring set up? So; the priority here is to focus on ride quality, so that for commuting, long rides such as audax/ randonneuring, or bike-packing weekends in the hills, it feels like a performance bike. Especially as we see a trend towards front loading combined with bike packing gear we've kept the frame focused on ride quality. Of course you can run a front (Faran only) and rear rack without any issue, and it will feel great. But if you are carrying the world on your bike it needs to be very stiff and overbuilt.



4130 CHROMOLY

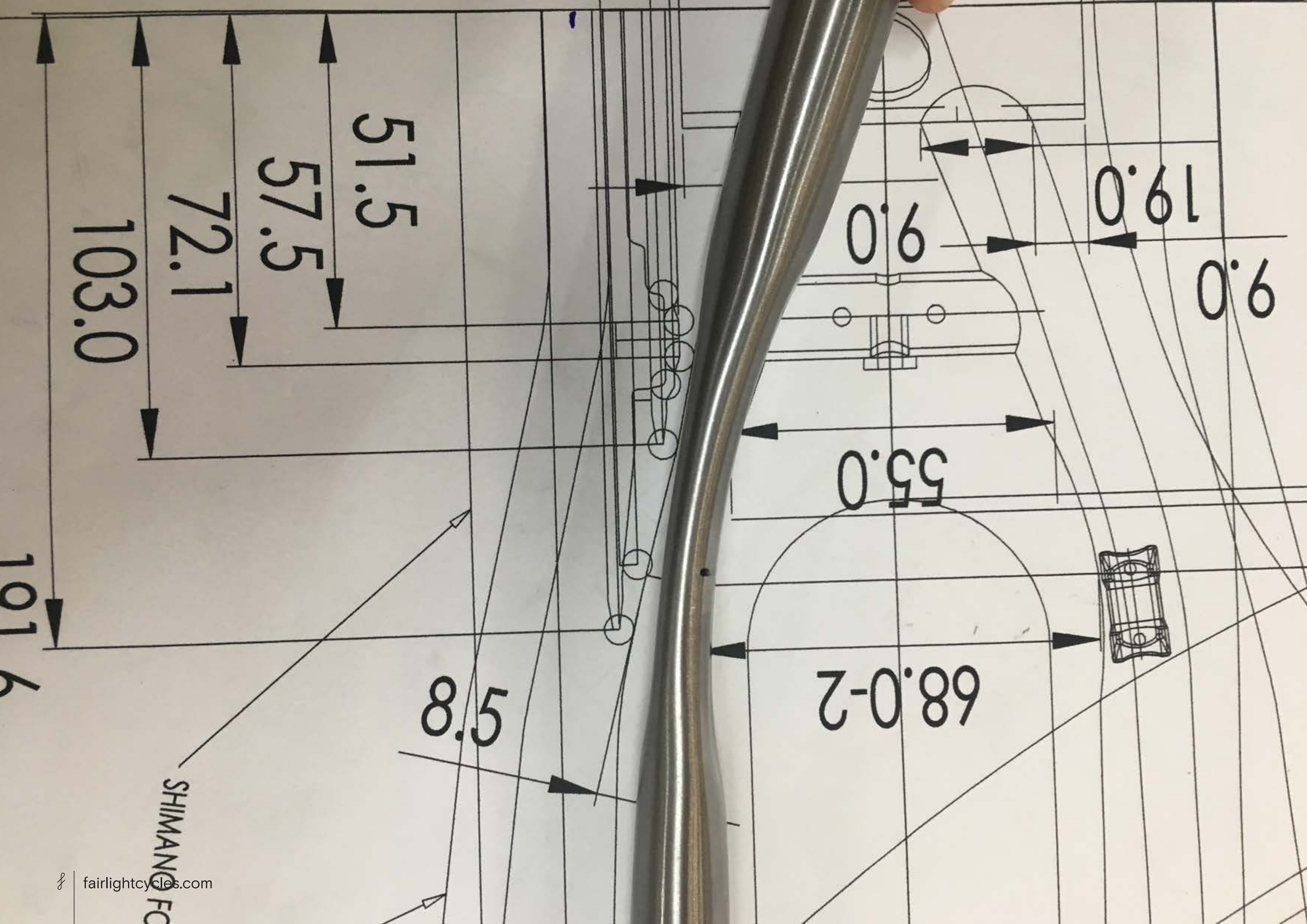
19mm 4130 Custom Formed Chainstays

As with the seat stays, the Secan and Faran share teh exact same chainstays, utilizing the same tooling and forming dies. Chainstay lengths are identical as are the clearances for tyres and chainsets.

The chainstay is a non heat treated 4130 chromoly steel in 19mm, with a wall thickness of 0.9mm. We order the tubing from the mill and all of the tapering, ovalizing and bending processes are done at our frame factory. The bending is complex and relatively severe so we use a softer steel with a thicker wall to make workability easier and to reduce the risk of fatigue from the forming.

As with the Strael, the tube stays round at the BB shell to give max stiffness. On almost all other steel bikes, chainstays are vertically ovalized to make tyre and chainring clearance easier, it gives a perception of stiffness because 'side-on' they look large. The reality is they are big and stiff in the wrong way. Pedalling forces are horizontal and ground forces are vertical so they should be wide in the horizontal plane and as narrow as possible vertically. These chainstays are difficult to design and to make but the effort pays off in ride quality.

There is a whopping 68mm clearance between the chainstays which allows for clearance of a 27.5 x 58mm tyre. Maximum 700x50mm (1x) or 700x47mm (2x). The frame is compatible with a max 50-34 double chainset and a 44T single ring. The chainstay length is 430mm, only 12mm longer than the Strael 2.0.


51.5
57.5
72.1
103.0
9.0
19.0
9.0
55.0
68.0-2
8.5

Clearance with a 27.5 x 47mm WTB
Byway Tyre on Hope XC Rim

Clearance with a 27.5 x 2.4” Continental
X-King Tyre on Hope XC Rim

Clearance with a 700 x 38mm Panaracer Gravel King SK Tyre on Hope 20Five Rim

Clearance with a 27.5 x 2.25” WTB Ranger Tyre on Hope XC Rim

BOTTLE MOUNTS

The frame has 3 x bottle mounts. The mounts on the seat tube are supplied with 2 x 3mm standoff washers so that a front derailleur band can be installed beneath the bottle cage. The mounts on the underside of the downtube are supplied with 2 x 8mm standoff washers so that the bottle cage clears the gear cables and the brake hose. All the standoff washers are made from stainless steel.

The seat tube and downtube bosses are positioned as low as possible to give room for a half frame bag.

58 & 61 Frames: We realize that the low cage position on the seat tube might be a bit of a stretch for the tall guys; therefore on the 58 and 61 sizes there is a 3rd boss on the seat tube to mount the bottle cage higher if you wish. See photograph on the next page.

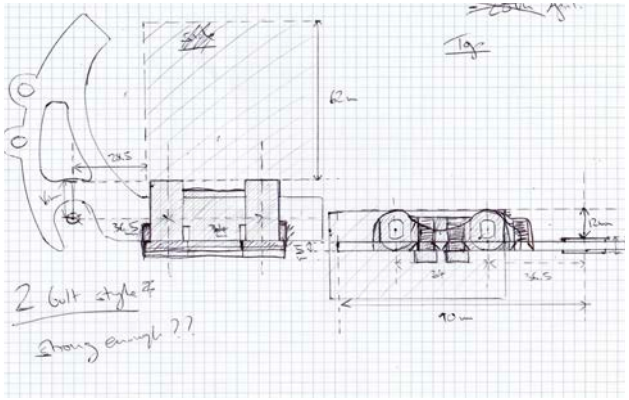

KLICKfix
CABLE

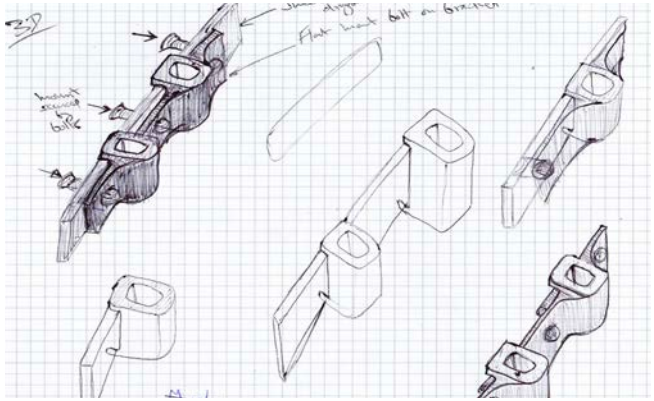
DROPOUTS

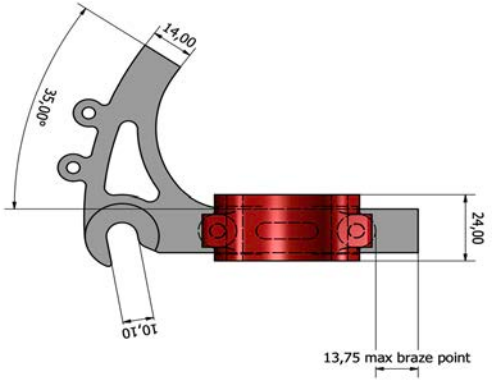
Fairlight x Bentley Dropouts

We collaborated with friend of Fairlight, Mark Bentley (aka Bentley Components) to help design and prototype our dropouts. He is an extremely talented engineer and maker. We use a combination of laser cut steel plate, turned stainless steel inserts and a CNC machined aluminium brake mount to produce a dropout that is light, functional and elegant.

The dropout has not been made to look like something else, nor imitate another material. All of the function is on display. If you saw the dropout and knew nothing about bikes, you would know straight away it was a technical part of high quality and that it had been made for a specific functional purpose. Use of steel plate and brazed inserts allows us to use well practiced methods in the factory. The mechanical fixing of the aluminium part [to the steel plate] is because it is the easiest way to join the two materials, the fact it then becomes modular is a bonus. Beyond the position of the contact points we then focus on aesthetic and weight. We match the shape of the aluminium part to the profile of the steel plate. Internal bores for bolt heads and cut aways to save a few grams, even a machined pattern detail on the top. You'll likely never see them, but we know it is there. The ends of the stays are ground and hand filed to give a seamless transition between the tubes and the plate; these techniques are usually only reserved for the custom world. The brass or stainless steel washer reduces brazing and offers a space for subtle branding and useful torque info. A contemporary design, with a nod to the tried & tested methods of the past.


2 bolt style ?
strong enough ??

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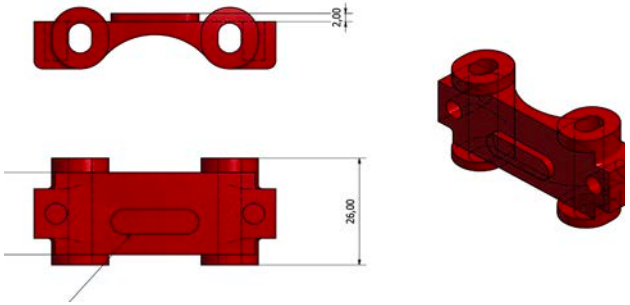
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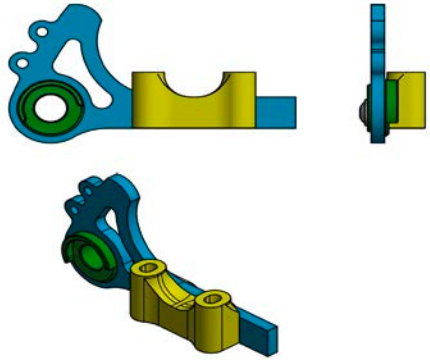



8HM

MODULAR CABLE GUIDES

Modular Cable Guides

We use this system on all of our models. The cable guide is 3D printed which allows us to design and manufacture the intricately detailed part without requiring CNC machining or injection moulding. The guide is made from PA2200 Nylon which is strong and smooth. It has good chemical resistance and there is no strength degradation from UV exposure. The nylon has just the right level of malleability so that the surfaces fit together well with no risk of creaking. It is almost the perfect material for this application.

The part is beautifully simple and it only requires a single M5 threaded boss to secure it. It then utilizes an integrated peg/ pin which inserts into the di2 hole to locate the part and stop it rotating. In the centre of the location peg is a 4mm hole which allows dynamo rear lights to be routed internally. A grub screw keeps the hole sealed when not in use. More on this feature further down in the lookbook.

There are specific guides for 1x and 2x. For using Di2 simply use the standard 6mm port below the guide. For Sram etap a 6mm rubber bung is provided to cover the Di2 hole.

For extra clean lines, we recommend that when using Di2 you shrink wrap the Di2 wire to the brake hose. We do this as standard on all our Di2 full bike builds.

FORK - SECAN 2.0

Cempa 2.0 Fork

The Cempa 2.0 fork is more or less identical in shape and form to the original Cempa fork. However we've machined an entirely new mould to make this fork. The most significant updates are the addition of pack mounts on the legs, as well as fully-sleeved internal dynamo routing. We've also made a long list of tiny updates to the fork, to improve the form and the ease of manufacturing. Some of these smaller modifications are covered in pages 40 & 41.

- Fork axle to crown length of 398mm. Fork offset of 50mm.
- 1.5"-1.1/8" tapered carbon steerer tube. 330mm long.
- 100 x 12mm thru axle dropouts. Supplied with axle. Axle length is 130.5mm and thread pitch is M12x1.5.
- Flat mount brake fitting. Compatible with 140/160mm. Internal fully-sleeved disc hose routing.
- Dropouts have 'proper' rack mount eyelets on the rear so no bending of mudguard stays needed.
- Front and rear M5 mounts in the crown. Front for light mount, rear for mudguards. We chose threaded bosses versus a hole as they can be adjusted independently and it makes for a lot easier fitting.
- Fully sleeved internal routing for a dynamo wire. Designed around a 3.5mm Son co-axial wire, but also compatible with a 3x4mm Supernova wire.
- 3 x bottle/adventure cages mounts on each leg. All 3 mounting points are joined by a single CNC'd piece of aluminium that is bonded to the inside of each leg. This spreads the load evenly across the leg and provides great strength. Each leg is rated up to 3kg.
- Tyre clearance: 27.5"x 61mm, 700 x 51mm. With mudguards: 27.5"x 55mm, 700 x 45mm
- Weight: 520g w/o axle. 584g with axle and steel bolts.
- Finish is raw UD (uni-directional) carbon with matte lacquer and Fairlight logo under lacquer.


FAIRLIGHT

Pictured with a Son Edelux 2 lamp and a pair of King cage ‘many things’ cages. We are now stocking these cages.

The dynamo exit hole at the crown is positioned to give super clean wire routing and to keep the wire away from the tyre.

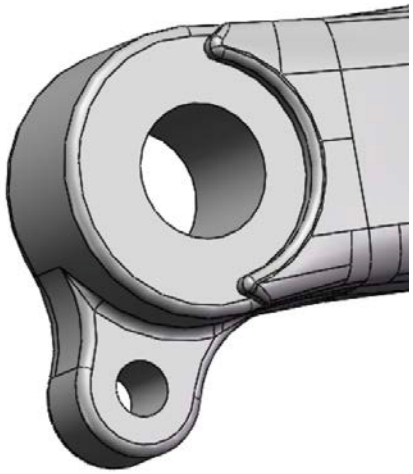
The internal wire routing is fully sleeved. Simply push the wire in by hand and it will exit at the bottom of the leg.

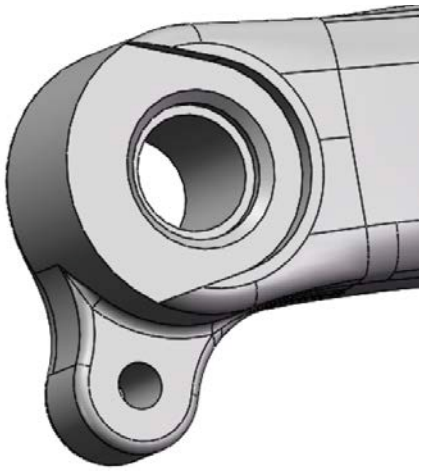

6V-2,4W
Edelux II
Made in Germany
SON
Edelux II
K607

Front and rear M5 mounts in the crown. Front for light mount or rando rack, rear for mudguards. We chose threaded bosses versus a hole as they can be adjusted independently and it makes for a lot easier fitting.

Mk.1 Cempa

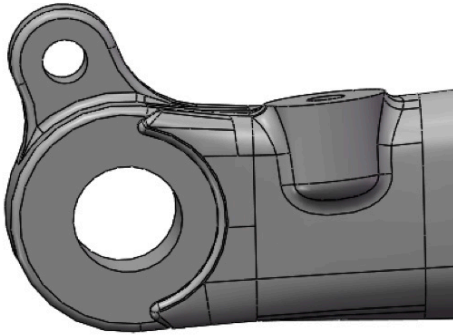
Mk.2 Cempa





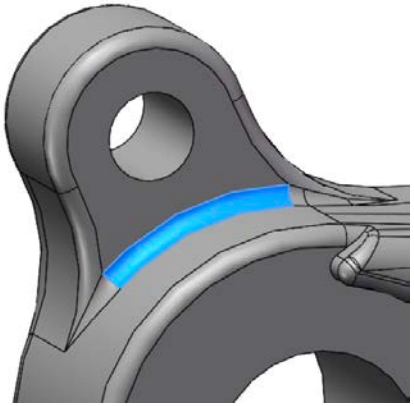
Dropout slot

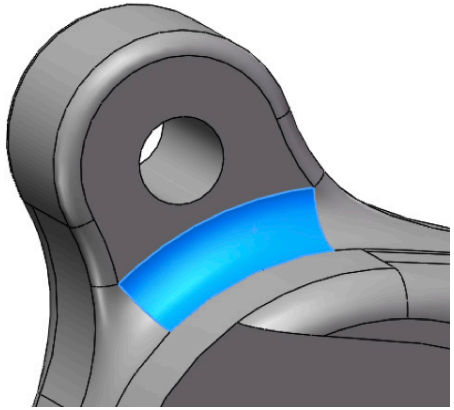
We've increased the definition of the dropout slot. It is now a full slot rather than just a radius. This made post mould CNC easier and makes an improved interface.



Flat mount boss

We've modified the design of the flat mount boss/surface so that it is aesthetically cleaner. it also allows for easier forming.



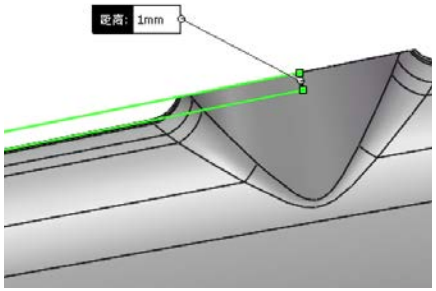


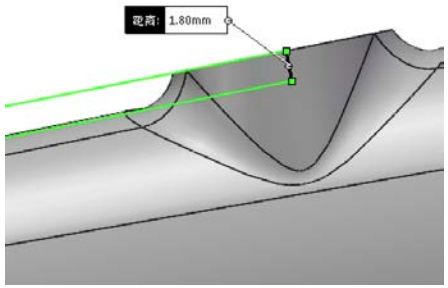
Mudguard eyelet

The radius between the dropout and the mudgaurd eyelet has been increased from R1 to R2.5. This gives a smoother finish and improved aesthetic.

Mk.1 Cempa

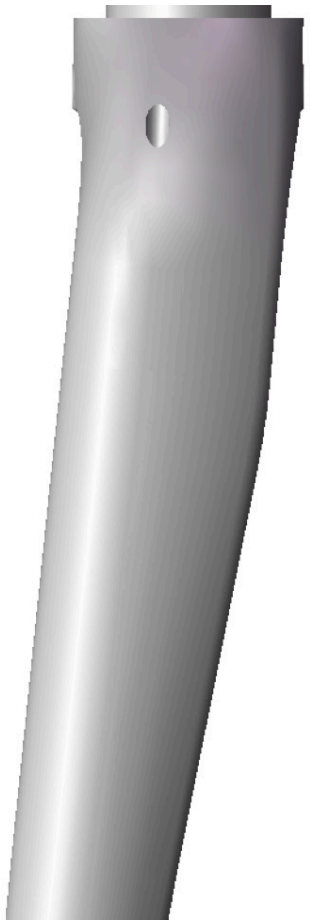
Mk.2 Cempa

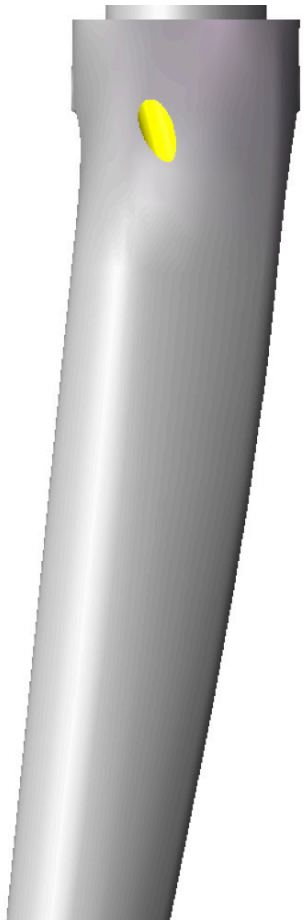




Flat mount boss

We've increased the height of the flat mount boss from 1mm to 1.8mm. This is to allow easier masking during paint.





Re-shaping of the legs

We've modified the design of the rear of the legs to give a smoother shape and a slightly improved aesthetic.

FORK – FARAN 2.0

Faran 2.0 Fork

A key part of the Faran concept is the use of a steel fork and a 'commitment to utility'. Compatibility with every rack and cage you can imagine and a high loading capacity. We used a unicrown fork design which in our opinion is the best way to make a steel fork for this type of bike; the simplest design and the strongest. Lugged forks with curved blades track the ground better than any other fork in our opinion and thus are very comfortable, but diving into a corner at high speed [especially when loaded] you'd rather be riding a unicrown fork. Additionally, they can be made lighter because of the increased structural strength of the welded legs. This is a thoroughly modern steel fork. Here are the key features:

- Fork axle to crown length of 408mm. Fork offset of 60mm.
- 4130 28.6mm legs tapering to 18mm at the tips. Butted at 1.4/0.8 mm. The 1.4mm section is at the crown end which is the area of highest loading. A large 0.8mm section ensures good weight.
- 1.1/8" steerer tube. 350mm long.
- 100 x 12mm thru axle dropouts. Supplied with axle. Axle length is 124mm and thread pitch is M12x1.5.
- Flat mount brake fitting. Compatible with 140/160mm.
- Dropouts have rack mount eyelets on the rear. Brazed on barrel mounts 30mm above the dropouts for installing a front pannier rack. We use barrel mounts versus traditional eyelets for extra strength with high rack loads. Also mid blade mounts for pannier rack.
- Barrel mounts for installing a randonneur type rack such as the Nitto M18.
- Front and rear M5 mounts in the crown. Front for light mount or rando rack, rear for mudguards. We chose threaded bosses versus a hole as they can be adjusted independently and it makes for a lot easier fitting.
- 2 x 7.5mm holes for internal dynamo wire routing. Supplied with blanking grommets as well as specific grommets for SON and Supernova wires.
- 4 x bottle/adventure cages mounts on each leg. Positioned at 30 degrees. We use 4 mounts rather than 3 as the lengths, radius and widths of adventure cages varies a lot. This ensures all cages will fit. Also supplied with 6 x 3mm standoff spacers for extra adjustment.


KING
KING


KING

Pictured with a Nitto M18 rando rack and a pair of King cage ‘many things’ cages. We are now stocking these cages.

Pictured with a Nitto M18 rando rack and a Tubus Tara front pannier rack. For both front and rear racks we recommend Tubus.

The clip on the front of the leg keeps the dynamo wire well away from the tyre. Pictured with a 27.5 x 2.2" Continental Race King tyre on a Hope Fortus XC 23mm rim.

The clip on the front of the fork leg has a secondary purpose of positioning the Coaxial Junction Box for easy access. You can use this junction box to connect a charging device to the dynamo. This means you no longer have to use piggy back spades if you want to run a charger with the front lamp. Our new fitted light sets come with the ‘in-line’ junction box as standard.


KING
KING
SON Edelux II
K607
6V-2,4W
Edelux II Made in Germany


KING

REAR LIGHT ROUTING

Rear Light with Mechanical Gears

As already mentioned in the cable guides section, our modular 1x and 2x cable guide are fully dynamo compatible. Simply remove the grub screw to reveal a 4mm hole for the wire to be routed through. The hole size is compatible with SON and Supernova wires.

Rear Light with Di2

If using Di2 then the dynamo wire needs to be routed through the M5 boss which is used to secure the cable guide.

For etap put a blanking bolt into the M5 thread and use the 6mm Di2 hole for the dynamo wire. The frame is supplied with a rubber grommet for the wire.

Dropout Mounted Lamp on Drive Side with Mechanical Gearing

In choosing locations to mount a rear dynamo light, my preference is to mount it on the dropout. Or on the back of a rack or the back of the mudguards, but only if either is planned to be permanent. The problem with rear lights mounted on the back of the seat tube or back of the seat post, is that they can be obstructed by saddle packs, especially on smaller frames. I like this dropout location as other parts can be fitted or removed without it affecting the light, apart from maybe having to space it out or change eyelet. The other benefit is that the light marks the edge of the bike and thus a driver is likely to give you more space.

If mounting the light on the drive side then there are 2 x 7.5mm ports to choose from. In this instance we've used the top one and shrink wrapped the wire to the derailleur housing.

Grommets are supplied with the frameset/bike for SON and Supernova wires.

Dropout Mounted Lamp on Drive Side with Di2 Gearing

If using Di2 and a dynamo then we recommend using the port on the underside of the chainstay for the Di2 wire and using the port on the top for the dynamo.

For etap you can choose to use either port for the dynamo and use a blacking grommet in the other.

Dropout Mounted Lamp on Disc Side

If you ride on the right hand side of the road (most of Europe and the US) then we recommend that you mount the light on the disc side. There is a port on the underside of the chainstay and we've added an M5 thread and clip into the bottom of the aluminium brake mount. The result is super clean routing of the wire.

Rear Rack Mounted Light

We recommend Tubus rear racks and you can route the wire directly into the rack leg. The additional wire routing clip is supplied with the frameset/bike.

Simply drill a 4mm hole into the rack for the wire to enter/exit.

Please note: This will almost certainly void the warranty of the rack but is a relatively common modification in the custom world. With the wall thickness of the rack tubing it won't cause an issue.

Routing for Chainset Axles Larger Than 24mm - to Driveside

If using a chainset with an axle larger than 24mm (e.g. Sram Dub-29mm, Praxis-30mm, Hope-30mm) then there is not enough room to route the dynamo wire through the BB shell. Therefore we have an additional 6mm dynamo port at the base of the downtube so the wire can enter/exit in front of the BB shell.

If mounting the rear light on the drive side the wire can enter/exit back into the chainstay via another 6mm port, A clip on the BB cable guide holds the wire and keeps it tidy.

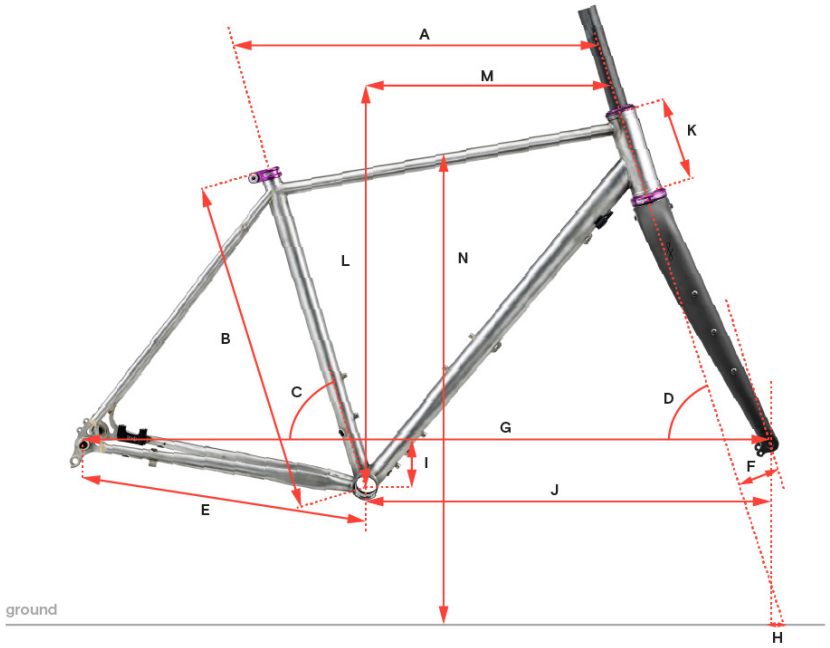
Mudguard Mounted Rear Light

If mounting a light on the back of the mudguard then we recommend exiting the wire at the base of the downtube, going over the BB (using the clip) and into the mudguard at the chainstay bridge. We recommend using aluminum tape (or similar) to route the wire along the inside of the guard.

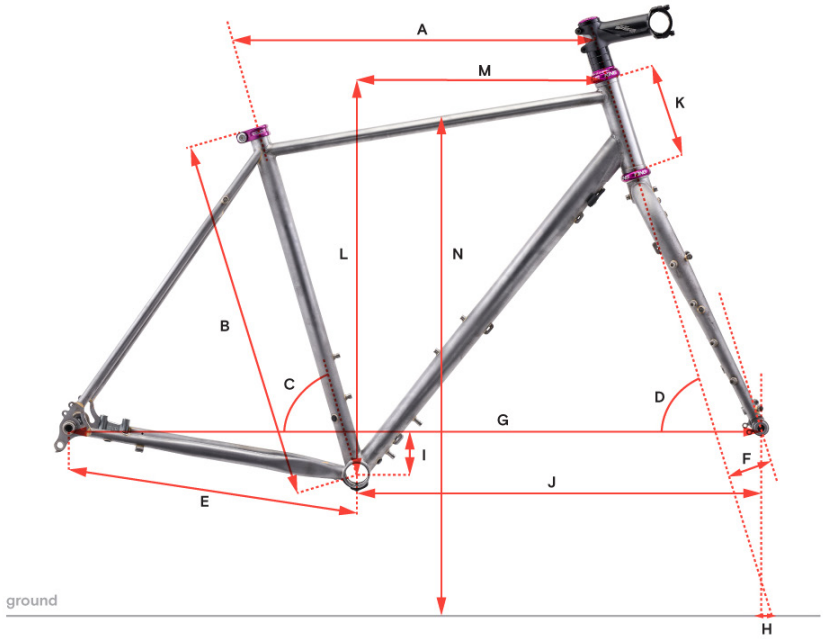
Routing for Chainset Axles Larger than 24mm – to Disc Side

Again exit/enter the wire at the port in front of the BB shell. Then join the lighting wire to the brake hose using short sections of heat shrink, between the hose guides. Follow the brake hose all the way to the dropout where the dynamo wire can then be routed away from the brake hose by using the clip on the bottom of the brake mount.

GEOMETRY



	Size	51R	51T	54R	54T	56R	56T	58R	58T	61R	61T
A	Top Tube Horizontal	536	535	553	553	567	566	584	581	597	598
B	Seat Tube (BB to top ST)	490	495	510	515	520	535	540	555	560	575
C	Seat Tube Angle	74	74	73.5	74	73.5	73.5	73	73.5	73	73.5
D	Head Tube Angle	70.5	70.5	71	71.5	72	72	72.5	72.5	72.5	72.5
E	Chainstay Length	430	430	430	430	430	430	430	430	430	430
F	Fork Rake	50	50	50	50	50	50	50	50	50	50
G	Wheelbase	1021	1022	1029	1030	1034	1034	1041	1045	1054	1062
H	Trail - 650 x 47 = 685mm	68.2	68.2	65.1	61.9	58.7	58.7	55.6	55.6	55.6	55.6
	Trail - 700 x 38 = 697mm	70.4	70.4	67.1	63.9	60.7	60.7	57.5	57.5	57.5	57.5
	Trail - 650 x 2.2" = 702mm	71.3	71.3	68	64.7	61.5	61.5	58.2	58.2	58.2	58.2
I	Bottom Bracket Drop	77	77	77	77	77	77	77	77	77	77
J	Front Center Distance	603	604	611	611	616	616	622	626	635	644
K	Head Tube Length	100	130	120	150	130	170	150	190	170	210
L	Stack	538	567	559	589	572	610	593	631	612	650
M	Reach	380	371	386	383	397	385	402	394	410	405
N	Standover height (with 650x47 tyre)	751	768	771	789	782	809	802	829	821	848
	Fork Length - Axle to Crown	398	398	398	398	398	398	398	398	398	398



	Size	51R	51T	54R	54T	56R	56T	58R	58T	61R	61T
A	Top Tube Horizontal	535.9	534.7	547.5	548	565	563.7	583.5	582.8	597.3	597.9
B	Seat Tube (BB to top ST)	515	518	535	540	550	560	568	580	586	596
C	Seat Tube Angle	74	74	74	74	73.5	73.5	73	73	73	73.5
D	Head Tube Angle	71.5	71.5	72	72	72	72	72.5	72.5	72.5	72.5
E	Chainstay Length	430	430	430	430	430	430	430	430	430	430
F	Fork Rake	60	60	60	60	60	60	60	60	60	60
G	Wheelbase	1022.6	1022.6	1029.7	1030.8	1042.4	1042.4	1051.2	1051.2	1064.4	1072.1
H	Trail - 650 x 47 = 685mm	51.3	51.3	48.2	48.2	48.2	48.2	45.1	45.1	45.1	45.1
	Trail - 700 x 38 = 697mm	53.3	53.3	50.1	50.1	50.1	50.1	47	47	47	47
	Trail - 650 x 2.2" = 702mm	54.2	54.2	51	51	51	51	47.8	47.8	47.8	47.8
I	Bottom Bracket Drop	77	77	77	77	77	77	77	77	77	77
J	Front Center Distance	603.1	603.2	610.9	613	623.7	623.4	632.3	632	646.2	653.1
K	Head Tube Length	93	121	111	143	127	164	144	183	164	204
L	Stack	540.2	566.8	559.3	590	574.5	609.7	592.6	629.8	611.7	649.8
M	Reach	379.9	371.1	386.2	378	394.2	382.5	402.1	390.1	410.1	405
N	Standover height (with 650x47 tyre)	765.5	780.2	784.7	802.3	798.9	821.3	816.1	840.4	834.2	858.7
	Fork Length - Axle to Crown	408	408	408	408	408	408	408	408	408	408

The Secan and Faran share the following geometry Measurements:

Stack & Reach - The reach for Strael, Secan & Faran is actually about the same on all models. However the Secan and Faran have approx 10mm higher stack than the Strael. This is to provide a slightly higher front end for off-road riding.

BB Drop - A ride position that feels familiar and efficient on the road but stable and predictable off-road. Both models use a BB drop of 77mm. I favor a lowish BB as it gives great stability and is especially noticeable when cornering. These are not dropped bar mountain bikes so it doesn't need to be any higher.

Chainstay length - Both models use a chainstay length of 430mm. Only 12mm longer than the Strael.

The main differences in geometry are as follows:

Seat tube Length - The Secan has a shorter seat tube and thus a more sloping top tube for more standover height; this aids manoeuvrability off-road and increases comfort. On the Faran the seat tube length is similar to the Strael, so less compact than the Secan; that means more room for frame bags and more of a classic flat..ish top tube aesthetic .

Mechanical Trail - This is really the main difference between the two models. Please see the pages below for a full explanation of trail and how it affects the handling (and intended usage) of the Secan and Faran.

The importance of Trail

So what is trail? Trail [or mechanical trail] is the relationship between head angle, fork offset and wheel/tyre diameter. As the illustration to the right shows, it is the horizontal distance between where the front wheel touches the ground (line directly vertical from axle centre) and where the steering axis (governed by head angle) would intersect the ground.

So how does trail effect handling? Well, trail is what makes a bike want to straighten out when you aren't giving a steering input. The more trail a bike has the more it wants to self centre and vice-versa. By adding a load to the fork it makes the bike want to self centre more. So by this logic a high trail bike with a front load will have a large self centering force and so it will take more input to make the bike turn.

The other thing we need to take into account is 'pneumatic trail', which is the effect that a larger tyre contact patch (because of deformation under load) has on the stability of the bike. Effectively a larger tyre at lower pressure is more stable than a narrower tyre at higher pressure. An example of this is that a 700 x 28mm tyre has the same outer diameter as a 650 x 47mm tyre, so if both were used on the exact same frame, each at their recommended pressures, the mechanical trail number would be the same. However the 650 x 47mm tyre would feel more stable because of the larger contact patch, which represents an increase in pneumatic trail.

Secan 2.0

Many gravel bikes opt for high trail geometry (like an XC MTB) which gives great stability but can feel unresponsive on the road. When designing the Secan we based the trail numbers to be roughly the same as the Strael and simply allowed for the fact that the increased pneumatic trail from the larger tyres (e.g. 650 x 47 vs 700 x 28) with lower pressures would provide the extra stability needed for gravel riding. The result is a bike that felt stable enough but still lively and engaging. The geometry goes hand in hand with the bike concept: *'The design of the Secan revolves around the simple idea that you can transition between road and off-road and ride fast everywhere.'*

Continues on next page...

Faran 2.0

On the Faran 2.0 we use 'low-mid trail' to provide better handling with a front load and also fast 'road-like' handling when using no load and large tyres (e.g. road plus - 650 x 47 or 700 x 38-45). Trail with a 650x47mm tyre is 45-48mm depending on the frame size. So by reducing the trail the stability is reduced, but then a front load is added to give a desired stability, or rather that it is 'not too stable' with a front load and still stable enough when unloaded.

The theory was that by reducing the trail by approx 10mm (depending on frame size) versus the Strael/Secan you end up with handling that is very similar to the Strael (because of the increased pneumatic trail on the Faran from the larger tyres) but less stable than the Secan (pneumatic trail approx the same assuming same sized tyres, but the Secan has greater mechanical trail).

The table below shows the mechanical trail comparison between Strael, Secan and Faran.

	54R	54T	56R	56T	58R	58T
Strael - Trail with 700 x 28 tyre - diameter 685mm	60.7	60.7	54.4	57.5	54.4	57.5
Secan - Trail with 650 x 47 tyre - diameter 685mm	65.1	61.9	58.7	58.7	55.6	55.6
Faran - Trail with 650 x 47 tyre - diameter 685mm	48.2	48.2	48.2	48.2	45.1	45.1

If you then add a front load to the Faran the stability increases and it becomes more like a Secan without a load. It depends on the size of the load of course.

So in summary, unloaded with 650 x 47 or 700 x 38-44 (..ish) tyres the Faran feels fast and agile, like a Strael. With a front load added the stability increases and it feels more like a Secan. Perfect for fast commutes on variable road surfaces, or weekend tours with a medium front load such as a rando/pizza bag and two fork packs.

WEIGHTS

Notes: Secan and Faran frame weights have only 20g difference. While the Faran frames are bigger (longer seat tubes) this is offset a little by the lighter [by way of diameter] headtube on the Faran.

Secan 2.0

Frame weight with paint but without bolts, rear axle etc:

54R - 2,030g
56R - 2,050g
56T - 2,110g
58R - 2,070g
58T - 2,130g

Bolts, brake mounts, axle = 127g

Cempa 2.0 Fork = 519g without bolts and axle.
584g with bolts and axle.

Faran 2.0

Frame weight with paint but without bolts, rear axle etc:

54R - 2,040g
56R - 2,060g
56T - 2,120g
58R - 2,090g
58T - 2,150g

Bolts, brake mounts, axle = 127g

Faran 2.0 fork= 1,117g with paint but without bolts and axle.
1,208g with bolts and axle.

INCLUDED IN THE BOX

SECAN & FARAN FRAMES

Please Note:
The framset/bike is only supplied with one brake mount (black or grey) as well as a brass or stainless steel washer plate.

Please Note:
The frameset is supplied with grommets for both SON and Supernova wiring.

Please Note:
The frameset is only supplied with either a 1x guide, 2x guide or a Di2 grommet set.

CEMPA 2.0 FORK

Please Note:
The fork is supplied with a sachet of carbon anti-slip paste. To be used when installing the comrpres-sion bung.

FARAN 2.0 FORK

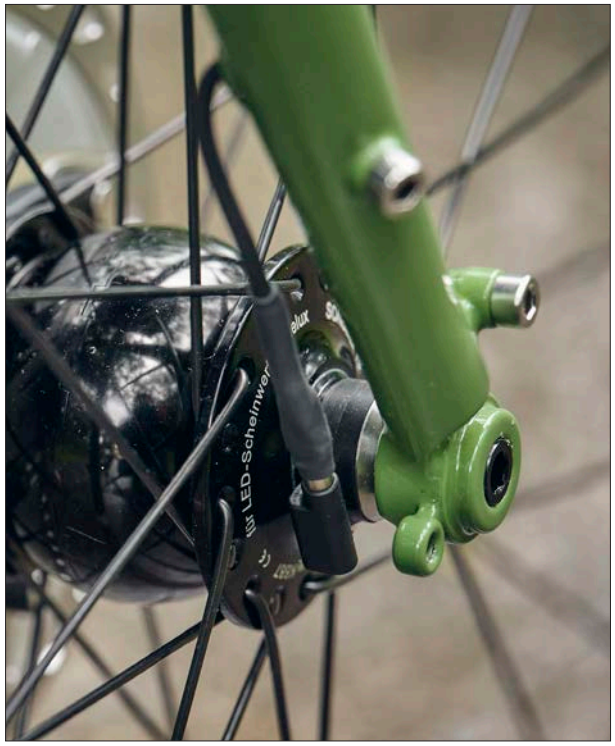
Please Note:
The frameset is supplied with grommets for both SON and Supernova wiring.

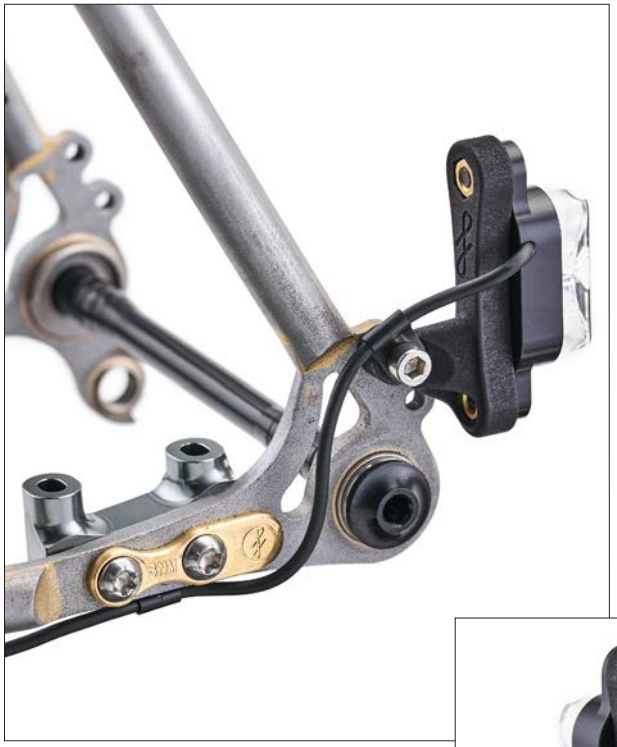
DYNAMO LIGHTING KITS

SON Front Light - Fitted and Installed

We are pleased to now be able to offer fitted dynamo light sets to go with our dynamo wheelset options. These are available fitted to our Secan 2.0 & Faran 2.0 framesets and full bikes. The front light kit includes the following and comes fully installed.

- SON Edelux 2 with 'in-line' Coaxial Junction box.
- SON CNC lamp bracket.
- SON Coaxial adapter. This is a much neater solution than using traditional spade connectors. See pic below.





SON Front and Rear Lighting - Fitted and Installed

The front and rear light kit includes the following and comes fully installed:

- SON Edelux 2 with ‘in-line’ Coaxial Junction box.
- SON CNC lamp bracket.
- SON Coaxial adapter. This is a much neater solution than using traditional spade connectors
- SON rear light with red lens (not a clear lens as per the photos)
- Fairlight dropout mount. Available for drive side or disc side.

NEW WHEELSETS

arkane
WHEELWORKS

Handbuilt Wheels by Arkane Wheelworks

For the Secan 2.0 & Faran 2.0 we have some new wheelsets for the full build options. These wheels are being built in house by master wheelbuilder Martin Muller aka Arkane Wheelworks. Martin has earned himself a great reputation in London for his top quality hand built wheels and for his overall knowledge of his craft.

We are pleased to be able to offer Martin's wheels within our range.

Instagram: @arkane_wheelworks
Email: martin@arkanewheelworks.co.uk

GRX600 Build Level Wheels – Shimano 105 Hubs On WTB KOM Light Rims

For the GRX600 full build options these are the standard wheelsets. Shimano 105 centrelock hubs built on to 32 hole WTB KOM Light rims and laced with Sapim spokes. Light enough for fast gravel rides, strong enough for touring.

The 700c version uses the KOM Light I21 rim with an internal width of 21mm.

The 27.5/650b version uses the KOM Light I23 rim with.... you've guessed it.... an internal width of 23mm.

The rims feature the WTB Tubeless Compatible System, TCS 2.0. Combined with WTB tyres (or other brands) they are a doddle to set up tubeless.

Hope 20 Five 700c Dynamo Wheelset with SON Deluxe Front Hub

These new wheels replace the Hunt Super Dura Dynamo wheels that we offered previously.

Standard Hope 20Five 32H rear wheel with RS4 centrelock rear hub. Rear wheel built by Hope. The front wheel is a SON Deluxe 32H centrelcok hub laced to the same Hope 20Five rim.

Please note these will also be the 700c dynamo wheelset option on Strael and Secan.

Note: Available with black hubs only

Hope Fortus 23 650b/27.5” Dynamo Wheelset with SON 28 Front Hub

These new wheels replace the Hunt 650b Super Dura Dynamo wheels that we offered previously.

Standard Hope Fortus23 32H rear wheel with Pro 4 6-bolt rear hub. Rear wheel built by Hope. The front wheel is a SON 28 6-bolt 32H hub laced to the same Hope Fortus 23 rim.

Please note these will also be the 650B/27.5” dynamo wheelset option on the Secan.

Note: Available with black hubs only

FIT
FUNCTION
FORM

mail@fairlightcycles.com

FAIRLIGHT

Studio Photogrpahy: Nick Hill @ NMDesign